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(54) **ORGANIC ELECTROLUMINESCENT MATERIALS AND DEVICES**

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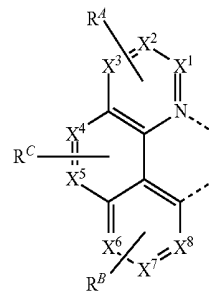
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(57) **ABSTRACT**  
A compound including a ligand  $L_A$  of Formula I

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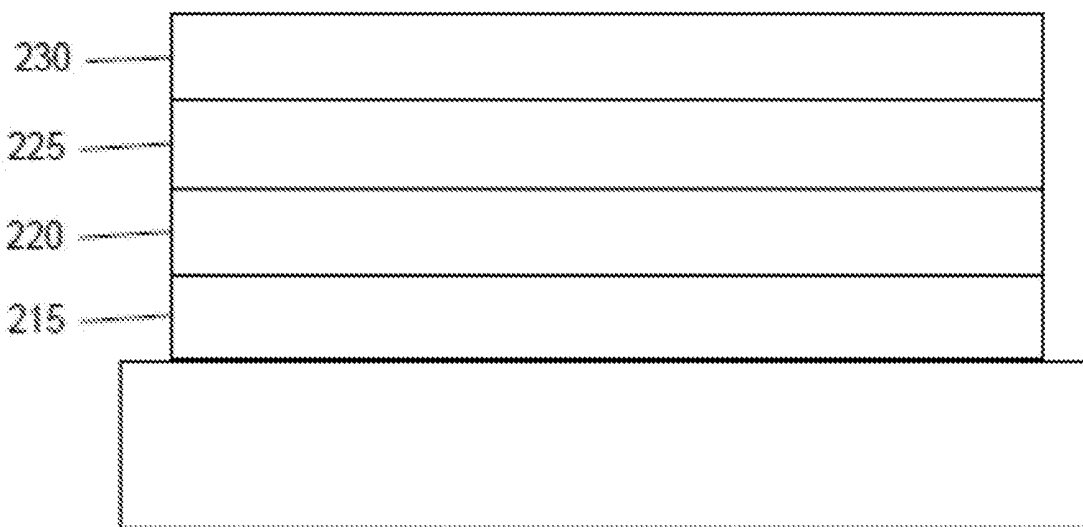


**Related U.S. Application Data**

(60) Provisional application No. 62/680,283, filed on Jun. 4, 2018, provisional application No. 62/683,797, filed on Jun. 12, 2018.

is disclosed.

200



210

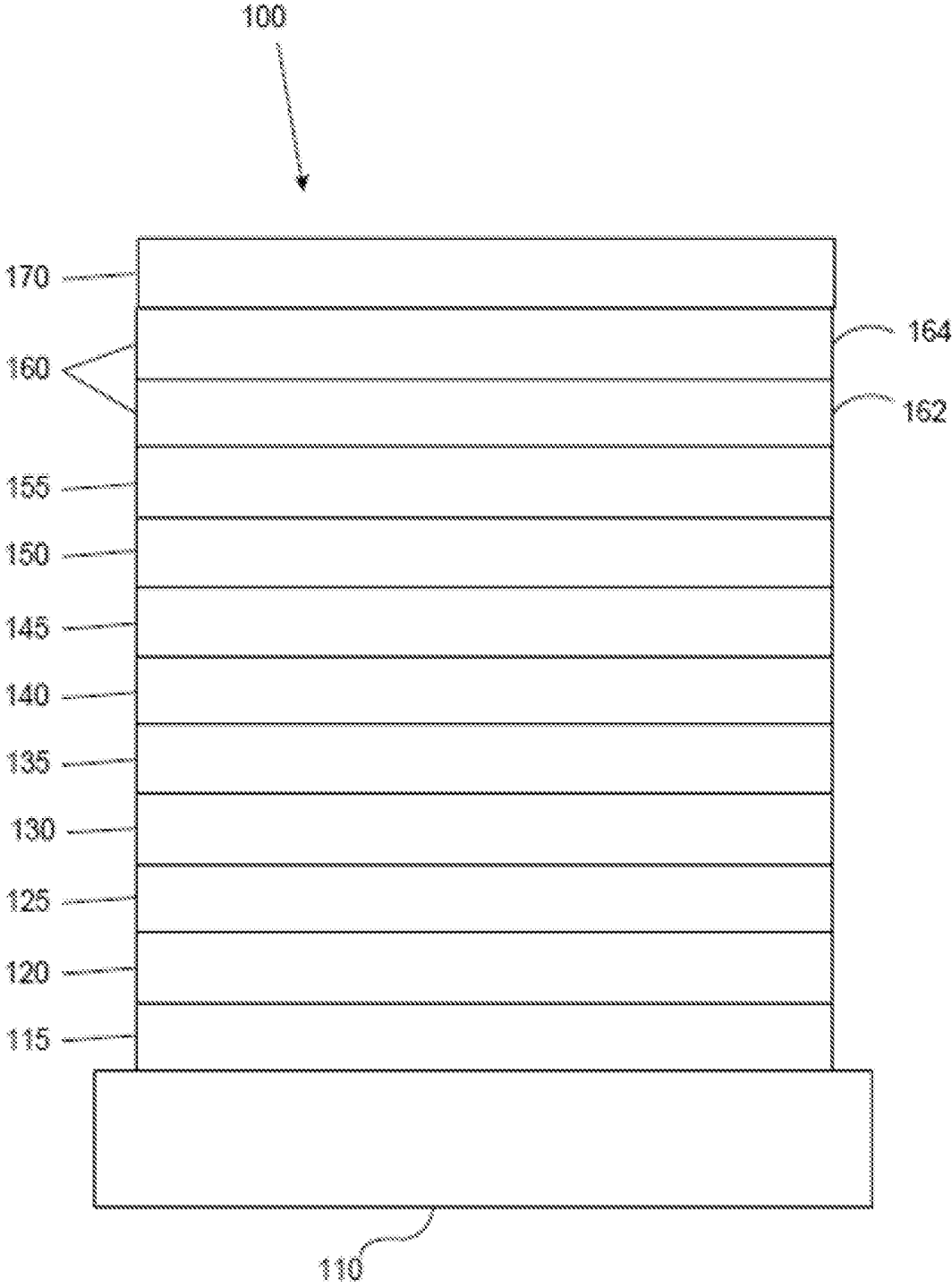


FIG. 1

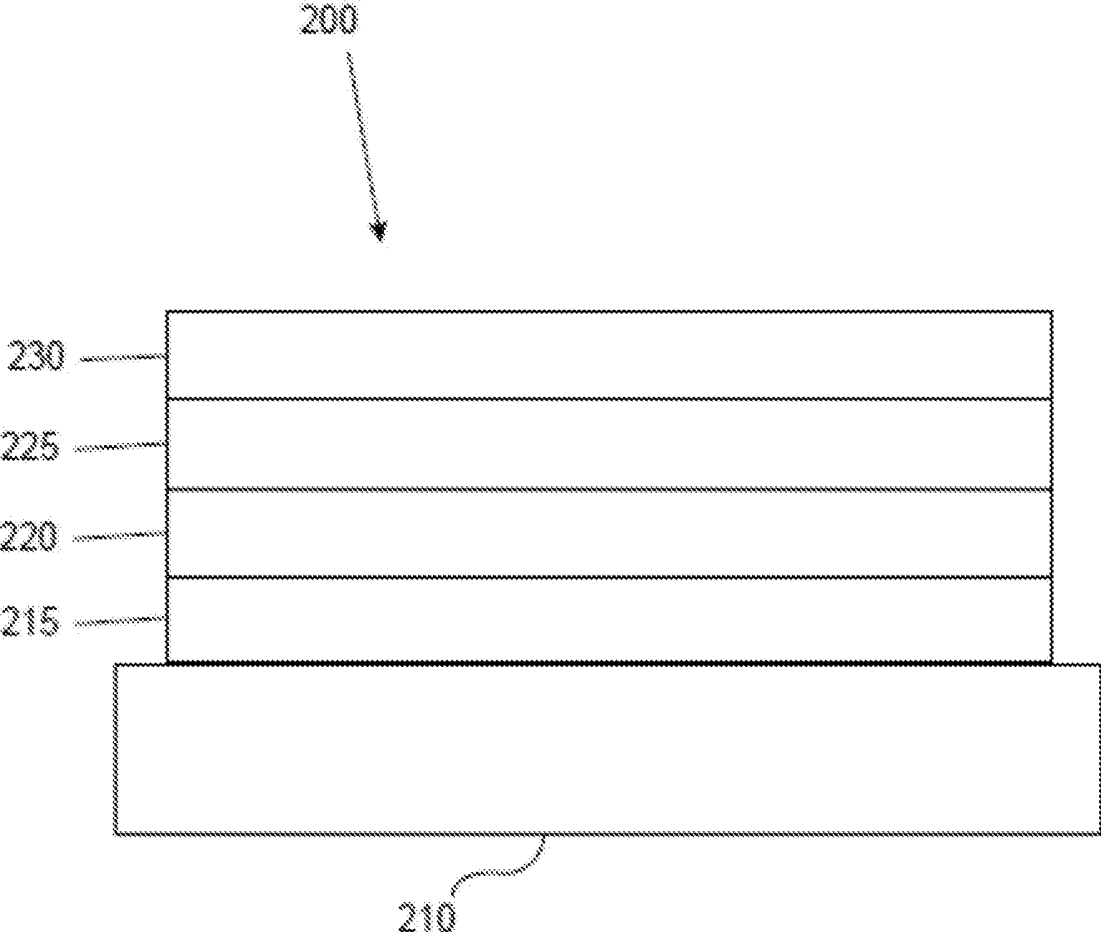


FIG. 2

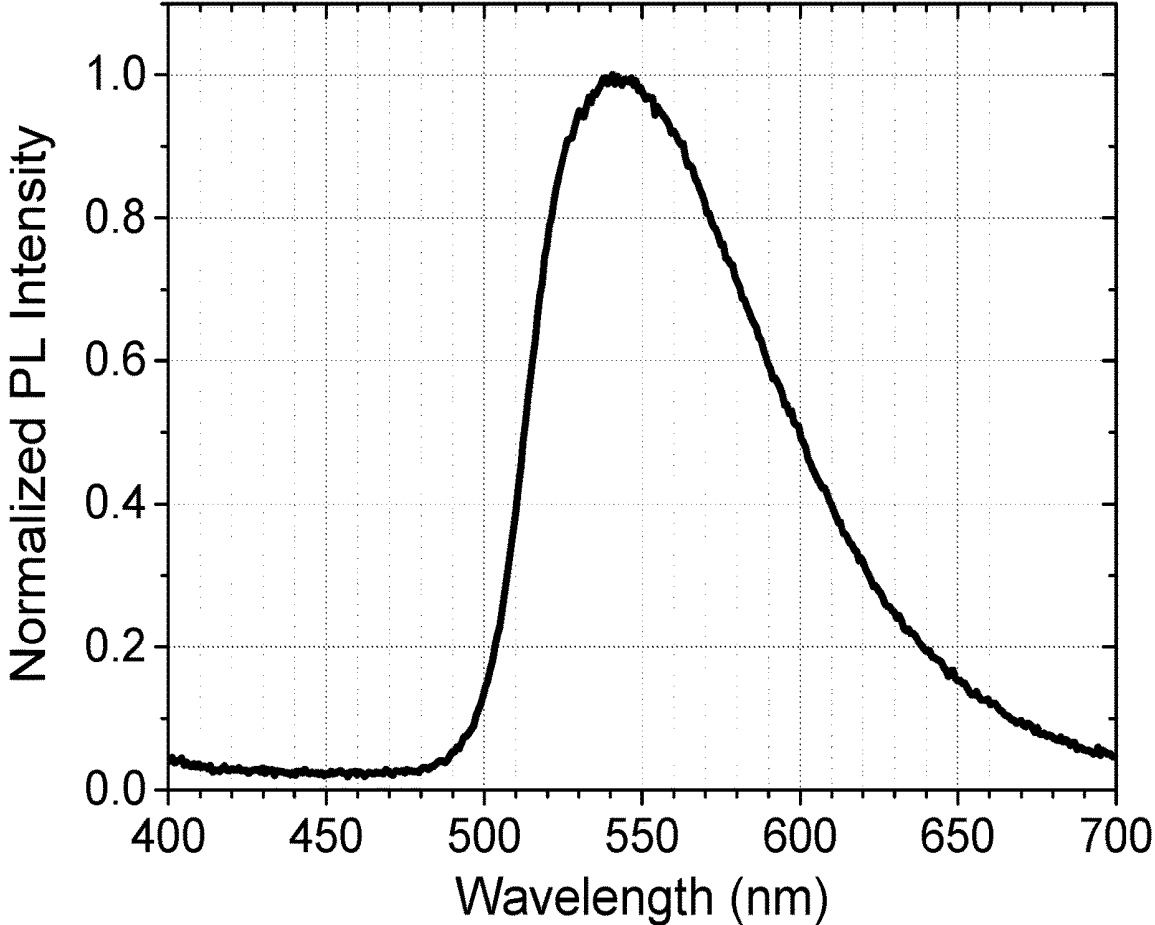


FIG. 3

## ORGANIC ELECTROLUMINESCENT MATERIALS AND DEVICES

### CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims priority under 35 U.S.C. § 119(e) to U.S. Provisional Application No. 62/680,283, filed Jun. 4, 2018, and U.S. Provisional Application No. 62/683,797, filed Jun. 12, 2018, the entire contents of which are incorporated herein by reference.

### FIELD

[0002] The present invention relates to compounds for use as emitters, and devices, such as organic light emitting diodes, including the same.

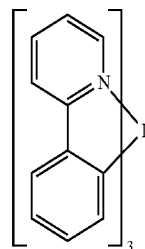
### BACKGROUND

[0003] Opto-electronic devices that make use of organic materials are becoming increasingly desirable for a number of reasons. Many of the materials used to make such devices are relatively inexpensive, so organic opto-electronic devices have the potential for cost advantages over inorganic devices. In addition, the inherent properties of organic materials, such as their flexibility, may make them well suited for particular applications such as fabrication on a flexible substrate. Examples of organic opto-electronic devices include organic light emitting diodes/devices (OLEDs), organic phototransistors, organic photovoltaic cells, and organic photodetectors. For OLEDs, the organic materials may have performance advantages over conventional materials. For example, the wavelength at which an organic emissive layer emits light may generally be readily tuned with appropriate dopants.

[0004] OLEDs make use of thin organic films that emit light when voltage is applied across the device. OLEDs are becoming an increasingly interesting technology for use in applications such as flat panel displays, illumination, and backlighting. Several OLED materials and configurations are described in U.S. Pat. Nos. 5,844,363, 6,303,238, and 5,707,745, which are incorporated herein by reference in their entirety.

[0005] One application for phosphorescent emissive molecules is a full color display. Industry standards for such a display call for pixels adapted to emit particular colors, referred to as “saturated” colors. In particular, these standards call for saturated red, green, and blue pixels. Alternatively the OLED can be designed to emit white light. In conventional liquid crystal displays emission from a white backlight is filtered using absorption filters to produce red, green and blue emission. The same technique can also be used with OLEDs. The white OLED can be either a single EML device or a stack structure. Color may be measured using CIE coordinates, which are well known to the art.

[0006] One example of a green emissive molecule is tris(2-phenylpyridine) iridium, denoted Ir(ppy)<sub>3</sub>, which has the following structure:



[0007] In this, and later figures herein, we depict the dative bond from nitrogen to metal (here, Ir) as a straight line.

[0008] As used herein, the term “organic” includes polymeric materials as well as small molecule organic materials that may be used to fabricate organic opto-electronic devices. “Small molecule” refers to any organic material that is not a polymer, and “small molecules” may actually be quite large. Small molecules may include repeat units in some circumstances. For example, using a long chain alkyl group as a substituent does not remove a molecule from the “small molecule” class. Small molecules may also be incorporated into polymers, for example as a pendent group on a polymer backbone or as a part of the backbone. Small molecules may also serve as the core moiety of a dendrimer, which consists of a series of chemical shells built on the core moiety. The core moiety of a dendrimer may be a fluorescent or phosphorescent small molecule emitter. A dendrimer may be a “small molecule,” and it is believed that all dendrimers currently used in the field of OLEDs are small molecules.

[0009] As used herein, “top” means furthest away from the substrate, while “bottom” means closest to the substrate. Where a first layer is described as “disposed over” a second layer, the first layer is disposed further away from substrate. There may be other layers between the first and second layer, unless it is specified that the first layer is “in contact with” the second layer. For example, a cathode may be described as “disposed over” an anode, even though there are various organic layers in between.

[0010] As used herein, “solution processible” means capable of being dissolved, dispersed, or transported in and/or deposited from a liquid medium, either in solution or suspension form.

[0011] A ligand may be referred to as “photoactive” when it is believed that the ligand directly contributes to the photoactive properties of an emissive material. A ligand may be referred to as “ancillary” when it is believed that the ligand does not contribute to the photoactive properties of an emissive material, although an ancillary ligand may alter the properties of a photoactive ligand.

[0012] As used herein, and as would be generally understood by one skilled in the art, a first “Highest Occupied Molecular Orbital” (HOMO) or “Lowest Unoccupied Molecular Orbital” (LUMO) energy level is “greater than” or “higher than” a second HOMO or LUMO energy level if the first energy level is closer to the vacuum energy level. Since ionization potentials (IP) are measured as a negative energy relative to a vacuum level, a higher HOMO energy level corresponds to an IP having a smaller absolute value (an IP that is less negative). Similarly, a higher LUMO energy level corresponds to an electron affinity (EA) having a smaller absolute value (an EA that is less negative). On a conventional energy level diagram, with the vacuum level at the top, the LUMO energy level of a material is higher than

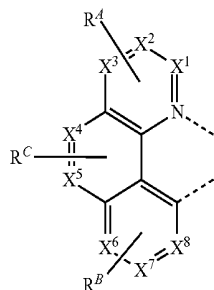
the HOMO energy level of the same material. A “higher” HOMO or LUMO energy level appears closer to the top of such a diagram than a “lower” HOMO or LUMO energy level.

**[0013]** As used herein, and as would be generally understood by one skilled in the art, a first work function is “greater than” or “higher than” a second work function if the first work function has a higher absolute value. Because work functions are generally measured as negative numbers relative to vacuum level, this means that a “higher” work function is more negative. On a conventional energy level diagram, with the vacuum level at the top, a “higher” work function is illustrated as further away from the vacuum level in the downward direction. Thus, the definitions of HOMO and LUMO energy levels follow a different convention than work functions.

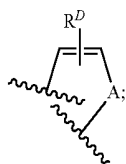
**[0014]** More details on OLEDs, and the definitions described above, can be found in U.S. Pat. No. 7,279,704, which is incorporated herein by reference in its entirety.

#### SUMMARY

**[0015]** Disclosed herein is a novel transition metal compound having a first ligand with a unique configuration of fused rings that makes the compound useful as emitters in OLEDs. A compound comprising a first ligand  $L_A$  of Formula I



is disclosed. In Formula I,  $X^1$  to  $X^8$  are each independently C or N, where no more than two N atoms are bonded to each other. At least one pair of  $X^1$  and  $X^2$ ,  $X^2$  and  $X^3$ ,  $X^6$  and  $X^7$ , and  $X^7$  and  $X^8$  is C—C, and is joined to a structure G of Formula II



where A is selected from the group consisting of O, S, Se, and NR'. In the compound,  $R^A$ ,  $R^B$ ,  $R^C$ , and  $R^D$  each independently represents mono to the maximum number of allowable substitutions, or no substitution. Each  $R^A$ ,  $R^B$ ,  $R^C$ ,  $R^D$ , and  $R^1$  is independently hydrogen or a substituent selected from the group consisting of the general substituents defined above. Any two substituents may be joined or fused together to form a ring. The ligand  $L_A$  is complexed to a metal M. M is optionally coordinated to other ligands. The

ligand  $L_A$  is optionally linked with other ligands to comprise a tridentate, tetradentate, pentadentate, or hexadentate ligand.

**[0016]** An OLED comprising the compound of the present disclosure in an organic layer therein is also disclosed.

**[0017]** A consumer product comprising the OLED is also disclosed.

#### BRIEF DESCRIPTION OF THE DRAWINGS

**[0018]** FIG. 1 shows an organic light emitting device.

**[0019]** FIG. 2 shows an inverted organic light emitting device that does not have a separate electron transport layer.

**[0020]** FIG. 3 shows a plot of the photoluminescence spectrum of an inventive example Compound A in PMMA film.

#### DETAILED DESCRIPTION

**[0021]** Generally, an OLED comprises at least one organic layer disposed between and electrically connected to an anode and a cathode. When a current is applied, the anode injects holes and the cathode injects electrons into the organic layer(s). The injected holes and electrons each migrate toward the oppositely charged electrode. When an electron and hole localize on the same molecule, an “exciton,” which is a localized electron-hole pair having an excited energy state, is formed. Light is emitted when the exciton relaxes via a photoemissive mechanism. In some cases, the exciton may be localized on an excimer or an exciplex. Non-radiative mechanisms, such as thermal relaxation, may also occur, but are generally considered undesirable.

**[0022]** The initial OLEDs used emissive molecules that emitted light from their singlet states (“fluorescence”) as disclosed, for example, in U.S. Pat. No. 4,769,292, which is incorporated by reference in its entirety. Fluorescent emission generally occurs in a time frame of less than 10 nanoseconds.

**[0023]** More recently, OLEDs having emissive materials that emit light from triplet states (“phosphorescence”) have been demonstrated. Baldo et al., “Highly Efficient Phosphorescent Emission from Organic Electroluminescent Devices,” *Nature*, vol. 395, 151-154, 1998; (“Baldo-I”) and Baldo et al., “Very high-efficiency green organic light-emitting devices based on electrophosphorescence,” *Appl. Phys. Lett.*, vol. 75, No. 3, 4-6 (1999) (“Baldo-II”), are incorporated by reference in their entireties. Phosphorescence is described in more detail in U.S. Pat. No. 7,279,704 at cols. 5-6, which are incorporated by reference.

**[0024]** FIG. 1 shows an organic light emitting device 100. The figures are not necessarily drawn to scale. Device 100 may include a substrate 110, an anode 115, a hole injection layer 120, a hole transport layer 125, an electron blocking layer 130, an emissive layer 135, a hole blocking layer 140, an electron transport layer 145, an electron injection layer 150, a protective layer 155, a cathode 160, and a barrier layer 170. Cathode 160 is a compound cathode having a first conductive layer 162 and a second conductive layer 164. Device 100 may be fabricated by depositing the layers described, in order. The properties and functions of these various layers, as well as example materials, are described in more detail in U.S. Pat. No. 7,279,704 at cols. 6-10, which are incorporated by reference.

**[0025]** More examples for each of these layers are available. For example, a flexible and transparent substrate-anode combination is disclosed in U.S. Pat. No. 5,844,363, which is incorporated by reference in its entirety. An example of a p-doped hole transport layer is m-MTDATA doped with F<sub>4</sub>-TCNQ at a molar ratio of 50:1, as disclosed in U.S. Patent Application Publication No. 2003/0230980, which is incorporated by reference in its entirety. Examples of emissive and host materials are disclosed in U.S. Pat. No. 6,303,238 to Thompson et al., which is incorporated by reference in its entirety. An example of an n-doped electron transport layer is BPhen doped with Li at a molar ratio of 1:1, as disclosed in U.S. Patent Application Publication No. 2003/0230980, which is incorporated by reference in its entirety. U.S. Pat. Nos. 5,703,436 and 5,707,745, which are incorporated by reference in their entireties, disclose examples of cathodes including compound cathodes having a thin layer of metal such as Mg:Ag with an overlying transparent, electrically-conductive, sputter-deposited ITO layer. The theory and use of blocking layers is described in more detail in U.S. Pat. No. 6,097,147 and U.S. Patent Application Publication No. 2003/0230980, which are incorporated by reference in their entireties. Examples of injection layers are provided in U.S. Patent Application Publication No. 2004/0174116, which is incorporated by reference in its entirety. A description of protective layers may be found in U.S. Patent Application Publication No. 2004/0174116, which is incorporated by reference in its entirety.

**[0026]** FIG. 2 shows an inverted OLED 200. The device includes a substrate 210, a cathode 215, an emissive layer 220, a hole transport layer 225, and an anode 230. Device 200 may be fabricated by depositing the layers described, in order. Because the most common OLED configuration has a cathode disposed over the anode, and device 200 has cathode 215 disposed under anode 230, device 200 may be referred to as an "inverted" OLED. Materials similar to those described with respect to device 100 may be used in the corresponding layers of device 200. FIG. 2 provides one example of how some layers may be omitted from the structure of device 100.

**[0027]** The simple layered structure illustrated in FIGS. 1 and 2 is provided by way of non-limiting example, and it is understood that embodiments of the invention may be used in connection with a wide variety of other structures. The specific materials and structures described are exemplary in nature, and other materials and structures may be used. Functional OLEDs may be achieved by combining the various layers described in different ways, or layers may be omitted entirely, based on design, performance, and cost factors. Other layers not specifically described may also be included. Materials other than those specifically described may be used. Although many of the examples provided herein describe various layers as comprising a single material, it is understood that combinations of materials, such as a mixture of host and dopant, or more generally a mixture, may be used. Also, the layers may have various sublayers. The names given to the various layers herein are not intended to be strictly limiting. For example, in device 200, hole transport layer 225 transports holes and injects holes into emissive layer 220, and may be described as a hole transport layer or a hole injection layer. In one embodiment, an OLED may be described as having an "organic layer" disposed between a cathode and an anode. This organic layer may comprise a single layer, or may further comprise

multiple layers of different organic materials as described, for example, with respect to FIGS. 1 and 2.

**[0028]** Structures and materials not specifically described may also be used, such as OLEDs comprised of polymeric materials (PLEDs) such as disclosed in U.S. Pat. No. 5,247,190 to Friend et al., which is incorporated by reference in its entirety. By way of further example, OLEDs having a single organic layer may be used. OLEDs may be stacked, for example as described in U.S. Pat. No. 5,707,745 to Forrest et al, which is incorporated by reference in its entirety. The OLED structure may deviate from the simple layered structure illustrated in FIGS. 1 and 2. For example, the substrate may include an angled reflective surface to improve out-coupling, such as a mesa structure as described in U.S. Pat. No. 6,091,195 to Forrest et al., and/or a pit structure as described in U.S. Pat. No. 5,834,893 to Bulovic et al., which are incorporated by reference in their entireties.

**[0029]** Unless otherwise specified, any of the layers of the various embodiments may be deposited by any suitable method. For the organic layers, preferred methods include thermal evaporation, ink-jet, such as described in U.S. Pat. Nos. 6,013,982 and 6,087,196, which are incorporated by reference in their entireties, organic vapor phase deposition (OVPD), such as described in U.S. Pat. No. 6,337,102 to Forrest et al., which is incorporated by reference in its entirety, and deposition by organic vapor jet printing (OVJP), such as described in U.S. Pat. No. 7,431,968, which is incorporated by reference in its entirety. Other suitable deposition methods include spin coating and other solution based processes. Solution based processes are preferably carried out in nitrogen or an inert atmosphere. For the other layers, preferred methods include thermal evaporation. Preferred patterning methods include deposition through a mask, cold welding such as described in U.S. Pat. Nos. 6,294,398 and 6,468,819, which are incorporated by reference in their entireties, and patterning associated with some of the deposition methods such as ink-jet and organic vapor jet printing (OVJP). Other methods may also be used. The materials to be deposited may be modified to make them compatible with a particular deposition method. For example, substituents such as alkyl and aryl groups, branched or unbranched, and preferably containing at least 3 carbons, may be used in small molecules to enhance their ability to undergo solution processing. Substituents having 20 carbons or more may be used, and 3-20 carbons is a preferred range. Materials with asymmetric structures may have better solution processibility than those having symmetric structures, because asymmetric materials may have a lower tendency to recrystallize. Dendrimer substituents may be used to enhance the ability of small molecules to undergo solution processing.

**[0030]** Devices fabricated in accordance with embodiments of the present invention may further optionally comprise a barrier layer. One purpose of the barrier layer is to protect the electrodes and organic layers from damaging exposure to harmful species in the environment including moisture, vapor and/or gases, etc. The barrier layer may be deposited over, under or next to a substrate, an electrode, or over any other parts of a device including an edge. The barrier layer may comprise a single layer, or multiple layers. The barrier layer may be formed by various known chemical vapor deposition techniques and may include compositions having a single phase as well as compositions having multiple phases. Any suitable material or combination of

materials may be used for the barrier layer. The barrier layer may incorporate an inorganic or an organic compound or both. The preferred barrier layer comprises a mixture of a polymeric material and a non-polymeric material as described in U.S. Pat. No. 7,968,146, PCT Pat. Application Nos. PCT/US2007/023098 and PCT/US2009/042829, which are herein incorporated by reference in their entireties. To be considered a "mixture", the aforesaid polymeric and non-polymeric materials comprising the barrier layer should be deposited under the same reaction conditions and/or at the same time. The weight ratio of polymeric to non-polymeric material may be in the range of 95:5 to 5:95. The polymeric material and the non-polymeric material may be created from the same precursor material. In one example, the mixture of a polymeric material and a non-polymeric material consists essentially of polymeric silicon and inorganic silicon.

[0031] Devices fabricated in accordance with embodiments of the invention can be incorporated into a wide variety of electronic component modules (or units) that can be incorporated into a variety of electronic products or intermediate components. Examples of such electronic products or intermediate components include display screens, lighting devices such as discrete light source devices or lighting panels, etc. that can be utilized by the end-user product manufacturers. Such electronic component modules can optionally include the driving electronics and/or power source(s). Devices fabricated in accordance with embodiments of the invention can be incorporated into a wide variety of consumer products that have one or more of the electronic component modules (or units) incorporated therein. A consumer product comprising an OLED that includes the compound of the present disclosure in the organic layer in the OLED is disclosed. Such consumer products would include any kind of products that include one or more light source(s) and/or one or more of some type of visual displays. Some examples of such consumer products include flat panel displays, curved displays, computer monitors, medical monitors, televisions, billboards, lights for interior or exterior illumination and/or signaling, heads-up displays, fully or partially transparent displays, flexible displays, rollable displays, foldable displays, stretchable displays, laser printers, telephones, mobile phones, tablets, phablets, personal digital assistants (PDAs), wearable devices, laptop computers, digital cameras, camcorders, viewfinders, micro-displays (displays that are less than 2 inches diagonal), 3-D displays, virtual reality or augmented reality displays, vehicles, video walls comprising multiple displays tiled together, theater or stadium screen, a light therapy device, and a sign. Various control mechanisms may be used to control devices fabricated in accordance with the present invention, including passive matrix and active matrix. Many of the devices are intended for use in a temperature range comfortable to humans, such as 18 degrees C. to 30 degrees C., and more preferably at room temperature (20-25 degrees C.), but could be used outside this temperature range, for example, from -40 degree C. to +80 degree C.

[0032] The materials and structures described herein may have applications in devices other than OLEDs. For example, other optoelectronic devices such as organic solar cells and organic photodetectors may employ the materials and structures. More generally, organic devices, such as organic transistors, may employ the materials and structures.

[0033] The terms "halo," "halogen," and "halide" are used interchangeably and refer to fluorine, chlorine, bromine, and iodine.

[0034] The term "acyl" refers to a substituted carbonyl radical ( $C(O)-R_s$ ).

[0035] The term "ester" refers to a substituted oxycarbonyl ( $-O-C(O)-R_s$  or  $-C(O)-O-R_s$ ) radical.

[0036] The term "ether" refers to an  $-OR_s$  radical.

[0037] The terms "sulfanyl" or "thio-ether" are used interchangeably and refer to a  $-SR_s$  radical.

[0038] The term "sulfinyl" refers to a  $-S(O)-R_s$  radical.

[0039] The term "sulfonyl" refers to a  $-SO_2-R_s$  radical.

[0040] The term "phosphino" refers to a  $-P(R_s)_3$  radical, wherein each  $R_s$  can be same or different.

[0041] The term "silyl" refers to a  $-Si(R_s)_3$  radical, wherein each  $R_s$  can be same or different.

[0042] In each of the above,  $R_s$  can be hydrogen or a substituent selected from the group consisting of deuterium, halogen, alkyl, cycloalkyl, heteroalkyl, heterocycloalkyl, arylalkyl, alkoxy, aryloxy, amino, silyl, alkenyl, cycloalkenyl, heteroalkenyl, alkynyl, aryl, heteroaryl, and combination thereof. Preferred  $R_s$  is selected from the group consisting of alkyl, cycloalkyl, aryl, heteroaryl, and combination thereof.

[0043] The term "alkyl" refers to and includes both straight and branched chain alkyl radicals. Preferred alkyl groups are those containing from one to fifteen carbon atoms and includes methyl, ethyl, propyl, 1-methylethyl, butyl, 1-methylpropyl, 2-methylpropyl, pentyl, 1-methylbutyl, 2-methylbutyl, 3-methylbutyl, 1,1-dimethylpropyl, 1,2-dimethylpropyl, 2,2-dimethylpropyl, and the like. Additionally, the alkyl group is optionally substituted.

[0044] The term "cycloalkyl" refers to and includes monocyclic, polycyclic, and spiro alkyl radicals. Preferred cycloalkyl groups are those containing 3 to 12 ring carbon atoms and includes cyclopropyl, cyclopentyl, cyclohexyl, bicyclo[3.1.1]heptyl, spiro[4.5]decyl, spiro[5.5]undecyl, adamantyl, and the like. Additionally, the cycloalkyl group is optionally substituted.

[0045] The terms "heteroalkyl" or "heterocycloalkyl" refer to an alkyl or a cycloalkyl radical, respectively, having at least one carbon atom replaced by a heteroatom. Optionally the at least one heteroatom is selected from O, S, N, P, B, Si and Se, preferably, O, S or N. Additionally, the heteroalkyl or heterocycloalkyl group is optionally substituted.

[0046] The term "alkenyl" refers to and includes both straight and branched chain alkene radicals. Alkenyl groups are essentially alkyl groups that include at least one carbon-carbon double bond in the alkyl chain. Cycloalkenyl groups are essentially cycloalkyl groups that include at least one carbon-carbon double bond in the cycloalkyl ring. The term "heteroalkenyl" as used herein refers to an alkenyl radical having at least one carbon atom replaced by a heteroatom. Optionally the at least one heteroatom is selected from O, S, N, P, B, Si, and Se, preferably, O, S, or N. Preferred alkenyl, cycloalkenyl, or heteroalkenyl groups are those containing two to fifteen carbon atoms. Additionally, the alkenyl, cycloalkenyl, or heteroalkenyl group is optionally substituted.

[0047] The term "alkynyl" refers to and includes both straight and branched chain alkyne radicals. Preferred alkynyl groups are those containing two to fifteen carbon atoms. Additionally, the alkynyl group is optionally substituted.

**[0048]** The terms “aralkyl” or “arylalkyl” are used interchangeably and refer to an alkyl group that is substituted with an aryl group. Additionally, the aralkyl group is optionally substituted.

**[0049]** The term “heterocyclic group” refers to and includes aromatic and non-aromatic cyclic radicals containing at least one heteroatom. Optionally the at least one heteroatom is selected from O, S, N, P, B, Si, and Se, preferably, O, S, or N. Hetero-aromatic cyclic radicals may be used interchangeably with heteroaryl. Preferred hetero-non-aromatic cyclic groups are those containing 3 to 7 ring atoms which includes at least one hetero atom, and includes cyclic amines such as morpholino, piperidino, pyrrolidino, and the like, and cyclic ethers/thio-ethers, such as tetrahydrofuran, tetrahydropyran, tetrahydrothiophene, and the like. Additionally, the heterocyclic group may be optionally substituted.

**[0050]** The term “aryl” refers to and includes both single-ring aromatic hydrocarbyl groups and polycyclic aromatic ring systems. The polycyclic rings may have two or more rings in which two carbons are common to two adjoining rings (the rings are “fused”) wherein at least one of the rings is an aromatic hydrocarbyl group, e.g., the other rings can be cycloalkyls, cycloalkenyls, aryl, heterocycles, and/or heteroaryls. Preferred aryl groups are those containing six to thirty carbon atoms, preferably six to twenty carbon atoms, more preferably six to twelve carbon atoms. Especially preferred is an aryl group having six carbons, ten carbons or twelve carbons. Suitable aryl groups include phenyl, biphenyl, triphenyl, triphenylene, tetraphenylene, naphthalene, anthracene, phenalene, phenanthrene, fluorene, pyrene, chrysene, perylene, and azulene, preferably phenyl, biphenyl, triphenyl, triphenylene, fluorene, and naphthalene. Additionally, the aryl group is optionally substituted.

**[0051]** The term “heteroaryl” refers to and includes both single-ring aromatic groups and polycyclic aromatic ring systems that include at least one heteroatom. The heteroatoms include, but are not limited to O, S, N, P, B, Si, and Se. In many instances, O, S, or N are the preferred heteroatoms. Hetero-single ring aromatic systems are preferably single rings with 5 or 6 ring atoms, and the ring can have from one to six heteroatoms. The hetero-polycyclic ring systems can have two or more rings in which two atoms are common to two adjoining rings (the rings are “fused”) wherein at least one of the rings is a heteroaryl, e.g., the other rings can be cycloalkyls, cycloalkenyls, aryl, heterocycles, and/or heteroaryls. The hetero-polycyclic aromatic ring systems can have from one to six heteroatoms per ring of the polycyclic aromatic ring system. Preferred heteroaryl groups are those containing three to thirty carbon atoms, preferably three to twenty carbon atoms, more preferably three to twelve carbon atoms. Suitable heteroaryl groups include dibenzothiophene, dibenzofuran, dibenzoselenophene, furan, thiophene, benzofuran, benzothiophene, benzoselenophene, carbazole, indolocarbazole, pyridylindole, pyrrolodipyridine, pyrazole, imidazole, triazole, oxazole, thiazole, oxadiazole, oxatriazole, dioxazole, thiadiazole, pyridine, pyridazine, pyrimidine, pyrazine, triazine, oxathiazine, oxadiazine, indole, benzimidazole, indazole, indoxazine, benzoxazole, benzisoxazole, benzothiazole, quinoline, isoquinoline, cinnoline, quinazoline, quinoxaline, naphthyridine, phthalazine, pteridine, xanthene, acridine, phenazine, phenothiazine, phenoxazine, benzofuropyridine, furodipyridine, benzothienopyridine, thienodipyridine, benzoselenophenopyridine,

and selenophenodipyridine, preferably dibenzothiophene, dibenzofuran, dibenzoselenophene, carbazole, indolocarbazole, imidazole, pyridine, triazine, benzimidazole, 1,2-azaborine, 1,3-azaborine, 1,4-azaborine, borazine, and aza-analogs thereof. Additionally, the heteroaryl group is optionally substituted.

**[0052]** Of the aryl and heteroaryl groups listed above, the groups of triphenylene, naphthalene, anthracene, dibenzothiophene, dibenzofuran, dibenzoselenophene, carbazole, indolocarbazole, imidazole, pyridine, pyrazine, pyrimidine, triazine, and benzimidazole, and the respective aza-analogs of each thereof are of particular interest.

**[0053]** The terms alkyl, cycloalkyl, heteroalkyl, heterocycloalkyl, alkenyl, cycloalkenyl, heteroalkenyl, alkynyl, aralkyl, heterocyclic group, aryl, and heteroaryl, as used herein, are independently unsubstituted, or independently substituted, with one or more general substituents.

**[0054]** In many instances, the general substituents are selected from the group consisting of deuterium, halogen, alkyl, cycloalkyl, heteroalkyl, heterocycloalkyl, arylalkyl, alkoxy, aryloxy, amino, silyl, alkenyl, cycloalkenyl, heteroalkenyl, alkynyl, aryl, heteroaryl, acyl, carboxylic acid, ether, ester, nitrile, isonitrile, sulfanyl, sulfinyl, sulfonyl, phosphino, and combinations thereof.

**[0055]** In some instances, the preferred general substituents are selected from the group consisting of deuterium, fluorine, alkyl, cycloalkyl, heteroalkyl, alkoxy, aryloxy, amino, silyl, alkenyl, cycloalkenyl, heteroalkenyl, aryl, heteroaryl, nitrile, isonitrile, sulfanyl, and combinations thereof.

**[0056]** In some instances, the preferred general substituents are selected from the group consisting of deuterium, fluorine, alkyl, cycloalkyl, alkoxy, aryloxy, amino, silyl, aryl, heteroaryl, sulfanyl, and combinations thereof.

**[0057]** In yet other instances, the more preferred general substituents are selected from the group consisting of deuterium, fluorine, alkyl, cycloalkyl, aryl, heteroaryl, and combinations thereof.

**[0058]** The terms “substituted” and “substitution” refer to a substituent other than H that is bonded to the relevant position, e.g., a carbon or nitrogen. For example, when R<sup>1</sup> represents mono-substitution, then one R<sup>1</sup> must be other than H (i.e., a substitution). Similarly, when R<sup>1</sup> represents di-substitution, then two of R<sup>1</sup> must be other than H. Similarly, when R<sup>1</sup> represents no substitution, R<sup>1</sup>, for example, can be a hydrogen for available valencies of ring atoms, as in carbon atoms for benzene and the nitrogen atom in pyrrole, or simply represents nothing for ring atoms with fully filled valencies, e.g., the nitrogen atom in pyridine. The maximum number of substitutions possible in a ring structure will depend on the total number of available valencies in the ring atoms.

**[0059]** As used herein, “combinations thereof” indicates that one or more members of the applicable list are combined to form a known or chemically stable arrangement that one of ordinary skill in the art can envision from the applicable list. For example, an alkyl and deuterium can be combined to form a partial or fully deuterated alkyl group; a halogen and alkyl can be combined to form a halogenated alkyl substituent; and a halogen, alkyl, and aryl can be combined to form a halogenated arylalkyl. In one instance, the term substitution includes a combination of two to four of the listed groups. In another instance, the term substitution includes a combination of two to three groups. In yet

another instance, the term substitution includes a combination of two groups. Preferred combinations of substituent groups are those that contain up to fifty atoms that are not hydrogen or deuterium, or those which include up to forty atoms that are not hydrogen or deuterium, or those that include up to thirty atoms that are not hydrogen or deuterium. In many instances, a preferred combination of substituent groups will include up to twenty atoms that are not hydrogen or deuterium.

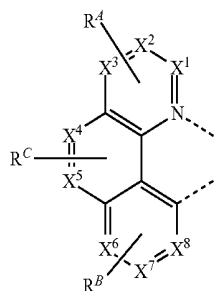
**[0060]** The “aza” designation in the fragments described herein, i.e. aza-dibenzofuran, aza-dibenzothiophene, etc. means that one or more of the C—H groups in the respective aromatic ring can be replaced by a nitrogen atom, for example, and without any limitation, azatriphenylene encompasses both dibenzo[f,h]quinoxaline and dibenzo[f,h]quinoline. One of ordinary skill in the art can readily envision other nitrogen analogs of the aza-derivatives described above, and all such analogs are intended to be encompassed by the terms as set forth herein.

**[0061]** As used herein, “deuterium” refers to an isotope of hydrogen. Deuterated compounds can be readily prepared using methods known in the art. For example, U.S. Pat. No. 8,557,400, Patent Pub. No. WO 2006/095951, and U.S. Pat. Application Pub. No. US 2011/0037057, which are hereby incorporated by reference in their entireties, describe the making of deuterium-substituted organometallic complexes. Further reference is made to Ming Yan, et al., *Tetrahedron* 2015, 71, 1425-30 and Atzrodt et al., *Angew. Chem. Int. Ed. (Reviews)* 2007, 46, 7744-65, which are incorporated by reference in their entireties, describe the deuteration of the methylene hydrogens in benzyl amines and efficient pathways to replace aromatic ring hydrogens with deuterium, respectively.

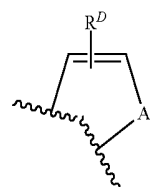
**[0062]** It is to be understood that when a molecular fragment is described as being a substituent or otherwise attached to another moiety, its name may be written as if it were a fragment (e.g. phenyl, phenylene, naphthyl, dibenzofuryl) or as if it were the whole molecule (e.g. benzene, naphthalene, dibenzofuran). As used herein, these different ways of designating a substituent or attached fragment are considered to be equivalent.

**[0063]** In some instance, a pair of adjacent substituents can be optionally joined or fused into a ring. The preferred ring is a five, six, or seven-membered carbocyclic or heterocyclic ring, includes both instances where the portion of the ring formed by the pair of substituents is saturated and where the portion of the ring formed by the pair of substituents is unsaturated. As used herein, “adjacent” means that the two substituents involved can be on the same ring next to each other, or on two neighboring rings having the two closest available substitutable positions, such as 2, 2' positions in a biphenyl, or 1, 8 position in a naphthalene, as long as they can form a stable fused ring system.

**[0064]** According to an embodiment, a compound comprising a first ligand  $L_A$  of Formula I



is disclosed. In Formula I,  $X^1$  to  $X^8$  are each independently C or N, where no more than two N atoms are bonded to each other. At least one pair of  $X^1$  and  $X^2$ ,  $X^2$  and  $X^3$ ,  $X^6$  and  $X^7$ , and  $X^7$  and  $X^8$  is C—C, and is joined to a structure G of Formula II



where A is selected from the group consisting of O, S, Se, and  $NR^1$ . In the compound,  $R^A$ ,  $R^B$ ,  $R^C$ , and  $R^D$  each independently represents mono to the maximum number of allowable substitutions, or no substitution. Each  $R^A$ ,  $R^B$ ,  $R^C$ ,  $R^D$ , and  $R^1$  is independently hydrogen or a substituent selected from the group consisting of the general substituents defined above. Any two substituents may be joined or fused together to form a ring. The ligand  $L_A$  is complexed to a metal M. M is optionally coordinated to other ligands. The ligand  $L_A$  is optionally linked with other ligands to comprise a tridentate, tetradentate, pentadentate, or hexadentate ligand.

**[0065]** In some embodiments, each  $R^A$ ,  $R^B$ ,  $R^C$ , and  $R^D$  is independently selected from the group consisting of the preferred general substituents defined above.

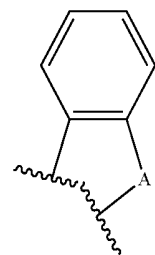
**[0066]** In some embodiments,  $X^1$  to  $X^8$  are each C. In some embodiments, at least one of  $X^1$  to  $X^8$  is N.

**[0067]** In some embodiments, A in Formula II is O or S.

**[0068]** In some embodiments, M is selected from the group consisting of Ru, Os, Pd, Pt, Ir, Cu, and Au. In some embodiments, M is Ir or Pt. Preferably, Ir is Ir(III) and Pt is Pt(I).

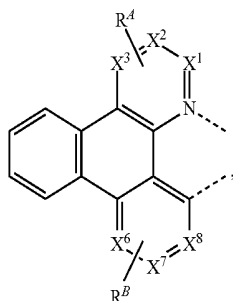
**[0069]** In some embodiments where M is selected from the group consisting of Ru, Os, Pd, Pt, Ir, Cu, and Au, the compound further comprises a substituted or unsubstituted acetylacetonate ligand.

**[0070]** In some embodiments, Formula II is substituted or unsubstituted

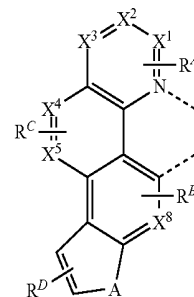
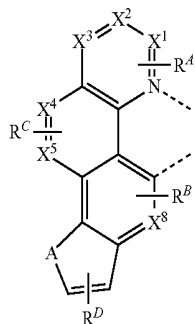


**[0071]** In some embodiments, only one pair of  $X^1$  and  $X^2$ ,  $X^2$  and  $X^3$ ,  $X^6$  and  $X^7$ , and  $X^7$  and  $X^8$  is C—C, and is joined to the structure G.

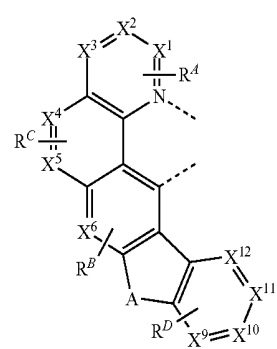
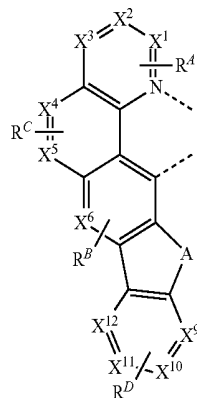
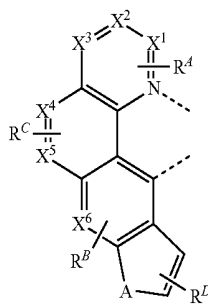
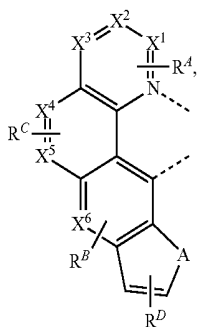
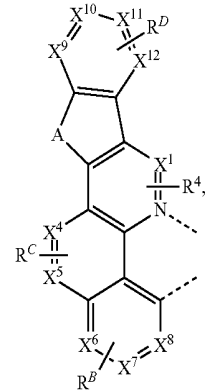
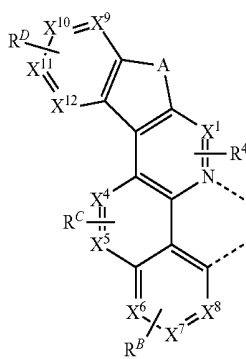
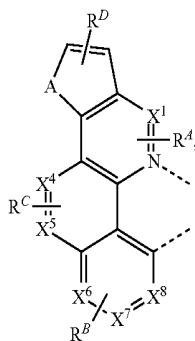
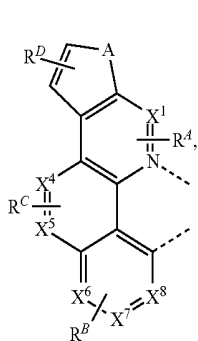
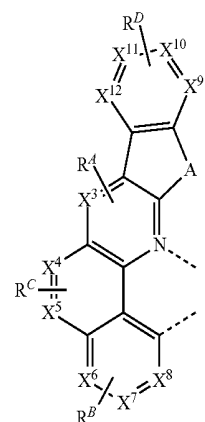
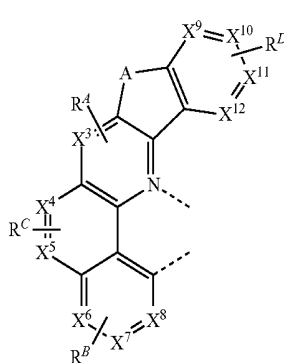
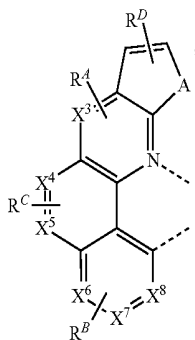
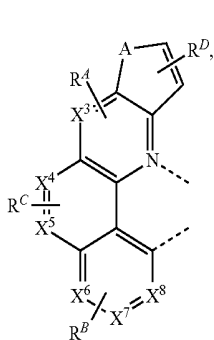
[0072] In some embodiments, the first ligand  $L_A$  is of the formula

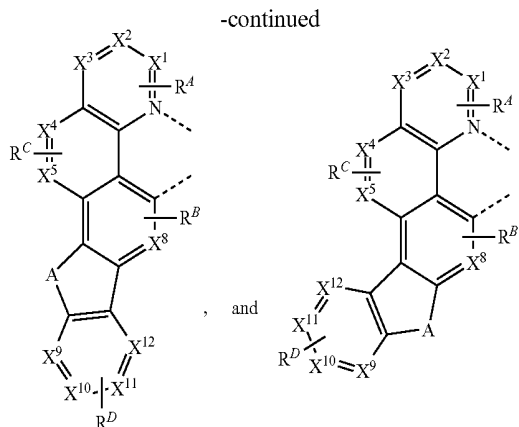


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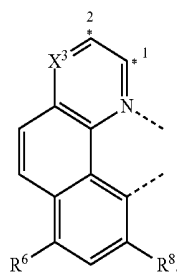
[0073] In some embodiments, the first ligand  $L_A$  is selected from the group consisting of:





where X<sup>9</sup> to X<sup>12</sup> are each independently C or N; and where no more than two N atoms are bonded to each other.

[0074] In some embodiments of the compound, the first ligand L<sub>A</sub> is selected from the group consisting of ligands L<sub>A1-O</sub> to L<sub>A384-O</sub>, L<sub>A1-S</sub> to L<sub>A384-S</sub>, L<sub>A1-C</sub> to L<sub>A383-C</sub>, and L<sub>A384-C</sub> that are based on the structure



where the asterisks with an Arabic numeral indicate the points of attachment to the corresponding points of attachment in the structure G,

[0075] where for ligands L<sub>A1-O</sub> to L<sub>A384-O</sub>, A in the structure G is O,

[0076] where for ligands L<sub>A1-S</sub> to L<sub>A384-S</sub>, A in the structure G is S,

[0077] where for ligands L<sub>A1-C</sub> to L<sub>A384-C</sub>, A in the structure G is C(CH<sub>3</sub>)<sub>2</sub>, where X<sup>3</sup>, R<sup>6</sup>, R<sup>8</sup>, and G are defined for A1 to A384 as shown below:

	X <sup>3</sup>	R <sup>6</sup>	R <sup>8</sup>	G
A1	CH	H	H	G <sup>1</sup>
A2	CH	H	H	G <sup>3</sup>
A3	CH	H	H	G <sup>5</sup>
A4	CH	H	H	G <sup>7</sup>
A5	CH	H	H	G <sup>9</sup>
A6	CH	H	H	G <sup>11</sup>
A7	N	H	H	G <sup>1</sup>
A8	N	H	H	G <sup>3</sup>
A9	N	H	H	G <sup>5</sup>
A10	N	H	H	G <sup>7</sup>
A11	N	H	H	G <sup>9</sup>
A12	N	H	H	G <sup>11</sup>
A13	CR <sup>B1</sup>	H	H	G <sup>1</sup>
A14	CR <sup>B3</sup>	H	H	G <sup>1</sup>
A15	CR <sup>B5</sup>	H	H	G <sup>1</sup>
A16	CR <sup>B7</sup>	H	H	G <sup>1</sup>
A17	CR <sup>B9</sup>	H	H	G <sup>1</sup>

-continued

	X <sup>3</sup>	R <sup>6</sup>	R <sup>8</sup>	G
A18	CR <sup>B11</sup>	H	H	G <sup>1</sup>
A19	CR <sup>B13</sup>	H	H	G <sup>1</sup>
A20	CR <sup>B15</sup>	H	H	G <sup>1</sup>
A21	CR <sup>B17</sup>	H	H	G <sup>1</sup>
A22	CR <sup>B19</sup>	H	H	G <sup>1</sup>
A23	CR <sup>B21</sup>	H	H	G <sup>1</sup>
A24	CR <sup>B23</sup>	H	H	G <sup>1</sup>
A25	CR <sup>B25</sup>	H	H	G <sup>1</sup>
A26	CR <sup>B27</sup>	H	H	G <sup>1</sup>
A27	CR <sup>B29</sup>	H	H	G <sup>1</sup>
A28	CR <sup>B31</sup>	H	H	G <sup>1</sup>
A29	CR <sup>B33</sup>	H	H	G <sup>1</sup>
A30	CR <sup>B35</sup>	H	H	G <sup>1</sup>
A31	CR <sup>B37</sup>	H	H	G <sup>1</sup>
A32	CR <sup>B39</sup>	H	H	G <sup>1</sup>
A33	CR <sup>B41</sup>	H	H	G <sup>1</sup>
A34	CR <sup>B43</sup>	H	H	G <sup>1</sup>
A35	CR <sup>B45</sup>	H	H	G <sup>1</sup>
A36	CR <sup>B47</sup>	H	H	G <sup>1</sup>
A37	CR <sup>B49</sup>	H	H	G <sup>1</sup>
A38	CR <sup>B51</sup>	H	H	G <sup>1</sup>
A39	CR <sup>B53</sup>	H	H	G <sup>1</sup>
A40	CR <sup>B55</sup>	H	H	G <sup>1</sup>
A41	CR <sup>B57</sup>	H	H	G <sup>1</sup>
A42	CR <sup>B59</sup>	H	H	G <sup>1</sup>
A43	CR <sup>B1</sup>	H	H	G <sup>2</sup>
A44	CR <sup>B3</sup>	H	H	G <sup>2</sup>
A45	CR <sup>B5</sup>	H	H	G <sup>2</sup>
A46	CR <sup>B7</sup>	H	H	G <sup>2</sup>
A47	CR <sup>B9</sup>	H	H	G <sup>2</sup>
A48	CR <sup>B11</sup>	H	H	G <sup>2</sup>
A49	CR <sup>B13</sup>	H	H	G <sup>2</sup>
A50	CR <sup>B15</sup>	H	H	G <sup>2</sup>
A51	CR <sup>B17</sup>	H	H	G <sup>2</sup>
A52	CR <sup>B19</sup>	H	H	G <sup>2</sup>
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A57	CR <sup>B29</sup>	H	H	G <sup>2</sup>
A58	CR <sup>B31</sup>	H	H	G <sup>2</sup>
A59	CR <sup>B33</sup>	H	H	G <sup>2</sup>
A60	CR <sup>B35</sup>	H	H	G <sup>2</sup>
A61	CR <sup>B37</sup>	H	H	G <sup>2</sup>
A62	CR <sup>B39</sup>	H	H	G <sup>2</sup>
A63	CR <sup>B41</sup>	H	H	G <sup>2</sup>
A64	CR <sup>B43</sup>	H	H	G <sup>2</sup>
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A69	CR <sup>B53</sup>	H	H	G <sup>2</sup>
A70	CR <sup>B55</sup>	H	H	G <sup>2</sup>
A71	CR <sup>B57</sup>	H	H	G <sup>2</sup>
A72	CR <sup>B59</sup>	H	H	G <sup>2</sup>
A73	CR <sup>B1</sup>	H	H	G <sup>3</sup>
A74	CR <sup>B3</sup>	H	H	G <sup>3</sup>
A75	CR <sup>B5</sup>	H	H	G <sup>3</sup>
A76	CR <sup>B7</sup>	H	H	G <sup>3</sup>
A77	CR <sup>B9</sup>	H	H	G <sup>3</sup>
A78	CR <sup>B11</sup>	H	H	G <sup>3</sup>
A79	CR <sup>B13</sup>	H	H	G <sup>3</sup>
A80	CR <sup>B15</sup>	H	H	G <sup>3</sup>
A81	CR <sup>B17</sup>	H	H	G <sup>3</sup>
A82	CR <sup>B19</sup>	H	H	G <sup>3</sup>
A83	CR <sup>B21</sup>	H	H	G <sup>3</sup>
A84	CR <sup>B23</sup>	H	H	G <sup>3</sup>
A85	CR <sup>B25</sup>	H	H	G <sup>3</sup>
A86	CR <sup>B27</sup>	H	H	G <sup>3</sup>
A87	CR <sup>B29</sup>	H	H	G <sup>3</sup>
A88	CR <sup>B31</sup>	H	H	G <sup>3</sup>
A89	CR <sup>B33</sup>	H	H	G <sup>3</sup>
A90	CR <sup>B35</sup>	H	H	G <sup>3</sup>
A91	CR <sup>B37</sup>	H	H	G <sup>3</sup>

-continued

	X <sup>3</sup>	R <sup>6</sup>	R <sup>8</sup>	G
A92	CR <sup>B39</sup>	H	H	G <sup>3</sup>
A93	CR <sup>B41</sup>	H	H	G <sup>3</sup>
A94	CR <sup>B43</sup>	H	H	G <sup>3</sup>
A95	CR <sup>B45</sup>	H	H	G <sup>3</sup>
A96	CR <sup>B47</sup>	H	H	G <sup>3</sup>
A97	CR <sup>B49</sup>	H	H	G <sup>3</sup>
A98	CR <sup>B51</sup>	H	H	G <sup>3</sup>
A99	CR <sup>B53</sup>	H	H	G <sup>3</sup>
A100	CR <sup>B55</sup>	H	H	G <sup>3</sup>
A101	CR <sup>B57</sup>	H	H	G <sup>3</sup>
A102	CR <sup>B59</sup>	H	H	G <sup>3</sup>
A103	CR <sup>B1</sup>	H	H	G <sup>4</sup>
A104	CR <sup>B3</sup>	H	H	G <sup>4</sup>
A105	CR <sup>B5</sup>	H	H	G <sup>4</sup>
A106	CR <sup>B7</sup>	H	H	G <sup>4</sup>
A107	CR <sup>B9</sup>	H	H	G <sup>4</sup>
A108	CR <sup>B11</sup>	H	H	G <sup>4</sup>
A109	CR <sup>B13</sup>	H	H	G <sup>4</sup>
A110	CR <sup>B15</sup>	H	H	G <sup>4</sup>
A111	CR <sup>B17</sup>	H	H	G <sup>4</sup>
A112	CR <sup>B19</sup>	H	H	G <sup>4</sup>
A113	CR <sup>B21</sup>	H	H	G <sup>4</sup>
A114	CR <sup>B23</sup>	H	H	G <sup>4</sup>
A115	CR <sup>B25</sup>	H	H	G <sup>4</sup>
A116	CR <sup>B27</sup>	H	H	G <sup>4</sup>
A117	CR <sup>B29</sup>	H	H	G <sup>4</sup>
A118	CR <sup>B31</sup>	H	H	G <sup>4</sup>
A119	CR <sup>B33</sup>	H	H	G <sup>4</sup>
A120	CR <sup>B35</sup>	H	H	G <sup>4</sup>
A121	CR <sup>B37</sup>	H	H	G <sup>4</sup>
A122	CR <sup>B39</sup>	H	H	G <sup>4</sup>
A123	CR <sup>B41</sup>	H	H	G <sup>4</sup>
A124	CR <sup>B43</sup>	H	H	G <sup>4</sup>
A125	CR <sup>B45</sup>	H	H	G <sup>4</sup>
A126	CR <sup>B47</sup>	H	H	G <sup>4</sup>
A127	CR <sup>B49</sup>	H	H	G <sup>4</sup>
A128	CR <sup>B51</sup>	H	H	G <sup>4</sup>
A129	CH	H	H	G <sup>2</sup>
A130	CH	H	H	G <sup>4</sup>
A131	CH	H	H	G <sup>6</sup>
A132	CH	H	H	G <sup>8</sup>
A133	CH	H	H	G <sup>10</sup>
A134	CH	H	H	G <sup>12</sup>
A135	N	H	H	G <sup>2</sup>
A136	N	H	H	G <sup>4</sup>
A137	N	H	H	G <sup>6</sup>
A138	N	H	H	G <sup>8</sup>
A139	N	H	H	G <sup>10</sup>
A140	N	H	H	G <sup>12</sup>
A141	CR <sup>B2</sup>	H	H	G <sup>1</sup>
A142	CR <sup>B4</sup>	H	H	G <sup>1</sup>
A143	CR <sup>B6</sup>	H	H	G <sup>1</sup>
A144	CR <sup>B8</sup>	H	H	G <sup>1</sup>
A145	CR <sup>B10</sup>	H	H	G <sup>1</sup>
A146	CR <sup>B12</sup>	H	H	G <sup>1</sup>
A147	CR <sup>B14</sup>	H	H	G <sup>1</sup>
A148	CR <sup>B16</sup>	H	H	G <sup>1</sup>
A149	CR <sup>B18</sup>	H	H	G <sup>1</sup>
A150	CR <sup>B20</sup>	H	H	G <sup>1</sup>
A151	CR <sup>B22</sup>	H	H	G <sup>1</sup>
A152	CR <sup>B24</sup>	H	H	G <sup>1</sup>
A153	CR <sup>B26</sup>	H	H	G <sup>1</sup>
A154	CR <sup>B28</sup>	H	H	G <sup>1</sup>
A155	CR <sup>B30</sup>	H	H	G <sup>1</sup>
A156	CR <sup>B32</sup>	H	H	G <sup>1</sup>
A157	CR <sup>B34</sup>	H	H	G <sup>1</sup>
A158	CR <sup>B36</sup>	H	H	G <sup>1</sup>
A159	CR <sup>B38</sup>	H	H	G <sup>1</sup>
A160	CR <sup>B40</sup>	H	H	G <sup>1</sup>
A161	CR <sup>B42</sup>	H	H	G <sup>1</sup>
A162	CR <sup>B44</sup>	H	H	G <sup>1</sup>
A163	CR <sup>B46</sup>	H	H	G <sup>1</sup>
A164	CR <sup>B48</sup>	H	H	G <sup>1</sup>
A165	CR <sup>B50</sup>	H	H	G <sup>1</sup>

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	X <sup>3</sup>	R <sup>6</sup>	R <sup>8</sup>	G
A166	CR <sup>B52</sup>	H	H	G <sup>1</sup>
A167	CR <sup>B54</sup>	H	H	G <sup>1</sup>
A168	CR <sup>B56</sup>	H	H	G <sup>1</sup>
A169	CR <sup>B58</sup>	H	H	G <sup>1</sup>
A170	CR <sup>B60</sup>	H	H	G <sup>1</sup>
A171	CR <sup>B2</sup>	H	H	G <sup>2</sup>
A172	CR <sup>B4</sup>	H	H	G <sup>2</sup>
A173	CR <sup>B6</sup>	H	H	G <sup>2</sup>
A174	CR <sup>B8</sup>	H	H	G <sup>2</sup>
A175	CR <sup>B10</sup>	H	H	G <sup>2</sup>
A176	CR <sup>B12</sup>	H	H	G <sup>2</sup>
A177	CR <sup>B14</sup>	H	H	G <sup>2</sup>
A178	CR <sup>B16</sup>	H	H	G <sup>2</sup>
A179	CR <sup>B18</sup>	H	H	G <sup>2</sup>
A180	CR <sup>B20</sup>	H	H	G <sup>2</sup>
A181	CR <sup>B22</sup>	H	H	G <sup>2</sup>
A182	CR <sup>B24</sup>	H	H	G <sup>2</sup>
A183	CR <sup>B26</sup>	H	H	G <sup>2</sup>
A184	CR <sup>B28</sup>	H	H	G <sup>2</sup>
A185	CR <sup>B30</sup>	H	H	G <sup>2</sup>
A186	CR <sup>B32</sup>	H	H	G <sup>2</sup>
A187	CR <sup>B34</sup>	H	H	G <sup>2</sup>
A188	CR <sup>B36</sup>	H	H	G <sup>2</sup>
A189	CR <sup>B38</sup>	H	H	G <sup>2</sup>
A190	CR <sup>B40</sup>	H	H	G <sup>2</sup>
A191	CR <sup>B42</sup>	H	H	G <sup>2</sup>
A192	CR <sup>B44</sup>	H	H	G <sup>2</sup>
A193	CR <sup>B46</sup>	H	H	G <sup>2</sup>
A194	CR <sup>B48</sup>	H	H	G <sup>2</sup>
A195	CR <sup>B50</sup>	H	H	G <sup>2</sup>
A196	CR <sup>B52</sup>	H	H	G <sup>2</sup>
A197	CR <sup>B54</sup>	H	H	G <sup>2</sup>
A198	CR <sup>B56</sup>	H	H	G <sup>2</sup>
A199	CR <sup>B58</sup>	H	H	G <sup>2</sup>
A200	CR <sup>B60</sup>	H	H	G <sup>2</sup>
A201	CR <sup>B2</sup>	H	H	G <sup>3</sup>
A202	CR <sup>B4</sup>	H	H	G <sup>3</sup>
A203	CR <sup>B6</sup>	H	H	G <sup>3</sup>
A204	CR <sup>B8</sup>	H	H	G <sup>3</sup>
A205	CR <sup>B10</sup>	H	H	G <sup>3</sup>
A206	CR <sup>B12</sup>	H	H	G <sup>3</sup>
A207	CR <sup>B14</sup>	H	H	G <sup>3</sup>
A208	CR <sup>B16</sup>	H	H	G <sup>3</sup>
A209	CR <sup>B18</sup>	H	H	G <sup>3</sup>
A210	CR <sup>B20</sup>	H	H	G <sup>3</sup>
A211	CR <sup>B22</sup>	H	H	G <sup>3</sup>
A212	CR <sup>B24</sup>	H	H	G <sup>3</sup>
A213	CR <sup>B26</sup>	H	H	G <sup>3</sup>
A214	CR <sup>B28</sup>	H	H	G <sup>3</sup>
A215	CR <sup>B30</sup>	H	H	G <sup>3</sup>
A216	CR <sup>B32</sup>	H	H	G <sup>3</sup>
A217	CR <sup>B34</sup>	H	H	G <sup>3</sup>
A218	CR <sup>B36</sup>	H	H	G <sup>3</sup>
A219	CR <sup>B38</sup>	H	H	G <sup>3</sup>
A220	CR <sup>B40</sup>	H	H	G <sup>3</sup>
A221	CR <sup>B42</sup>	H	H	G <sup>3</sup>
A222	CR <sup>B44</sup>	H	H	G <sup>3</sup>
A223	CR <sup>B46</sup>	H	H	G <sup>3</sup>
224	CR <sup>B48</sup>	H	H	G <sup>3</sup>
A225	CR <sup>B50</sup>	H	H	G <sup>3</sup>
A226	CR <sup>B52</sup>	H	H	G <sup>3</sup>
A227	CR <sup>B54</sup>	H	H	G <sup>3</sup>
A228	CR <sup>B56</sup>	H	H	G <sup>3</sup>
A229	CR <sup>B58</sup>	H	H	G <sup>3</sup>
A230	CR <sup>B60</sup>	H	H	G <sup>3</sup>
A231	CR <sup>B2</sup>	H	H	G <sup>4</sup>
A232	CR <sup>B4</sup>	H	H	G <sup>4</sup>
A233	CR <sup>B6</sup>	H	H	G <sup>4</sup>
A234	CR <sup>B8</sup>	H	H	G <sup>4</sup>
A235	CR <sup>B10</sup>	H	H	G <sup>4</sup>
A236	CR <sup>B12</sup>	H	H	G <sup>4</sup>
A237	CR <sup>B14</sup>	H	H	G <sup>4</sup>
A238	CR <sup>B16</sup>	H	H	G <sup>4</sup>
A239	CR <sup>B18</sup>	H	H	G <sup>4</sup>

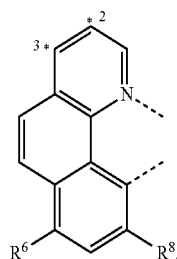
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	X <sup>3</sup>	R <sup>6</sup>	R <sup>8</sup>	G
A240	CR <sup>B20</sup>	H	H	G <sup>4</sup>
A241	CR <sup>B22</sup>	H	H	G <sup>4</sup>
A242	CR <sup>B24</sup>	H	H	G <sup>4</sup>
A243	CR <sup>B26</sup>	H	H	G <sup>4</sup>
A244	CR <sup>B28</sup>	H	H	G <sup>4</sup>
A245	CR <sup>B30</sup>	H	H	G <sup>4</sup>
A246	CR <sup>B32</sup>	H	H	G <sup>4</sup>
A247	CR <sup>B34</sup>	H	H	G <sup>4</sup>
A248	CR <sup>B36</sup>	H	H	G <sup>4</sup>
A249	CR <sup>B38</sup>	H	H	G <sup>4</sup>
A250	CR <sup>B40</sup>	H	H	G <sup>4</sup>
A251	CR <sup>B42</sup>	H	H	G <sup>4</sup>
A252	CR <sup>B44</sup>	H	H	G <sup>4</sup>
A253	CR <sup>B46</sup>	H	H	G <sup>4</sup>
A254	CR <sup>B48</sup>	H	H	G <sup>4</sup>
A255	CR <sup>B50</sup>	H	H	G <sup>4</sup>
A256	CR <sup>B52</sup>	H	H	G <sup>4</sup>
A257	CR <sup>B55</sup>	H	H	G <sup>4</sup>
A258	CR <sup>B57</sup>	H	H	G <sup>4</sup>
A259	CR <sup>B59</sup>	H	H	G <sup>4</sup>
A260	CR <sup>B1</sup>	H	H	G <sup>5</sup>
A261	CR <sup>B3</sup>	H	H	G <sup>5</sup>
A262	CR <sup>B5</sup>	H	H	G <sup>5</sup>
A263	CR <sup>B7</sup>	H	H	G <sup>5</sup>
A264	CR <sup>B9</sup>	H	H	G <sup>5</sup>
A265	CR <sup>B11</sup>	H	H	G <sup>5</sup>
A266	CR <sup>B13</sup>	H	H	G <sup>5</sup>
A267	CR <sup>B15</sup>	H	H	G <sup>5</sup>
A268	CR <sup>B17</sup>	H	H	G <sup>5</sup>
A269	CR <sup>B19</sup>	H	H	G <sup>5</sup>
A270	CR <sup>B21</sup>	H	H	G <sup>5</sup>
A271	CR <sup>B23</sup>	H	H	G <sup>5</sup>
A272	CR <sup>B25</sup>	H	H	G <sup>5</sup>
A273	CR <sup>B27</sup>	H	H	G <sup>5</sup>
A274	CR <sup>B29</sup>	H	H	G <sup>5</sup>
A275	CR <sup>B31</sup>	H	H	G <sup>5</sup>
A276	CR <sup>B33</sup>	H	H	G <sup>5</sup>
A277	CR <sup>B35</sup>	H	H	G <sup>5</sup>
A278	CR <sup>B37</sup>	H	H	G <sup>5</sup>
A279	CR <sup>B39</sup>	H	H	G <sup>5</sup>
A280	CR <sup>B41</sup>	H	H	G <sup>5</sup>
A281	CR <sup>B43</sup>	H	H	G <sup>5</sup>
A282	CR <sup>B45</sup>	H	H	G <sup>5</sup>
A283	CR <sup>B47</sup>	H	H	G <sup>5</sup>
A284	CR <sup>B49</sup>	H	H	G <sup>5</sup>
A285	CR <sup>B51</sup>	H	H	G <sup>5</sup>
A286	CR <sup>B53</sup>	H	H	G <sup>5</sup>
A287	CR <sup>B55</sup>	H	H	G <sup>5</sup>
A288	CR <sup>B57</sup>	H	H	G <sup>5</sup>
A289	CR <sup>B59</sup>	H	H	G <sup>5</sup>
A290	CR <sup>B1</sup>	H	H	G <sup>6</sup>
A291	CR <sup>B3</sup>	H	H	G <sup>6</sup>
A292	CR <sup>B5</sup>	H	H	G <sup>6</sup>
A293	CR <sup>B7</sup>	H	H	G <sup>6</sup>
A294	CR <sup>B9</sup>	H	H	G <sup>6</sup>
A295	CR <sup>B11</sup>	H	H	G <sup>6</sup>
A296	CR <sup>B13</sup>	H	H	G <sup>6</sup>
A297	CR <sup>B15</sup>	H	H	G <sup>6</sup>
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A300	CR <sup>B21</sup>	H	H	G <sup>6</sup>
A301	CR <sup>B23</sup>	H	H	G <sup>6</sup>
A302	CR <sup>B25</sup>	H	H	G <sup>6</sup>
A303	CR <sup>B27</sup>	H	H	G <sup>6</sup>
A304	CR <sup>B29</sup>	H	H	G <sup>6</sup>
A305	CR <sup>B31</sup>	H	H	G <sup>6</sup>
A306	CR <sup>B33</sup>	H	H	G <sup>6</sup>
A307	CR <sup>B35</sup>	H	H	G <sup>6</sup>
A308	CR <sup>B37</sup>	H	H	G <sup>6</sup>
A309	CR <sup>B39</sup>	H	H	G <sup>6</sup>
A310	CR <sup>B41</sup>	H	H	G <sup>6</sup>
A311	CR <sup>B43</sup>	H	H	G <sup>6</sup>
A312	CR <sup>B45</sup>	H	H	G <sup>6</sup>
A313	CR <sup>B47</sup>	H	H	G <sup>6</sup>

-continued

	X <sup>3</sup>	R <sup>6</sup>	R <sup>8</sup>	G
A314	CR <sup>B49</sup>	H	H	G <sup>6</sup>
A315	CR <sup>B51</sup>	H	H	G <sup>6</sup>
A316	CR <sup>B53</sup>	H	H	G <sup>6</sup>
A317	CR <sup>B55</sup>	H	H	G <sup>6</sup>
A318	CR <sup>B57</sup>	H	H	G <sup>6</sup>
A319	CR <sup>B59</sup>	H	H	G <sup>6</sup>
A320	CR <sup>B56</sup>	H	H	G <sup>4</sup>
A321	CR <sup>B58</sup>	H	H	G <sup>4</sup>
A322	CR <sup>B60</sup>	H	H	G <sup>4</sup>
A323	CR <sup>B2</sup>	H	H	G <sup>5</sup>
A324	CR <sup>B4</sup>	H	H	G <sup>5</sup>
A325	CR <sup>B6</sup>	H	H	G <sup>5</sup>
A326	CR <sup>B8</sup>	H	H	G <sup>5</sup>
A327	CR <sup>B10</sup>	H	H	G <sup>5</sup>
A328	CR <sup>B12</sup>	H	H	G <sup>5</sup>
A329	CR <sup>B14</sup>	H	H	G <sup>5</sup>
A330	CR <sup>B16</sup>	H	H	G <sup>5</sup>
A331	CR <sup>B18</sup>	H	H	G <sup>5</sup>
A332	CR <sup>B20</sup>	H	H	G <sup>5</sup>
A333	CR <sup>B22</sup>	H	H	G <sup>5</sup>
A334	CR <sup>B24</sup>	H	H	G <sup>5</sup>
A335	CR <sup>B26</sup>	H	H	G <sup>5</sup>
A336	CR <sup>B28</sup>	H	H	G <sup>5</sup>
A337	CR <sup>B30</sup>	H	H	G <sup>5</sup>
A338	CR <sup>B32</sup>	H	H	G <sup>5</sup>
A339	CR <sup>B34</sup>	H	H	G <sup>5</sup>
A340	CR <sup>B36</sup>	H	H	G <sup>5</sup>
A341	CR <sup>B38</sup>	H	H	G <sup>5</sup>
A342	CR <sup>B40</sup>	H	H	G <sup>5</sup>
A343	CR <sup>B42</sup>	H	H	G <sup>5</sup>
A344	CR <sup>B44</sup>	H	H	G <sup>5</sup>
A345	CR <sup>B46</sup>	H	H	G <sup>5</sup>
A346	CR <sup>B48</sup>	H	H	G <sup>5</sup>
A347	CR <sup>B50</sup>	H	H	G <sup>5</sup>
A348	CR <sup>B52</sup>	H	H	G <sup>5</sup>
A349	CR <sup>B54</sup>	H	H	G <sup>5</sup>
A350	CR <sup>B56</sup>	H	H	G <sup>5</sup>
A351	CR <sup>B58</sup>	H	H	G <sup>5</sup>
A352	CR <sup>B60</sup>	H	H	G <sup>5</sup>
A353	CR <sup>B1</sup>	H	H	G <sup>6</sup>
A354	CR <sup>B4</sup>	H	H	G <sup>6</sup>
A355	CR <sup>B7</sup>	H	H	G <sup>6</sup>
A356	CR <sup>B10</sup>	H	H	G <sup>6</sup>
A357	CR <sup>B13</sup>	H	H	G <sup>6</sup>
A358	CR <sup>B16</sup>	H	H	G <sup>6</sup>
A359	CR <sup>B19</sup>	H	H	G <sup>6</sup>
A360	CR <sup>B22</sup>	H	H	G <sup>6</sup>
A361	CR <sup>B25</sup>	H	H	G <sup>6</sup>
A362	CR <sup>B28</sup>	H	H	G <sup>6</sup>
A363	CR <sup>B31</sup>	H	H	G <sup>6</sup>
A364	CR <sup>B34</sup>	H	H	G <sup>6</sup>
A365	CR <sup>B37</sup>	H	H	G <sup>6</sup>
A366	CR <sup>B40</sup>	H	H	G <sup>6</sup>
A367	CR <sup>B43</sup>	H	H	G <sup>6</sup>
A368	CR <sup>B46</sup>	H	H	G <sup>6</sup>
A369	CR <sup>B49</sup>	H	H	G <sup>6</sup>
A370	CR <sup>B52</sup>	H	H	G <sup>6</sup>
A371	CR <sup>B55</sup>	H	H	G <sup>6</sup>
A372	CR <sup>B58</sup>	H	H	G <sup>6</sup>
A373	CR <sup>B61</sup>	H	H	G <sup>6</sup>
A374	CR <sup>B64</sup>	H	H	G <sup>6</sup>
A375	CR <sup>B67</sup>	H	H	G <sup>6</sup>
A376	CR <sup>B70</sup>	H	H	G <sup>6</sup>
A377	CR <sup>B73</sup>	H	H	G <sup>6</sup>
A378	CR <sup>B76</sup>	H	H	G <sup>6</sup>
A379	CR <sup>B79</sup>	H	H	G <sup>6</sup>
A380	CR <sup>B82</sup>	H	H	G <sup>6</sup>
A381	CR <sup>B85</sup>	H	H	G <sup>6</sup>
A382	CR <sup>B88</sup>	H	H	G <sup>6</sup>
A383	CR <sup>B53</sup>	H	H	G <sup>4</sup>
A384	CR <sup>B54</sup>	H	H	G <sup>4</sup>

ligands  $L_{A385-O}$  to  $L_{A420-O}$ ,  $L_{A385-S}$  to  $L_{A420-S}$ , and  $L_{A385-C}$  to  $L_{A419-C}$ , and  $L_{A420-C}$  that are based on the structure



wherein the asterisks with an Arabic numeral indicate the points of attachment to the corresponding points of attachment in the structure G,

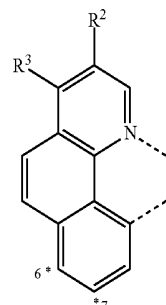
**[0078]** wherein for ligands  $L_{A385-O}$  to  $L_{A420-O}$ , A in the structure G is O,

**[0079]** wherein for ligands  $L_{A385-S}$  to  $L_{A420-S}$ , A in the structure G is S,

**[0080]** wherein for ligands  $L_{A385-C}$  to  $L_{A420-C}$ , A in the structure G is  $C(CH_3)_2$ , wherein  $R^6$ ,  $R^8$ , and G are defined for A385 to A420 as shown below:

	$R^6$	$R^8$	G
A385	H	H	$G^{13}$
A386	H	H	$G^{15}$
A387	H	H	$G^{17}$
A388	H	H	$G^{19}$
A389	H	H	$G^{21}$
A390	H	H	$G^{23}$
A391	$CH_3$	$CH_3$	$G^{13}$
A392	$CH_3$	$CH_3$	$G^{15}$
A393	$CH_3$	$CH_3$	$G^{17}$
A394	$CH_3$	$CH_3$	$G^{19}$
A395	$CH_3$	$CH_3$	$G^{21}$
A396	$CH_3$	$CH_3$	$G^{23}$
A397	$CH_3$	$CH_3$	$G^{13}$
A398	$CH_3$	$CH_3$	$G^{15}$
A399	$CH_3$	$CH_3$	$G^{17}$
A400	$CH_3$	$CH_3$	$G^{19}$
A401	$CH_3$	$CH_3$	$G^{21}$
A402	$CH_3$	$CH_3$	$G^{23}$
A403	H	H	$G^{14}$
A404	H	H	$G^{16}$
A405	H	H	$G^{18}$
A406	H	H	$G^{20}$
A407	H	H	$G^{22}$
A408	H	H	$G^{24}$
A409	$CH_3$	$CH_3$	$G^{14}$
A410	$CH_3$	$CH_3$	$G^{16}$
A411	$CH_3$	$CH_3$	$G^{18}$
A412	$CH_3$	$CH_3$	$G^{20}$
A413	$CH_3$	$CH_3$	$G^{22}$
A414	$CH_3$	$CH_3$	$G^{24}$
A415	$CH_3$	$CH_3$	$G^{14}$
A416	$CH_3$	$CH_3$	$G^{16}$
A417	$CH_3$	$CH_3$	$G^{18}$
A418	$CH_3$	$CH_3$	$G^{20}$
A419	$CH_3$	$CH_3$	$G^{22}$
A420	$CH_3$	$CH_3$	$G^{24}$

ligands  $L_{A421-O}$  to  $L_{A1152-O}$ ,  $L_{A421-S}$  to  $L_{A1152-S}$ ,  $L_{A421-C}$  to  $L_{A1151-C}$ , and  $L_{A1152-C}$  that are based on the structure



where the asterisks with an Arabic numeral indicate the points of attachment to the corresponding points of attachment in the structure G,

**[0081]** where for ligands  $L_{A421-O}$  to  $L_{A1152-O}$ , A in the structure G is O,

**[0082]** where for ligands  $L_{A421-S}$  to  $L_{A1152-S}$ , A in the structure G is S, and

**[0083]** where for ligands  $L_{A421-C}$  to  $L_{A1152-C}$ , A in the structure G is  $C(CH_3)_2$ , where  $R^2$ ,  $R^3$ , and G are defined for A421 to A1152 as shown below:

	$R^2$	$R^3$	G
A421	H	H	$G^{37}$
A422	H	H	$G^{39}$
A423	H	H	$G^{41}$
A424	H	H	$G^{43}$
A425	H	H	$G^{45}$
A426	H	H	$G^{47}$
A427	$CH_3$	$R^{B1}$	$G^{37}$
A428	$CH_3$	$R^{B3}$	$G^{37}$
A429	$CH_3$	$R^{B5}$	$G^{37}$
A430	$CH_3$	$R^{B7}$	$G^{37}$
A431	$CH_3$	$R^{B9}$	$G^{37}$
A432	$CH_3$	$R^{B11}$	$G^{37}$
A433	$CH_3$	$R^{B13}$	$G^{37}$
A434	$CH_3$	$R^{B15}$	$G^{37}$
A435	$CH_3$	$R^{B17}$	$G^{37}$
A436	$CH_3$	$R^{B19}$	$G^{37}$
A437	$CH_3$	$R^{B21}$	$G^{37}$
A438	$CH_3$	$R^{B23}$	$G^{37}$
A439	$CH_3$	$R^{B25}$	$G^{37}$
A440	$CH_3$	$R^{B27}$	$G^{37}$
A441	$CH_3$	$R^{B29}$	$G^{37}$
A442	$CH_3$	$R^{B31}$	$G^{37}$
A443	$CH_3$	$R^{B33}$	$G^{37}$
A444	$CH_3$	$R^{B35}$	$G^{37}$
A445	$CH_3$	$R^{B37}$	$G^{37}$
A446	$CH_3$	$R^{B39}$	$G^{37}$
A447	$CH_3$	$R^{B41}$	$G^{37}$
A448	$CH_3$	$R^{B43}$	$G^{37}$
A449	$CH_3$	$R^{B45}$	$G^{37}$
A450	$CH_3$	$R^{B47}$	$G^{37}$
A451	$CH_3$	$R^{B49}$	$G^{37}$
A452	$CH_3$	$R^{B51}$	$G^{37}$
A453	$CH_3$	$R^{B53}$	$G^{37}$
A454	$CH_3$	$R^{B55}$	$G^{37}$
A455	$CH_3$	$R^{B57}$	$G^{37}$
A456	$CH_3$	$R^{B59}$	$G^{37}$
A457	$R^{B1}$	$CH_3$	$G^{37}$
A458	$R^{B3}$	$CH_3$	$G^{37}$
A459	$R^{B5}$	$CH_3$	$G^{37}$
A460	$R^{B7}$	$CH_3$	$G^{37}$
A461	$R^{B9}$	$CH_3$	$G^{37}$

-continued				-continued			
	R <sup>2</sup>	R <sup>3</sup>	G		R <sup>2</sup>	R <sup>3</sup>	G
A462	R <sup>B11</sup>	CH <sub>3</sub>	G <sup>37</sup>	A536	R <sup>B39</sup>	CH <sub>3</sub>	G <sup>38</sup>
A463	R <sup>B13</sup>	CH <sub>3</sub>	G <sup>37</sup>	A537	R <sup>B41</sup>	CH <sub>3</sub>	G <sup>38</sup>
A464	R <sup>B15</sup>	CH <sub>3</sub>	G <sup>37</sup>	A538	R <sup>B43</sup>	CH <sub>3</sub>	G <sup>38</sup>
A465	R <sup>B17</sup>	CH <sub>3</sub>	G <sup>37</sup>	A539	R <sup>B45</sup>	CH <sub>3</sub>	G <sup>38</sup>
A466	R <sup>B19</sup>	CH <sub>3</sub>	G <sup>37</sup>	A540	R <sup>B47</sup>	CH <sub>3</sub>	G <sup>38</sup>
A467	R <sup>B21</sup>	CH <sub>3</sub>	G <sup>37</sup>	A541	R <sup>B49</sup>	CH <sub>3</sub>	G <sup>38</sup>
A468	R <sup>B23</sup>	CH <sub>3</sub>	G <sup>37</sup>	A542	R <sup>B51</sup>	CH <sub>3</sub>	G <sup>38</sup>
A469	R <sup>B25</sup>	CH <sub>3</sub>	G <sup>37</sup>	A543	R <sup>B53</sup>	CH <sub>3</sub>	G <sup>38</sup>
A470	R <sup>B27</sup>	CH <sub>3</sub>	G <sup>37</sup>	A544	R <sup>B55</sup>	CH <sub>3</sub>	G <sup>38</sup>
A471	R <sup>B29</sup>	CH <sub>3</sub>	G <sup>37</sup>	A545	R <sup>B57</sup>	CH <sub>3</sub>	G <sup>38</sup>
A472	R <sup>B31</sup>	CH <sub>3</sub>	G <sup>37</sup>	A546	R <sup>B59</sup>	CH <sub>3</sub>	G <sup>38</sup>
A473	R <sup>B33</sup>	CH <sub>3</sub>	G <sup>37</sup>	A547	R <sup>B1</sup>	CH <sub>3</sub>	G <sup>39</sup>
A474	R <sup>B35</sup>	CH <sub>3</sub>	G <sup>37</sup>	A548	CH <sub>3</sub>	R <sup>B3</sup>	G <sup>39</sup>
A475	R <sup>B37</sup>	CH <sub>3</sub>	G <sup>37</sup>	A549	CH <sub>3</sub>	R <sup>B5</sup>	G <sup>39</sup>
A476	R <sup>B39</sup>	CH <sub>3</sub>	G <sup>37</sup>	A550	CH <sub>3</sub>	R <sup>B7</sup>	G <sup>39</sup>
A477	R <sup>B41</sup>	CH <sub>3</sub>	G <sup>37</sup>	A551	CH <sub>3</sub>	R <sup>B9</sup>	G <sup>39</sup>
A478	R <sup>B43</sup>	CH <sub>3</sub>	G <sup>37</sup>	A552	CH <sub>3</sub>	R <sup>B11</sup>	G <sup>39</sup>
A479	R <sup>B45</sup>	CH <sub>3</sub>	G <sup>37</sup>	A553	CH <sub>3</sub>	R <sup>B13</sup>	G <sup>39</sup>
A480	R <sup>B47</sup>	CH <sub>3</sub>	G <sup>37</sup>	A554	CH <sub>3</sub>	R <sup>B15</sup>	G <sup>39</sup>
A481	R <sup>B49</sup>	CH <sub>3</sub>	G <sup>37</sup>	A555	CH <sub>3</sub>	R <sup>B17</sup>	G <sup>39</sup>
A482	R <sup>B51</sup>	CH <sub>3</sub>	G <sup>37</sup>	A556	CH <sub>3</sub>	R <sup>B19</sup>	G <sup>39</sup>
A483	R <sup>B53</sup>	CH <sub>3</sub>	G <sup>37</sup>	A557	CH <sub>3</sub>	R <sup>B21</sup>	G <sup>39</sup>
A484	R <sup>B55</sup>	CH <sub>3</sub>	G <sup>37</sup>	A558	CH <sub>3</sub>	R <sup>B23</sup>	G <sup>39</sup>
A485	R <sup>B57</sup>	CH <sub>3</sub>	G <sup>37</sup>	A559	CH <sub>3</sub>	R <sup>B25</sup>	G <sup>39</sup>
A486	R <sup>B59</sup>	CH <sub>3</sub>	G <sup>37</sup>	A560	CH <sub>3</sub>	R <sup>B27</sup>	G <sup>39</sup>
A487	CH <sub>3</sub>	R <sup>B1</sup>	G <sup>38</sup>	A561	CH <sub>3</sub>	R <sup>B29</sup>	G <sup>39</sup>
A488	CH <sub>3</sub>	R <sup>B3</sup>	G <sup>38</sup>	A562	CH <sub>3</sub>	R <sup>B31</sup>	G <sup>39</sup>
A489	CH <sub>3</sub>	R <sup>B5</sup>	G <sup>38</sup>	A563	CH <sub>3</sub>	R <sup>B33</sup>	G <sup>39</sup>
A490	CH <sub>3</sub>	R <sup>B7</sup>	G <sup>38</sup>	A564	CH <sub>3</sub>	R <sup>B35</sup>	G <sup>39</sup>
A491	CH <sub>3</sub>	R <sup>B9</sup>	G <sup>38</sup>	A565	CH <sub>3</sub>	R <sup>B37</sup>	G <sup>39</sup>
A492	CH <sub>3</sub>	R <sup>B11</sup>	G <sup>38</sup>	A566	CH <sub>3</sub>	R <sup>B39</sup>	G <sup>39</sup>
A493	CH <sub>3</sub>	R <sup>B13</sup>	G <sup>38</sup>	A567	CH <sub>3</sub>	R <sup>B41</sup>	G <sup>39</sup>
A494	CH <sub>3</sub>	R <sup>B15</sup>	G <sup>38</sup>	A568	CH <sub>3</sub>	R <sup>B43</sup>	G <sup>39</sup>
A495	CH <sub>3</sub>	R <sup>B17</sup>	G <sup>38</sup>	A569	CH <sub>3</sub>	R <sup>B45</sup>	G <sup>39</sup>
A496	CH <sub>3</sub>	R <sup>B19</sup>	G <sup>38</sup>	A570	CH <sub>3</sub>	R <sup>B47</sup>	G <sup>39</sup>
A497	CH <sub>3</sub>	R <sup>B21</sup>	G <sup>38</sup>	A571	CH <sub>3</sub>	R <sup>B49</sup>	G <sup>39</sup>
A498	CH <sub>3</sub>	R <sup>B23</sup>	G <sup>38</sup>	A572	CH <sub>3</sub>	R <sup>B51</sup>	G <sup>39</sup>
A499	CH <sub>3</sub>	R <sup>B25</sup>	G <sup>38</sup>	A573	CH <sub>3</sub>	R <sup>B53</sup>	G <sup>39</sup>
A500	CH <sub>3</sub>	R <sup>B27</sup>	G <sup>38</sup>	A574	CH <sub>3</sub>	R <sup>B55</sup>	G <sup>39</sup>
A501	CH <sub>3</sub>	R <sup>B29</sup>	G <sup>38</sup>	A575	CH <sub>3</sub>	R <sup>B57</sup>	G <sup>39</sup>
A502	CH <sub>3</sub>	R <sup>B31</sup>	G <sup>38</sup>	A576	CH <sub>3</sub>	R <sup>B59</sup>	G <sup>39</sup>
A503	CH <sub>3</sub>	R <sup>B33</sup>	G <sup>38</sup>	A577	R <sup>B1</sup>	CH <sub>3</sub>	G <sup>39</sup>
A504	CH <sub>3</sub>	R <sup>B35</sup>	G <sup>38</sup>	A578	R <sup>B3</sup>	CH <sub>3</sub>	G <sup>39</sup>
A505	CH <sub>3</sub>	R <sup>B37</sup>	G <sup>38</sup>	A579	R <sup>B5</sup>	CH <sub>3</sub>	G <sup>39</sup>
A506	CH <sub>3</sub>	R <sup>B39</sup>	G <sup>38</sup>	A580	R <sup>B7</sup>	CH <sub>3</sub>	G <sup>39</sup>
A507	CH <sub>3</sub>	R <sup>B41</sup>	G <sup>38</sup>	A581	R <sup>B9</sup>	CH <sub>3</sub>	G <sup>39</sup>
A508	CH <sub>3</sub>	R <sup>B43</sup>	G <sup>38</sup>	A582	R <sup>B11</sup>	CH <sub>3</sub>	G <sup>39</sup>
A509	CH <sub>3</sub>	R <sup>B45</sup>	G <sup>38</sup>	A583	R <sup>B13</sup>	CH <sub>3</sub>	G <sup>39</sup>
A510	CH <sub>3</sub>	R <sup>B47</sup>	G <sup>38</sup>	A584	R <sup>B15</sup>	CH <sub>3</sub>	G <sup>39</sup>
A511	CH <sub>3</sub>	R <sup>B49</sup>	G <sup>38</sup>	A585	R <sup>B17</sup>	CH <sub>3</sub>	G <sup>39</sup>
A512	CH <sub>3</sub>	R <sup>B51</sup>	G <sup>38</sup>	A586	R <sup>B19</sup>	CH <sub>3</sub>	G <sup>39</sup>
A513	CH <sub>3</sub>	R <sup>B53</sup>	G <sup>38</sup>	A587	R <sup>B21</sup>	CH <sub>3</sub>	G <sup>39</sup>
A514	CH <sub>3</sub>	R <sup>B55</sup>	G <sup>38</sup>	A588	R <sup>B23</sup>	CH <sub>3</sub>	G <sup>39</sup>
A515	CH <sub>3</sub>	R <sup>B57</sup>	G <sup>38</sup>	A589	R <sup>B25</sup>	CH <sub>3</sub>	G <sup>39</sup>
A516	CH <sub>3</sub>	R <sup>B59</sup>	G <sup>38</sup>	A590	R <sup>B27</sup>	CH <sub>3</sub>	G <sup>39</sup>
A517	R <sup>B1</sup>	CH <sub>3</sub>	G <sup>38</sup>	A591	R <sup>B29</sup>	CH <sub>3</sub>	G <sup>39</sup>
A518	R <sup>B3</sup>	CH <sub>3</sub>	G <sup>38</sup>	A592	R <sup>B31</sup>	CH <sub>3</sub>	G <sup>39</sup>
A519	R <sup>B5</sup>	CH <sub>3</sub>	G <sup>38</sup>	A593	R <sup>B33</sup>	CH <sub>3</sub>	G <sup>39</sup>
A520	R <sup>B7</sup>	CH <sub>3</sub>	G <sup>38</sup>	A594	R <sup>B35</sup>	CH <sub>3</sub>	G <sup>39</sup>
A521	R <sup>B9</sup>	CH <sub>3</sub>	G <sup>38</sup>	A595	R <sup>B37</sup>	CH <sub>3</sub>	G <sup>39</sup>
A522	R <sup>B11</sup>	CH <sub>3</sub>	G <sup>38</sup>	A596	R <sup>B39</sup>	CH <sub>3</sub>	G <sup>39</sup>
A523	R <sup>B13</sup>	CH <sub>3</sub>	G <sup>38</sup>	A597	R <sup>B41</sup>	CH <sub>3</sub>	G <sup>39</sup>
A524	R <sup>B15</sup>	CH <sub>3</sub>	G <sup>38</sup>	A598	R <sup>B43</sup>	CH <sub>3</sub>	G <sup>39</sup>
A525	R <sup>B17</sup>	CH <sub>3</sub>	G <sup>38</sup>	A599	R <sup>B45</sup>	CH <sub>3</sub>	G <sup>39</sup>
A526	R <sup>B19</sup>	CH <sub>3</sub>	G <sup>38</sup>	A600	R <sup>B47</sup>	CH <sub>3</sub>	G <sup>39</sup>
A527	R <sup>B21</sup>	CH <sub>3</sub>	G <sup>38</sup>	A601	R <sup>B49</sup>	CH <sub>3</sub>	G <sup>39</sup>
A528	R <sup>B23</sup>	CH <sub>3</sub>	G <sup>38</sup>	A602	R <sup>B51</sup>	CH <sub>3</sub>	G <sup>39</sup>
A529	R <sup>B25</sup>	CH <sub>3</sub>	G <sup>38</sup>	A603	R <sup>B53</sup>	CH <sub>3</sub>	G <sup>39</sup>
A530	R <sup>B27</sup>	CH <sub>3</sub>	G <sup>38</sup>	A604	R <sup>B55</sup>	CH <sub>3</sub>	G <sup>39</sup>
A531	R <sup>B29</sup>	CH <sub>3</sub>	G <sup>38</sup>	A605	R <sup>B57</sup>	CH <sub>3</sub>	G <sup>39</sup>
A532	R <sup>B31</sup>	CH <sub>3</sub>	G <sup>38</sup>	A606	R <sup>B59</sup>	CH <sub>3</sub>	G <sup>39</sup>
A533	R <sup>B33</sup>	CH <sub>3</sub>	G <sup>38</sup>	A607	CH <sub>3</sub>	R <sup>B1</sup>	G <sup>40</sup>
A534	R <sup>B35</sup>	CH <sub>3</sub>	G <sup>38</sup>	A608	CH <sub>3</sub>	R <sup>B3</sup>	G <sup>40</sup>
A535	R <sup>B37</sup>	CH <sub>3</sub>	G <sup>38</sup>	A609	CH <sub>3</sub>	R <sup>B5</sup>	G <sup>40</sup>

-continued

	R <sup>2</sup>	R <sup>3</sup>	G
A610	CH <sub>3</sub>	R <sup>B7</sup>	G <sup>40</sup>
A611	CH <sub>3</sub>	R <sup>B9</sup>	G <sup>40</sup>
A612	CH <sub>3</sub>	R <sup>B11</sup>	G <sup>40</sup>
A613	CH <sub>3</sub>	R <sup>B13</sup>	G <sup>40</sup>
A614	CH <sub>3</sub>	R <sup>B15</sup>	G <sup>40</sup>
A615	CH <sub>3</sub>	R <sup>B17</sup>	G <sup>40</sup>
A616	CH <sub>3</sub>	R <sup>B19</sup>	G <sup>40</sup>
A617	CH <sub>3</sub>	R <sup>B21</sup>	G <sup>40</sup>
A618	CH <sub>3</sub>	R <sup>B23</sup>	G <sup>40</sup>
A619	CH <sub>3</sub>	R <sup>B25</sup>	G <sup>40</sup>
A620	CH <sub>3</sub>	R <sup>B27</sup>	G <sup>40</sup>
A621	CH <sub>3</sub>	R <sup>B29</sup>	G <sup>40</sup>
A622	CH <sub>3</sub>	R <sup>B31</sup>	G <sup>40</sup>
A623	CH <sub>3</sub>	R <sup>B33</sup>	G <sup>40</sup>
A624	CH <sub>3</sub>	R <sup>B35</sup>	G <sup>40</sup>
A625	CH <sub>3</sub>	R <sup>B37</sup>	G <sup>40</sup>
A626	CH <sub>3</sub>	R <sup>B39</sup>	G <sup>40</sup>
A627	CH <sub>3</sub>	R <sup>B41</sup>	G <sup>40</sup>
A628	CH <sub>3</sub>	R <sup>B43</sup>	G <sup>40</sup>
A629	CH <sub>3</sub>	R <sup>B45</sup>	G <sup>40</sup>
A630	CH <sub>3</sub>	R <sup>B47</sup>	G <sup>40</sup>
A631	CH <sub>3</sub>	R <sup>B49</sup>	G <sup>40</sup>
A632	CH <sub>3</sub>	R <sup>B51</sup>	G <sup>40</sup>
A633	CH <sub>3</sub>	R <sup>B53</sup>	G <sup>40</sup>
A634	CH <sub>3</sub>	R <sup>B55</sup>	G <sup>40</sup>
A635	CH <sub>3</sub>	R <sup>B57</sup>	G <sup>40</sup>
A636	CH <sub>3</sub>	R <sup>B59</sup>	G <sup>40</sup>
A637	R <sup>B1</sup>	CH <sub>3</sub>	G <sup>40</sup>
A638	R <sup>B3</sup>	CH <sub>3</sub>	G <sup>40</sup>
A639	R <sup>B5</sup>	CH <sub>3</sub>	G <sup>40</sup>
A640	R <sup>B7</sup>	CH <sub>3</sub>	G <sup>40</sup>
A641	R <sup>B9</sup>	CH <sub>3</sub>	G <sup>40</sup>
A642	R <sup>B11</sup>	CH <sub>3</sub>	G <sup>40</sup>
A643	R <sup>B13</sup>	CH <sub>3</sub>	G <sup>40</sup>
A644	R <sup>B15</sup>	CH <sub>3</sub>	G <sup>40</sup>
A645	R <sup>B17</sup>	CH <sub>3</sub>	G <sup>40</sup>
A646	R <sup>B19</sup>	CH <sub>3</sub>	G <sup>40</sup>
A647	R <sup>B21</sup>	CH <sub>3</sub>	G <sup>40</sup>
A648	R <sup>B23</sup>	CH <sub>3</sub>	G <sup>40</sup>
A649	R <sup>B25</sup>	CH <sub>3</sub>	G <sup>40</sup>
A650	R <sup>B27</sup>	CH <sub>3</sub>	G <sup>40</sup>
A651	R <sup>B29</sup>	CH <sub>3</sub>	G <sup>40</sup>
A652	R <sup>B31</sup>	CH <sub>3</sub>	G <sup>40</sup>
A653	R <sup>B33</sup>	CH <sub>3</sub>	G <sup>40</sup>
A654	R <sup>B35</sup>	CH <sub>3</sub>	G <sup>40</sup>
A655	R <sup>B37</sup>	CH <sub>3</sub>	G <sup>40</sup>
A656	R <sup>B39</sup>	CH <sub>3</sub>	G <sup>40</sup>
A657	R <sup>B41</sup>	CH <sub>3</sub>	G <sup>40</sup>
A658	R <sup>B43</sup>	CH <sub>3</sub>	G <sup>40</sup>
A659	R <sup>B45</sup>	CH <sub>3</sub>	G <sup>40</sup>
A660	R <sup>B47</sup>	CH <sub>3</sub>	G <sup>40</sup>
A661	R <sup>B49</sup>	CH <sub>3</sub>	G <sup>40</sup>
A662	R <sup>B51</sup>	CH <sub>3</sub>	G <sup>40</sup>
A663	R <sup>B53</sup>	CH <sub>3</sub>	G <sup>40</sup>
A664	R <sup>B55</sup>	CH <sub>3</sub>	G <sup>40</sup>
A665	H	H	G <sup>38</sup>
A666	H	H	G <sup>40</sup>
A667	H	H	G <sup>42</sup>
A668	H	H	G <sup>44</sup>
A669	H	H	G <sup>46</sup>
A670	H	H	G <sup>48</sup>
A671	CH <sub>3</sub>	R <sup>B2</sup>	G <sup>37</sup>
A672	CH <sub>3</sub>	R <sup>B4</sup>	G <sup>37</sup>
A673	CH <sub>3</sub>	R <sup>B6</sup>	G <sup>37</sup>
A674	CH <sub>3</sub>	R <sup>B8</sup>	G <sup>37</sup>
A675	CH <sub>3</sub>	R <sup>B10</sup>	G <sup>37</sup>
A676	CH <sub>3</sub>	R <sup>B12</sup>	G <sup>37</sup>
A677	CH <sub>3</sub>	R <sup>B14</sup>	G <sup>37</sup>
A678	CH <sub>3</sub>	R <sup>B16</sup>	G <sup>37</sup>
A679	CH <sub>3</sub>	R <sup>B18</sup>	G <sup>37</sup>
A680	CH <sub>3</sub>	R <sup>B20</sup>	G <sup>37</sup>
A681	CH <sub>3</sub>	R <sup>B22</sup>	G <sup>37</sup>
A682	CH <sub>3</sub>	R <sup>B24</sup>	G <sup>37</sup>
A683	CH <sub>3</sub>	R <sup>B26</sup>	G <sup>37</sup>

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	R <sup>2</sup>	R <sup>3</sup>	G
A684	CH <sub>3</sub>	R <sup>B28</sup>	G <sup>37</sup>
A685	CH <sub>3</sub>	R <sup>B30</sup>	G <sup>37</sup>
A686	CH <sub>3</sub>	R <sup>B32</sup>	G <sup>37</sup>
A687	CH <sub>3</sub>	R <sup>B34</sup>	G <sup>37</sup>
A688	CH <sub>3</sub>	R <sup>B36</sup>	G <sup>37</sup>
A689	CH <sub>3</sub>	R <sup>B38</sup>	G <sup>37</sup>
A690	CH <sub>3</sub>	R <sup>B40</sup>	G <sup>37</sup>
A691	CH <sub>3</sub>	R <sup>B42</sup>	G <sup>37</sup>
A692	CH <sub>3</sub>	R <sup>B44</sup>	G <sup>37</sup>
A693	CH <sub>3</sub>	R <sup>B46</sup>	G <sup>37</sup>
A694	CH <sub>3</sub>	R <sup>B48</sup>	G <sup>37</sup>
A695	CH <sub>3</sub>	R <sup>B50</sup>	G <sup>37</sup>
A696	CH <sub>3</sub>	R <sup>B52</sup>	G <sup>37</sup>
A697	CH <sub>3</sub>	R <sup>B54</sup>	G <sup>37</sup>
A698	CH <sub>3</sub>	R <sup>B56</sup>	G <sup>37</sup>
A699	CH <sub>3</sub>	R <sup>B58</sup>	G <sup>37</sup>
A700	CH <sub>3</sub>	R <sup>B60</sup>	G <sup>37</sup>
A701	R <sup>B2</sup>	CH <sub>3</sub>	G <sup>37</sup>
A702	R <sup>B4</sup>	CH <sub>3</sub>	G <sup>37</sup>
A703	R <sup>B6</sup>	CH <sub>3</sub>	G <sup>37</sup>
A704	R <sup>B8</sup>	CH <sub>3</sub>	G <sup>37</sup>
A705	R <sup>B10</sup>	CH <sub>3</sub>	G <sup>37</sup>
A706	R <sup>B12</sup>	CH <sub>3</sub>	G <sup>37</sup>
A707	R <sup>B14</sup>	CH <sub>3</sub>	G <sup>37</sup>
A708	R <sup>B16</sup>	CH <sub>3</sub>	G <sup>37</sup>
A709	R <sup>B18</sup>	CH <sub>3</sub>	G <sup>37</sup>
A710	R <sup>B20</sup>	CH <sub>3</sub>	G <sup>37</sup>
A711	R <sup>B22</sup>	CH <sub>3</sub>	G <sup>37</sup>
A712	R <sup>B24</sup>	CH <sub>3</sub>	G <sup>37</sup>
A713	R <sup>B26</sup>	CH <sub>3</sub>	G <sup>37</sup>
A714	R <sup>B28</sup>	CH <sub>3</sub>	G <sup>37</sup>
A715	R <sup>B30</sup>	CH <sub>3</sub>	G <sup>37</sup>
A716	R <sup>B32</sup>	CH <sub>3</sub>	G <sup>37</sup>
A717	R <sup>B34</sup>	CH <sub>3</sub>	G <sup>37</sup>
A718	R <sup>B36</sup>	CH <sub>3</sub>	G <sup>37</sup>
A719	R <sup>B38</sup>	CH <sub>3</sub>	G <sup>37</sup>
A720	R <sup>B40</sup>	CH <sub>3</sub>	G <sup>37</sup>
A721	R <sup>B42</sup>	CH <sub>3</sub>	G <sup>37</sup>
A722	R <sup>B44</sup>	CH <sub>3</sub>	G <sup>37</sup>
A723	R <sup>B46</sup>	CH <sub>3</sub>	G <sup>37</sup>
A724	R <sup>B48</sup>	CH <sub>3</sub>	G <sup>37</sup>
A725	R <sup>B50</sup>	CH <sub>3</sub>	G <sup>37</sup>
A726	R <sup>B52</sup>	CH <sub>3</sub>	G <sup>37</sup>
A727	R <sup>B54</sup>	CH <sub>3</sub>	G <sup>37</sup>
A728	R <sup>B56</sup>	CH <sub>3</sub>	G <sup>37</sup>
A729	R <sup>B58</sup>	CH <sub>3</sub>	G <sup>37</sup>
A730	R <sup>B60</sup>	CH <sub>3</sub>	G <sup>37</sup>
A731	CH <sub>3</sub>	R <sup>B2</sup>	G <sup>38</sup>
A732	CH <sub>3</sub>	R <sup>B4</sup>	G <sup>38</sup>
A733	CH <sub>3</sub>	R <sup>B6</sup>	G <sup>38</sup>
A734	CH <sub>3</sub>	R <sup>B8</sup>	G <sup>38</sup>
A735	CH <sub>3</sub>	R <sup>B10</sup>	G <sup>38</sup>
A736	CH <sub>3</sub>	R <sup>B12</sup>	G <sup>38</sup>
A737	CH <sub>3</sub>	R <sup>B14</sup>	G <sup>38</sup>
A738	CH <sub>3</sub>	R <sup>B16</sup>	G <sup>38</sup>
A739	CH <sub>3</sub>	R <sup>B18</sup>	G <sup>38</sup>
A740	CH <sub>3</sub>	R <sup>B20</sup>	G <sup>38</sup>
A741	CH <sub>3</sub>	R <sup>B22</sup>	G <sup>38</sup>
A742	CH <sub>3</sub>	R <sup>B24</sup>	G <sup>38</sup>
A743	CH <sub>3</sub>	R <sup>B26</sup>	G <sup>38</sup>
A744	CH <sub>3</sub>	R <sup>B28</sup>	G <sup>38</sup>
A745	CH <sub>3</sub>	R <sup>B30</sup>	G <sup>38</sup>
A746	CH <sub>3</sub>	R <sup>B32</sup>	G <sup>38</sup>
A747	CH <sub>3</sub>	R <sup>B34</sup>	G <sup>38</sup>
A748	CH <sub>3</sub>	R <sup>B36</sup>	G <sup>38</sup>
A749	CH <sub>3</sub>	R <sup>B38</sup>	G <sup>38</sup>
A750	CH <sub>3</sub>	R <sup>B40</sup>	G <sup>38</sup>
A751	CH <sub>3</sub>	R <sup>B42</sup>	G <sup>38</sup>
A752	CH <sub>3</sub>	R <sup>B44</sup>	G <sup>38</sup>
A753	CH <sub>3</sub>	R <sup>B46</sup>	G <sup>38</sup>
A754	CH <sub>3</sub>	R <sup>B48</sup>	G <sup>38</sup>
A755	CH <sub>3</sub>	R <sup>B50</sup>	G <sup>38</sup>
A756	CH <sub>3</sub>	R <sup>B52</sup>	G <sup>38</sup>
A757	CH <sub>3</sub>	R <sup>B54</sup>	G <sup>38</sup>

-continued				-continued			
	R <sup>2</sup>	R <sup>3</sup>	G		R <sup>2</sup>	R <sup>3</sup>	G
A758	CH <sub>3</sub>	R <sup>B56</sup>	G <sup>38</sup>	A832	R <sup>B24</sup>	CH <sub>3</sub>	G <sup>39</sup>
A759	CH <sub>3</sub>	R <sup>B58</sup>	G <sup>38</sup>	A833	R <sup>B26</sup>	CH <sub>3</sub>	G <sup>39</sup>
A760	CH <sub>3</sub>	R <sup>B60</sup>	G <sup>38</sup>	A834	R <sup>B28</sup>	CH <sub>3</sub>	G <sup>39</sup>
A761	R <sup>B2</sup>	CH <sub>3</sub>	G <sup>38</sup>	A835	R <sup>B30</sup>	CH <sub>3</sub>	G <sup>39</sup>
A762	R <sup>B4</sup>	CH <sub>3</sub>	G <sup>38</sup>	A836	R <sup>B32</sup>	CH <sub>3</sub>	G <sup>39</sup>
A763	R <sup>B6</sup>	CH <sub>3</sub>	G <sup>38</sup>	A837	R <sup>B34</sup>	CH <sub>3</sub>	G <sup>39</sup>
A764	R <sup>B8</sup>	CH <sub>3</sub>	G <sup>38</sup>	A838	R <sup>B36</sup>	CH <sub>3</sub>	G <sup>39</sup>
A765	R <sup>B10</sup>	CH <sub>3</sub>	G <sup>38</sup>	A839	R <sup>B38</sup>	CH <sub>3</sub>	G <sup>39</sup>
A766	R <sup>B12</sup>	CH <sub>3</sub>	G <sup>38</sup>	A840	R <sup>B40</sup>	CH <sub>3</sub>	G <sup>39</sup>
A767	R <sup>B14</sup>	CH <sub>3</sub>	G <sup>38</sup>	A841	R <sup>B42</sup>	CH <sub>3</sub>	G <sup>39</sup>
A768	R <sup>B16</sup>	CH <sub>3</sub>	G <sup>38</sup>	A842	R <sup>B44</sup>	CH <sub>3</sub>	G <sup>39</sup>
A769	R <sup>B18</sup>	CH <sub>3</sub>	G <sup>38</sup>	A843	R <sup>B46</sup>	CH <sub>3</sub>	G <sup>39</sup>
A770	R <sup>B20</sup>	CH <sub>3</sub>	G <sup>38</sup>	A844	R <sup>B48</sup>	CH <sub>3</sub>	G <sup>39</sup>
A771	R <sup>B22</sup>	CH <sub>3</sub>	G <sup>38</sup>	A845	R <sup>B50</sup>	CH <sub>3</sub>	G <sup>39</sup>
A772	R <sup>B24</sup>	CH <sub>3</sub>	G <sup>38</sup>	A846	R <sup>B52</sup>	CH <sub>3</sub>	G <sup>39</sup>
A773	R <sup>B26</sup>	CH <sub>3</sub>	G <sup>38</sup>	A847	R <sup>B54</sup>	CH <sub>3</sub>	G <sup>39</sup>
A774	R <sup>B28</sup>	CH <sub>3</sub>	G <sup>38</sup>	A848	R <sup>B56</sup>	CH <sub>3</sub>	G <sup>39</sup>
A775	R <sup>B30</sup>	CH <sub>3</sub>	G <sup>38</sup>	A849	R <sup>B58</sup>	CH <sub>3</sub>	G <sup>39</sup>
A776	R <sup>B32</sup>	CH <sub>3</sub>	G <sup>38</sup>	A850	R <sup>B60</sup>	CH <sub>3</sub>	G <sup>39</sup>
A777	R <sup>B34</sup>	CH <sub>3</sub>	G <sup>38</sup>	A851	CH <sub>3</sub>	R <sup>B2</sup>	G <sup>40</sup>
A778	R <sup>B36</sup>	CH <sub>3</sub>	G <sup>38</sup>	A852	CH <sub>3</sub>	R <sup>B4</sup>	G <sup>40</sup>
A779	R <sup>B38</sup>	CH <sub>3</sub>	G <sup>38</sup>	A853	CH <sub>3</sub>	R <sup>B6</sup>	G <sup>40</sup>
A780	R <sup>B40</sup>	CH <sub>3</sub>	G <sup>38</sup>	A854	CH <sub>3</sub>	R <sup>B8</sup>	G <sup>40</sup>
A781	R <sup>B42</sup>	CH <sub>3</sub>	G <sup>38</sup>	A855	CH <sub>3</sub>	R <sup>B10</sup>	G <sup>40</sup>
A782	R <sup>B44</sup>	CH <sub>3</sub>	G <sup>38</sup>	A856	CH <sub>3</sub>	R <sup>B12</sup>	G <sup>40</sup>
A783	R <sup>B46</sup>	CH <sub>3</sub>	G <sup>38</sup>	A857	CH <sub>3</sub>	R <sup>B14</sup>	G <sup>40</sup>
A784	R <sup>B48</sup>	CH <sub>3</sub>	G <sup>38</sup>	A858	CH <sub>3</sub>	R <sup>B16</sup>	G <sup>40</sup>
A785	R <sup>B50</sup>	CH <sub>3</sub>	G <sup>38</sup>	A859	CH <sub>3</sub>	R <sup>B18</sup>	G <sup>40</sup>
A786	R <sup>B52</sup>	CH <sub>3</sub>	G <sup>38</sup>	A860	CH <sub>3</sub>	R <sup>B20</sup>	G <sup>40</sup>
A787	R <sup>B54</sup>	CH <sub>3</sub>	G <sup>38</sup>	A861	CH <sub>3</sub>	R <sup>B22</sup>	G <sup>40</sup>
A788	R <sup>B56</sup>	CH <sub>3</sub>	G <sup>38</sup>	A862	CH <sub>3</sub>	R <sup>B24</sup>	G <sup>40</sup>
A789	R <sup>B58</sup>	CH <sub>3</sub>	G <sup>38</sup>	A863	CH <sub>3</sub>	R <sup>B26</sup>	G <sup>40</sup>
A790	R <sup>B60</sup>	CH <sub>3</sub>	G <sup>38</sup>	A864	CH <sub>3</sub>	R <sup>B28</sup>	G <sup>40</sup>
A791	CH <sub>3</sub>	R <sup>B2</sup>	G <sup>39</sup>	A865	CH <sub>3</sub>	R <sup>B30</sup>	G <sup>40</sup>
A792	CH <sub>3</sub>	R <sup>B4</sup>	G <sup>39</sup>	A866	CH <sub>3</sub>	R <sup>B32</sup>	G <sup>40</sup>
A793	CH <sub>3</sub>	R <sup>B6</sup>	G <sup>39</sup>	A867	CH <sub>3</sub>	R <sup>B34</sup>	G <sup>40</sup>
A794	CH <sub>3</sub>	R <sup>B8</sup>	G <sup>39</sup>	A868	CH <sub>3</sub>	R <sup>B36</sup>	G <sup>40</sup>
A795	CH <sub>3</sub>	R <sup>B10</sup>	G <sup>39</sup>	A869	CH <sub>3</sub>	R <sup>B38</sup>	G <sup>40</sup>
A796	CH <sub>3</sub>	R <sup>B12</sup>	G <sup>39</sup>	A870	CH <sub>3</sub>	R <sup>B40</sup>	G <sup>40</sup>
A797	CH <sub>3</sub>	R <sup>B14</sup>	G <sup>39</sup>	A871	CH <sub>3</sub>	R <sup>B42</sup>	G <sup>40</sup>
A798	CH <sub>3</sub>	R <sup>B16</sup>	G <sup>39</sup>	A872	CH <sub>3</sub>	R <sup>B44</sup>	G <sup>40</sup>
A799	CH <sub>3</sub>	R <sup>B18</sup>	G <sup>39</sup>	A873	CH <sub>3</sub>	R <sup>B46</sup>	G <sup>40</sup>
A800	CH <sub>3</sub>	R <sup>B20</sup>	G <sup>39</sup>	A874	CH <sub>3</sub>	R <sup>B48</sup>	G <sup>40</sup>
A801	CH <sub>3</sub>	R <sup>B22</sup>	G <sup>39</sup>	A875	CH <sub>3</sub>	R <sup>B50</sup>	G <sup>40</sup>
A802	CH <sub>3</sub>	R <sup>B24</sup>	G <sup>39</sup>	A876	CH <sub>3</sub>	R <sup>B52</sup>	G <sup>40</sup>
A803	CH <sub>3</sub>	R <sup>B26</sup>	G <sup>39</sup>	A877	CH <sub>3</sub>	R <sup>B54</sup>	G <sup>40</sup>
A804	CH <sub>3</sub>	R <sup>B28</sup>	G <sup>39</sup>	A878	CH <sub>3</sub>	R <sup>B56</sup>	G <sup>40</sup>
A805	CH <sub>3</sub>	R <sup>B30</sup>	G <sup>39</sup>	A879	CH <sub>3</sub>	R <sup>B58</sup>	G <sup>40</sup>
A806	CH <sub>3</sub>	R <sup>B32</sup>	G <sup>39</sup>	A880	CH <sub>3</sub>	R <sup>B60</sup>	G <sup>40</sup>
A807	CH <sub>3</sub>	R <sup>B34</sup>	G <sup>39</sup>	A881	R <sup>B2</sup>	CH <sub>3</sub>	G <sup>40</sup>
A808	CH <sub>3</sub>	R <sup>B36</sup>	G <sup>39</sup>	A882	R <sup>B4</sup>	CH <sub>3</sub>	G <sup>40</sup>
A809	CH <sub>3</sub>	R <sup>B38</sup>	G <sup>39</sup>	A883	R <sup>B6</sup>	CH <sub>3</sub>	G <sup>40</sup>
A810	CH <sub>3</sub>	R <sup>B40</sup>	G <sup>39</sup>	A884	R <sup>B8</sup>	CH <sub>3</sub>	G <sup>40</sup>
A811	CH <sub>3</sub>	R <sup>B42</sup>	G <sup>39</sup>	A885	R <sup>B10</sup>	CH <sub>3</sub>	G <sup>40</sup>
A812	CH <sub>3</sub>	R <sup>B44</sup>	G <sup>39</sup>	A886	R <sup>B12</sup>	CH <sub>3</sub>	G <sup>40</sup>
A813	CH <sub>3</sub>	R <sup>B46</sup>	G <sup>39</sup>	A887	R <sup>B14</sup>	CH <sub>3</sub>	G <sup>40</sup>
A814	CH <sub>3</sub>	R <sup>B48</sup>	G <sup>39</sup>	A888	R <sup>B16</sup>	CH <sub>3</sub>	G <sup>40</sup>
A815	CH <sub>3</sub>	R <sup>B50</sup>	G <sup>39</sup>	A889	R <sup>B18</sup>	CH <sub>3</sub>	G <sup>40</sup>
A816	CH <sub>3</sub>	R <sup>B52</sup>	G <sup>39</sup>	A890	R <sup>B20</sup>	CH <sub>3</sub>	G <sup>40</sup>
A817	CH <sub>3</sub>	R <sup>B54</sup>	G <sup>39</sup>	A891	R <sup>B22</sup>	CH <sub>3</sub>	G <sup>40</sup>
A818	CH <sub>3</sub>	R <sup>B56</sup>	G <sup>39</sup>	A892	R <sup>B24</sup>	CH <sub>3</sub>	G <sup>40</sup>
A819	CH <sub>3</sub>	R <sup>B58</sup>	G <sup>39</sup>	A893	R <sup>B26</sup>	CH <sub>3</sub>	G <sup>40</sup>
A820	CH <sub>3</sub>	R <sup>B60</sup>	G <sup>39</sup>	A894	R <sup>B28</sup>	CH <sub>3</sub>	G <sup>40</sup>
A821	R <sup>B2</sup>	CH <sub>3</sub>	G <sup>39</sup>	A895	R <sup>B30</sup>	CH <sub>3</sub>	G <sup>40</sup>
A822	R <sup>B4</sup>	CH <sub>3</sub>	G <sup>39</sup>	A896	R <sup>B32</sup>	CH <sub>3</sub>	G <sup>40</sup>
A823	R <sup>B6</sup>	CH <sub>3</sub>	G <sup>39</sup>	A897	R <sup>B34</sup>	CH <sub>3</sub>	G <sup>40</sup>
A824	R <sup>B8</sup>	CH <sub>3</sub>	G <sup>39</sup>	A898	R <sup>B36</sup>	CH <sub>3</sub>	G <sup>40</sup>
A825	R <sup>B10</sup>	CH <sub>3</sub>	G <sup>39</sup>	A899	R <sup>B38</sup>	CH <sub>3</sub>	G <sup>40</sup>
A826	R <sup>B12</sup>	CH <sub>3</sub>	G <sup>39</sup>	A900	R <sup>B40</sup>	CH <sub>3</sub>	G <sup>40</sup>
A827	R <sup>B14</sup>	CH <sub>3</sub>	G <sup>39</sup>	A901	R <sup>B42</sup>	CH <sub>3</sub>	G <sup>40</sup>
A828	R <sup>B16</sup>	CH <sub>3</sub>	G <sup>39</sup>	A902	R <sup>B44</sup>	CH <sub>3</sub>	G <sup>40</sup>
A829	R <sup>B18</sup>	CH <sub>3</sub>	G <sup>39</sup>	A903	R <sup>B46</sup>	CH <sub>3</sub>	G <sup>40</sup>
A830	R <sup>B20</sup>	CH <sub>3</sub>	G <sup>39</sup>	A904	R <sup>B48</sup>	CH <sub>3</sub>	G <sup>40</sup>
A831	R <sup>B22</sup>	CH <sub>3</sub>	G <sup>39</sup>	A905	R <sup>B50</sup>	CH <sub>3</sub>	G <sup>40</sup>

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	R <sup>2</sup>	R <sup>3</sup>	G
A906	R <sup>B52</sup>	CH <sub>3</sub>	G <sup>40</sup>
A907	R <sup>B54</sup>	CH <sub>3</sub>	G <sup>40</sup>
A908	R <sup>B56</sup>	CH <sub>3</sub>	G <sup>40</sup>
A909	R <sup>B57</sup>	CH <sub>3</sub>	G <sup>40</sup>
A910	R <sup>B59</sup>	CH <sub>3</sub>	G <sup>40</sup>
A911	CH <sub>3</sub>	R <sup>B1</sup>	G <sup>41</sup>
A912	CH <sub>3</sub>	R <sup>B3</sup>	G <sup>41</sup>
A913	CH <sub>3</sub>	R <sup>B5</sup>	G <sup>41</sup>
A914	CH <sub>3</sub>	R <sup>B7</sup>	G <sup>41</sup>
A915	CH <sub>3</sub>	R <sup>B9</sup>	G <sup>41</sup>
A916	CH <sub>3</sub>	R <sup>B11</sup>	G <sup>41</sup>
A917	CH <sub>3</sub>	R <sup>B13</sup>	G <sup>41</sup>
A918	CH <sub>3</sub>	R <sup>B15</sup>	G <sup>41</sup>
A919	CH <sub>3</sub>	R <sup>B17</sup>	G <sup>41</sup>
A920	CH <sub>3</sub>	R <sup>B19</sup>	G <sup>41</sup>
A921	CH <sub>3</sub>	R <sup>B21</sup>	G <sup>41</sup>
A922	CH <sub>3</sub>	R <sup>B23</sup>	G <sup>41</sup>
A923	CH <sub>3</sub>	R <sup>B25</sup>	G <sup>41</sup>
A924	CH <sub>3</sub>	R <sup>B27</sup>	G <sup>41</sup>
A925	CH <sub>3</sub>	R <sup>B29</sup>	G <sup>41</sup>
A926	CH <sub>3</sub>	R <sup>B31</sup>	G <sup>41</sup>
A927	CH <sub>3</sub>	R <sup>B33</sup>	G <sup>41</sup>
A928	CH <sub>3</sub>	R <sup>B35</sup>	G <sup>41</sup>
A929	CH <sub>3</sub>	R <sup>B37</sup>	G <sup>41</sup>
A930	CH <sub>3</sub>	R <sup>B39</sup>	G <sup>41</sup>
A931	CH <sub>3</sub>	R <sup>B41</sup>	G <sup>41</sup>
A932	CH <sub>3</sub>	R <sup>B43</sup>	G <sup>41</sup>
A933	CH <sub>3</sub>	R <sup>B45</sup>	G <sup>41</sup>
A934	CH <sub>3</sub>	R <sup>B47</sup>	G <sup>41</sup>
A935	CH <sub>3</sub>	R <sup>B49</sup>	G <sup>41</sup>
A936	CH <sub>3</sub>	R <sup>B51</sup>	G <sup>41</sup>
A937	CH <sub>3</sub>	R <sup>B53</sup>	G <sup>41</sup>
A938	CH <sub>3</sub>	R <sup>B55</sup>	G <sup>41</sup>
A939	CH <sub>3</sub>	R <sup>B57</sup>	G <sup>41</sup>
A940	CH <sub>3</sub>	R <sup>B59</sup>	G <sup>41</sup>
A941	R <sup>B1</sup>	CH <sub>3</sub>	G <sup>41</sup>
A942	R <sup>B3</sup>	CH <sub>3</sub>	G <sup>41</sup>
A943	R <sup>B5</sup>	CH <sub>3</sub>	G <sup>41</sup>
A944	R <sup>B7</sup>	CH <sub>3</sub>	G <sup>41</sup>
A945	R <sup>B9</sup>	CH <sub>3</sub>	G <sup>41</sup>
A946	R <sup>B11</sup>	CH <sub>3</sub>	G <sup>41</sup>
A947	R <sup>B13</sup>	CH <sub>3</sub>	G <sup>41</sup>
A948	R <sup>B15</sup>	CH <sub>3</sub>	G <sup>41</sup>
A949	R <sup>B17</sup>	CH <sub>3</sub>	G <sup>41</sup>
A950	R <sup>B19</sup>	CH <sub>3</sub>	G <sup>41</sup>
A951	R <sup>B21</sup>	CH <sub>3</sub>	G <sup>41</sup>
A952	R <sup>B23</sup>	CH <sub>3</sub>	G <sup>41</sup>
A953	R <sup>B25</sup>	CH <sub>3</sub>	G <sup>41</sup>
A954	R <sup>B27</sup>	CH <sub>3</sub>	G <sup>41</sup>
A955	R <sup>B29</sup>	CH <sub>3</sub>	G <sup>41</sup>
A956	R <sup>B31</sup>	CH <sub>3</sub>	G <sup>41</sup>
A957	R <sup>B33</sup>	CH <sub>3</sub>	G <sup>41</sup>
A958	R <sup>B35</sup>	CH <sub>3</sub>	G <sup>41</sup>
A959	R <sup>B37</sup>	CH <sub>3</sub>	G <sup>41</sup>
A960	R <sup>B39</sup>	CH <sub>3</sub>	G <sup>41</sup>
A961	R <sup>B41</sup>	CH <sub>3</sub>	G <sup>41</sup>
A962	R <sup>B43</sup>	CH <sub>3</sub>	G <sup>41</sup>
A963	R <sup>B45</sup>	CH <sub>3</sub>	G <sup>41</sup>
A964	R <sup>B47</sup>	CH <sub>3</sub>	G <sup>41</sup>
A965	R <sup>B49</sup>	CH <sub>3</sub>	G <sup>41</sup>
A966	R <sup>B51</sup>	CH <sub>3</sub>	G <sup>41</sup>
A967	R <sup>B53</sup>	CH <sub>3</sub>	G <sup>41</sup>
A968	R <sup>B55</sup>	CH <sub>3</sub>	G <sup>41</sup>
A969	R <sup>B57</sup>	CH <sub>3</sub>	G <sup>41</sup>
A970	R <sup>B59</sup>	CH <sub>3</sub>	G <sup>41</sup>
A971	CH <sub>3</sub>	R <sup>B1</sup>	G <sup>42</sup>
A972	CH <sub>3</sub>	R <sup>B3</sup>	G <sup>42</sup>
A973	CH <sub>3</sub>	R <sup>B5</sup>	G <sup>42</sup>
A974	CH <sub>3</sub>	R <sup>B7</sup>	G <sup>42</sup>
A975	CH <sub>3</sub>	R <sup>B9</sup>	G <sup>42</sup>
A976	CH <sub>3</sub>	R <sup>B11</sup>	G <sup>42</sup>
A977	CH <sub>3</sub>	R <sup>B13</sup>	G <sup>42</sup>
A978	CH <sub>3</sub>	R <sup>B15</sup>	G <sup>42</sup>
A979	CH <sub>3</sub>	R <sup>B17</sup>	G <sup>42</sup>

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	R <sup>2</sup>	R <sup>3</sup>	G
A980	CH <sub>3</sub>	R <sup>B19</sup>	G <sup>42</sup>
A981	CH <sub>3</sub>	R <sup>B21</sup>	G <sup>42</sup>
A982	CH <sub>3</sub>	R <sup>B23</sup>	G <sup>42</sup>
A983	CH <sub>3</sub>	R <sup>B25</sup>	G <sup>42</sup>
A984	CH <sub>3</sub>	R <sup>B27</sup>	G <sup>42</sup>
A985	CH <sub>3</sub>	R <sup>B29</sup>	G <sup>42</sup>
A986	CH <sub>3</sub>	R <sup>B31</sup>	G <sup>42</sup>
A987	CH <sub>3</sub>	R <sup>B33</sup>	G <sup>42</sup>
A988	CH <sub>3</sub>	R <sup>B35</sup>	G <sup>42</sup>
A989	CH <sub>3</sub>	R <sup>B37</sup>	G <sup>42</sup>
A990	CH <sub>3</sub>	R <sup>B39</sup>	G <sup>42</sup>
A991	CH <sub>3</sub>	R <sup>B41</sup>	G <sup>42</sup>
A992	CH <sub>3</sub>	R <sup>B43</sup>	G <sup>42</sup>
A993	CH <sub>3</sub>	R <sup>B45</sup>	G <sup>42</sup>
A994	CH <sub>3</sub>	R <sup>B47</sup>	G <sup>42</sup>
A995	CH <sub>3</sub>	R <sup>B49</sup>	G <sup>42</sup>
A996	CH <sub>3</sub>	R <sup>B51</sup>	G <sup>42</sup>
A997	CH <sub>3</sub>	R <sup>B53</sup>	G <sup>42</sup>
A998	CH <sub>3</sub>	R <sup>B55</sup>	G <sup>42</sup>
A999	CH <sub>3</sub>	R <sup>B57</sup>	G <sup>42</sup>
A1000	CH <sub>3</sub>	R <sup>B59</sup>	G <sup>42</sup>
A1001	R <sup>B1</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1002	R <sup>B3</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1003	R <sup>B5</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1004	R <sup>B7</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1005	R <sup>B9</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1006	R <sup>B11</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1007	R <sup>B13</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1008	R <sup>B15</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1009	R <sup>B17</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1010	R <sup>B19</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1011	R <sup>B21</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1012	R <sup>B23</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1013	R <sup>B25</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1014	R <sup>B27</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1015	R <sup>B29</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1016	R <sup>B31</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1017	R <sup>B33</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1018	R <sup>B35</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1019	R <sup>B37</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1020	R <sup>B39</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1021	R <sup>B41</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1022	R <sup>B43</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1023	R <sup>B45</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1024	R <sup>B47</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1025	R <sup>B49</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1026	R <sup>B51</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1027	R <sup>B53</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1028	R <sup>B55</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1029	R <sup>B57</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1030	R <sup>B59</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1031	R <sup>B58</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1032	R <sup>B60</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1033	CH <sub>3</sub>	R <sup>B2</sup>	G <sup>41</sup>
A1034	CH <sub>3</sub>	R <sup>B4</sup>	G <sup>41</sup>
A1035	CH <sub>3</sub>	R <sup>B6</sup>	G <sup>41</sup>
A1036	CH <sub>3</sub>	R <sup>B8</sup>	G <sup>41</sup>
A1037	CH <sub>3</sub>	R <sup>B10</sup>	G <sup>41</sup>
A1038	CH <sub>3</sub>	R <sup>B12</sup>	G <sup>41</sup>
A1039	CH <sub>3</sub>	R <sup>B14</sup>	G <sup>41</sup>
A1040	CH <sub>3</sub>	R <sup>B16</sup>	G <sup>41</sup>
A1041	CH <sub>3</sub>	R <sup>B18</sup>	G <sup>41</sup>
A1042	CH <sub>3</sub>	R <sup>B20</sup>	G <sup>41</sup>
A1043	CH <sub>3</sub>	R <sup>B22</sup>	G <sup>41</sup>
A1044	CH <sub>3</sub>	R <sup>B24</sup>	G <sup>41</sup>
A1045	CH <sub>3</sub>	R <sup>B26</sup>	G <sup>41</sup>
A1046	CH <sub>3</sub>	R <sup>B28</sup>	G <sup>41</sup>
A1047	CH <sub>3</sub>	R <sup>B30</sup>	G <sup>41</sup>
A1048	CH <sub>3</sub>	R <sup>B32</sup>	G <sup>41</sup>
A1049	CH <sub>3</sub>	R <sup>B34</sup>	G <sup>41</sup>
A1050	CH <sub>3</sub>	R <sup>B36</sup>	G <sup>41</sup>
A1051	CH <sub>3</sub>	R <sup>B38</sup>	G <sup>41</sup>
A1052	CH <sub>3</sub>	R <sup>B40</sup>	G <sup>41</sup>
A1053	CH <sub>3</sub>	R <sup>B42</sup>	G <sup>41</sup>

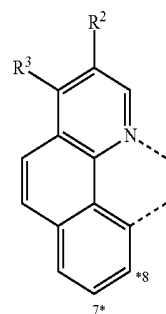
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	R <sup>2</sup>	R <sup>3</sup>	G
A1054	CH <sub>3</sub>	R <sup>B44</sup>	G <sup>41</sup>
A1055	CH <sub>3</sub>	R <sup>B46</sup>	G <sup>41</sup>
A1056	CH <sub>3</sub>	R <sup>B48</sup>	G <sup>41</sup>
A1057	CH <sub>3</sub>	R <sup>B50</sup>	G <sup>41</sup>
A1058	CH <sub>3</sub>	R <sup>B52</sup>	G <sup>41</sup>
A1059	CH <sub>3</sub>	R <sup>B54</sup>	G <sup>41</sup>
A1060	CH <sub>3</sub>	R <sup>B56</sup>	G <sup>41</sup>
A1061	CH <sub>3</sub>	R <sup>B58</sup>	G <sup>41</sup>
A1062	CH <sub>3</sub>	R <sup>B60</sup>	G <sup>41</sup>
A1063	R <sup>B2</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1064	R <sup>B4</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1065	R <sup>B6</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1066	R <sup>B8</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1067	R <sup>B10</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1068	R <sup>B12</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1069	R <sup>B14</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1070	R <sup>B16</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1071	R <sup>B18</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1072	R <sup>B20</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1073	R <sup>B22</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1074	R <sup>B24</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1075	R <sup>B26</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1076	R <sup>B28</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1077	R <sup>B30</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1078	R <sup>B32</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1079	R <sup>B34</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1080	R <sup>B36</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1081	R <sup>B38</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1082	R <sup>B40</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1083	R <sup>B42</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1084	R <sup>B44</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1085	R <sup>B46</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1086	R <sup>B48</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1087	R <sup>B50</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1088	R <sup>B52</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1089	R <sup>B54</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1090	R <sup>B56</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1091	R <sup>B58</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1092	R <sup>B60</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1093	CH <sub>3</sub>	R <sup>B2</sup>	G <sup>42</sup>
A1094	CH <sub>3</sub>	R <sup>B4</sup>	G <sup>42</sup>
A1095	CH <sub>3</sub>	R <sup>B6</sup>	G <sup>42</sup>
A1096	CH <sub>3</sub>	R <sup>B8</sup>	G <sup>42</sup>
A1097	CH <sub>3</sub>	R <sup>B10</sup>	G <sup>42</sup>
A1098	CH <sub>3</sub>	R <sup>B12</sup>	G <sup>42</sup>
A1099	CH <sub>3</sub>	R <sup>B14</sup>	G <sup>42</sup>
A1100	CH <sub>3</sub>	R <sup>B16</sup>	G <sup>42</sup>
A1101	CH <sub>3</sub>	R <sup>B18</sup>	G <sup>42</sup>
A1102	CH <sub>3</sub>	R <sup>B20</sup>	G <sup>42</sup>
A1103	CH <sub>3</sub>	R <sup>B22</sup>	G <sup>42</sup>
A1104	CH <sub>3</sub>	R <sup>B24</sup>	G <sup>42</sup>
A1105	CH <sub>3</sub>	R <sup>B26</sup>	G <sup>42</sup>
A1106	CH <sub>3</sub>	R <sup>B28</sup>	G <sup>42</sup>
A1107	CH <sub>3</sub>	R <sup>B30</sup>	G <sup>42</sup>
A1108	CH <sub>3</sub>	R <sup>B32</sup>	G <sup>42</sup>
A1109	CH <sub>3</sub>	R <sup>B34</sup>	G <sup>42</sup>
A1110	CH <sub>3</sub>	R <sup>B36</sup>	G <sup>42</sup>
A1111	CH <sub>3</sub>	R <sup>B38</sup>	G <sup>42</sup>
A1112	CH <sub>3</sub>	R <sup>B40</sup>	G <sup>42</sup>
A1113	CH <sub>3</sub>	R <sup>B42</sup>	G <sup>42</sup>
A1114	CH <sub>3</sub>	R <sup>B44</sup>	G <sup>42</sup>
A1115	CH <sub>3</sub>	R <sup>B46</sup>	G <sup>42</sup>
A1116	CH <sub>3</sub>	R <sup>B48</sup>	G <sup>42</sup>
A1117	CH <sub>3</sub>	R <sup>B50</sup>	G <sup>42</sup>
A1118	CH <sub>3</sub>	R <sup>B52</sup>	G <sup>42</sup>
A1119	CH <sub>3</sub>	R <sup>B54</sup>	G <sup>42</sup>
A1120	CH <sub>3</sub>	R <sup>B56</sup>	G <sup>42</sup>
A1121	CH <sub>3</sub>	R <sup>B58</sup>	G <sup>42</sup>
A1122	CH <sub>3</sub>	R <sup>B60</sup>	G <sup>42</sup>
A1123	R <sup>B2</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1124	R <sup>B4</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1125	R <sup>B6</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1126	R <sup>B8</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1127	R <sup>B10</sup>	CH <sub>3</sub>	G <sup>42</sup>

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	R <sup>2</sup>	R <sup>3</sup>	G
A1128	R <sup>B12</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1129	R <sup>B14</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1130	R <sup>B16</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1131	R <sup>B18</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1132	R <sup>B20</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1133	R <sup>B22</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1134	R <sup>B24</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1135	R <sup>B26</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1136	R <sup>B28</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1137	R <sup>B30</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1138	R <sup>B32</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1139	R <sup>B34</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1140	R <sup>B36</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1141	R <sup>B38</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1142	R <sup>B40</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1143	R <sup>B42</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1144	R <sup>B44</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1145	R <sup>B46</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1146	R <sup>B48</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1147	R <sup>B50</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1148	R <sup>B52</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1149	R <sup>B54</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1150	R <sup>B56</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1151	R <sup>B58</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1152	R <sup>B60</sup>	CH <sub>3</sub>	G <sup>42</sup>

ligands L<sub>A1153-O</sub> to L<sub>A11764-O</sub>, L<sub>A1153-S</sub> to L<sub>A11764-S</sub>, L<sub>A1153-C</sub> to L<sub>A11763-C</sub>, and L<sub>A11764-C</sub> that are based on the structure



where the asterisks with an Arabic numeral indicate the points of attachment to the corresponding points of attachment in the structure G,

**[0084]** where for ligands L<sub>A1153-O</sub> to L<sub>A11764-O</sub>, A in the structure G is O,

**[0085]** where for ligands L<sub>A1153-S</sub> to L<sub>A11764-S</sub>, A in the structure G is S, and

**[0086]** where for ligands L<sub>A1153-C</sub> to L<sub>A11764-C</sub>, A in the structure G is C(CH<sub>3</sub>)<sub>2</sub>, where R<sup>2</sup>, R<sup>3</sup>, and G are defined for A1153 to A11764 as shown below:

	R <sup>2</sup>	R <sup>3</sup>	G
A1153	H	H	G <sup>37</sup>
A1154	H	H	G <sup>39</sup>
A1155	H	H	G <sup>41</sup>
A1156	H	H	G <sup>43</sup>
A1157	H	H	G <sup>45</sup>
A1158	H	H	G <sup>47</sup>
A1159	CH <sub>3</sub>	R <sup>B1</sup>	G <sup>37</sup>
A1160	CH <sub>3</sub>	R <sup>B3</sup>	G <sup>37</sup>
A1161	CH <sub>3</sub>	R <sup>B5</sup>	G <sup>37</sup>
A1162	CH <sub>3</sub>	R <sup>B7</sup>	G <sup>37</sup>

-continued				-continued			
	R <sup>2</sup>	R <sup>3</sup>	G		R <sup>2</sup>	R <sup>3</sup>	G
A1163	CH <sub>3</sub>	R <sup>B9</sup>	G <sup>37</sup>	A1237	CH <sub>3</sub>	R <sup>B37</sup>	G <sup>39</sup>
A1164	CH <sub>3</sub>	R <sup>B11</sup>	G <sup>37</sup>	A1238	CH <sub>3</sub>	R <sup>B39</sup>	G <sup>39</sup>
A1165	CH <sub>3</sub>	R <sup>B13</sup>	G <sup>37</sup>	A1239	CH <sub>3</sub>	R <sup>B41</sup>	G <sup>39</sup>
A1166	CH <sub>3</sub>	R <sup>B15</sup>	G <sup>37</sup>	A1240	CH <sub>3</sub>	R <sup>B43</sup>	G <sup>39</sup>
A1167	CH <sub>3</sub>	R <sup>B17</sup>	G <sup>37</sup>	A1241	CH <sub>3</sub>	R <sup>B45</sup>	G <sup>39</sup>
A1168	CH <sub>3</sub>	R <sup>B19</sup>	G <sup>37</sup>	A1242	CH <sub>3</sub>	R <sup>B47</sup>	G <sup>39</sup>
A1169	CH <sub>3</sub>	R <sup>B21</sup>	G <sup>37</sup>	A1243	CH <sub>3</sub>	R <sup>B49</sup>	G <sup>39</sup>
A1170	CH <sub>3</sub>	R <sup>B23</sup>	G <sup>37</sup>	A1244	CH <sub>3</sub>	R <sup>B51</sup>	G <sup>39</sup>
A1171	CH <sub>3</sub>	R <sup>B25</sup>	G <sup>37</sup>	A1245	CH <sub>3</sub>	R <sup>B53</sup>	G <sup>39</sup>
A1172	CH <sub>3</sub>	R <sup>B27</sup>	G <sup>37</sup>	A1246	CH <sub>3</sub>	R <sup>B55</sup>	G <sup>39</sup>
A1173	CH <sub>3</sub>	R <sup>B29</sup>	G <sup>37</sup>	A1247	CH <sub>3</sub>	R <sup>B57</sup>	G <sup>39</sup>
A1174	CH <sub>3</sub>	R <sup>B31</sup>	G <sup>37</sup>	A1248	CH <sub>3</sub>	R <sup>B59</sup>	G <sup>39</sup>
A1175	CH <sub>3</sub>	R <sup>B33</sup>	G <sup>37</sup>	A1249	R <sup>B1</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1176	CH <sub>3</sub>	R <sup>B35</sup>	G <sup>37</sup>	A1250	R <sup>B3</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1177	CH <sub>3</sub>	R <sup>B37</sup>	G <sup>37</sup>	A1251	R <sup>B5</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1178	CH <sub>3</sub>	R <sup>B39</sup>	G <sup>37</sup>	A1252	R <sup>B7</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1179	CH <sub>3</sub>	R <sup>B41</sup>	G <sup>37</sup>	A1253	R <sup>B9</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1180	CH <sub>3</sub>	R <sup>B43</sup>	G <sup>37</sup>	A1254	R <sup>B11</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1181	CH <sub>3</sub>	R <sup>B45</sup>	G <sup>37</sup>	A1255	R <sup>B13</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1182	CH <sub>3</sub>	R <sup>B47</sup>	G <sup>37</sup>	A1256	R <sup>B15</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1183	CH <sub>3</sub>	R <sup>B49</sup>	G <sup>37</sup>	A1257	R <sup>B17</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1184	CH <sub>3</sub>	R <sup>B51</sup>	G <sup>37</sup>	A1258	R <sup>B19</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1185	CH <sub>3</sub>	R <sup>B53</sup>	G <sup>37</sup>	A1259	R <sup>B21</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1186	CH <sub>3</sub>	R <sup>B55</sup>	G <sup>37</sup>	A1260	R <sup>B23</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1187	CH <sub>3</sub>	R <sup>B57</sup>	G <sup>37</sup>	A1261	R <sup>B25</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1188	CH <sub>3</sub>	R <sup>B59</sup>	G <sup>37</sup>	A1262	R <sup>B27</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1189	R <sup>B1</sup>	CH <sub>3</sub>	G <sup>37</sup>	A1263	R <sup>B29</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1190	R <sup>B3</sup>	CH <sub>3</sub>	G <sup>37</sup>	A1264	R <sup>B31</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1191	R <sup>B5</sup>	CH <sub>3</sub>	G <sup>37</sup>	A1265	R <sup>B33</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1192	R <sup>B7</sup>	CH <sub>3</sub>	G <sup>37</sup>	A1266	R <sup>B35</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1193	R <sup>B9</sup>	CH <sub>3</sub>	G <sup>37</sup>	A1267	R <sup>B37</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1194	R <sup>B11</sup>	CH <sub>3</sub>	G <sup>37</sup>	A1268	R <sup>B39</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1195	R <sup>B13</sup>	CH <sub>3</sub>	G <sup>37</sup>	A1269	R <sup>B41</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1196	R <sup>B15</sup>	CH <sub>3</sub>	G <sup>37</sup>	A1270	R <sup>B43</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1197	R <sup>B17</sup>	CH <sub>3</sub>	G <sup>37</sup>	A1271	R <sup>B45</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1198	R <sup>B19</sup>	CH <sub>3</sub>	G <sup>37</sup>	A1272	R <sup>B47</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1199	R <sup>B21</sup>	CH <sub>3</sub>	G <sup>37</sup>	A1273	R <sup>B49</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1200	R <sup>B23</sup>	CH <sub>3</sub>	G <sup>37</sup>	A1274	R <sup>B51</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1201	R <sup>B25</sup>	CH <sub>3</sub>	G <sup>37</sup>	A1275	R <sup>B53</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1202	R <sup>B27</sup>	CH <sub>3</sub>	G <sup>37</sup>	A1276	R <sup>B55</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1203	R <sup>B29</sup>	CH <sub>3</sub>	G <sup>37</sup>	A1277	R <sup>B57</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1204	R <sup>B31</sup>	CH <sub>3</sub>	G <sup>37</sup>	A1278	R <sup>B59</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1205	R <sup>B33</sup>	CH <sub>3</sub>	G <sup>37</sup>	A1279	CH <sub>3</sub>	R <sup>B1</sup>	G <sup>40</sup>
A1206	R <sup>B35</sup>	CH <sub>3</sub>	G <sup>37</sup>	A1280	CH <sub>3</sub>	R <sup>B3</sup>	G <sup>40</sup>
A1207	R <sup>B37</sup>	CH <sub>3</sub>	G <sup>37</sup>	A1281	CH <sub>3</sub>	R <sup>B5</sup>	G <sup>40</sup>
A1208	R <sup>B39</sup>	CH <sub>3</sub>	G <sup>37</sup>	A1282	CH <sub>3</sub>	R <sup>B7</sup>	G <sup>40</sup>
A1209	R <sup>B41</sup>	CH <sub>3</sub>	G <sup>37</sup>	A1283	CH <sub>3</sub>	R <sup>B9</sup>	G <sup>40</sup>
A1210	R <sup>B43</sup>	CH <sub>3</sub>	G <sup>37</sup>	A1284	CH <sub>3</sub>	R <sup>B11</sup>	G <sup>40</sup>
A1211	R <sup>B45</sup>	CH <sub>3</sub>	G <sup>37</sup>	A1285	CH <sub>3</sub>	R <sup>B13</sup>	G <sup>40</sup>
A1212	R <sup>B47</sup>	CH <sub>3</sub>	G <sup>37</sup>	A1286	CH <sub>3</sub>	R <sup>B15</sup>	G <sup>40</sup>
A1213	R <sup>B49</sup>	CH <sub>3</sub>	G <sup>37</sup>	A1287	CH <sub>3</sub>	R <sup>B17</sup>	G <sup>40</sup>
A1214	R <sup>B51</sup>	CH <sub>3</sub>	G <sup>37</sup>	A1288	CH <sub>3</sub>	R <sup>B19</sup>	G <sup>40</sup>
A1215	R <sup>B53</sup>	CH <sub>3</sub>	G <sup>37</sup>	A1289	CH <sub>3</sub>	R <sup>B21</sup>	G <sup>40</sup>
A1216	R <sup>B55</sup>	CH <sub>3</sub>	G <sup>37</sup>	A1290	CH <sub>3</sub>	R <sup>B23</sup>	G <sup>40</sup>
A1217	R <sup>B57</sup>	CH <sub>3</sub>	G <sup>37</sup>	A1291	CH <sub>3</sub>	R <sup>B25</sup>	G <sup>40</sup>
A1218	R <sup>B59</sup>	CH <sub>3</sub>	G <sup>37</sup>	A1292	CH <sub>3</sub>	R <sup>B27</sup>	G <sup>40</sup>
A1219	CH <sub>3</sub>	R <sup>B1</sup>	G <sup>39</sup>	A1293	CH <sub>3</sub>	R <sup>B29</sup>	G <sup>40</sup>
A1220	CH <sub>3</sub>	R <sup>B3</sup>	G <sup>39</sup>	A1294	CH <sub>3</sub>	R <sup>B31</sup>	G <sup>40</sup>
A1221	CH <sub>3</sub>	R <sup>B5</sup>	G <sup>39</sup>	A1295	CH <sub>3</sub>	R <sup>B33</sup>	G <sup>40</sup>
A1222	CH <sub>3</sub>	R <sup>B7</sup>	G <sup>39</sup>	A1296	CH <sub>3</sub>	R <sup>B35</sup>	G <sup>40</sup>
A1223	CH <sub>3</sub>	R <sup>B9</sup>	G <sup>39</sup>	A1297	CH <sub>3</sub>	R <sup>B37</sup>	G <sup>40</sup>
A1224	CH <sub>3</sub>	R <sup>B11</sup>	G <sup>39</sup>	A1298	CH <sub>3</sub>	R <sup>B39</sup>	G <sup>40</sup>
A1225	CH <sub>3</sub>	R <sup>B13</sup>	G <sup>39</sup>	A1299	CH <sub>3</sub>	R <sup>B41</sup>	G <sup>40</sup>
A1226	CH <sub>3</sub>	R <sup>B15</sup>	G <sup>39</sup>	A1300	CH <sub>3</sub>	R <sup>B43</sup>	G <sup>40</sup>
A1227	CH <sub>3</sub>	R <sup>B17</sup>	G <sup>39</sup>	A1301	CH <sub>3</sub>	R <sup>B45</sup>	G <sup>40</sup>
A1228	CH <sub>3</sub>	R <sup>B19</sup>	G <sup>39</sup>	A1302	CH <sub>3</sub>	R <sup>B47</sup>	G <sup>40</sup>
A1229	CH <sub>3</sub>	R <sup>B21</sup>	G <sup>39</sup>	A1303	CH <sub>3</sub>	R <sup>B49</sup>	G <sup>40</sup>
A1230	CH <sub>3</sub>	R <sup>B23</sup>	G <sup>39</sup>	A1304	CH <sub>3</sub>	R <sup>B51</sup>	G <sup>40</sup>
A1231	CH <sub>3</sub>	R <sup>B25</sup>	G <sup>39</sup>	A1305	CH <sub>3</sub>	R <sup>B53</sup>	G <sup>40</sup>
A1232	CH <sub>3</sub>	R <sup>B27</sup>	G <sup>39</sup>	A1306	CH <sub>3</sub>	R <sup>B55</sup>	G <sup>40</sup>
A1233	CH <sub>3</sub>	R <sup>B29</sup>	G <sup>39</sup>	A1307	CH <sub>3</sub>	R <sup>B57</sup>	G <sup>40</sup>
A1234	CH <sub>3</sub>	R <sup>B31</sup>	G <sup>39</sup>	A1308	CH <sub>3</sub>	R <sup>B59</sup>	G <sup>40</sup>
A1235	CH <sub>3</sub>	R <sup>B33</sup>	G <sup>39</sup>	A1309	R <sup>B1</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1236	CH <sub>3</sub>	R <sup>B35</sup>	G <sup>39</sup>	A1310	R <sup>B3</sup>	CH <sub>3</sub>	G <sup>40</sup>

-continued				-continued			
	R <sup>2</sup>	R <sup>3</sup>	G		R <sup>2</sup>	R <sup>3</sup>	G
A1311	R <sup>B5</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1385	CH <sub>3</sub>	R <sup>B46</sup>	G <sup>37</sup>
A1312	R <sup>B7</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1386	CH <sub>3</sub>	R <sup>B48</sup>	G <sup>37</sup>
A1313	R <sup>B9</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1387	CH <sub>3</sub>	R <sup>B50</sup>	G <sup>37</sup>
A1314	R <sup>B11</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1388	CH <sub>3</sub>	R <sup>B52</sup>	G <sup>37</sup>
A1315	R <sup>B13</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1389	CH <sub>3</sub>	R <sup>B54</sup>	G <sup>37</sup>
A1316	R <sup>B15</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1390	CH <sub>3</sub>	R <sup>B56</sup>	G <sup>37</sup>
A1317	R <sup>B17</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1391	CH <sub>3</sub>	R <sup>B58</sup>	G <sup>37</sup>
A1318	R <sup>B19</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1392	CH <sub>3</sub>	R <sup>B60</sup>	G <sup>37</sup>
A1319	R <sup>B21</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1393	R <sup>B2</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1320	R <sup>B23</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1394	R <sup>B4</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1321	R <sup>B25</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1395	R <sup>B6</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1322	R <sup>B27</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1396	R <sup>B8</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1323	R <sup>B29</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1397	R <sup>B10</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1324	R <sup>B31</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1398	R <sup>B12</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1325	R <sup>B33</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1399	R <sup>B14</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1326	R <sup>B35</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1400	R <sup>B16</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1327	R <sup>B37</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1401	R <sup>B18</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1328	R <sup>B39</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1402	R <sup>B20</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1329	R <sup>B41</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1403	R <sup>B22</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1330	R <sup>B43</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1404	R <sup>B24</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1331	R <sup>B45</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1405	R <sup>B26</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1332	R <sup>B47</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1406	R <sup>B28</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1333	R <sup>B49</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1407	R <sup>B30</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1334	R <sup>B51</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1408	R <sup>B32</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1335	R <sup>B53</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1409	R <sup>B34</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1336	R <sup>B55</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1410	R <sup>B36</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1337	R <sup>B57</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1411	R <sup>B38</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1338	R <sup>B59</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1412	R <sup>B40</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1339	CH <sub>3</sub>	R <sup>B1</sup>	G <sup>41</sup>	A1413	R <sup>B42</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1340	CH <sub>3</sub>	R <sup>B3</sup>	G <sup>41</sup>	A1414	R <sup>B44</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1341	CH <sub>3</sub>	R <sup>B5</sup>	G <sup>41</sup>	A1415	R <sup>B46</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1342	CH <sub>3</sub>	R <sup>B7</sup>	G <sup>41</sup>	A1416	R <sup>B48</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1343	CH <sub>3</sub>	R <sup>B9</sup>	G <sup>41</sup>	A1417	R <sup>B50</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1344	CH <sub>3</sub>	R <sup>B11</sup>	G <sup>41</sup>	A1418	R <sup>B52</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1345	CH <sub>3</sub>	R <sup>B13</sup>	G <sup>41</sup>	A1419	R <sup>B54</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1346	CH <sub>3</sub>	R <sup>B15</sup>	G <sup>41</sup>	A1420	R <sup>B56</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1347	CH <sub>3</sub>	R <sup>B17</sup>	G <sup>41</sup>	A1421	R <sup>B58</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1348	CH <sub>3</sub>	R <sup>B19</sup>	G <sup>41</sup>	A1422	R <sup>B60</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1349	CH <sub>3</sub>	R <sup>B21</sup>	G <sup>41</sup>	A1423	CH <sub>3</sub>	R <sup>B2</sup>	G <sup>39</sup>
A1350	CH <sub>3</sub>	R <sup>B23</sup>	G <sup>41</sup>	A1424	CH <sub>3</sub>	R <sup>B4</sup>	G <sup>39</sup>
A1351	CH <sub>3</sub>	R <sup>B25</sup>	G <sup>41</sup>	A1425	CH <sub>3</sub>	R <sup>B6</sup>	G <sup>39</sup>
A1352	CH <sub>3</sub>	R <sup>B27</sup>	G <sup>41</sup>	A1426	CH <sub>3</sub>	R <sup>B8</sup>	G <sup>39</sup>
A1353	CH <sub>3</sub>	R <sup>B29</sup>	G <sup>41</sup>	A1427	CH <sub>3</sub>	R <sup>B10</sup>	G <sup>39</sup>
A1354	CH <sub>3</sub>	R <sup>B31</sup>	G <sup>41</sup>	A1428	CH <sub>3</sub>	R <sup>B12</sup>	G <sup>39</sup>
A1355	CH <sub>3</sub>	R <sup>B33</sup>	G <sup>41</sup>	A1429	CH <sub>3</sub>	R <sup>B14</sup>	G <sup>39</sup>
A1356	CH <sub>3</sub>	R <sup>B35</sup>	G <sup>41</sup>	A1430	CH <sub>3</sub>	R <sup>B16</sup>	G <sup>39</sup>
A1357	H	H	G <sup>38</sup>	A1431	CH <sub>3</sub>	R <sup>B18</sup>	G <sup>39</sup>
A1358	H	H	G <sup>40</sup>	A1432	CH <sub>3</sub>	R <sup>B20</sup>	G <sup>39</sup>
A1359	H	H	G <sup>42</sup>	A1433	CH <sub>3</sub>	R <sup>B22</sup>	G <sup>39</sup>
A1360	H	H	G <sup>44</sup>	A1434	CH <sub>3</sub>	R <sup>B24</sup>	G <sup>39</sup>
A1361	H	H	G <sup>46</sup>	A1435	CH <sub>3</sub>	R <sup>B26</sup>	G <sup>39</sup>
A1362	H	H	G <sup>48</sup>	A1436	CH <sub>3</sub>	R <sup>B28</sup>	G <sup>39</sup>
A1363	CH <sub>3</sub>	R <sup>B2</sup>	G <sup>37</sup>	A1437	CH <sub>3</sub>	R <sup>B30</sup>	G <sup>39</sup>
A1364	CH <sub>3</sub>	R <sup>B4</sup>	G <sup>37</sup>	A1438	CH <sub>3</sub>	R <sup>B32</sup>	G <sup>39</sup>
A1365	CH <sub>3</sub>	R <sup>B6</sup>	G <sup>37</sup>	A1439	CH <sub>3</sub>	R <sup>B34</sup>	G <sup>39</sup>
A1366	CH <sub>3</sub>	R <sup>B8</sup>	G <sup>37</sup>	A1440	CH <sub>3</sub>	R <sup>B36</sup>	G <sup>39</sup>
A1367	CH <sub>3</sub>	R <sup>B10</sup>	G <sup>37</sup>	A1441	CH <sub>3</sub>	R <sup>B38</sup>	G <sup>39</sup>
A1368	CH <sub>3</sub>	R <sup>B12</sup>	G <sup>37</sup>	A1442	CH <sub>3</sub>	R <sup>B40</sup>	G <sup>39</sup>
A1369	CH <sub>3</sub>	R <sup>B14</sup>	G <sup>37</sup>	A1443	CH <sub>3</sub>	R <sup>B42</sup>	G <sup>39</sup>
A1370	CH <sub>3</sub>	R <sup>B16</sup>	G <sup>37</sup>	A1444	CH <sub>3</sub>	R <sup>B44</sup>	G <sup>39</sup>
A1371	CH <sub>3</sub>	R <sup>B18</sup>	G <sup>37</sup>	A1445	CH <sub>3</sub>	R <sup>B46</sup>	G <sup>39</sup>
A1372	CH <sub>3</sub>	R <sup>B20</sup>	G <sup>37</sup>	A1446	CH <sub>3</sub>	R <sup>B48</sup>	G <sup>39</sup>
A1373	CH <sub>3</sub>	R <sup>B22</sup>	G <sup>37</sup>	A1447	CH <sub>3</sub>	R <sup>B50</sup>	G <sup>39</sup>
A1374	CH <sub>3</sub>	R <sup>B24</sup>	G <sup>37</sup>	A1448	CH <sub>3</sub>	R <sup>B52</sup>	G <sup>39</sup>
A1375	CH <sub>3</sub>	R <sup>B26</sup>	G <sup>37</sup>	A1449	CH <sub>3</sub>	R <sup>B54</sup>	G <sup>39</sup>
A1376	CH <sub>3</sub>	R <sup>B28</sup>	G <sup>37</sup>	A1450	CH <sub>3</sub>	R <sup>B56</sup>	G <sup>39</sup>
A1377	CH <sub>3</sub>	R <sup>B30</sup>	G <sup>37</sup>	A1451	CH <sub>3</sub>	R <sup>B58</sup>	G <sup>39</sup>
A1378	CH <sub>3</sub>	R <sup>B32</sup>	G <sup>37</sup>	A1452	CH <sub>3</sub>	R <sup>B60</sup>	G <sup>39</sup>
A1379	CH <sub>3</sub>	R <sup>B34</sup>	G <sup>37</sup>	A1453	R <sup>B2</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1380	CH <sub>3</sub>	R <sup>B36</sup>	G <sup>37</sup>	A1454	R <sup>B4</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1381	CH <sub>3</sub>	R <sup>B38</sup>	G <sup>37</sup>	A1455	R <sup>B6</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1382	CH <sub>3</sub>	R <sup>B40</sup>	G <sup>37</sup>	A1456	R <sup>B8</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1383	CH <sub>3</sub>	R <sup>B42</sup>	G <sup>37</sup>	A1457	R <sup>B10</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1384	CH <sub>3</sub>	R <sup>B44</sup>	G <sup>37</sup>	A1458	R <sup>B12</sup>	CH <sub>3</sub>	G <sup>39</sup>

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	R <sup>2</sup>	R <sup>3</sup>	G
A1459	R <sup>B14</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1460	R <sup>B16</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1461	R <sup>B18</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1462	R <sup>B20</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1463	R <sup>B22</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1464	R <sup>B24</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1465	R <sup>B26</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1466	R <sup>B28</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1467	R <sup>B30</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1468	R <sup>B32</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1469	R <sup>B34</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1470	R <sup>B36</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1471	R <sup>B38</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1472	R <sup>B40</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1473	R <sup>B42</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1474	R <sup>B44</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1475	R <sup>B46</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1476	R <sup>B48</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1477	R <sup>B50</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1478	R <sup>B52</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1479	R <sup>B54</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1480	R <sup>B56</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1481	R <sup>B58</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1482	R <sup>B60</sup>	CH <sub>3</sub>	G <sup>39</sup>
A1483	CH <sub>3</sub>	R <sup>B2</sup>	G <sup>40</sup>
A1484	CH <sub>3</sub>	R <sup>B4</sup>	G <sup>40</sup>
A1485	CH <sub>3</sub>	R <sup>B6</sup>	G <sup>40</sup>
A1486	CH <sub>3</sub>	R <sup>B8</sup>	G <sup>40</sup>
A1487	CH <sub>3</sub>	R <sup>B10</sup>	G <sup>40</sup>
A1488	CH <sub>3</sub>	R <sup>B12</sup>	G <sup>40</sup>
A1489	CH <sub>3</sub>	R <sup>B14</sup>	G <sup>40</sup>
A1490	CH <sub>3</sub>	R <sup>B16</sup>	G <sup>40</sup>
A1491	CH <sub>3</sub>	R <sup>B18</sup>	G <sup>40</sup>
A1492	CH <sub>3</sub>	R <sup>B20</sup>	G <sup>40</sup>
A1493	CH <sub>3</sub>	R <sup>B22</sup>	G <sup>40</sup>
A1494	CH <sub>3</sub>	R <sup>B24</sup>	G <sup>40</sup>
A1495	CH <sub>3</sub>	R <sup>B26</sup>	G <sup>40</sup>
A1496	CH <sub>3</sub>	R <sup>B28</sup>	G <sup>40</sup>
A1497	CH <sub>3</sub>	R <sup>B30</sup>	G <sup>40</sup>
A1498	CH <sub>3</sub>	R <sup>B32</sup>	G <sup>40</sup>
A1499	CH <sub>3</sub>	R <sup>B34</sup>	G <sup>40</sup>
A1500	CH <sub>3</sub>	R <sup>B36</sup>	G <sup>40</sup>
A1501	CH <sub>3</sub>	R <sup>B38</sup>	G <sup>40</sup>
A1502	CH <sub>3</sub>	R <sup>B40</sup>	G <sup>40</sup>
A1503	CH <sub>3</sub>	R <sup>B42</sup>	G <sup>40</sup>
A1504	CH <sub>3</sub>	R <sup>B44</sup>	G <sup>40</sup>
A1505	CH <sub>3</sub>	R <sup>B46</sup>	G <sup>40</sup>
A1506	CH <sub>3</sub>	R <sup>B48</sup>	G <sup>40</sup>
A1507	CH <sub>3</sub>	R <sup>B50</sup>	G <sup>40</sup>
A1508	CH <sub>3</sub>	R <sup>B52</sup>	G <sup>40</sup>
A1509	CH <sub>3</sub>	R <sup>B54</sup>	G <sup>40</sup>
A1510	CH <sub>3</sub>	R <sup>B56</sup>	G <sup>40</sup>
A1511	CH <sub>3</sub>	R <sup>B58</sup>	G <sup>40</sup>
A1512	CH <sub>3</sub>	R <sup>B60</sup>	G <sup>40</sup>
A1513	R <sup>B2</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1514	R <sup>B4</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1515	R <sup>B6</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1516	R <sup>B8</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1517	R <sup>B10</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1518	R <sup>B12</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1519	R <sup>B14</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1520	R <sup>B16</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1521	R <sup>B18</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1522	R <sup>B20</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1523	R <sup>B22</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1524	R <sup>B24</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1525	R <sup>B26</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1526	R <sup>B28</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1527	R <sup>B30</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1528	R <sup>B32</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1529	R <sup>B34</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1530	R <sup>B36</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1531	R <sup>B38</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1532	R <sup>B40</sup>	CH <sub>3</sub>	G <sup>40</sup>

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	R <sup>2</sup>	R <sup>3</sup>	G
A1533	R <sup>B42</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1534	R <sup>B44</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1535	R <sup>B46</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1536	R <sup>B48</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1537	R <sup>B50</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1538	R <sup>B52</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1539	R <sup>B54</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1540	R <sup>B56</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1541	R <sup>B58</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1542	R <sup>B60</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1543	CH <sub>3</sub>	R <sup>B2</sup>	G <sup>41</sup>
A1544	CH <sub>3</sub>	R <sup>B4</sup>	G <sup>41</sup>
A1545	CH <sub>3</sub>	R <sup>B6</sup>	G <sup>41</sup>
A1546	CH <sub>3</sub>	R <sup>B8</sup>	G <sup>41</sup>
A1547	CH <sub>3</sub>	R <sup>B10</sup>	G <sup>41</sup>
A1548	CH <sub>3</sub>	R <sup>B12</sup>	G <sup>41</sup>
A1549	CH <sub>3</sub>	R <sup>B14</sup>	G <sup>41</sup>
A1550	CH <sub>3</sub>	R <sup>B16</sup>	G <sup>41</sup>
A1551	CH <sub>3</sub>	R <sup>B18</sup>	G <sup>41</sup>
A1552	CH <sub>3</sub>	R <sup>B20</sup>	G <sup>41</sup>
A1553	CH <sub>3</sub>	R <sup>B22</sup>	G <sup>41</sup>
A1554	CH <sub>3</sub>	R <sup>B24</sup>	G <sup>41</sup>
A1555	CH <sub>3</sub>	R <sup>B26</sup>	G <sup>41</sup>
A1556	CH <sub>3</sub>	R <sup>B28</sup>	G <sup>41</sup>
A1557	CH <sub>3</sub>	R <sup>B30</sup>	G <sup>41</sup>
A1558	CH <sub>3</sub>	R <sup>B32</sup>	G <sup>41</sup>
A1559	CH <sub>3</sub>	R <sup>B34</sup>	G <sup>41</sup>
A1560	CH <sub>3</sub>	R <sup>B36</sup>	G <sup>41</sup>
A1561	CH <sub>3</sub>	R <sup>B37</sup>	G <sup>41</sup>
A1562	CH <sub>3</sub>	R <sup>B39</sup>	G <sup>41</sup>
A1563	CH <sub>3</sub>	R <sup>B41</sup>	G <sup>41</sup>
A1564	CH <sub>3</sub>	R <sup>B43</sup>	G <sup>41</sup>
A1565	CH <sub>3</sub>	R <sup>B45</sup>	G <sup>41</sup>
A1566	CH <sub>3</sub>	R <sup>B47</sup>	G <sup>41</sup>
A1567	CH <sub>3</sub>	R <sup>B49</sup>	G <sup>41</sup>
A1568	CH <sub>3</sub>	R <sup>B51</sup>	G <sup>41</sup>
A1569	CH <sub>3</sub>	R <sup>B53</sup>	G <sup>41</sup>
A1570	CH <sub>3</sub>	R <sup>B55</sup>	G <sup>41</sup>
A1571	CH <sub>3</sub>	R <sup>B57</sup>	G <sup>41</sup>
A1572	CH <sub>3</sub>	R <sup>B59</sup>	G <sup>41</sup>
A1573	R <sup>B1</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1574	R <sup>B3</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1575	R <sup>B5</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1576	R <sup>B7</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1577	R <sup>B9</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1578	R <sup>B11</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1579	R <sup>B13</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1580	R <sup>B15</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1581	R <sup>B17</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1582	R <sup>B19</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1583	R <sup>B21</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1584	R <sup>B23</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1585	R <sup>B25</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1586	R <sup>B27</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1587	R <sup>B29</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1588	R <sup>B31</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1589	R <sup>B33</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1590	R <sup>B35</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1591	R <sup>B37</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1592	R <sup>B39</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1593	R <sup>B41</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1594	R <sup>B43</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1595	R <sup>B45</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1596	R <sup>B47</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1597	R <sup>B49</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1598	R <sup>B51</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1599	R <sup>B53</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1600	R <sup>B55</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1601	R <sup>B57</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1602	R <sup>B59</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1603	CH <sub>3</sub>	R <sup>B1</sup>	G <sup>42</sup>
A1604	CH <sub>3</sub>	R <sup>B3</sup>	G <sup>42</sup>
A1605	CH <sub>3</sub>	R <sup>B5</sup>	G <sup>42</sup>
A1606	CH <sub>3</sub>	R <sup>B7</sup>	G <sup>42</sup>

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	R <sup>2</sup>	R <sup>3</sup>	G
A1607	CH <sub>3</sub>	R <sup>B9</sup>	G <sup>42</sup>
A1608	CH <sub>3</sub>	R <sup>B11</sup>	G <sup>42</sup>
A1609	CH <sub>3</sub>	R <sup>B13</sup>	G <sup>42</sup>
A1610	CH <sub>3</sub>	R <sup>B15</sup>	G <sup>42</sup>
A1611	CH <sub>3</sub>	R <sup>B17</sup>	G <sup>42</sup>
A1612	CH <sub>3</sub>	R <sup>B19</sup>	G <sup>42</sup>
A1613	CH <sub>3</sub>	R <sup>B21</sup>	G <sup>42</sup>
A1614	CH <sub>3</sub>	R <sup>B23</sup>	G <sup>42</sup>
A1615	CH <sub>3</sub>	R <sup>B25</sup>	G <sup>42</sup>
A1616	CH <sub>3</sub>	R <sup>B27</sup>	G <sup>42</sup>
A1617	CH <sub>3</sub>	R <sup>B29</sup>	G <sup>42</sup>
A1618	CH <sub>3</sub>	R <sup>B31</sup>	G <sup>42</sup>
A1619	CH <sub>3</sub>	R <sup>B33</sup>	G <sup>42</sup>
A1620	CH <sub>3</sub>	R <sup>B35</sup>	G <sup>42</sup>
A1621	CH <sub>3</sub>	R <sup>B37</sup>	G <sup>42</sup>
A1622	CH <sub>3</sub>	R <sup>B39</sup>	G <sup>42</sup>
A1623	CH <sub>3</sub>	R <sup>B41</sup>	G <sup>42</sup>
A1624	CH <sub>3</sub>	R <sup>B43</sup>	G <sup>42</sup>
A1625	CH <sub>3</sub>	R <sup>B45</sup>	G <sup>42</sup>
A1626	CH <sub>3</sub>	R <sup>B47</sup>	G <sup>42</sup>
A1627	CH <sub>3</sub>	R <sup>B49</sup>	G <sup>42</sup>
A1628	CH <sub>3</sub>	R <sup>B51</sup>	G <sup>42</sup>
A1629	CH <sub>3</sub>	R <sup>B53</sup>	G <sup>42</sup>
A1630	CH <sub>3</sub>	R <sup>B55</sup>	G <sup>42</sup>
A1631	CH <sub>3</sub>	R <sup>B57</sup>	G <sup>42</sup>
A1632	CH <sub>3</sub>	R <sup>B59</sup>	G <sup>42</sup>
A1633	R <sup>B1</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1634	R <sup>B3</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1635	R <sup>B5</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1636	R <sup>B7</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1637	R <sup>B9</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1638	R <sup>B11</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1639	R <sup>B13</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1640	R <sup>B15</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1641	R <sup>B17</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1642	R <sup>B19</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1643	R <sup>B21</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1644	R <sup>B23</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1645	R <sup>B25</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1646	R <sup>B27</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1647	R <sup>B29</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1648	R <sup>B31</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1649	R <sup>B33</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1650	R <sup>B35</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1651	R <sup>B37</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1652	R <sup>B39</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1653	R <sup>B41</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1654	R <sup>B43</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1655	R <sup>B45</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1656	R <sup>B47</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1657	R <sup>B49</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1658	R <sup>B51</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1659	R <sup>B53</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1660	R <sup>B55</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1661	R <sup>B57</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1662	R <sup>B59</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1663	CH <sub>3</sub>	R <sup>B38</sup>	G <sup>41</sup>
A1664	CH <sub>3</sub>	R <sup>B40</sup>	G <sup>41</sup>
A1665	CH <sub>3</sub>	R <sup>B42</sup>	G <sup>41</sup>
A1666	CH <sub>3</sub>	R <sup>B44</sup>	G <sup>41</sup>
A1667	CH <sub>3</sub>	R <sup>B46</sup>	G <sup>41</sup>
A1668	CH <sub>3</sub>	R <sup>B48</sup>	G <sup>41</sup>
A1669	CH <sub>3</sub>	R <sup>B50</sup>	G <sup>41</sup>
A1670	CH <sub>3</sub>	R <sup>B52</sup>	G <sup>41</sup>
A1671	CH <sub>3</sub>	R <sup>B54</sup>	G <sup>41</sup>
A1672	CH <sub>3</sub>	R <sup>B56</sup>	G <sup>41</sup>
A1673	CH <sub>3</sub>	R <sup>B58</sup>	G <sup>41</sup>
A1674	CH <sub>3</sub>	R <sup>B60</sup>	G <sup>41</sup>
A1675	R <sup>B2</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1676	R <sup>B4</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1677	R <sup>B6</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1678	R <sup>B8</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1679	R <sup>B10</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1680	R <sup>B12</sup>	CH <sub>3</sub>	G <sup>41</sup>

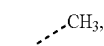
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	R <sup>2</sup>	R <sup>3</sup>	G
A1681	R <sup>B14</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1682	R <sup>B16</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1683	R <sup>B18</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1684	R <sup>B20</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1685	R <sup>B22</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1686	R <sup>B24</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1687	R <sup>B26</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1688	R <sup>B28</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1689	R <sup>B30</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1690	R <sup>B32</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1691	R <sup>B34</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1692	R <sup>B36</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1693	R <sup>B38</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1694	R <sup>B40</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1695	R <sup>B42</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1696	R <sup>B44</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1697	R <sup>B46</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1698	R <sup>B48</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1699	R <sup>B50</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1700	R <sup>B52</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1701	R <sup>B54</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1702	R <sup>B56</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1703	R <sup>B58</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1704	R <sup>B60</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1705	CH <sub>3</sub>	R <sup>B2</sup>	G <sup>42</sup>
A1706	CH <sub>3</sub>	R <sup>B4</sup>	G <sup>42</sup>
A1707	CH <sub>3</sub>	R <sup>B6</sup>	G <sup>42</sup>
A1708	CH <sub>3</sub>	R <sup>B8</sup>	G <sup>42</sup>
A1709	CH <sub>3</sub>	R <sup>B10</sup>	G <sup>42</sup>
A1710	CH <sub>3</sub>	R <sup>B12</sup>	G <sup>42</sup>
A1711	CH <sub>3</sub>	R <sup>B14</sup>	G <sup>42</sup>
A1712	CH <sub>3</sub>	R <sup>B16</sup>	G <sup>42</sup>
A1713	CH <sub>3</sub>	R <sup>B18</sup>	G <sup>42</sup>
A1714	CH <sub>3</sub>	R <sup>B20</sup>	G <sup>42</sup>
A1715	CH <sub>3</sub>	R <sup>B22</sup>	G <sup>42</sup>
A1716	CH <sub>3</sub>	R <sup>B24</sup>	G <sup>42</sup>
A1717	CH <sub>3</sub>	R <sup>B26</sup>	G <sup>42</sup>
A1718	CH <sub>3</sub>	R <sup>B28</sup>	G <sup>42</sup>
A1719	CH <sub>3</sub>	R <sup>B30</sup>	G <sup>42</sup>
A1720	CH <sub>3</sub>	R <sup>B32</sup>	G <sup>42</sup>
A1721	CH <sub>3</sub>	R <sup>B34</sup>	G <sup>42</sup>
A1722	CH <sub>3</sub>	R <sup>B36</sup>	G <sup>42</sup>
A1723	CH <sub>3</sub>	R <sup>B38</sup>	G <sup>42</sup>
A1724	CH <sub>3</sub>	R <sup>B40</sup>	G <sup>42</sup>
A1725	CH <sub>3</sub>	R <sup>B42</sup>	G <sup>42</sup>
A1726	CH <sub>3</sub>	R <sup>B44</sup>	G <sup>42</sup>
A1727	CH <sub>3</sub>	R <sup>B46</sup>	G <sup>42</sup>
A1728	CH <sub>3</sub>	R <sup>B48</sup>	G <sup>42</sup>
A1729	CH <sub>3</sub>	R <sup>B50</sup>	G <sup>42</sup>
A1730	CH <sub>3</sub>	R <sup>B52</sup>	G <sup>42</sup>
A1731	CH <sub>3</sub>	R <sup>B54</sup>	G <sup>42</sup>
A1732	CH <sub>3</sub>	R <sup>B56</sup>	G <sup>42</sup>
A1733	CH <sub>3</sub>	R <sup>B58</sup>	G <sup>42</sup>
A1734	CH <sub>3</sub>	R <sup>B60</sup>	G <sup>42</sup>
A1735	R <sup>B2</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1736	R <sup>B4</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1737	R <sup>B6</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1738	R <sup>B8</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1739	R <sup>B10</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1740	R <sup>B12</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1741	R <sup>B14</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1742	R <sup>B16</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1743	R <sup>B18</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1744	R <sup>B20</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1745	R <sup>B22</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1746	R <sup>B24</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1747	R <sup>B26</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1748	R <sup>B28</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1749	R <sup>B30</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1750	R <sup>B32</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1751	R <sup>B34</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1752	R <sup>B36</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1753	R <sup>B38</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1754	R <sup>B40</sup>	CH <sub>3</sub>	G <sup>42</sup>

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	R <sup>2</sup>	R <sup>3</sup>	G
A1755	R <sup>B42</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1756	R <sup>B44</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1757	R <sup>B46</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1758	R <sup>B48</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1759	R <sup>B50</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1760	R <sup>B52</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1761	R <sup>B54</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1762	R <sup>B56</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1763	R <sup>B58</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1764	R <sup>B60</sup>	CH <sub>3</sub>	G <sup>42</sup> ,

where R<sup>B1</sup> to R<sup>B60</sup> have the following structures:



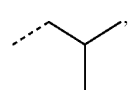
R<sup>B1</sup>



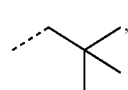
R<sup>B2</sup>



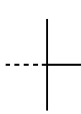
R<sup>B3</sup>



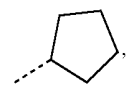
R<sup>B4</sup>



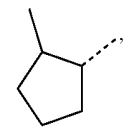
R<sup>B5</sup>



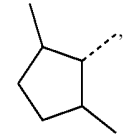
R<sup>B6</sup>



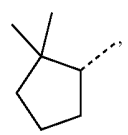
R<sup>B7</sup>



R<sup>B8</sup>

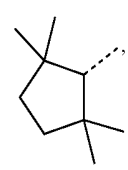


R<sup>B9</sup>

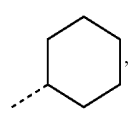


R<sup>B10</sup>

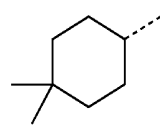
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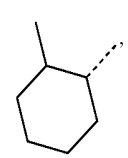
R<sup>B11</sup>



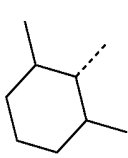
R<sup>B12</sup>



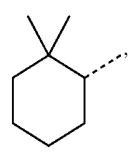
R<sup>B13</sup>



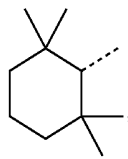
R<sup>B14</sup>



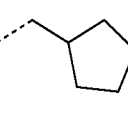
R<sup>B15</sup>



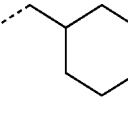
R<sup>B16</sup>



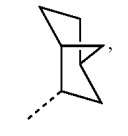
R<sup>B17</sup>



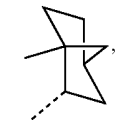
R<sup>B18</sup>



R<sup>B19</sup>

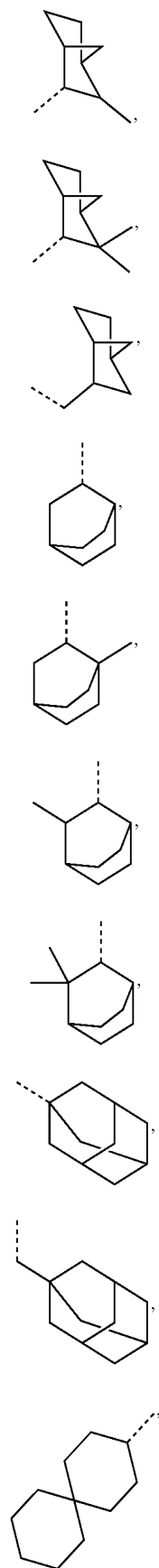


R<sup>B20</sup>



R<sup>B21</sup>

-continued



R<sup>B22</sup>

R<sup>B23</sup>

R<sup>B24</sup>

R<sup>B25</sup>

R<sup>B26</sup>

R<sup>B27</sup>

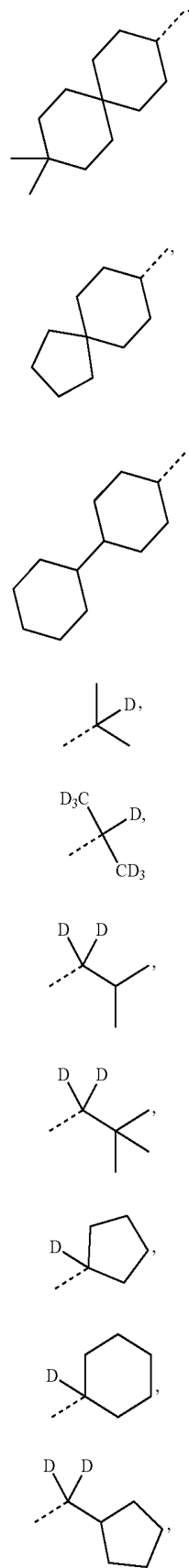
R<sup>B28</sup>

R<sup>B29</sup>

R<sup>B30</sup>

R<sup>B31</sup>

-continued



R<sup>B32</sup>

R<sup>B33</sup>

R<sup>B34</sup>

R<sup>B35</sup>

R<sup>B36</sup>

R<sup>B37</sup>

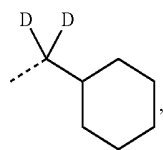
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R<sup>B39</sup>

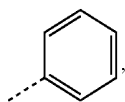
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R<sup>B41</sup>

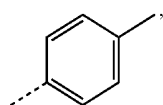
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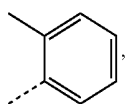
R<sup>B42</sup>



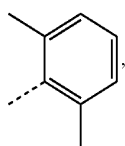
R<sup>B43</sup>



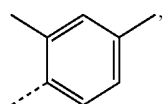
R<sup>B44</sup>



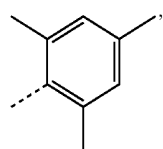
R<sup>B45</sup>



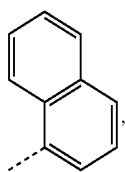
R<sup>B46</sup>



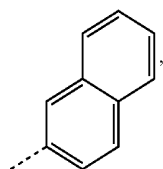
R<sup>B47</sup>



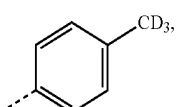
R<sup>B48</sup>



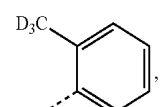
R<sup>B49</sup>



R<sup>B50</sup>

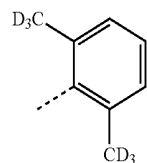


R<sup>B51</sup>

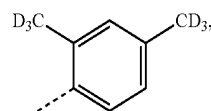


R<sup>B52</sup>

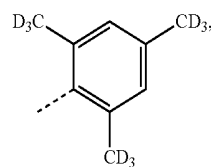
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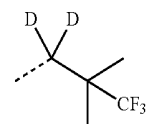
R<sup>B53</sup>



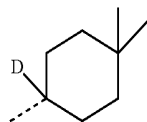
R<sup>B54</sup>



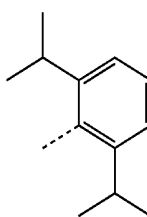
R<sup>B55</sup>



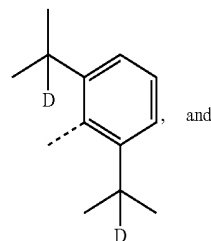
R<sup>B56</sup>



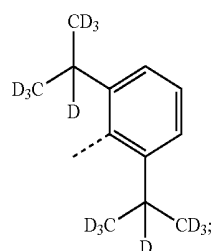
R<sup>B57</sup>



R<sup>B58</sup>



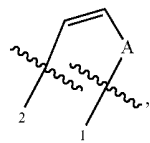
R<sup>B59</sup>



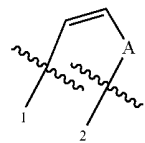
R<sup>B60</sup>

[0087] wherein  $G^1$  to  $G^{48}$  have the following structures:

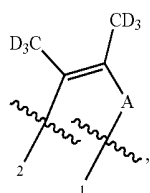
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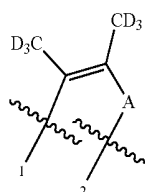
$G^1$



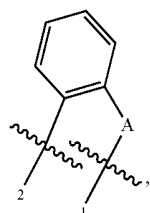
$G^7$



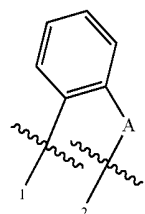
$G^2$



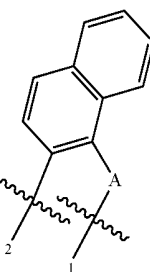
$G^8$



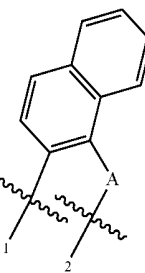
$G^3$



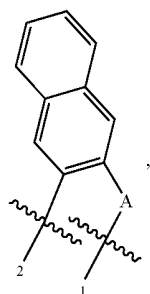
$G^9$



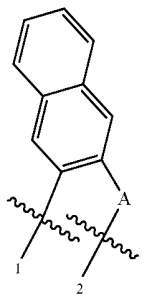
$G^4$



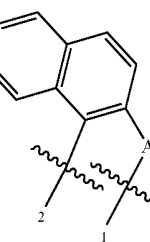
$G^{10}$



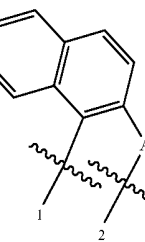
$G^5$



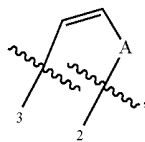
$G^{11}$



$G^6$

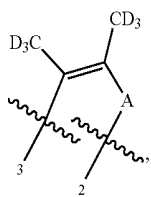


$G^{12}$



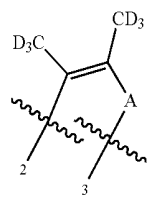
$G^{13}$

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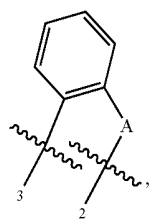


G<sup>14</sup>

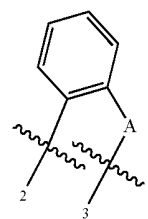
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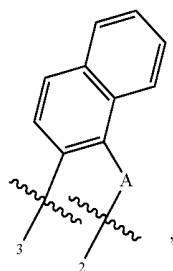
G<sup>20</sup>



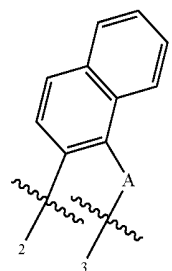
G<sup>15</sup>



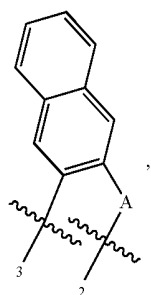
G<sup>21</sup>



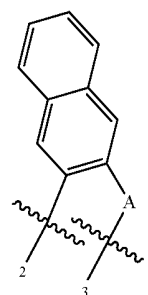
G<sup>16</sup>



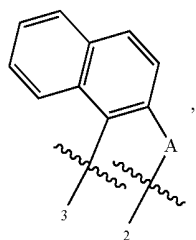
G<sup>22</sup>



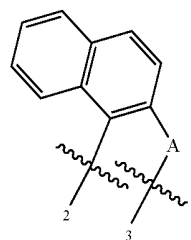
G<sup>17</sup>



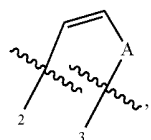
G<sup>23</sup>



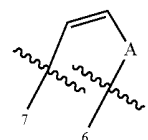
G<sup>18</sup>



G<sup>24</sup>

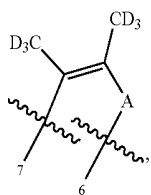


G<sup>19</sup>



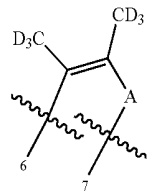
G<sup>25</sup>

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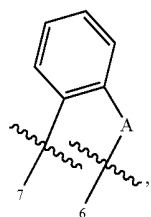


G<sup>26</sup>

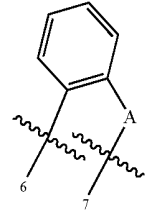
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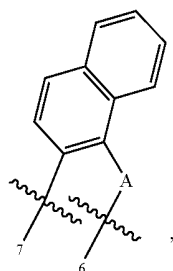
G<sup>32</sup>



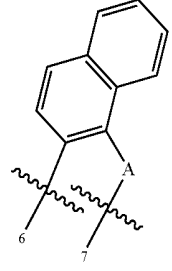
G<sup>27</sup>



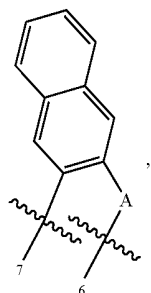
G<sup>33</sup>



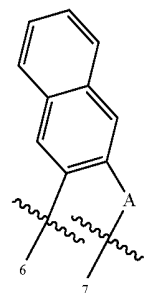
G<sup>28</sup>



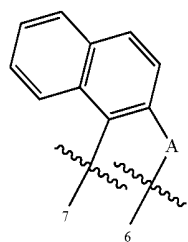
G<sup>34</sup>



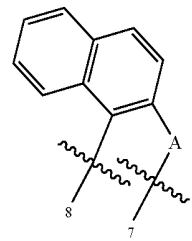
G<sup>29</sup>



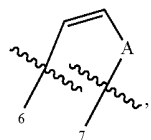
G<sup>35</sup>



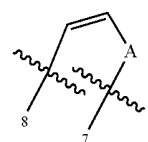
G<sup>30</sup>



G<sup>36</sup>

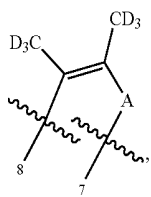


G<sup>31</sup>

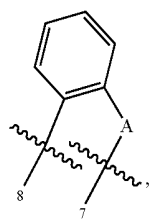


G<sup>37</sup>

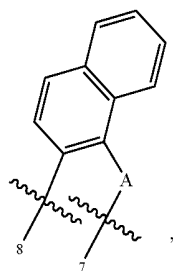
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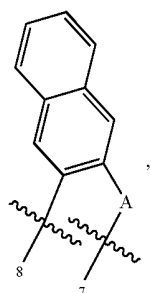
G<sup>38</sup>



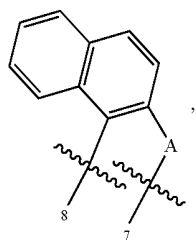
G<sup>39</sup>



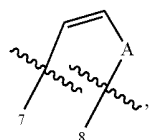
G<sup>40</sup>



G<sup>41</sup>

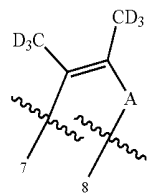


G<sup>42</sup>

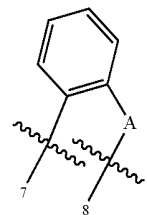


G<sup>43</sup>

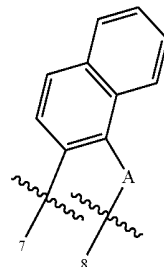
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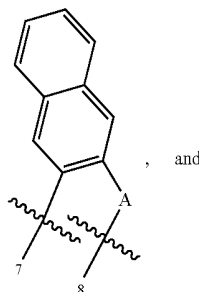
G<sup>44</sup>



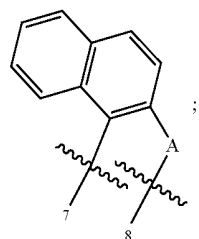
G<sup>45</sup>



G<sup>46</sup>



G<sup>47</sup>

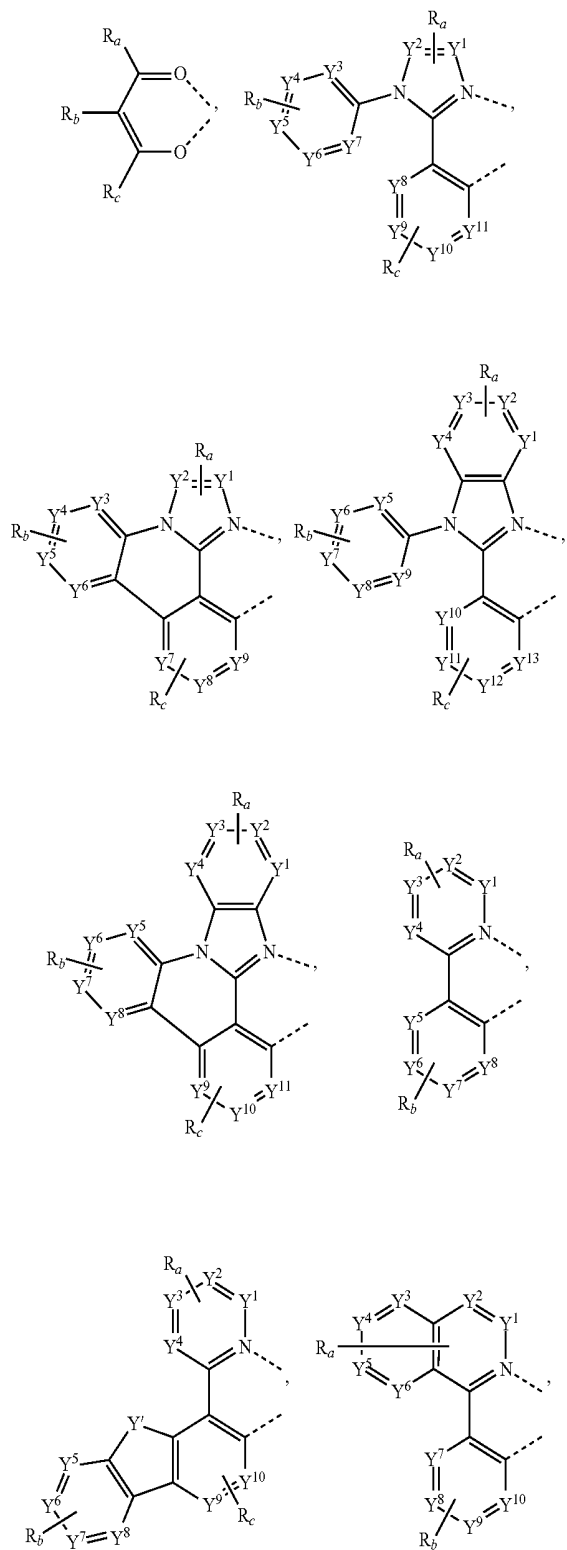


G<sup>48</sup>

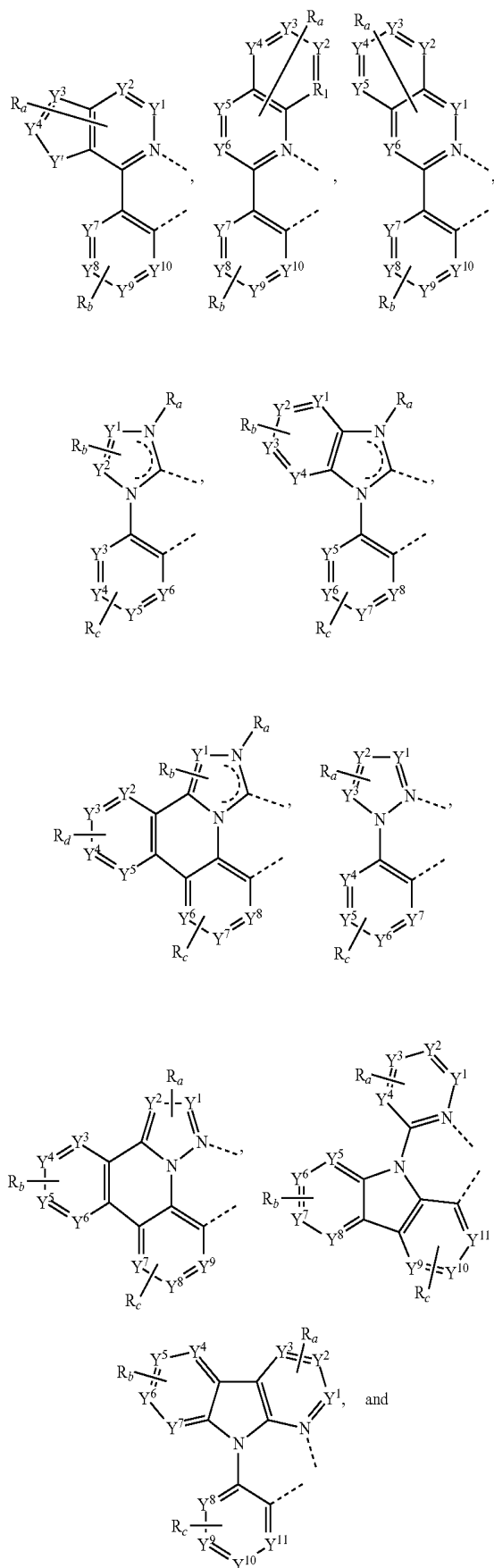
and where the Arabic Numerals indicate the points of attachment to the corresponding points of attachment in ligand  $L_A$ .

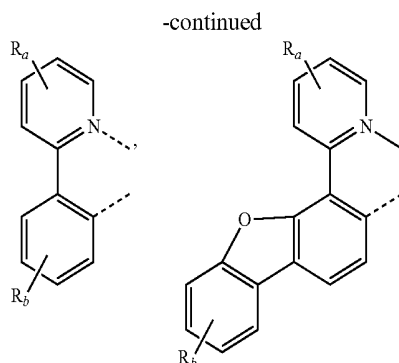
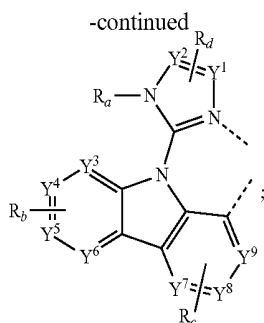
**[0088]** In some embodiments, the compound has a formula of  $M(L_A)_x(L_B)_y(L_C)_z$ , where  $L_B$  and  $L_C$  are each a bidentate ligand; and  $x$  is 1, 2, or 3;  $y$  is 0, 1, or 2;  $z$  is 0, 1, or 2; and  $x+y+z$  is the oxidation state of the metal  $M$ . In some embodiments where the compound has a formula of  $M(L_A)_x(L_B)_y(L_C)_z$ , the compound is selected from the group of formulas consisting of  $Ir(L_A)_3$ ,  $Ir(L_A)(L_B)_2$ ,  $Ir(L_A)_2(L_B)$ ,  $Ir(L_A)_2(L_C)$ , and  $Ir(L_A)(L_B)(L_C)$ , where  $L_A$ ,  $L_B$ , and  $L_C$  are different from each other. In some embodiments, the compound has a formula of  $Pt(L_A)(L_B)$ , and  $L_A$  and  $L_B$  can be

same or different. In some embodiments,  $L_A$  and  $L_B$  are connected to form a tetradentate ligand. In some embodiments,  $L_A$  and  $L_B$  are connected at two places to form a macrocyclic tetradentate ligand. In some embodiments,  $L_B$  and  $L_C$  are each independently selected from the group consisting of:



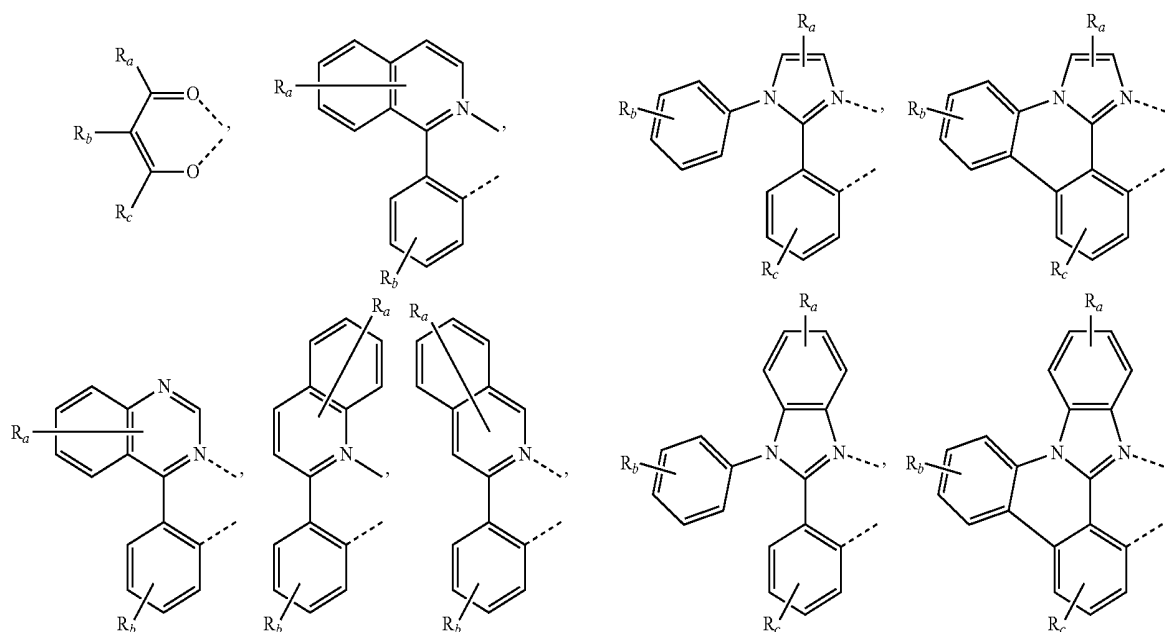
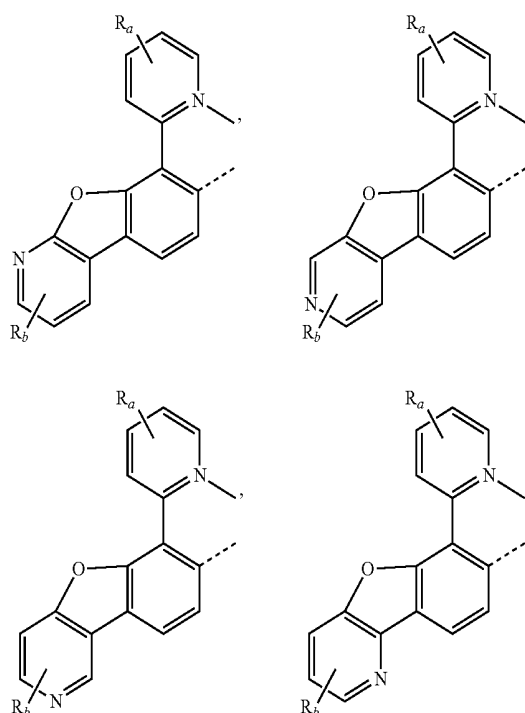
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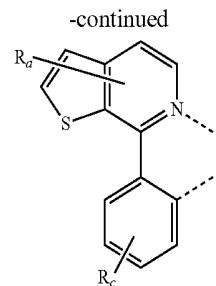
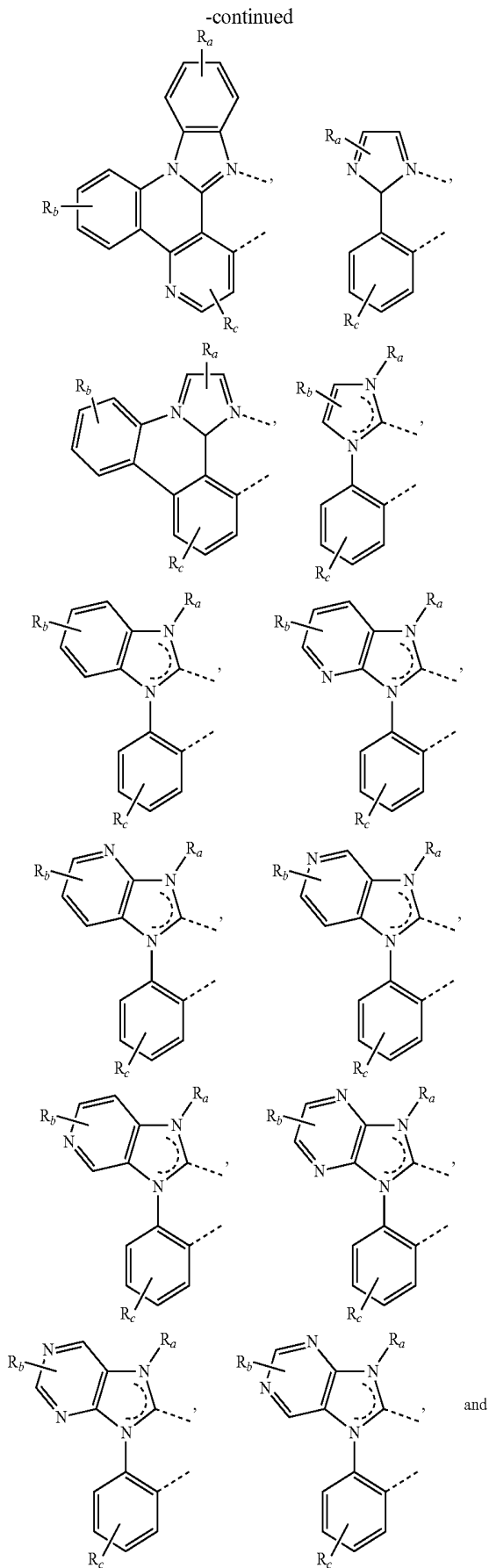




where each Y<sup>1</sup> to Y<sup>13</sup> are independently selected from the group consisting of carbon and nitrogen; Y<sup>1</sup> is selected from the group consisting of BR<sub>e</sub>, NR<sub>e</sub>, PR<sub>e</sub>, O, S, Se, C=O, S=O, SO<sub>2</sub>, CR<sub>e</sub>R<sub>f</sub>, SiR<sub>e</sub>R<sub>f</sub>, and GeR<sub>e</sub>R<sub>f</sub>; R<sub>e</sub> and R<sub>f</sub> are optionally fused or joined to form a ring; each R<sub>e</sub> and R<sub>f</sub> is independently selected from the group consisting of hydrogen, deuterium, halogen, alkyl, cycloalkyl, heteroalkyl, heterocycloalkyl, arylalkyl, alkoxy, aryloxy, amino, silyl, alkenyl, cycloalkenyl, heteroalkenyl, alkynyl, aryl, heteroaryl, acyl, carboxylic acid, ether, ester, nitrile, isonitrile, sulfanyl, sulfinyl, sulfonyl, phosphino, and combinations thereof; each R<sub>a</sub>, R<sub>b</sub>, R<sub>c</sub>, and R<sub>d</sub> may independently represent from mono substitution to the maximum possible number of substitutions, or no substitution; each R<sub>a</sub>, R<sub>b</sub>, R<sub>c</sub>, and R<sub>d</sub> is independently hydrogen or a substituent selected from the group consisting of the general substituents defined herein; and any two adjacent substituents of R<sub>a</sub>, R<sub>b</sub>, R<sub>c</sub>, and R<sub>d</sub> can be optionally fused or joined to form a ring or form a multidentate ligand.

**[0089]** In some embodiments, the compound has a formula of M(L<sub>A</sub>)<sub>x</sub>(L<sub>B</sub>)<sub>y</sub>(L<sub>C</sub>)<sub>z</sub>, where L<sub>B</sub> and L<sub>C</sub> are each a bidentate ligand; and x is 1, 2, or 3; y is 0, 1, or 2; z is 0, 1, or 2; and x+y+z is the oxidation state of the metal M, L<sub>B</sub> and L<sub>C</sub> are each independently selected from the group consisting of:

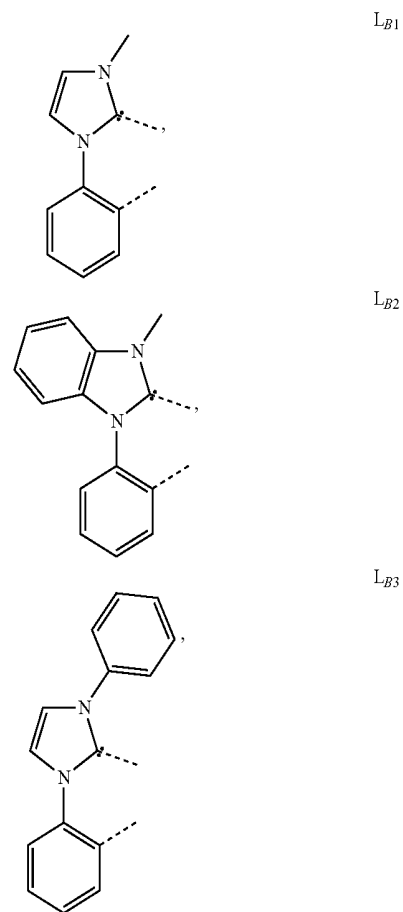




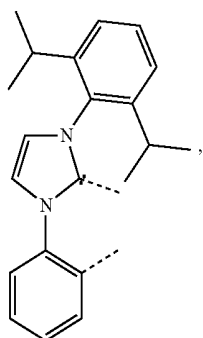
**[0090]** In some embodiments of the compound where the first ligand  $L_A$  is selected from the group consisting of ligands  $L_{A1-O}$  to  $L_{A384-O}$ ,  $L_{A1-S}$  to  $L_{A384-S}$ ,  $L_{A1-C}$  to  $L_{A384-C}$ ,  $L_{A385-O}$  to  $L_{A420-O}$ ,  $L_{A385-S}$  to  $L_{A420-S}$ , and  $L_{A385-C}$  to  $L_{A420-C}$ ;  $L_{A421-O}$  to  $L_{A1152-O}$ ;  $L_{A421-S}$  to  $L_{A1152-S}$ ;  $L_{A421-C}$  to  $L_{A1152-C}$ ;  $L_{A1153-O}$  to  $L_{A1764-O}$ ;  $L_{A1153-S}$  to  $L_{A1764-S}$ ;  $L_{A1153-C}$  to  $L_{A1763-C}$ ; and  $L_{A1764-C}$  as defined above, the compound is Compound Ai-F having the formula  $Ir(L_{Ai-F})_3$ , the Compound Bi-F having the formula  $Ir(L_{Ai-F})(L_{Bk})_2$ , or the Compound Cz-F having the formula  $Ir(L_{Ai-F})_2(L_C)$ ;

**[0091]** where  $i$  is an integer from 1 to 1764, and  $k$  is an integer from 1 to 490, and  $j$  is an integer from 1 to 1260,  $y=490i+k-4908$ ,  $z=1764i+j-1764$ , and F is O, S, or C;

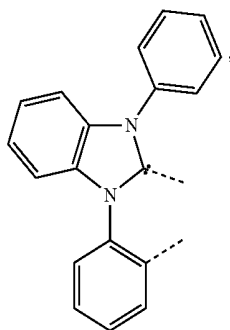
**[0092]** where  $L_{Bk}$  is selected from the group consisting of the following structures:



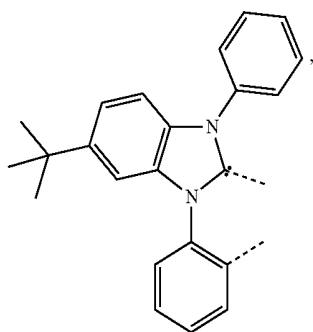
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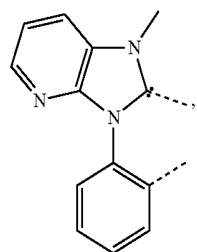
L<sub>B4</sub>



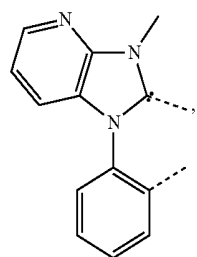
L<sub>B5</sub>



L<sub>B6</sub>

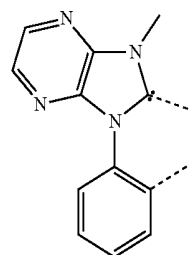


L<sub>B7</sub>

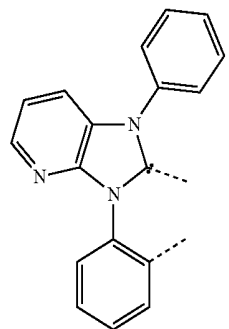


L<sub>B8</sub>

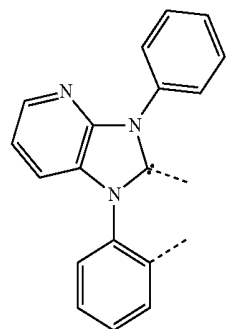
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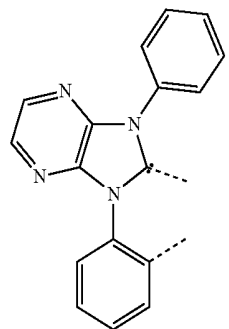
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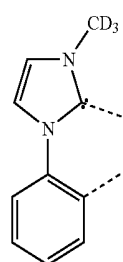
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L<sub>B11</sub>

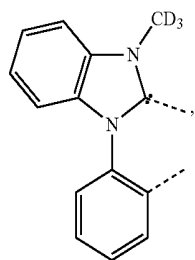


L<sub>B12</sub>

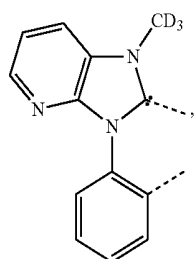


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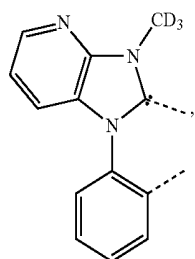
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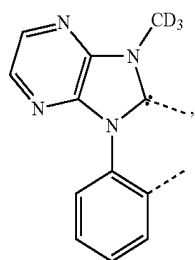
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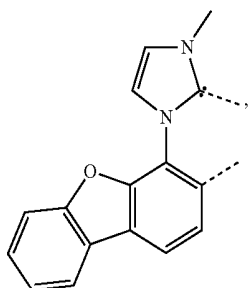
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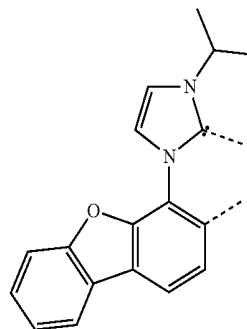


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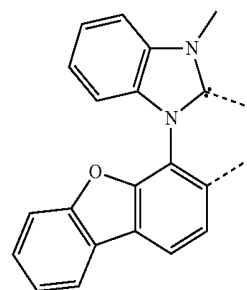


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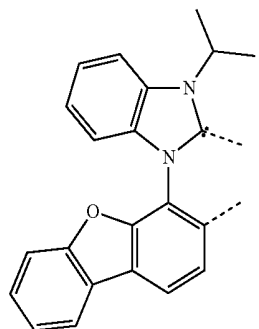
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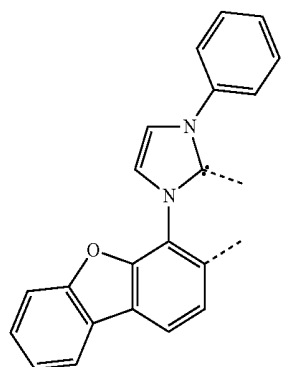
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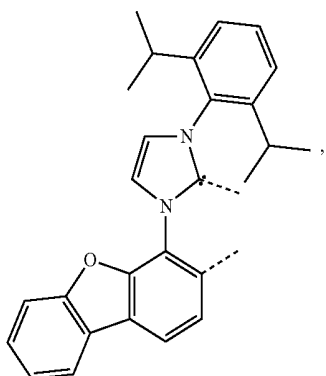


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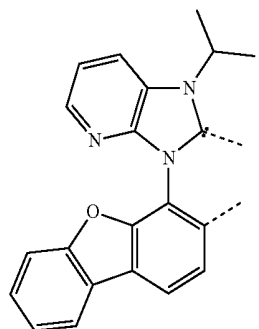
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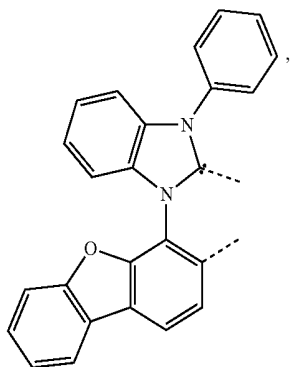
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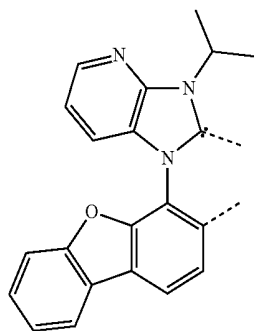


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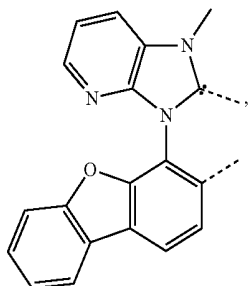
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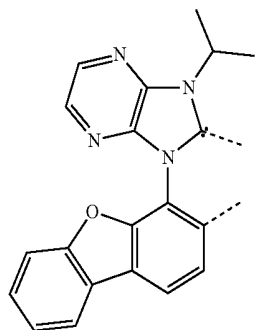
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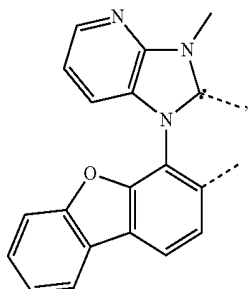
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L<sub>B30</sub>

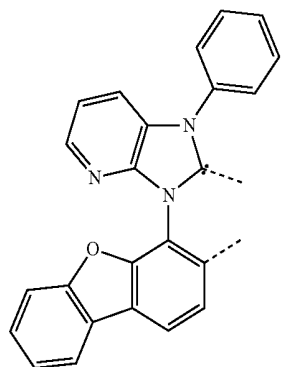
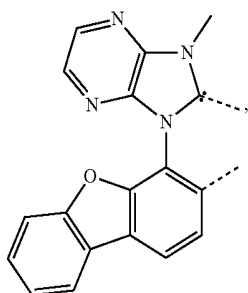


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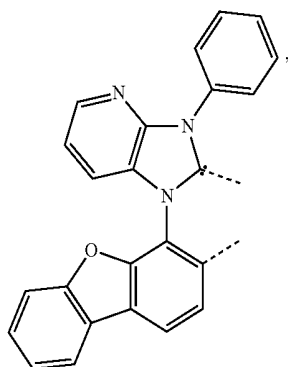


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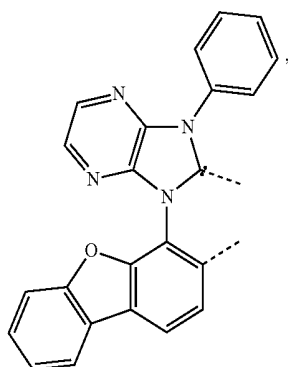
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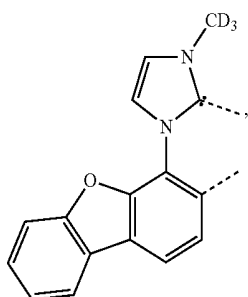
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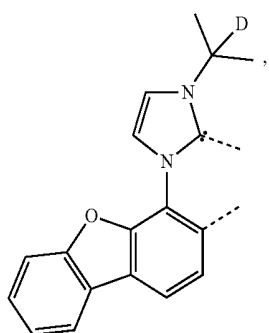
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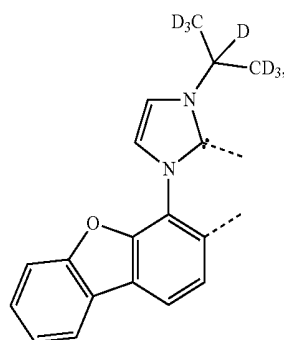


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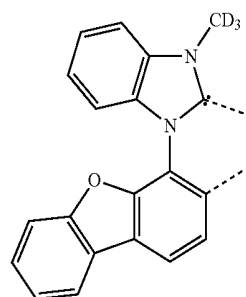


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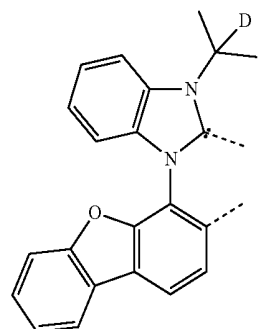
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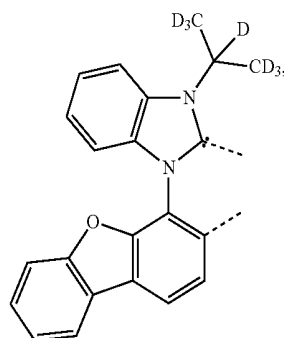
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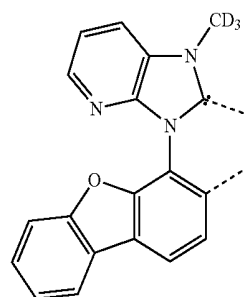
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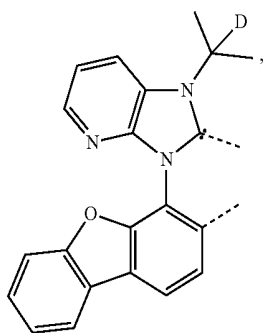


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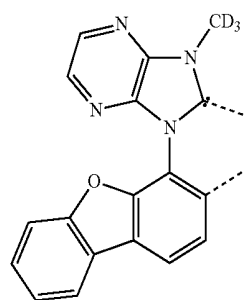
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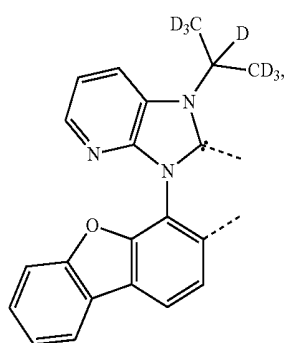


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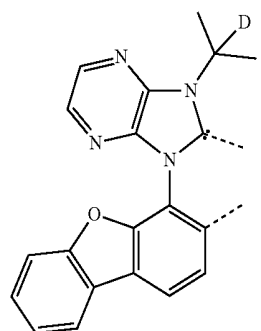
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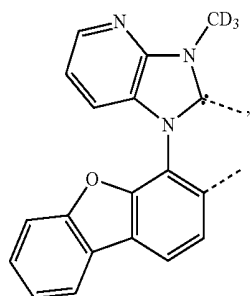
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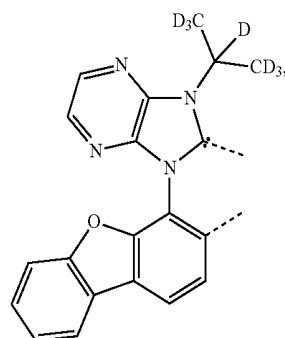
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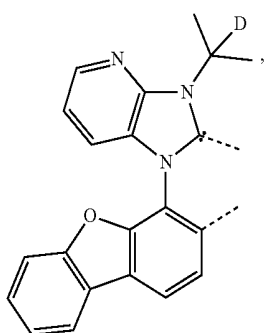
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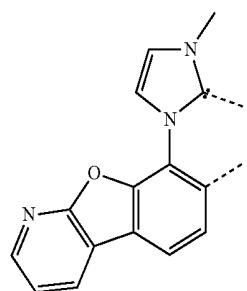
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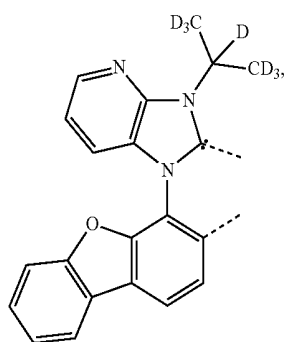
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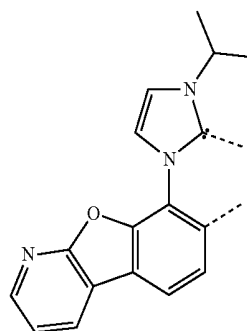
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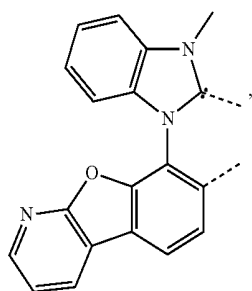


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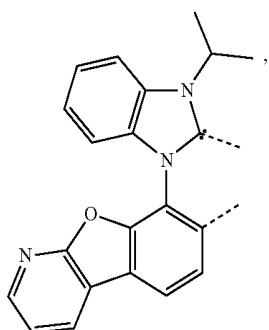


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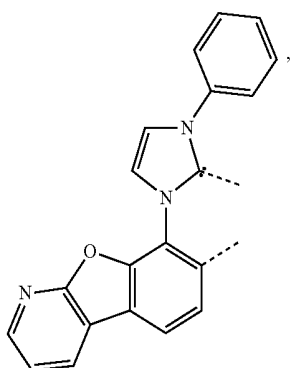
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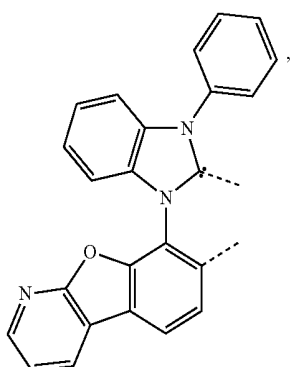
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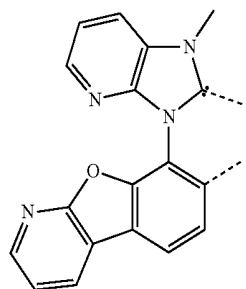


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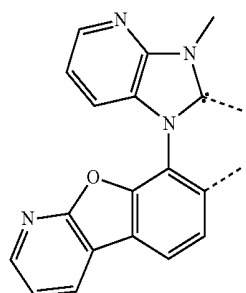


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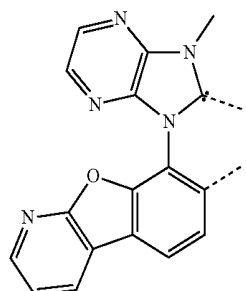
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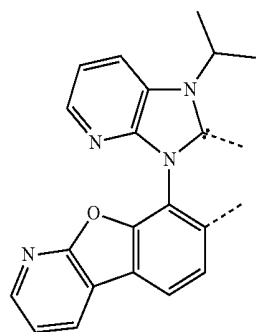
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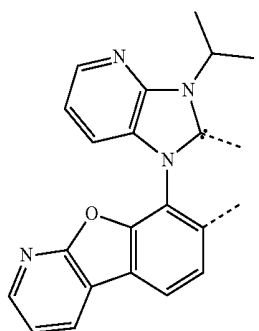
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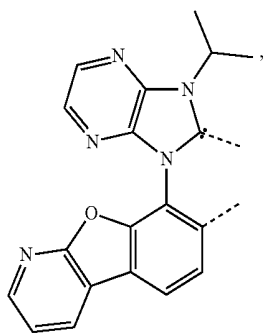


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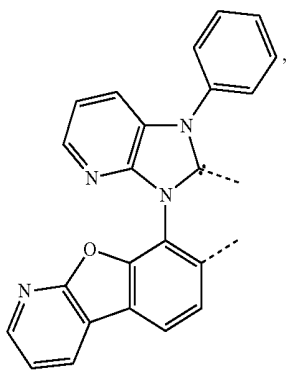


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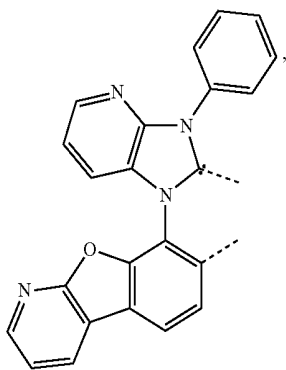
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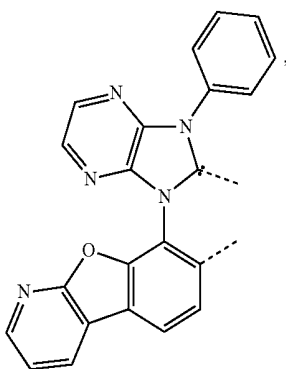
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L<sub>B61</sub>

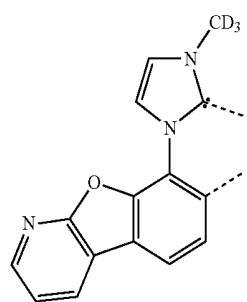


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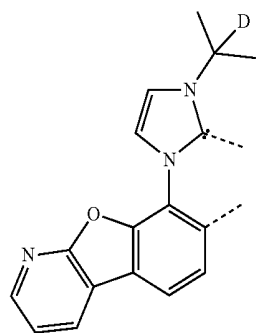


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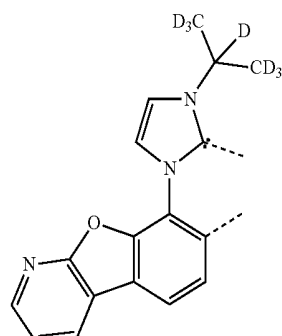
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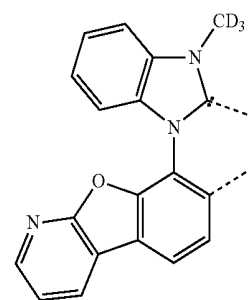
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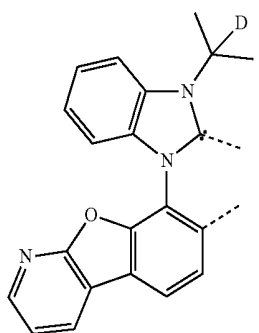
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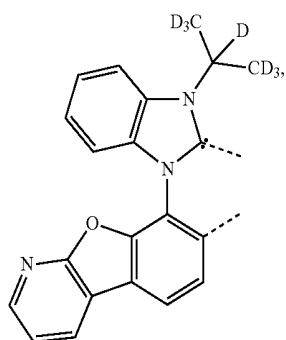


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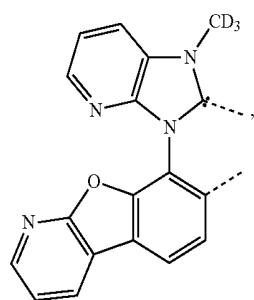


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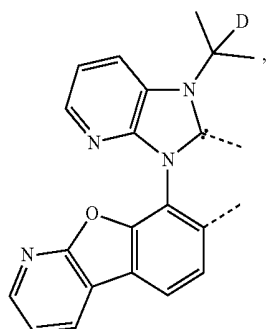
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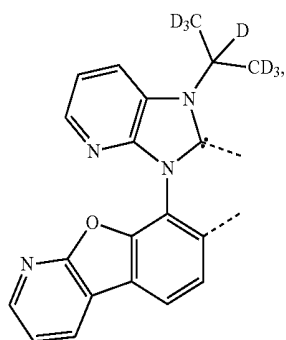
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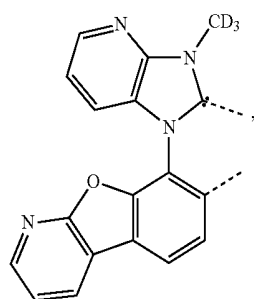
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L<sub>B71</sub>

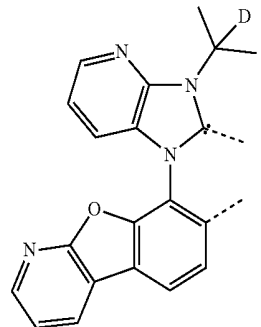


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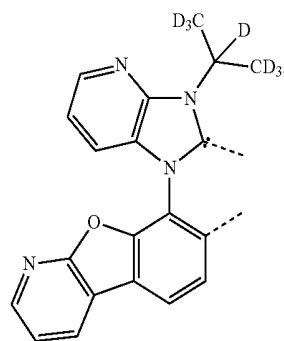


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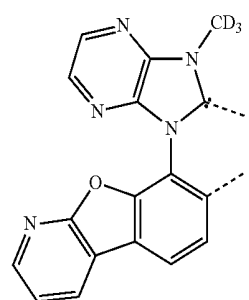
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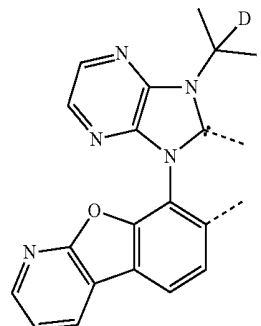
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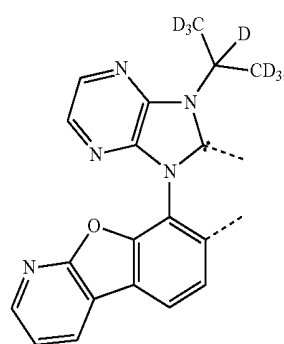
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L<sub>B76</sub>

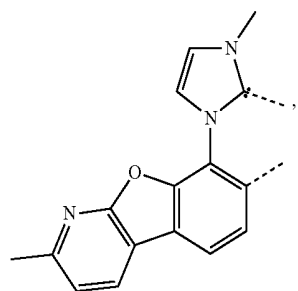


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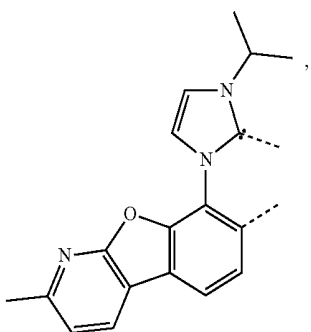


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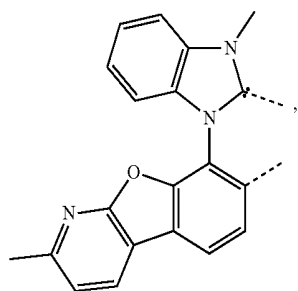
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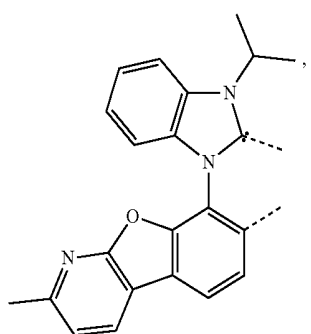
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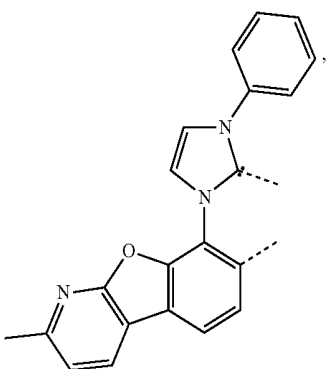
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L<sub>B81</sub>

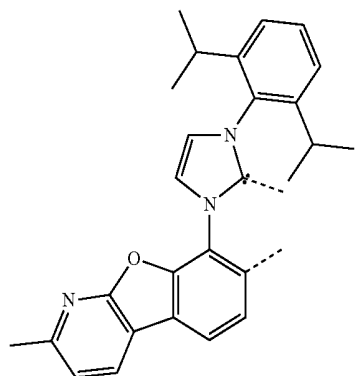


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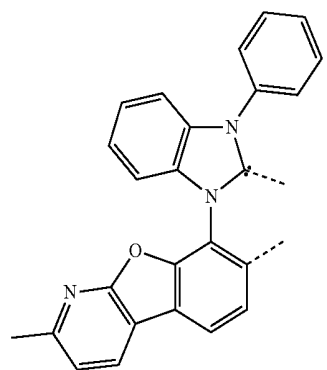


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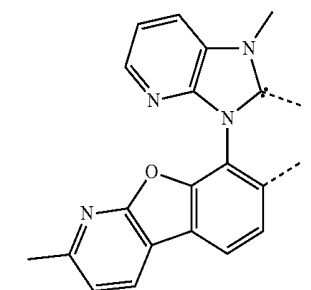
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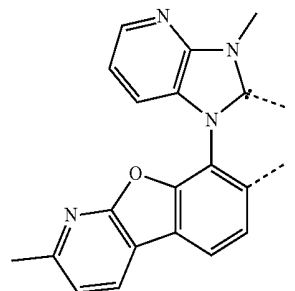
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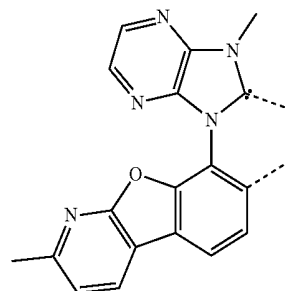
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L<sub>B86</sub>

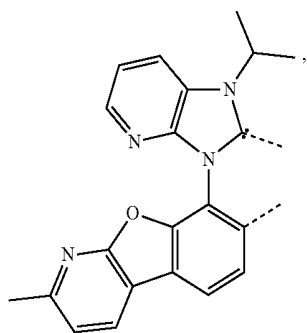


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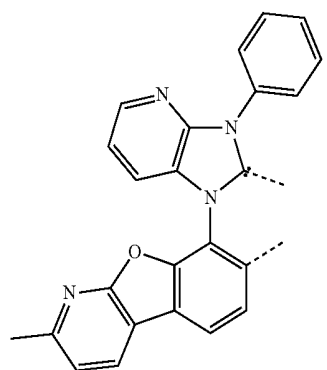
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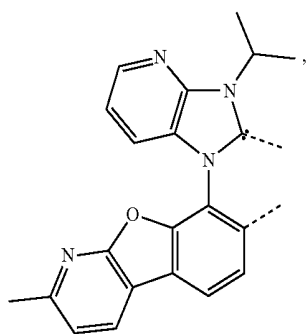


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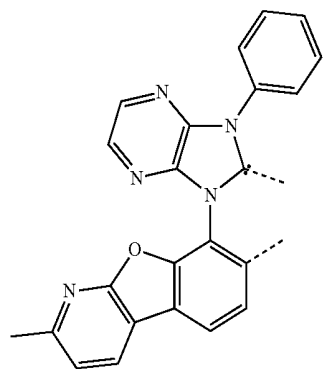
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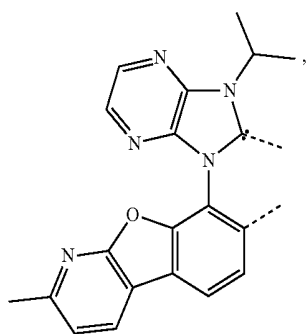
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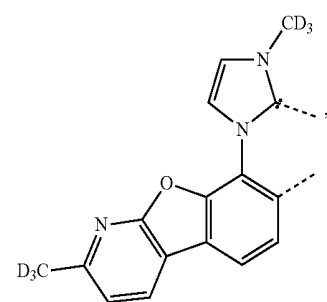
L<sub>B90</sub>



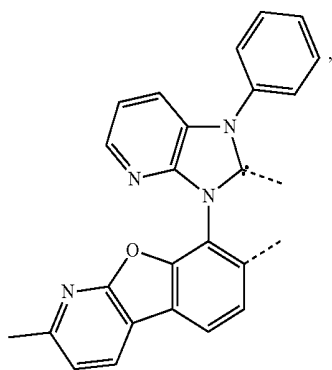
L<sub>B94</sub>



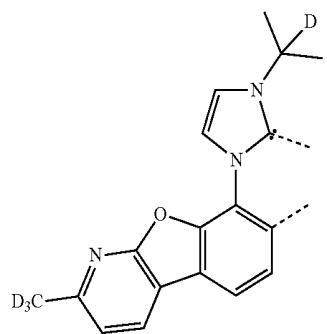
L<sub>B91</sub>



L<sub>B95</sub>

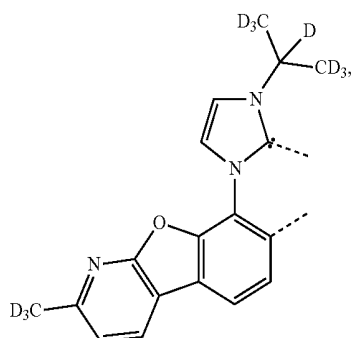


L<sub>B92</sub>



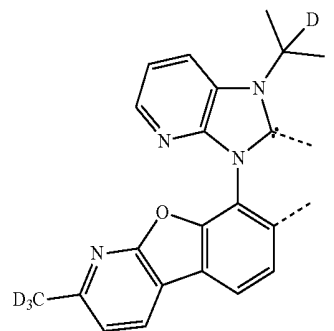
L<sub>B96</sub>

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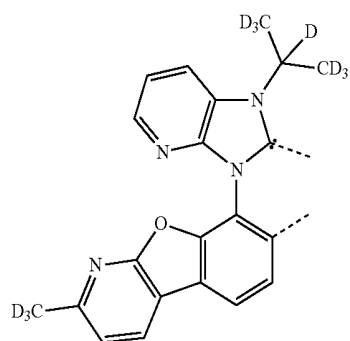
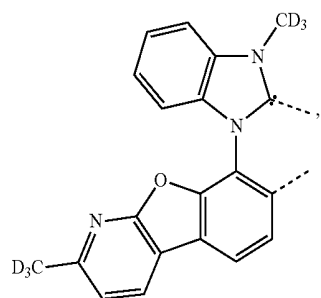
L<sub>B97</sub>

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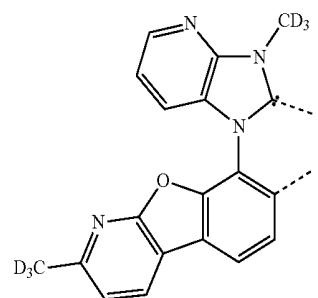
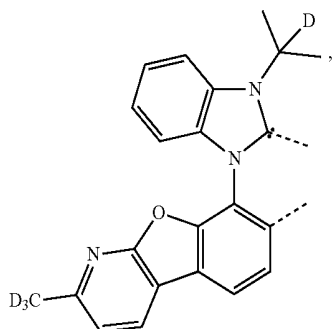
L<sub>B102</sub>

L<sub>B98</sub>



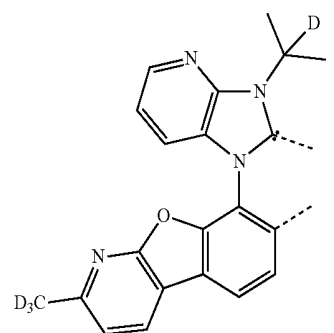
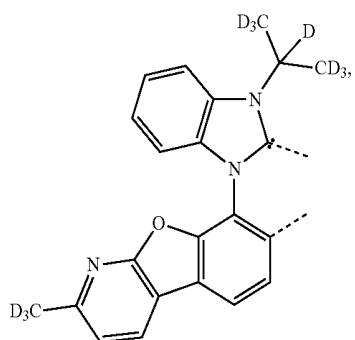
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L<sub>B99</sub>



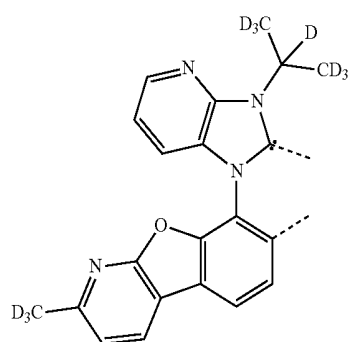
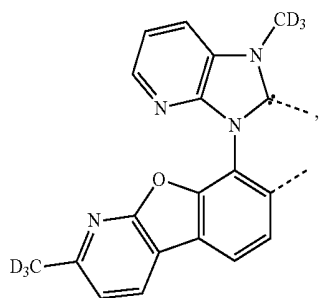
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L<sub>B100</sub>



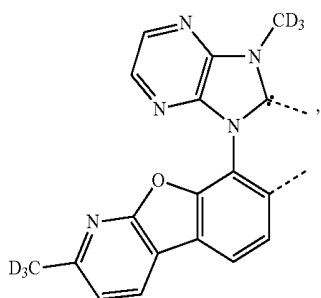
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L<sub>B101</sub>



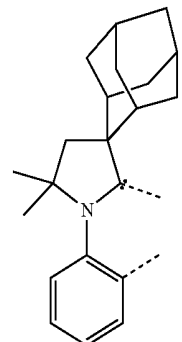
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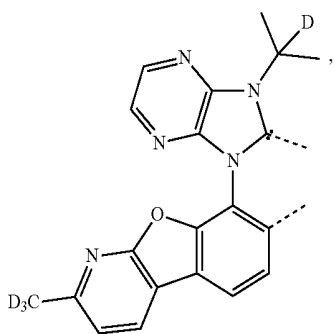
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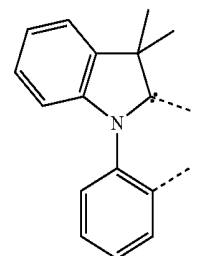


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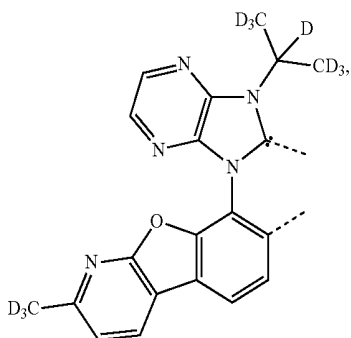
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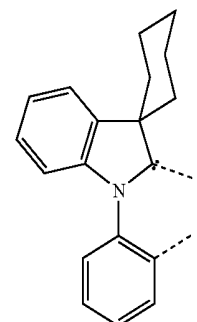
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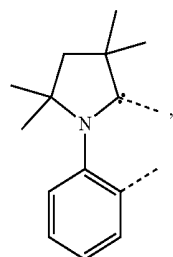
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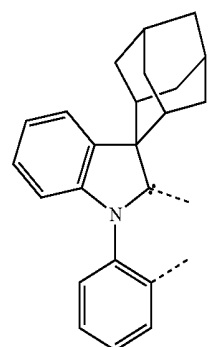
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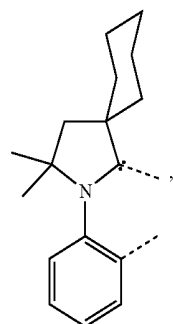
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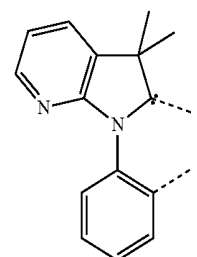
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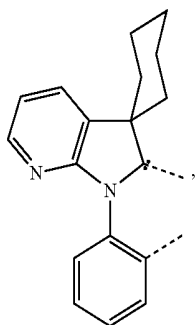
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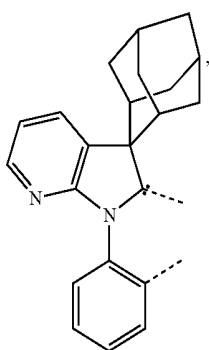
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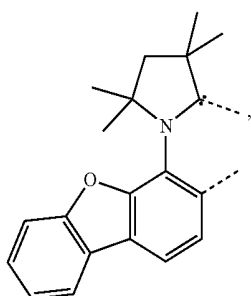
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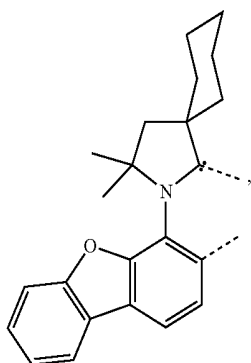
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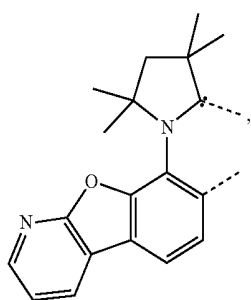
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L<sub>B119</sub>

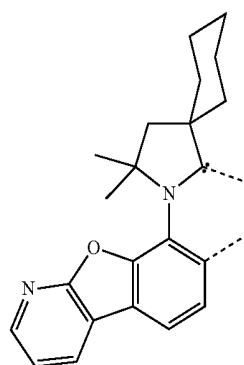


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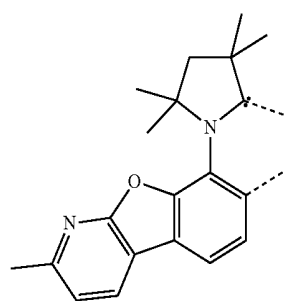


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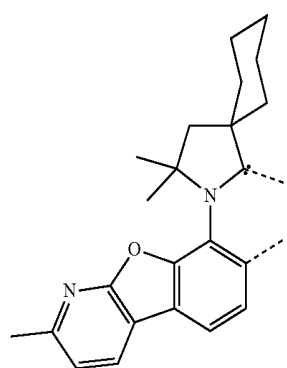
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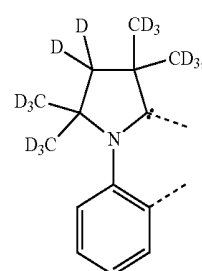
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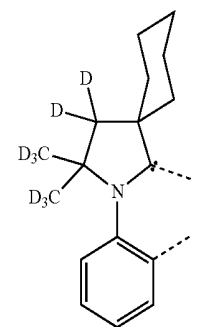
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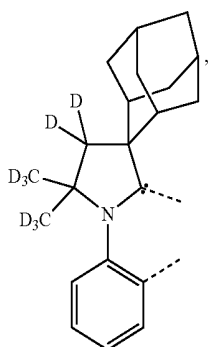


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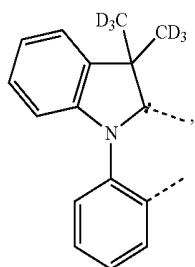


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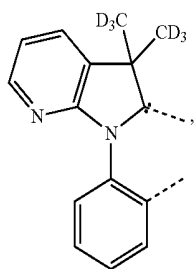
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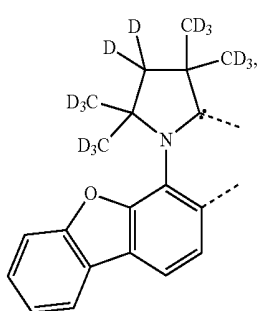
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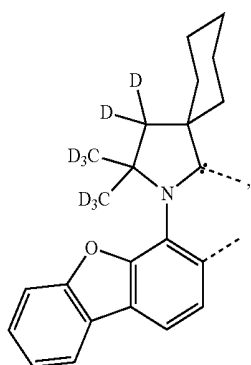
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L<sub>B129</sub>

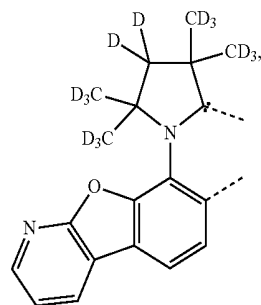


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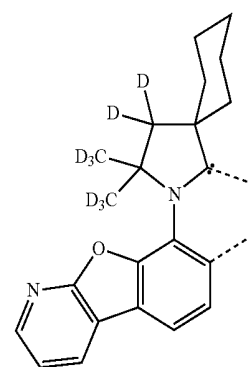


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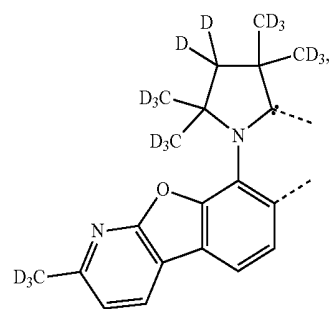
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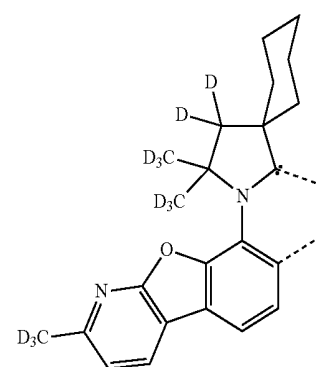
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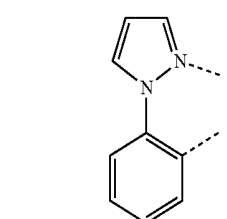
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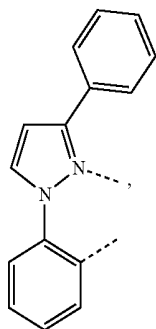


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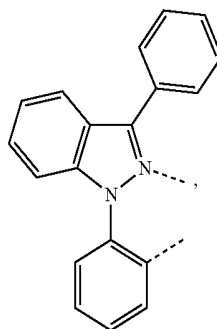
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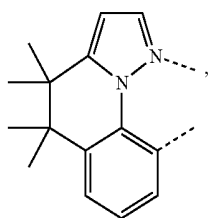


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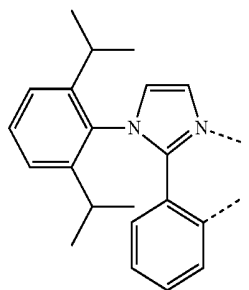
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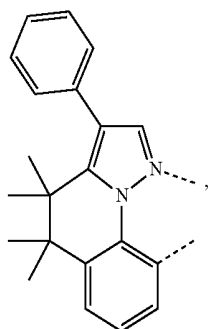
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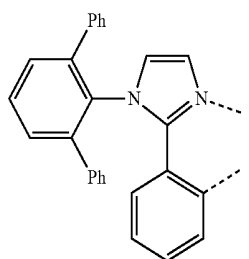
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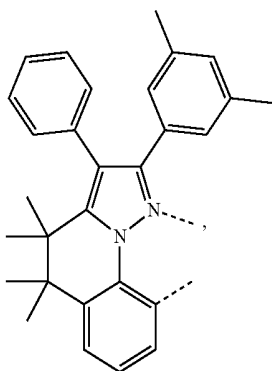
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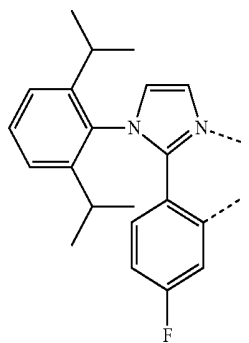
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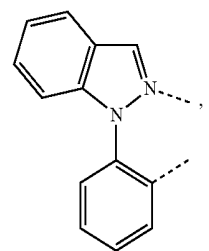
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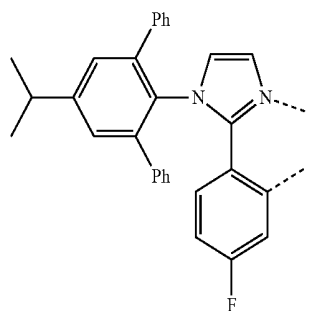
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LB145

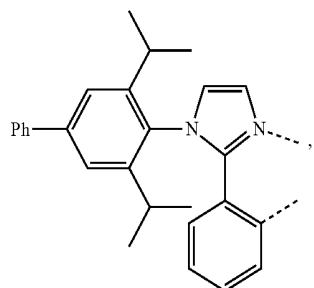


LB141



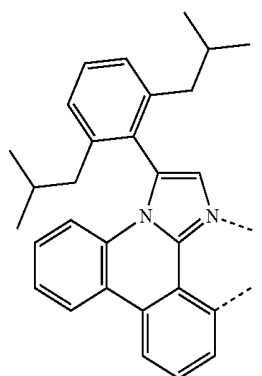
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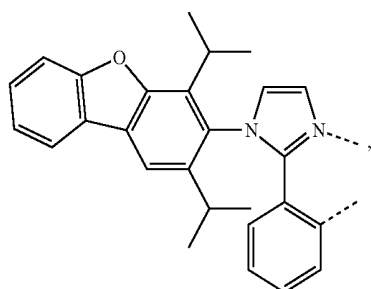


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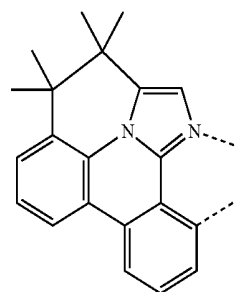
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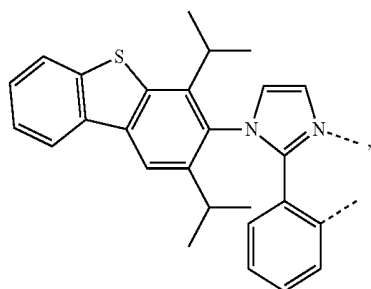
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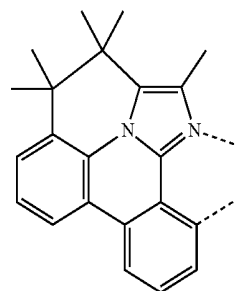
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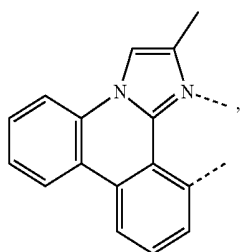
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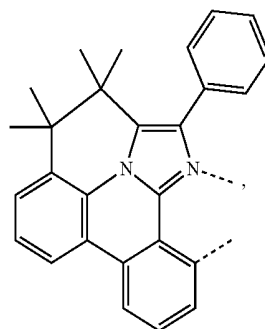
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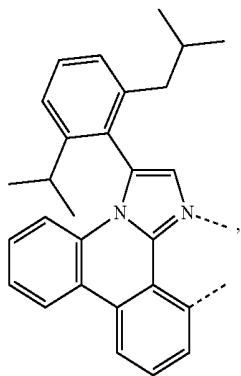
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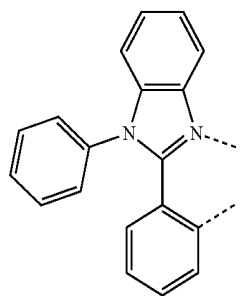
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LB155

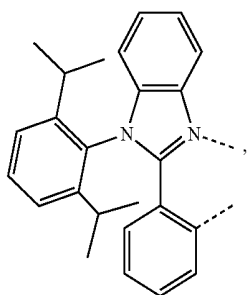


LB151

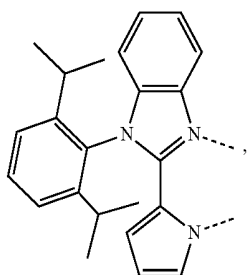


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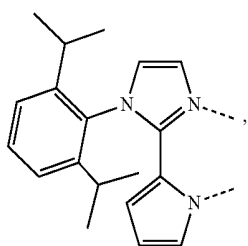
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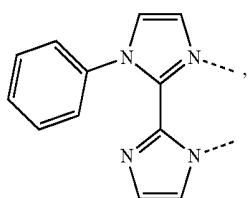
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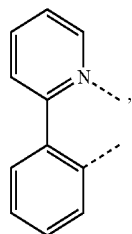
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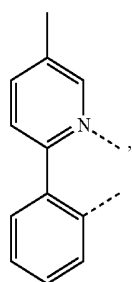
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L<sub>B160</sub>

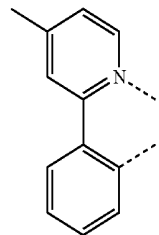


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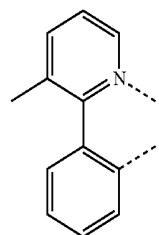


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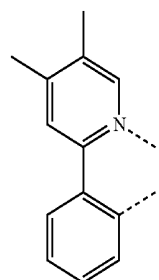
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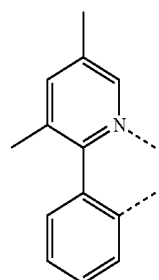
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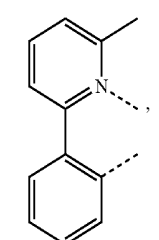
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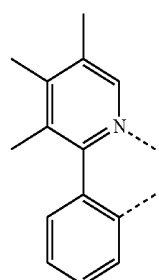
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L<sub>B166</sub>

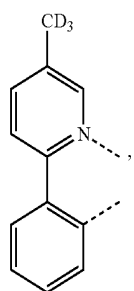
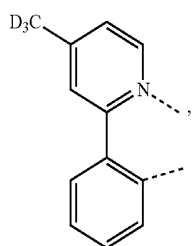
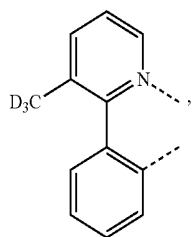
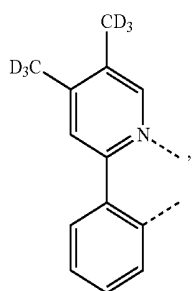
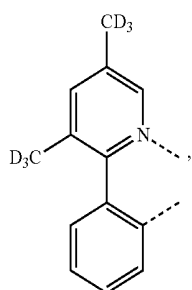
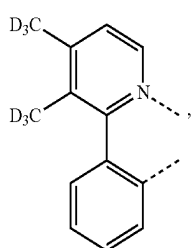


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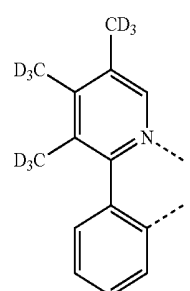
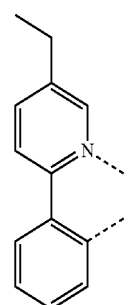
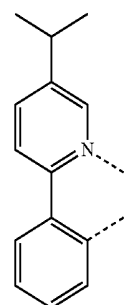
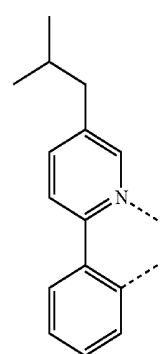
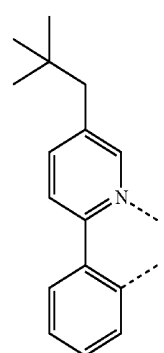


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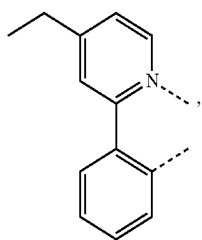
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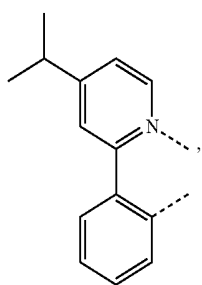
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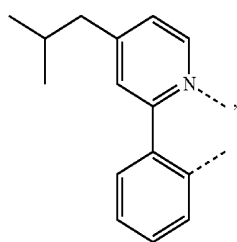
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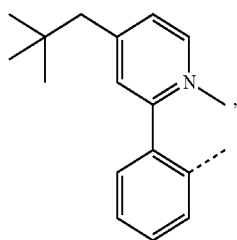
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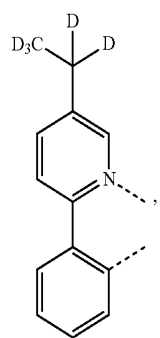
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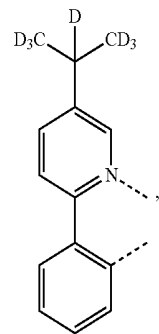


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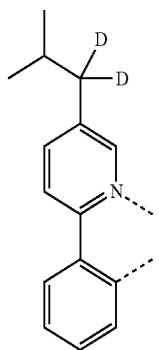


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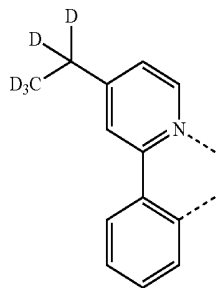
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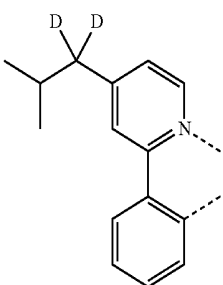
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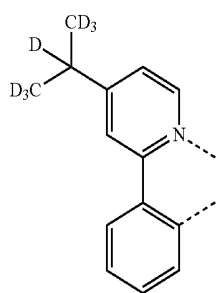
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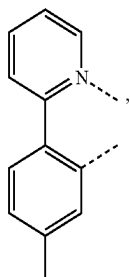


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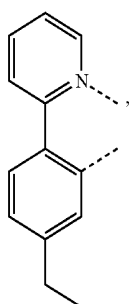


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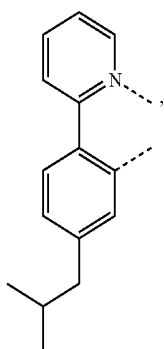
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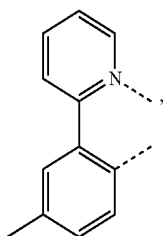
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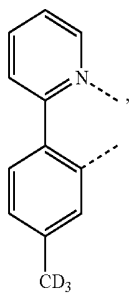
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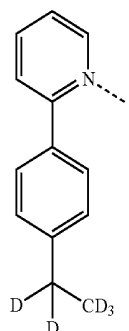


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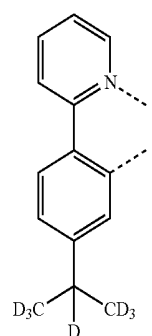


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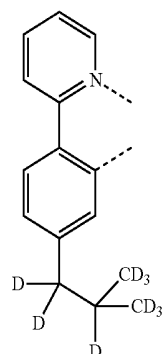
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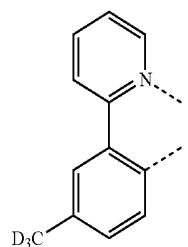
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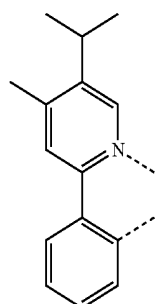
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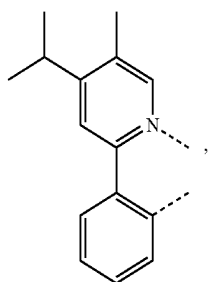


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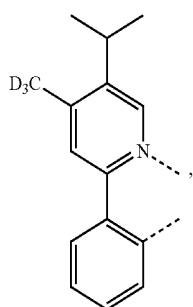


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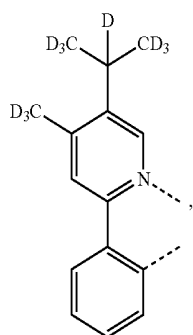
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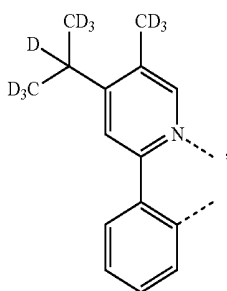
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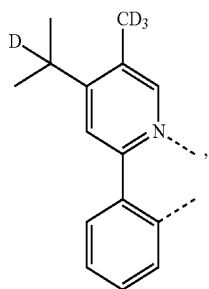
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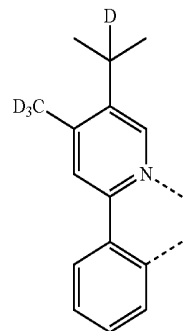


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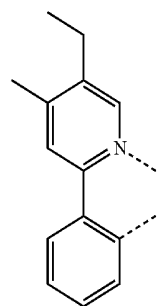


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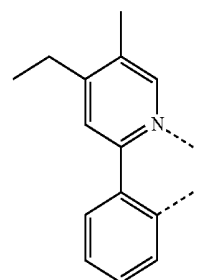
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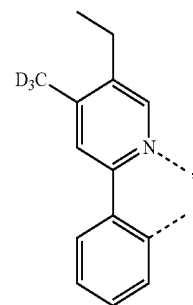
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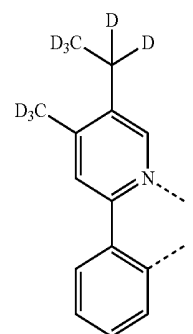
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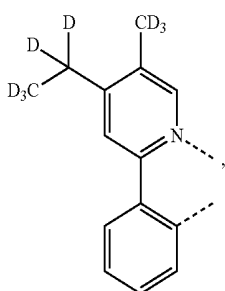


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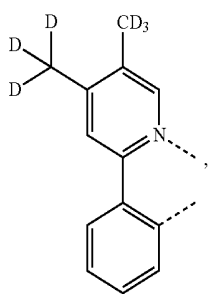


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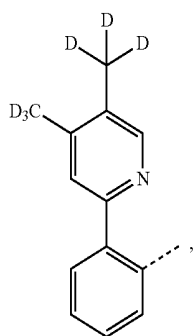
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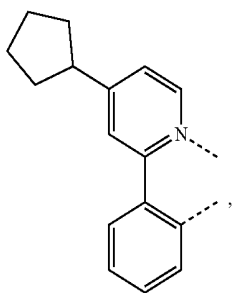
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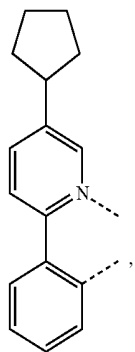
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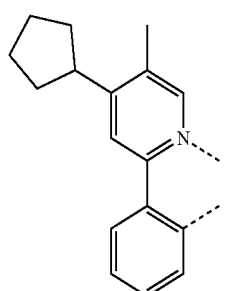


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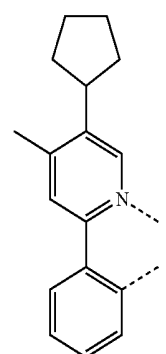


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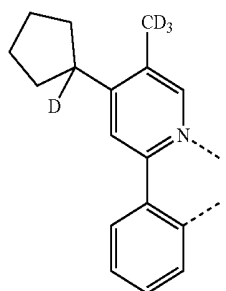
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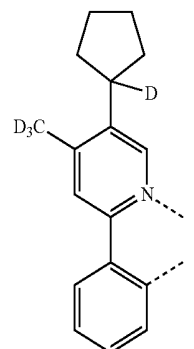
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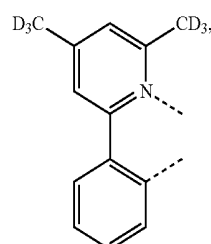
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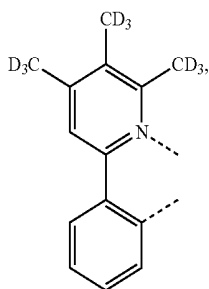


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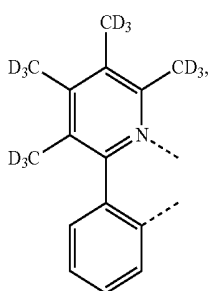


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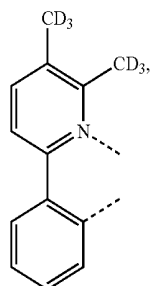
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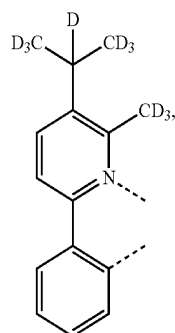
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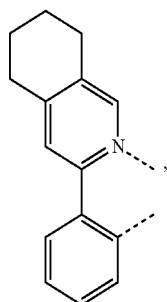
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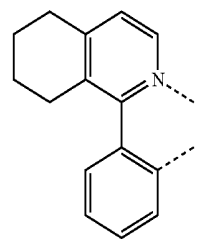


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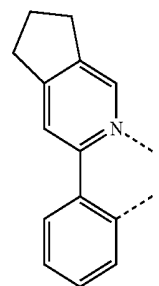


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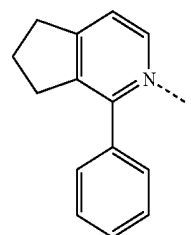
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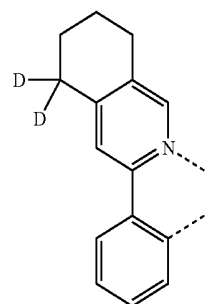
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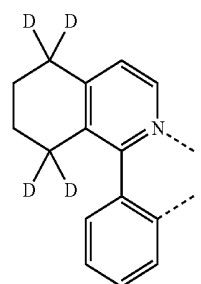
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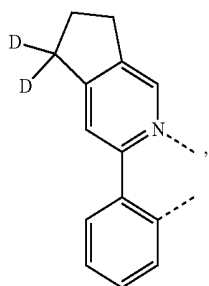


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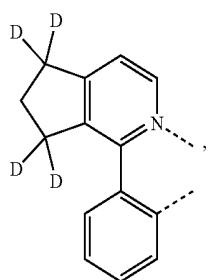


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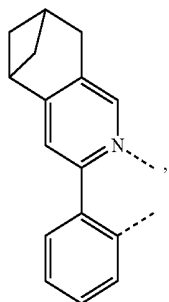
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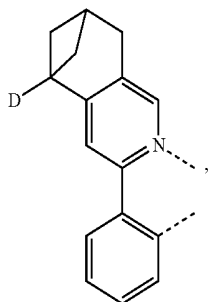
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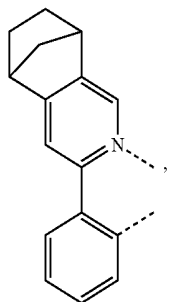
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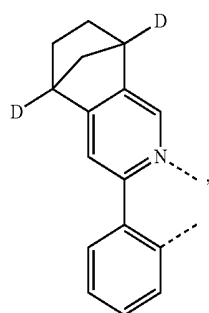


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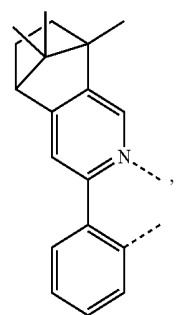


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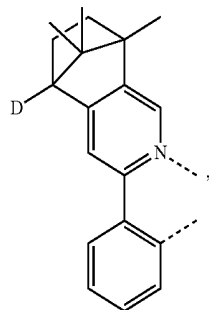
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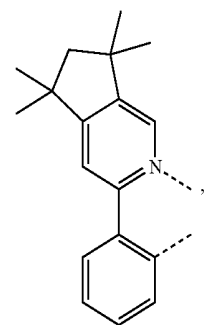
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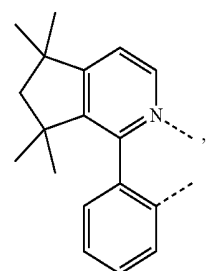
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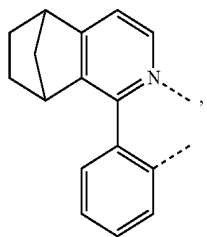


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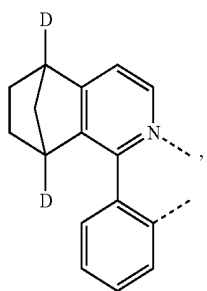


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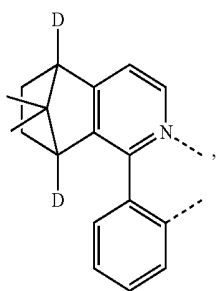
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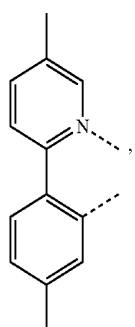
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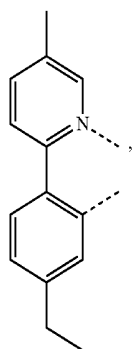
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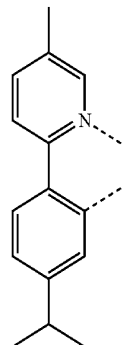


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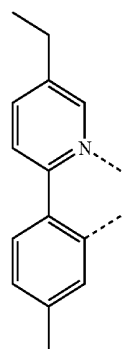


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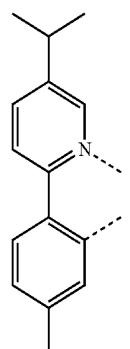
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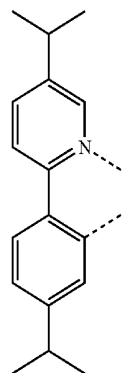
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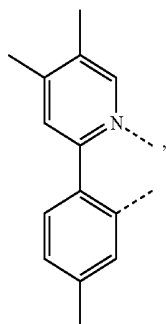


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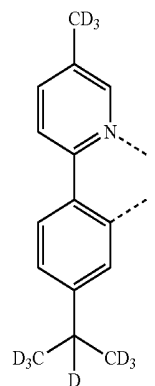
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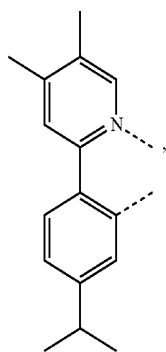


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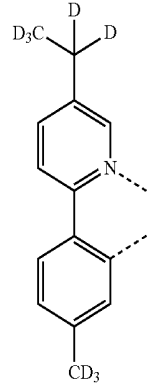
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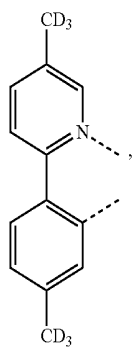
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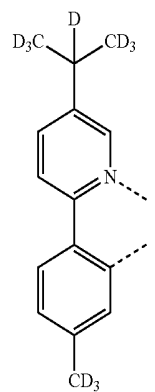
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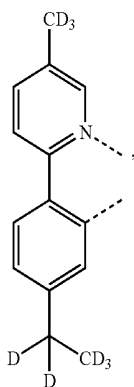
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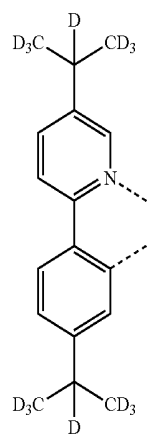
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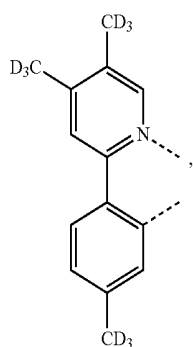


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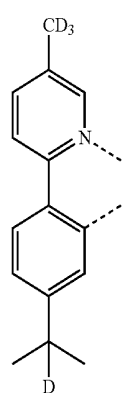
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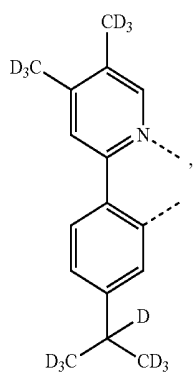


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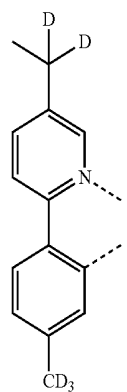
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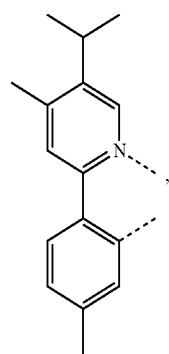
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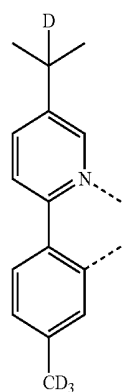
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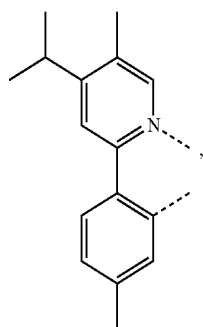
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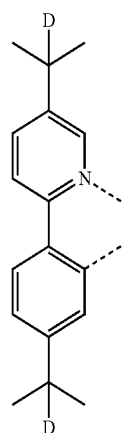
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L<sub>B263</sub>

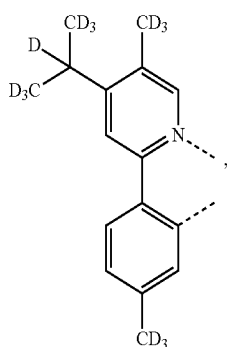


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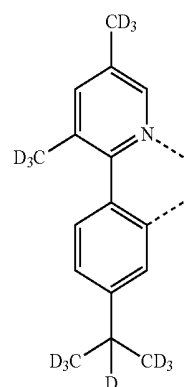
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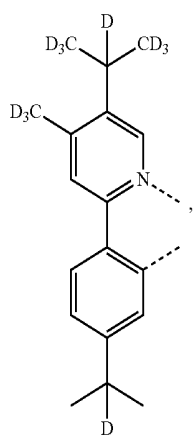


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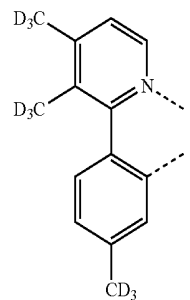
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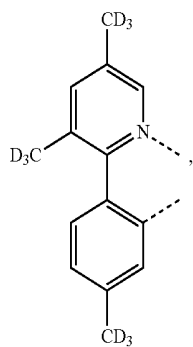
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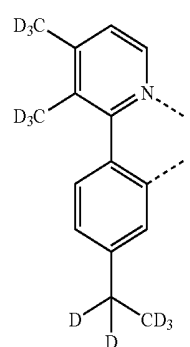
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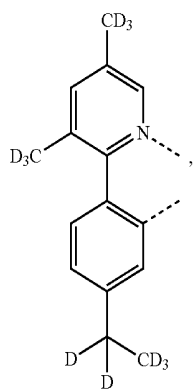
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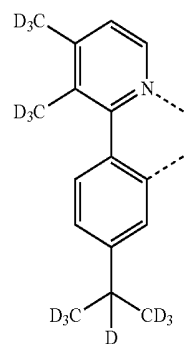
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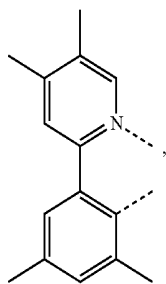
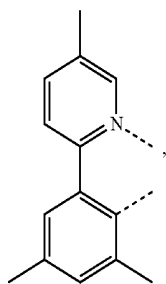
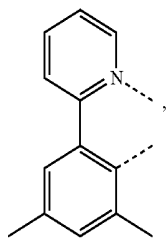
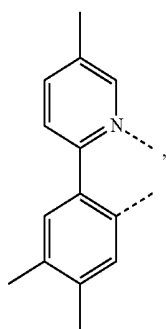
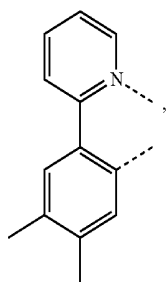


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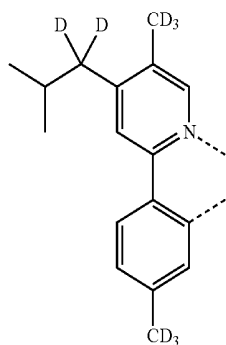


LB272

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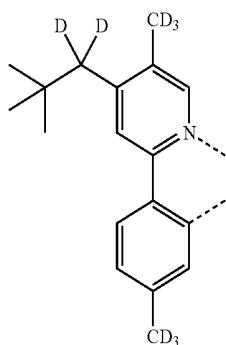


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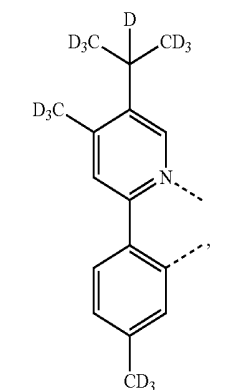
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L<sub>B274</sub>



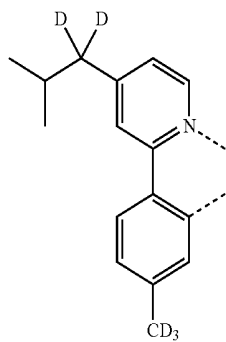
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L<sub>B275</sub>



L<sub>B280</sub>

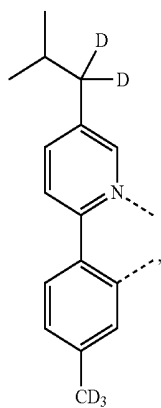
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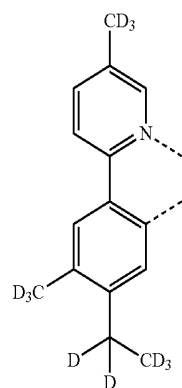
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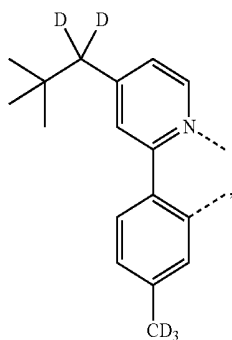


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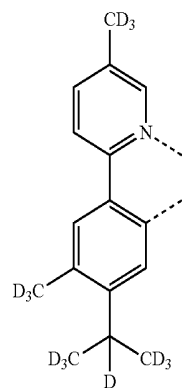
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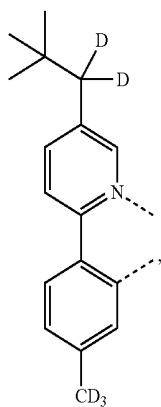
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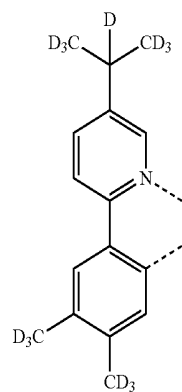
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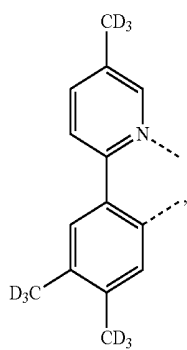
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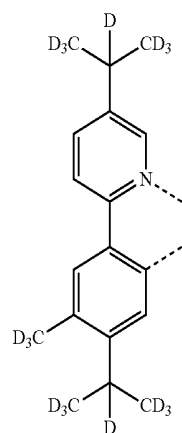
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L<sub>B288</sub>

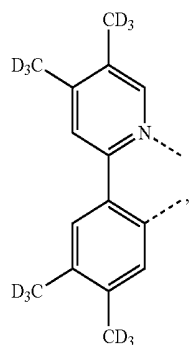


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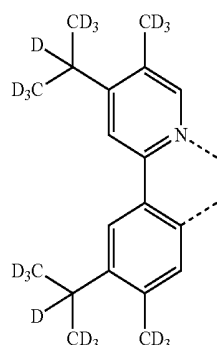
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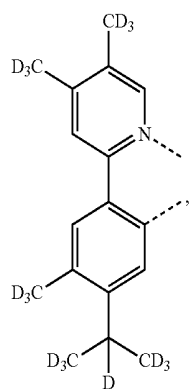


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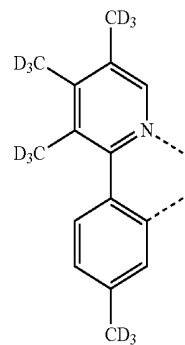
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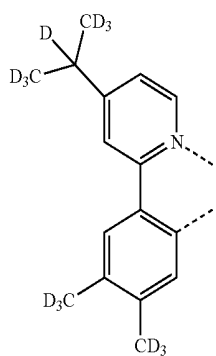
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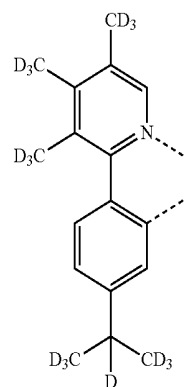
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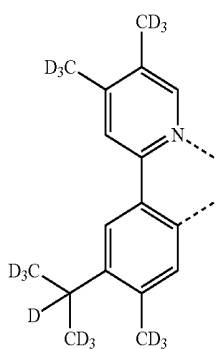
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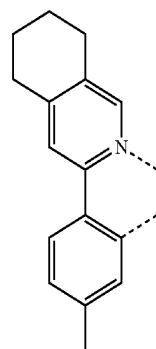
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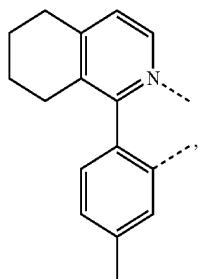


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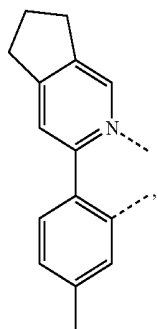


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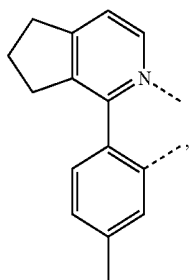
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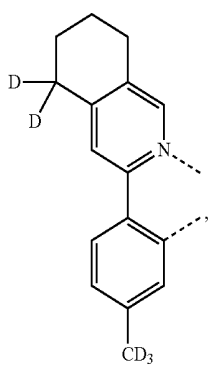
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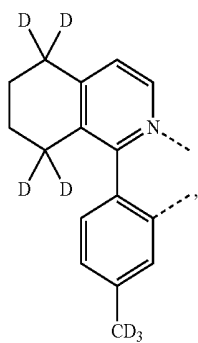
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LB300

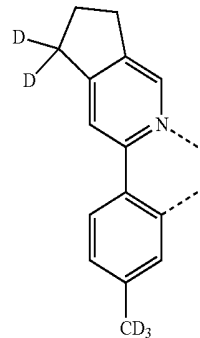


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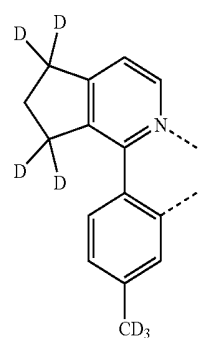


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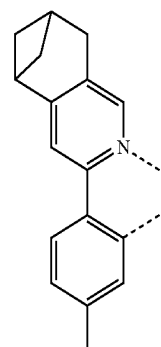
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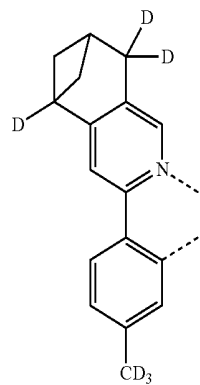
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LB304

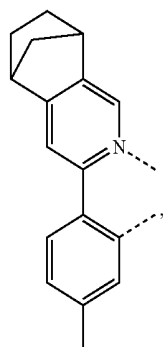


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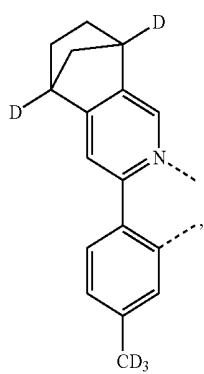


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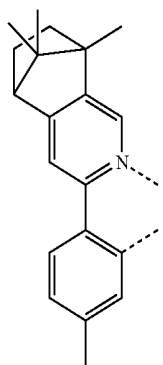
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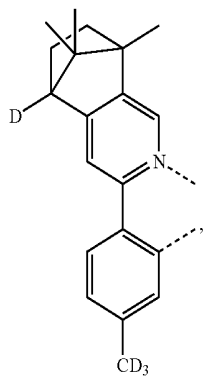
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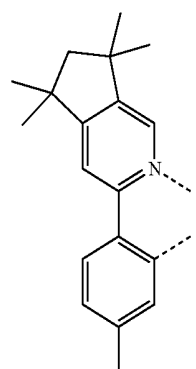


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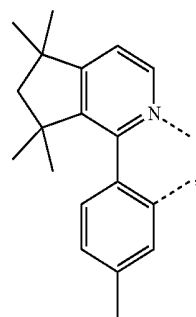


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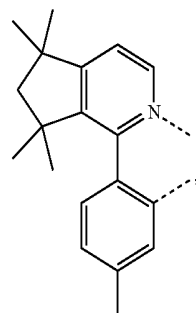
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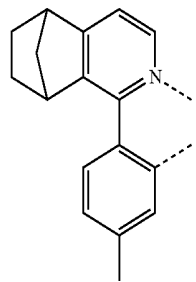
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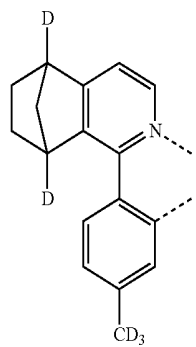
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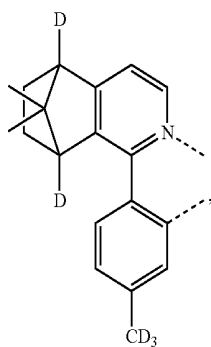


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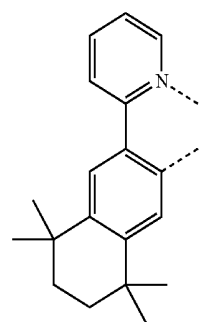
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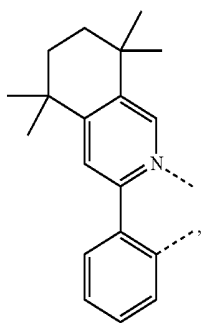


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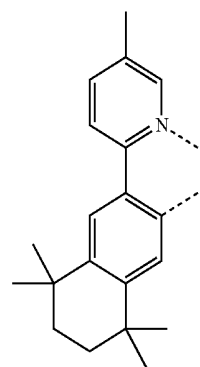
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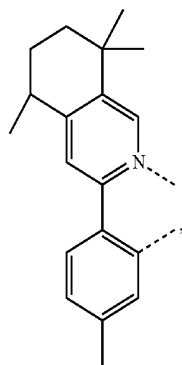
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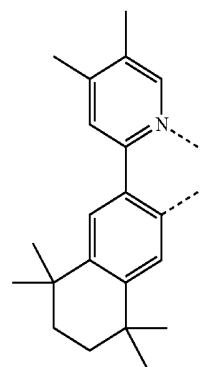
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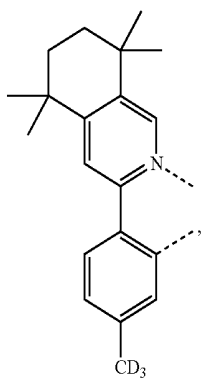
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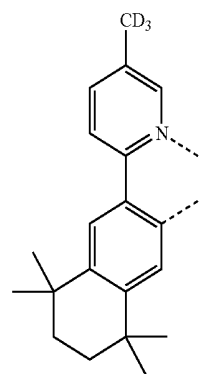
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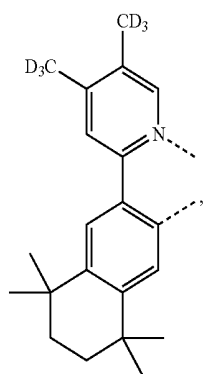


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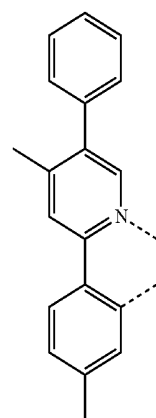
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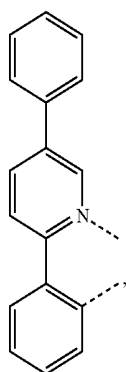
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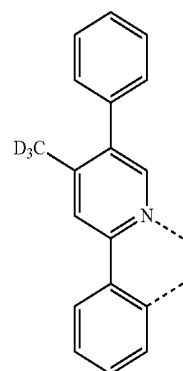


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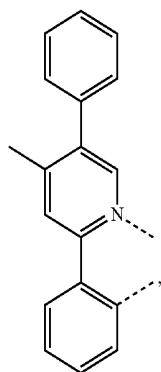
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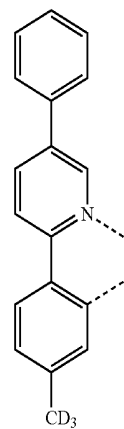
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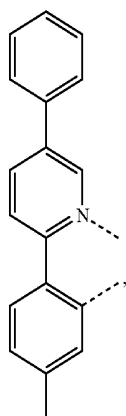
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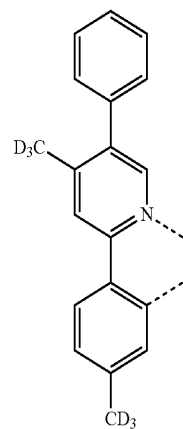
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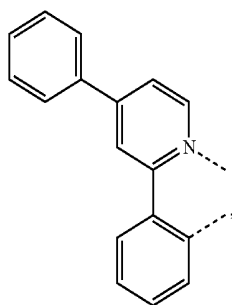
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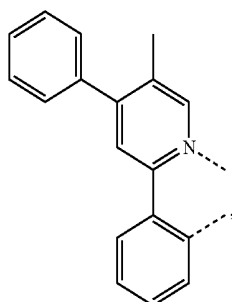
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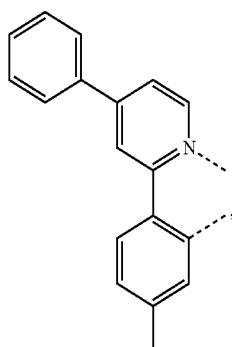
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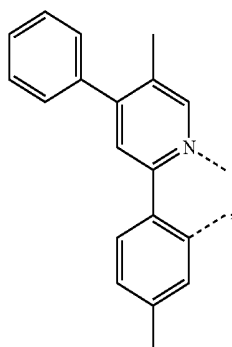
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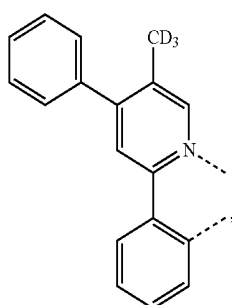
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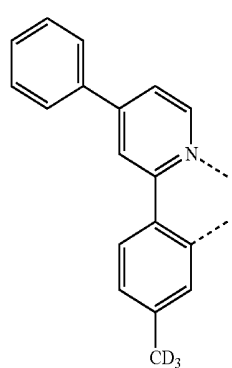


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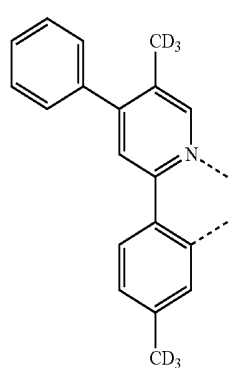


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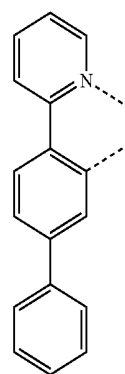
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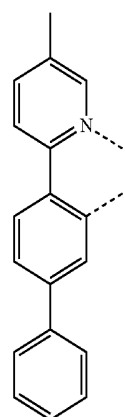
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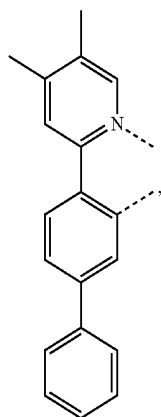


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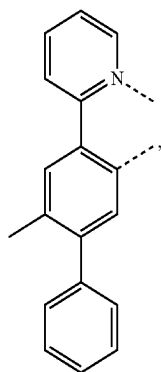


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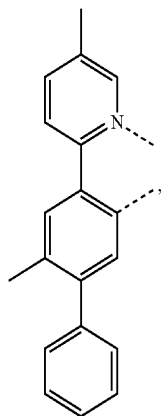
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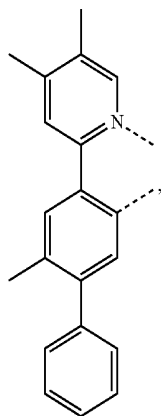
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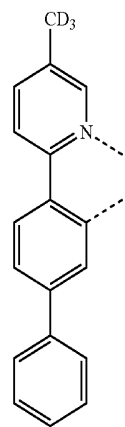


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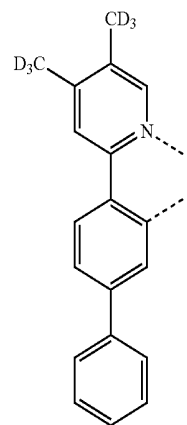


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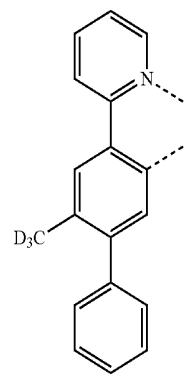
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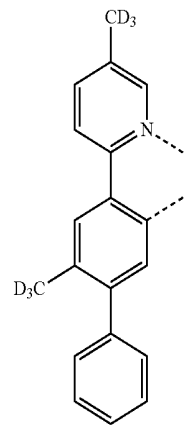
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L<sub>B345</sub>

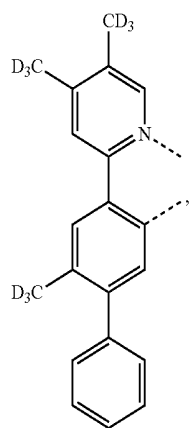


L<sub>B346</sub>



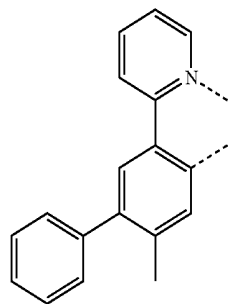
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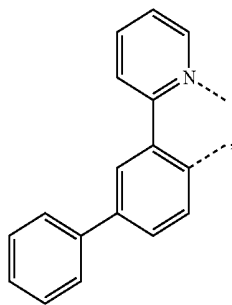


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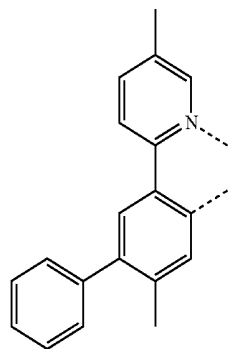
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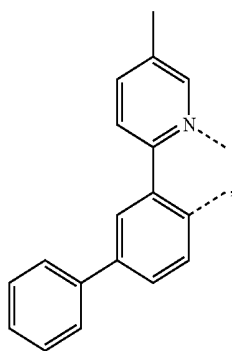
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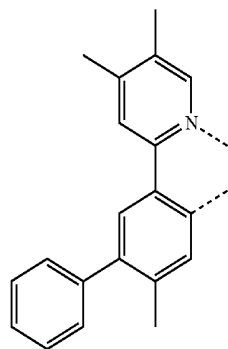
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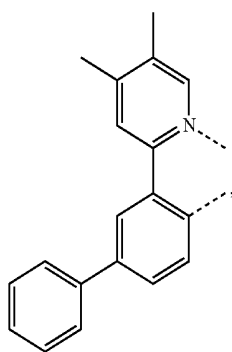
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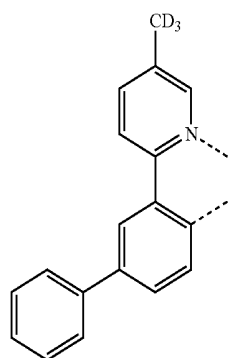
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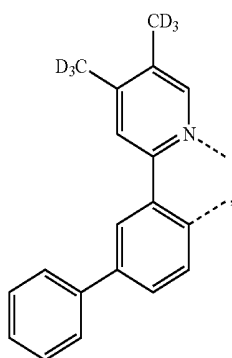


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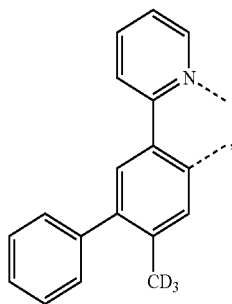


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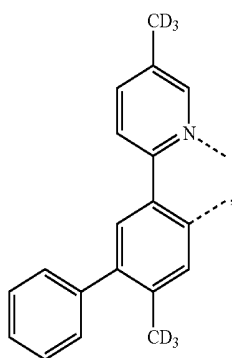
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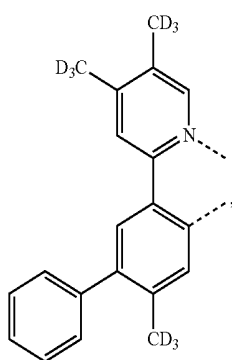
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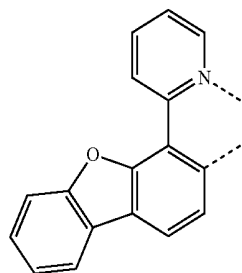


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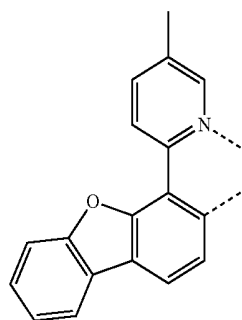


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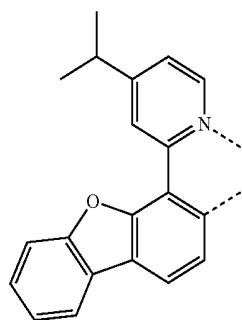
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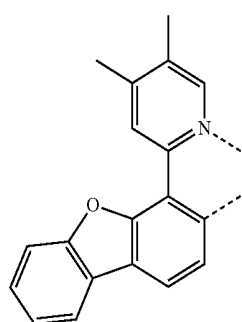
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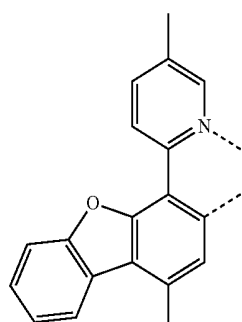
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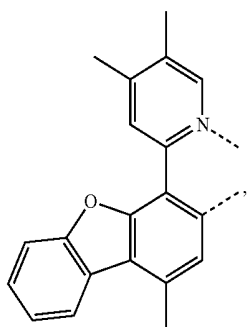


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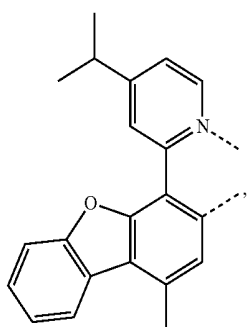


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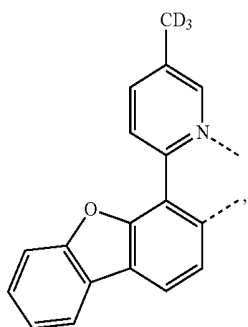
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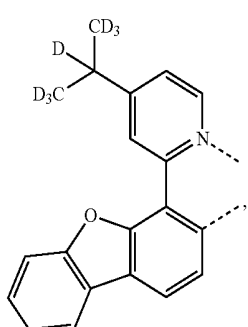
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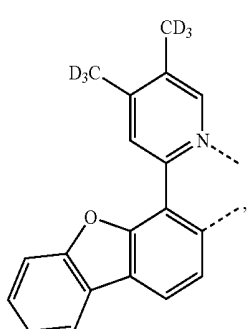
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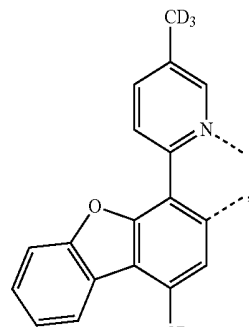


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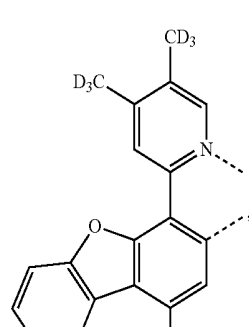


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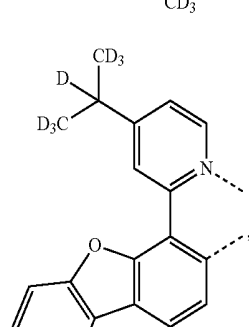
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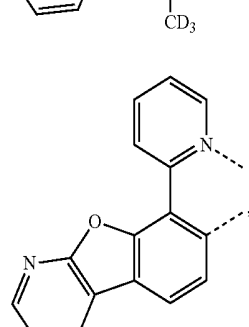
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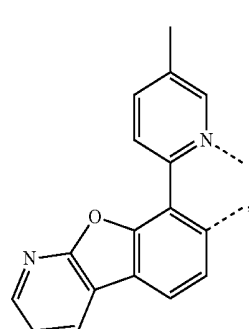
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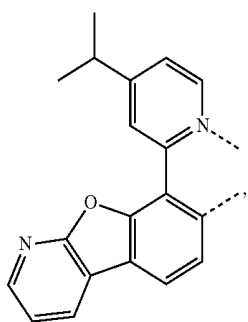


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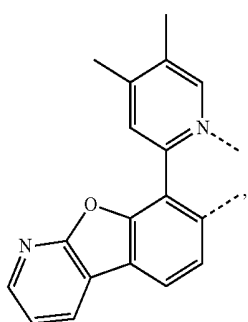


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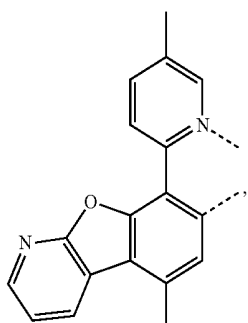
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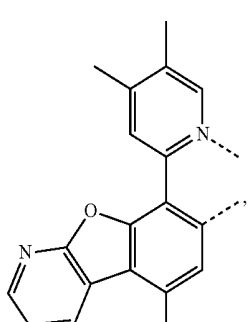
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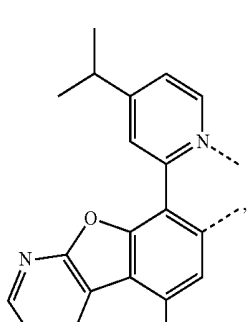
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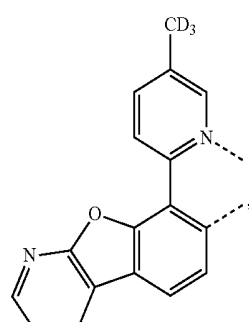


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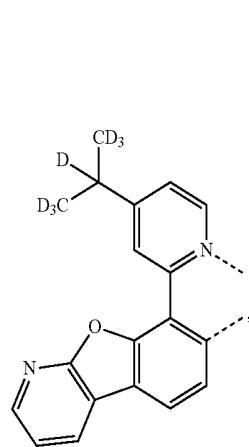


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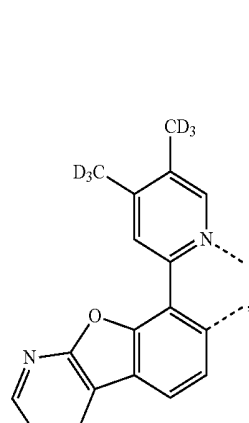
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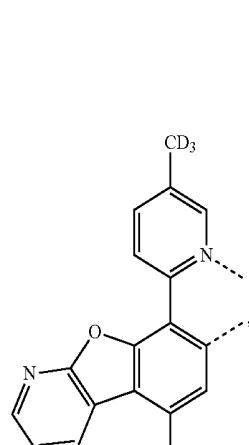
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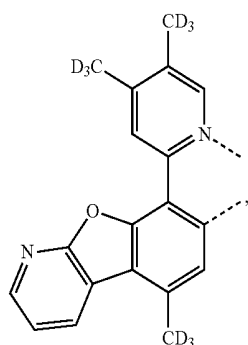


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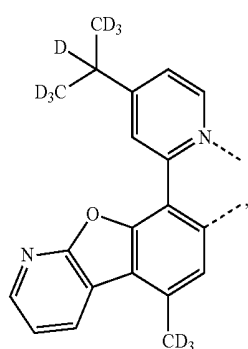


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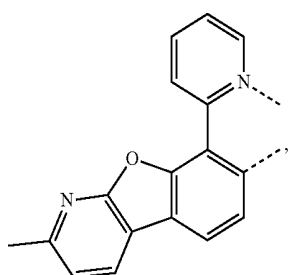
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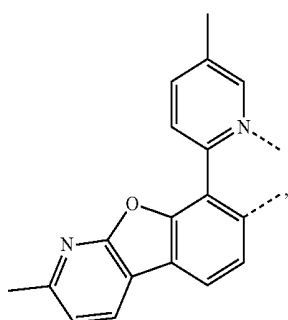
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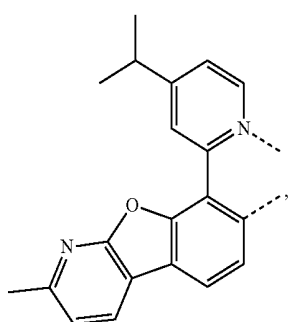
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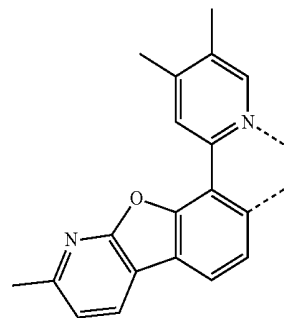


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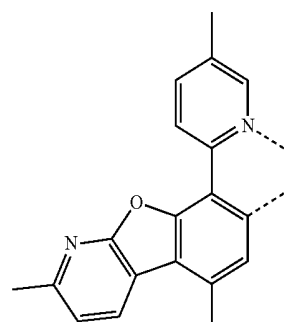


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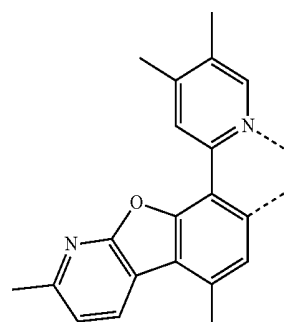
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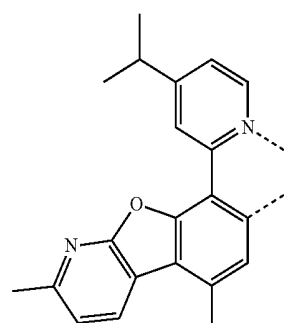
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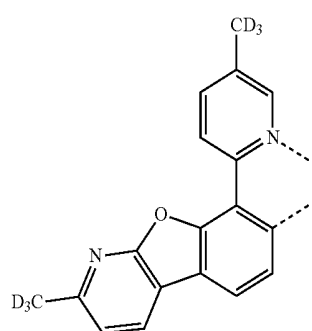
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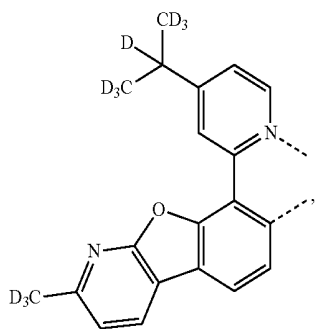


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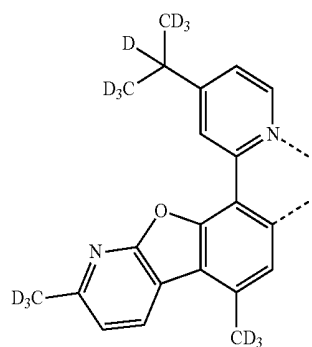
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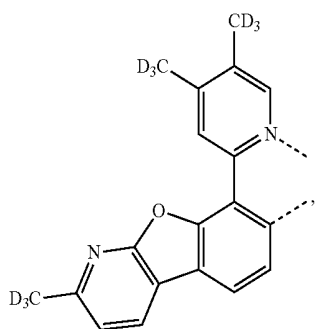


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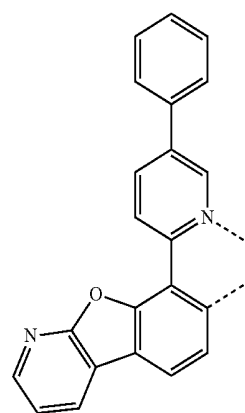
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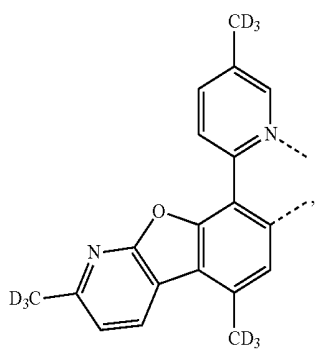
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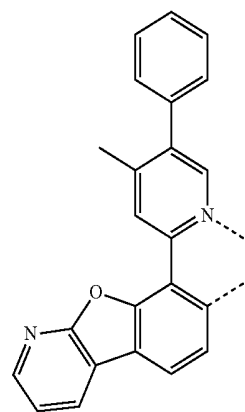
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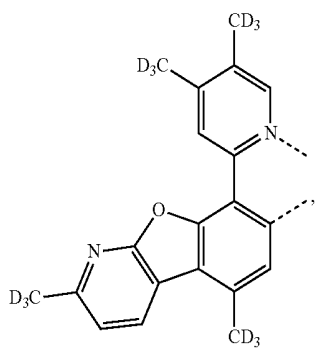
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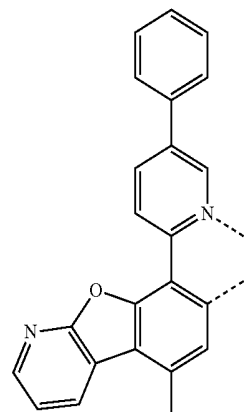
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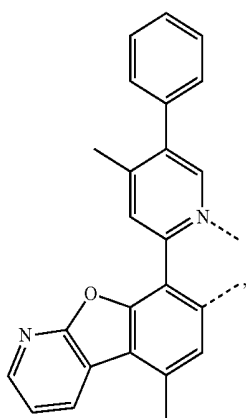


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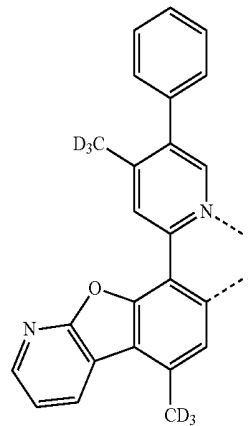
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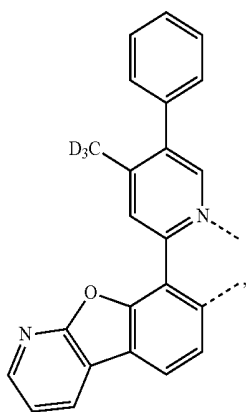


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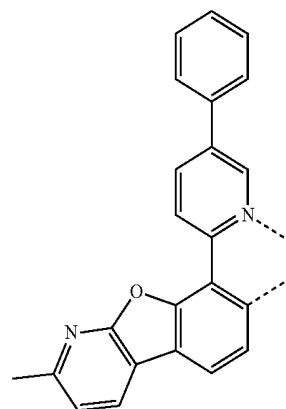
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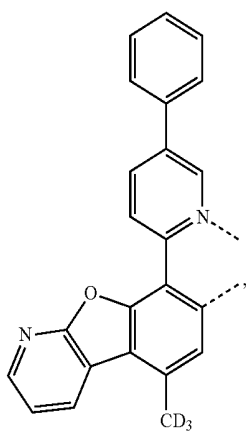
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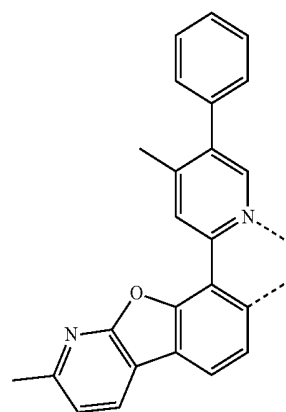
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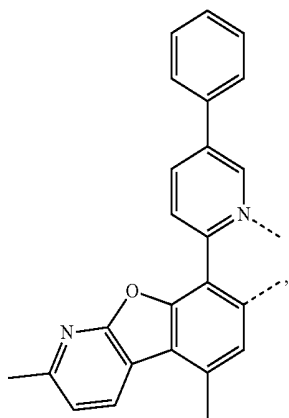


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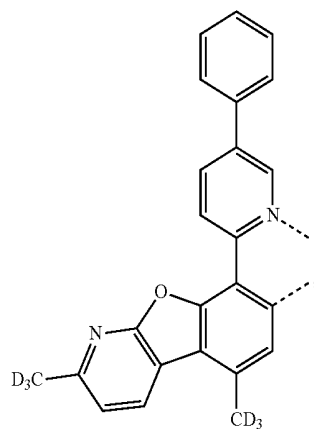
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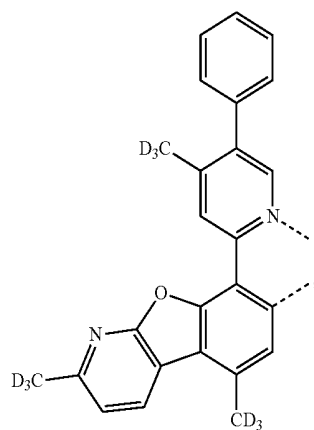
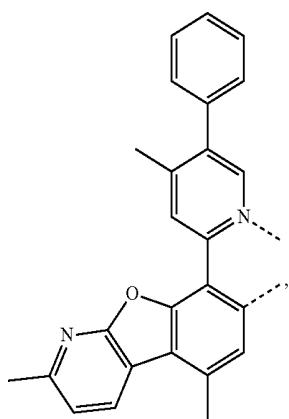
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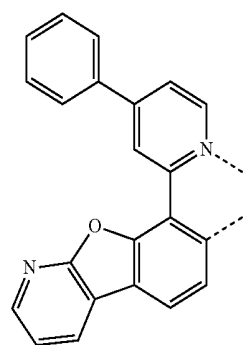
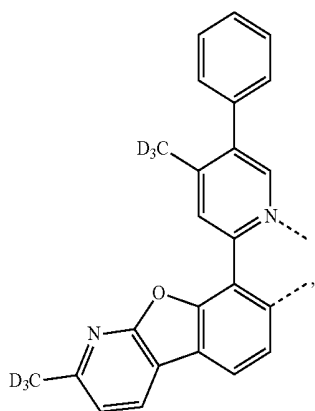
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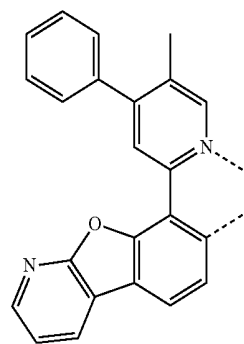
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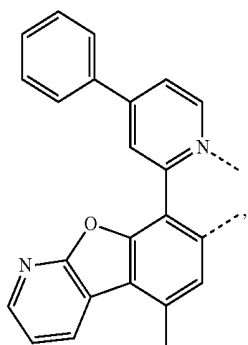


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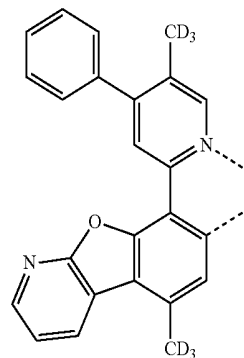


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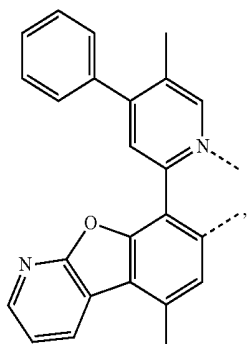


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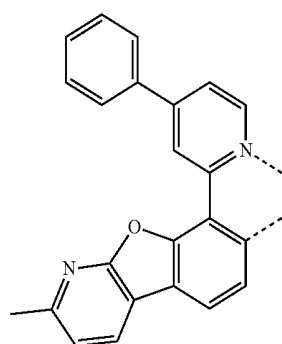
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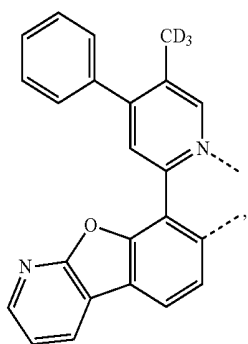
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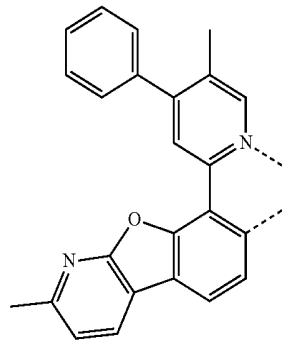
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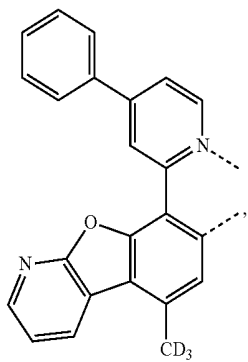
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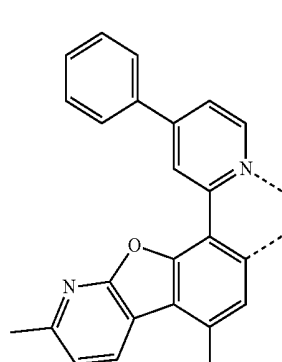
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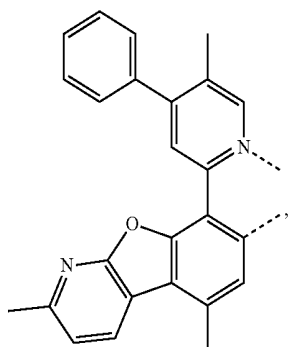


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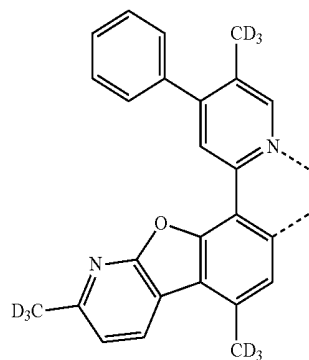
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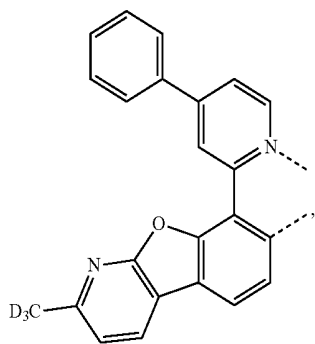


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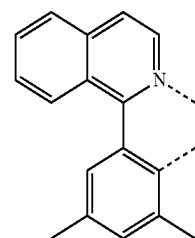
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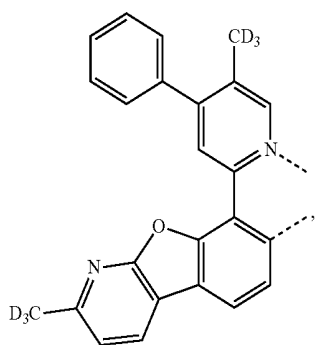
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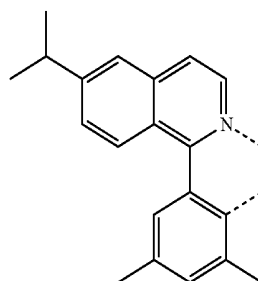
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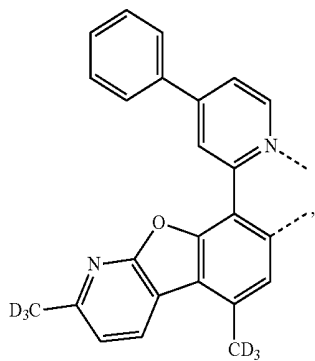
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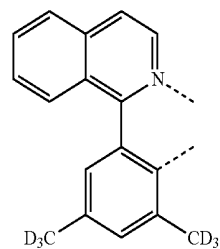
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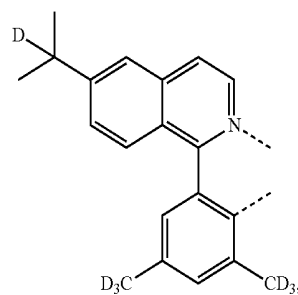
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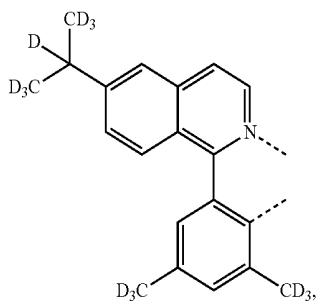


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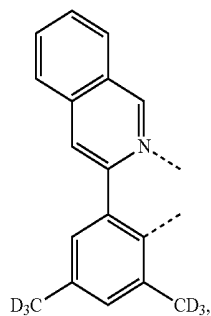
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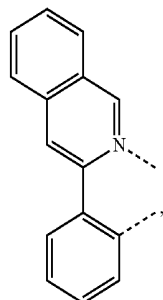
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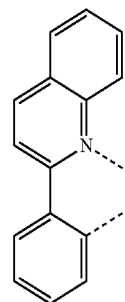


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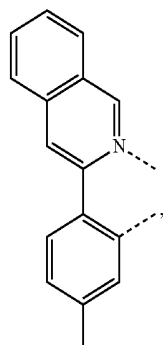
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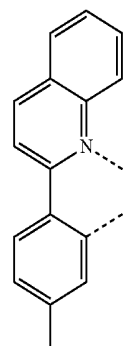
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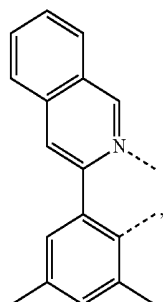
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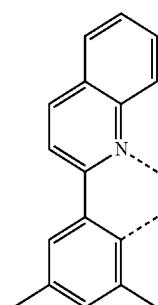
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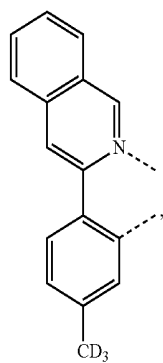
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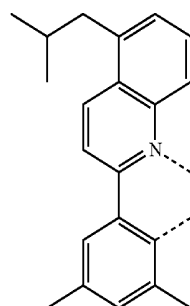
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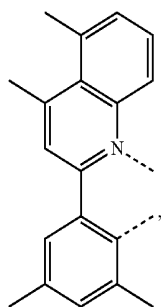
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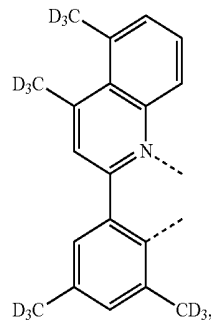


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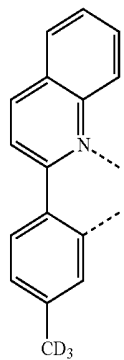


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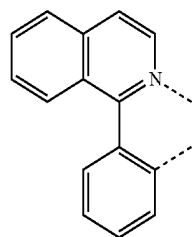
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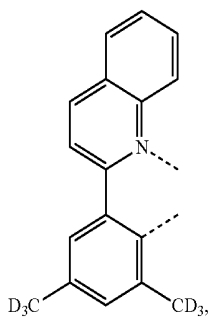
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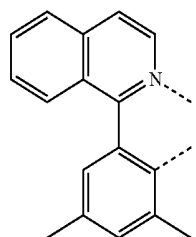
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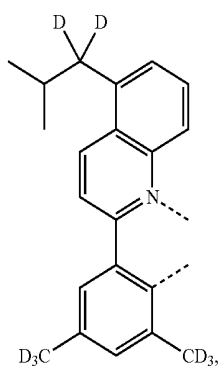
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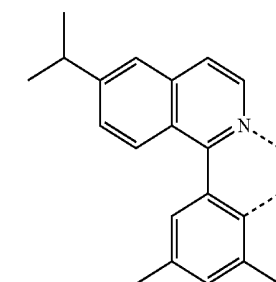
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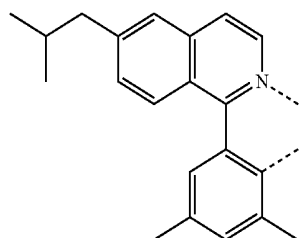
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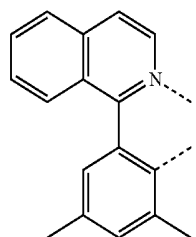
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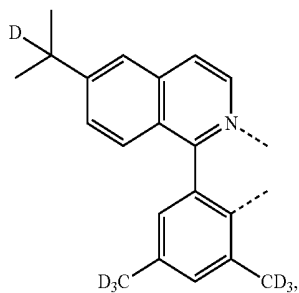


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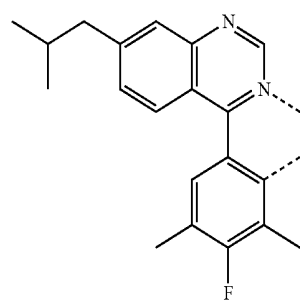
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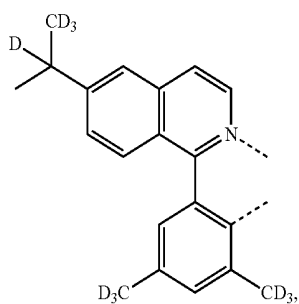


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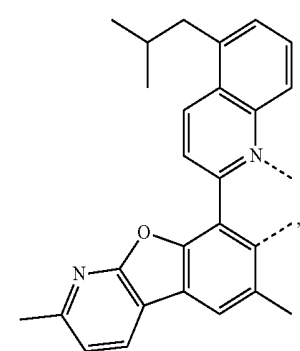
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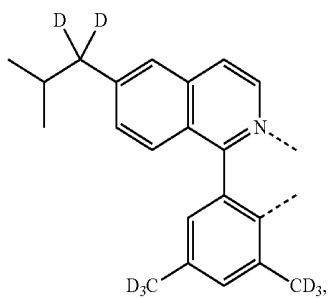
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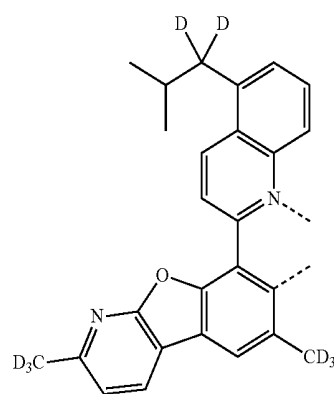
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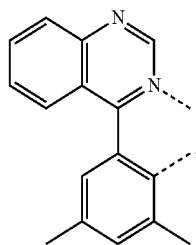
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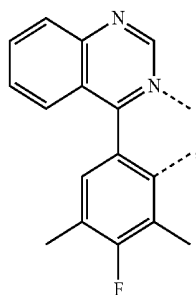
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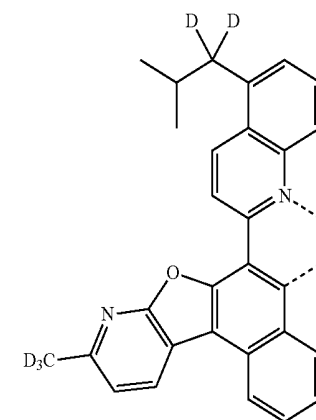
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L<sub>B455</sub>

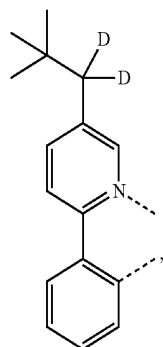


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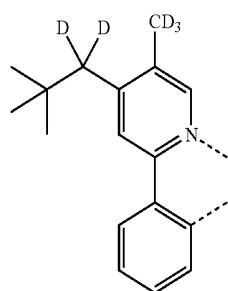
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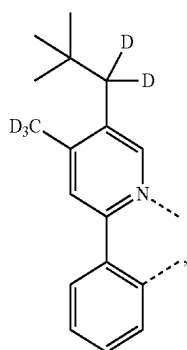


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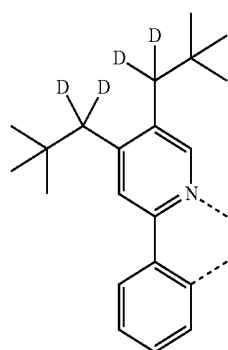
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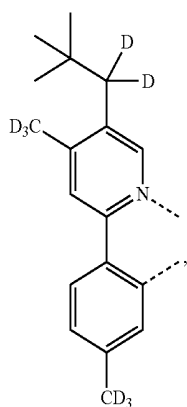
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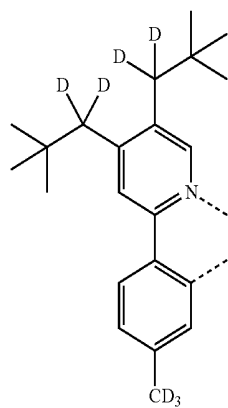
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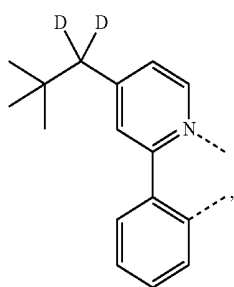
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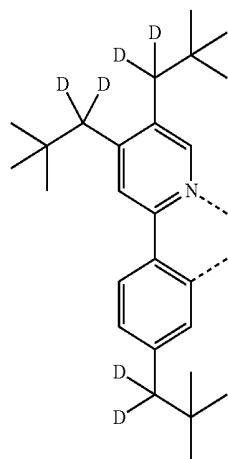
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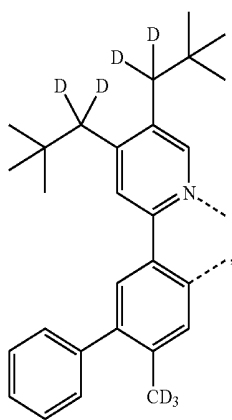


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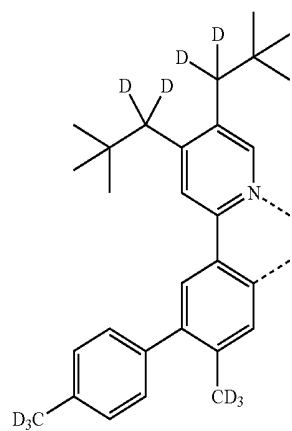
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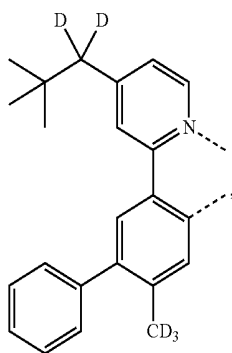


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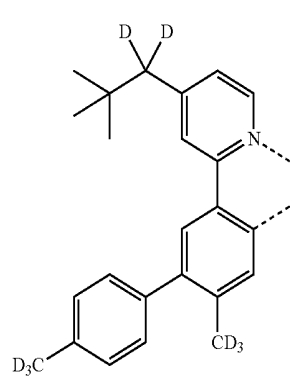
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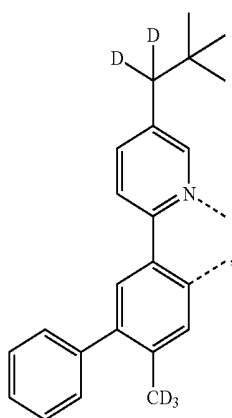
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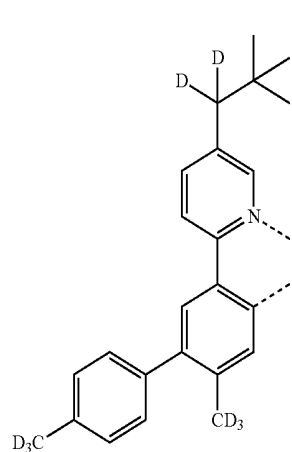
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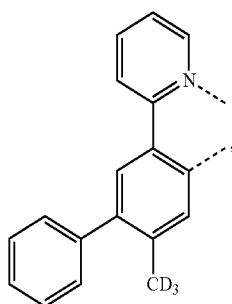
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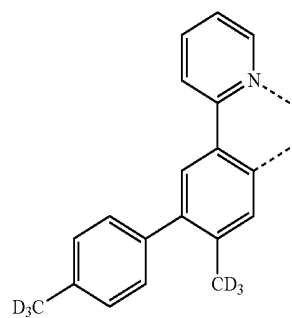
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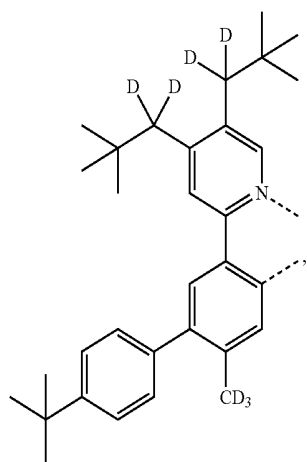


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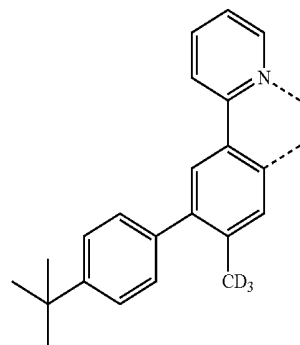
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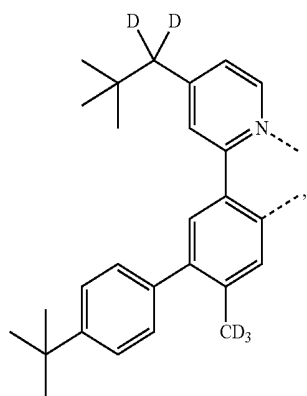


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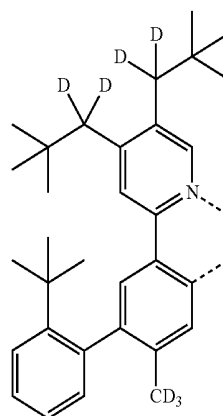
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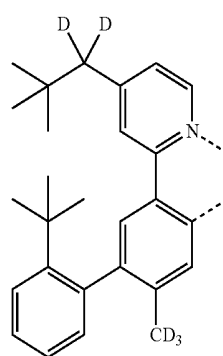
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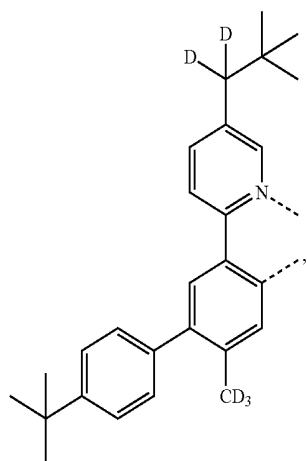
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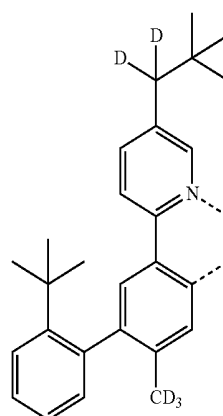
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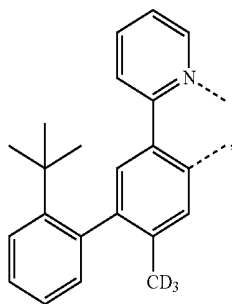


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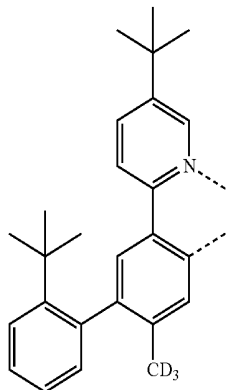
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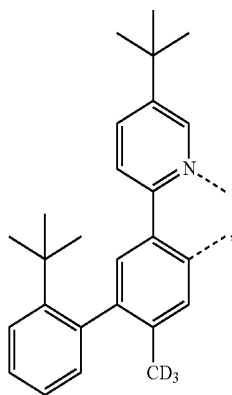


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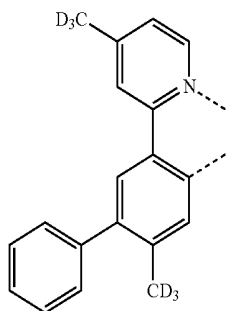
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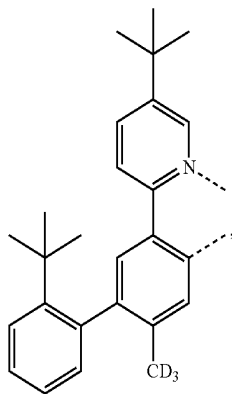
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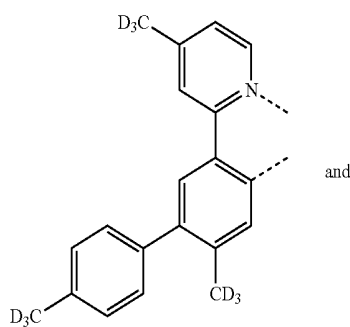
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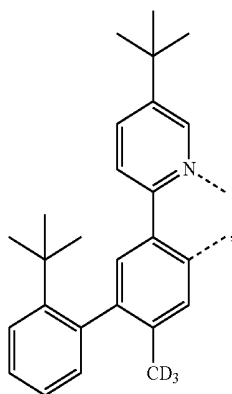
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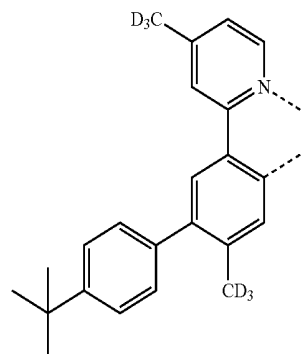
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L<sub>B489</sub>

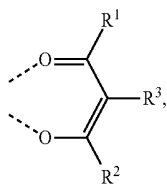


L<sub>B486</sub>



L<sub>B490</sub>

where  $L_{C1}$  through  $L_{C1260}$  are based on a structure of Formula X



in which  $R^1$ ,  $R^2$ , and  $R^3$  are defined as:

Ligand	$R^1$	$R^2$	$R^3$
$L_{C1}$	$R^{D1}$	$R^{D1}$	H
$L_{C2}$	$R^{D2}$	$R^{D2}$	H
$L_{C3}$	$R^{D3}$	$R^{D3}$	H
$L_{C4}$	$R^{D4}$	$R^{D4}$	H
$L_{C5}$	$R^{D5}$	$R^{D5}$	H
$L_{C6}$	$R^{D6}$	$R^{D6}$	H
$L_{C7}$	$R^{D7}$	$R^{D7}$	H
$L_{C8}$	$R^{D8}$	$R^{D8}$	H
$L_{C9}$	$R^{D9}$	$R^{D9}$	H
$L_{C10}$	$R^{D10}$	$R^{D10}$	H
$L_{C11}$	$R^{D11}$	$R^{D11}$	H
$L_{C12}$	$R^{D12}$	$R^{D12}$	H
$L_{C13}$	$R^{D13}$	$R^{D13}$	H
$L_{C14}$	$R^{D14}$	$R^{D14}$	H
$L_{C15}$	$R^{D15}$	$R^{D15}$	H
$L_{C16}$	$R^{D16}$	$R^{D16}$	H
$L_{C17}$	$R^{D17}$	$R^{D17}$	H
$L_{C18}$	$R^{D18}$	$R^{D18}$	H
$L_{C19}$	$R^{D19}$	$R^{D19}$	H
$L_{C20}$	$R^{D20}$	$R^{D20}$	H
$L_{C21}$	$R^{D21}$	$R^{D21}$	H
$L_{C22}$	$R^{D22}$	$R^{D22}$	H
$L_{C23}$	$R^{D23}$	$R^{D23}$	H
$L_{C24}$	$R^{D24}$	$R^{D24}$	H
$L_{C25}$	$R^{D25}$	$R^{D25}$	H
$L_{C26}$	$R^{D26}$	$R^{D26}$	H
$L_{C27}$	$R^{D27}$	$R^{D27}$	H
$L_{C28}$	$R^{D28}$	$R^{D28}$	H
$L_{C29}$	$R^{D29}$	$R^{D29}$	H
$L_{C30}$	$R^{D30}$	$R^{D30}$	H
$L_{C31}$	$R^{D31}$	$R^{D31}$	H
$L_{C32}$	$R^{D32}$	$R^{D32}$	H
$L_{C33}$	$R^{D33}$	$R^{D33}$	H
$L_{C34}$	$R^{D34}$	$R^{D34}$	H
$L_{C35}$	$R^{D35}$	$R^{D35}$	H
$L_{C36}$	$R^{D40}$	$R^{D40}$	H
$L_{C37}$	$R^{D41}$	$R^{D41}$	H
$L_{C38}$	$R^{D42}$	$R^{D42}$	H
$L_{C39}$	$R^{D64}$	$R^{D64}$	H
$L_{C40}$	$R^{D66}$	$R^{D66}$	H
$L_{C41}$	$R^{D68}$	$R^{D68}$	H
$L_{C42}$	$R^{D76}$	$R^{D76}$	H
$L_{C43}$	$R^{D1}$	$R^{D2}$	H
$L_{C44}$	$R^{D1}$	$R^{D3}$	H
$L_{C45}$	$R^{D1}$	$R^{D4}$	H
$L_{C46}$	$R^{D1}$	$R^{D5}$	H
$L_{C47}$	$R^{D1}$	$R^{D6}$	H
$L_{C48}$	$R^{D1}$	$R^{D7}$	H
$L_{C49}$	$R^{D1}$	$R^{D8}$	H
$L_{C50}$	$R^{D1}$	$R^{D9}$	H
$L_{C51}$	$R^{D1}$	$R^{D10}$	H
$L_{C52}$	$R^{D1}$	$R^{D11}$	H
$L_{C53}$	$R^{D1}$	$R^{D12}$	H
$L_{C54}$	$R^{D1}$	$R^{D13}$	H
$L_{C55}$	$R^{D1}$	$R^{D14}$	H
$L_{C56}$	$R^{D1}$	$R^{D15}$	H
$L_{C57}$	$R^{D1}$	$R^{D16}$	H
$L_{C58}$	$R^{D1}$	$R^{D17}$	H
$L_{C59}$	$R^{D1}$	$R^{D18}$	H

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Ligand	$R^1$	$R^2$	$R^3$
$L_{C60}$	$R^{D1}$	$R^{D19}$	H
$L_{C61}$	$R^{D1}$	$R^{D20}$	H
$L_{C62}$	$R^{D1}$	$R^{D21}$	H
$L_{C63}$	$R^{D1}$	$R^{D22}$	H
$L_{C64}$	$R^{D1}$	$R^{D23}$	H
$L_{C65}$	$R^{D1}$	$R^{D24}$	H
$L_{C66}$	$R^{D1}$	$R^{D25}$	H
$L_{C67}$	$R^{D1}$	$R^{D26}$	H
$L_{C68}$	$R^{D1}$	$R^{D27}$	H
$L_{C69}$	$R^{D1}$	$R^{D28}$	H
$L_{C70}$	$R^{D1}$	$R^{D29}$	H
$L_{C71}$	$R^{D1}$	$R^{D30}$	H
$L_{C72}$	$R^{D1}$	$R^{D31}$	H
$L_{C73}$	$R^{D1}$	$R^{D32}$	H
$L_{C74}$	$R^{D1}$	$R^{D33}$	H
$L_{C75}$	$R^{D1}$	$R^{D34}$	H
$L_{C76}$	$R^{D1}$	$R^{D35}$	H
$L_{C77}$	$R^{D1}$	$R^{D40}$	H
$L_{C78}$	$R^{D1}$	$R^{D41}$	H
$L_{C79}$	$R^{D1}$	$R^{D42}$	H
$L_{C80}$	$R^{D1}$	$R^{D64}$	H
$L_{C81}$	$R^{D1}$	$R^{D66}$	H
$L_{C82}$	$R^{D1}$	$R^{D68}$	H
$L_{C83}$	$R^{D1}$	$R^{D76}$	H
$L_{C84}$	$R^{D2}$	$R^{D1}$	H
$L_{C85}$	$R^{D2}$	$R^{D3}$	H
$L_{C86}$	$R^{D2}$	$R^{D4}$	H
$L_{C87}$	$R^{D2}$	$R^{D5}$	H
$L_{C88}$	$R^{D2}$	$R^{D6}$	H
$L_{C89}$	$R^{D2}$	$R^{D7}$	H
$L_{C90}$	$R^{D2}$	$R^{D8}$	H
$L_{C91}$	$R^{D2}$	$R^{D9}$	H
$L_{C92}$	$R^{D2}$	$R^{D10}$	H
$L_{C93}$	$R^{D2}$	$R^{D11}$	H
$L_{C94}$	$R^{D2}$	$R^{D12}$	H
$L_{C95}$	$R^{D2}$	$R^{D13}$	H
$L_{C96}$	$R^{D2}$	$R^{D14}$	H
$L_{C97}$	$R^{D2}$	$R^{D15}$	H
$L_{C98}$	$R^{D2}$	$R^{D16}$	H
$L_{C99}$	$R^{D2}$	$R^{D17}$	H
$L_{C100}$	$R^{D2}$	$R^{D18}$	H
$L_{C101}$	$R^{D2}$	$R^{D19}$	H
$L_{C102}$	$R^{D2}$	$R^{D20}$	H
$L_{C103}$	$R^{D2}$	$R^{D21}$	H
$L_{C104}$	$R^{D2}$	$R^{D22}$	H
$L_{C105}$	$R^{D2}$	$R^{D23}$	H
$L_{C106}$	$R^{D2}$	$R^{D24}$	H
$L_{C107}$	$R^{D2}$	$R^{D25}$	H
$L_{C108}$	$R^{D2}$	$R^{D26}$	H
$L_{C109}$	$R^{D2}$	$R^{D27}$	H
$L_{C110}$	$R^{D2}$	$R^{D28}$	H
$L_{C111}$	$R^{D2}$	$R^{D29}$	H
$L_{C112}$	$R^{D2}$	$R^{D30}$	H
$L_{C113}$	$R^{D2}$	$R^{D31}$	H
$L_{C114}$	$R^{D2}$	$R^{D32}$	H
$L_{C115}$	$R^{D2}$	$R^{D33}$	H
$L_{C116}$	$R^{D2}$	$R^{D34}$	H
$L_{C117}$	$R^{D2}$	$R^{D35}$	H
$L_{C118}$	$R^{D2}$	$R^{D40}$	H
$L_{C119}$	$R^{D2}$	$R^{D41}$	H
$L_{C120}$	$R^{D2}$	$R^{D42}$	H
$L_{C121}$	$R^{D2}$	$R^{D64}$	H
$L_{C122}$	$R^{D2}$	$R^{D66}$	H
$L_{C123}$	$R^{D2}$	$R^{D68}$	H
$L_{C124}$	$R^{D2}$	$R^{D76}$	H
$L_{C125}$	$R^{D3}$	$R^{D4}$	H
$L_{C126}$	$R^{D3}$	$R^{D5}$	H
$L_{C127}$	$R^{D3}$	$R^{D6}$	H
$L_{C128}$	$R^{D3}$	$R^{D7}$	H
$L_{C129}$	$R^{D3}$	$R^{D8}$	H
$L_{C130}$	$R^{D3}$	$R^{D9}$	H
$L_{C131}$	$R^{D3}$	$R^{D10}$	H
$L_{C132}$	$R^{D3}$	$R^{D11}$	H
$L_{C133}$	$R^{D3}$	$R^{D12}$	H

-continued

Ligand	R <sup>1</sup>	R <sup>2</sup>	R <sup>3</sup>
L <sub>C134</sub>	R <sup>D3</sup>	R <sup>D13</sup>	H
L <sub>C135</sub>	R <sup>D3</sup>	R <sup>D14</sup>	H
L <sub>C136</sub>	R <sup>D3</sup>	R <sup>D15</sup>	H
L <sub>C137</sub>	R <sup>D3</sup>	R <sup>D16</sup>	H
L <sub>C138</sub>	R <sup>D3</sup>	R <sup>D17</sup>	H
L <sub>C139</sub>	R <sup>D3</sup>	R <sup>D18</sup>	H
L <sub>C140</sub>	R <sup>D3</sup>	R <sup>D19</sup>	H
L <sub>C141</sub>	R <sup>D3</sup>	R <sup>D20</sup>	H
L <sub>C142</sub>	R <sup>D3</sup>	R <sup>D21</sup>	H
L <sub>C143</sub>	R <sup>D3</sup>	R <sup>D22</sup>	H
L <sub>C144</sub>	R <sup>D3</sup>	R <sup>D23</sup>	H
L <sub>C145</sub>	R <sup>D3</sup>	R <sup>D24</sup>	H
L <sub>C146</sub>	R <sup>D3</sup>	R <sup>D25</sup>	H
L <sub>C147</sub>	R <sup>D3</sup>	R <sup>D26</sup>	H
L <sub>C148</sub>	R <sup>D3</sup>	R <sup>D27</sup>	H
L <sub>C149</sub>	R <sup>D3</sup>	R <sup>D28</sup>	H
L <sub>C150</sub>	R <sup>D3</sup>	R <sup>D29</sup>	H
L <sub>C151</sub>	R <sup>D3</sup>	R <sup>D30</sup>	H
L <sub>C152</sub>	R <sup>D3</sup>	R <sup>D31</sup>	H
L <sub>C153</sub>	R <sup>D3</sup>	R <sup>D32</sup>	H
L <sub>C154</sub>	R <sup>D3</sup>	R <sup>D33</sup>	H
L <sub>C155</sub>	R <sup>D3</sup>	R <sup>D34</sup>	H
L <sub>C156</sub>	R <sup>D3</sup>	R <sup>D35</sup>	H
L <sub>C157</sub>	R <sup>D3</sup>	R <sup>D40</sup>	H
L <sub>C158</sub>	R <sup>D3</sup>	R <sup>D41</sup>	H
L <sub>C159</sub>	R <sup>D3</sup>	R <sup>D42</sup>	H
L <sub>C160</sub>	R <sup>D3</sup>	R <sup>D64</sup>	H
L <sub>C161</sub>	R <sup>D3</sup>	R <sup>D66</sup>	H
L <sub>C162</sub>	R <sup>D3</sup>	R <sup>D68</sup>	H
L <sub>C163</sub>	R <sup>D3</sup>	R <sup>D76</sup>	H
L <sub>C164</sub>	R <sup>D4</sup>	R <sup>D5</sup>	H
L <sub>C165</sub>	R <sup>D4</sup>	R <sup>D6</sup>	H
L <sub>C166</sub>	R <sup>D4</sup>	R <sup>D7</sup>	H
L <sub>C167</sub>	R <sup>D4</sup>	R <sup>D8</sup>	H
L <sub>C168</sub>	R <sup>D4</sup>	R <sup>D9</sup>	H
L <sub>C169</sub>	R <sup>D4</sup>	R <sup>D10</sup>	H
L <sub>C170</sub>	R <sup>D4</sup>	R <sup>D11</sup>	H
L <sub>C171</sub>	R <sup>D4</sup>	R <sup>D12</sup>	H
L <sub>C172</sub>	R <sup>D4</sup>	R <sup>D13</sup>	H
L <sub>C173</sub>	R <sup>D4</sup>	R <sup>D14</sup>	H
L <sub>C174</sub>	R <sup>D4</sup>	R <sup>D15</sup>	H
L <sub>C175</sub>	R <sup>D4</sup>	R <sup>D16</sup>	H
L <sub>C176</sub>	R <sup>D4</sup>	R <sup>D17</sup>	H
L <sub>C177</sub>	R <sup>D4</sup>	R <sup>D18</sup>	H
L <sub>C178</sub>	R <sup>D4</sup>	R <sup>D19</sup>	H
L <sub>C179</sub>	R <sup>D4</sup>	R <sup>D20</sup>	H
L <sub>C180</sub>	R <sup>D4</sup>	R <sup>D21</sup>	H
L <sub>C181</sub>	R <sup>D4</sup>	R <sup>D22</sup>	H
L <sub>C182</sub>	R <sup>D4</sup>	R <sup>D23</sup>	H
L <sub>C183</sub>	R <sup>D4</sup>	R <sup>D24</sup>	H
L <sub>C184</sub>	R <sup>D4</sup>	R <sup>D25</sup>	H
L <sub>C185</sub>	R <sup>D4</sup>	R <sup>D26</sup>	H
L <sub>C186</sub>	R <sup>D4</sup>	R <sup>D27</sup>	H
L <sub>C187</sub>	R <sup>D4</sup>	R <sup>D28</sup>	H
L <sub>C188</sub>	R <sup>D4</sup>	R <sup>D29</sup>	H
L <sub>C189</sub>	R <sup>D4</sup>	R <sup>D30</sup>	H
L <sub>C190</sub>	R <sup>D4</sup>	R <sup>D31</sup>	H
L <sub>C191</sub>	R <sup>D4</sup>	R <sup>D32</sup>	H
L <sub>C192</sub>	R <sup>D4</sup>	R <sup>D33</sup>	H
L <sub>C193</sub>	R <sup>D4</sup>	R <sup>D34</sup>	H
L <sub>C194</sub>	R <sup>D4</sup>	R <sup>D35</sup>	H
L <sub>C195</sub>	R <sup>D4</sup>	R <sup>D40</sup>	H
L <sub>C196</sub>	R <sup>D4</sup>	R <sup>D41</sup>	H
L <sub>C197</sub>	R <sup>D4</sup>	R <sup>D42</sup>	H
L <sub>C198</sub>	R <sup>D4</sup>	R <sup>D64</sup>	H
L <sub>C199</sub>	R <sup>D4</sup>	R <sup>D66</sup>	H
L <sub>C200</sub>	R <sup>D4</sup>	R <sup>D68</sup>	H
L <sub>C201</sub>	R <sup>D4</sup>	R <sup>D76</sup>	H
L <sub>C202</sub>	R <sup>D4</sup>	R <sup>D1</sup>	H
L <sub>C203</sub>	R <sup>D7</sup>	R <sup>D5</sup>	H
L <sub>C204</sub>	R <sup>D7</sup>	R <sup>D6</sup>	H
L <sub>C205</sub>	R <sup>D7</sup>	R <sup>D8</sup>	H
L <sub>C206</sub>	R <sup>D7</sup>	R <sup>D9</sup>	H
L <sub>C207</sub>	R <sup>D7</sup>	R <sup>D10</sup>	H

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Ligand	R <sup>1</sup>	R <sup>2</sup>	R <sup>3</sup>
L <sub>C208</sub>	R <sup>D7</sup>	R <sup>D11</sup>	H
L <sub>C209</sub>	R <sup>D7</sup>	R <sup>D12</sup>	H
L <sub>C210</sub>	R <sup>D7</sup>	R <sup>D13</sup>	H
L <sub>C211</sub>	R <sup>D7</sup>	R <sup>D14</sup>	H
L <sub>C212</sub>	R <sup>D7</sup>	R <sup>D15</sup>	H
L <sub>C213</sub>	R <sup>D7</sup>	R <sup>D16</sup>	H
L <sub>C214</sub>	R <sup>D7</sup>	R <sup>D17</sup>	H
L <sub>C215</sub>	R <sup>D7</sup>	R <sup>D18</sup>	H
L <sub>C216</sub>	R <sup>D7</sup>	R <sup>D19</sup>	H
L <sub>C217</sub>	R <sup>D7</sup>	R <sup>D20</sup>	H
L <sub>C218</sub>	R <sup>D7</sup>	R <sup>D21</sup>	H
L <sub>C219</sub>	R <sup>D7</sup>	R <sup>D22</sup>	H
L <sub>C220</sub>	R <sup>D7</sup>	R <sup>D23</sup>	H
L <sub>C221</sub>	R <sup>D7</sup>	R <sup>D24</sup>	H
L <sub>C222</sub>	R <sup>D7</sup>	R <sup>D25</sup>	H
L <sub>C223</sub>	R <sup>D7</sup>	R <sup>D26</sup>	H
L <sub>C224</sub>	R <sup>D7</sup>	R <sup>D27</sup>	H
L <sub>C225</sub>	R <sup>D7</sup>	R <sup>D28</sup>	H
L <sub>C226</sub>	R <sup>D7</sup>	R <sup>D29</sup>	H
L <sub>C227</sub>	R <sup>D7</sup>	R <sup>D30</sup>	H
L <sub>C228</sub>	R <sup>D7</sup>	R <sup>D31</sup>	H
L <sub>C229</sub>	R <sup>D7</sup>	R <sup>D32</sup>	H
L <sub>C230</sub>	R <sup>D7</sup>	R <sup>D33</sup>	H
L <sub>C231</sub>	R <sup>D7</sup>	R <sup>D34</sup>	H
L <sub>C232</sub>	R <sup>D7</sup>	R <sup>D35</sup>	H
L <sub>C233</sub>	R <sup>D7</sup>	R <sup>D40</sup>	H
L <sub>C234</sub>	R <sup>D7</sup>	R <sup>D41</sup>	H
L <sub>C235</sub>	R <sup>D7</sup>	R <sup>D42</sup>	H
L <sub>C236</sub>	R <sup>D7</sup>	R <sup>D64</sup>	H
L <sub>C237</sub>	R <sup>D7</sup>	R <sup>D66</sup>	H
L <sub>C238</sub>	R <sup>D7</sup>	R <sup>D68</sup>	H
L <sub>C239</sub>	R <sup>D7</sup>	R <sup>D76</sup>	H
L <sub>C240</sub>	R <sup>D8</sup>	R <sup>D5</sup>	H
L <sub>C241</sub>	R <sup>D8</sup>	R <sup>D6</sup>	H
L <sub>C242</sub>	R <sup>D8</sup>	R <sup>D9</sup>	H
L <sub>C243</sub>	R <sup>D8</sup>	R <sup>D10</sup>	H
L <sub>C244</sub>	R <sup>D8</sup>	R <sup>D11</sup>	H
L <sub>C245</sub>	R <sup>D8</sup>	R <sup>D12</sup>	H
L <sub>C246</sub>	R <sup>D8</sup>	R <sup>D13</sup>	H
L <sub>C247</sub>	R <sup>D8</sup>	R <sup>D14</sup>	H
L <sub>C248</sub>	R <sup>D8</sup>	R <sup>D15</sup>	H
L <sub>C249</sub>	R <sup>D8</sup>	R <sup>D16</sup>	H
L <sub>C250</sub>	R <sup>D8</sup>	R <sup>D17</sup>	H
L <sub>C251</sub>	R <sup>D8</sup>	R <sup>D18</sup>	H
L <sub>C252</sub>	R <sup>D8</sup>	R <sup>D19</sup>	H
L <sub>C253</sub>	R <sup>D8</sup>	R <sup>D20</sup>	H
L <sub>C254</sub>	R <sup>D8</sup>	R <sup>D21</sup>	H
L <sub>C255</sub>	R <sup>D8</sup>	R <sup>D22</sup>	H
L <sub>C256</sub>	R <sup>D8</sup>	R <sup>D23</sup>	H
L <sub>C257</sub>	R <sup>D8</sup>	R <sup>D24</sup>	H
L <sub>C258</sub>	R <sup>D8</sup>	R <sup>D25</sup>	H
L <sub>C259</sub>	R <sup>D8</sup>	R <sup>D26</sup>	H
L <sub>C260</sub>	R <sup>D8</sup>	R <sup>D27</sup>	H
L <sub>C261</sub>	R <sup>D8</sup>	R <sup>D28</sup>	H
L <sub>C262</sub>	R <sup>D8</sup>	R <sup>D29</sup>	H
L <sub>C263</sub>	R <sup>D8</sup>	R <sup>D30</sup>	H
L <sub>C264</sub>	R <sup>D8</sup>	R <sup>D31</sup>	H
L <sub>C265</sub>	R <sup>D8</sup>	R <sup>D32</sup>	H
L <sub>C266</sub>	R <sup>D8</sup>	R <sup>D33</sup>	H
L <sub>C267</sub>	R <sup>D8</sup>	R <sup>D34</sup>	H
L <sub>C268</sub>	R <sup>D8</sup>	R <sup>D35</sup>	H
L <sub>C269</sub>	R <sup>D8</sup>	R <sup>D40</sup>	H
L <sub>C270</sub>	R <sup>D8</sup>	R <sup>D41</sup>	H
L <sub>C271</sub>	R <sup>D8</sup>	R <sup>D42</sup>	H
L <sub>C272</sub>	R <sup>D8</sup>	R <sup>D64</sup>	H
L <sub>C273</sub>	R <sup>D8</sup>	R <sup>D66</sup>	H
L <sub>C274</sub>	R <sup>D8</sup>	R <sup>D68</sup>	H
L <sub>C275</sub>	R <sup>D8</sup>	R <sup>D76</sup>	H
L <sub>C276</sub>	R <sup>D11</sup>	R <sup>D5</sup>	H
L <sub>C277</sub>	R <sup>D11</sup>	R <sup>D6</sup>	H
L <sub>C278</sub>	R <sup>D11</sup>	R <sup>D9</sup>	H
L <sub>C279</sub>	R <sup>D11</sup>	R <sup>D10</sup>	H
L <sub>C280</sub>	R <sup>D11</sup>	R <sup>D12</sup>	H
L <sub>C281</sub>	R <sup>D11</sup>	R <sup>D13</sup>	H

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Ligand	R <sup>1</sup>	R <sup>2</sup>	R <sup>3</sup>
L <sub>C282</sub>	R <sup>D11</sup>	R <sup>D14</sup>	H
L <sub>C283</sub>	R <sup>D11</sup>	R <sup>D15</sup>	H
L <sub>C284</sub>	R <sup>D11</sup>	R <sup>D16</sup>	H
L <sub>C285</sub>	R <sup>D11</sup>	R <sup>D17</sup>	H
L <sub>C286</sub>	R <sup>D11</sup>	R <sup>D18</sup>	H
L <sub>C287</sub>	R <sup>D11</sup>	R <sup>D19</sup>	H
L <sub>C288</sub>	R <sup>D11</sup>	R <sup>D20</sup>	H
L <sub>C289</sub>	R <sup>D11</sup>	R <sup>D21</sup>	H
L <sub>C290</sub>	R <sup>D11</sup>	R <sup>D22</sup>	H
L <sub>C291</sub>	R <sup>D11</sup>	R <sup>D23</sup>	H
L <sub>C292</sub>	R <sup>D11</sup>	R <sup>D24</sup>	H
L <sub>C293</sub>	R <sup>D11</sup>	R <sup>D25</sup>	H
L <sub>C294</sub>	R <sup>D11</sup>	R <sup>D26</sup>	H
L <sub>C295</sub>	R <sup>D11</sup>	R <sup>D27</sup>	H
L <sub>C296</sub>	R <sup>D11</sup>	R <sup>D28</sup>	H
L <sub>C297</sub>	R <sup>D11</sup>	R <sup>D29</sup>	H
L <sub>C298</sub>	R <sup>D11</sup>	R <sup>D30</sup>	H
L <sub>C299</sub>	R <sup>D11</sup>	R <sup>D31</sup>	H
L <sub>C300</sub>	R <sup>D11</sup>	R <sup>D32</sup>	H
L <sub>C301</sub>	R <sup>D11</sup>	R <sup>D33</sup>	H
L <sub>C302</sub>	R <sup>D11</sup>	R <sup>D34</sup>	H
L <sub>C303</sub>	R <sup>D11</sup>	R <sup>D35</sup>	H
L <sub>C304</sub>	R <sup>D11</sup>	R <sup>D40</sup>	H
L <sub>C305</sub>	R <sup>D11</sup>	R <sup>D41</sup>	H
L <sub>C306</sub>	R <sup>D11</sup>	R <sup>D42</sup>	H
L <sub>C307</sub>	R <sup>D11</sup>	R <sup>D64</sup>	H
L <sub>C308</sub>	R <sup>D11</sup>	R <sup>D66</sup>	H
L <sub>C309</sub>	R <sup>D11</sup>	R <sup>D68</sup>	H
L <sub>C310</sub>	R <sup>D11</sup>	R <sup>D76</sup>	H
L <sub>C311</sub>	R <sup>D13</sup>	R <sup>D5</sup>	H
L <sub>C312</sub>	R <sup>D13</sup>	R <sup>D6</sup>	H
L <sub>C313</sub>	R <sup>D13</sup>	R <sup>D9</sup>	H
L <sub>C314</sub>	R <sup>D13</sup>	R <sup>D10</sup>	H
L <sub>C315</sub>	R <sup>D13</sup>	R <sup>D12</sup>	H
L <sub>C316</sub>	R <sup>D13</sup>	R <sup>D14</sup>	H
L <sub>C317</sub>	R <sup>D13</sup>	R <sup>D15</sup>	H
L <sub>C318</sub>	R <sup>D13</sup>	R <sup>D16</sup>	H
L <sub>C319</sub>	R <sup>D13</sup>	R <sup>D17</sup>	H
L <sub>C320</sub>	R <sup>D13</sup>	R <sup>D18</sup>	H
L <sub>C321</sub>	R <sup>D13</sup>	R <sup>D19</sup>	H
L <sub>C322</sub>	R <sup>D13</sup>	R <sup>D20</sup>	H
L <sub>C323</sub>	R <sup>D13</sup>	R <sup>D21</sup>	H
L <sub>C324</sub>	R <sup>D13</sup>	R <sup>D22</sup>	H
L <sub>C325</sub>	R <sup>D13</sup>	R <sup>D23</sup>	H
L <sub>C326</sub>	R <sup>D13</sup>	R <sup>D24</sup>	H
L <sub>C327</sub>	R <sup>D13</sup>	R <sup>D25</sup>	H
L <sub>C328</sub>	R <sup>D13</sup>	R <sup>D26</sup>	H
L <sub>C329</sub>	R <sup>D13</sup>	R <sup>D27</sup>	H
L <sub>C330</sub>	R <sup>D13</sup>	R <sup>D28</sup>	H
L <sub>C331</sub>	R <sup>D13</sup>	R <sup>D29</sup>	H
L <sub>C332</sub>	R <sup>D13</sup>	R <sup>D30</sup>	H
L <sub>C333</sub>	R <sup>D13</sup>	R <sup>D31</sup>	H
L <sub>C334</sub>	R <sup>D13</sup>	R <sup>D32</sup>	H
L <sub>C335</sub>	R <sup>D13</sup>	R <sup>D33</sup>	H
L <sub>C336</sub>	R <sup>D13</sup>	R <sup>D34</sup>	H
L <sub>C337</sub>	R <sup>D13</sup>	R <sup>D35</sup>	H
L <sub>C338</sub>	R <sup>D13</sup>	R <sup>D40</sup>	H
L <sub>C339</sub>	R <sup>D13</sup>	R <sup>D41</sup>	H
L <sub>C340</sub>	R <sup>D13</sup>	R <sup>D42</sup>	H
L <sub>C341</sub>	R <sup>D13</sup>	R <sup>D64</sup>	H
L <sub>C342</sub>	R <sup>D13</sup>	R <sup>D66</sup>	H
L <sub>C343</sub>	R <sup>D13</sup>	R <sup>D68</sup>	H
L <sub>C344</sub>	R <sup>D13</sup>	R <sup>D76</sup>	H
L <sub>C345</sub>	R <sup>D14</sup>	R <sup>D5</sup>	H
L <sub>C346</sub>	R <sup>D14</sup>	R <sup>D6</sup>	H
L <sub>C347</sub>	R <sup>D14</sup>	R <sup>D9</sup>	H
L <sub>C348</sub>	R <sup>D14</sup>	R <sup>D10</sup>	H
L <sub>C349</sub>	R <sup>D14</sup>	R <sup>D12</sup>	H
L <sub>C350</sub>	R <sup>D14</sup>	R <sup>D15</sup>	H
L <sub>C351</sub>	R <sup>D14</sup>	R <sup>D16</sup>	H
L <sub>C352</sub>	R <sup>D14</sup>	R <sup>D17</sup>	H
L <sub>C353</sub>	R <sup>D14</sup>	R <sup>D18</sup>	H
L <sub>C354</sub>	R <sup>D14</sup>	R <sup>D19</sup>	H
L <sub>C355</sub>	R <sup>D14</sup>	R <sup>D20</sup>	H

-continued

Ligand	R <sup>1</sup>	R <sup>2</sup>	R <sup>3</sup>
L <sub>C356</sub>	R <sup>D14</sup>	R <sup>D21</sup>	H
L <sub>C357</sub>	R <sup>D14</sup>	R <sup>D22</sup>	H
L <sub>C358</sub>	R <sup>D14</sup>	R <sup>D23</sup>	H
L <sub>C359</sub>	R <sup>D14</sup>	R <sup>D24</sup>	H
L <sub>C360</sub>	R <sup>D14</sup>	R <sup>D25</sup>	H
L <sub>C361</sub>	R <sup>D14</sup>	R <sup>D26</sup>	H
L <sub>C362</sub>	R <sup>D14</sup>	R <sup>D27</sup>	H
L <sub>C363</sub>	R <sup>D14</sup>	R <sup>D28</sup>	H
L <sub>C364</sub>	R <sup>D14</sup>	R <sup>D29</sup>	H
L <sub>C365</sub>	R <sup>D14</sup>	R <sup>D30</sup>	H
L <sub>C366</sub>	R <sup>D14</sup>	R <sup>D31</sup>	H
L <sub>C367</sub>	R <sup>D14</sup>	R <sup>D32</sup>	H
L <sub>C368</sub>	R <sup>D14</sup>	R <sup>D33</sup>	H
L <sub>C369</sub>	R <sup>D14</sup>	R <sup>D34</sup>	H
L <sub>C370</sub>	R <sup>D14</sup>	R <sup>D35</sup>	H
L <sub>C371</sub>	R <sup>D14</sup>	R <sup>D40</sup>	H
L <sub>C372</sub>	R <sup>D14</sup>	R <sup>D41</sup>	H
L <sub>C373</sub>	R <sup>D14</sup>	R <sup>D42</sup>	H
L <sub>C374</sub>	R <sup>D14</sup>	R <sup>D64</sup>	H
L <sub>C375</sub>	R <sup>D14</sup>	R <sup>D66</sup>	H
L <sub>C376</sub>	R <sup>D14</sup>	R <sup>D68</sup>	H
L <sub>C377</sub>	R <sup>D14</sup>	R <sup>D76</sup>	H
L <sub>C378</sub>	R <sup>D22</sup>	R <sup>D5</sup>	H
L <sub>C379</sub>	R <sup>D22</sup>	R <sup>D6</sup>	H
L <sub>C380</sub>	R <sup>D22</sup>	R <sup>D9</sup>	H
L <sub>C381</sub>	R <sup>D22</sup>	R <sup>D10</sup>	H
L <sub>C382</sub>	R <sup>D22</sup>	R <sup>D12</sup>	H
L <sub>C383</sub>	R <sup>D22</sup>	R <sup>D15</sup>	H
L <sub>C384</sub>	R <sup>D22</sup>	R <sup>D16</sup>	H
L <sub>C385</sub>	R <sup>D22</sup>	R <sup>D17</sup>	H
L <sub>C386</sub>	R <sup>D22</sup>	R <sup>D18</sup>	H
L <sub>C387</sub>	R <sup>D22</sup>	R <sup>D19</sup>	H
L <sub>C388</sub>	R <sup>D22</sup>	R <sup>D20</sup>	H
L <sub>C389</sub>	R <sup>D22</sup>	R <sup>D21</sup>	H
L <sub>C390</sub>	R <sup>D22</sup>	R <sup>D23</sup>	H
L <sub>C391</sub>	R <sup>D22</sup>	R <sup>D24</sup>	H
L <sub>C392</sub>	R <sup>D22</sup>	R <sup>D25</sup>	H
L <sub>C393</sub>	R <sup>D22</sup>	R <sup>D26</sup>	H
L <sub>C394</sub>	R <sup>D22</sup>	R <sup>D27</sup>	H
L <sub>C395</sub>	R <sup>D22</sup>	R <sup>D28</sup>	H
L <sub>C396</sub>	R <sup>D22</sup>	R <sup>D29</sup>	H
L <sub>C397</sub>	R <sup>D22</sup>	R <sup>D30</sup>	H
L <sub>C398</sub>	R <sup>D22</sup>	R <sup>D31</sup>	H
L <sub>C399</sub>	R <sup>D22</sup>	R <sup>D32</sup>	H
L <sub>C400</sub>	R <sup>D22</sup>	R <sup>D33</sup>	H
L <sub>C401</sub>	R <sup>D22</sup>	R <sup>D34</sup>	H
L <sub>C402</sub>	R <sup>D22</sup>	R <sup>D35</sup>	H
L <sub>C403</sub>	R <sup>D22</sup>	R <sup>D40</sup>	H
L <sub>C404</sub>	R <sup>D22</sup>	R <sup>D41</sup>	H
L <sub>C405</sub>	R <sup>D22</sup>	R <sup>D42</sup>	H
L <sub>C406</sub>	R <sup>D22</sup>	R <sup>D64</sup>	H
L <sub>C407</sub>	R <sup>D22</sup>	R <sup>D66</sup>	H
L <sub>C408</sub>	R <sup>D22</sup>	R <sup>D68</sup>	H
L <sub>C409</sub>	R <sup>D22</sup>	R <sup>D76</sup>	H
L <sub>C410</sub>	R <sup>D26</sup>	R <sup>D5</sup>	H
L <sub>C411</sub>	R <sup>D26</sup>	R <sup>D6</sup>	H
L <sub>C412</sub>	R <sup>D26</sup>	R <sup>D9</sup>	H
L <sub>C413</sub>	R <sup>D26</sup>	R <sup>D10</sup>	H
L <sub>C414</sub>	R <sup>D26</sup>	R <sup>D12</sup>	H
L <sub>C415</sub>	R <sup>D26</sup>	R <sup>D15</sup>	H
L <sub>C416</sub>	R <sup>D26</sup>	R <sup>D16</sup>	H
L <sub>C417</sub>	R <sup>D26</sup>	R <sup>D17</sup>	H
L <sub>C418</sub>	R <sup>D26</sup>	R <sup>D18</sup>	H
L <sub>C419</sub>	R <sup>D26</sup>	R <sup>D19</sup>	H
L <sub>C420</sub>	R <sup>D26</sup>	R <sup>D20</sup>	H
L <sub>C421</sub>	R <sup>D26</sup>	R <sup>D21</sup>	H
L <sub>C422</sub>	R <sup>D26</sup>	R <sup>D23</sup>	H
L <sub>C423</sub>	R <sup>D26</sup>	R <sup>D24</sup>	H
L <sub>C424</sub>	R <sup>D26</sup>	R <sup>D25</sup>	H
L <sub>C425</sub>	R <sup>D26</sup>	R <sup>D27</sup>	H
L <sub>C426</sub>	R <sup>D26</sup>	R <sup>D28</sup>	H
L <sub>C427</sub>	R <sup>D26</sup>	R <sup>D29</sup>	H
L <sub>C428</sub>	R <sup>D26</sup>	R <sup>D30</sup>	H
L <sub>C429</sub>	R <sup>D26</sup>	R <sup>D31</sup>	H

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Ligand	R <sup>1</sup>	R <sup>2</sup>	R <sup>3</sup>
L <sub>C430</sub>	R <sup>D26</sup>	R <sup>D32</sup>	H
L <sub>C431</sub>	R <sup>D26</sup>	R <sup>D33</sup>	H
L <sub>C432</sub>	R <sup>D26</sup>	R <sup>D34</sup>	H
L <sub>C433</sub>	R <sup>D26</sup>	R <sup>D35</sup>	H
L <sub>C434</sub>	R <sup>D26</sup>	R <sup>D40</sup>	H
L <sub>C435</sub>	R <sup>D26</sup>	R <sup>D41</sup>	H
L <sub>C436</sub>	R <sup>D26</sup>	R <sup>D42</sup>	H
L <sub>C437</sub>	R <sup>D26</sup>	R <sup>D64</sup>	H
L <sub>C438</sub>	R <sup>D26</sup>	R <sup>D66</sup>	H
L <sub>C439</sub>	R <sup>D26</sup>	R <sup>D68</sup>	H
L <sub>C440</sub>	R <sup>D26</sup>	R <sup>D76</sup>	H
L <sub>C441</sub>	R <sup>D35</sup>	R <sup>D5</sup>	H
L <sub>C442</sub>	R <sup>D35</sup>	R <sup>D6</sup>	H
L <sub>C443</sub>	R <sup>D35</sup>	R <sup>D9</sup>	H
L <sub>C444</sub>	R <sup>D35</sup>	R <sup>D10</sup>	H
L <sub>C445</sub>	R <sup>D35</sup>	R <sup>D12</sup>	H
L <sub>C446</sub>	R <sup>D35</sup>	R <sup>D15</sup>	H
L <sub>C447</sub>	R <sup>D35</sup>	R <sup>D16</sup>	H
L <sub>C448</sub>	R <sup>D35</sup>	R <sup>D17</sup>	H
L <sub>C449</sub>	R <sup>D35</sup>	R <sup>D18</sup>	H
L <sub>C450</sub>	R <sup>D35</sup>	R <sup>D19</sup>	H
L <sub>C451</sub>	R <sup>D35</sup>	R <sup>D20</sup>	H
L <sub>C452</sub>	R <sup>D35</sup>	R <sup>D21</sup>	H
L <sub>C453</sub>	R <sup>D35</sup>	R <sup>D23</sup>	H
L <sub>C454</sub>	R <sup>D35</sup>	R <sup>D24</sup>	H
L <sub>C455</sub>	R <sup>D35</sup>	R <sup>D25</sup>	H
L <sub>C456</sub>	R <sup>D35</sup>	R <sup>D27</sup>	H
L <sub>C457</sub>	R <sup>D35</sup>	R <sup>D28</sup>	H
L <sub>C458</sub>	R <sup>D35</sup>	R <sup>D29</sup>	H
L <sub>C459</sub>	R <sup>D35</sup>	R <sup>D30</sup>	H
L <sub>C460</sub>	R <sup>D35</sup>	R <sup>D31</sup>	H
L <sub>C461</sub>	R <sup>D35</sup>	R <sup>D32</sup>	H
L <sub>C462</sub>	R <sup>D35</sup>	R <sup>D33</sup>	H
L <sub>C463</sub>	R <sup>D35</sup>	R <sup>D34</sup>	H
L <sub>C464</sub>	R <sup>D35</sup>	R <sup>D40</sup>	H
L <sub>C465</sub>	R <sup>D35</sup>	R <sup>D41</sup>	H
L <sub>C466</sub>	R <sup>D35</sup>	R <sup>D42</sup>	H
L <sub>C467</sub>	R <sup>D35</sup>	R <sup>D64</sup>	H
L <sub>C468</sub>	R <sup>D35</sup>	R <sup>D66</sup>	H
L <sub>C469</sub>	R <sup>D35</sup>	R <sup>D68</sup>	H
L <sub>C470</sub>	R <sup>D35</sup>	R <sup>D76</sup>	H
L <sub>C471</sub>	R <sup>D40</sup>	R <sup>D5</sup>	H
L <sub>C472</sub>	R <sup>D40</sup>	R <sup>D6</sup>	H
L <sub>C473</sub>	R <sup>D40</sup>	R <sup>D9</sup>	H
L <sub>C474</sub>	R <sup>D40</sup>	R <sup>D10</sup>	H
L <sub>C475</sub>	R <sup>D40</sup>	R <sup>D12</sup>	H
L <sub>C476</sub>	R <sup>D40</sup>	R <sup>D15</sup>	H
L <sub>C477</sub>	R <sup>D40</sup>	R <sup>D16</sup>	H
L <sub>C478</sub>	R <sup>D40</sup>	R <sup>D17</sup>	H
L <sub>C479</sub>	R <sup>D40</sup>	R <sup>D18</sup>	H
L <sub>C480</sub>	R <sup>D40</sup>	R <sup>D19</sup>	H
L <sub>C481</sub>	R <sup>D40</sup>	R <sup>D20</sup>	H
L <sub>C482</sub>	R <sup>D40</sup>	R <sup>D21</sup>	H
L <sub>C483</sub>	R <sup>D40</sup>	R <sup>D23</sup>	H
L <sub>C484</sub>	R <sup>D40</sup>	R <sup>D24</sup>	H
L <sub>C485</sub>	R <sup>D40</sup>	R <sup>D25</sup>	H
L <sub>C486</sub>	R <sup>D40</sup>	R <sup>D27</sup>	H
L <sub>C487</sub>	R <sup>D40</sup>	R <sup>D28</sup>	H
L <sub>C488</sub>	R <sup>D40</sup>	R <sup>D29</sup>	H
L <sub>C489</sub>	R <sup>D40</sup>	R <sup>D30</sup>	H
L <sub>C490</sub>	R <sup>D40</sup>	R <sup>D31</sup>	H
L <sub>C491</sub>	R <sup>D40</sup>	R <sup>D32</sup>	H
L <sub>C492</sub>	R <sup>D40</sup>	R <sup>D33</sup>	H
L <sub>C493</sub>	R <sup>D40</sup>	R <sup>D34</sup>	H
L <sub>C494</sub>	R <sup>D40</sup>	R <sup>D41</sup>	H
L <sub>C495</sub>	R <sup>D40</sup>	R <sup>D42</sup>	H
L <sub>C496</sub>	R <sup>D40</sup>	R <sup>D64</sup>	H
L <sub>C497</sub>	R <sup>D40</sup>	R <sup>D66</sup>	H
L <sub>C498</sub>	R <sup>D40</sup>	R <sup>D68</sup>	H
L <sub>C499</sub>	R <sup>D40</sup>	R <sup>D76</sup>	H
L <sub>C500</sub>	R <sup>D41</sup>	R <sup>D5</sup>	H
L <sub>C501</sub>	R <sup>D41</sup>	R <sup>D6</sup>	H
L <sub>C502</sub>	R <sup>D41</sup>	R <sup>D9</sup>	H
L <sub>C503</sub>	R <sup>D41</sup>	R <sup>D10</sup>	H

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Ligand	R <sup>1</sup>	R <sup>2</sup>	R <sup>3</sup>
L <sub>C504</sub>	R <sup>D41</sup>	R <sup>D12</sup>	H
L <sub>C505</sub>	R <sup>D41</sup>	R <sup>D15</sup>	H
L <sub>C506</sub>	R <sup>D41</sup>	R <sup>D16</sup>	H
L <sub>C507</sub>	R <sup>D41</sup>	R <sup>D17</sup>	H
L <sub>C508</sub>	R <sup>D41</sup>	R <sup>D18</sup>	H
L <sub>C509</sub>	R <sup>D41</sup>	R <sup>D19</sup>	H
L <sub>C510</sub>	R <sup>D41</sup>	R <sup>D20</sup>	H
L <sub>C511</sub>	R <sup>D41</sup>	R <sup>D21</sup>	H
L <sub>C512</sub>	R <sup>D41</sup>	R <sup>D23</sup>	H
L <sub>C513</sub>	R <sup>D41</sup>	R <sup>D24</sup>	H
L <sub>C514</sub>	R <sup>D41</sup>	R <sup>D25</sup>	H
L <sub>C515</sub>	R <sup>D41</sup>	R <sup>D27</sup>	H
L <sub>C516</sub>	R <sup>D41</sup>	R <sup>D28</sup>	H
L <sub>C517</sub>	R <sup>D41</sup>	R <sup>D29</sup>	H
L <sub>C518</sub>	R <sup>D41</sup>	R <sup>D30</sup>	H
L <sub>C519</sub>	R <sup>D41</sup>	R <sup>D31</sup>	H
L <sub>C520</sub>	R <sup>D41</sup>	R <sup>D32</sup>	H
L <sub>C521</sub>	R <sup>D41</sup>	R <sup>D33</sup>	H
L <sub>C522</sub>	R <sup>D41</sup>	R <sup>D34</sup>	H
L <sub>C523</sub>	R <sup>D41</sup>	R <sup>D42</sup>	H
L <sub>C524</sub>	R <sup>D41</sup>	R <sup>D64</sup>	H
L <sub>C525</sub>	R <sup>D41</sup>	R <sup>D66</sup>	H
L <sub>C526</sub>	R <sup>D41</sup>	R <sup>D68</sup>	H
L <sub>C527</sub>	R <sup>D41</sup>	R <sup>D76</sup>	H
L <sub>C528</sub>	R <sup>D64</sup>	R <sup>D5</sup>	H
L <sub>C529</sub>	R <sup>D64</sup>	R <sup>D6</sup>	H
L <sub>C530</sub>	R <sup>D64</sup>	R <sup>D9</sup>	H
L <sub>C531</sub>	R <sup>D64</sup>	R <sup>D10</sup>	H
L <sub>C532</sub>	R <sup>D64</sup>	R <sup>D12</sup>	H
L <sub>C533</sub>	R <sup>D64</sup>	R <sup>D15</sup>	H
L <sub>C534</sub>	R <sup>D64</sup>	R <sup>D16</sup>	H
L <sub>C535</sub>	R <sup>D64</sup>	R <sup>D17</sup>	H
L <sub>C536</sub>	R <sup>D64</sup>	R <sup>D18</sup>	H
L <sub>C537</sub>	R <sup>D64</sup>	R <sup>D19</sup>	H
L <sub>C538</sub>	R <sup>D64</sup>	R <sup>D20</sup>	H
L <sub>C539</sub>	R <sup>D64</sup>	R <sup>D21</sup>	H
L <sub>C540</sub>	R <sup>D64</sup>	R <sup>D23</sup>	H
L <sub>C541</sub>	R <sup>D64</sup>	R <sup>D24</sup>	H
L <sub>C542</sub>	R <sup>D64</sup>	R <sup>D25</sup>	H
L <sub>C543</sub>	R <sup>D64</sup>	R <sup>D27</sup>	H
L <sub>C544</sub>	R <sup>D64</sup>	R <sup>D28</sup>	H
L <sub>C545</sub>	R <sup>D64</sup>	R <sup>D29</sup>	H
L <sub>C546</sub>	R <sup>D64</sup>	R <sup>D30</sup>	H
L <sub>C547</sub>	R <sup>D64</sup>	R <sup>D31</sup>	H
L <sub>C548</sub>	R <sup>D64</sup>	R <sup>D32</sup>	H
L <sub>C549</sub>	R <sup>D64</sup>	R <sup>D33</sup>	H
L <sub>C550</sub>	R <sup>D64</sup>	R <sup>D34</sup>	H
L <sub>C551</sub>	R <sup>D64</sup>	R <sup>D42</sup>	H
L <sub>C552</sub>	R <sup>D64</sup>	R <sup>D64</sup>	H
L <sub>C553</sub>	R <sup>D64</sup>	R <sup>D66</sup>	H
L <sub>C554</sub>	R <sup>D64</sup>	R <sup>D68</sup>	H
L <sub>C555</sub>	R <sup>D66</sup>	R <sup>D76</sup>	H
L <sub>C556</sub>	R <sup>D66</sup>	R <sup>D5</sup>	H
L <sub>C557</sub>	R <sup>D66</sup>	R <sup>D6</sup>	H
L <sub>C558</sub>	R <sup>D66</sup>	R <sup>D9</sup>	H
L <sub>C559</sub>	R <sup>D66</sup>	R <sup>D10</sup>	H
L <sub>C560</sub>	R <sup>D66</sup>	R <sup>D12</sup>	H
L <sub>C561</sub>	R <sup>D66</sup>	R <sup>D15</sup>	H
L <sub>C562</sub>	R <sup>D66</sup>	R <sup>D16</sup>	H
L <sub>C563</sub>	R <sup>D66</sup>	R <sup>D17</sup>	H
L <sub>C564</sub>	R <sup>D66</sup>	R <sup>D18</sup>	H
L <sub>C565</sub>	R <sup>D66</sup>	R <sup>D19</sup>	H
L <sub>C566</sub>	R <sup>D66</sup>	R <sup>D20</sup>	H
L <sub>C567</sub>	R <sup>D66</sup>	R <sup>D21</sup>	H
L <sub>C568</sub>	R <sup>D66</sup>	R <sup>D23</sup>	H
L <sub>C569</sub>	R <sup>D66</sup>	R <sup>D24</sup>	H
L <sub>C570</sub>	R <sup>D66</sup>	R <sup>D25</sup>	H
L <sub>C571</sub>	R <sup>D66</sup>	R <sup>D27</sup>	H
L <sub>C572</sub>	R <sup>D66</sup>	R <sup>D28</sup>	H
L <sub>C573</sub>	R <sup>D66</sup>	R <sup>D29</sup>	H
L <sub>C574</sub>	R <sup>D66</sup>	R <sup>D30</sup>	H
L <sub>C575</sub>	R <sup>D66</sup>	R <sup>D31</sup>	H
L <sub>C576</sub>	R <sup>D66</sup>	R <sup>D32</sup>	H
L <sub>C577</sub>	R <sup>D66</sup>	R <sup>D33</sup>	H

-continued

Ligand	R <sup>1</sup>	R <sup>2</sup>	R <sup>3</sup>
L <sub>C578</sub>	R <sup>D66</sup>	R <sup>D34</sup>	H
L <sub>C579</sub>	R <sup>D66</sup>	R <sup>D42</sup>	H
L <sub>C580</sub>	R <sup>D66</sup>	R <sup>D68</sup>	H
L <sub>C581</sub>	R <sup>D66</sup>	R <sup>D76</sup>	H
L <sub>C582</sub>	R <sup>D68</sup>	R <sup>D5</sup>	H
L <sub>C583</sub>	R <sup>D68</sup>	R <sup>D6</sup>	H
L <sub>C584</sub>	R <sup>D68</sup>	R <sup>D9</sup>	H
L <sub>C585</sub>	R <sup>D68</sup>	R <sup>D10</sup>	H
L <sub>C586</sub>	R <sup>D68</sup>	R <sup>D12</sup>	H
L <sub>C587</sub>	R <sup>D68</sup>	R <sup>D15</sup>	H
L <sub>C588</sub>	R <sup>D68</sup>	R <sup>D16</sup>	H
L <sub>C589</sub>	R <sup>D68</sup>	R <sup>D17</sup>	H
L <sub>C590</sub>	R <sup>D68</sup>	R <sup>D18</sup>	H
L <sub>C591</sub>	R <sup>D68</sup>	R <sup>D19</sup>	H
L <sub>C592</sub>	R <sup>D68</sup>	R <sup>D20</sup>	H
L <sub>C593</sub>	R <sup>D68</sup>	R <sup>D21</sup>	H
L <sub>C594</sub>	R <sup>D68</sup>	R <sup>D23</sup>	H
L <sub>C595</sub>	R <sup>D68</sup>	R <sup>D24</sup>	H
L <sub>C596</sub>	R <sup>D68</sup>	R <sup>D25</sup>	H
L <sub>C597</sub>	R <sup>D68</sup>	R <sup>D27</sup>	H
L <sub>C598</sub>	R <sup>D68</sup>	R <sup>D28</sup>	H
L <sub>C599</sub>	R <sup>D68</sup>	R <sup>D29</sup>	H
L <sub>C600</sub>	R <sup>D68</sup>	R <sup>D30</sup>	H
L <sub>C601</sub>	R <sup>D68</sup>	R <sup>D31</sup>	H
L <sub>C602</sub>	R <sup>D68</sup>	R <sup>D32</sup>	H
L <sub>C603</sub>	R <sup>D68</sup>	R <sup>D33</sup>	H
L <sub>C604</sub>	R <sup>D68</sup>	R <sup>D34</sup>	H
L <sub>C605</sub>	R <sup>D68</sup>	R <sup>D42</sup>	H
L <sub>C606</sub>	R <sup>D68</sup>	R <sup>D76</sup>	H
L <sub>C607</sub>	R <sup>D76</sup>	R <sup>D5</sup>	H
L <sub>C608</sub>	R <sup>D76</sup>	R <sup>D6</sup>	H
L <sub>C609</sub>	R <sup>D76</sup>	R <sup>D9</sup>	H
L <sub>C610</sub>	R <sup>D76</sup>	R <sup>D10</sup>	H
L <sub>C611</sub>	R <sup>D76</sup>	R <sup>D12</sup>	H
L <sub>C612</sub>	R <sup>D76</sup>	R <sup>D15</sup>	H
L <sub>C613</sub>	R <sup>D76</sup>	R <sup>D16</sup>	H
L <sub>C614</sub>	R <sup>D76</sup>	R <sup>D17</sup>	H
L <sub>C615</sub>	R <sup>D76</sup>	R <sup>D18</sup>	H
L <sub>C616</sub>	R <sup>D76</sup>	R <sup>D19</sup>	H
L <sub>C617</sub>	R <sup>D76</sup>	R <sup>D20</sup>	H
L <sub>C618</sub>	R <sup>D76</sup>	R <sup>D21</sup>	H
L <sub>C619</sub>	R <sup>D76</sup>	R <sup>D23</sup>	H
L <sub>C620</sub>	R <sup>D76</sup>	R <sup>D24</sup>	H
L <sub>C621</sub>	R <sup>D76</sup>	R <sup>D25</sup>	H
L <sub>C622</sub>	R <sup>D76</sup>	R <sup>D27</sup>	H
L <sub>C623</sub>	R <sup>D76</sup>	R <sup>D28</sup>	H
L <sub>C624</sub>	R <sup>D76</sup>	R <sup>D29</sup>	H
L <sub>C625</sub>	R <sup>D76</sup>	R <sup>D30</sup>	H
L <sub>C626</sub>	R <sup>D76</sup>	R <sup>D31</sup>	H
L <sub>C627</sub>	R <sup>D76</sup>	R <sup>D32</sup>	H
L <sub>C628</sub>	R <sup>D76</sup>	R <sup>D33</sup>	H
L <sub>C629</sub>	R <sup>D76</sup>	R <sup>D34</sup>	H
L <sub>C630</sub>	R <sup>D76</sup>	R <sup>D42</sup>	H
L <sub>C631</sub>	R <sup>D1</sup>	R <sup>D1</sup>	R <sup>D1</sup>
L <sub>C632</sub>	R <sup>D2</sup>	R <sup>D2</sup>	R <sup>D1</sup>
L <sub>C633</sub>	R <sup>D3</sup>	R <sup>D3</sup>	R <sup>D1</sup>
L <sub>C634</sub>	R <sup>D4</sup>	R <sup>D4</sup>	R <sup>D1</sup>
L <sub>C635</sub>	R <sup>D5</sup>	R <sup>D5</sup>	R <sup>D1</sup>
L <sub>C636</sub>	R <sup>D6</sup>	R <sup>D6</sup>	R <sup>D1</sup>
L <sub>C637</sub>	R <sup>D7</sup>	R <sup>D7</sup>	R <sup>D1</sup>
L <sub>C638</sub>	R <sup>D8</sup>	R <sup>D8</sup>	R <sup>D1</sup>
L <sub>C639</sub>	R <sup>D9</sup>	R <sup>D9</sup>	R <sup>D1</sup>
L <sub>C640</sub>	R <sup>D10</sup>	R <sup>D10</sup>	R <sup>D1</sup>
L <sub>C641</sub>	R <sup>D11</sup>	R <sup>D11</sup>	R <sup>D1</sup>
L <sub>C642</sub>	R <sup>D12</sup>	R <sup>D12</sup>	R <sup>D1</sup>
L <sub>C643</sub>	R <sup>D13</sup>	R <sup>D13</sup>	R <sup>D1</sup>
L <sub>C644</sub>	R <sup>D14</sup>	R <sup>D14</sup>	R <sup>D1</sup>
L <sub>C645</sub>	R <sup>D15</sup>	R <sup>D15</sup>	R <sup>D1</sup>
L <sub>C646</sub>	R <sup>D16</sup>	R <sup>D16</sup>	R <sup>D1</sup>
L <sub>C647</sub>	R <sup>D17</sup>	R <sup>D17</sup>	R <sup>D1</sup>
L <sub>C648</sub>	R <sup>D18</sup>	R <sup>D18</sup>	R <sup>D1</sup>
L <sub>C649</sub>	R <sup>D19</sup>	R <sup>D19</sup>	R <sup>D1</sup>
L <sub>C650</sub>	R <sup>D20</sup>	R <sup>D20</sup>	R <sup>D1</sup>
L <sub>C651</sub>	R <sup>D21</sup>	R <sup>D21</sup>	R <sup>D1</sup>

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Ligand	R <sup>1</sup>	R <sup>2</sup>	R <sup>3</sup>
L <sub>C652</sub>	R <sup>D22</sup>	R <sup>D22</sup>	R <sup>D1</sup>
L <sub>C653</sub>	R <sup>D23</sup>	R <sup>D23</sup>	R <sup>D1</sup>
L <sub>C654</sub>	R <sup>D24</sup>	R <sup>D24</sup>	R <sup>D1</sup>
L <sub>C655</sub>	R <sup>D25</sup>	R <sup>D25</sup>	R <sup>D1</sup>
L <sub>C656</sub>	R <sup>D26</sup>	R <sup>D26</sup>	R <sup>D1</sup>
L <sub>C657</sub>	R <sup>D27</sup>	R <sup>D27</sup>	R <sup>D1</sup>
L <sub>C658</sub>	R <sup>D28</sup>	R <sup>D28</sup>	R <sup>D1</sup>
L <sub>C659</sub>	R <sup>D29</sup>	R <sup>D29</sup>	R <sup>D1</sup>
L <sub>C660</sub>	R <sup>D30</sup>	R <sup>D30</sup>	R <sup>D1</sup>
L <sub>C661</sub>	R <sup>D31</sup>	R <sup>D31</sup>	R <sup>D1</sup>
L <sub>C662</sub>	R <sup>D32</sup>	R <sup>D32</sup>	R <sup>D1</sup>
L <sub>C663</sub>	R <sup>D33</sup>	R <sup>D33</sup>	R <sup>D1</sup>
L <sub>C664</sub>	R <sup>D34</sup>	R <sup>D34</sup>	R <sup>D1</sup>
L <sub>C665</sub>	R <sup>D35</sup>	R <sup>D35</sup>	R <sup>D1</sup>
L <sub>C666</sub>	R <sup>D40</sup>	R <sup>D40</sup>	R <sup>D1</sup>
L <sub>C667</sub>	R <sup>D41</sup>	R <sup>D41</sup>	R <sup>D1</sup>
L <sub>C668</sub>	R <sup>D42</sup>	R <sup>D42</sup>	R <sup>D1</sup>
L <sub>C669</sub>	R <sup>D64</sup>	R <sup>D64</sup>	R <sup>D1</sup>
L <sub>C670</sub>	R <sup>D66</sup>	R <sup>D66</sup>	R <sup>D1</sup>
L <sub>C671</sub>	R <sup>D68</sup>	R <sup>D68</sup>	R <sup>D1</sup>
L <sub>C672</sub>	R <sup>D76</sup>	R <sup>D76</sup>	R <sup>D1</sup>
L <sub>C673</sub>	R <sup>D1</sup>	R <sup>D2</sup>	R <sup>D1</sup>
L <sub>C674</sub>	R <sup>D1</sup>	R <sup>D3</sup>	R <sup>D1</sup>
L <sub>C675</sub>	R <sup>D1</sup>	R <sup>D4</sup>	R <sup>D1</sup>
L <sub>C676</sub>	R <sup>D1</sup>	R <sup>D5</sup>	R <sup>D1</sup>
L <sub>C677</sub>	R <sup>D1</sup>	R <sup>D6</sup>	R <sup>D1</sup>
L <sub>C678</sub>	R <sup>D1</sup>	R <sup>D7</sup>	R <sup>D1</sup>
L <sub>C679</sub>	R <sup>D1</sup>	R <sup>D8</sup>	R <sup>D1</sup>
L <sub>C680</sub>	R <sup>D1</sup>	R <sup>D9</sup>	R <sup>D1</sup>
L <sub>C681</sub>	R <sup>D1</sup>	R <sup>D10</sup>	R <sup>D1</sup>
L <sub>C682</sub>	R <sup>D1</sup>	R <sup>D11</sup>	R <sup>D1</sup>
L <sub>C683</sub>	R <sup>D1</sup>	R <sup>D12</sup>	R <sup>D1</sup>
L <sub>C684</sub>	R <sup>D1</sup>	R <sup>D13</sup>	R <sup>D1</sup>
L <sub>C685</sub>	R <sup>D1</sup>	R <sup>D14</sup>	R <sup>D1</sup>
L <sub>C686</sub>	R <sup>D1</sup>	R <sup>D15</sup>	R <sup>D1</sup>
L <sub>C687</sub>	R <sup>D1</sup>	R <sup>D16</sup>	R <sup>D1</sup>
L <sub>C688</sub>	R <sup>D1</sup>	R <sup>D17</sup>	R <sup>D1</sup>
L <sub>C689</sub>	R <sup>D1</sup>	R <sup>D18</sup>	R <sup>D1</sup>
L <sub>C690</sub>	R <sup>D1</sup>	R <sup>D19</sup>	R <sup>D1</sup>
L <sub>C691</sub>	R <sup>D1</sup>	R <sup>D20</sup>	R <sup>D1</sup>
L <sub>C692</sub>	R <sup>D1</sup>	R <sup>D21</sup>	R <sup>D1</sup>
L <sub>C693</sub>	R <sup>D1</sup>	R <sup>D22</sup>	R <sup>D1</sup>
L <sub>C694</sub>	R <sup>D1</sup>	R <sup>D23</sup>	R <sup>D1</sup>
L <sub>C695</sub>	R <sup>D1</sup>	R <sup>D24</sup>	R <sup>D1</sup>
L <sub>C696</sub>	R <sup>D1</sup>	R <sup>D25</sup>	R <sup>D1</sup>
L <sub>C697</sub>	R <sup>D1</sup>	R <sup>D26</sup>	R <sup>D1</sup>
L <sub>C698</sub>	R <sup>D1</sup>	R <sup>D27</sup>	R <sup>D1</sup>
L <sub>C699</sub>	R <sup>D1</sup>	R <sup>D28</sup>	R <sup>D1</sup>
L <sub>C700</sub>	R <sup>D1</sup>	R <sup>D29</sup>	R <sup>D1</sup>
L <sub>C701</sub>	R <sup>D1</sup>	R <sup>D30</sup>	R <sup>D1</sup>
L <sub>C702</sub>	R <sup>D1</sup>	R <sup>D31</sup>	R <sup>D1</sup>
L <sub>C703</sub>	R <sup>D1</sup>	R <sup>D32</sup>	R <sup>D1</sup>
L <sub>C704</sub>	R <sup>D1</sup>	R <sup>D33</sup>	R <sup>D1</sup>
L <sub>C705</sub>	R <sup>D1</sup>	R <sup>D34</sup>	R <sup>D1</sup>
L <sub>C706</sub>	R <sup>D1</sup>	R <sup>D35</sup>	R <sup>D1</sup>
L <sub>C707</sub>	R <sup>D1</sup>	R <sup>D40</sup>	R <sup>D1</sup>
L <sub>C708</sub>	R <sup>D1</sup>	R <sup>D41</sup>	R <sup>D1</sup>
L <sub>C709</sub>	R <sup>D1</sup>	R <sup>D42</sup>	R <sup>D1</sup>
L <sub>C710</sub>	R <sup>D1</sup>	R <sup>D64</sup>	R <sup>D1</sup>
L <sub>C711</sub>	R <sup>D1</sup>	R <sup>D66</sup>	R <sup>D1</sup>
L <sub>C712</sub>	R <sup>D1</sup>	R <sup>D68</sup>	R <sup>D1</sup>
L <sub>C713</sub>	R <sup>D1</sup>	R <sup>D76</sup>	R <sup>D1</sup>
L <sub>C714</sub>	R <sup>D2</sup>	R <sup>D1</sup>	R <sup>D1</sup>
L <sub>C715</sub>	R <sup>D2</sup>	R <sup>D3</sup>	R <sup>D1</sup>
L <sub>C716</sub>	R <sup>D2</sup>	R <sup>D4</sup>	R <sup>D1</sup>
L <sub>C717</sub>	R <sup>D2</sup>	R <sup>D5</sup>	R <sup>D1</sup>
L <sub>C718</sub>	R <sup>D2</sup>	R <sup>D6</sup>	R <sup>D1</sup>
L <sub>C719</sub>	R <sup>D2</sup>	R <sup>D7</sup>	R <sup>D1</sup>
L <sub>C720</sub>	R <sup>D2</sup>	R <sup>D8</sup>	R <sup>D1</sup>
L <sub>C721</sub>	R <sup>D2</sup>	R <sup>D9</sup>	R <sup>D1</sup>
L <sub>C722</sub>	R <sup>D2</sup>	R <sup>D10</sup>	R <sup>D1</sup>
L <sub>C723</sub>	R <sup>D2</sup>	R <sup>D11</sup>	R <sup>D1</sup>
L <sub>C724</sub>	R <sup>D2</sup>	R <sup>D12</sup>	R <sup>D1</sup>
L <sub>C725</sub>	R <sup>D2</sup>	R <sup>D13</sup>	R <sup>D1</sup>

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Ligand	R <sup>1</sup>	R <sup>2</sup>	R <sup>3</sup>
L <sub>C726</sub>	R <sup>D2</sup>	R <sup>D14</sup>	R <sup>D1</sup>
L <sub>C727</sub>	R <sup>D2</sup>	R <sup>D15</sup>	R <sup>D1</sup>
L <sub>C728</sub>	R <sup>D2</sup>	R <sup>D16</sup>	R <sup>D1</sup>
L <sub>C729</sub>	R <sup>D2</sup>	R <sup>D17</sup>	R <sup>D1</sup>
L <sub>C730</sub>	R <sup>D2</sup>	R <sup>D18</sup>	R <sup>D1</sup>
L <sub>C731</sub>	R <sup>D2</sup>	R <sup>D19</sup>	R <sup>D1</sup>
L <sub>C732</sub>	R <sup>D2</sup>	R <sup>D20</sup>	R <sup>D1</sup>
L <sub>C733</sub>	R <sup>D2</sup>	R <sup>D21</sup>	R <sup>D1</sup>
L <sub>C734</sub>	R <sup>D2</sup>	R <sup>D22</sup>	R <sup>D1</sup>
L <sub>C735</sub>	R <sup>D2</sup>	R <sup>D23</sup>	R <sup>D1</sup>
L <sub>C736</sub>	R <sup>D2</sup>	R <sup>D24</sup>	R <sup>D1</sup>
L <sub>C737</sub>	R <sup>D2</sup>	R <sup>D25</sup>	R <sup>D1</sup>
L <sub>C738</sub>	R <sup>D2</sup>	R <sup>D26</sup>	R <sup>D1</sup>
L <sub>C739</sub>	R <sup>D2</sup>	R <sup>D27</sup>	R <sup>D1</sup>
L <sub>C740</sub>	R <sup>D2</sup>	R <sup>D28</sup>	R <sup>D1</sup>
L <sub>C741</sub>	R <sup>D2</sup>	R <sup>D29</sup>	R <sup>D1</sup>
L <sub>C742</sub>	R <sup>D2</sup>	R <sup>D30</sup>	R <sup>D1</sup>
L <sub>C743</sub>	R <sup>D2</sup>	R <sup>D31</sup>	R <sup>D1</sup>
L <sub>C744</sub>	R <sup>D2</sup>	R <sup>D32</sup>	R <sup>D1</sup>
L <sub>C745</sub>	R <sup>D2</sup>	R <sup>D33</sup>	R <sup>D1</sup>
L <sub>C746</sub>	R <sup>D2</sup>	R <sup>D34</sup>	R <sup>D1</sup>
L <sub>C747</sub>	R <sup>D2</sup>	R <sup>D35</sup>	R <sup>D1</sup>
L <sub>C748</sub>	R <sup>D2</sup>	R <sup>D40</sup>	R <sup>D1</sup>
L <sub>C749</sub>	R <sup>D2</sup>	R <sup>D41</sup>	R <sup>D1</sup>
L <sub>C750</sub>	R <sup>D2</sup>	R <sup>D42</sup>	R <sup>D1</sup>
L <sub>C751</sub>	R <sup>D2</sup>	R <sup>D64</sup>	R <sup>D1</sup>
L <sub>C752</sub>	R <sup>D2</sup>	R <sup>D66</sup>	R <sup>D1</sup>
L <sub>C753</sub>	R <sup>D2</sup>	R <sup>D68</sup>	R <sup>D1</sup>
L <sub>C754</sub>	R <sup>D2</sup>	R <sup>D76</sup>	R <sup>D1</sup>
L <sub>C755</sub>	R <sup>D3</sup>	R <sup>D4</sup>	R <sup>D1</sup>
L <sub>C756</sub>	R <sup>D3</sup>	R <sup>D5</sup>	R <sup>D1</sup>
L <sub>C757</sub>	R <sup>D3</sup>	R <sup>D6</sup>	R <sup>D1</sup>
L <sub>C758</sub>	R <sup>D3</sup>	R <sup>D7</sup>	R <sup>D1</sup>
L <sub>C759</sub>	R <sup>D3</sup>	R <sup>D8</sup>	R <sup>D1</sup>
L <sub>C760</sub>	R <sup>D3</sup>	R <sup>D9</sup>	R <sup>D1</sup>
L <sub>C761</sub>	R <sup>D3</sup>	R <sup>D10</sup>	R <sup>D1</sup>
L <sub>C762</sub>	R <sup>D3</sup>	R <sup>D11</sup>	R <sup>D1</sup>
L <sub>C763</sub>	R <sup>D3</sup>	R <sup>D12</sup>	R <sup>D1</sup>
L <sub>C764</sub>	R <sup>D3</sup>	R <sup>D13</sup>	R <sup>D1</sup>
L <sub>C765</sub>	R <sup>D3</sup>	R <sup>D14</sup>	R <sup>D1</sup>
L <sub>C766</sub>	R <sup>D3</sup>	R <sup>D15</sup>	R <sup>D1</sup>
L <sub>C767</sub>	R <sup>D3</sup>	R <sup>D16</sup>	R <sup>D1</sup>
L <sub>C768</sub>	R <sup>D3</sup>	R <sup>D17</sup>	R <sup>D1</sup>
L <sub>C769</sub>	R <sup>D3</sup>	R <sup>D18</sup>	R <sup>D1</sup>
L <sub>C770</sub>	R <sup>D3</sup>	R <sup>D19</sup>	R <sup>D1</sup>
L <sub>C771</sub>	R <sup>D3</sup>	R <sup>D20</sup>	R <sup>D1</sup>
L <sub>C772</sub>	R <sup>D3</sup>	R <sup>D21</sup>	R <sup>D1</sup>
L <sub>C773</sub>	R <sup>D3</sup>	R <sup>D22</sup>	R <sup>D1</sup>
L <sub>C774</sub>	R <sup>D3</sup>	R <sup>D23</sup>	R <sup>D1</sup>
L <sub>C775</sub>	R <sup>D3</sup>	R <sup>D24</sup>	R <sup>D1</sup>
L <sub>C776</sub>	R <sup>D3</sup>	R <sup>D25</sup>	R <sup>D1</sup>
L <sub>C777</sub>	R <sup>D3</sup>	R <sup>D26</sup>	R <sup>D1</sup>
L <sub>C778</sub>	R <sup>D3</sup>	R <sup>D27</sup>	R <sup>D1</sup>
L <sub>C779</sub>	R <sup>D3</sup>	R <sup>D28</sup>	R <sup>D1</sup>
L <sub>C780</sub>	R <sup>D3</sup>	R <sup>D29</sup>	R <sup>D1</sup>
L <sub>C781</sub>	R <sup>D3</sup>	R <sup>D30</sup>	R <sup>D1</sup>
L <sub>C782</sub>	R <sup>D3</sup>	R <sup>D31</sup>	R <sup>D1</sup>
L <sub>C783</sub>	R <sup>D3</sup>	R <sup>D32</sup>	R <sup>D1</sup>
L <sub>C784</sub>	R <sup>D3</sup>	R <sup>D33</sup>	R <sup>D1</sup>
L <sub>C785</sub>	R <sup>D3</sup>	R <sup>D34</sup>	R <sup>D1</sup>
L <sub>C786</sub>	R <sup>D3</sup>	R <sup>D35</sup>	R <sup>D1</sup>
L <sub>C787</sub>	R <sup>D3</sup>	R <sup>D40</sup>	R <sup>D1</sup>
L <sub>C788</sub>	R <sup>D3</sup>	R <sup>D41</sup>	R <sup>D1</sup>
L <sub>C789</sub>	R <sup>D3</sup>	R <sup>D42</sup>	R <sup>D1</sup>
L <sub>C790</sub>	R <sup>D3</sup>	R <sup>D64</sup>	R <sup>D1</sup>
L <sub>C791</sub>	R <sup>D3</sup>	R <sup>D66</sup>	R <sup>D1</sup>
L <sub>C792</sub>	R <sup>D3</sup>	R <sup>D68</sup>	R <sup>D1</sup>
L <sub>C793</sub>	R <sup>D3</sup>	R <sup>D76</sup>	R <sup>D1</sup>
L <sub>C794</sub>	R <sup>D4</sup>	R <sup>D5</sup>	R <sup>D1</sup>
L <sub>C795</sub>	R <sup>D4</sup>	R <sup>D6</sup>	R <sup>D1</sup>
L <sub>C796</sub>	R <sup>D4</sup>	R <sup>D7</sup>	R <sup>D1</sup>
L <sub>C797</sub>	R <sup>D4</sup>	R <sup>D8</sup>	R <sup>D1</sup>
L <sub>C798</sub>	R <sup>D4</sup>	R <sup>D9</sup>	R <sup>D1</sup>
L <sub>C799</sub>	R <sup>D4</sup>	R <sup>D10</sup>	R <sup>D1</sup>

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Ligand	R <sup>1</sup>	R <sup>2</sup>	R <sup>3</sup>
L <sub>C800</sub>	R <sup>D4</sup>	R <sup>D11</sup>	R <sup>D1</sup>
L <sub>C801</sub>	R <sup>D4</sup>	R <sup>D12</sup>	R <sup>D1</sup>
L <sub>C802</sub>	R <sup>D4</sup>	R <sup>D13</sup>	R <sup>D1</sup>
L <sub>C803</sub>	R <sup>D4</sup>	R <sup>D14</sup>	R <sup>D1</sup>
L <sub>C804</sub>	R <sup>D4</sup>	R <sup>D15</sup>	R <sup>D1</sup>
L <sub>C805</sub>	R <sup>D4</sup>	R <sup>D16</sup>	R <sup>D1</sup>
L <sub>C806</sub>	R <sup>D4</sup>	R <sup>D17</sup>	R <sup>D1</sup>
L <sub>C807</sub>	R <sup>D4</sup>	R <sup>D18</sup>	R <sup>D1</sup>
L <sub>C808</sub>	R <sup>D4</sup>	R <sup>D19</sup>	R <sup>D1</sup>
L <sub>C809</sub>	R <sup>D4</sup>	R <sup>D20</sup>	R <sup>D1</sup>
L <sub>C810</sub>	R <sup>D4</sup>	R <sup>D21</sup>	R <sup>D1</sup>
L <sub>C811</sub>	R <sup>D4</sup>	R <sup>D22</sup>	R <sup>D1</sup>
L <sub>C812</sub>	R <sup>D4</sup>	R <sup>D23</sup>	R <sup>D1</sup>
L <sub>C813</sub>	R <sup>D4</sup>	R <sup>D24</sup>	R <sup>D1</sup>
L <sub>C814</sub>	R <sup>D4</sup>	R <sup>D25</sup>	R <sup>D1</sup>
L <sub>C815</sub>	R <sup>D4</sup>	R <sup>D26</sup>	R <sup>D1</sup>
L <sub>C816</sub>	R <sup>D4</sup>	R <sup>D27</sup>	R <sup>D1</sup>
L <sub>C817</sub>	R <sup>D4</sup>	R <sup>D28</sup>	R <sup>D1</sup>
L <sub>C818</sub>	R <sup>D4</sup>	R <sup>D29</sup>	R <sup>D1</sup>
L <sub>C819</sub>	R <sup>D4</sup>	R <sup>D30</sup>	R <sup>D1</sup>
L <sub>C820</sub>	R <sup>D4</sup>	R <sup>D31</sup>	R <sup>D1</sup>
L <sub>C821</sub>	R <sup>D4</sup>	R <sup>D32</sup>	R <sup>D1</sup>
L <sub>C822</sub>	R <sup>D4</sup>	R <sup>D33</sup>	R <sup>D1</sup>
L <sub>C823</sub>	R <sup>D4</sup>	R <sup>D34</sup>	R <sup>D1</sup>
L <sub>C824</sub>	R <sup>D4</sup>	R <sup>D35</sup>	R <sup>D1</sup>
L <sub>C825</sub>	R <sup>D4</sup>	R <sup>D40</sup>	R <sup>D1</sup>
L <sub>C826</sub>	R <sup>D4</sup>	R <sup>D41</sup>	R <sup>D1</sup>
L <sub>C827</sub>	R <sup>D4</sup>	R <sup>D42</sup>	R <sup>D1</sup>
L <sub>C828</sub>	R <sup>D4</sup>	R <sup>D64</sup>	R <sup>D1</sup>
L <sub>C829</sub>	R <sup>D4</sup>	R <sup>D66</sup>	R <sup>D1</sup>
L <sub>C830</sub>	R <sup>D4</sup>	R <sup>D68</sup>	R <sup>D1</sup>
L <sub>C831</sub>	R <sup>D4</sup>	R <sup>D76</sup>	R <sup>D1</sup>
L <sub>C832</sub>	R <sup>D4</sup>	R <sup>D1</sup>	R <sup>D1</sup>
L <sub>C833</sub>	R <sup>D7</sup>	R <sup>D5</sup>	R <sup>D1</sup>
L <sub>C834</sub>	R <sup>D7</sup>	R <sup>D6</sup>	R <sup>D1</sup>
L <sub>C835</sub>	R <sup>D7</sup>	R <sup>D8</sup>	R <sup>D1</sup>
L <sub>C836</sub>	R <sup>D7</sup>	R <sup>D9</sup>	R <sup>D1</sup>
L <sub>C837</sub>	R <sup>D7</sup>	R <sup>D10</sup>	R <sup>D1</sup>
L <sub>C838</sub>	R <sup>D7</sup>	R <sup>D11</sup>	R <sup>D1</sup>
L <sub>C839</sub>	R <sup>D7</sup>	R <sup>D12</sup>	R <sup>D1</sup>
L <sub>C840</sub>	R <sup>D7</sup>	R <sup>D13</sup>	R <sup>D1</sup>
L <sub>C841</sub>	R <sup>D7</sup>	R <sup>D14</sup>	R <sup>D1</sup>
L <sub>C842</sub>	R <sup>D7</sup>	R <sup>D15</sup>	R <sup>D1</sup>
L <sub>C843</sub>	R <sup>D7</sup>	R <sup>D16</sup>	R <sup>D1</sup>
L <sub>C844</sub>	R <sup>D7</sup>	R <sup>D11</sup>	R <sup>D1</sup>
L <sub>C845</sub>	R <sup>D7</sup>	R <sup>D18</sup>	R <sup>D1</sup>
L <sub>C846</sub>	R <sup>D7</sup>	R <sup>D19</sup>	R <sup>D1</sup>
L <sub>C847</sub>	R <sup>D7</sup>	R <sup>D20</sup>	R <sup>D1</sup>
L <sub>C848</sub>	R <sup>D7</sup>	R <sup>D21</sup>	R <sup>D1</sup>
L <sub>C849</sub>	R <sup>D7</sup>	R <sup>D22</sup>	R <sup>D1</sup>
L <sub>C850</sub>	R <sup>D7</sup>	R <sup>D23</sup>	R <sup>D1</sup>
L <sub>C851</sub>	R <sup>D7</sup>	R <sup>D24</sup>	R <sup>D1</sup>
L <sub>C852</sub>	R <sup>D7</sup>	R <sup>D25</sup>	R <sup>D1</sup>
L <sub>C853</sub>	R <sup>D7</sup>	R <sup>D26</sup>	R <sup>D1</sup>
L <sub>C854</sub>	R <sup>D7</sup>	R <sup>D27</sup>	R <sup>D1</sup>
L <sub>C855</sub>	R <sup>D7</sup>	R <sup>D28</sup>	R <sup>D1</sup>
L <sub>C856</sub>	R <sup>D7</sup>	R <sup>D29</sup>	R <sup>D1</sup>
L <sub>C857</sub>	R <sup>D7</sup>	R <sup>D30</sup>	R <sup>D1</sup>
L <sub>C858</sub>	R <sup>D7</sup>	R <sup>D31</sup>	R <sup>D1</sup>
L <sub>C859</sub>	R <sup>D7</sup>	R <sup>D32</sup>	R <sup>D1</sup>
L <sub>C860</sub>	R <sup>D7</sup>	R <sup>D33</sup>	R <sup>D1</sup>
L <sub>C861</sub>	R <sup>D7</sup>	R <sup>D34</sup>	R <sup>D1</sup>
L <sub>C862</sub>	R <sup>D7</sup>	R <sup>D35</sup>	R <sup>D1</sup>
L <sub>C863</sub>	R <sup>D7</sup>	R <sup>D40</sup>	R <sup>D1</sup>
L <sub>C864</sub>	R <sup>D7</sup>	R <sup>D41</sup>	R <sup>D1</sup>
L <sub>C865</sub>	R <sup>D7</sup>	R <sup>D42</sup>	R <sup>D1</sup>
L <sub>C866</sub>	R <sup>D7</sup>	R <sup>D64</sup>	R <sup>D1</sup>
L <sub>C867</sub>	R <sup>D7</sup>	R <sup>D66</sup>	R <sup>D1</sup>
L <sub>C868</sub>	R <sup>D7</sup>	R <sup>D68</sup>	R <sup>D1</sup>
L <sub>C869</sub>	R <sup>D7</sup>	R <sup>D76</sup>	R <sup>D1</sup>
L <sub>C870</sub>	R <sup>D8</sup>	R <sup>D5</sup>	R <sup>D1</sup>
L <sub>C871</sub>	R <sup>D8</sup>	R <sup>D6</sup>	R <sup>D1</sup>
L <sub>C872</sub>	R <sup>D8</sup>	R <sup>D9</sup>	R <sup>D1</sup>
L <sub>C873</sub>	R <sup>D8</sup>	R <sup>D10</sup>	R <sup>D1</sup>

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Ligand	R <sup>1</sup>	R <sup>2</sup>	R <sup>3</sup>
L <sub>C874</sub>	R <sup>D8</sup>	R <sup>D11</sup>	R <sup>D1</sup>
L <sub>C875</sub>	R <sup>D8</sup>	R <sup>D12</sup>	R <sup>D1</sup>
L <sub>C876</sub>	R <sup>D8</sup>	R <sup>D11</sup>	R <sup>D1</sup>
L <sub>C877</sub>	R <sup>D8</sup>	R <sup>D14</sup>	R <sup>D1</sup>
L <sub>C878</sub>	R <sup>D8</sup>	R <sup>D15</sup>	R <sup>D1</sup>
L <sub>C879</sub>	R <sup>D8</sup>	R <sup>D16</sup>	R <sup>D1</sup>
L <sub>C880</sub>	R <sup>D8</sup>	R <sup>D17</sup>	R <sup>D1</sup>
L <sub>C881</sub>	R <sup>D8</sup>	R <sup>D18</sup>	R <sup>D1</sup>
L <sub>C882</sub>	R <sup>D8</sup>	R <sup>D19</sup>	R <sup>D1</sup>
L <sub>C883</sub>	R <sup>D8</sup>	R <sup>D20</sup>	R <sup>D1</sup>
L <sub>C884</sub>	R <sup>D8</sup>	R <sup>D21</sup>	R <sup>D1</sup>
L <sub>C885</sub>	R <sup>D8</sup>	R <sup>D22</sup>	R <sup>D1</sup>
L <sub>C886</sub>	R <sup>D8</sup>	R <sup>D23</sup>	R <sup>D1</sup>
L <sub>C887</sub>	R <sup>D8</sup>	R <sup>D24</sup>	R <sup>D1</sup>
L <sub>C888</sub>	R <sup>D8</sup>	R <sup>D25</sup>	R <sup>D1</sup>
L <sub>C889</sub>	R <sup>D8</sup>	R <sup>D26</sup>	R <sup>D1</sup>
L <sub>C890</sub>	R <sup>D8</sup>	R <sup>D27</sup>	R <sup>D1</sup>
L <sub>C891</sub>	R <sup>D8</sup>	R <sup>D28</sup>	R <sup>D1</sup>
L <sub>C892</sub>	R <sup>D8</sup>	R <sup>D29</sup>	R <sup>D1</sup>
L <sub>C893</sub>	R <sup>D8</sup>	R <sup>D30</sup>	R <sup>D1</sup>
L <sub>C894</sub>	R <sup>D8</sup>	R <sup>D31</sup>	R <sup>D1</sup>
L <sub>C895</sub>	R <sup>D8</sup>	R <sup>D32</sup>	R <sup>D1</sup>
L <sub>C896</sub>	R <sup>D8</sup>	R <sup>D33</sup>	R <sup>D1</sup>
L <sub>C897</sub>	R <sup>D8</sup>	R <sup>D34</sup>	R <sup>D1</sup>
L <sub>C898</sub>	R <sup>D8</sup>	R <sup>D35</sup>	R <sup>D1</sup>
L <sub>C899</sub>	R <sup>D8</sup>	R <sup>D40</sup>	R <sup>D1</sup>
L <sub>C900</sub>	R <sup>D8</sup>	R <sup>D41</sup>	R <sup>D1</sup>
L <sub>C901</sub>	R <sup>D8</sup>	R <sup>D42</sup>	R <sup>D1</sup>
L <sub>C902</sub>	R <sup>D8</sup>	R <sup>D64</sup>	R <sup>D1</sup>
L <sub>C903</sub>	R <sup>D8</sup>	R <sup>D66</sup>	R <sup>D1</sup>
L <sub>C904</sub>	R <sup>D8</sup>	R <sup>D68</sup>	R <sup>D1</sup>
L <sub>C905</sub>	R <sup>D8</sup>	R <sup>D76</sup>	R <sup>D1</sup>
L <sub>C906</sub>	R <sup>D11</sup>	R <sup>D5</sup>	R <sup>D1</sup>
L <sub>C907</sub>	R <sup>D11</sup>	R <sup>D6</sup>	R <sup>D1</sup>
L <sub>C908</sub>	R <sup>D11</sup>	R <sup>D9</sup>	R <sup>D1</sup>
L <sub>C909</sub>	R <sup>D11</sup>	R <sup>D10</sup>	R <sup>D1</sup>
L <sub>C910</sub>	R <sup>D11</sup>	R <sup>D12</sup>	R <sup>D1</sup>
L <sub>C911</sub>	R <sup>D11</sup>	R <sup>D13</sup>	R <sup>D1</sup>
L <sub>C912</sub>	R <sup>D11</sup>	R <sup>D14</sup>	R <sup>D1</sup>
L <sub>C913</sub>	R <sup>D11</sup>	R <sup>D15</sup>	R <sup>D1</sup>
L <sub>C914</sub>	R <sup>D11</sup>	R <sup>D16</sup>	R <sup>D1</sup>
L <sub>C915</sub>	R <sup>D11</sup>	R <sup>D17</sup>	R <sup>D1</sup>
L <sub>C916</sub>	R <sup>D11</sup>	R <sup>D18</sup>	R <sup>D1</sup>
L <sub>C917</sub>	R <sup>D11</sup>	R <sup>D19</sup>	R <sup>D1</sup>
L <sub>C918</sub>	R <sup>D11</sup>	R <sup>D20</sup>	R <sup>D1</sup>
L <sub>C919</sub>	R <sup>D11</sup>	R <sup>D21</sup>	R <sup>D1</sup>
L <sub>C920</sub>	R <sup>D11</sup>	R <sup>D22</sup>	R <sup>D1</sup>
L <sub>C921</sub>	R <sup>D11</sup>	R <sup>D23</sup>	R <sup>D1</sup>
L <sub>C922</sub>	R <sup>D11</sup>	R <sup>D24</sup>	R <sup>D1</sup>
L <sub>C923</sub>	R <sup>D11</sup>	R <sup>D25</sup>	R <sup>D1</sup>
L <sub>C924</sub>	R <sup>D11</sup>	R <sup>D26</sup>	R <sup>D1</sup>
L <sub>C925</sub>	R <sup>D11</sup>	R <sup>D27</sup>	R <sup>D1</sup>
L <sub>C926</sub>	R <sup>D11</sup>	R <sup>D28</sup>	R <sup>D1</sup>
L <sub>C927</sub>	R <sup>D11</sup>	R <sup>D29</sup>	R <sup>D1</sup>
L <sub>C928</sub>	R <sup>D11</sup>	R <sup>D30</sup>	R <sup>D1</sup>
L <sub>C929</sub>	R <sup>D11</sup>	R <sup>D31</sup>	R <sup>D1</sup>
L <sub>C930</sub>	R <sup>D11</sup>	R <sup>D32</sup>	R <sup>D1</sup>
L <sub>C931</sub>	R <sup>D11</sup>	R <sup>D33</sup>	R <sup>D1</sup>
L <sub>C932</sub>	R <sup>D11</sup>	R <sup>D34</sup>	R <sup>D1</sup>
L <sub>C933</sub>	R <sup>D11</sup>	R <sup>D35</sup>	R <sup>D1</sup>
L <sub>C934</sub>	R <sup>D11</sup>	R <sup>D40</sup>	R <sup>D1</sup>
L <sub>C935</sub>	R <sup>D11</sup>	R <sup>D41</sup>	R <sup>D1</sup>
L <sub>C936</sub>	R <sup>D11</sup>	R <sup>D42</sup>	R <sup>D1</sup>
L <sub>C937</sub>	R <sup>D11</sup>	R <sup>D64</sup>	R <sup>D1</sup>
L <sub>C938</sub>	R <sup>D11</sup>	R <sup>D66</sup>	R <sup>D1</sup>
L <sub>C939</sub>	R <sup>D11</sup>	R <sup>D68</sup>	R <sup>D1</sup>
L <sub>C940</sub>	R <sup>D11</sup>	R <sup>D76</sup>	R <sup>D1</sup>
L <sub>C941</sub>	R <sup>D11</sup>	R <sup>D5</sup>	R <sup>D1</sup>
L <sub>C942</sub>	R <sup>D13</sup>	R <sup>D6</sup>	R <sup>D1</sup>
L <sub>C943</sub>	R <sup>D11</sup>	R <sup>D9</sup>	R <sup>D1</sup>
L <sub>C944</sub>	R <sup>D13</sup>	R <sup>D10</sup>	R <sup>D1</sup>
L <sub>C945</sub>	R <sup>D13</sup>	R <sup>D12</sup>	R <sup>D1</sup>
L <sub>C946</sub>	R <sup>D13</sup>	R <sup>D14</sup>	R <sup>D1</sup>
L <sub>C947</sub>	R <sup>D11</sup>	R <sup>D15</sup>	R <sup>D1</sup>

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Ligand	R <sup>1</sup>	R <sup>2</sup>	R <sup>3</sup>
L <sub>C948</sub>	R <sup>D13</sup>	R <sup>D16</sup>	R <sup>D1</sup>
L <sub>C949</sub>	R <sup>D13</sup>	R <sup>D17</sup>	R <sup>D1</sup>
L <sub>C950</sub>	R <sup>D13</sup>	R <sup>D18</sup>	R <sup>D1</sup>
L <sub>C951</sub>	R <sup>D11</sup>	R <sup>D19</sup>	R <sup>D1</sup>
L <sub>C952</sub>	R <sup>D13</sup>	R <sup>D20</sup>	R <sup>D1</sup>
L <sub>C953</sub>	R <sup>D13</sup>	R <sup>D21</sup>	R <sup>D1</sup>
L <sub>C954</sub>	R <sup>D13</sup>	R <sup>D22</sup>	R <sup>D1</sup>
L <sub>C955</sub>	R <sup>D13</sup>	R <sup>D23</sup>	R <sup>D1</sup>
L <sub>C956</sub>	R <sup>D13</sup>	R <sup>D24</sup>	R <sup>D1</sup>
L <sub>C957</sub>	R <sup>D13</sup>	R <sup>D25</sup>	R <sup>D1</sup>
L <sub>C958</sub>	R <sup>D13</sup>	R <sup>D26</sup>	R <sup>D1</sup>
L <sub>C959</sub>	R <sup>D13</sup>	R <sup>D27</sup>	R <sup>D1</sup>
L <sub>C960</sub>	R <sup>D13</sup>	R <sup>D28</sup>	R <sup>D1</sup>
L <sub>C961</sub>	R <sup>D13</sup>	R <sup>D29</sup>	R <sup>D1</sup>
L <sub>C962</sub>	R <sup>D13</sup>	R <sup>D30</sup>	R <sup>D1</sup>
L <sub>C963</sub>	R <sup>D13</sup>	R <sup>D31</sup>	R <sup>D1</sup>
L <sub>C964</sub>	R <sup>D13</sup>	R <sup>D32</sup>	R <sup>D1</sup>
L <sub>C965</sub>	R <sup>D13</sup>	R <sup>D33</sup>	R <sup>D1</sup>
L <sub>C966</sub>	R <sup>D13</sup>	R <sup>D34</sup>	R <sup>D1</sup>
L <sub>C967</sub>	R <sup>D13</sup>	R <sup>D35</sup>	R <sup>D1</sup>
L <sub>C968</sub>	R <sup>D13</sup>	R <sup>D40</sup>	R <sup>D1</sup>
L <sub>C969</sub>	R <sup>D13</sup>	R <sup>D41</sup>	R <sup>D1</sup>
L <sub>C970</sub>	R <sup>D13</sup>	R <sup>D42</sup>	R <sup>D1</sup>
L <sub>C971</sub>	R <sup>D13</sup>	R <sup>D64</sup>	R <sup>D1</sup>
L <sub>C972</sub>	R <sup>D13</sup>	R <sup>D66</sup>	R <sup>D1</sup>
L <sub>C973</sub>	R <sup>D13</sup>	R <sup>D68</sup>	R <sup>D1</sup>
L <sub>C974</sub>	R <sup>D13</sup>	R <sup>D76</sup>	R <sup>D1</sup>
L <sub>C975</sub>	R <sup>D14</sup>	R <sup>D5</sup>	R <sup>D1</sup>
L <sub>C976</sub>	R <sup>D14</sup>	R <sup>D6</sup>	R <sup>D1</sup>
L <sub>C977</sub>	R <sup>D14</sup>	R <sup>D9</sup>	R <sup>D1</sup>
L <sub>C978</sub>	R <sup>D14</sup>	R <sup>D10</sup>	R <sup>D1</sup>
L <sub>C979</sub>	R <sup>D14</sup>	R <sup>D12</sup>	R <sup>D1</sup>
L <sub>C980</sub>	R <sup>D14</sup>	R <sup>D15</sup>	R <sup>D1</sup>
L <sub>C981</sub>	R <sup>D14</sup>	R <sup>D10</sup>	R <sup>D1</sup>
L <sub>C982</sub>	R <sup>D14</sup>	R <sup>D17</sup>	R <sup>D1</sup>
L <sub>C983</sub>	R <sup>D14</sup>	R <sup>D18</sup>	R <sup>D1</sup>
L <sub>C984</sub>	R <sup>D14</sup>	R <sup>D19</sup>	R <sup>D1</sup>
L <sub>C985</sub>	R <sup>D14</sup>	R <sup>D20</sup>	R <sup>D1</sup>
L <sub>C986</sub>	R <sup>D14</sup>	R <sup>D21</sup>	R <sup>D1</sup>
L <sub>C987</sub>	R <sup>D14</sup>	R <sup>D22</sup>	R <sup>D1</sup>
L <sub>C988</sub>	R <sup>D14</sup>	R <sup>D23</sup>	R <sup>D1</sup>
L <sub>C989</sub>	R <sup>D14</sup>	R <sup>D24</sup>	R <sup>D1</sup>
L <sub>C990</sub>	R <sup>D14</sup>	R <sup>D25</sup>	R <sup>D1</sup>
L <sub>C991</sub>	R <sup>D14</sup>	R <sup>D26</sup>	R <sup>D1</sup>
L <sub>C992</sub>	R <sup>D14</sup>	R <sup>D27</sup>	R <sup>D1</sup>
L <sub>C993</sub>	R <sup>D14</sup>	R <sup>D28</sup>	R <sup>D1</sup>
L <sub>C994</sub>	R <sup>D14</sup>	R <sup>D29</sup>	R <sup>D1</sup>
L <sub>C995</sub>	R <sup>D14</sup>	R <sup>D30</sup>	R <sup>D1</sup>
L <sub>C996</sub>	R <sup>D14</sup>	R <sup>D31</sup>	R <sup>D1</sup>
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L <sub>C1000</sub>	R <sup>D14</sup>	R <sup>D35</sup>	R <sup>D1</sup>
L <sub>C1001</sub>	R <sup>D14</sup>	R <sup>D40</sup>	R <sup>D1</sup>
L <sub>C1002</sub>	R <sup>D14</sup>	R <sup>D41</sup>	R <sup>D1</sup>
L <sub>C1003</sub>	R <sup>D14</sup>	R <sup>D42</sup>	R <sup>D1</sup>
L <sub>C1004</sub>	R <sup>D14</sup>	R <sup>D64</sup>	R <sup>D1</sup>
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L <sub>C1006</sub>	R <sup>D14</sup>	R <sup>D68</sup>	R <sup>D1</sup>
L <sub>C1007</sub>	R <sup>D14</sup>	R <sup>D76</sup>	R <sup>D1</sup>
L <sub>C1008</sub>	R <sup>D22</sup>	R <sup>D5</sup>	R <sup>D1</sup>
L <sub>C1009</sub>	R <sup>D22</sup>	R <sup>D6</sup>	R <sup>D1</sup>
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L <sub>C1011</sub>	R <sup>D22</sup>	R <sup>D10</sup>	R <sup>D1</sup>
L <sub>C1012</sub>	R <sup>D22</sup>	R <sup>D12</sup>	R <sup>D1</sup>
L <sub>C1013</sub>	R <sup>D22</sup>	R <sup>D15</sup>	R <sup>D1</sup>
L <sub>C1014</sub>	R <sup>D22</sup>	R <sup>D16</sup>	R <sup>D1</sup>
L <sub>C1015</sub>	R <sup>D22</sup>	R <sup>D17</sup>	R <sup>D1</sup>
L <sub>C1016</sub>	R <sup>D22</sup>	R <sup>D18</sup>	R <sup>D1</sup>
L <sub>C1017</sub>	R <sup>D22</sup>	R <sup>D19</sup>	R <sup>D1</sup>
L <sub>C1018</sub>	R <sup>D22</sup>	R <sup>D20</sup>	R <sup>D1</sup>
L <sub>C1019</sub>	R <sup>D22</sup>	R <sup>D21</sup>	R <sup>D1</sup>
L <sub>C1020</sub>	R <sup>D22</sup>	R <sup>D23</sup>	R <sup>D1</sup>
L <sub>C1021</sub>	R <sup>D22</sup>	R <sup>D24</sup>	R <sup>D1</sup>

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LC1024	R <sup>D22</sup>	R <sup>D27</sup>	R <sup>D1</sup>
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LC1029	R <sup>D22</sup>	R <sup>D32</sup>	R <sup>D1</sup>
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LC1050	R <sup>D26</sup>	R <sup>D20</sup>	R <sup>D1</sup>
LC1051	R <sup>D26</sup>	R <sup>D21</sup>	R <sup>D1</sup>
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LC1080	R <sup>D35</sup>	R <sup>D19</sup>	R <sup>D1</sup>
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LC1087	R <sup>D35</sup>	R <sup>D28</sup>	R <sup>D1</sup>
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LC1093	R <sup>D35</sup>	R <sup>D34</sup>	R <sup>D1</sup>
LC1094	R <sup>D35</sup>	R <sup>D40</sup>	R <sup>D1</sup>
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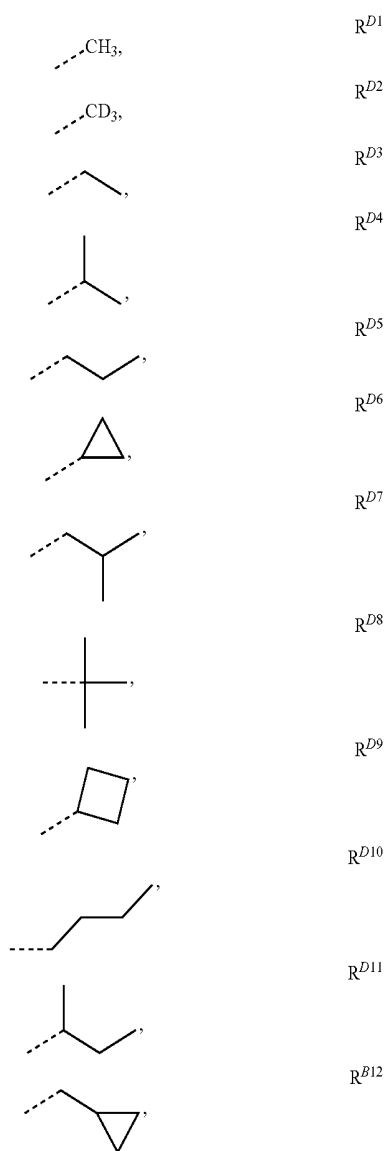
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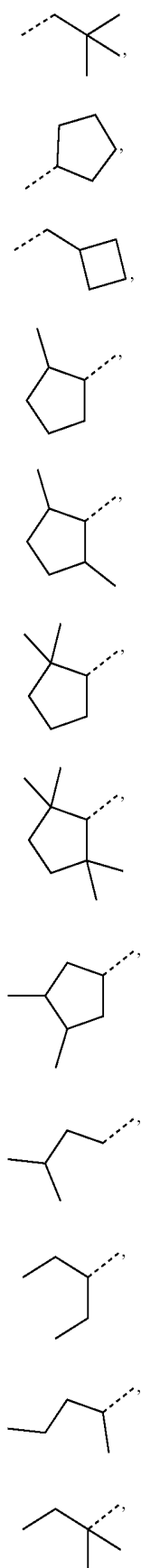
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L <sub>CI180</sub>	R <sup>D64</sup>	R <sup>D34</sup>	R <sup>D1</sup>
L <sub>CI181</sub>	R <sup>D64</sup>	R <sup>D42</sup>	R <sup>D1</sup>
L <sub>CI182</sub>	R <sup>D64</sup>	R <sup>D64</sup>	R <sup>D1</sup>
L <sub>CI183</sub>	R <sup>D64</sup>	R <sup>D66</sup>	R <sup>D1</sup>
L <sub>CI184</sub>	R <sup>D64</sup>	R <sup>D68</sup>	R <sup>D1</sup>
L <sub>CI185</sub>	R <sup>D64</sup>	R <sup>D76</sup>	R <sup>D1</sup>
L <sub>CI186</sub>	R <sup>D66</sup>	R <sup>D5</sup>	R <sup>D1</sup>
L <sub>CI187</sub>	R <sup>D66</sup>	R <sup>D6</sup>	R <sup>D1</sup>
L <sub>CI188</sub>	R <sup>D66</sup>	R <sup>D9</sup>	R <sup>D1</sup>
L <sub>CI189</sub>	R <sup>D66</sup>	R <sup>D10</sup>	R <sup>D1</sup>
L <sub>CI190</sub>	R <sup>D66</sup>	R <sup>D12</sup>	R <sup>D1</sup>
L <sub>CI191</sub>	R <sup>D66</sup>	R <sup>D15</sup>	R <sup>D1</sup>
L <sub>CI192</sub>	R <sup>D66</sup>	R <sup>D16</sup>	R <sup>D1</sup>
L <sub>CI193</sub>	R <sup>D66</sup>	R <sup>D17</sup>	R <sup>D1</sup>
L <sub>CI194</sub>	R <sup>D66</sup>	R <sup>D18</sup>	R <sup>D1</sup>
L <sub>CI195</sub>	R <sup>D66</sup>	R <sup>D19</sup>	R <sup>D1</sup>
L <sub>CI196</sub>	R <sup>D66</sup>	R <sup>D20</sup>	R <sup>D1</sup>
L <sub>CI197</sub>	R <sup>D66</sup>	R <sup>D21</sup>	R <sup>D1</sup>
L <sub>CI198</sub>	R <sup>D66</sup>	R <sup>D23</sup>	R <sup>D1</sup>
L <sub>CI199</sub>	R <sup>D66</sup>	R <sup>D24</sup>	R <sup>D1</sup>
L <sub>CI200</sub>	R <sup>D66</sup>	R <sup>D25</sup>	R <sup>D1</sup>
L <sub>CI201</sub>	R <sup>D66</sup>	R <sup>D27</sup>	R <sup>D1</sup>
L <sub>CI202</sub>	R <sup>D68</sup>	R <sup>D28</sup>	R <sup>D1</sup>
L <sub>CI203</sub>	R <sup>D68</sup>	R <sup>D29</sup>	R <sup>D1</sup>
L <sub>CI204</sub>	R <sup>D68</sup>	R <sup>D30</sup>	R <sup>D1</sup>
L <sub>CI205</sub>	R <sup>D68</sup>	R <sup>D31</sup>	R <sup>D1</sup>
L <sub>CI206</sub>	R <sup>D68</sup>	R <sup>D32</sup>	R <sup>D1</sup>
L <sub>CI207</sub>	R <sup>D68</sup>	R <sup>D33</sup>	R <sup>D1</sup>
L <sub>CI208</sub>	R <sup>D68</sup>	R <sup>D34</sup>	R <sup>D1</sup>
L <sub>CI209</sub>	R <sup>D68</sup>	R <sup>D42</sup>	R <sup>D1</sup>
L <sub>CI210</sub>	R <sup>D68</sup>	R <sup>D68</sup>	R <sup>D1</sup>
L <sub>CI211</sub>	R <sup>D68</sup>	R <sup>D76</sup>	R <sup>D1</sup>
L <sub>CI212</sub>	R <sup>D68</sup>	R <sup>D5</sup>	R <sup>D1</sup>
L <sub>CI213</sub>	R <sup>D68</sup>	R <sup>D6</sup>	R <sup>D1</sup>
L <sub>CI214</sub>	R <sup>D68</sup>	R <sup>D9</sup>	R <sup>D1</sup>
L <sub>CI215</sub>	R <sup>D68</sup>	R <sup>D10</sup>	R <sup>D1</sup>
L <sub>CI216</sub>	R <sup>D68</sup>	R <sup>D12</sup>	R <sup>D1</sup>
L <sub>CI217</sub>	R <sup>D68</sup>	R <sup>D15</sup>	R <sup>D1</sup>
L <sub>CI218</sub>	R <sup>D68</sup>	R <sup>D16</sup>	R <sup>D1</sup>
L <sub>CI219</sub>	R <sup>D68</sup>	R <sup>D17</sup>	R <sup>D1</sup>
L <sub>CI220</sub>	R <sup>D68</sup>	R <sup>D18</sup>	R <sup>D1</sup>
L <sub>CI221</sub>	R <sup>D68</sup>	R <sup>D19</sup>	R <sup>D1</sup>
L <sub>CI222</sub>	R <sup>D68</sup>	R <sup>D20</sup>	R <sup>D1</sup>
L <sub>CI223</sub>	R <sup>D68</sup>	R <sup>D21</sup>	R <sup>D1</sup>
L <sub>CI224</sub>	R <sup>D68</sup>	R <sup>D23</sup>	R <sup>D1</sup>
L <sub>CI225</sub>	R <sup>D68</sup>	R <sup>D24</sup>	R <sup>D1</sup>
L <sub>CI226</sub>	R <sup>D68</sup>	R <sup>D25</sup>	R <sup>D1</sup>
L <sub>CI227</sub>	R <sup>D68</sup>	R <sup>D27</sup>	R <sup>D1</sup>
L <sub>CI228</sub>	R <sup>D68</sup>	R <sup>D28</sup>	R <sup>D1</sup>
L <sub>CI229</sub>	R <sup>D68</sup>	R <sup>D29</sup>	R <sup>D1</sup>
L <sub>CI230</sub>	R <sup>D68</sup>	R <sup>D30</sup>	R <sup>D1</sup>
L <sub>CI231</sub>	R <sup>D68</sup>	R <sup>D31</sup>	R <sup>D1</sup>
L <sub>CI232</sub>	R <sup>D68</sup>	R <sup>D32</sup>	R <sup>D1</sup>
L <sub>CI233</sub>	R <sup>D68</sup>	R <sup>D33</sup>	R <sup>D1</sup>
L <sub>CI234</sub>	R <sup>D68</sup>	R <sup>D34</sup>	R <sup>D1</sup>
L <sub>CI235</sub>	R <sup>D68</sup>	R <sup>D42</sup>	R <sup>D1</sup>
L <sub>CI236</sub>	R <sup>D68</sup>	R <sup>D76</sup>	R <sup>D1</sup>
L <sub>CI237</sub>	R <sup>D76</sup>	R <sup>D5</sup>	R <sup>D1</sup>
L <sub>CI238</sub>	R <sup>D76</sup>	R <sup>D6</sup>	R <sup>D1</sup>
L <sub>CI239</sub>	R <sup>D76</sup>	R <sup>D9</sup>	R <sup>D1</sup>
L <sub>CI240</sub>	R <sup>D76</sup>	R <sup>D10</sup>	R <sup>D1</sup>
L <sub>CI241</sub>	R <sup>D76</sup>	R <sup>D12</sup>	R <sup>D1</sup>
L <sub>CI242</sub>	R <sup>D76</sup>	R <sup>D15</sup>	R <sup>D1</sup>
L <sub>CI243</sub>	R <sup>D76</sup>	R <sup>D16</sup>	R <sup>D1</sup>

-continued

Ligand	R <sup>1</sup>	R <sup>2</sup>	R <sup>3</sup>
L <sub>CI244</sub>	R <sup>D76</sup>	R <sup>D17</sup>	R <sup>D1</sup>
L <sub>CI245</sub>	R <sup>D76</sup>	R <sup>D18</sup>	R <sup>D1</sup>
L <sub>CI246</sub>	R <sup>D76</sup>	R <sup>D19</sup>	R <sup>D1</sup>
L <sub>CI247</sub>	R <sup>D76</sup>	R <sup>D20</sup>	R <sup>D1</sup>
L <sub>CI248</sub>	R <sup>D76</sup>	R <sup>D21</sup>	R <sup>D1</sup>
L <sub>CI249</sub>	R <sup>D76</sup>	R <sup>D23</sup>	R <sup>D1</sup>
L <sub>CI250</sub>	R <sup>D76</sup>	R <sup>D24</sup>	R <sup>D1</sup>
L <sub>CI251</sub>	R <sup>D76</sup>	R <sup>D25</sup>	R <sup>D1</sup>
L <sub>CI252</sub>	R <sup>D76</sup>	R <sup>D27</sup>	R <sup>D1</sup>
L <sub>CI253</sub>	R <sup>D76</sup>	R <sup>D28</sup>	R <sup>D1</sup>
L <sub>CI254</sub>	R <sup>D76</sup>	R <sup>D29</sup>	R <sup>D1</sup>
L <sub>CI255</sub>	R <sup>D76</sup>	R <sup>D30</sup>	R <sup>D1</sup>
L <sub>CI256</sub>	R <sup>D76</sup>	R <sup>D31</sup>	R <sup>D1</sup>
L <sub>CI257</sub>	R <sup>D76</sup>	R <sup>D32</sup>	R <sup>D1</sup>
L <sub>CI258</sub>	R <sup>D76</sup>	R <sup>D33</sup>	R <sup>D1</sup>
L <sub>CI259</sub>	R <sup>D76</sup>	R <sup>D34</sup>	R <sup>D1</sup>
L <sub>CI260</sub>	R <sup>D76</sup>	R <sup>D42</sup>	R <sup>D1</sup>

where R<sup>D1</sup> to R<sup>D21</sup> have the following structures:

-continued



R<sup>D13</sup>

R<sup>D14</sup>

R<sup>D15</sup>

R<sup>D16</sup>

R<sup>D17</sup>

R<sup>D18</sup>

R<sup>D19</sup>

R<sup>D20</sup>

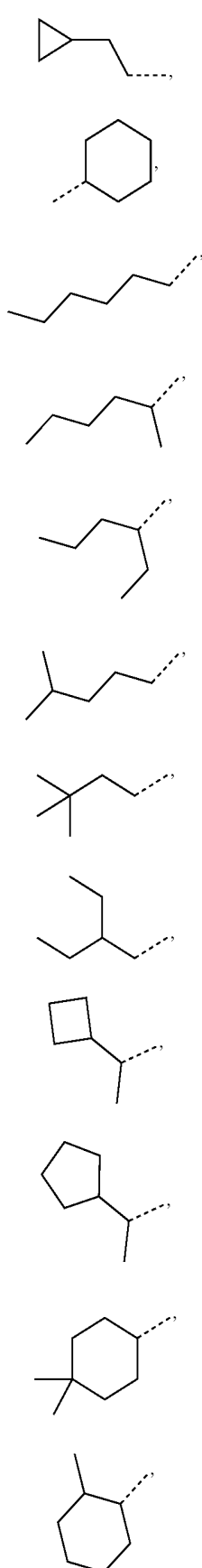
R<sup>D21</sup>

R<sup>D22</sup>

R<sup>D23</sup>

R<sup>D24</sup>

-continued



R<sup>D25</sup>

R<sup>D26</sup>

R<sup>D27</sup>

R<sup>D28</sup>

R<sup>D29</sup>

R<sup>D30</sup>

R<sup>D31</sup>

R<sup>D32</sup>

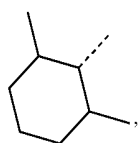
R<sup>D33</sup>

R<sup>D34</sup>

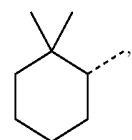
R<sup>D35</sup>

R<sup>D36</sup>

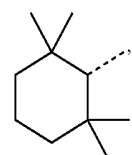
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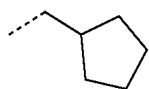
R<sup>D37</sup>



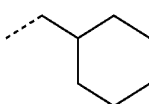
R<sup>D38</sup>



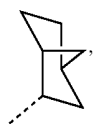
R<sup>D39</sup>



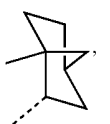
R<sup>D40</sup>



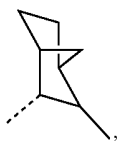
R<sup>D41</sup>



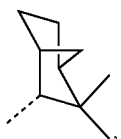
R<sup>D42</sup>



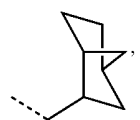
R<sup>D43</sup>



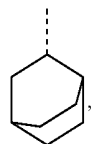
R<sup>D44</sup>



R<sup>D45</sup>

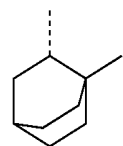


R<sup>D46</sup>

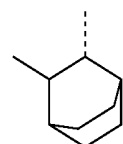


R<sup>D47</sup>

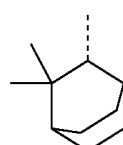
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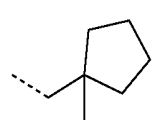
R<sup>D48</sup>



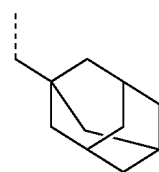
R<sup>D49</sup>



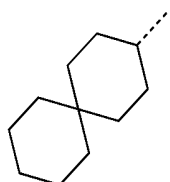
R<sup>D50</sup>



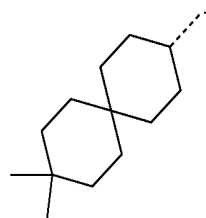
R<sup>D51</sup>



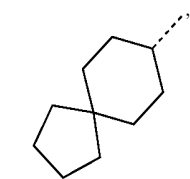
R<sup>D52</sup>



R<sup>D53</sup>



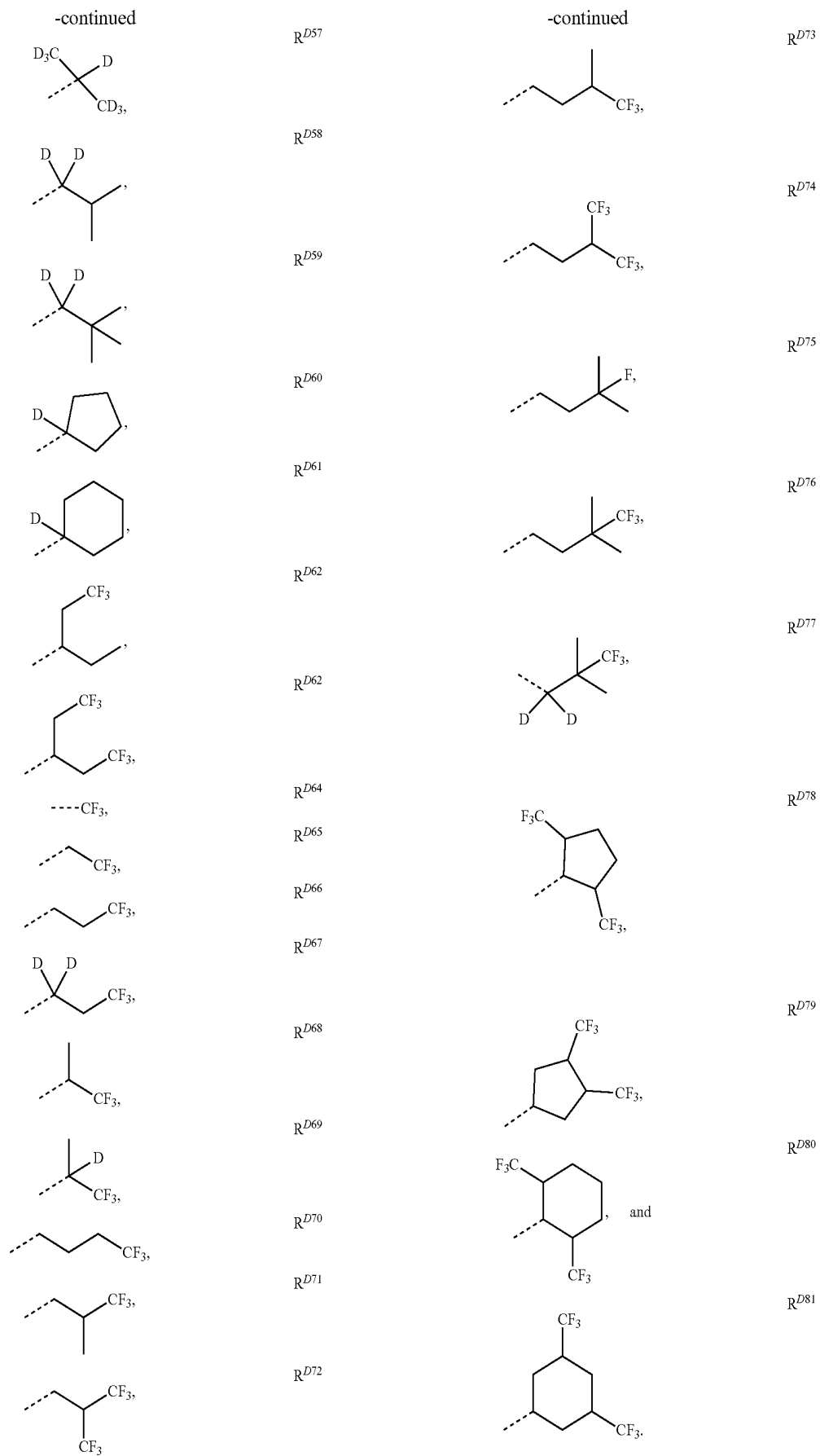
R<sup>D54</sup>



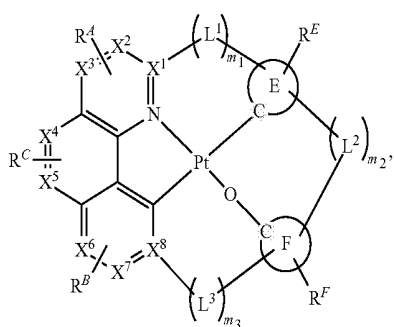
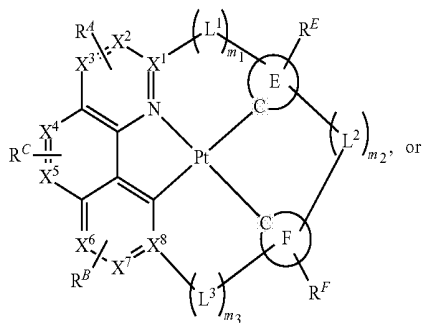
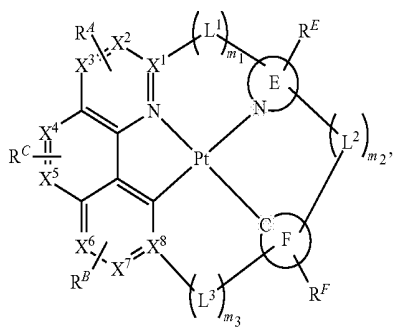
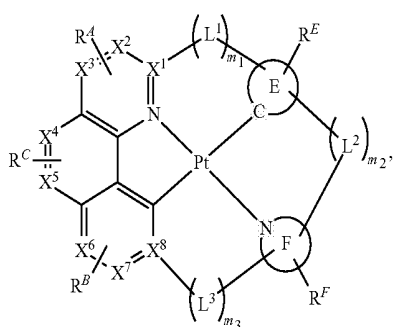
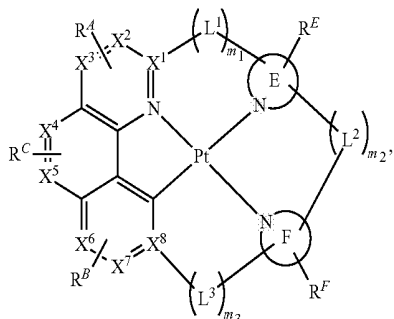
R<sup>D55</sup>



R<sup>D56</sup>

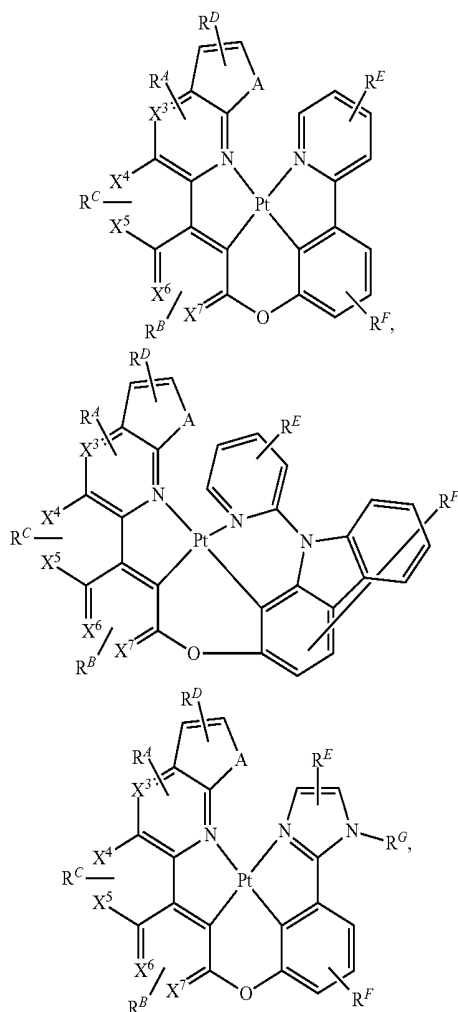


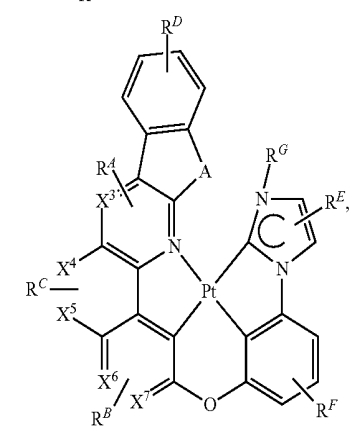
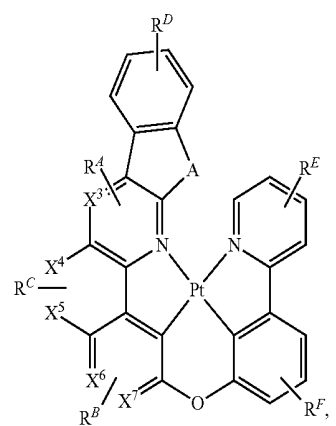
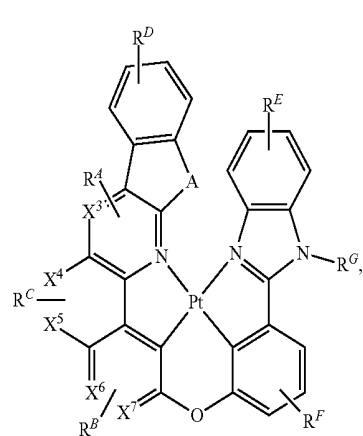
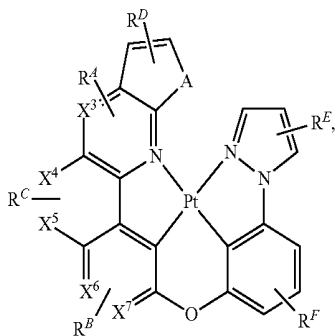
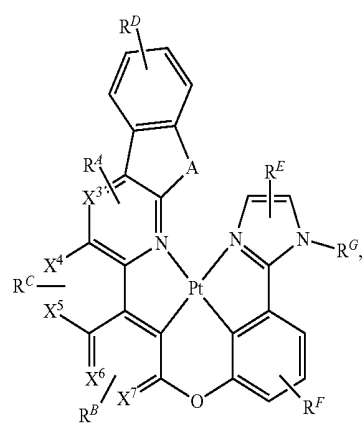
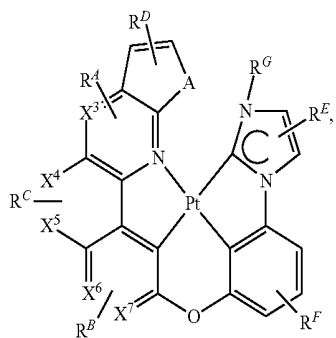
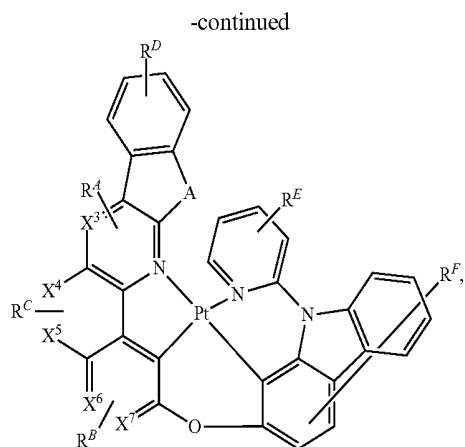
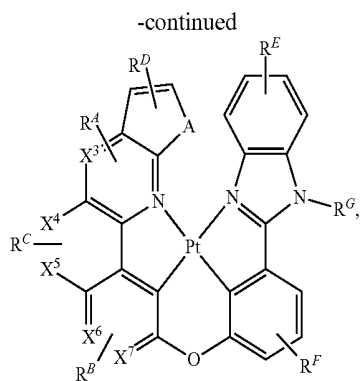
[0093] In some embodiments, the compound has the formula:



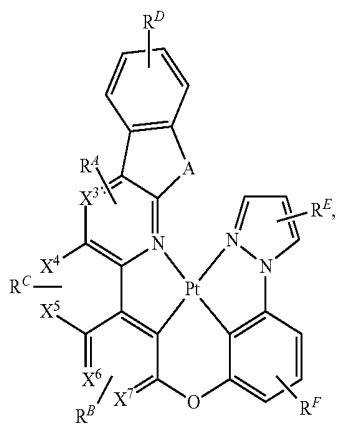
where rings E and F each independently represents a 5-membered or 6-membered carbocyclic or heterocyclic ring;  $R^E$  and  $R^F$  each independently represents mono to the maximum possible number of substitutions, or no substitution;  $m_1$ ,  $m_2$ , and  $m_3$  are each independently an integer of 0 or 1; when  $m_2$  is 0, both  $m_1$  and  $m_3$  are 1; when  $m_2$  is 1, each of  $m_1$  and  $m_3$  independently can be 0 or 1; when  $m_1$  is 0,  $L^1$  is not present; when  $m_2$  is 0,  $L^2$  is not present; when  $m_3$  is 0,  $L^3$  is not present; where  $L^1$ ,  $L^2$ , and  $L^3$  are each independently selected from the group consisting of a direct bond, BR, NR, PR, O, S, Se, C=O, S=O, SO<sub>2</sub>, CRR', SiRR', GeRR', alkyl, cycloalkyl, and combinations thereof; where  $R^E$  and  $R^F$  are each independently hydrogen or a substituent selected from the group consisting of the general substituents defined above; where R and R' are each independently selected from the group consisting of hydrogen, deuterium, halogen, alkyl, cycloalkyl, heteroalkyl, heterocycloalkyl, arylalkyl, alkoxy, aryloxy, amino, silyl, alkenyl, cycloalkenyl, heteroalkenyl, alkynyl, aryl, heteroaryl, acyl, carboxylic acid, ether, ester, nitrile, isonitrile, sulfanyl, sulfinyl, sulfonyl, phosphino, and combinations thereof; and where any adjacent  $R^E$ ,  $R^F$ , R, and R' can be joined to form a ring.

[0094] In some embodiments where the compound is homoleptic, the compound has the formula:

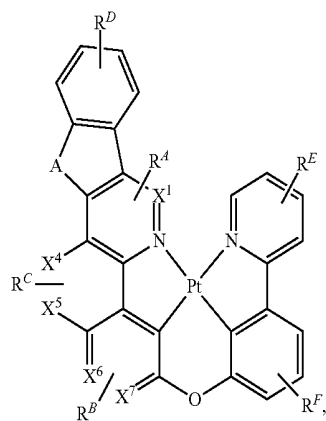
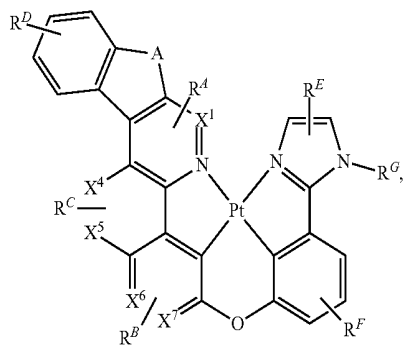
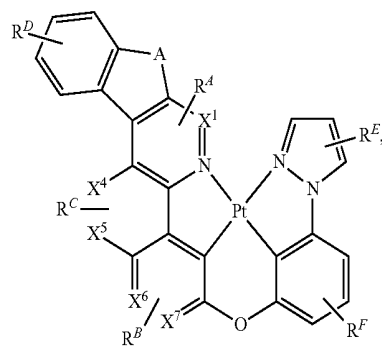
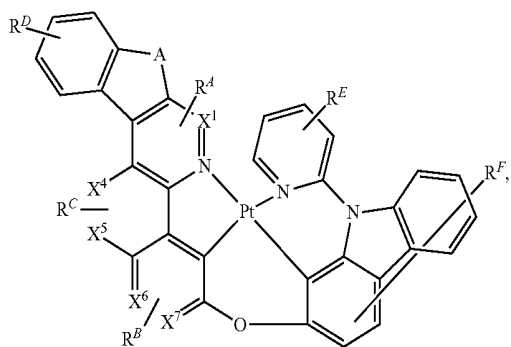
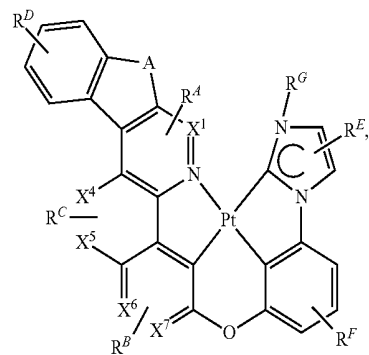
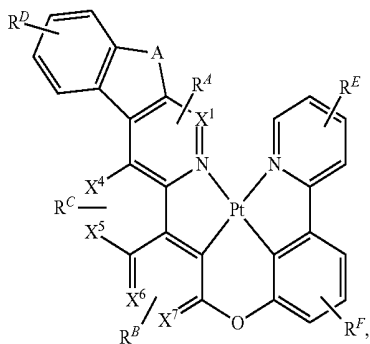
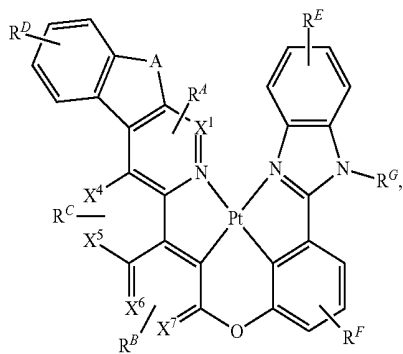




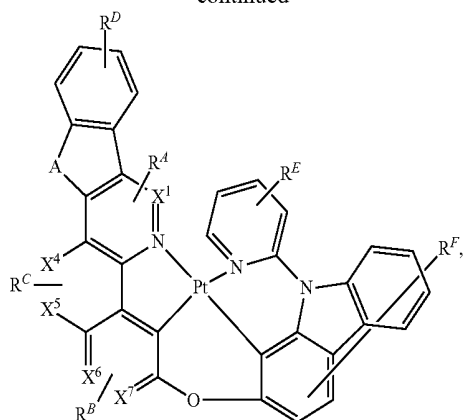
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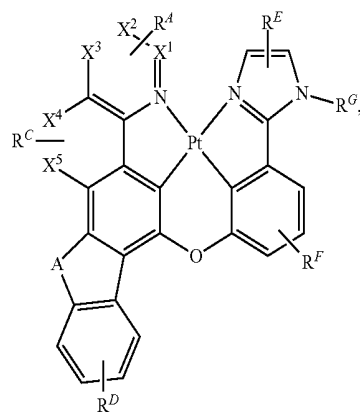
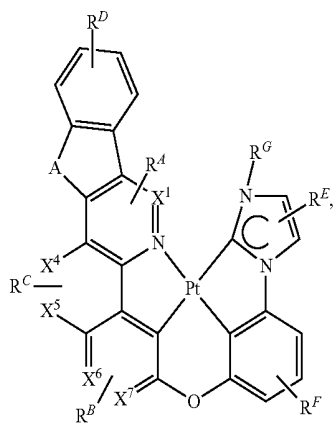
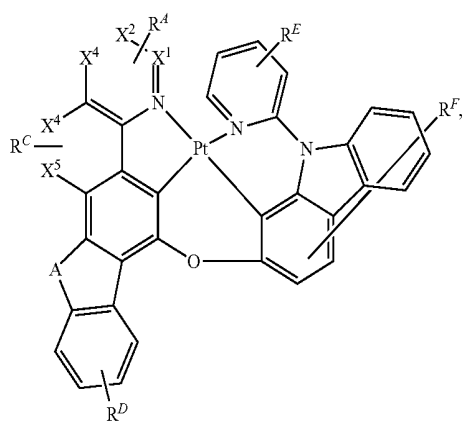
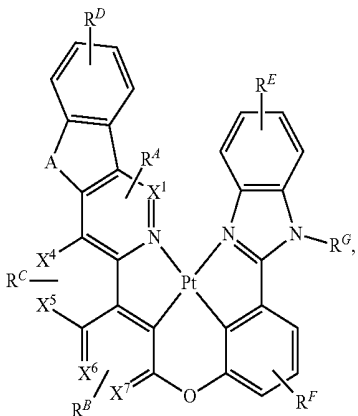
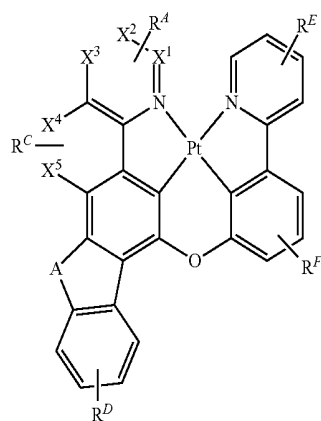
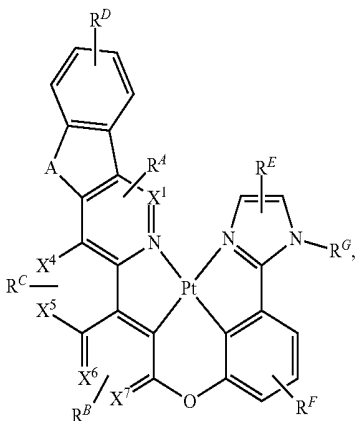
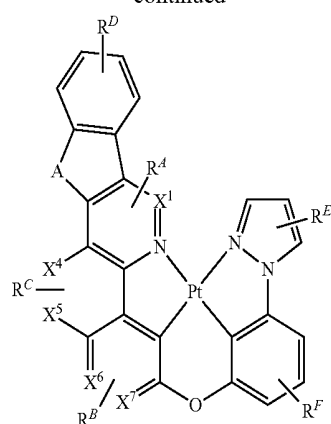
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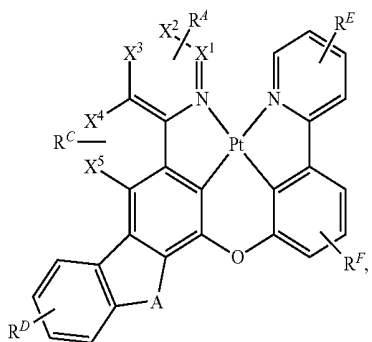
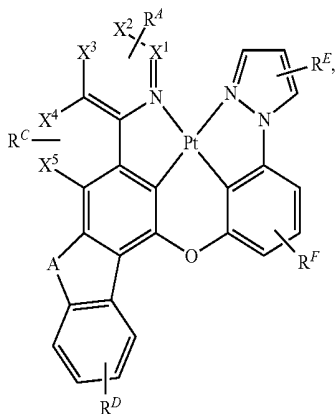
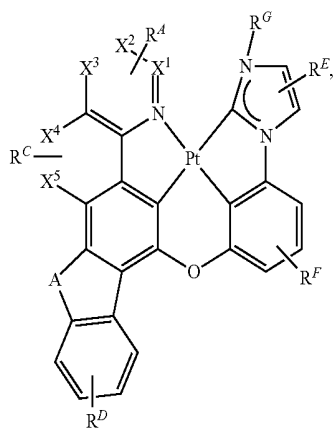
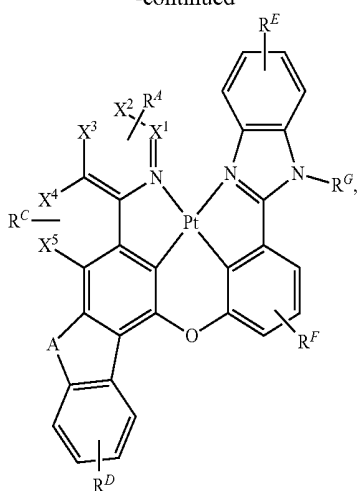
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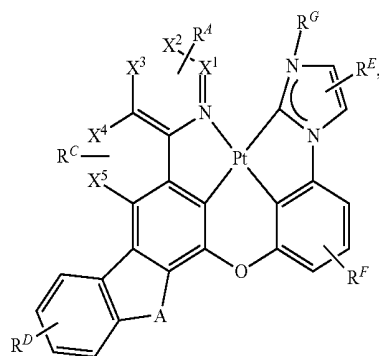
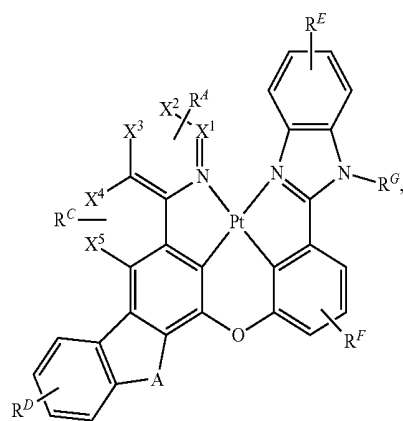
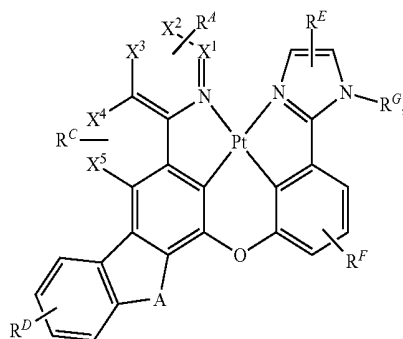
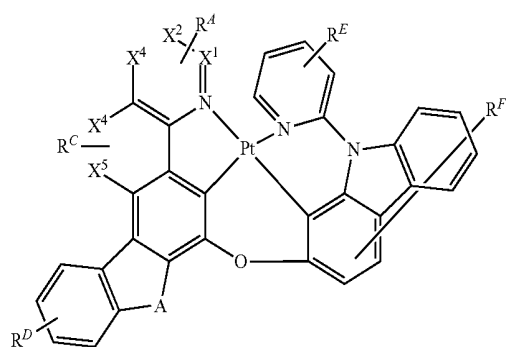
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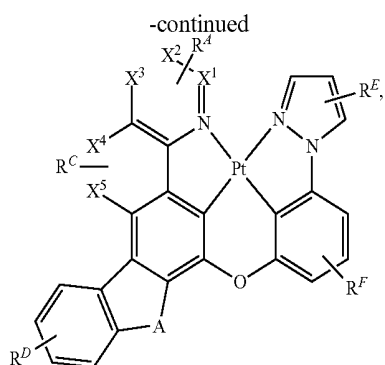


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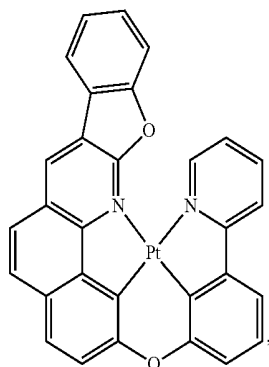




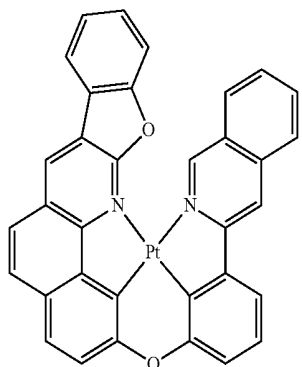
where  $R^G$  is selected from the group consisting of alkyl, cycloalkyl, heteroalkyl, heterocycloalkyl, arylalkyl, aryl, heteroaryl, partially or fully deuterated variants thereof, partially or fully fluorinated variants thereof, and combinations thereof.

**[0095]** In some embodiments, the homoleptic compound has the formula selected from the group consisting of:

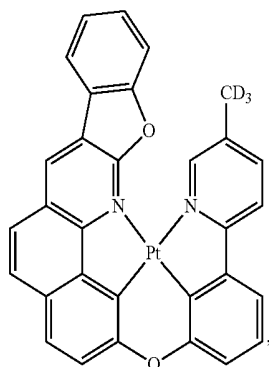
Compound D1



Compound D2

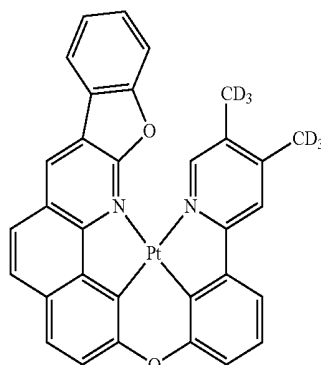


Compound D3

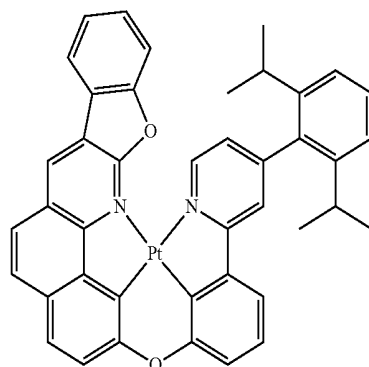


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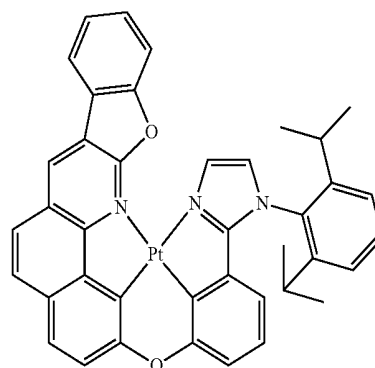
Compound D4



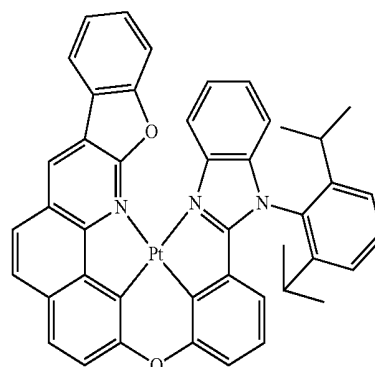
Compound D5



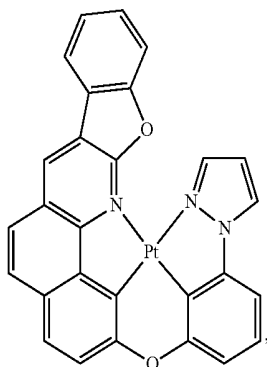
Compound D6



Compound D7

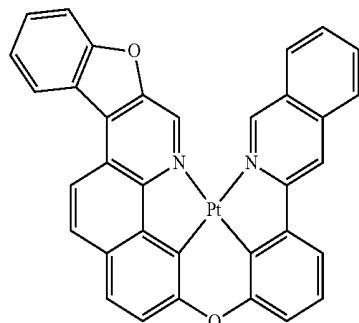


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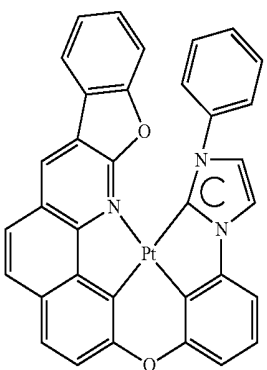


Compound D8

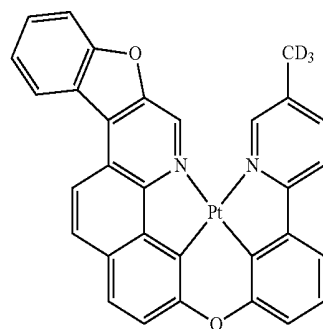
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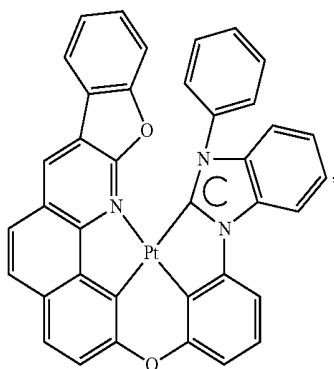
Compound D12



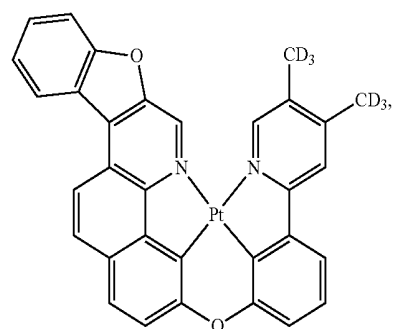
Compound D9



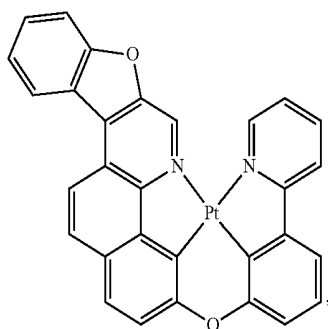
Compound D13



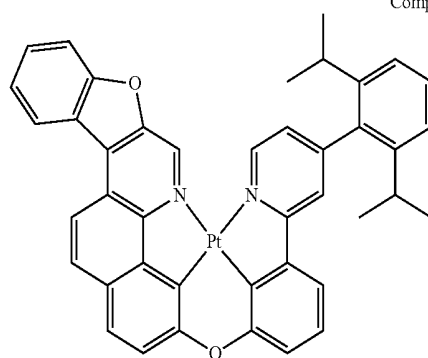
Compound D10



Compound D14

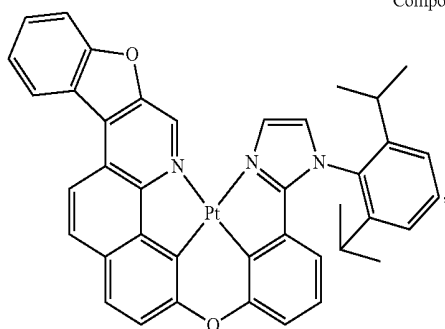


Compound D11

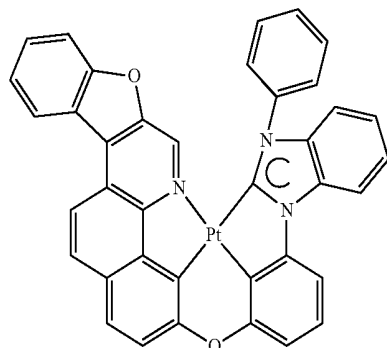


Compound D15

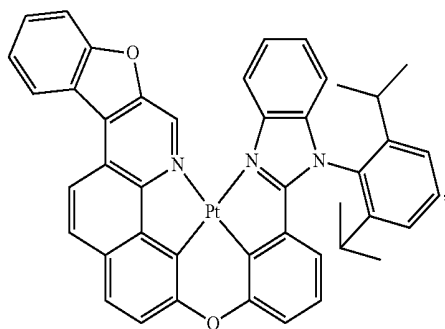
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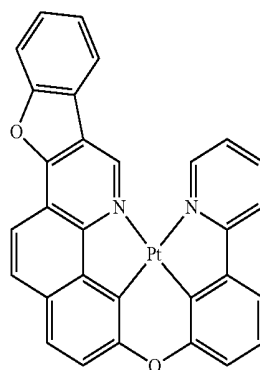
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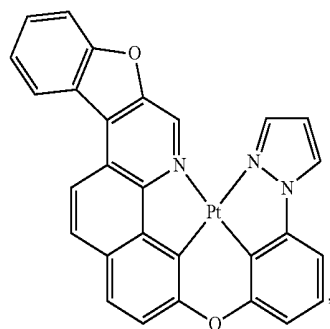
Compound D17



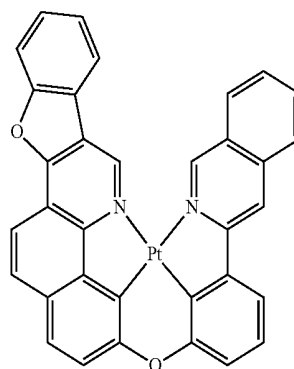
Compound D21



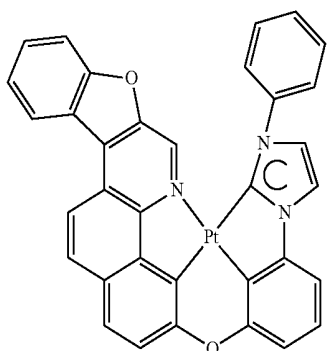
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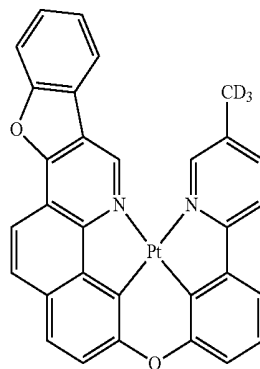
Compound D22



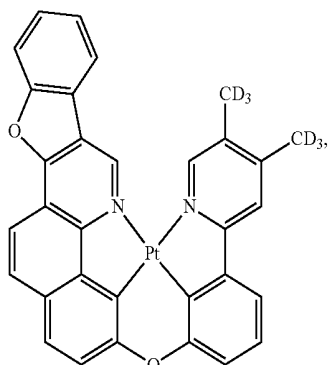
Compound D19



Compound D23

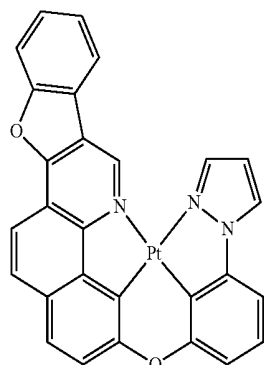


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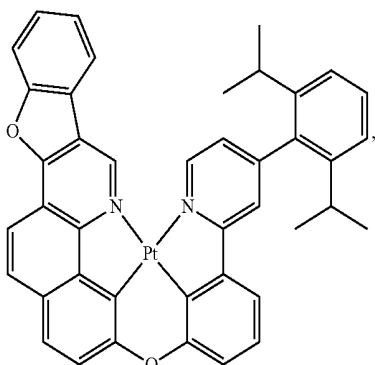


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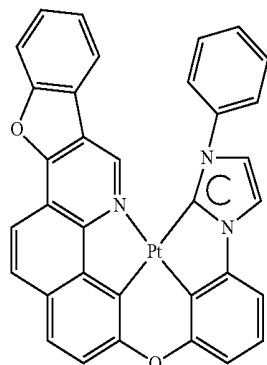
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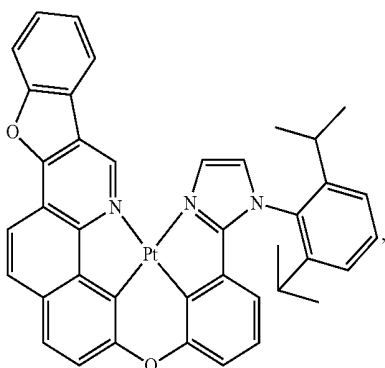
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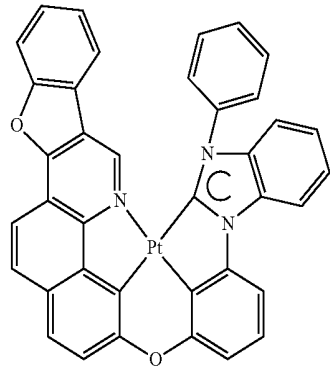
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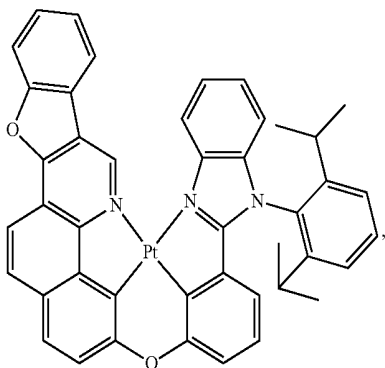
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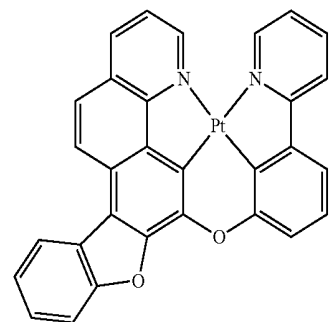
Compound D26



Compound D30

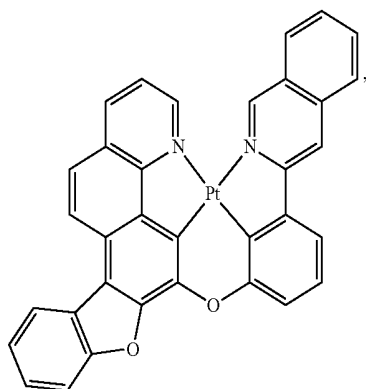


Compound D27



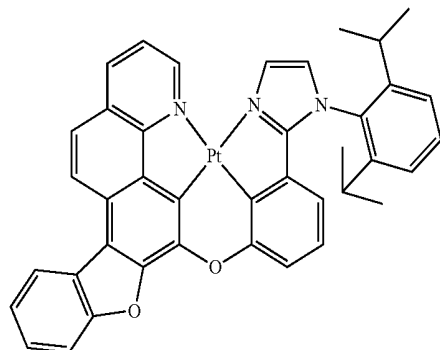
Compound D31

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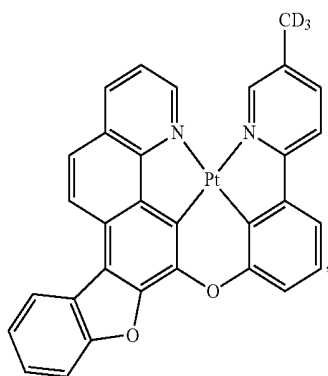


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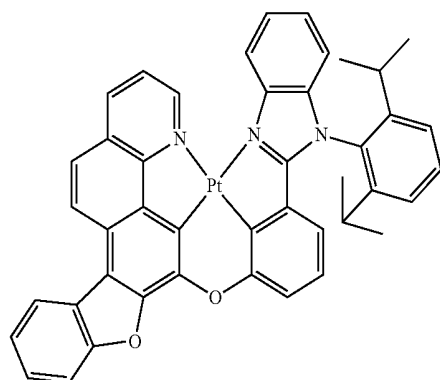
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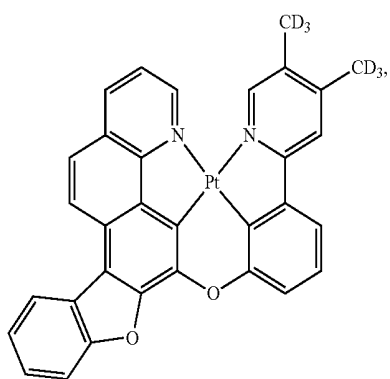
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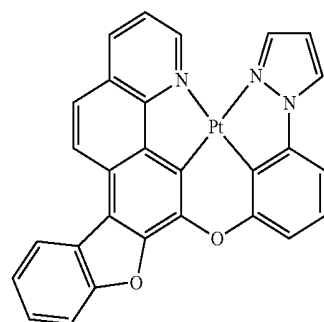
Compound D33



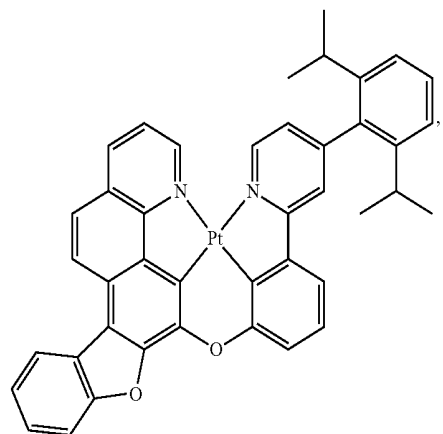
Compound D37



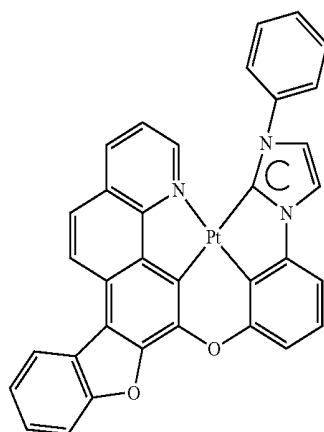
Compound D34



Compound D38

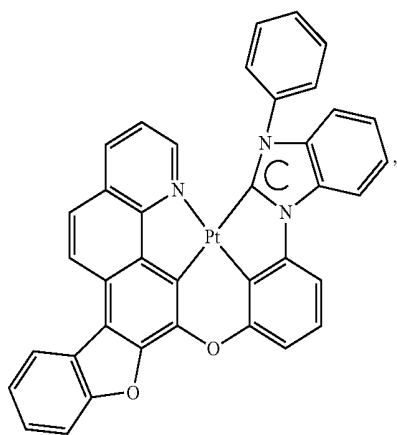


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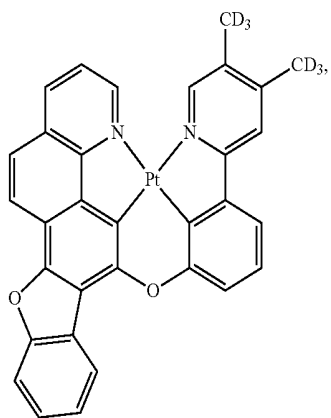
Compound D39

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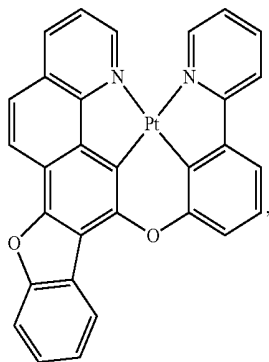
Compound D40

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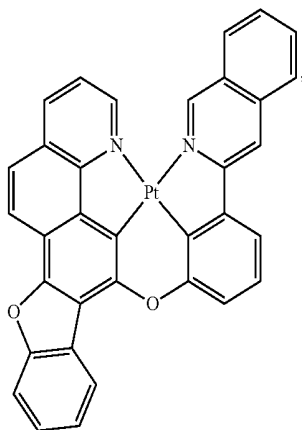


Compound D44

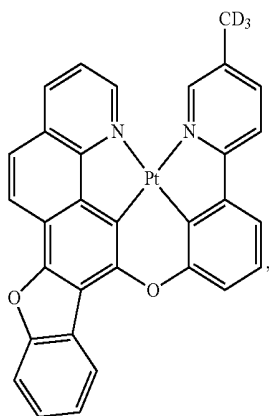
Compound D41



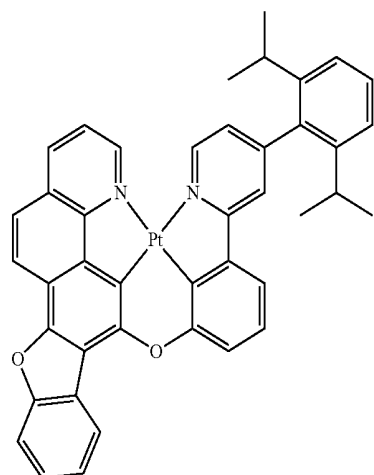
Compound D42



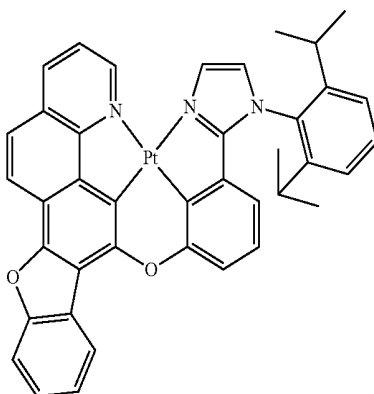
Compound D43



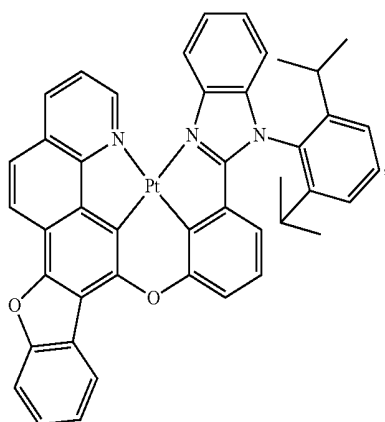
Compound D45



Compound D46

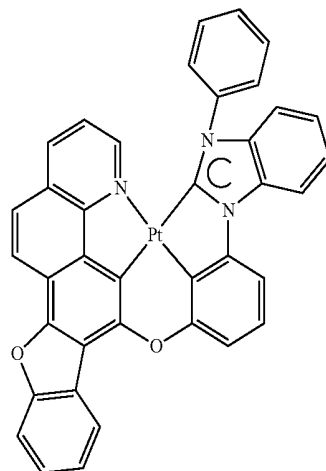


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Compound D47

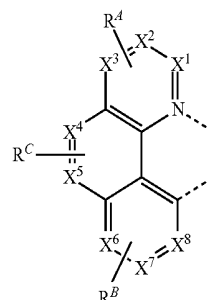
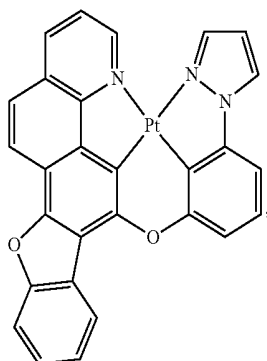
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Compound D50

[0096] According to another aspect of the present disclosure, an OLED is disclosed. The OLED comprises: an anode; a cathode; and an organic layer, disposed between the anode and the cathode, where the organic layer comprises a compound comprising a first ligand  $L_A$  of Formula I

Compound D48



as defined above.

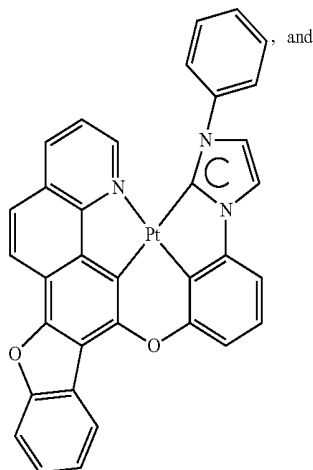
[0097] A consumer product comprising the OLED defined above is also disclosed.

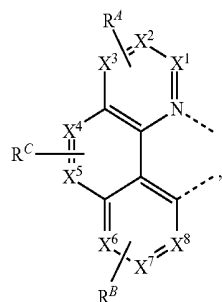
[0098] In some embodiments, the OLED has one or more characteristics selected from the group consisting of being flexible, being rollable, being foldable, being stretchable, and being curved. In some embodiments, the OLED is transparent or semi-transparent. In some embodiments, the OLED further comprises a layer comprising carbon nanotubes.

[0099] In some embodiments, the OLED further comprises a layer comprising a delayed fluorescent emitter. In some embodiments, the OLED comprises a RGB pixel arrangement or white plus color filter pixel arrangement. In some embodiments, the OLED is a mobile device, a hand held device, or a wearable device. In some embodiments, the OLED is a display panel having less than 10 inch diagonal or 50 square inch area. In some embodiments, the OLED is a display panel having at least 10 inch diagonal or 50 square inch area. In some embodiments, the OLED is a lighting panel.

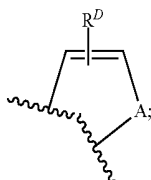
[0100] An emissive region in an OLED is also disclosed. The emissive region comprises a compound comprising a first ligand  $L_A$  of Formula I

Compound D49





where X<sup>1</sup> to X<sup>8</sup> are each independently C or N, where no more than two N atoms are bonded to each other. At least one pair of X<sup>1</sup> and X<sup>2</sup>, X<sup>2</sup> and X<sup>3</sup>, X<sup>6</sup> and X<sup>7</sup>, and X<sup>7</sup> and X<sup>8</sup> is C—C, and is joined to a structure G of Formula II

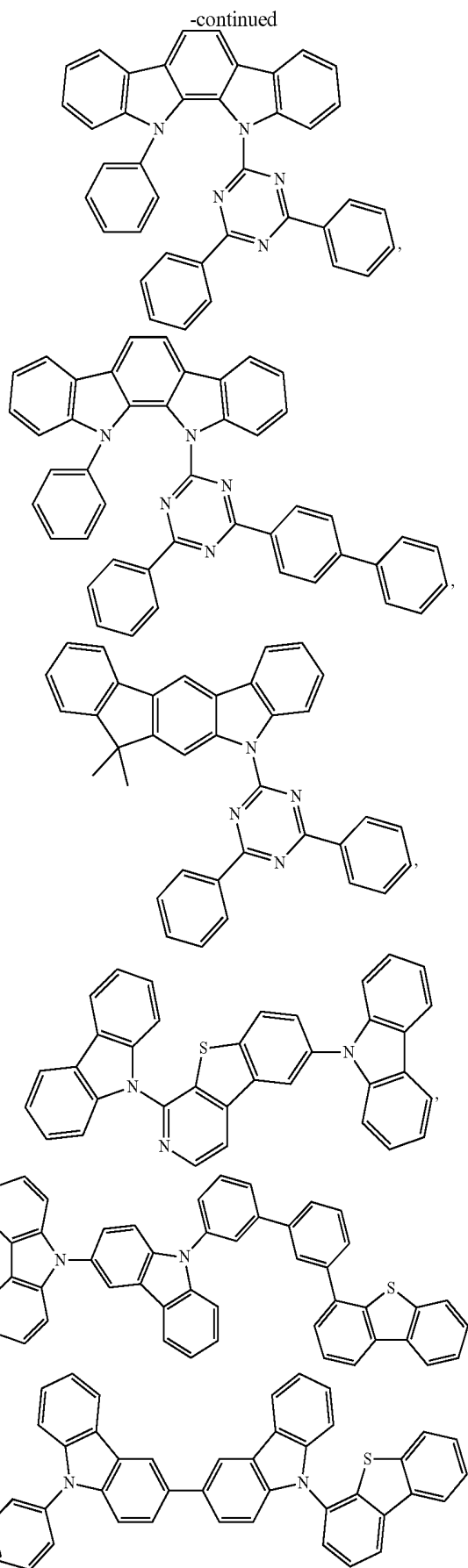
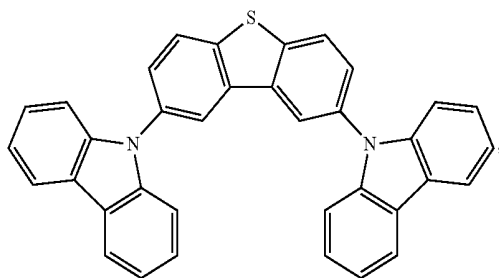


where A is selected from the group consisting of O, S, Se, and NR'. In the compound, R<sup>A</sup>, R<sup>B</sup>, R<sup>C</sup>, and R<sup>D</sup> each independently represents mono to the maximum number of allowable substitutions, or no substitution. Each R<sup>A</sup>, R<sup>B</sup>, R<sup>C</sup>, R<sup>D</sup>, and R' is independently hydrogen or a substituent selected from the group consisting of the general substituents defined above. Any two substituents may be joined or fused together to form a ring. The ligand L<sub>A</sub> is complexed to a metal M. M is optionally coordinated to other ligands. The ligand L<sub>A</sub> is optionally linked with other ligands to comprise a tridentate, tetradentate, pentadentate, or hexadentate ligand.

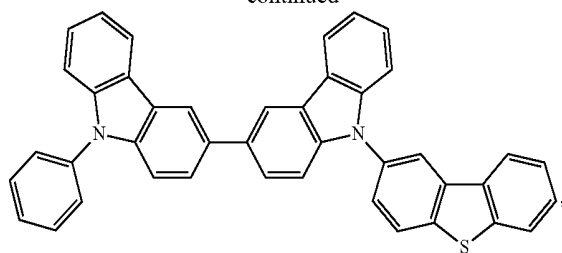
**[0101]** In some embodiments of the emissive region, the compound is an emissive dopant or a non-emissive dopant.

**[0102]** In some embodiments, the emissive region further comprises a host, wherein the host contains at least one group selected from the group consisting of metal complex, triphenylene, carbazole, dibenzothiophene, dibenzofuran, dibenzoselenophene, aza-triphenylene, aza-carbazole, aza-dibenzothiophene, aza-dibenzofuran, and aza-dibenzoselenophene.

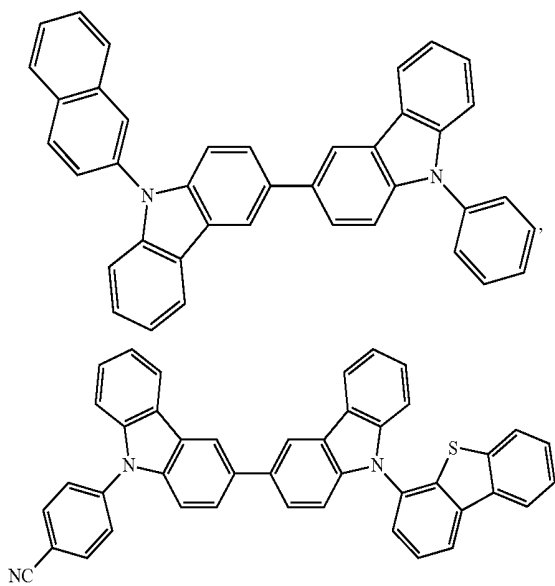
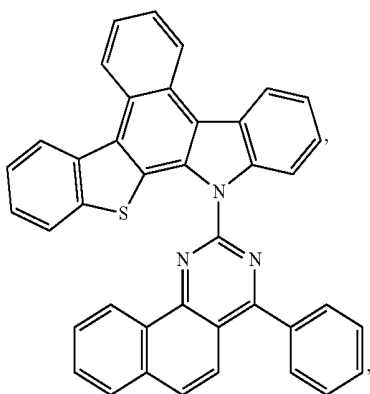
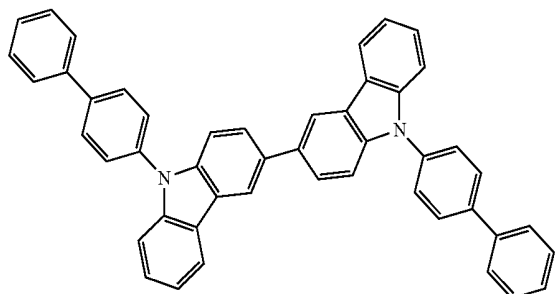
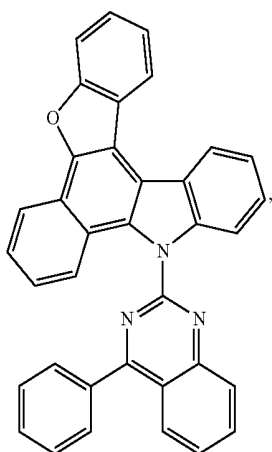
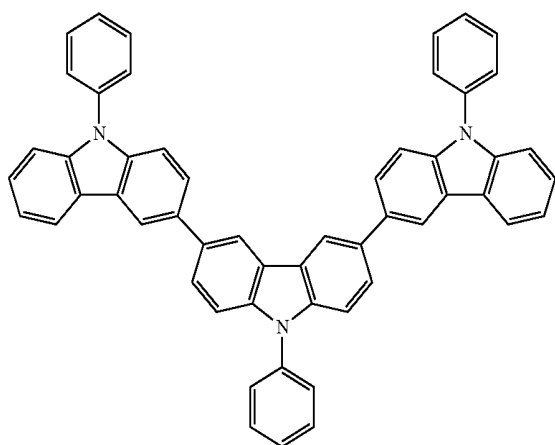
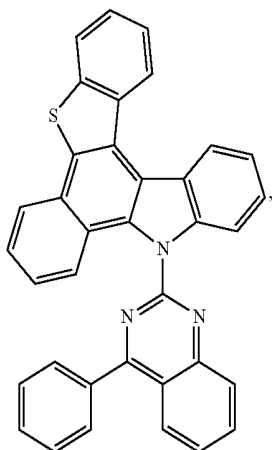
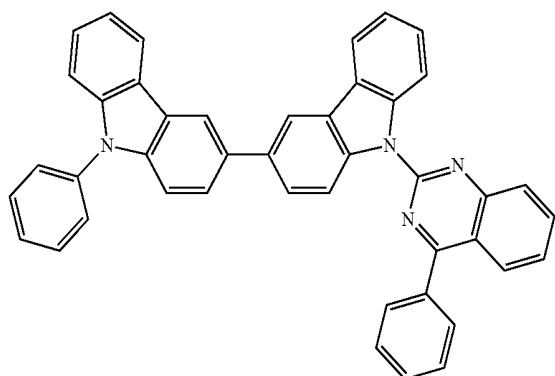
**[0103]** In some embodiments, the emissive region further comprises a host, wherein the host is selected from the group consisting of:



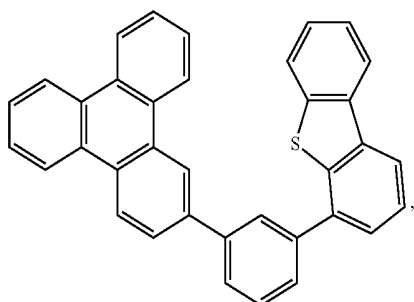
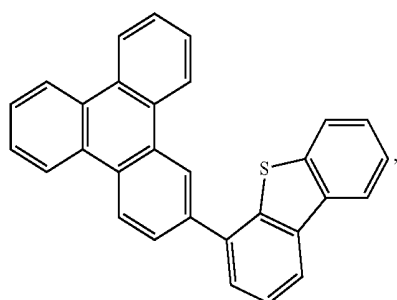
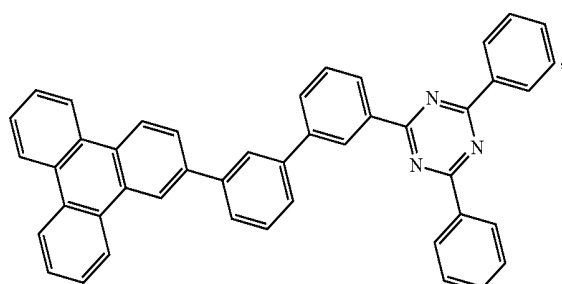
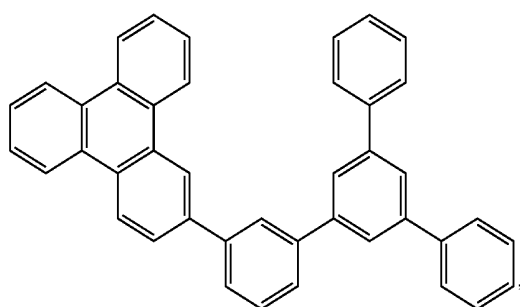
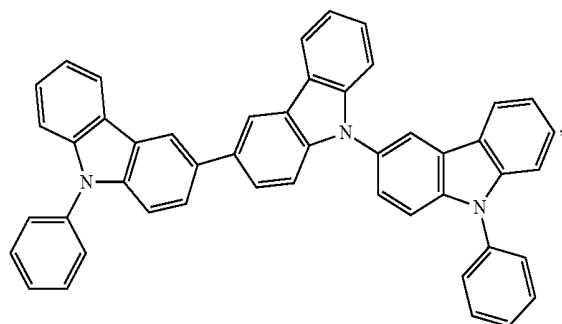
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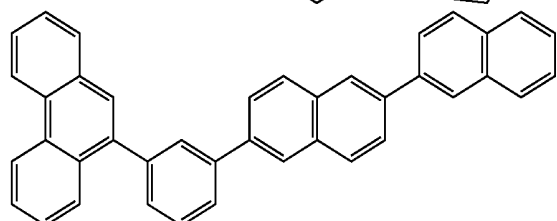
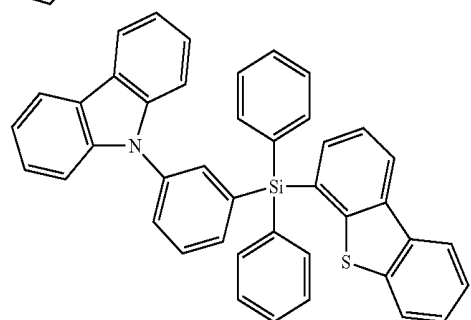
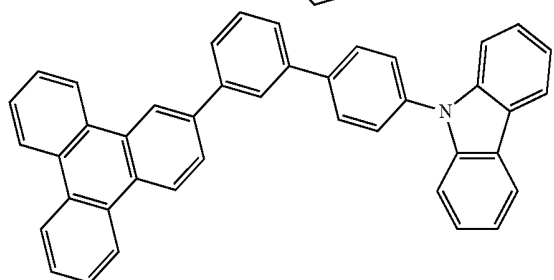
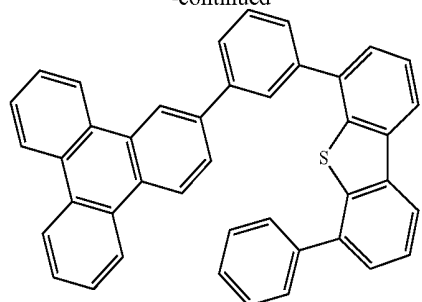
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and combinations thereof.

**[0104]** In some embodiments, the compound can be an emissive dopant. In some embodiments, the compound can produce emissions via phosphorescence, fluorescence, thermally activated delayed fluorescence, i.e., TADF (also referred to as E-type delayed fluorescence; see, e.g., U.S. application Ser. No. 15/700,352, which is hereby incorporated by reference in its entirety), triplet-triplet annihilation, or combinations of these processes. In some embodiments, the emissive dopant can be a racemic mixture, or can be enriched in one enantiomer. In some embodiments, the compound can be homoleptic (each ligand is the same). In some embodiments, the compound can be heteroleptic (at least one ligand is different from others).

**[0105]** When there are more than one ligand coordinated to a metal, the ligands can all be the same in some embodiments. In some other embodiments, at least one ligand is different from the other ligand(s). In some embodiments, every ligand can be different from each other. This is also true in embodiments where a ligand being coordinated to a metal can be linked with other ligands being coordinated to that metal to form a tridentate, tetradentate, pentadentate, or

hexadentate ligands. Thus, where the coordinating ligands are being linked together, all of the ligands can be the same in some embodiments, and at least one of the ligands being linked can be different from the other ligand(s) in some other embodiments.

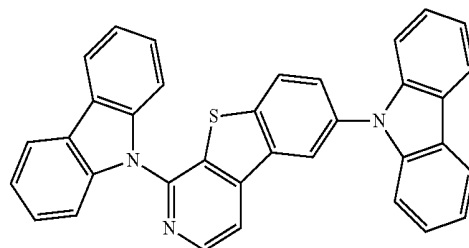
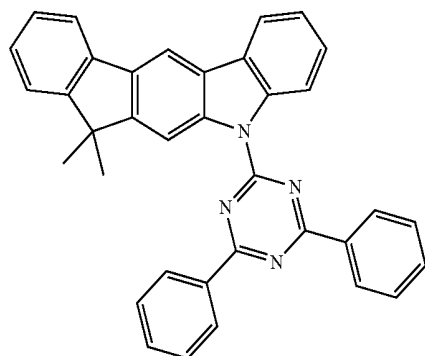
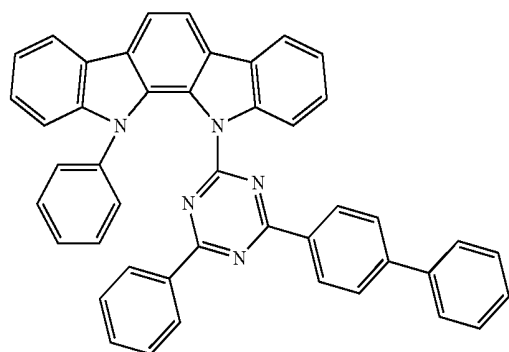
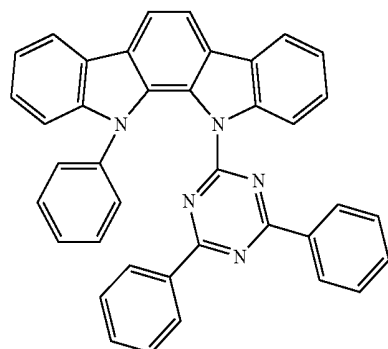
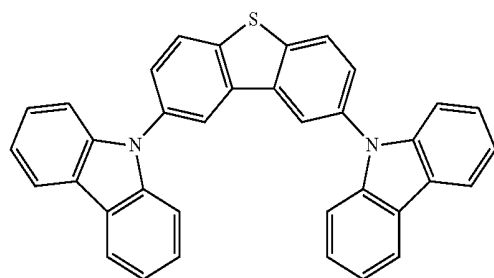
**[0106]** In some embodiments, the compound can be used as a phosphorescent sensitizer in an OLED where one or multiple layers in the OLED contains an acceptor in the form of one or more fluorescent and/or delayed fluorescence emitters. In some embodiments, the compound can be used as one component of an exciplex to be used as a sensitizer. As a phosphorescent sensitizer, the compound must be capable of energy transfer to the acceptor and the acceptor will emit the energy or further transfer energy to a final emitter. The acceptor concentrations can range from 0.001% to 100%. The acceptor could be in either the same layer as the phosphorescent sensitizer or in one or more different layers. In some embodiments, the acceptor is a TADF emitter. In some embodiments, the acceptor is a fluorescent emitter. In some embodiments, the emission can arise from any or all of the sensitizer, acceptor, and final emitter.

**[0107]** According to another aspect, a formulation comprising the compound described herein is also disclosed.

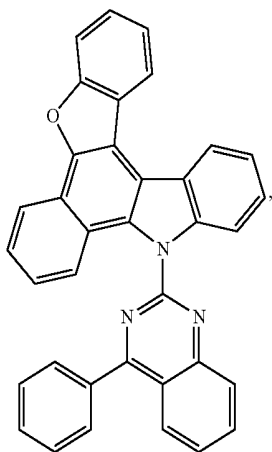
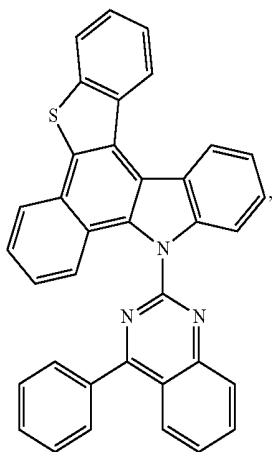
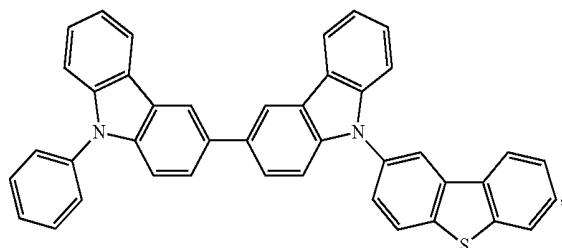
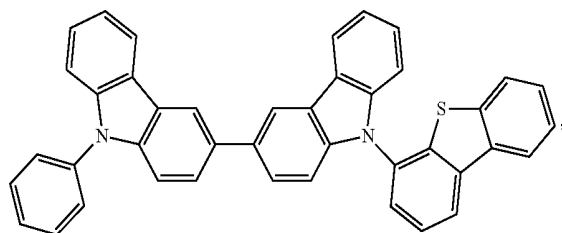
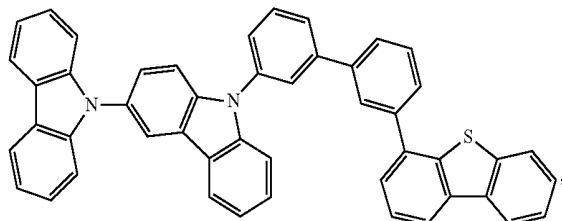
**[0108]** The OLED disclosed herein can be incorporated into one or more of a consumer product, an electronic component module, and a lighting panel. The organic layer can be an emissive layer and the compound can be an emissive dopant in some embodiments, while the compound can be a non-emissive dopant in other embodiments.

**[0109]** The organic layer can also include a host. In some embodiments, two or more hosts are preferred. In some embodiments, the hosts used maybe a) bipolar, b) electron transporting, c) hole transporting or d) wide band gap materials that play little role in charge transport. In some embodiments, the host can include a metal complex. The host can be a triphenylene containing benzo-fused thiophene or benzo-fused furan. Any substituent in the host can be an unfused substituent independently selected from the group consisting of  $C_nH_{2n+1}$ ,  $OC_nH_{2n+1}$ ,  $OAr_1$ ,  $N(C_nH_{2n+1})_2$ ,  $N(Ar_1)(Ar_2)$ ,  $CH=CH-C_nH_{2n+1}$ ,  $C\equiv C-C_nH_{2n+1}$ ,  $Ar_1$ ,  $Ar_1-Ar_2$ , and  $C_nH_{2n}-Ar_1$ , or the host has no substitutions. In the preceding substituents n can range from 1 to 10; and  $Ar_1$  and  $Ar_2$  can be independently selected from the group consisting of benzene, biphenyl, naphthalene, triphenylene, carbazole, and heteroaromatic analogs thereof. The host can be an inorganic compound. For example a Zn containing inorganic material e.g. ZnS.

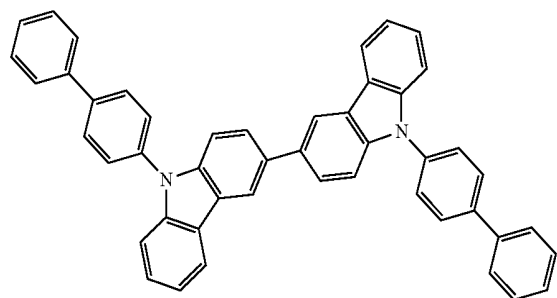
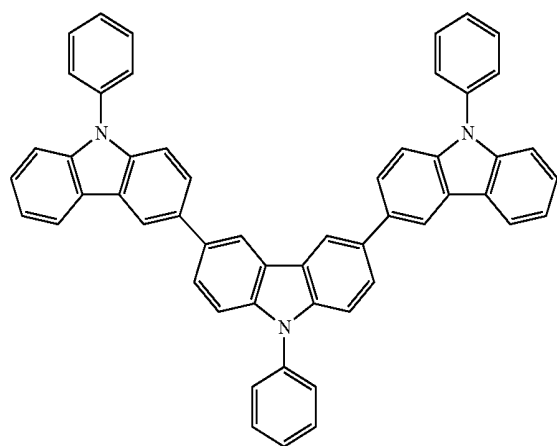
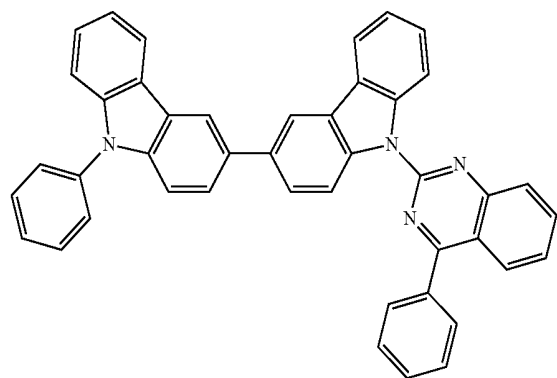
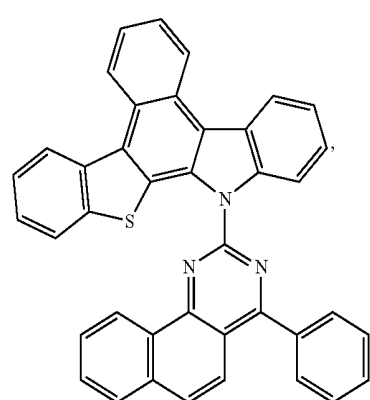
**[0110]** The host can be a compound comprising at least one chemical group selected from the group consisting of triphenylene, carbazole, dibenzothiophene, dibenzofuran, dibenzoselenophene, azatriphenylene, azacarbazole, aza-dibenzothiophene, aza-dibenzofuran, and aza-dibenzoselenophene. The host can include a metal complex. The host can be, but is not limited to, a specific compound selected from the group consisting of:



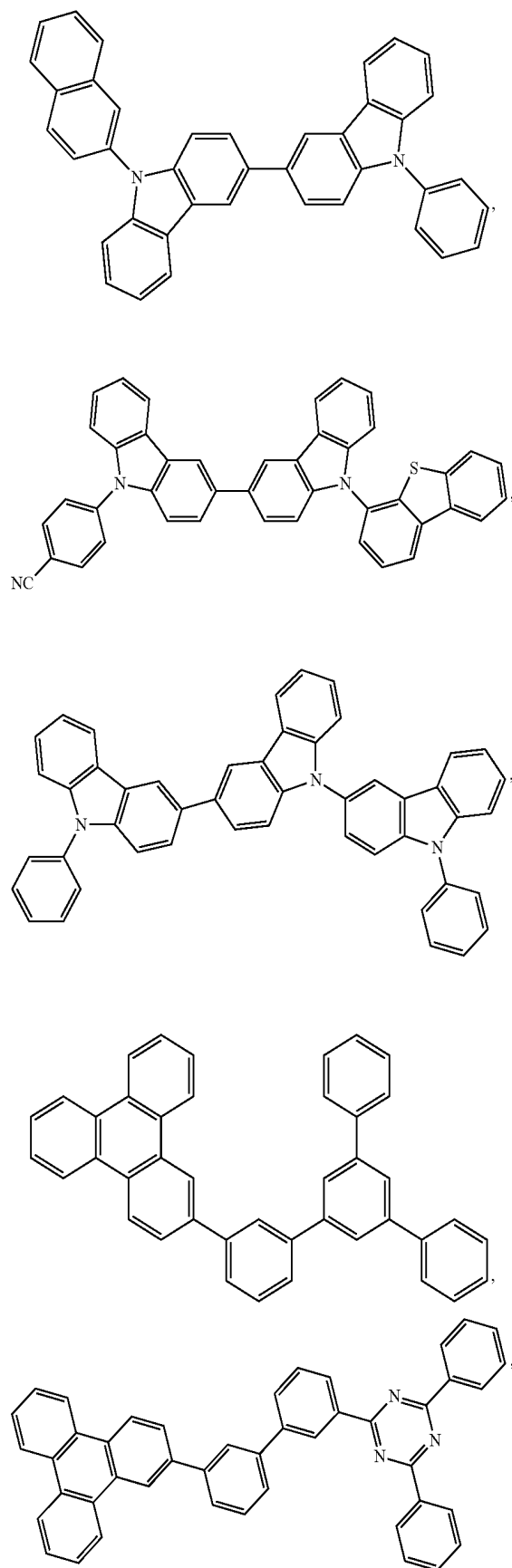
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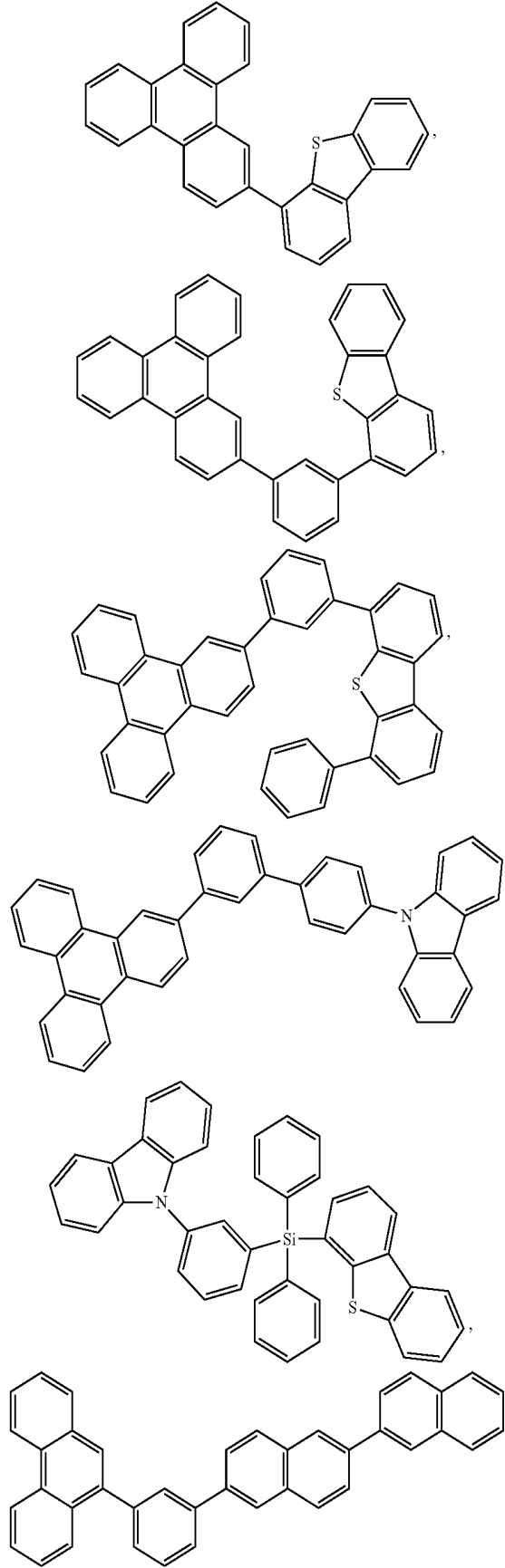
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and combinations thereof.

Additional information on possible hosts is provided below.

**[0111]** In yet another aspect of the present disclosure, a formulation that comprises the novel compound disclosed herein is described. The formulation can include one or more components selected from the group consisting of a solvent, a host, a hole injection material, hole transport material, electron blocking material, hole blocking material, and an electron transport material, disclosed herein.

**[0112]** The present disclosure encompasses any chemical structure comprising the novel compound of the present disclosure, or a monovalent or polyvalent variant thereof. In other words, the inventive compound, or a monovalent or polyvalent variant thereof, can be a part of a larger chemical structure. Such chemical structure can be selected from the group consisting of a monomer, a polymer, a macromolecule, and a supramolecule (also known as supermolecule). As used herein, a “monovalent variant of a compound” refers to a moiety that is identical to the compound except that one hydrogen has been removed and replaced with a bond to the rest of the chemical structure. As used herein, a “polyvalent variant of a compound” refers to a moiety that is identical to the compound except that more than one hydrogen has been removed and replaced with a bond or bonds to the rest of the chemical structure. In the instance of a supramolecule, the inventive compound can also be incorporated into the supramolecule complex without covalent bonds.

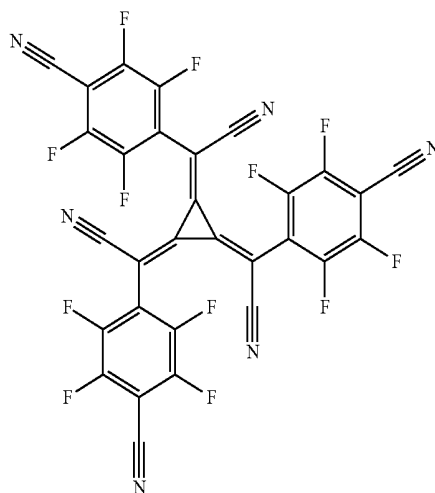
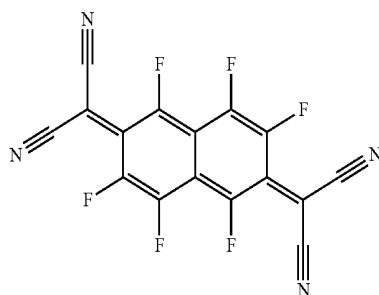
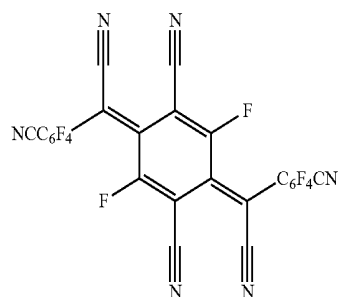
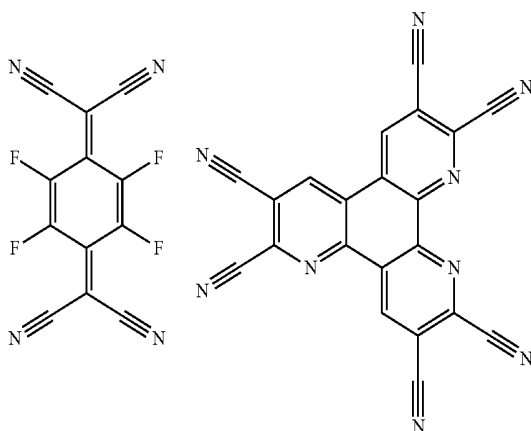
#### Combination with Other Materials

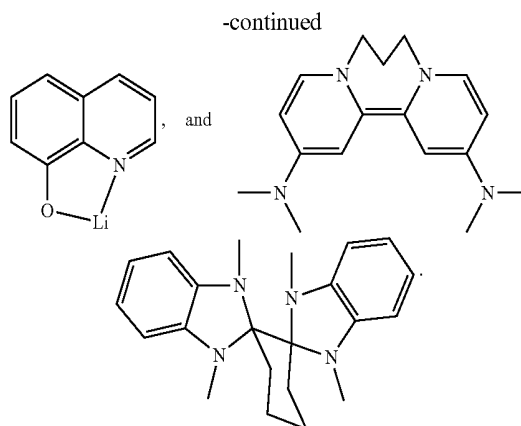
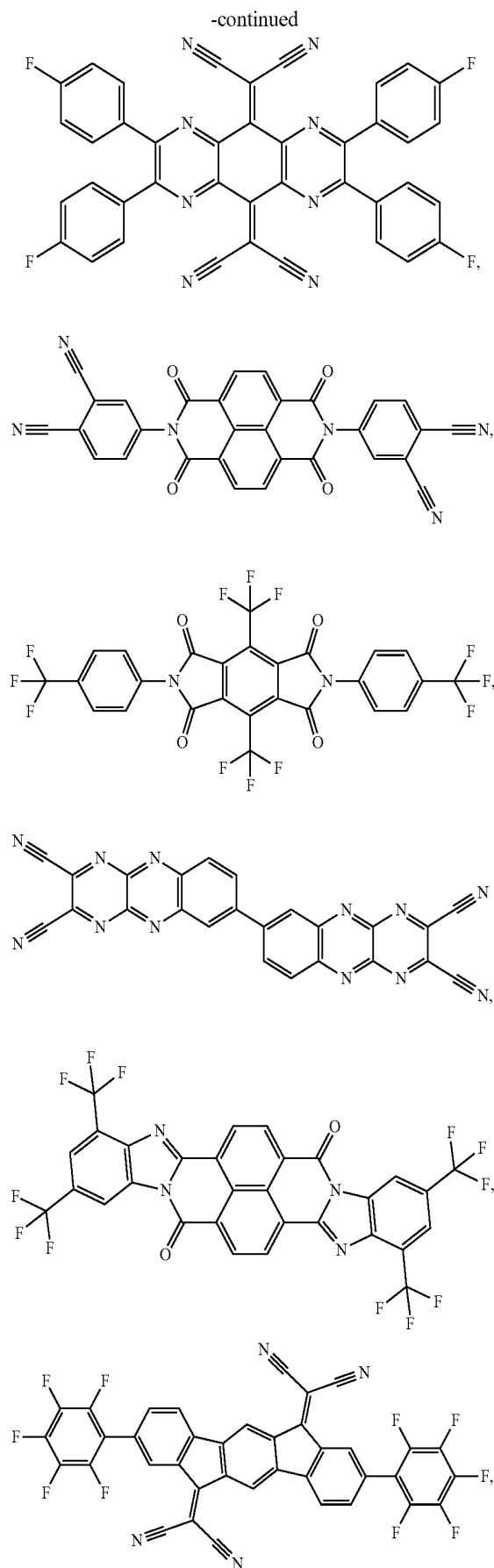
**[0113]** The materials described herein as useful for a particular layer in an organic light emitting device may be used in combination with a wide variety of other materials present in the device. For example, emissive dopants disclosed herein may be used in conjunction with a wide variety of hosts, transport layers, blocking layers, injection layers, electrodes and other layers that may be present. The materials described or referred to below are non-limiting examples of materials that may be useful in combination with the compounds disclosed herein, and one of skill in the art can readily consult the literature to identify other materials that may be useful in combination.

#### Conductivity Dopants:

**[0114]** A charge transport layer can be doped with conductivity dopants to substantially alter its density of charge carriers, which will in turn alter its conductivity. The conductivity is increased by generating charge carriers in the matrix material, and depending on the type of dopant, a change in the Fermi level of the semiconductor may also be achieved. Hole-transporting layer can be doped by p-type conductivity dopants and n-type conductivity dopants are used in the electron-transporting layer.

**[0115]** Non-limiting examples of the conductivity dopants that may be used in an OLED in combination with materials disclosed herein are exemplified below together with references that disclose those materials: EP01617493, EP01968131, EP2020694, EP2684932, US20050139810, US20070160905, US20090167167, US2010288362, WO006081780, WO2009003455, WO2009008277, WO2009011327, WO2014009310, US2007252140, US2015060804, US20150123047, and US2012146012.

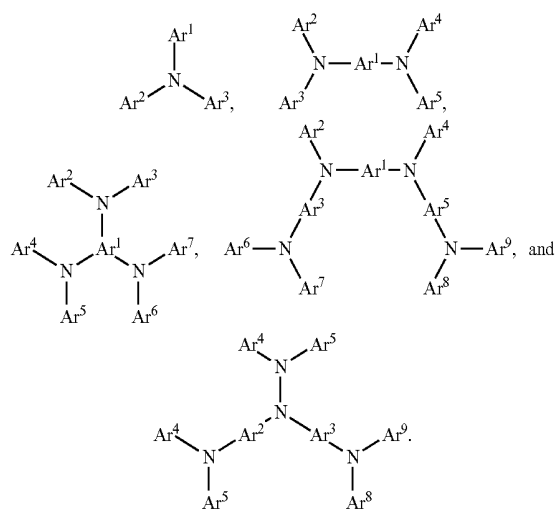




## HIL/HTL:

**[0116]** A hole injecting/transporting material to be used in the present invention is not particularly limited, and any compound may be used as long as the compound is typically used as a hole injecting/transporting material. Examples of the material include, but are not limited to: a phthalocyanine or porphyrin derivative; an aromatic amine derivative; an indolocarbazole derivative; a polymer containing fluorohydrocarbon; a polymer with conductivity dopants; a conducting polymer, such as PEDOT/PSS; a self-assembly monomer derived from compounds such as phosphonic acid and silane derivatives; a metal oxide derivative, such as  $\text{MoO}_x$ ; a p-type semiconducting organic compound, such as 1,4,5,8,9,12-Hexaazatriphenylenehexacarbonitrile; a metal complex, and a cross-linkable compounds.

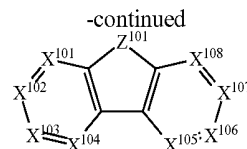
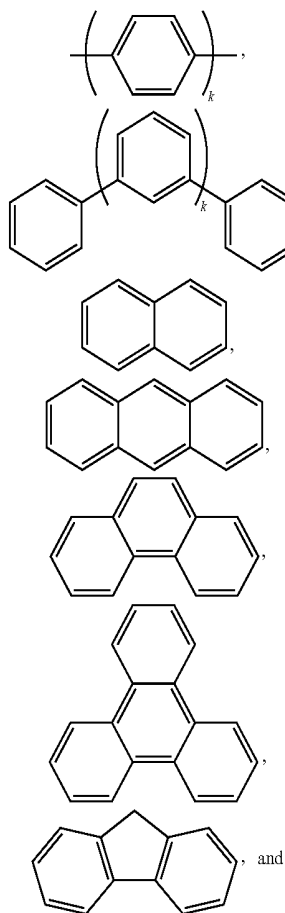
**[0117]** Examples of aromatic amine derivatives used in HIL or HTL include, but not limit to the following general structures:



**[0118]** Each of  $\text{Ar}^1$  to  $\text{Ar}^9$  is selected from the group consisting of aromatic hydrocarbon cyclic compounds such as benzene, biphenyl, triphenyl, triphenylene, naphthalene, anthracene, phenalene, phenanthrene, fluorene, pyrene, chrysene, perylene, and azulene; the group consisting of aromatic heterocyclic compounds such as dibenzothio-  
phene, dibenzofuran, dibenzoselenophene, furan, thiophene,

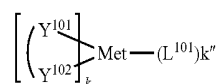
benzofuran, benzothiophene, benzoselenophene, carbazole, indolocarbazole, pyridylindole, pyrrolodipyridine, pyrazole, imidazole, triazole, oxazole, thiazole, oxadiazole, oxatriazole, dioxazole, thiadiazole, pyridine, pyridazine, pyrimidine, pyrazine, triazine, oxazine, oxathiazine, oxadiazine, indole, benzimidazole, indazole, indoxazine, benzoxazole, benzisoxazole, benzothiazole, quinoline, isoquinoline, cinnoline, quinazoline, quinoxaline, naphthyridine, phthalazine, pteridine, xanthene, acridine, phenazine, phenothiazine, phenoxazine, benzofuopyridine, furodipyridine, benzothienopyridine, thienodipyridine, benzoselenophenopyridine, and selenophenodipyridine; and the group consisting of 2 to 10 cyclic structural units which are groups of the same type or different types selected from the aromatic hydrocarbon cyclic group and the aromatic heterocyclic group and are bonded to each other directly or via at least one of oxygen atom, nitrogen atom, sulfur atom, silicon atom, phosphorus atom, boron atom, chain structural unit and the aliphatic cyclic group. Each Ar may be unsubstituted or may be substituted by a substituent selected from the group consisting of deuterium, halogen, alkyl, cycloalkyl, heteroalkyl, heterocycloalkyl, arylalkyl, alkoxy, aryloxy, amino, silyl, alkenyl, cycloalkenyl, heteroalkenyl, alkynyl, aryl, heteroaryl, acyl, carboxylic acids, ether, ester, nitrile, isonitrile, sulfanyl, sulfinyl, sulfonyl, phosphino, and combinations thereof.

[0119] In one aspect, Ar<sup>1</sup> to Ar<sup>9</sup> is independently selected from the group consisting of:



wherein k is an integer from 1 to 20; X<sup>101</sup> to X<sup>108</sup> is C (including CH) or N; Z<sup>101</sup> is NAr<sup>1</sup>, O, or S; Ar<sup>1</sup> has the same group defined above.

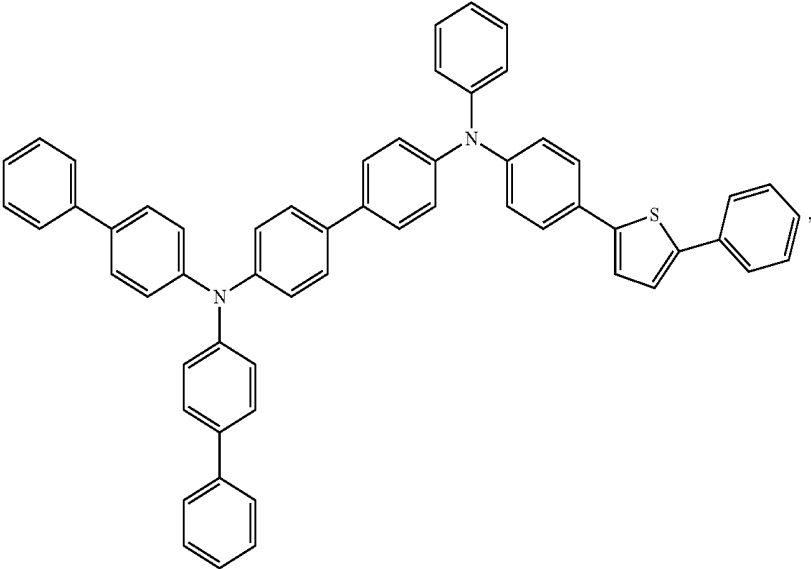
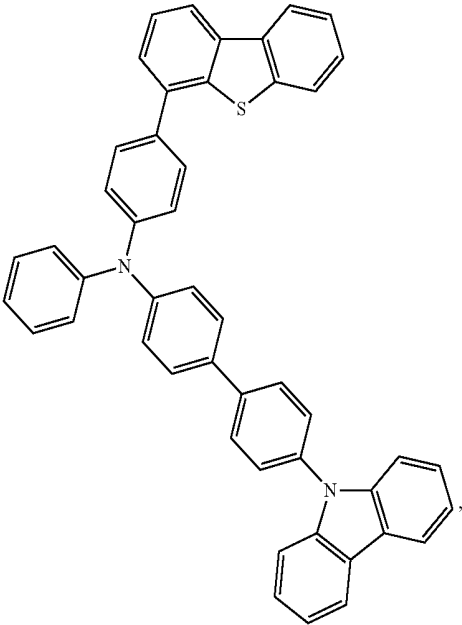
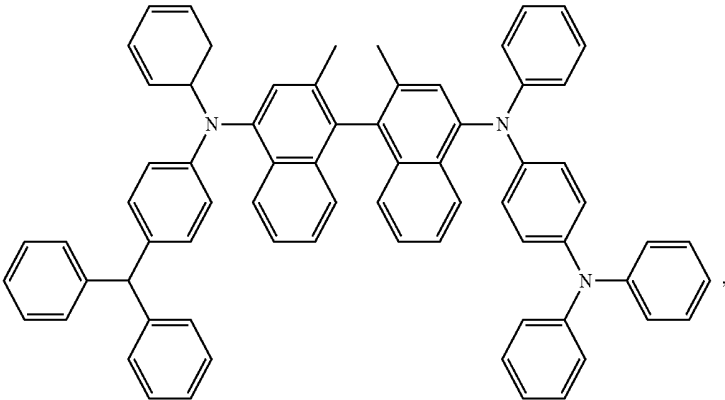
[0120] Examples of metal complexes used in HIL or HTL include, but are not limited to the following general formula:



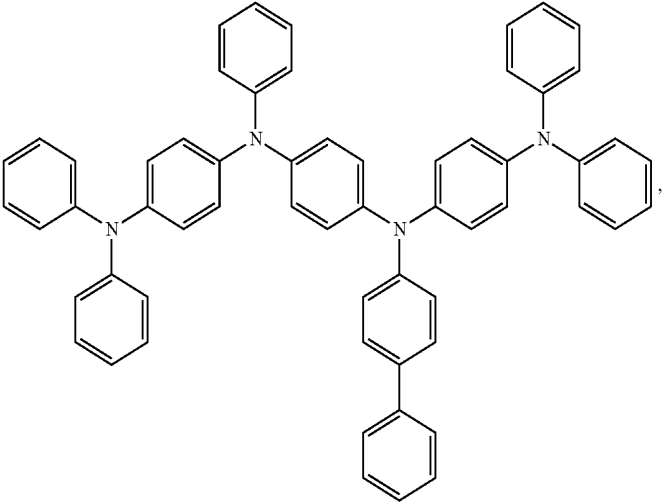
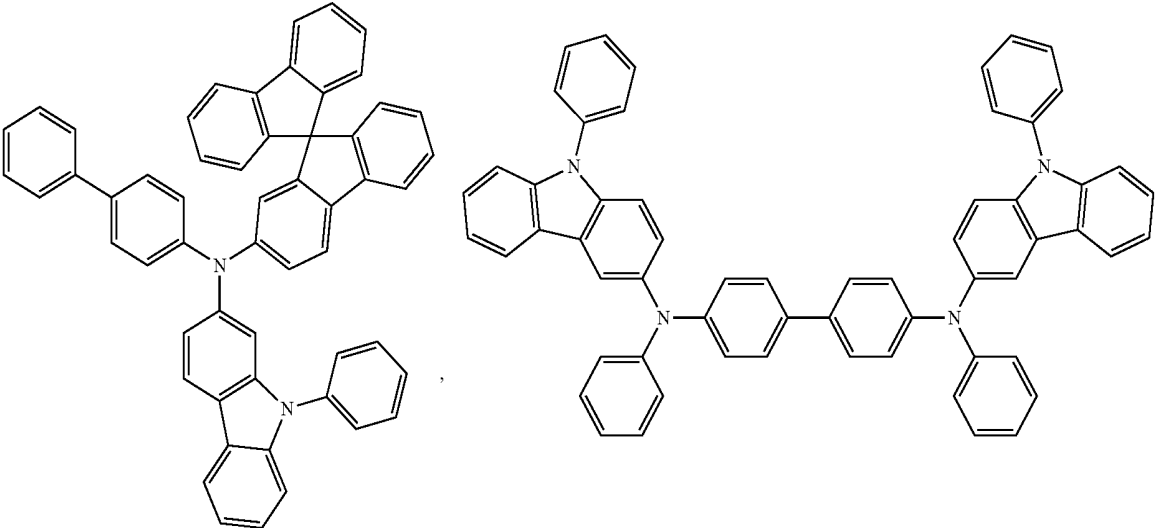
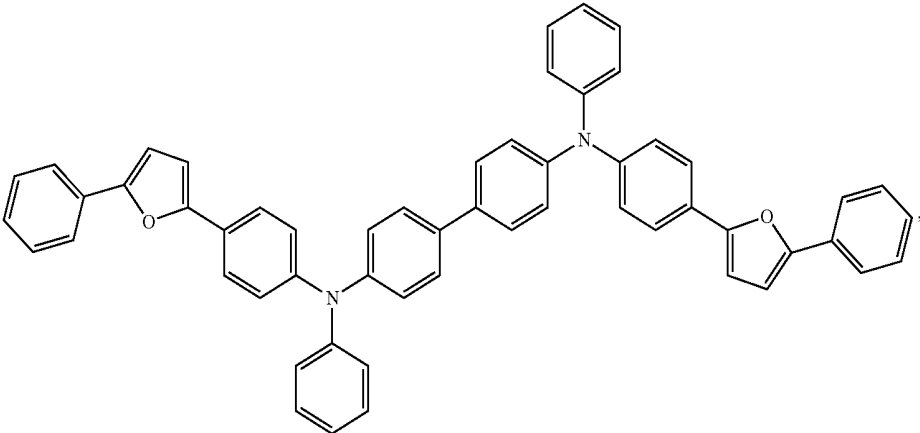
wherein Met is a metal, which can have an atomic weight greater than 40; (Y<sup>101</sup>-Y<sup>102</sup>) is a bidentate ligand, Y<sup>101</sup> and Y<sup>102</sup> are independently selected from C, N, O, P, and S; L<sup>101</sup> is an ancillary ligand; k' is an integer value from 1 to the maximum number of ligands that may be attached to the metal; and k'+k'' is the maximum number of ligands that may be attached to the metal.

[0121] In one aspect, (Y<sup>101</sup>-Y<sup>102</sup>) is a 2-phenylpyridine derivative. In another aspect, (Y<sup>101</sup>-Y<sup>102</sup>) is a carbene ligand. In another aspect, Met is selected from Ir, Pt, Os, and Zn. In a further aspect, the metal complex has a smallest oxidation potential in solution vs. Fc<sup>+</sup>/Fc couple less than about 0.6 V.

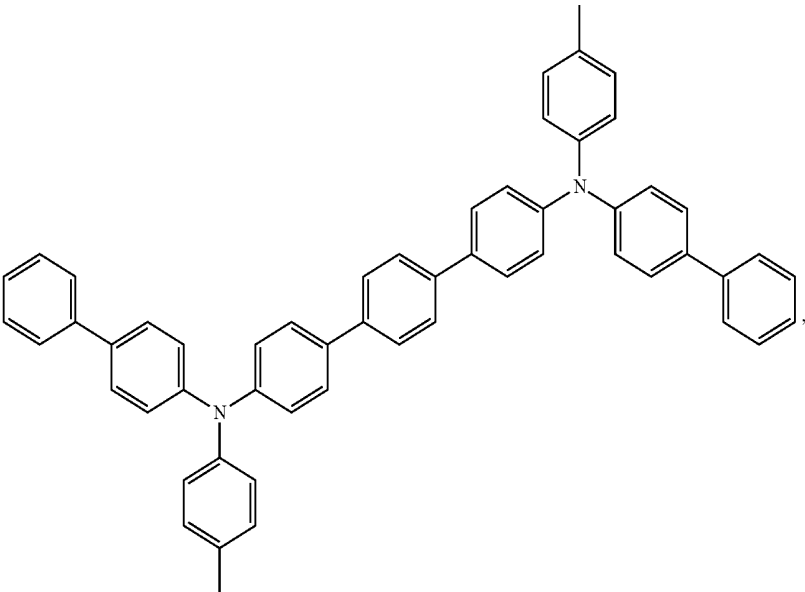
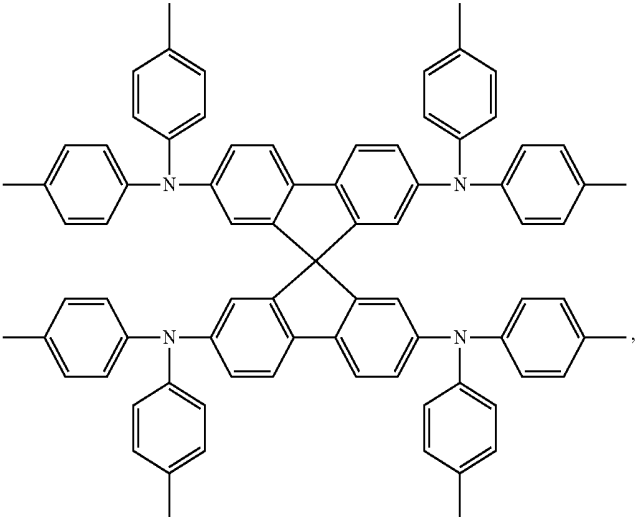
[0122] Non-limiting examples of the HIL and HTL materials that may be used in an OLED in combination with materials disclosed herein are exemplified below together with references that disclose those materials: CN102702075, DE102012005215, EP01624500, EP01698613, EP01806334, EP01930964, EP01972613, EP01997799, EP02011790, EP02055700, EP02055701, EP1725079, EP2085382, EP2660300, EP650955, JP07-073529, JP2005112765, JP2007091719, JP2008021687, JP2014-009196, KR20110088898, KR20130077473, TW201139402, U.S. Ser. No. 06/517,957, US20020158242, US20030162053, US20050123751, US20060182993, US20060240279, US20070145888, US20070181874, US20070278938, US20080014464, US20080091025, US20080106190, US20080124572, US20080145707, US20080220265, US20080233434, US20080303417, US2008107919, US20090115320, US20090167161, US2009066235, US2011007385, US20110163302, US2011240968, US2011278551, US2012205642, US2013241401, US20140117329, US2014183517, U.S. Pat. Nos. 5,061,569, 5,639,914, WO05075451, WO07125714, WO08023550, WO08023759, WO2009145016, WO2010061824, WO2011075644, WO2012177006, WO2013018530, WO2013039073, WO2013087142, WO2013118812, WO2013120577, WO2013157367, WO2013175747, WO2014002873, WO2014015935, WO2014015937, WO2014030872, WO2014030921, WO2014034791, WO2014104514, WO2014157018.



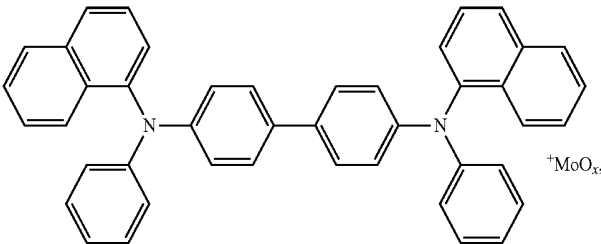
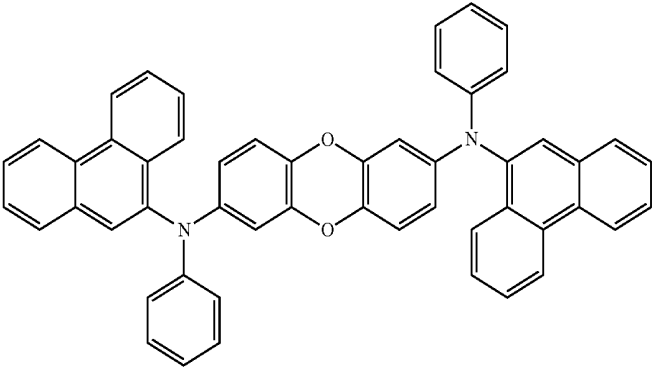
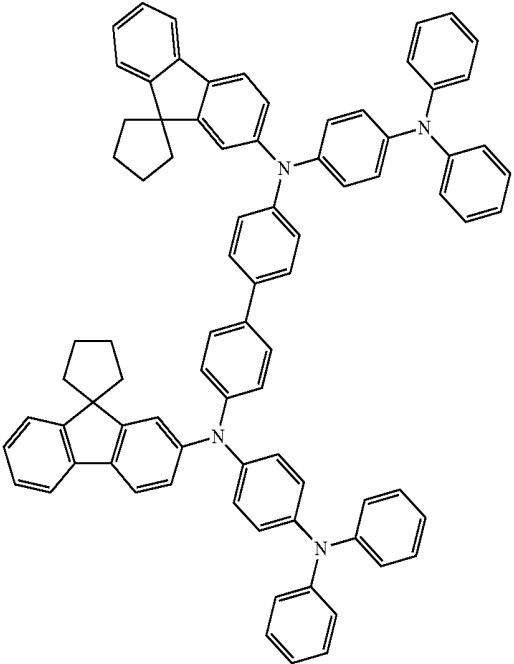
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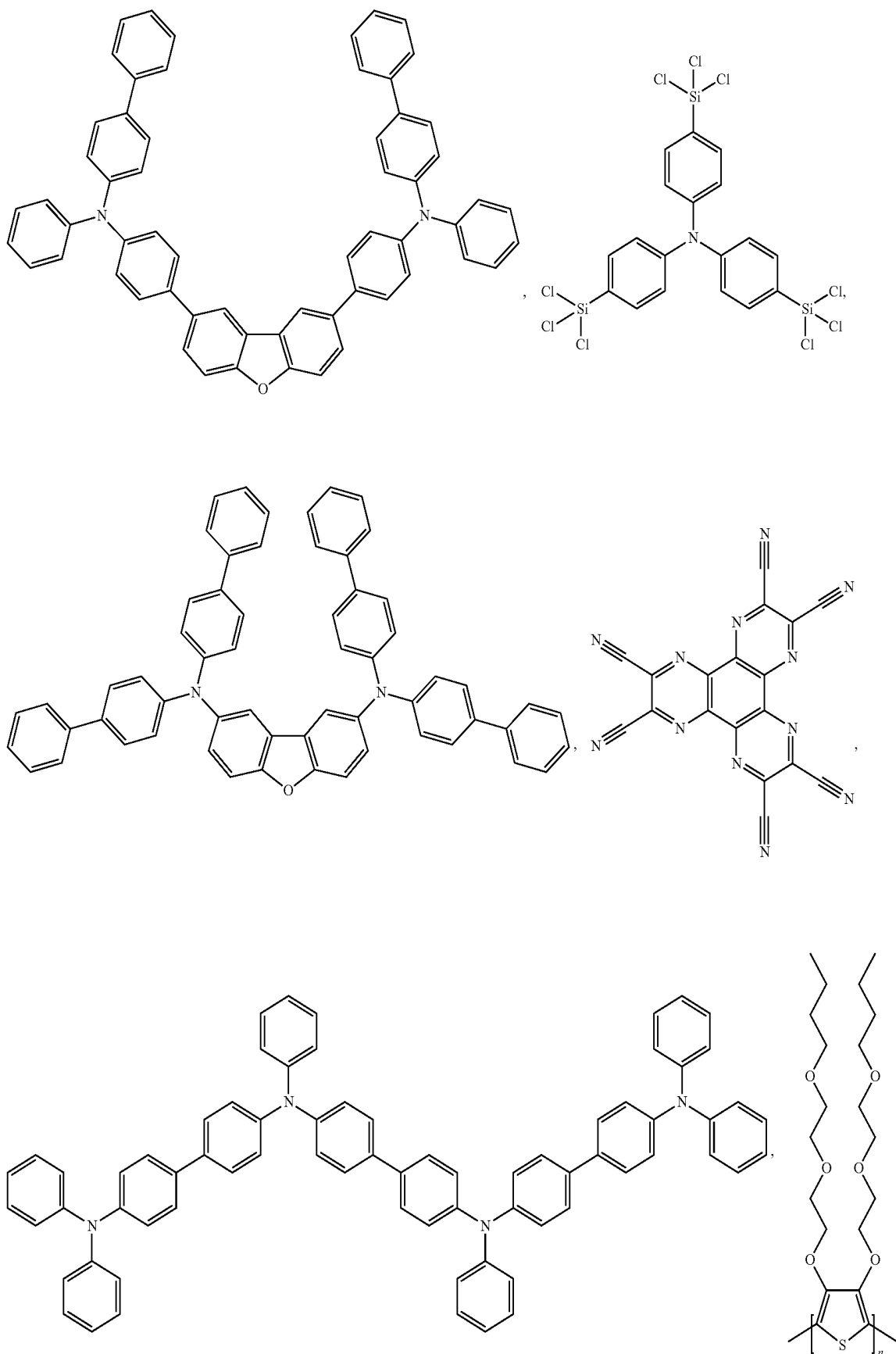
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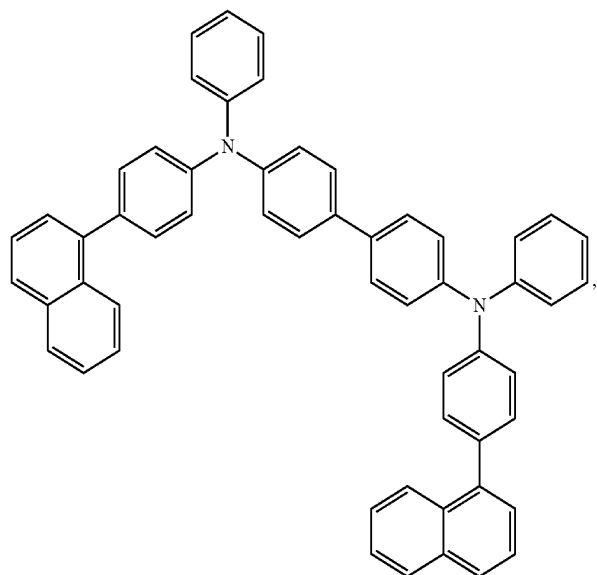
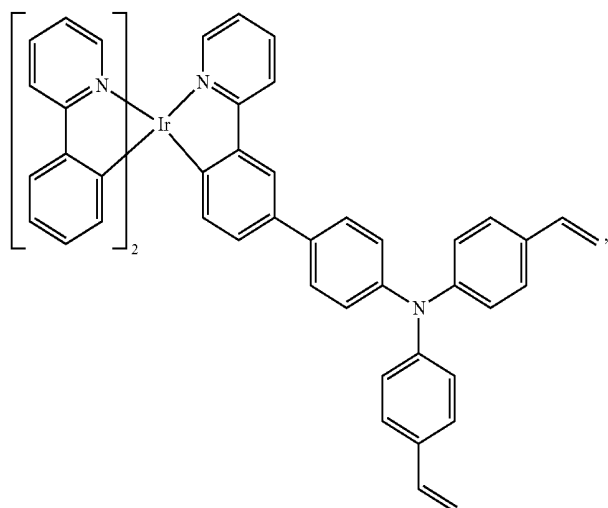
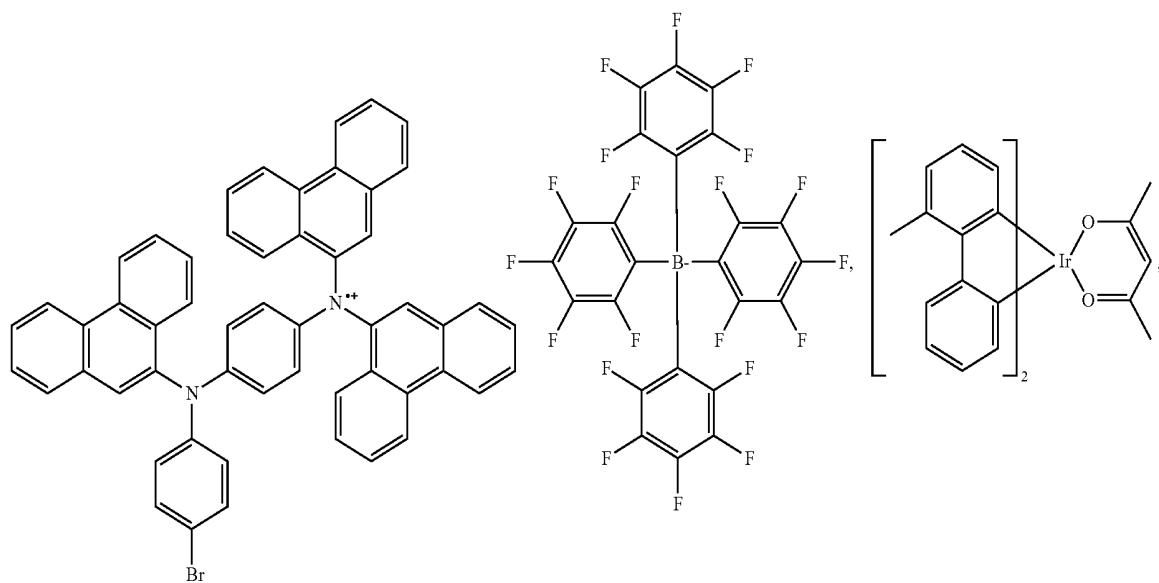
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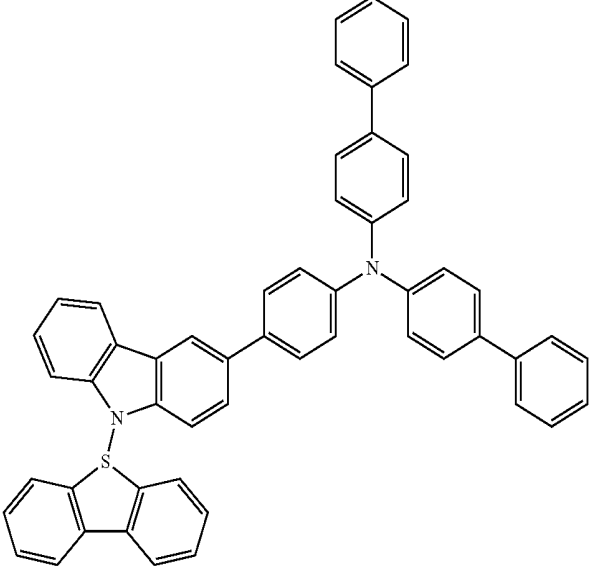
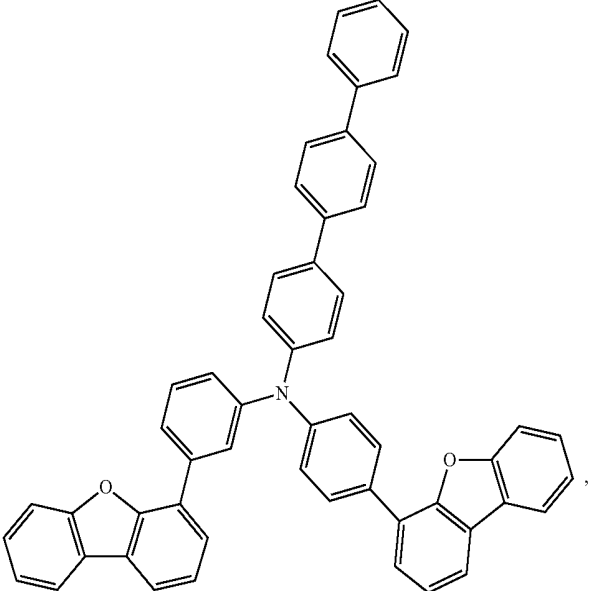
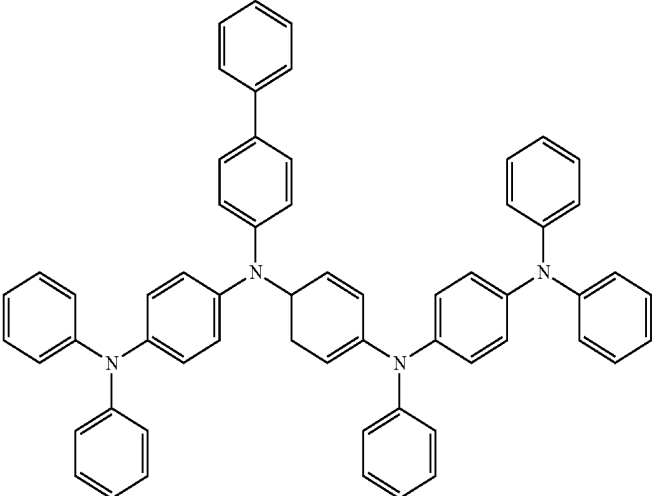
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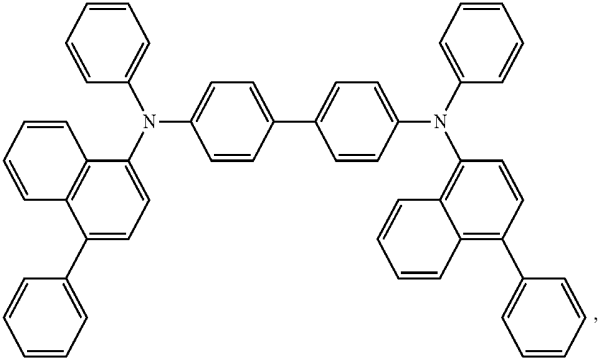
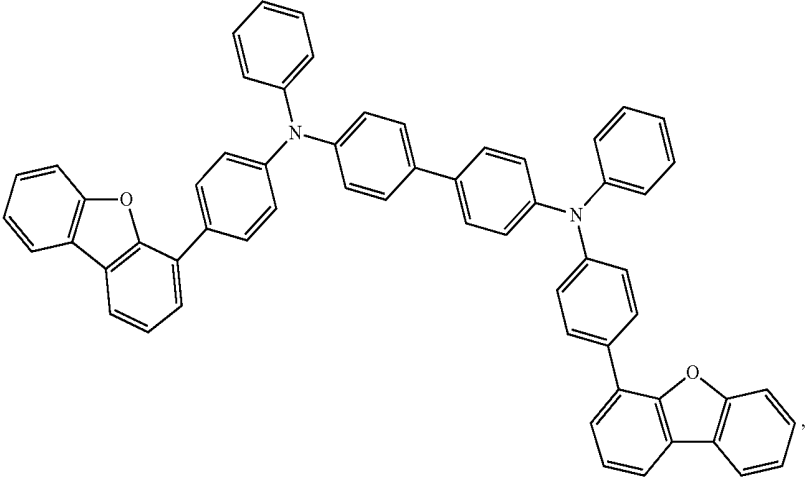
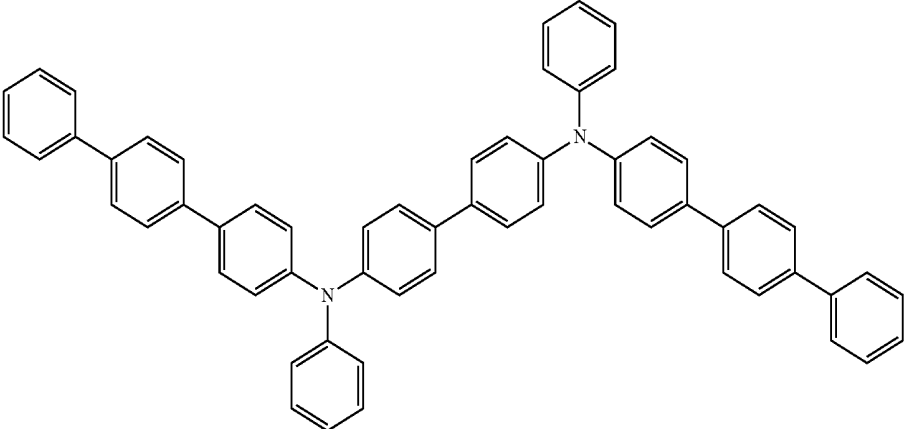
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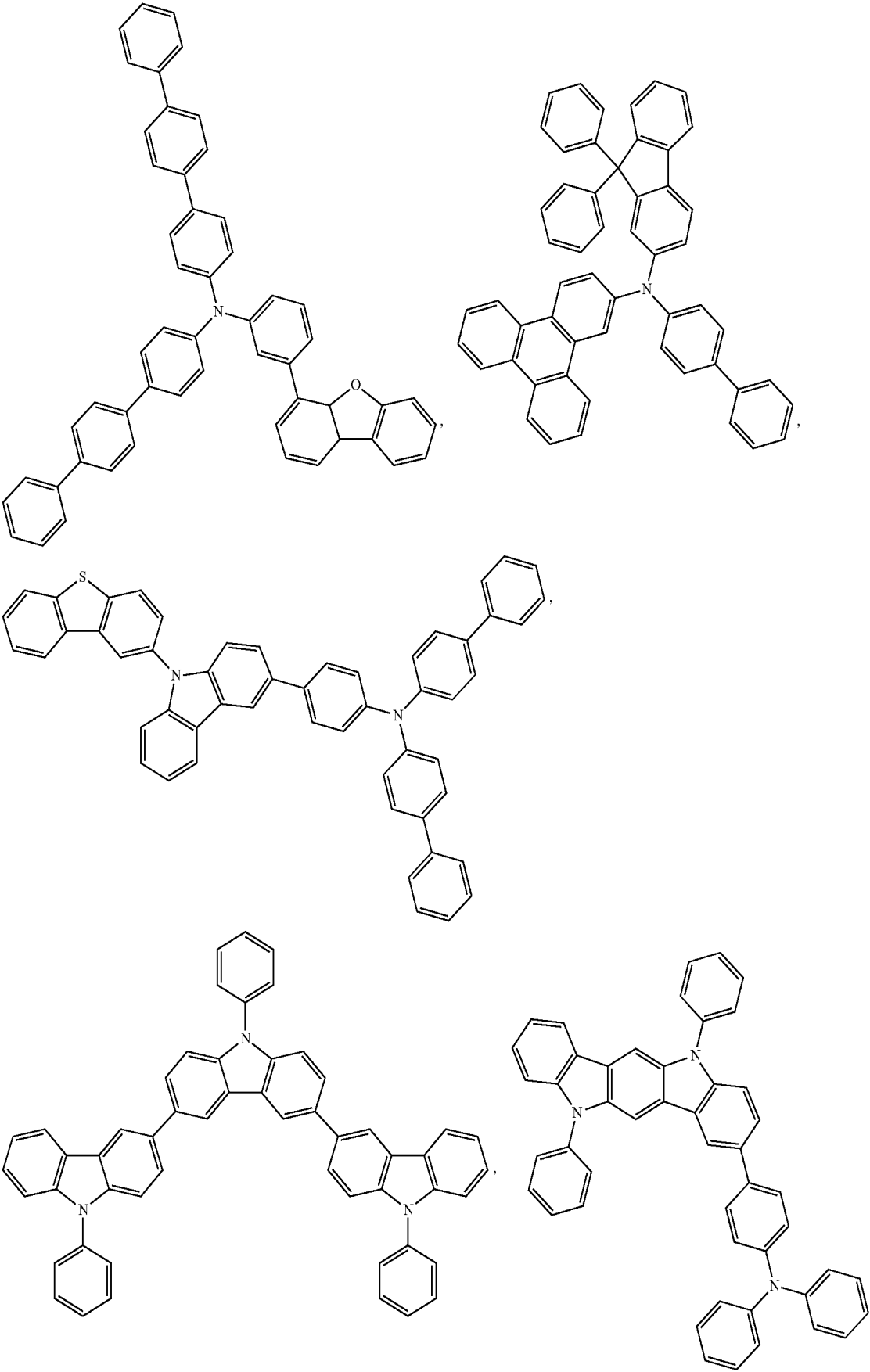
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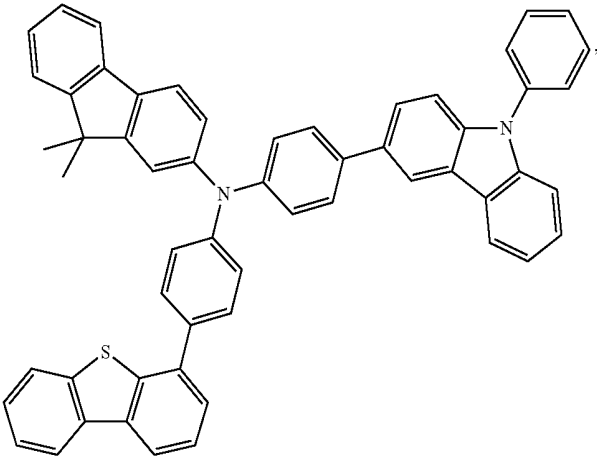
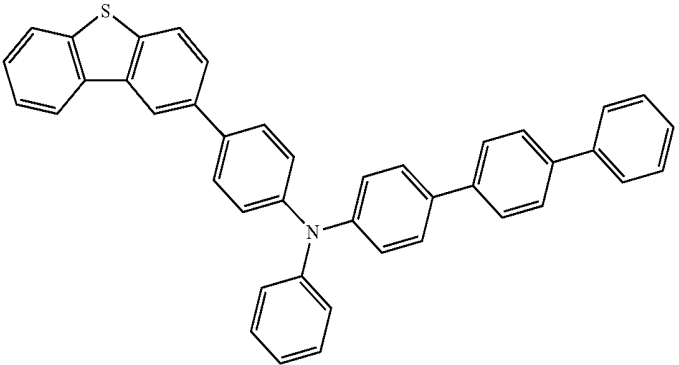
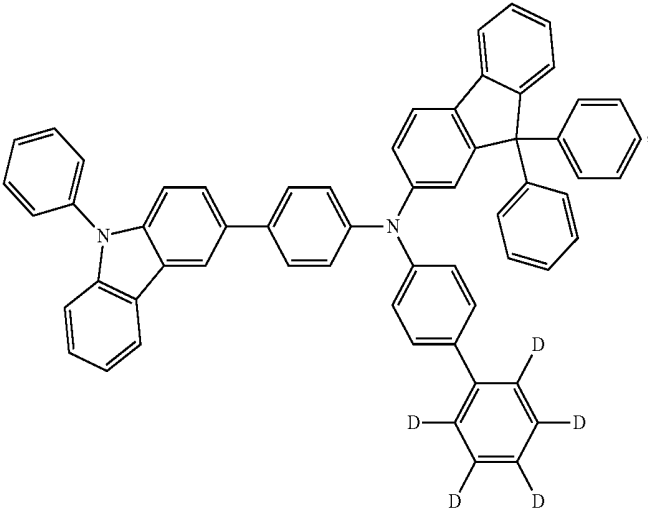
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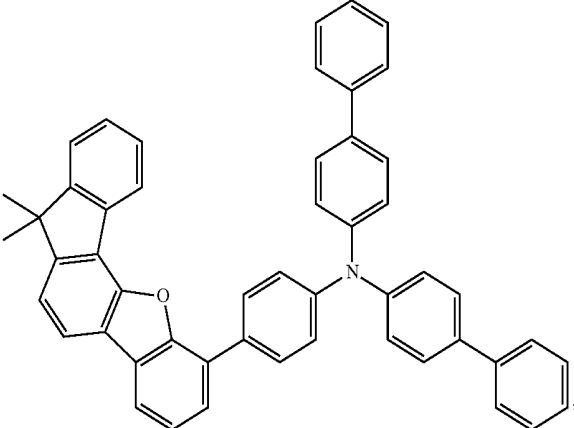
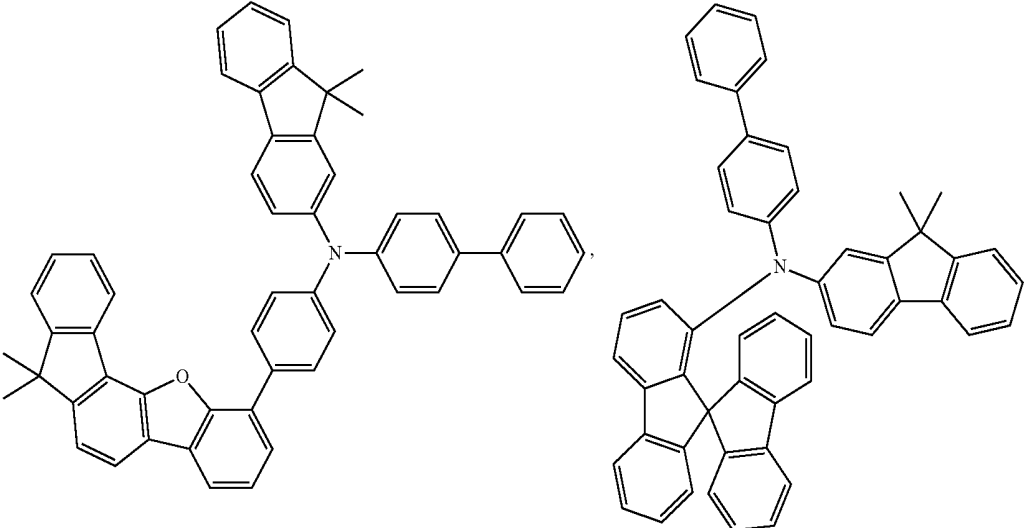
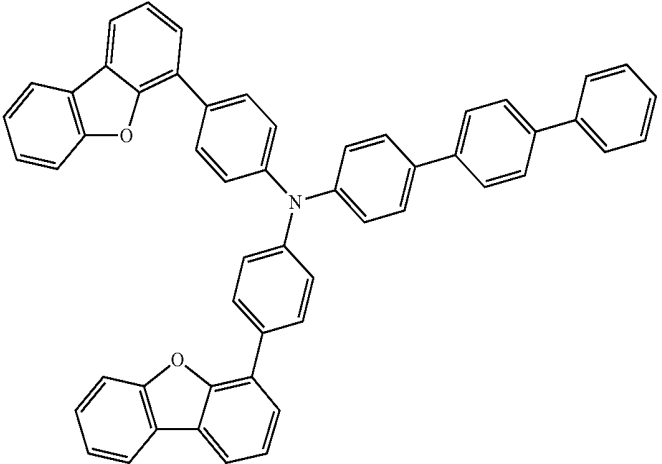
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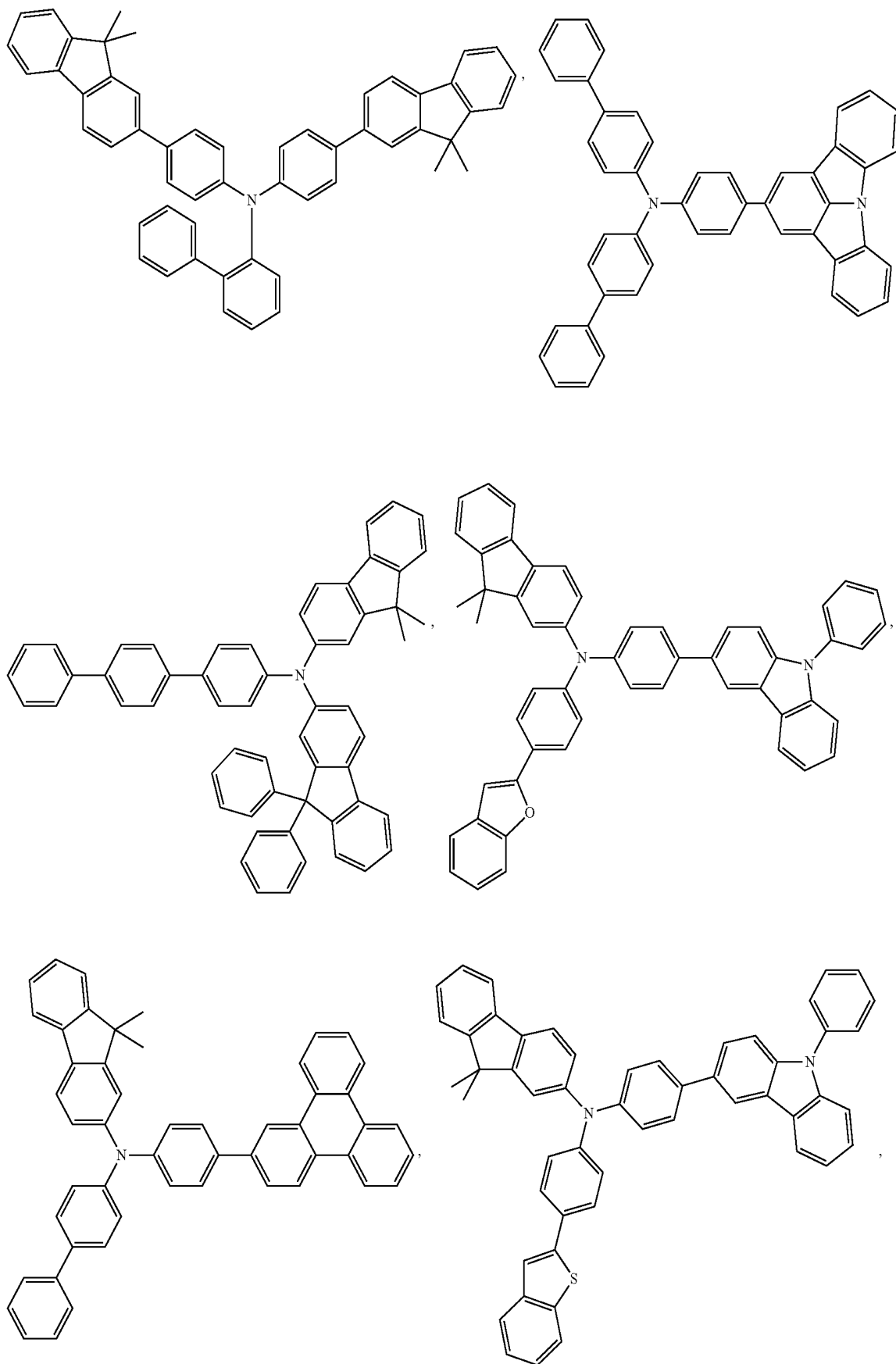
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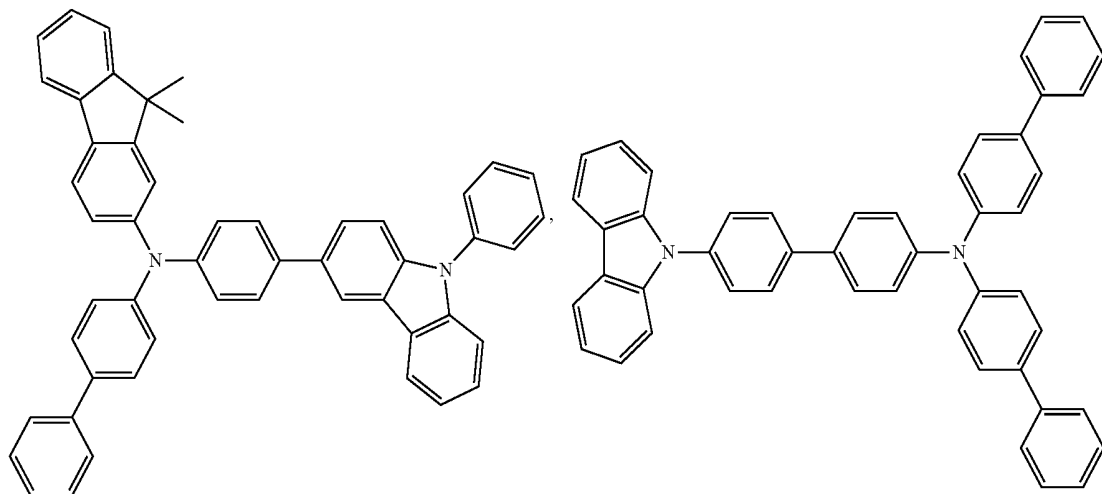
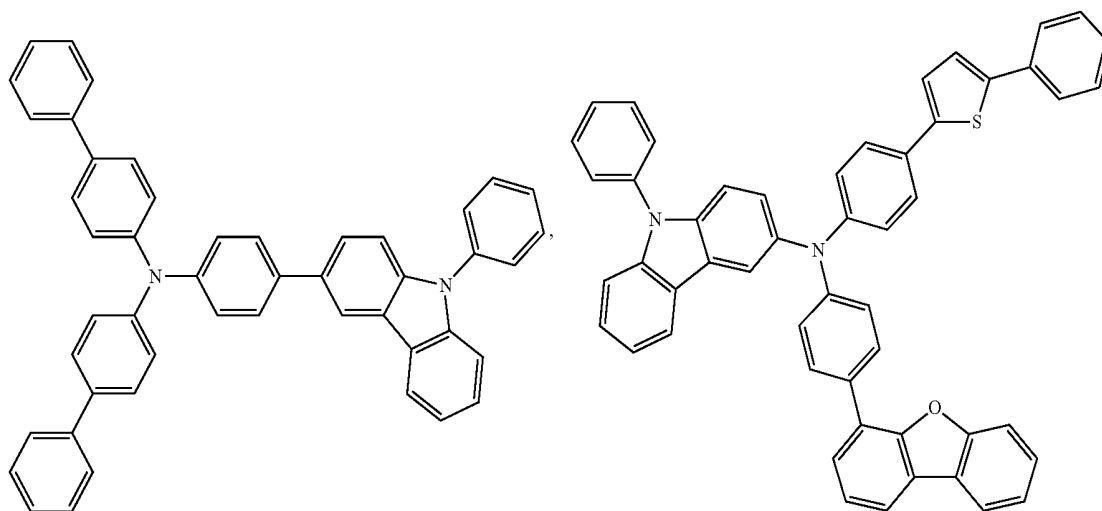
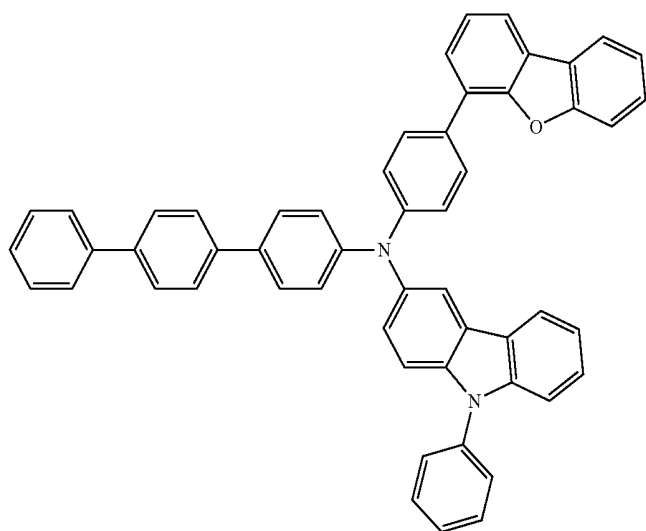
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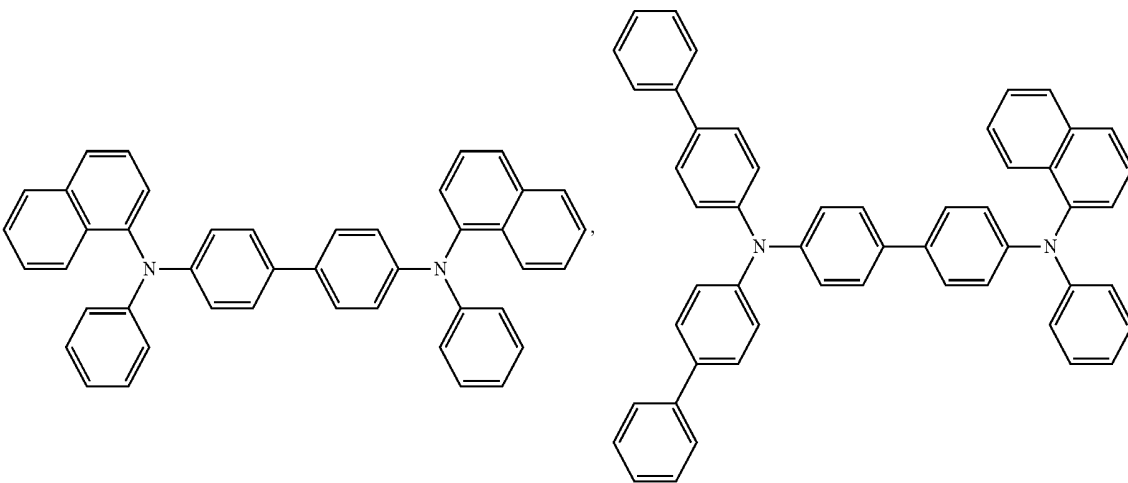
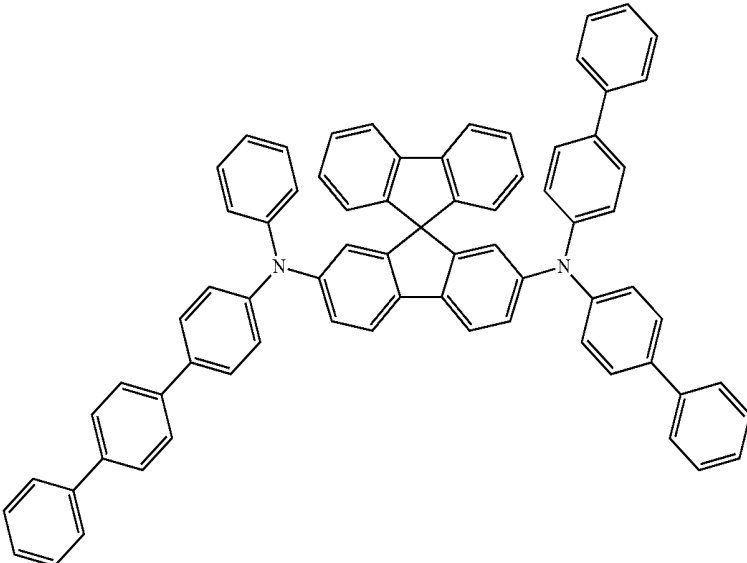
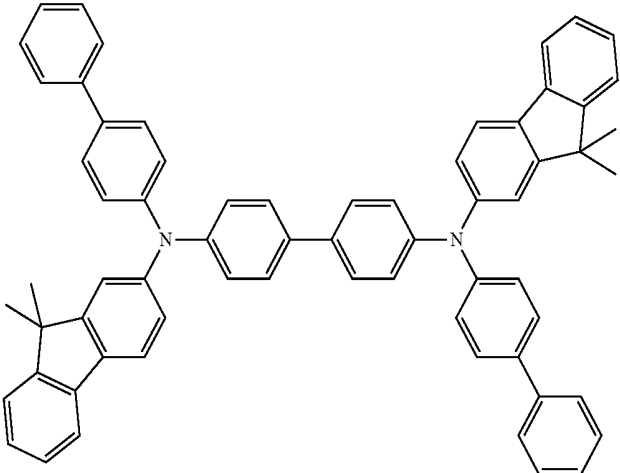
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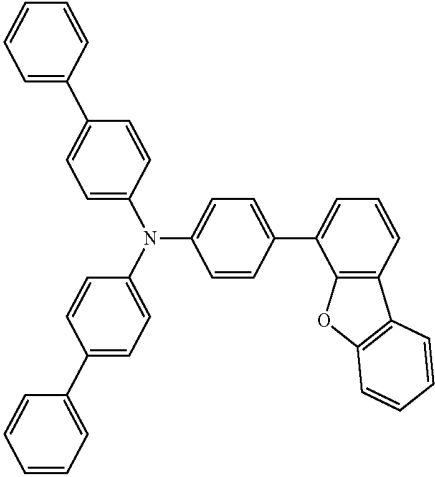
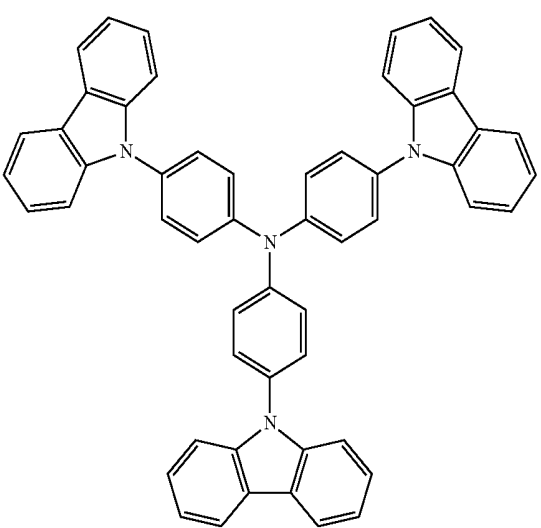
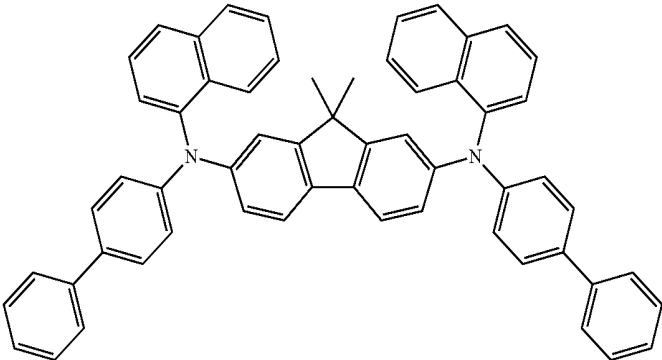
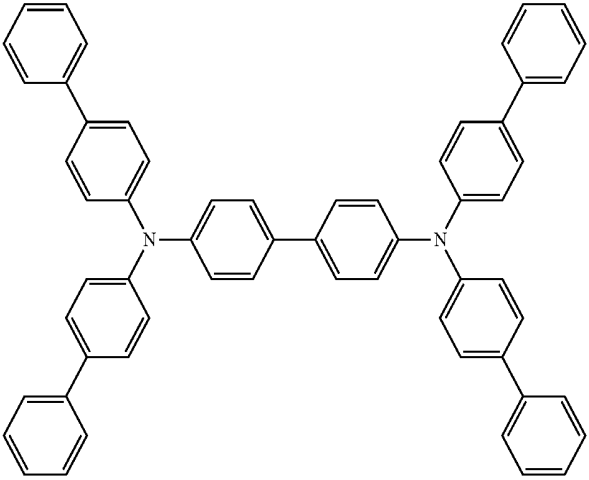
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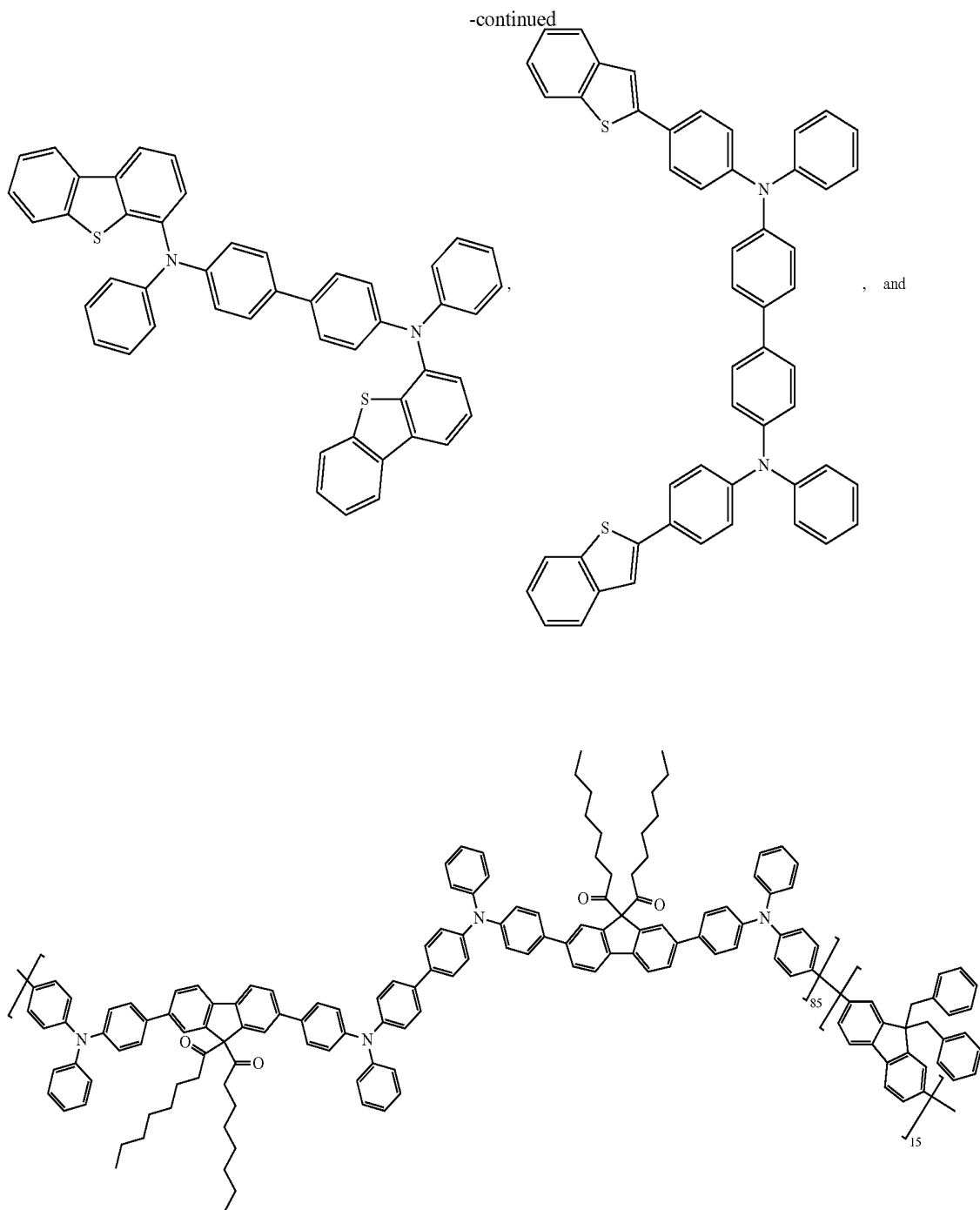


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**[0123]** An electron blocking layer (EBL) may be used to reduce the number of electrons and/or excitons that leave the emissive layer. The presence of such a blocking layer in a device may result in substantially higher efficiencies, and/or longer lifetime, as compared to a similar device lacking a blocking layer. Also, a blocking layer may be used to confine emission to a desired region of an OLED. In some embodiments, the EBL material has a higher LUMO (closer to the vacuum level) and/or higher triplet energy than the emitter closest to the EBL interface. In some embodiments, the EBL material has a higher LUMO (closer to the vacuum level) and/or higher triplet energy than one or more of the hosts closest to the EBL interface. In one aspect, the compound

used in EBL contains the same molecule or the same functional groups used as one of the hosts described below.

Host:

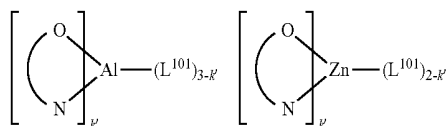
**[0124]** The light emitting layer of the organic EL device of the present invention preferably contains at least a metal complex as light emitting material, and may contain a host material using the metal complex as a dopant material. Examples of the host material are not particularly limited, and any metal complexes or organic compounds may be used as long as the triplet energy of the host is larger than that of the dopant. Any host material may be used with any dopant so long as the triplet criteria is satisfied.

[0125] Examples of metal complexes used as host are preferred to have the following general formula:



wherein Met is a metal; ( $Y^{103}$ - $Y^{104}$ ) is a bidentate ligand,  $Y^{103}$  and  $Y^{104}$  are independently selected from C, N, O, P, and S;  $L^{101}$  is another ligand;  $k'$  is an integer value from 1 to the maximum number of ligands that may be attached to the metal; and  $k'+k''$  is the maximum number of ligands that may be attached to the metal.

[0126] In one aspect, the metal complexes are:

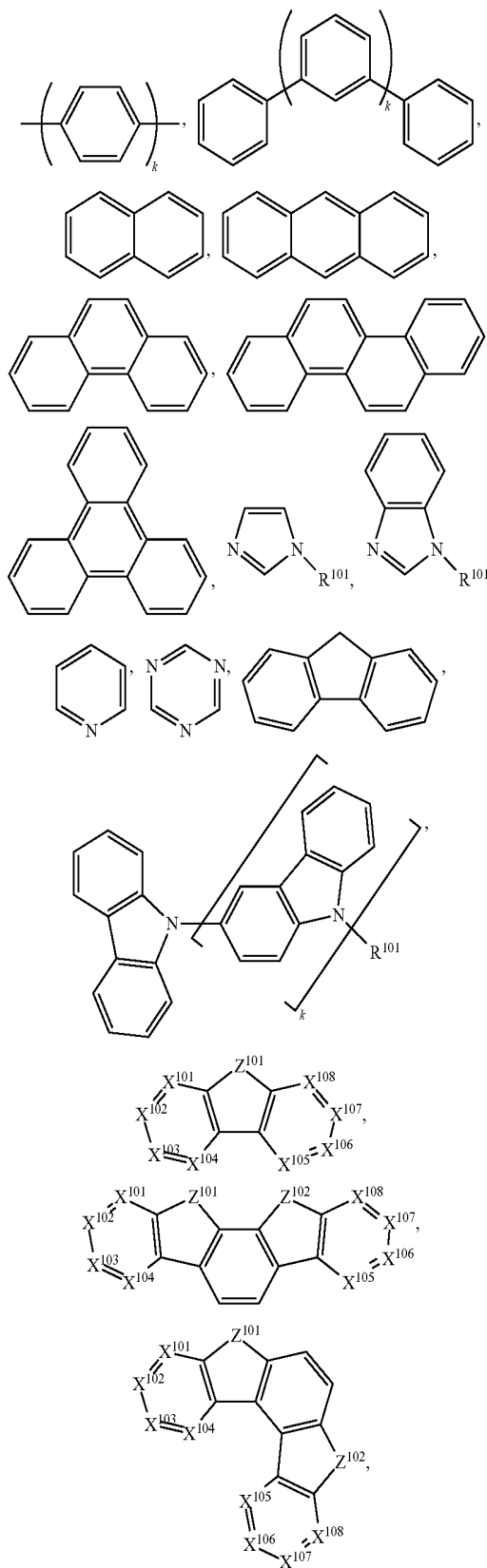


wherein (O—N) is a bidentate ligand, having metal coordinated to atoms O and N.

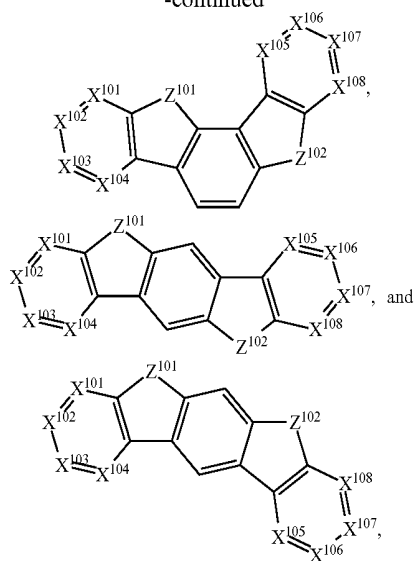
[0127] In another aspect, Met is selected from Ir and Pt. In a further aspect, ( $Y^{103}$ - $Y^{104}$ ) is a carbene ligand.

[0128] In one aspect, the host compound contains at least one of the following groups selected from the group consisting of aromatic hydrocarbon cyclic compounds such as benzene, biphenyl, triphenyl, triphenylene, tetraphenylene, naphthalene, anthracene, phenalene, phenanthrene, fluorene, pyrene, chrysene, perylene, and azulene; the group consisting of aromatic heterocyclic compounds such as dibenzothiophene, dibenzofuran, dibenzoselenophene, furan, thiophene, benzofuran, benzothiophene, benzoselenophene, carbazole, indolocarbazole, pyridylindole, pyrrolodipyridine, pyrazole, imidazole, triazole, oxazole, thiazole, oxadiazole, oxatriazole, dioxazole, thiadiazole, pyridine, pyridazine, pyrimidine, pyrazine, triazine, oxazine, oxathiazine, oxadiazine, indole, benzimidazole, indazole, indoxazine, benzoxazole, benzisoxazole, benzothiazole, quinine, isoquinoline, cinnoline, quinazoline, quinoxaline, naphthyridine, phthalazine, pteridine, xanthene, acridine, phenazine, phenothiazine, phenoxazine, benzofuropridine, furodipyridine, benzothienopyridine, thienodipyridine, benzoselenophenopyridine, and selenophenodipyridine; and the group consisting of 2 to 10 cyclic structural units which are groups of the same type or different types selected from the aromatic hydrocarbon cyclic group and the aromatic heterocyclic group and are bonded to each other directly or via at least one of oxygen atom, nitrogen atom, sulfur atom, silicon atom, phosphorus atom, boron atom, chain structural unit and the aliphatic cyclic group. Each option within each group may be unsubstituted or may be substituted by a substituent selected from the group consisting of deuterium, halogen, alkyl, cycloalkyl, heteroalkyl, heterocycloalkyl, arylalkyl, alkoxy, aryloxy, amino, silyl, alkenyl, cycloalkenyl, heteroalkenyl, alkynyl, aryl, heteroaryl, acyl, carboxylic acids, ether, ester, nitrile, isonitrile, sulfanyl, sulfinyl, sulfonyl, phosphino, and combinations thereof.

[0129] In one aspect, the host compound contains at least one of the following groups in the molecule:



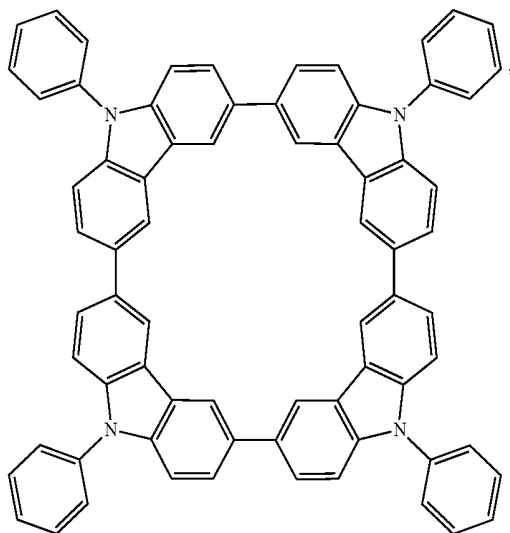
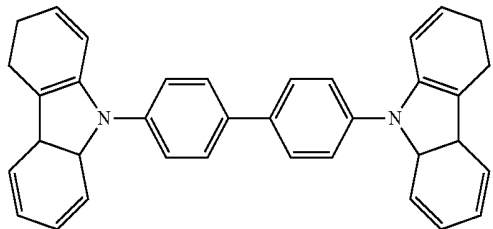
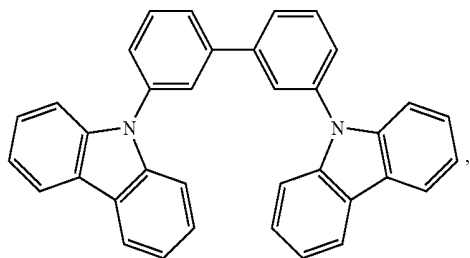
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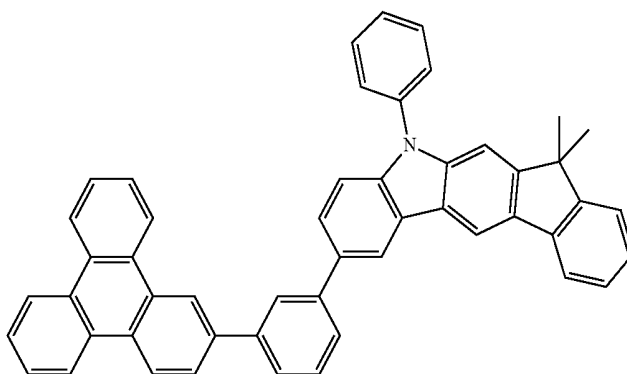
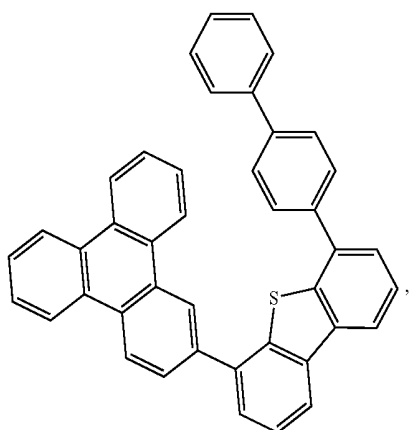
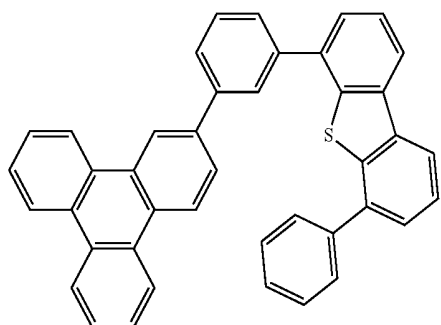
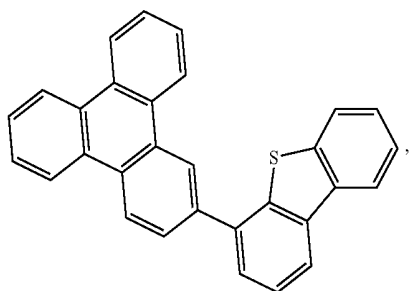
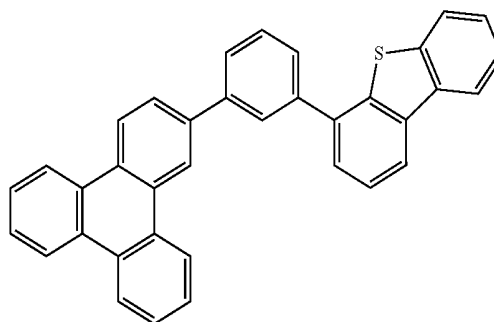
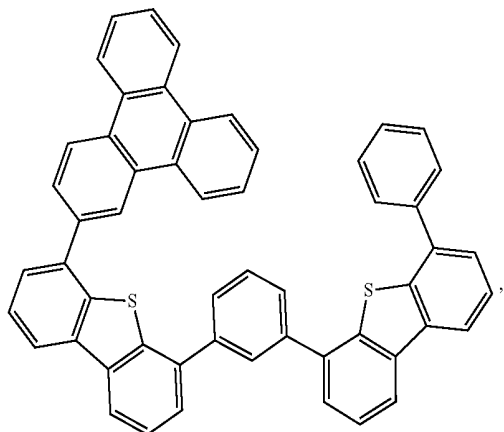
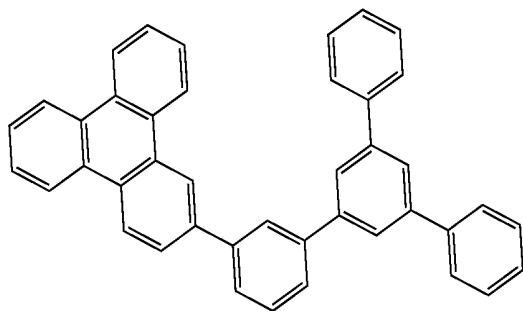
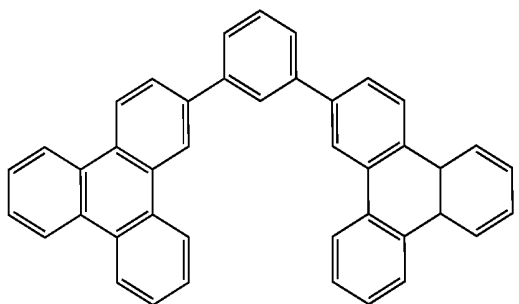
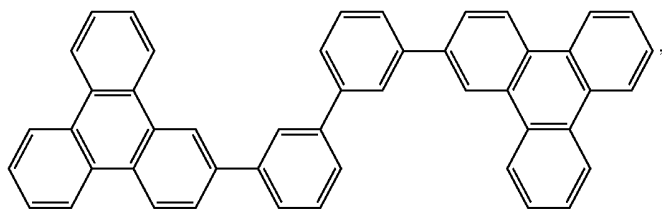
wherein  $R^{101}$  is selected from the group consisting of hydrogen, deuterium, halogen, alkyl, cycloalkyl, heteroalkyl, heterocycloalkyl, arylalkyl, alkoxy, aryloxy, amino, silyl, alkenyl, cycloalkenyl, heteroalkenyl, alkynyl, aryl, heteroaryl, acyl, carboxylic acids, ether, ester, nitrile, isonitrile, sulfanyl, sulfinyl, sulfonyl, phosphino, and combinations thereof, and when it is aryl or heteroaryl, it has the similar definition

as Ar's mentioned above.  $k$  is an integer from 0 to 20 or 1 to 20.  $X^{101}$  to  $X^{108}$  are independently selected from C (including CH) or N.  $Z^{101}$  and  $Z^{102}$  are independently selected from  $NR^{101}$ , O, or S.

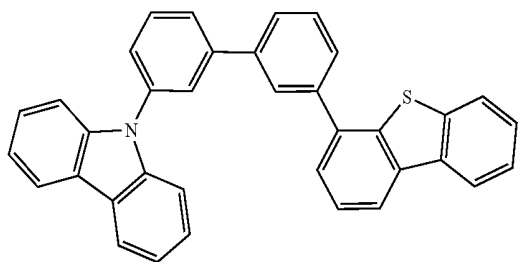
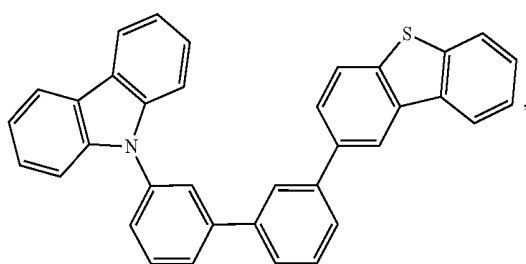
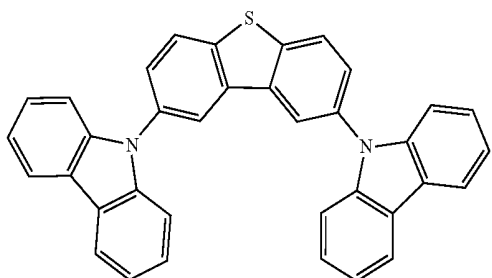
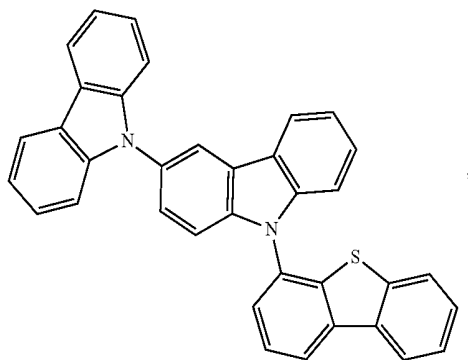
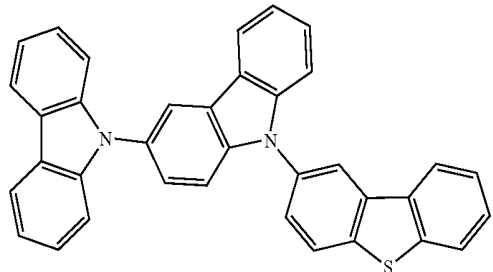
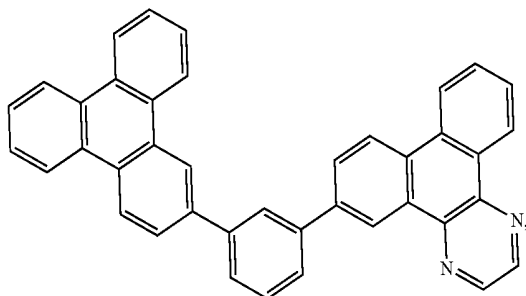
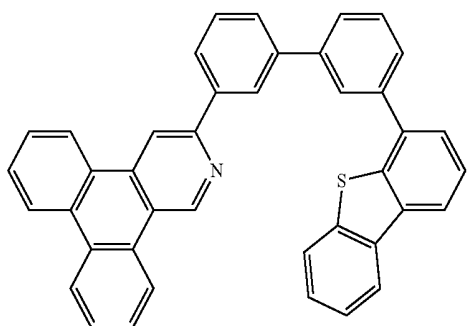
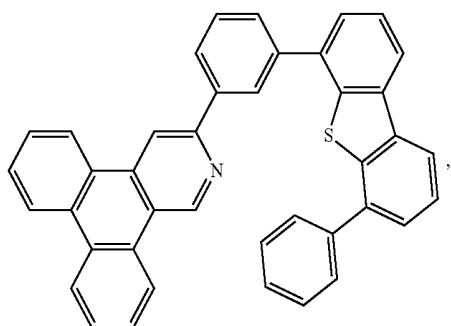
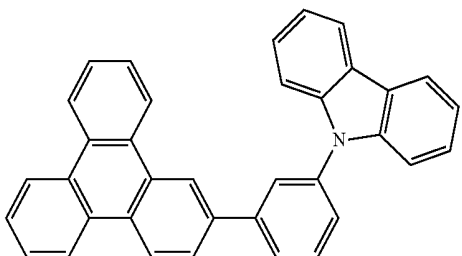
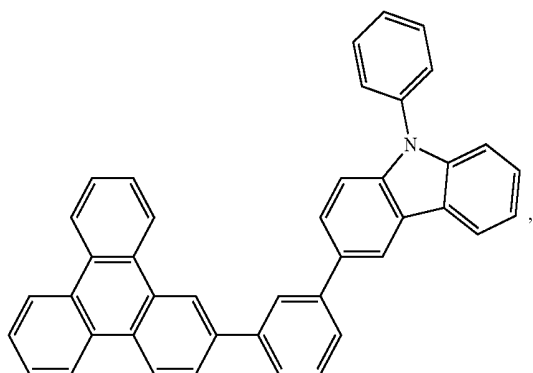
**[0130]** Non-limiting examples of the host materials that may be used in an OLED in combination with materials disclosed herein are exemplified below together with references that disclose those materials: EP2034538, EP2034538A, EP2757608, JP2007254297, KR20100079458, KR20120088644, KR20120129733, KR20130115564, TW201329200, US20030175553, US20050238919, US20060280965, US20090017330, US20090030202, US20090167162, US20090302743, US20090309488, US20100012931, US20100084966, US20100187984, US2010187984, US2012075273, US2012126221, US2013009543, US2013105787, US2013175519, US2014001446, US20140183503, US20140225088, US2014034914, U.S. Pat. No. 7,154,114, WO2001039234, WO2004093207, WO2005014551, WO2005089025, WO2006072002, WO2006114966, WO2007063754, WO2008056746, WO2009003898, WO2009021126, WO2009063833, WO2009066778, WO2009066779, WO2009086028, WO2010056066, WO2010107244, WO2011081423, WO2011081431, WO2011086863, WO2012128298, WO2012133644, WO2012133649, WO2013024872, WO2013035275, WO2013081315, WO2013191404, WO2014142472, US20170263869, US20160163995, U.S. Pat. No. 9,466,803,



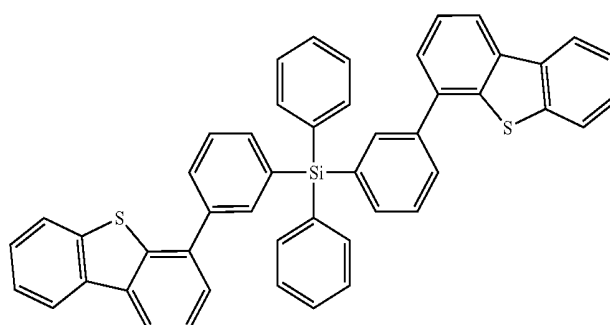
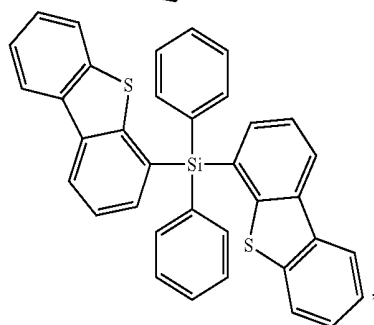
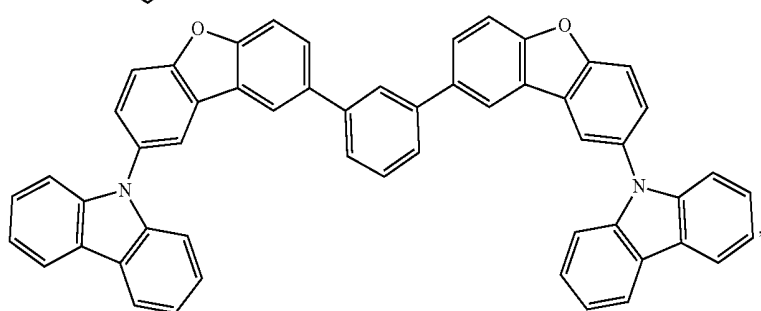
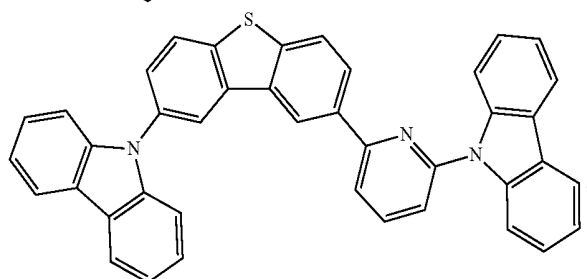
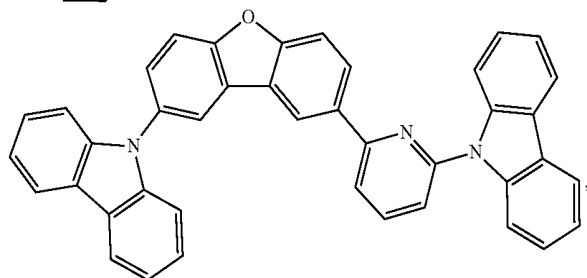
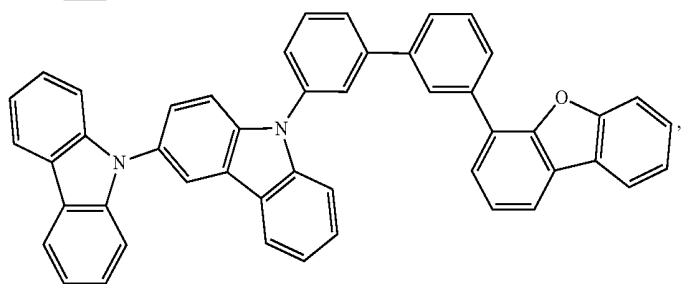
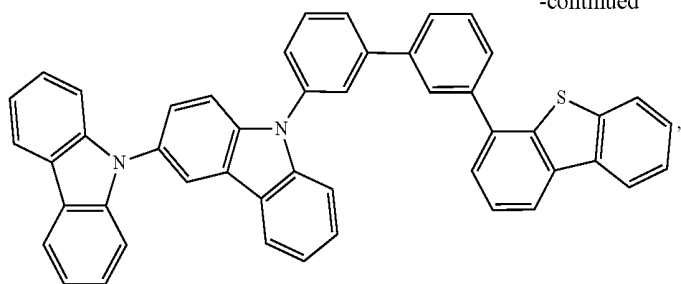
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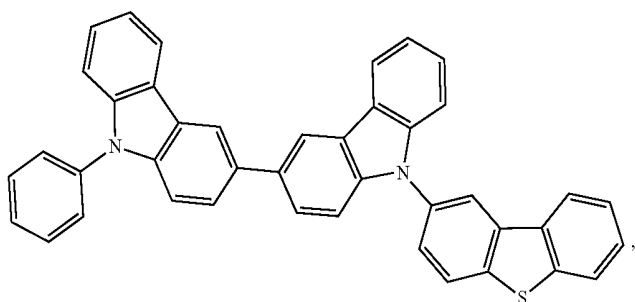
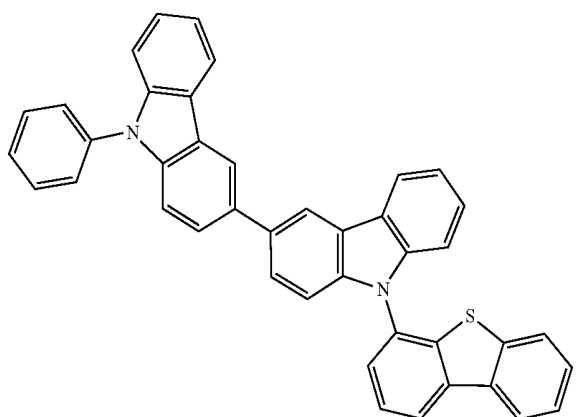
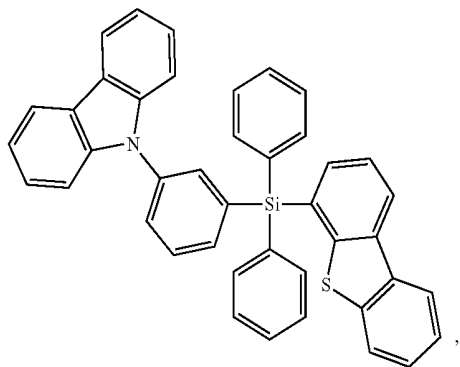
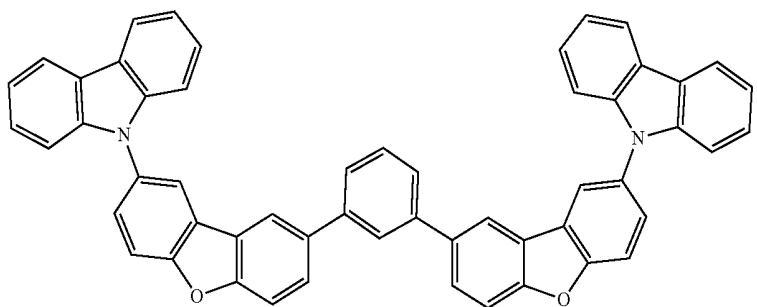
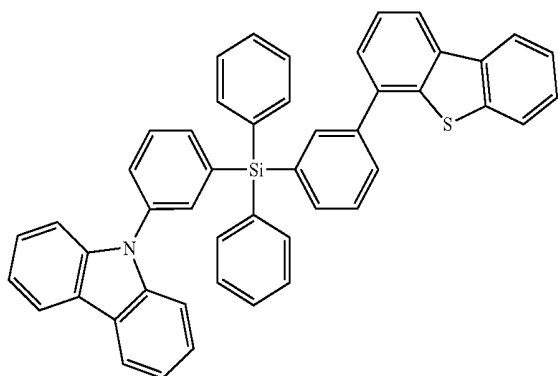
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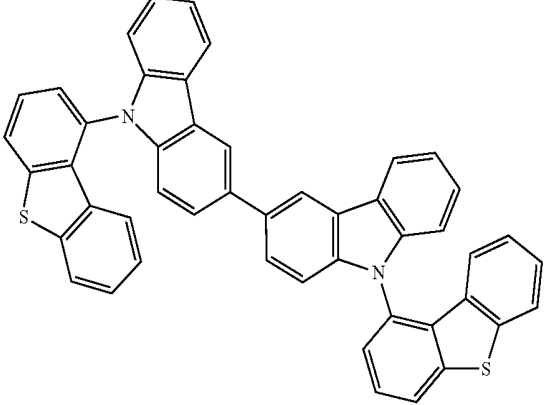
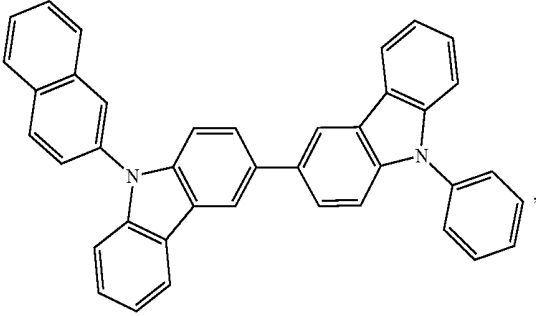
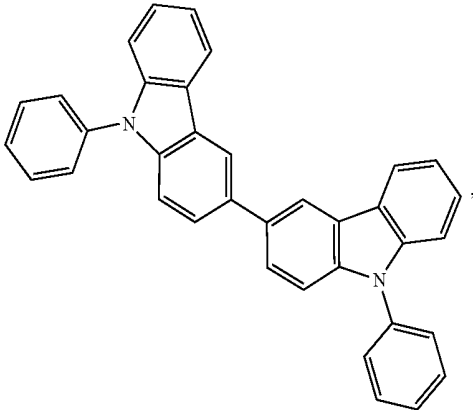
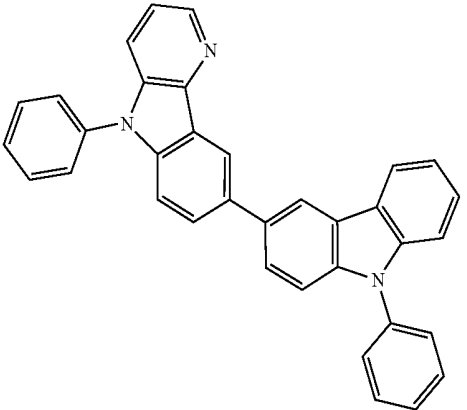
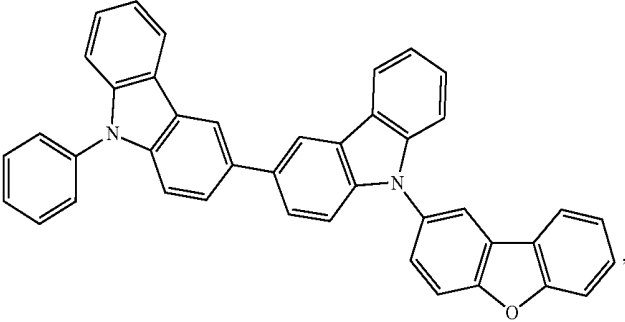
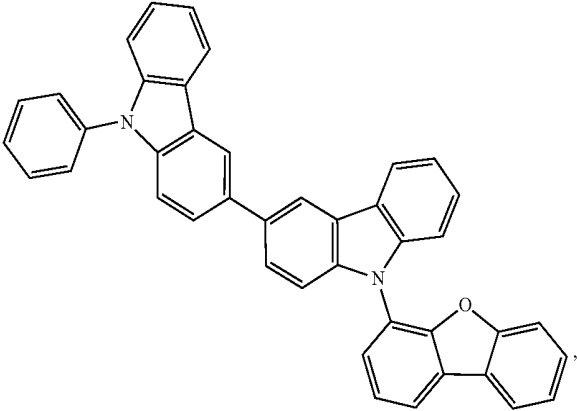
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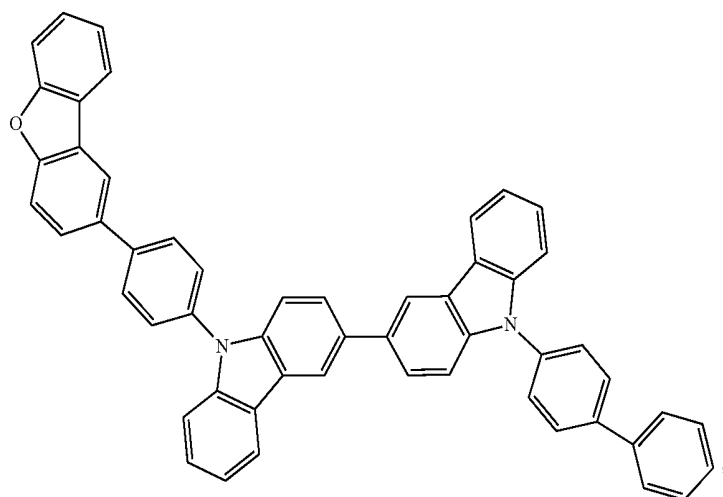
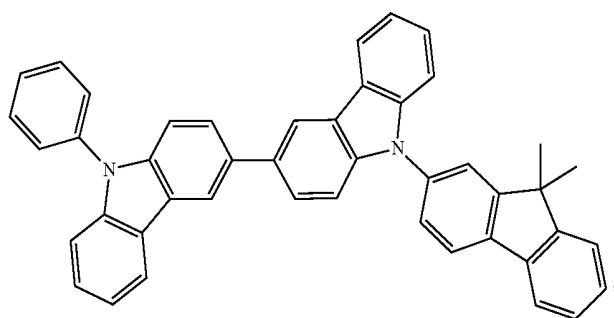
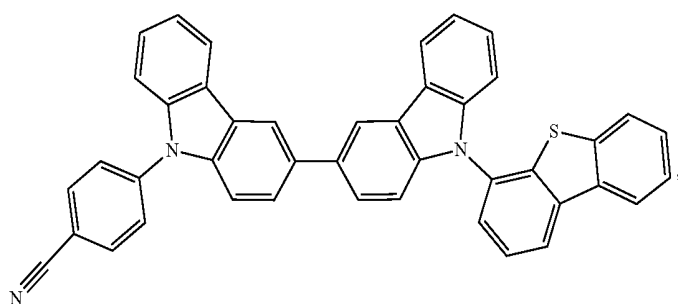
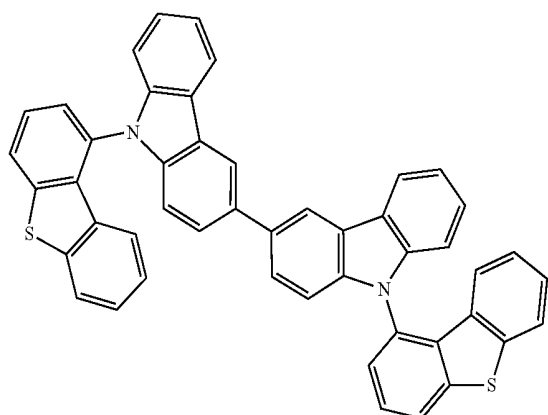
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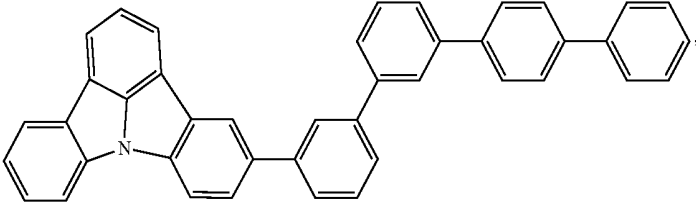
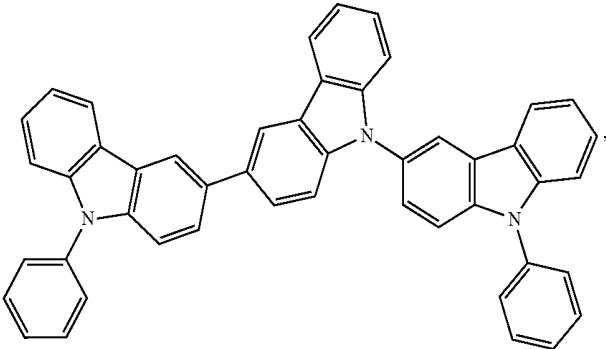
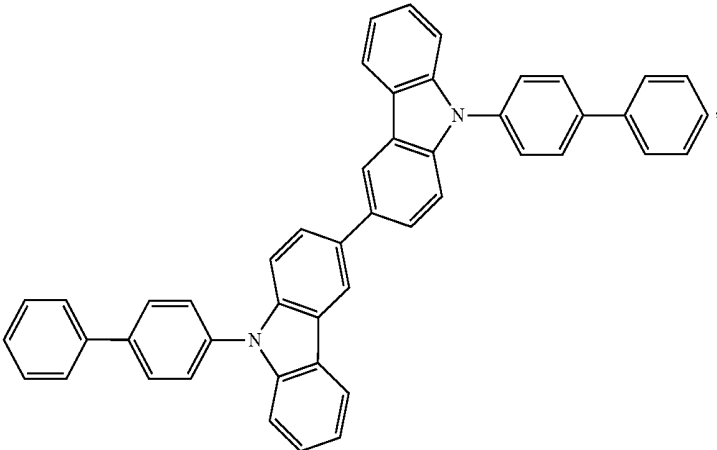
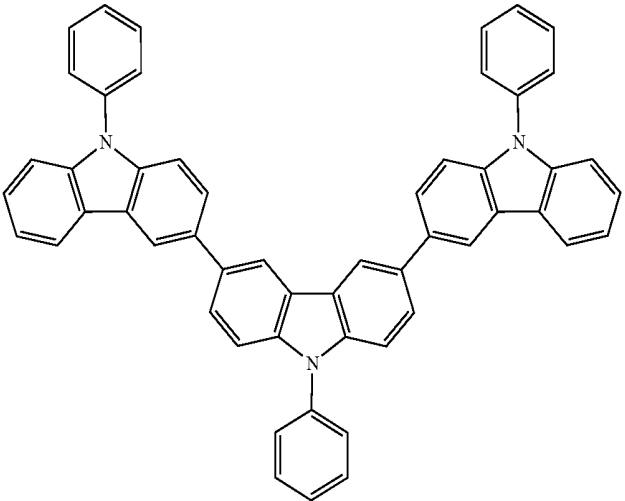
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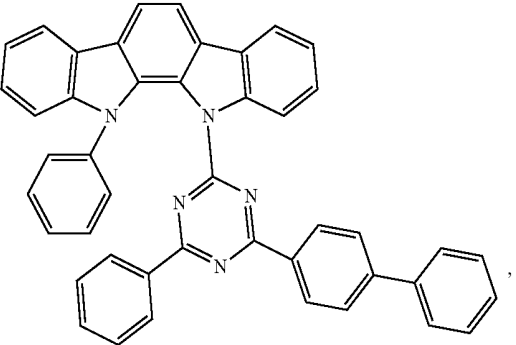
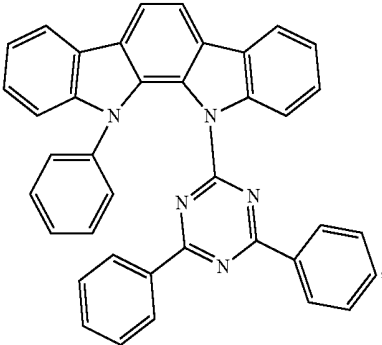
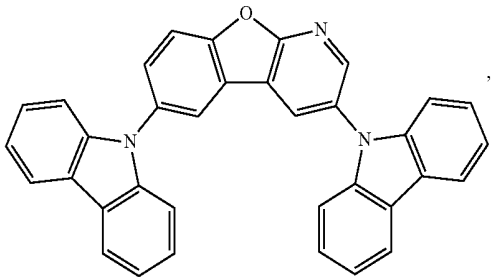
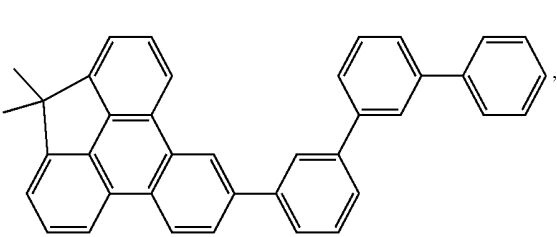
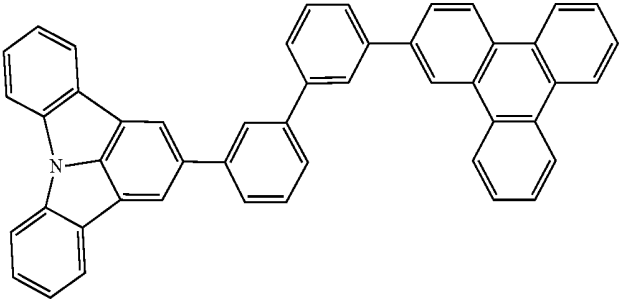
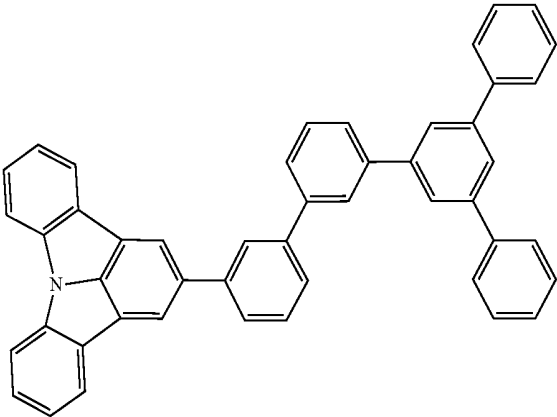
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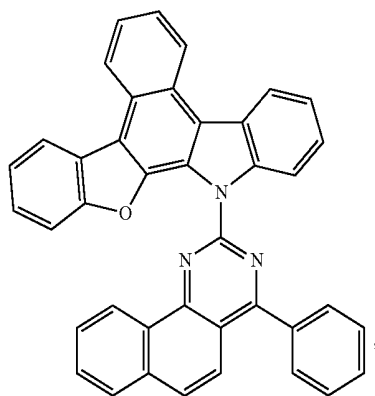
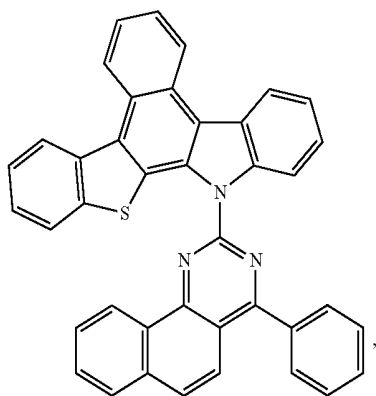
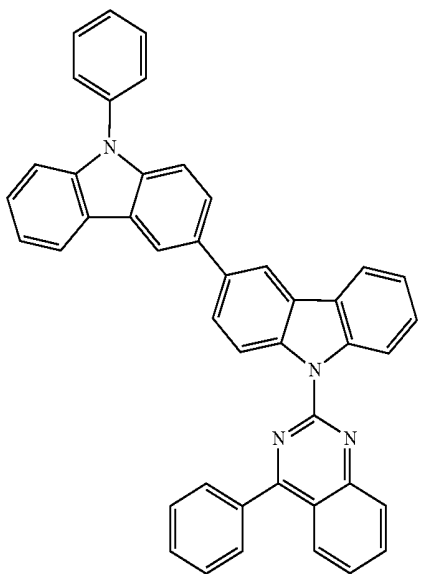
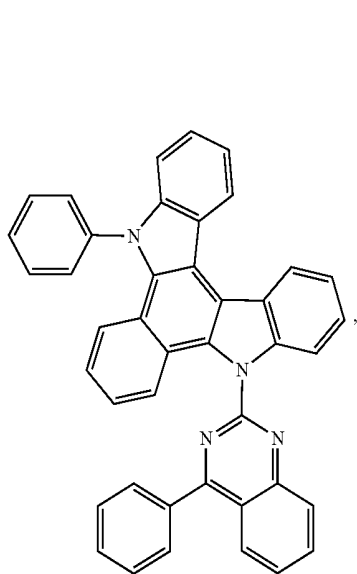
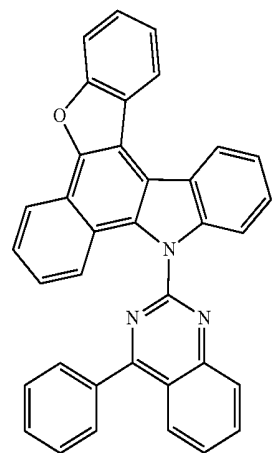
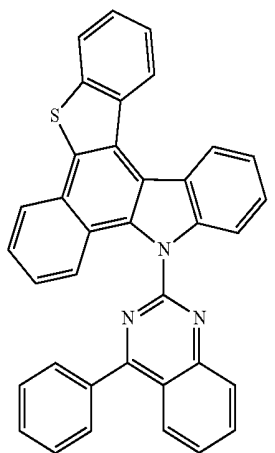
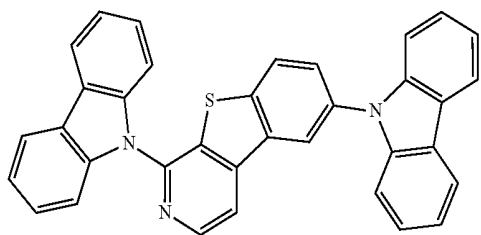
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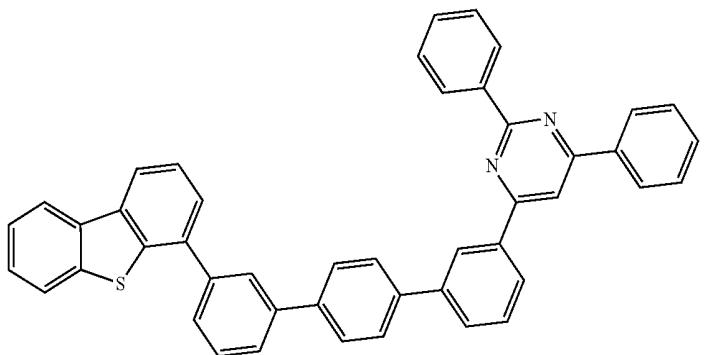
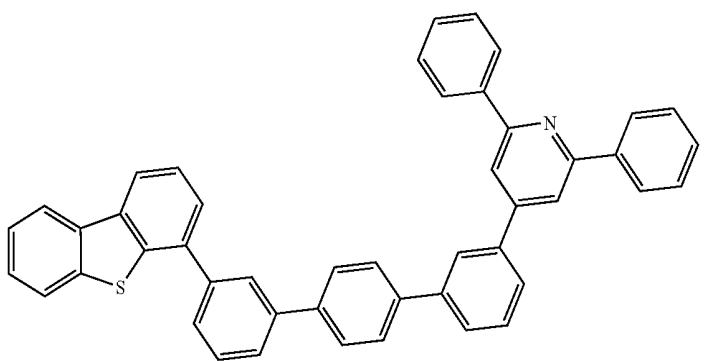
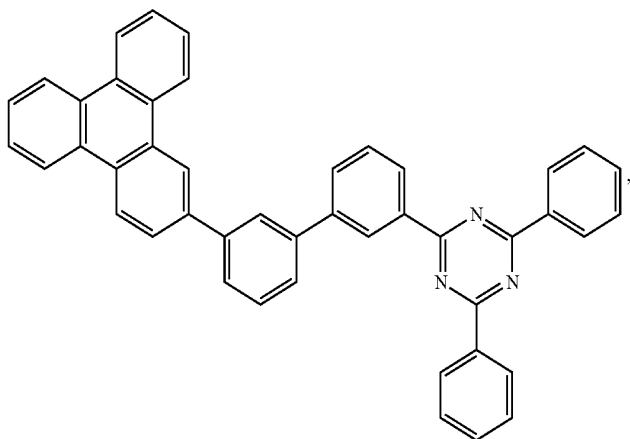
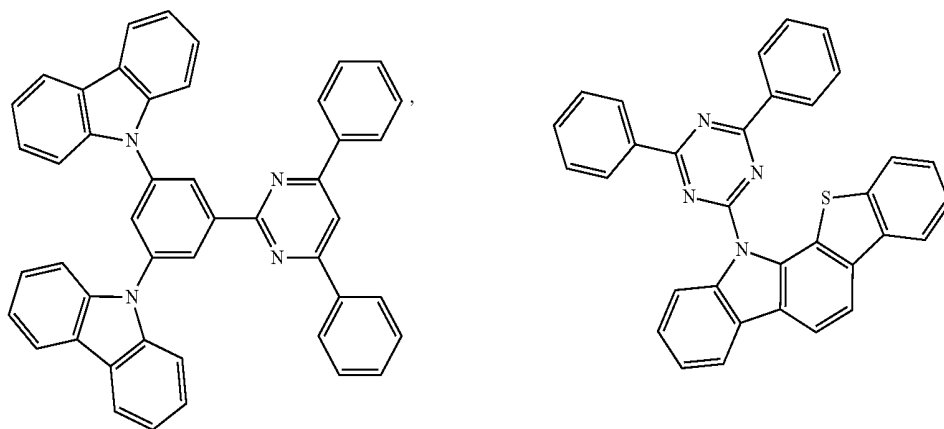
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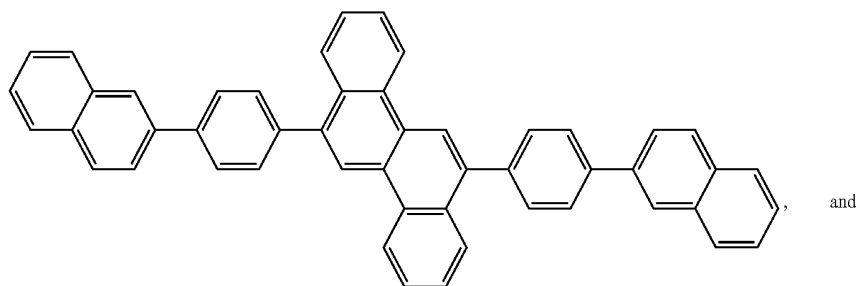
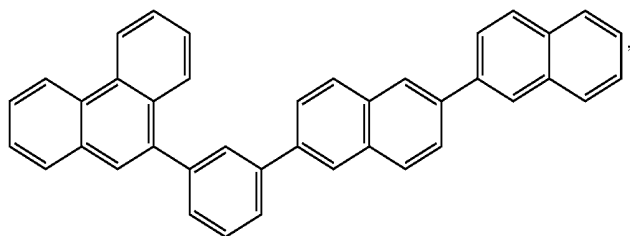
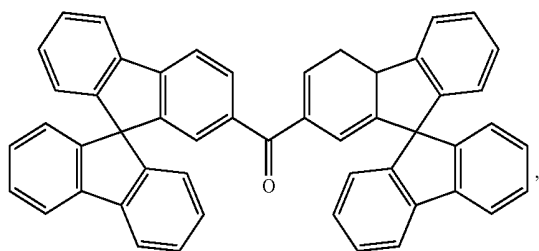
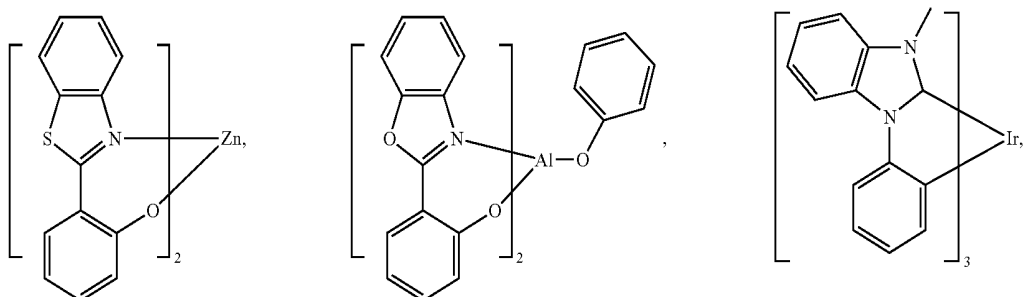
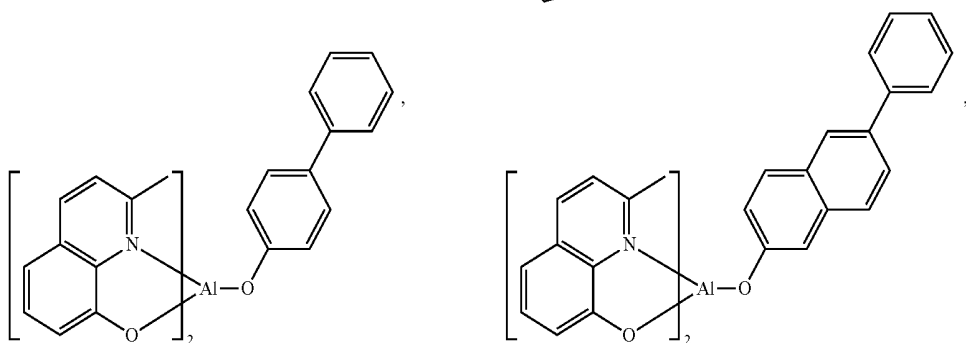
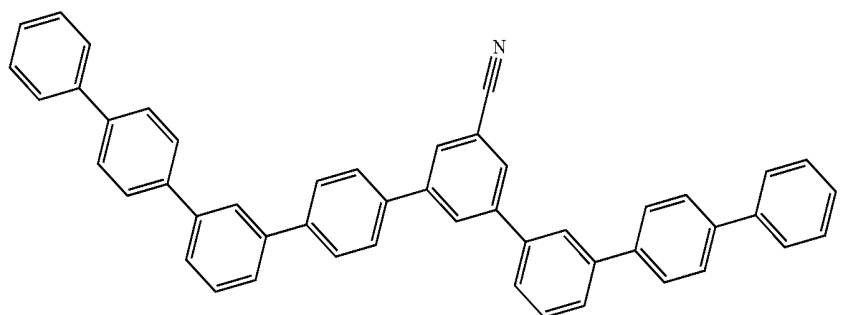
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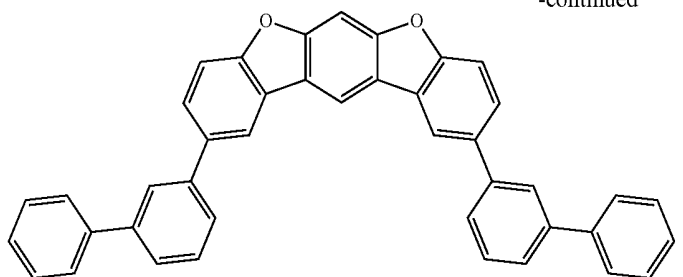
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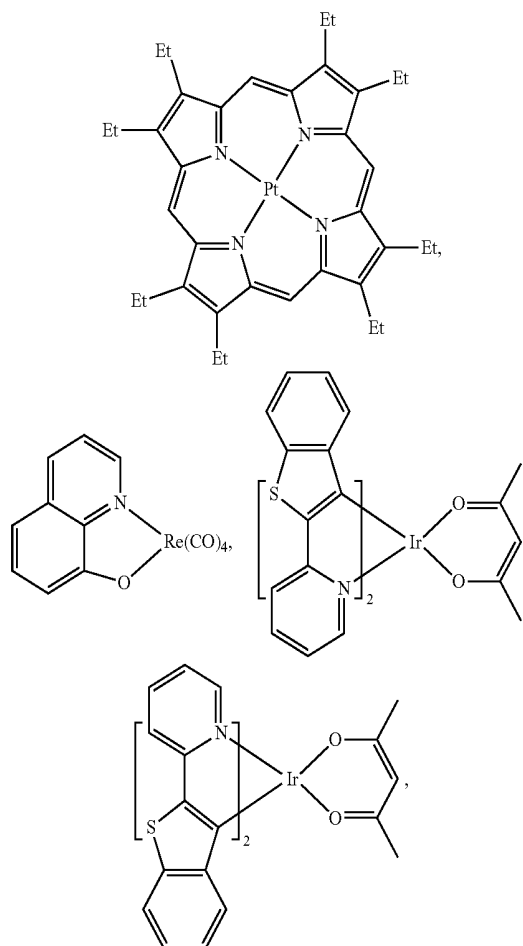


## Additional Emitters:

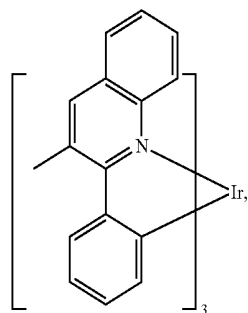
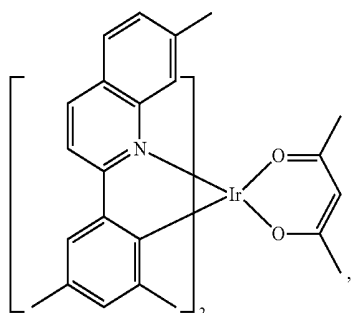
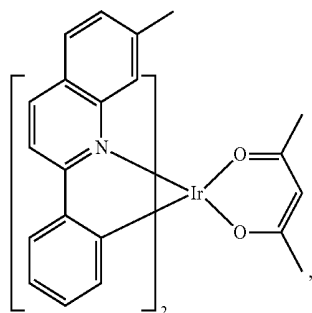
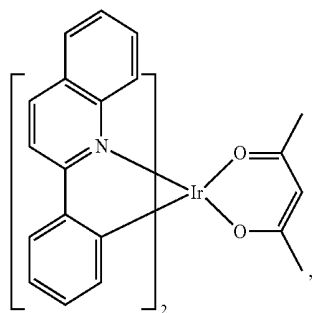
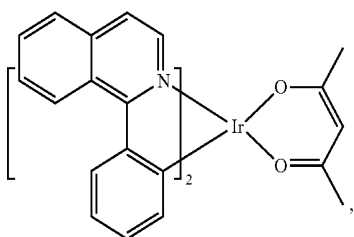
**[0131]** One or more additional emitter dopants may be used in conjunction with the compound of the present disclosure. Examples of the additional emitter dopants are not particularly limited, and any compounds may be used as long as the compounds are typically used as emitter materials. Examples of suitable emitter materials include, but are not limited to, compounds which can produce emissions via phosphorescence, fluorescence, thermally activated delayed fluorescence, i.e., TADF (also referred to as E-type delayed fluorescence), triplet-triplet annihilation, or combinations of these processes.

**[0132]** Non-limiting examples of the emitter materials that may be used in an OLED in combination with materials disclosed herein are exemplified below together with references that disclose those materials: CN103694277, CN1696137, EB01238981, EP01239526, EP01961743, EP1239526, EP1244155, EP1642951, EP1647554, EP1841834, EP1841834B, EP2062907, EP2730583, JP2012074444, JP2013110263, JP4478555, KR1020090133652, KR20120032054, KR20130043460, TW201332980, U.S. Ser. No. 06/699,599, U.S. Ser. No. 06/916,554, US20010019782, US20020034656, US20030068526, US20030072964, US20030138657, US20050123788, US20050244673, US2005123791, US2005260449, US20060008670, US20060065890, US20060127696, US20060134459, US20060134462, US20060202194, US20060251923, US20070034863, US20070087321, US20070103060, US20070111026, US20070190359, US20070231600, US2007034863, US2007104979, US2007104980, US2007138437, US2007224450, US2007278936, US20080020237, US20080233410, US20080261076, US20080297033, US200805851, US2008161567, US2008210930, US20090039776, US20090108737, US20090115322, US20090179555, US2009085476, US2009104472, US20100090591, US20100148663, US20100244004, US20100295032, US2010102716, US2010105902, US2010244004, US2010270916, US20110057559, US20110108822, US20110204333, US2011215710, US2011227049, US2011285275, US2012292601, US20130146848, US2013033172, US2013165653, US2013181190, US2013334521, US20140246656, US2014103305, U.S. Pat. Nos. 6,303,238, 6,413,656, 6,653,654, 6,670,645, 6,687,266, 6,835,469, 6,921,915, 7,279,704, 7,332,232, 7,378,162, 7,534,505, 7,675,228, 7,728,137,

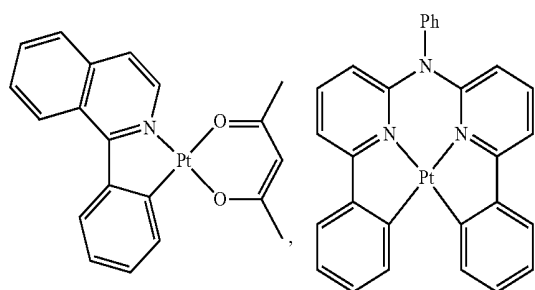
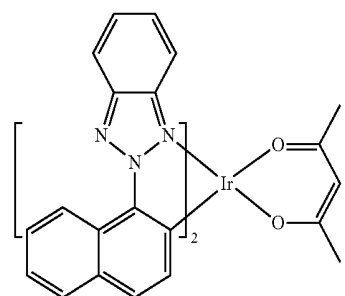
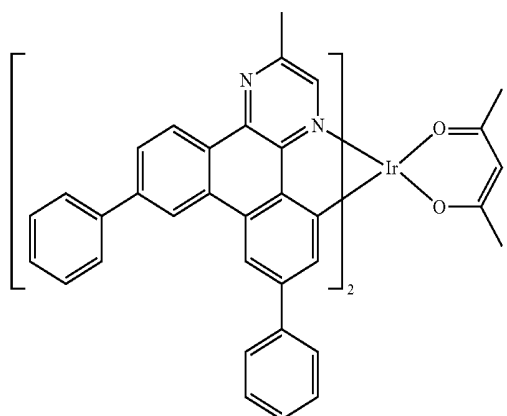
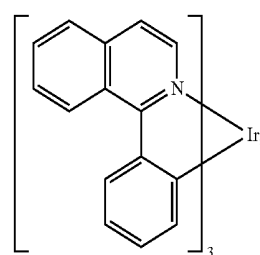
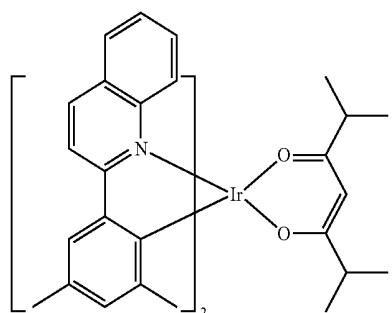
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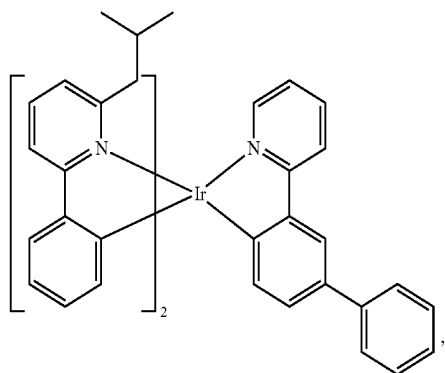
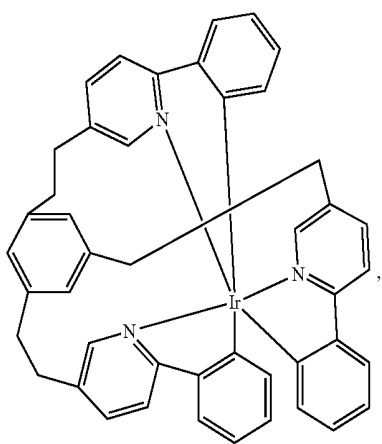
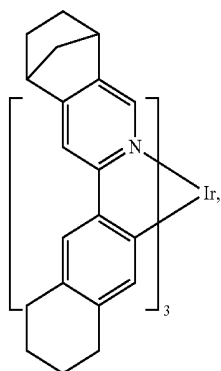
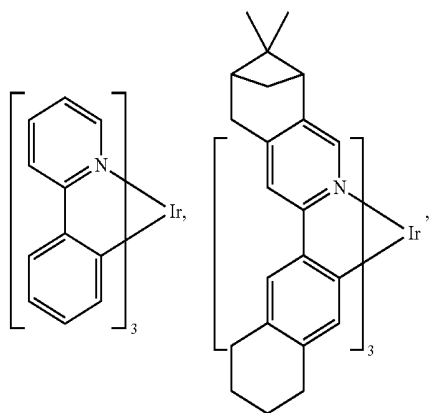
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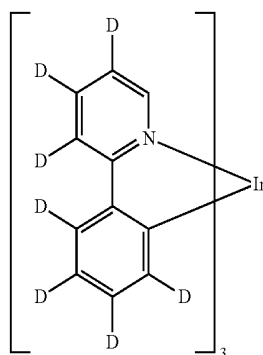
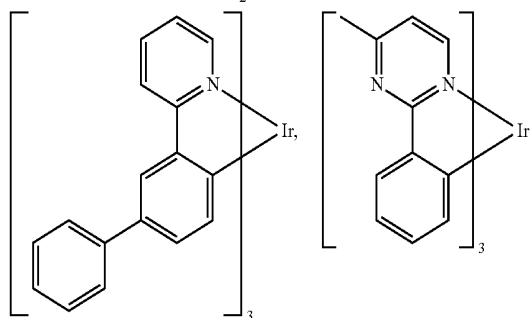
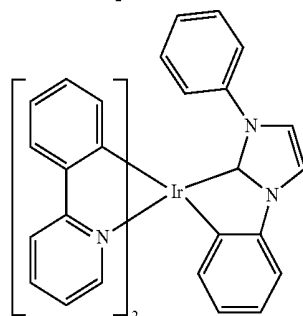
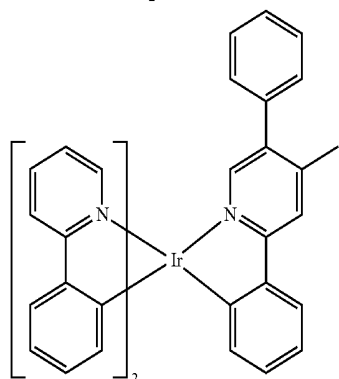
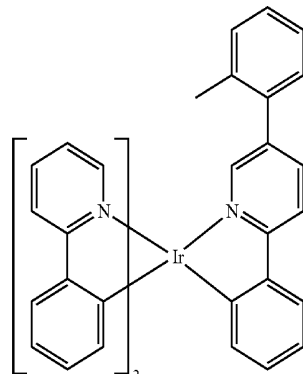
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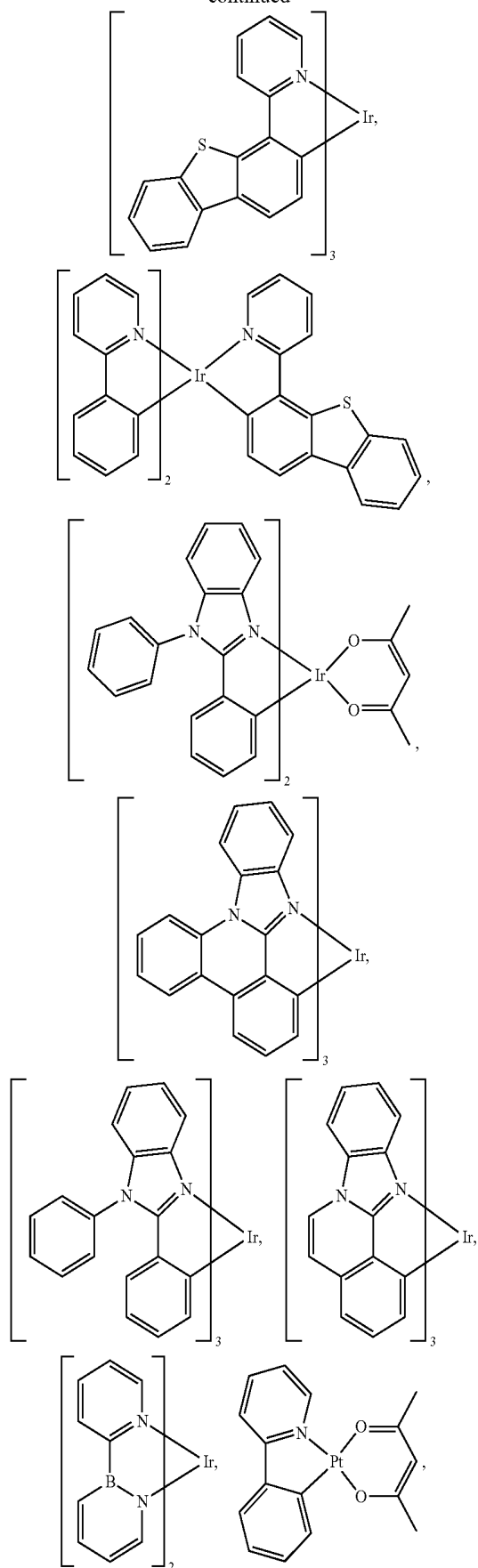
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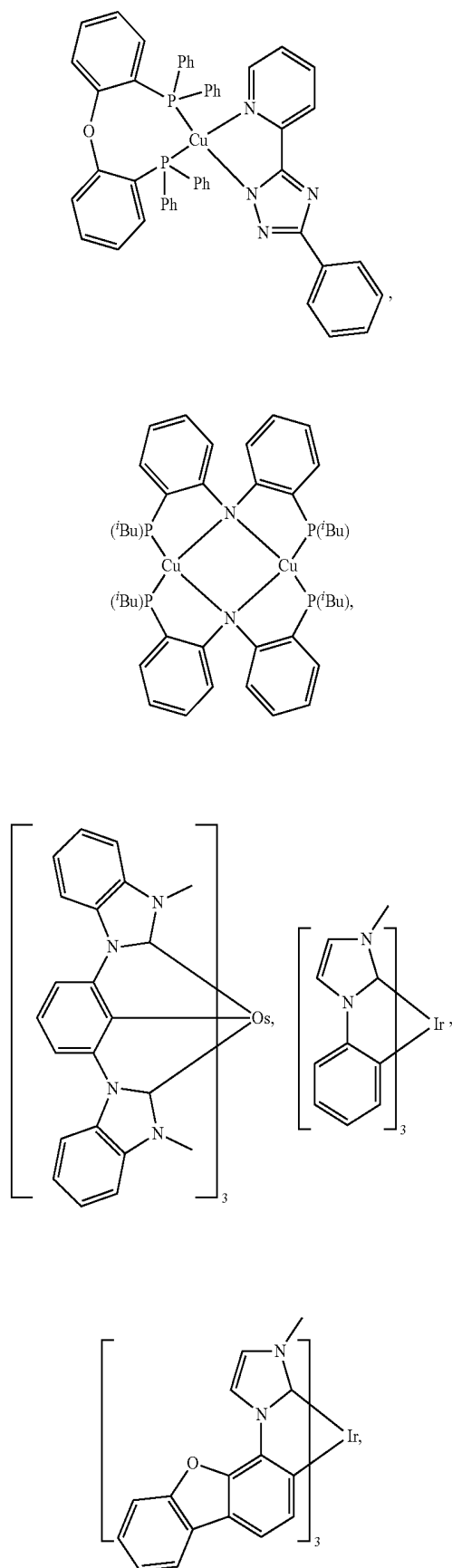
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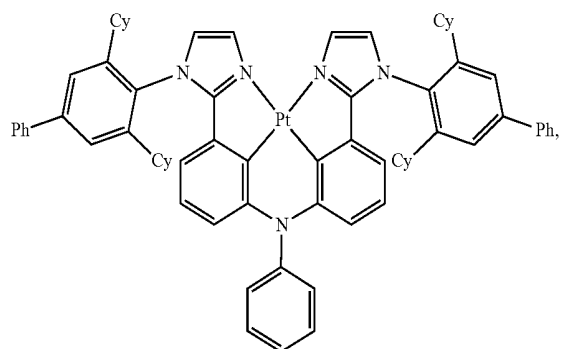
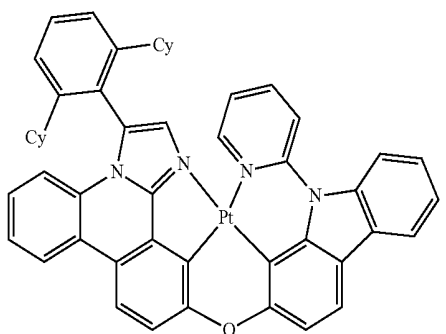
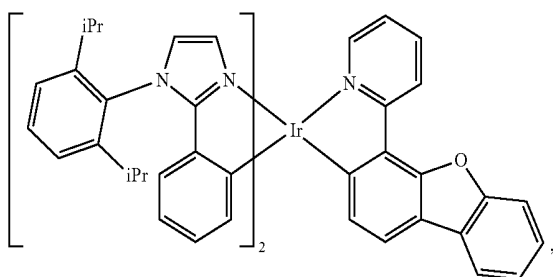
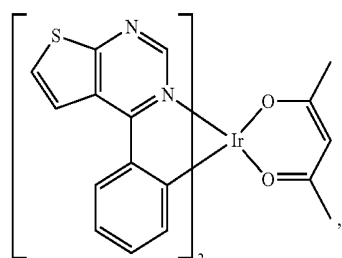
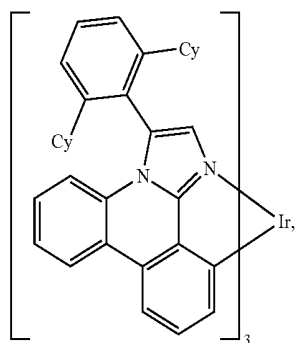
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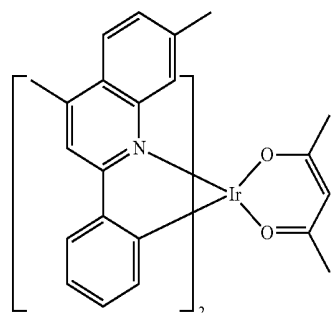
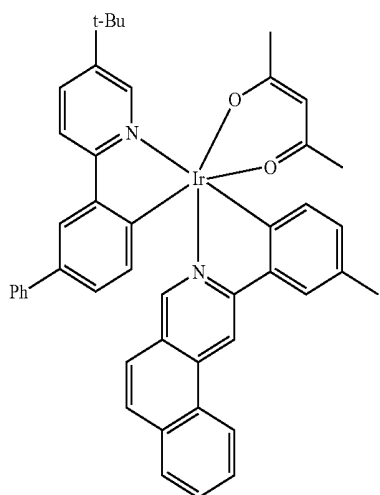
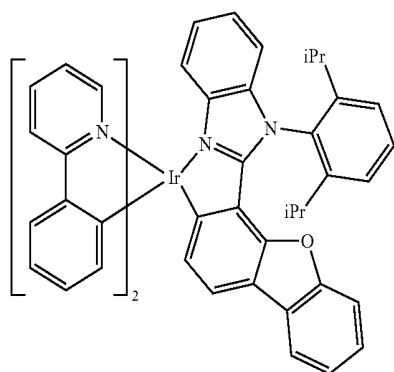
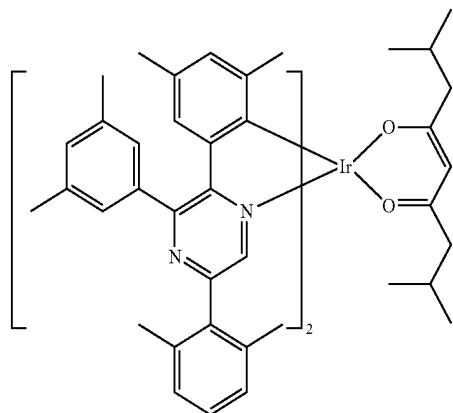
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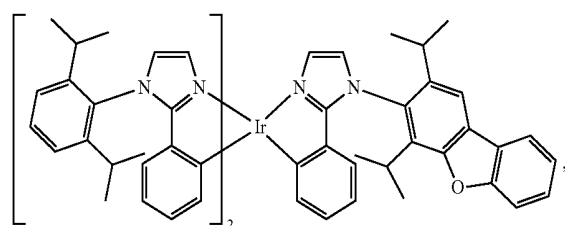
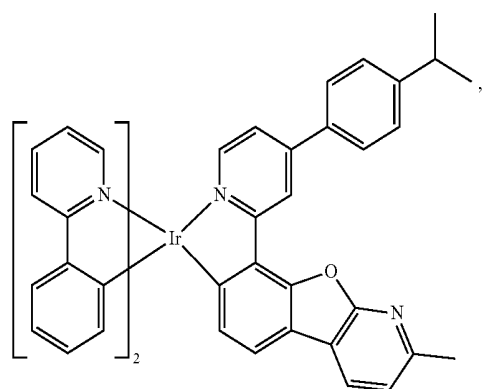
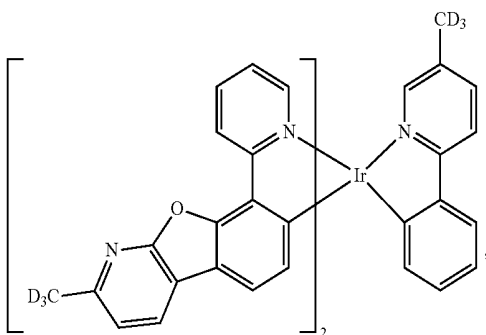
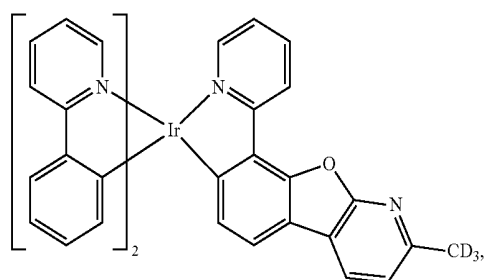
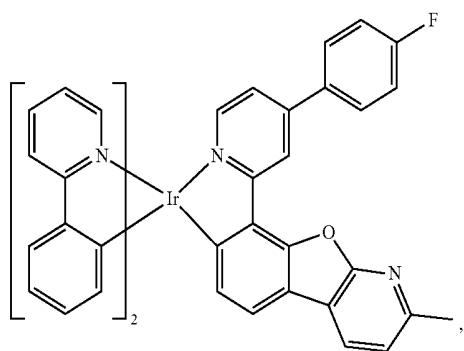
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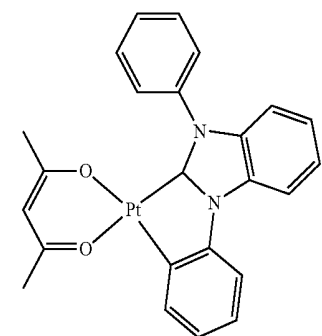
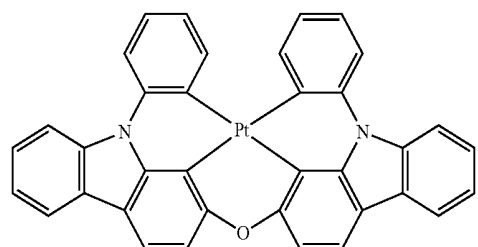
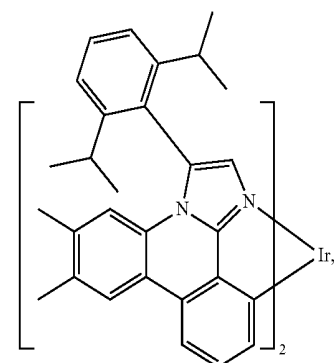
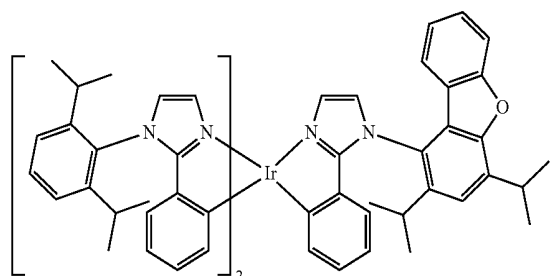
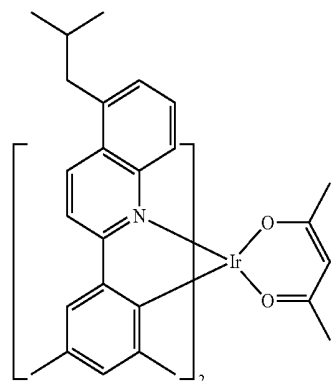
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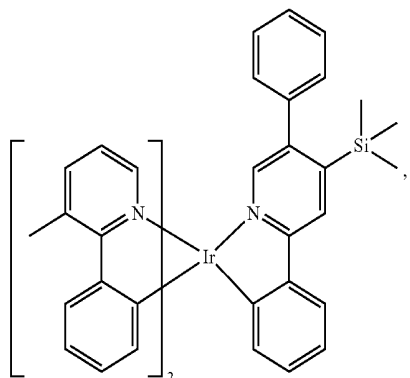
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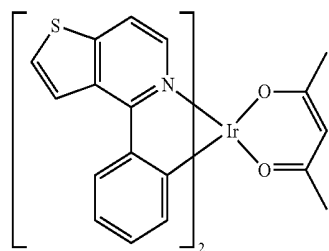
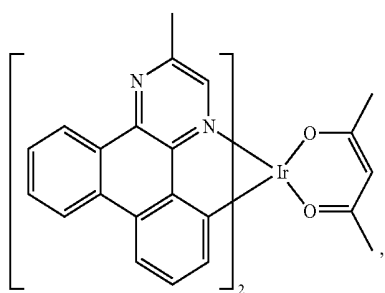
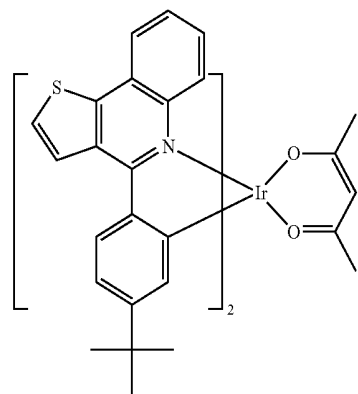
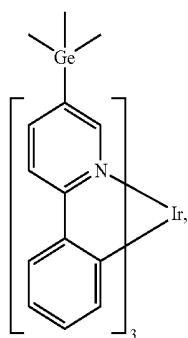
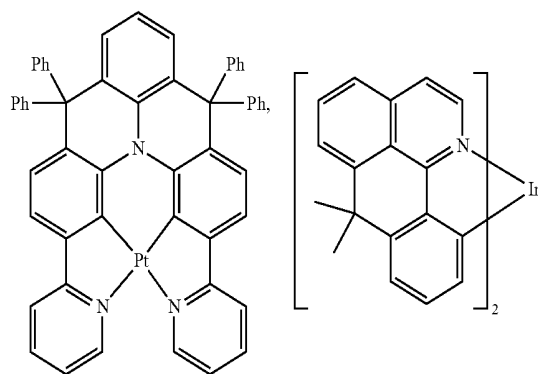
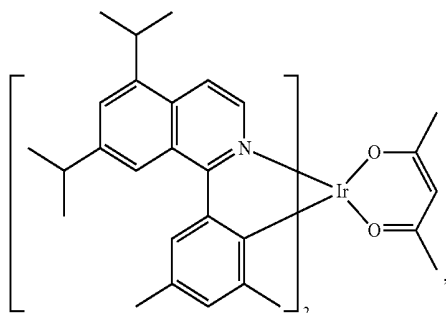
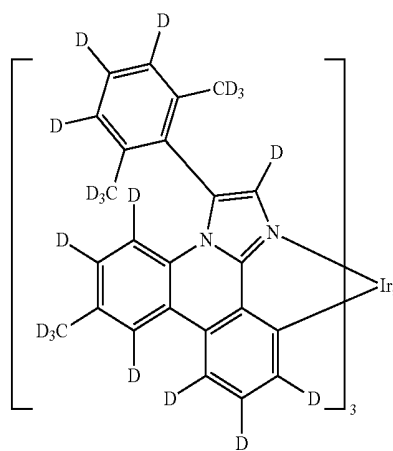
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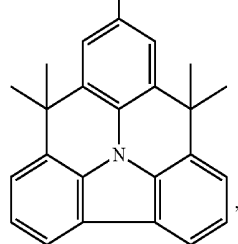
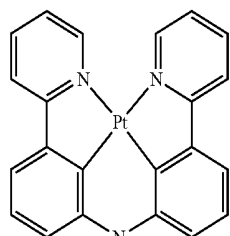
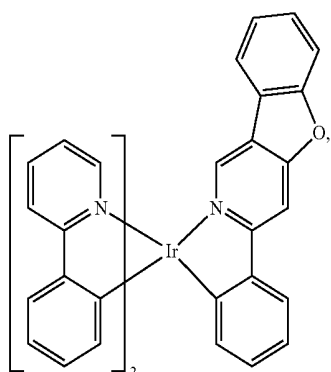
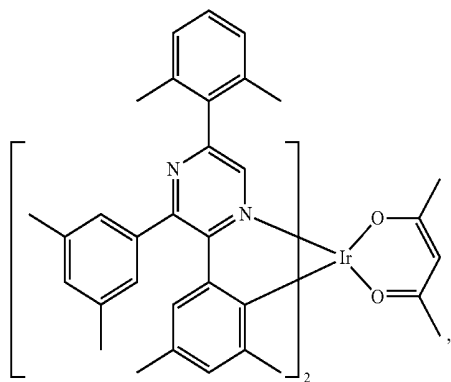
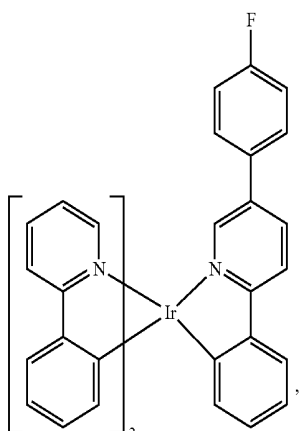
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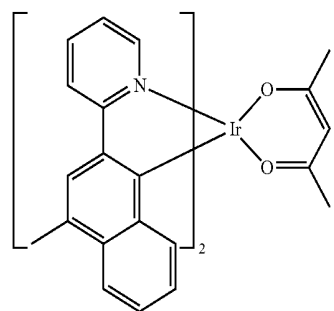
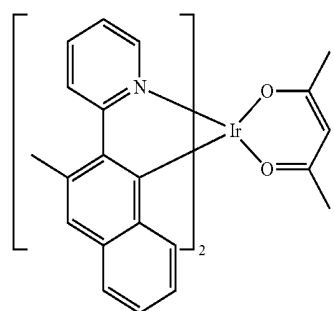
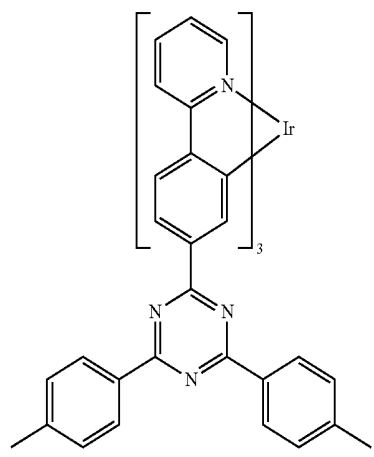
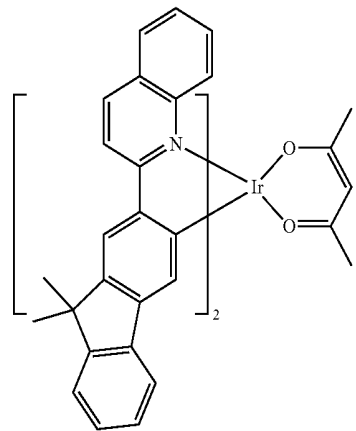
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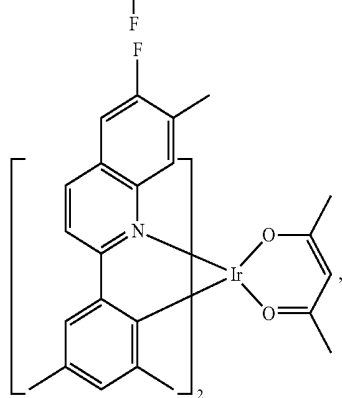
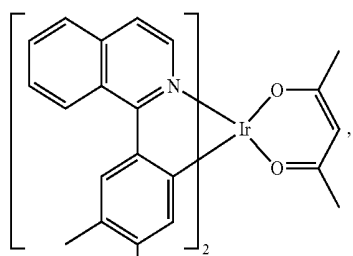
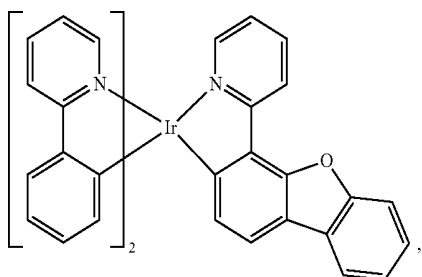
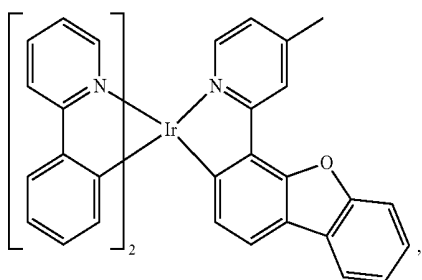
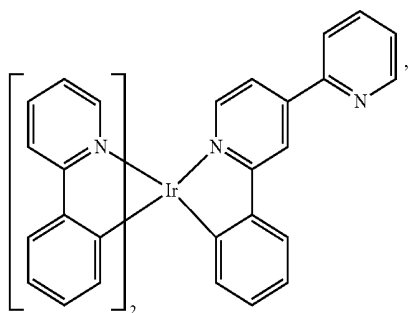
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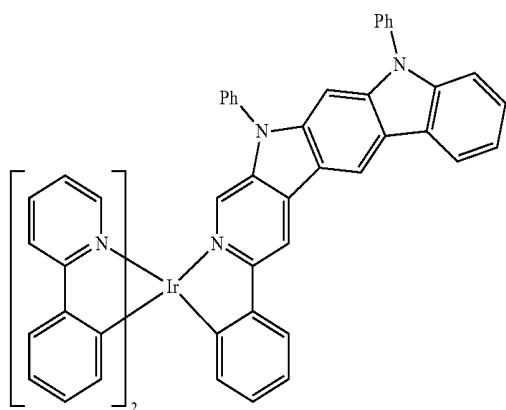
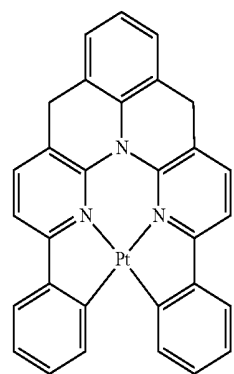
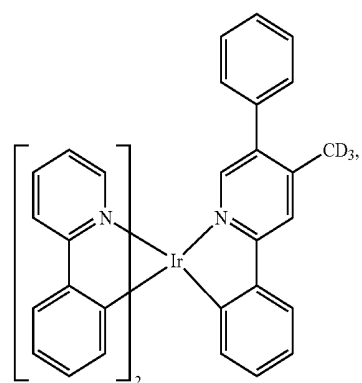
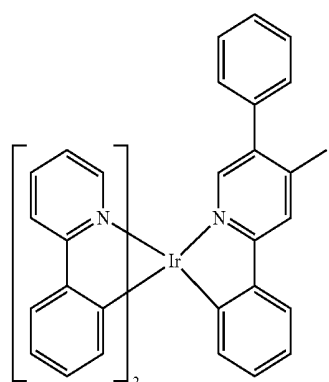
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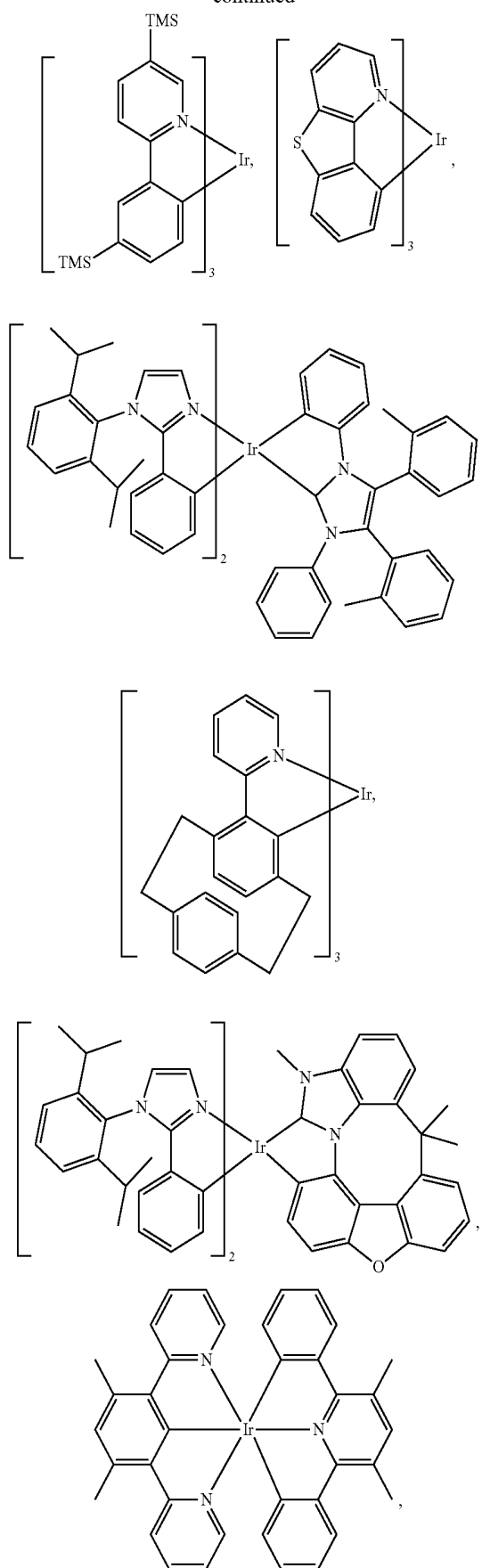
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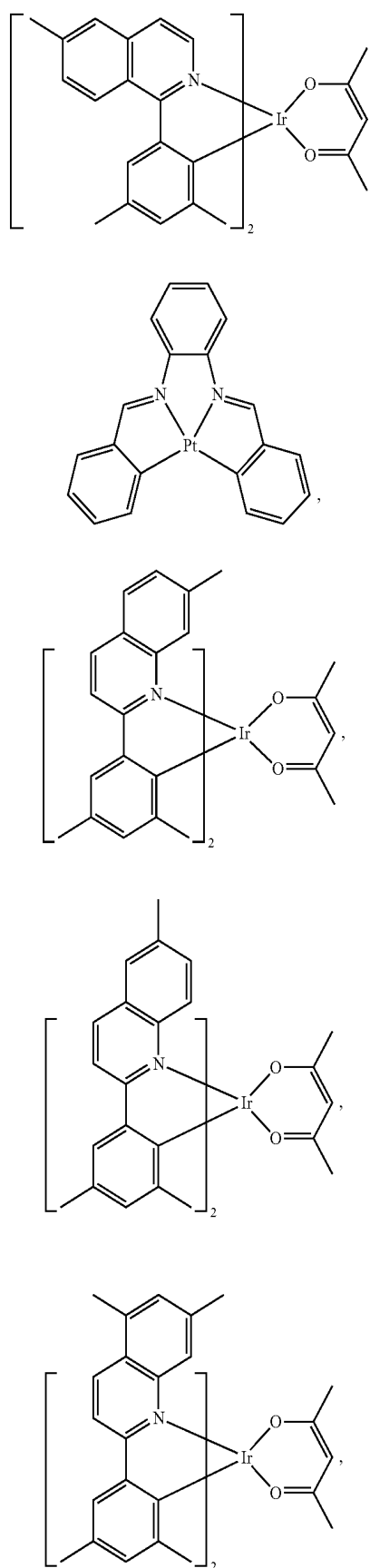
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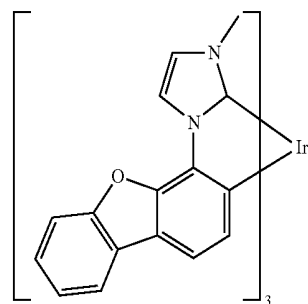
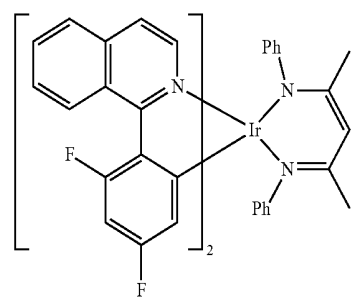
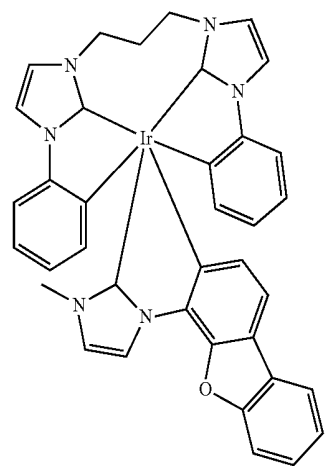
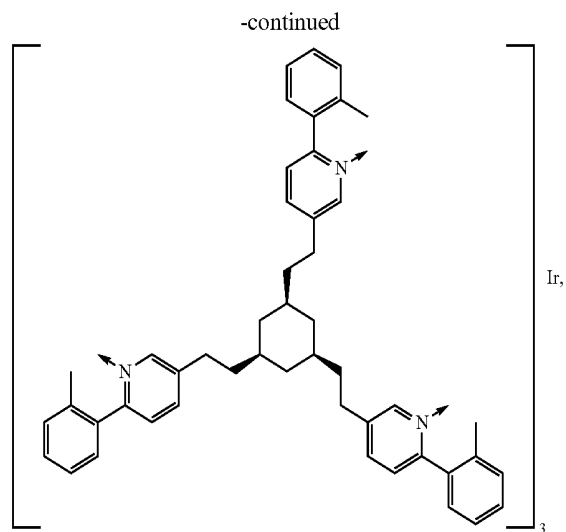
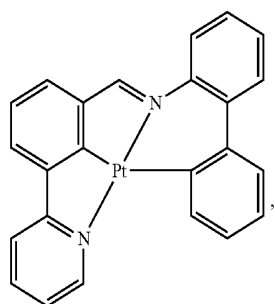
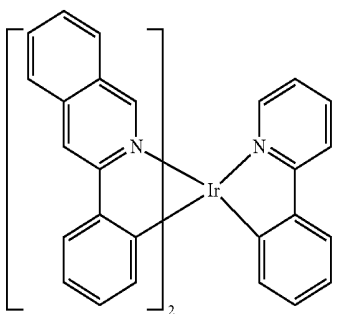
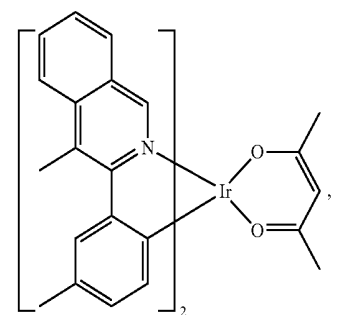
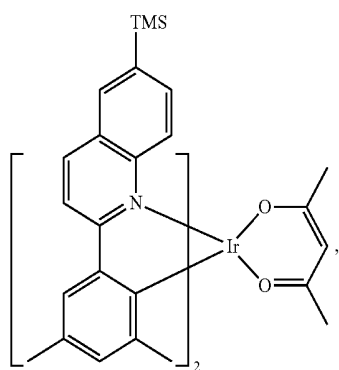
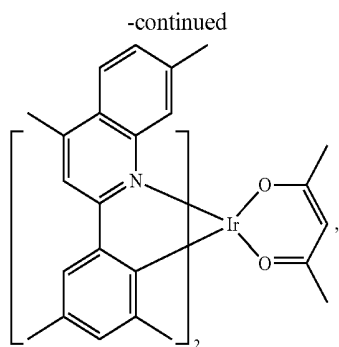


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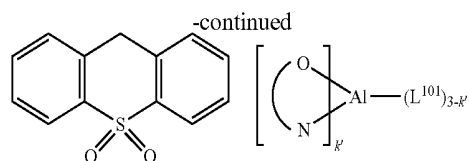
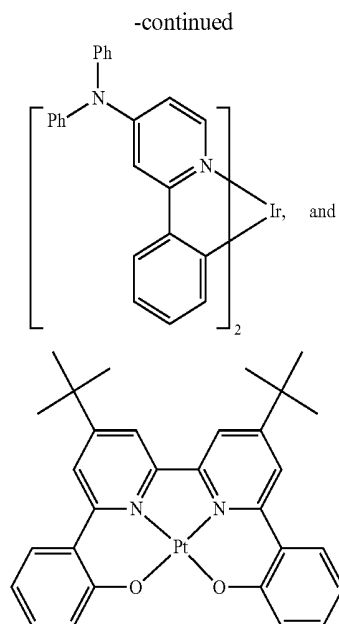


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wherein  $k$  is an integer from 1 to 20;  $L^{101}$  is another ligand,  $k'$  is an integer from 1 to 3.

ETL:

**[0136]** Electron transport layer (ETL) may include a material capable of transporting electrons. Electron transport layer may be intrinsic (undoped), or doped. Doping may be used to enhance conductivity. Examples of the ETL material are not particularly limited, and any metal complexes or organic compounds may be used as long as they are typically used to transport electrons.

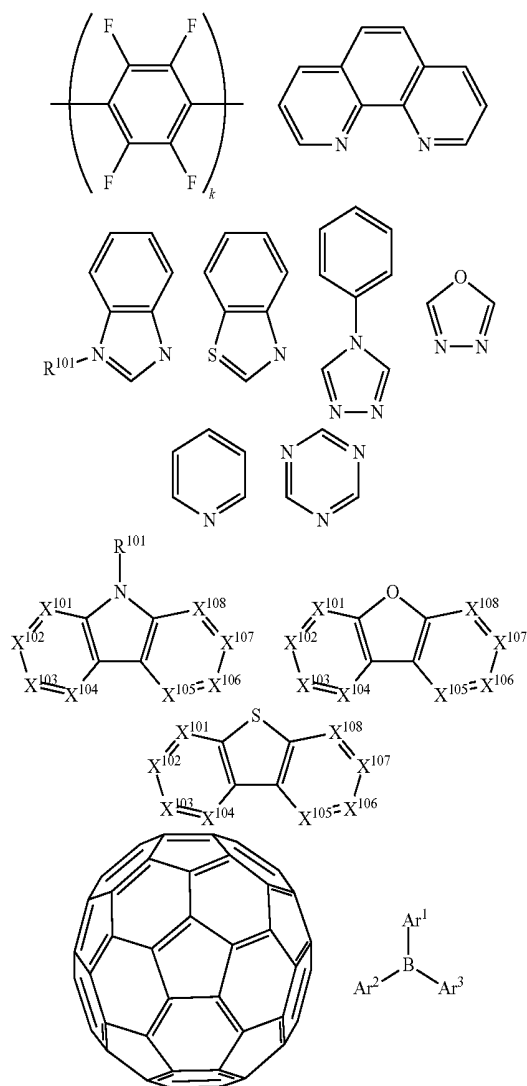
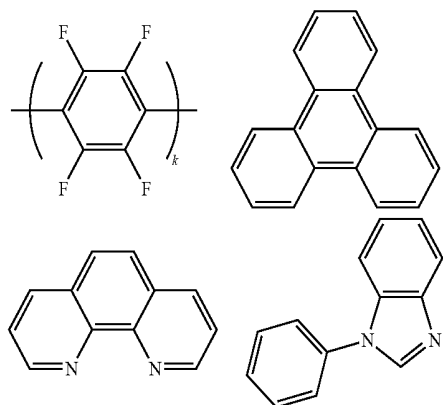
**[0137]** In one aspect, compound used in ETL contains at least one of the following groups in the molecule:

HBL:

**[0133]** A hole blocking layer (HBL) may be used to reduce the number of holes and/or excitons that leave the emissive layer. The presence of such a blocking layer in a device may result in substantially higher efficiencies and/or longer lifetime as compared to a similar device lacking a blocking layer. Also, a blocking layer may be used to confine emission to a desired region of an OLED. In some embodiments, the HBL material has a lower HOMO (further from the vacuum level) and/or higher triplet energy than the emitter closest to the HBL interface. In some embodiments, the HBL material has a lower HOMO (further from the vacuum level) and/or higher triplet energy than one or more of the hosts closest to the HBL interface.

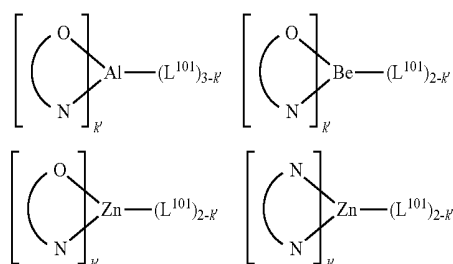
**[0134]** In one aspect, compound used in HBL contains the same molecule or the same functional groups used as host described above.

**[0135]** In another aspect, compound used in HBL contains at least one of the following groups in the molecule:



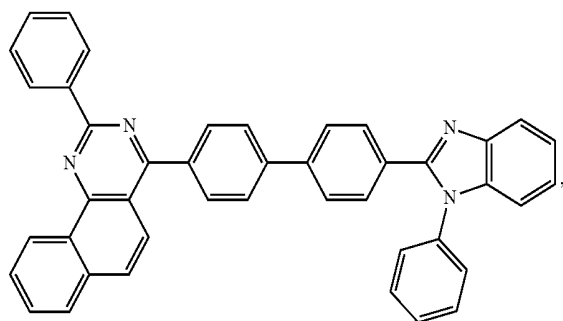
wherein  $R^{101}$  is selected from the group consisting of hydrogen, deuterium, halogen, alkyl, cycloalkyl, heteroalkyl, heterocycloalkyl, arylalkyl, alkoxy, aryloxy, amino, silyl, alkenyl, cycloalkenyl, heteroalkenyl, alkynyl, aryl, heteroaryl, acyl, carboxylic acids, ether, ester, nitrile, isonitrile, sulfanyl, sulfinyl, sulfonyl, phosphino, and combinations thereof, when it is aryl or heteroaryl, it has the similar definition as Ar's mentioned above.  $Ar^1$  to  $Ar^3$  has the similar definition as Ar's mentioned above.  $k$  is an integer from 1 to 20.  $X^{101}$  to  $X^{108}$  is selected from C (including CH) or N.

[0138] In another aspect, the metal complexes used in ETL contains, but not limit to the following general formula:

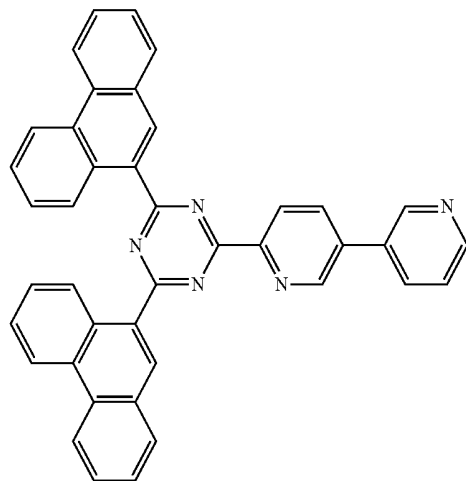
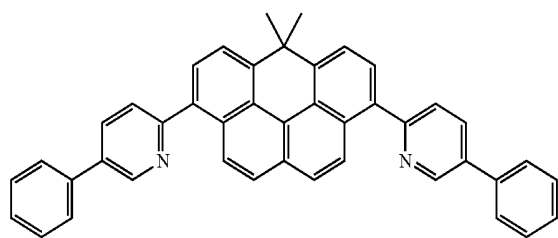
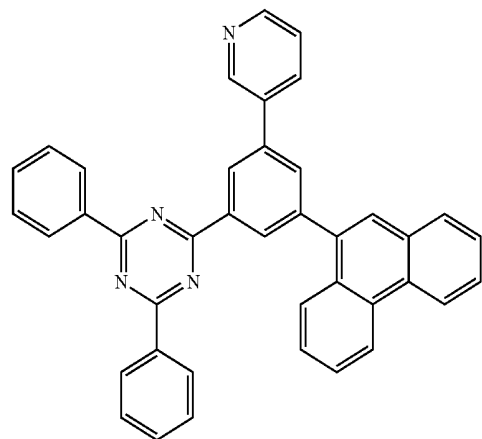
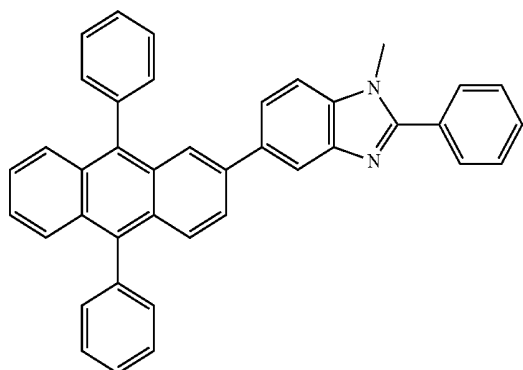


wherein (O—N) or (N—N) is a bidentate ligand, having metal coordinated to atoms O, N or N, N;  $L^{101}$  is another ligand;  $k'$  is an integer value from 1 to the maximum number of ligands that may be attached to the metal.

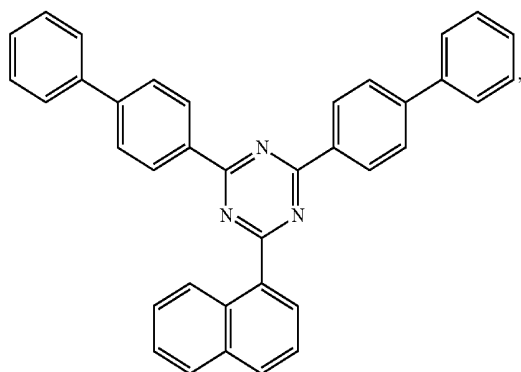
[0139] Non-limiting examples of the ETL materials that may be used in an OLED in combination with materials disclosed herein are exemplified below together with references that disclose those materials: CN103508940, EP01602648, EP01734038, EP01956007, JP2004-022334, JP2005149918, JP2005-268199, KR0117693, KR20130108183, US20040036077, US20070104977, US2007018155, US20090101870, US20090115316, US20090140637, US20090179554, US2009218940, US2010108990, US2011156017, US2011210320, US2012193612, US2012214993, US2014014925, US2014014927, US20140284580, U.S. Pat. Nos. 6,656,612, 8,415,031, WO2003060956, WO2007111263, WO2009148269, WO2010067894, WO2010072300, WO2011074770, WO2011105373, WO2013079217, WO2013145667, WO2013180376, WO2014104499, WO2014104535,



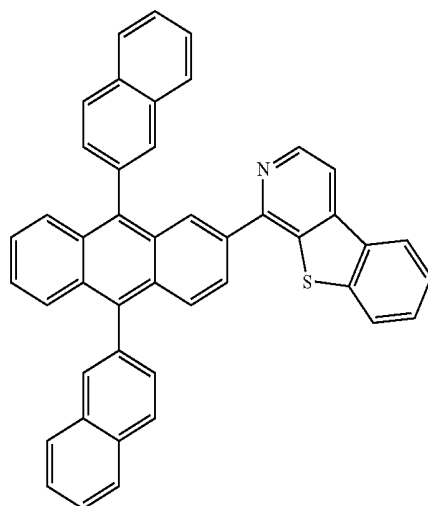
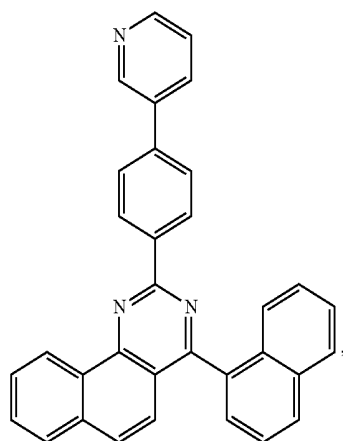
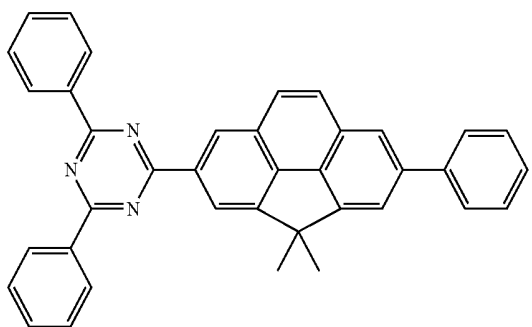
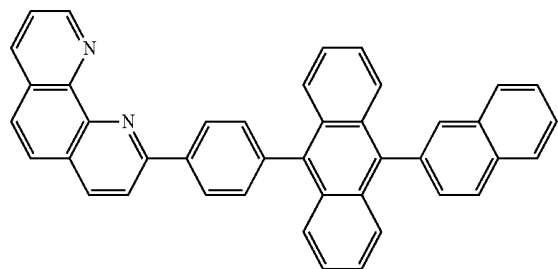
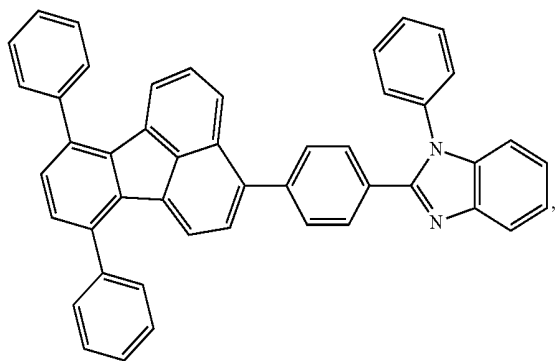
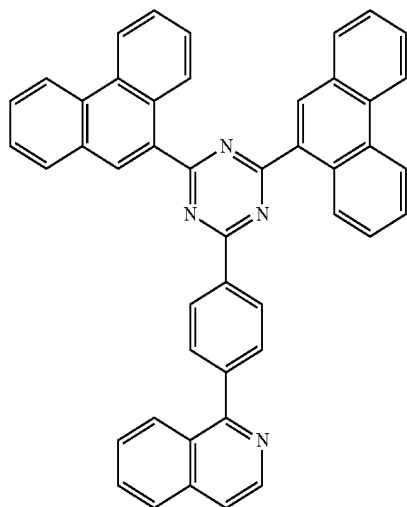
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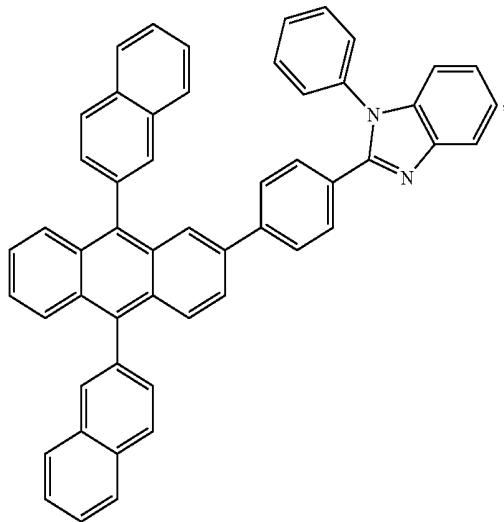
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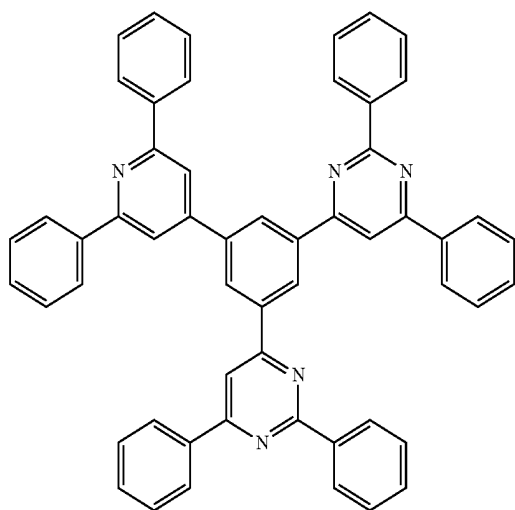
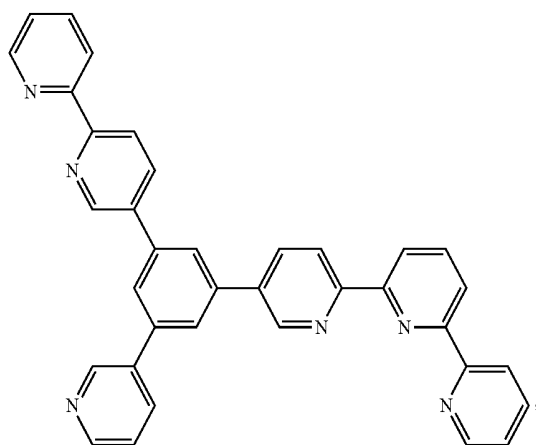
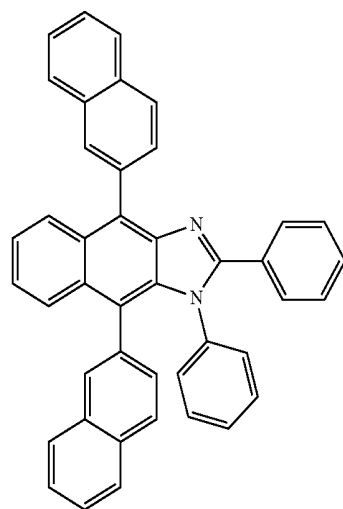
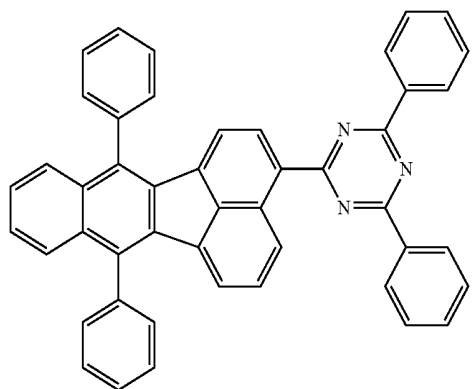
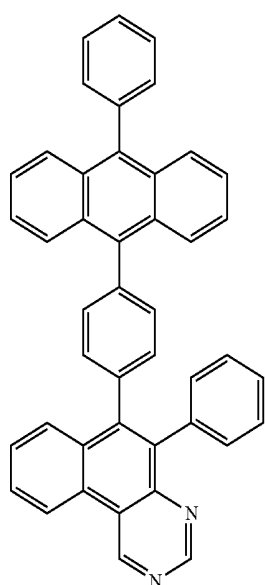
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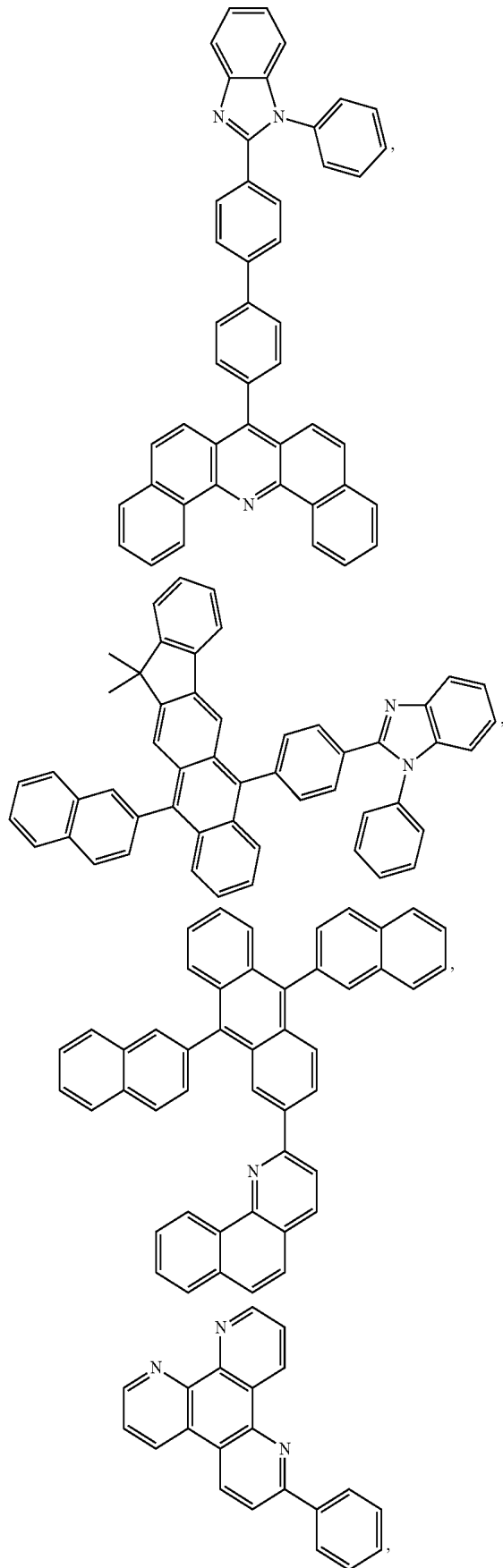
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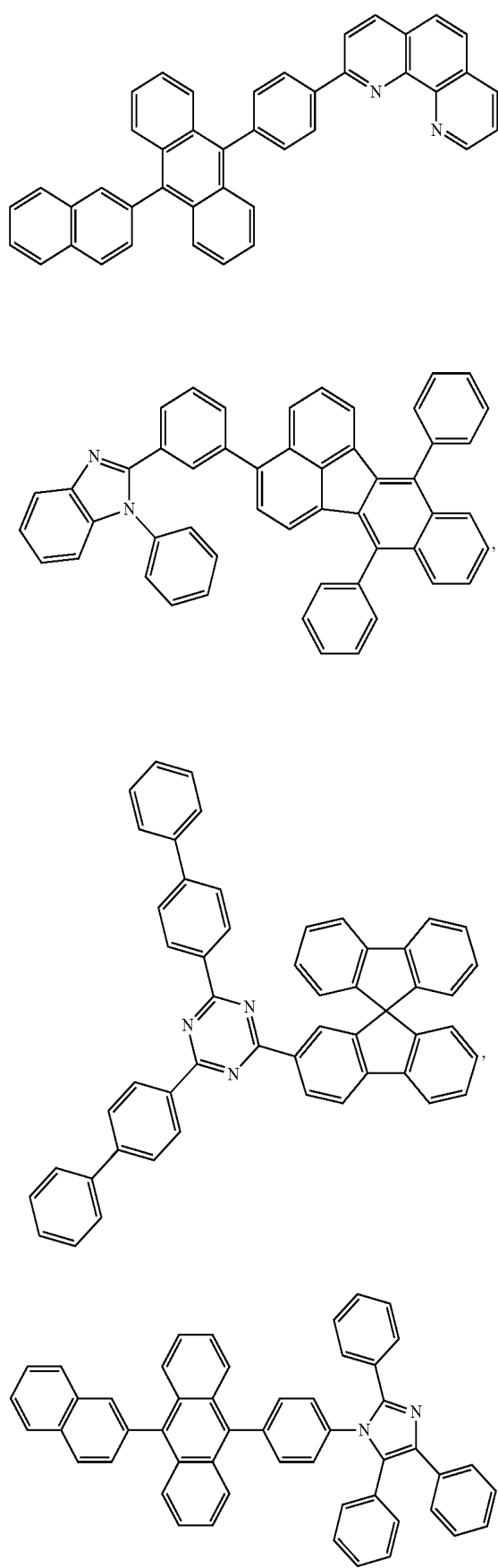
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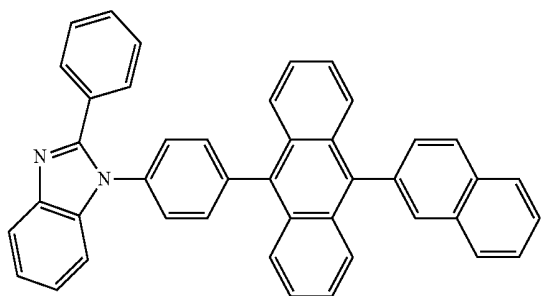
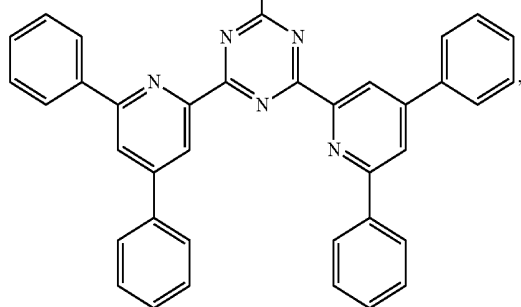
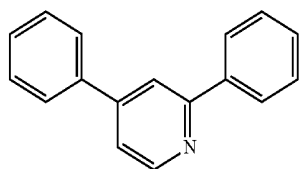
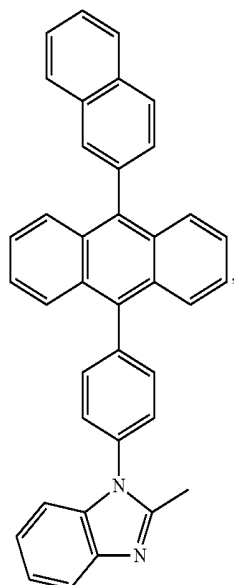
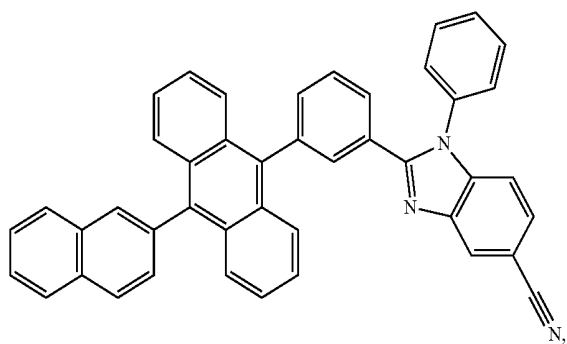
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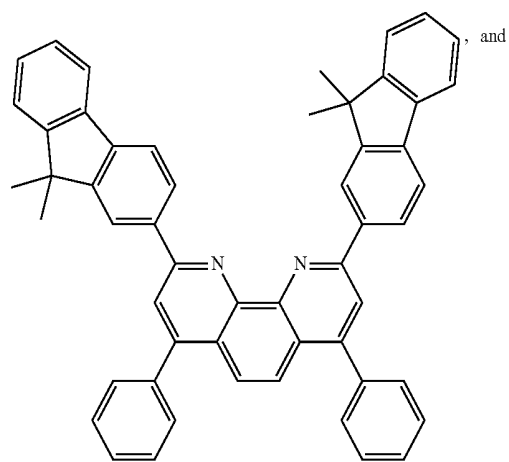
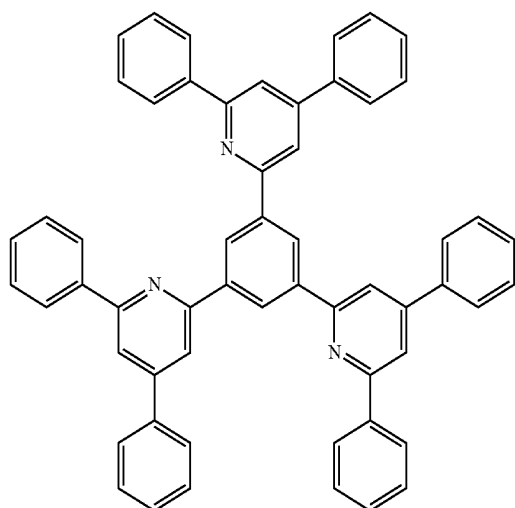
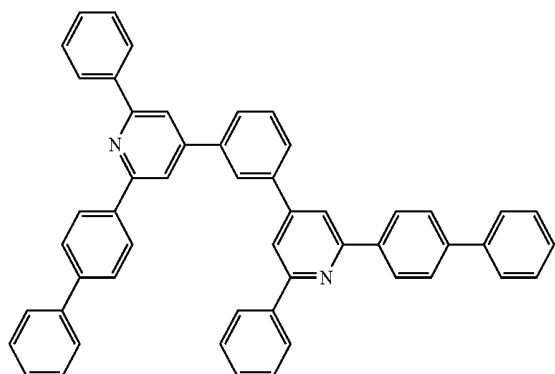
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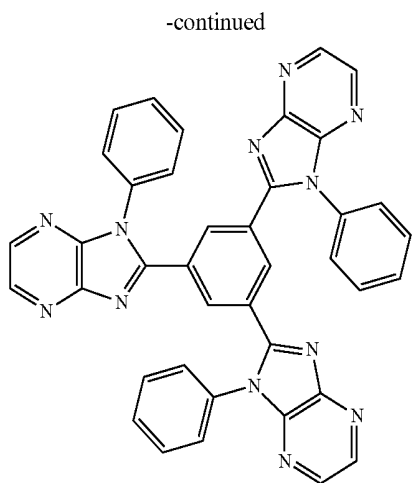


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### Charge Generation Layer (CGL)

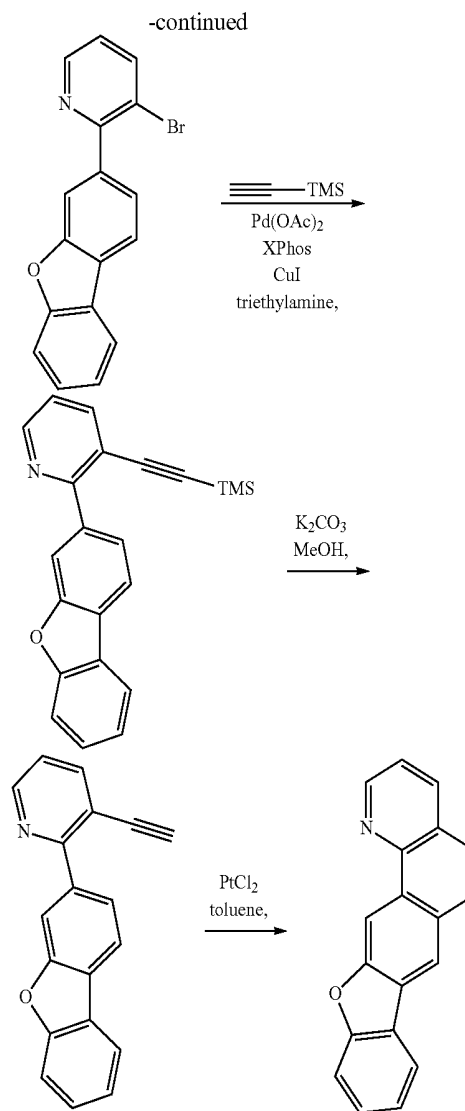
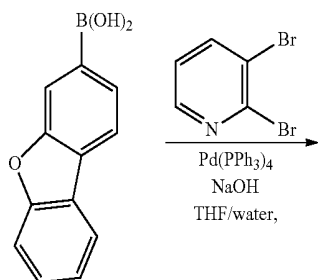
**[0140]** In tandem or stacked OLEDs, the CGL plays an essential role in the performance, which is composed of an n-doped layer and a p-doped layer for injection of electrons and holes, respectively. Electrons and holes are supplied from the CGL and electrodes. The consumed electrons and holes in the CGL are refilled by the electrons and holes injected from the cathode and anode, respectively; then, the bipolar currents reach a steady state gradually. Typical CGL materials include n and p conductivity dopants used in the transport layers.

**[0141]** In any above-mentioned compounds used in each layer of the OLED device, the hydrogen atoms can be partially or fully deuterated. Thus, any specifically listed substituent, such as, without limitation, methyl, phenyl, pyridyl, etc. may be undeuterated, partially deuterated, and fully deuterated versions thereof. Similarly, classes of substituents such as, without limitation, alkyl, aryl, cycloalkyl, heteroaryl, etc. also may be undeuterated, partially deuterated, and fully deuterated versions thereof.

### Experimental

#### [0142]

Synthetic scheme:



**[0143]** 2,3-dibromopyridine (24.00 g, 101 mmol), dibenzo [b,d]furan-3-ylboronic acid (22.55 g, 106 mmol), sodium hydroxide (12.16 g, 304 mmol), tetrakis(triphenylphosphine)palladium(0) (5.85 g, 5.07 mmol), THF (1673 ml) and water (239 ml) were added to a 5 L flask. The resulting mixture was degassed and stirred at 60° C. for 5 hrs. The reaction mixture was then cooled to room temperature and diluted with brine. The organic layer was separated, and the aqueous layer was extracted with DCM. The combined organic layers were dried over Na<sub>2</sub>SO<sub>4</sub>, filtered, and concentrated. The resulting residue was purified by column chromatography (DCM/heptane) to obtain 23.36 g (66% yield) of 3-bromo-2-(dibenzo[b,d]furan-3-yl)pyridine as a white solid.

**[0144]** A 500 mL flask was charged with dicyclohexyl(2',4',6'-triisopropyl-[1,1'-biphenyl]-2-yl)phosphane (1.374 g, 2.88 mmol), PdOAc<sub>2</sub> (0.324 g, 1.441 mmol), copper(I) iodide (0.274 g, 1.441 mmol), 3-bromo-2-(dibenzo[b,d]furan-3-yl)pyridine (23.36 g, 72.1 mmol), and triethylamine (144 mL). The reaction mixture was stirred and heated to 55° C. Ethynyltrimethylsilane (14.97 mL, 108 mmol) was then added into reaction mixture and stirred at 55° C. for about 16 hrs. The reaction mixture was cooled to room

temperature, diluted with water and extracted with EtOAc. The combined organic layer was dried over  $\text{Na}_2\text{SO}_4$ , concentrated and the resulting residue was subjected to silica gel column chromatography (DCM/heptane) to afford 2-(dibenzo[b,d]furan-3-yl)-3-((trimethylsilyl)ethynyl)pyridine (24.38 g, 99% yield).

**[0145]** Potassium carbonate (29.60 g, 214 mmol) was added to a 2 L flask containing 2-(dibenzo[b,d]furan-3-yl)-3-((trimethylsilyl)ethynyl)pyridine (24.38 g, 71.4 mmol) in methanol (714 mL). After 3 hrs of stirring at room temperature, the reaction mixture was concentrated on the rotary evaporator. Purification of crude material via silica gel column chromatography (EtOAc/heptane) gave 2-(dibenzo[b,d]furan-3-yl)-3-ethynylpyridine (18 g, 94% yield) as an off-white solid.

**[0146]** 1 L flask equipped with a magnetic stir bar was charged with 2-(dibenzo[b,d]furan-3-yl)-3-ethynylpyridine (16.00 g, 59.4 mmol), platinum(II) chloride (3.95 g, 14.85 mmol), and toluene (300 mL). The mixture was stirred and heated to reflux for about 16 hrs under nitrogen atmosphere. Upon completion, as evidenced by TLC analysis, the reaction mixture was cooled to room temperature and purified via silica gel column chromatography (EtOAc/heptane) which produced 6.7 g (42% yield) of desired benzo[2,3]benzofuro[5,6-h]quinoline with 99.99% purity.

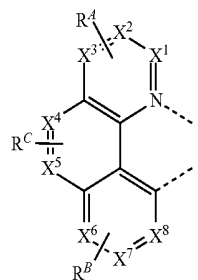
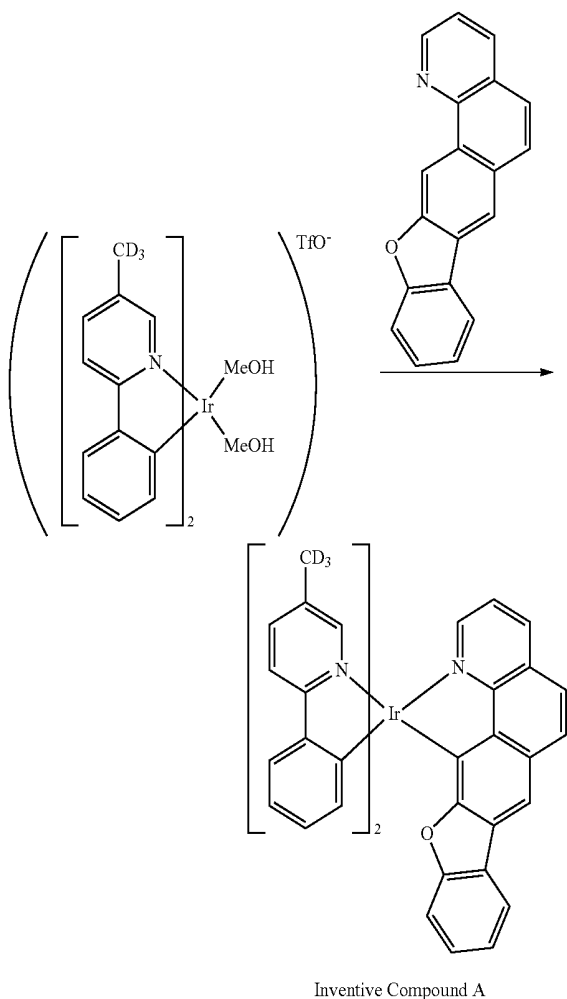
**[0147]** A 250 mL, 4-neck round bottom flask, equipped with a condenser, stir bar and thermocouple was charged with  $[\text{Ir}(5\text{-}(\text{methyl-}d_3)\text{-2-phenylpyridine(1H)})_2(\text{MeOH})_2]$  (trifluoromethane-sulfonate) (4.1 g, 5.48 mmol, 1.0 equiv), benzo[2,3]benzofuro[5,6-h]quinoline (3.1 g, 11.31 mmol, 2.1 equiv) and ethanol (122 mL). The reaction mixture was cooled to room temperature, filtered through paper, washing the residue with methanol (100 mL). The filtrate was concentrated under reduced pressure. The crude solid was chromatographed on silica gel (150 g), eluting with a gradient of 50-100% dichloromethane in heptanes to give the inventive example Compound A as a yellow solid.

**[0148]** The photoluminescence spectrum of the inventive example Compound A in PMMA film was measured and the plot of the spectrum is shown in FIG. 3. The inventive compound exhibited a broad emission profile with  $\lambda_{\text{max}}=540$  nm and unprecedentedly high PLQY (~100%). The broad emission profile from 490 nm to almost 700 nm covering a significant portion of the visible region makes the inventive compound as useful emitter material in white OLEDs for lighting and display applications.

**[0149]** It is understood that the various embodiments described herein are by way of example only, and are not intended to limit the scope of the invention. For example, many of the materials and structures described herein may be substituted with other materials and structures without deviating from the spirit of the invention. The present invention as claimed may therefore include variations from the particular examples and preferred embodiments described herein, as will be apparent to one of skill in the art. It is understood that various theories as to why the invention works are not intended to be limiting.

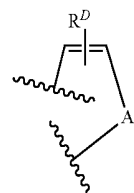
We claim:

1. A compound comprising a first ligand  $L_A$  of Formula I



wherein  $X^1$  to  $X^8$  are each independently C or N;  
wherein no more than two N atoms are bonded to each other;

wherein at least one pair of  $X^1$  and  $X^2$ ,  $X^2$  and  $X^3$ ,  $X^6$  and  $X^7$ , and  $X^7$  and  $X^8$  is C—C, and is joined to a structure G of Formula II



wherein A is selected from the group consisting of O, S, Se, and NR';

wherein  $R^A$ ,  $R^B$ ,  $R^C$ , and  $R^D$  each independently represents mono to the maximum number of allowable substitutions, or no substitution;

wherein each  $R^A$ ,  $R^B$ ,  $R^C$ ,  $R^D$ , and R' is independently hydrogen or a substituent selected from the group consisting of deuterium, halogen, alkyl, cycloalkyl, heteroalkyl, heterocycloalkyl, arylalkyl, alkoxy, aryloxy, amino, silyl, alkenyl, cycloalkenyl, heteroalkenyl, alkynyl, aryl, heteroaryl, acyl, carboxylic acid, ether, ester, nitrile, isonitrile, sulfanyl, sulfinyl, sulfonyl, phosphino, and combinations thereof;

wherein any two substituents may be joined or fused together to form a ring;

wherein  $L_A$  is complexed to a metal M;

wherein M is optionally coordinated to other ligands;

wherein the ligand  $L_A$  is optionally linked with other ligands to comprise a tridentate, tetradentate, pentadentate, or hexadentate ligand.

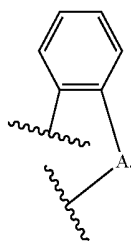
2. The compound of claim 1, wherein each  $R^A$ ,  $R^B$ ,  $R^C$ , and  $R^D$  is independently selected from the group consisting of hydrogen, deuterium, fluorine, alkyl, cycloalkyl, heteroalkyl, alkoxy, aryloxy, amino, silyl, alkenyl, cycloalkenyl, heteroalkenyl, aryl, heteroaryl, nitrile, isonitrile, sulfanyl, and combinations thereof.

3. The compound of claim 1, wherein  $X^1$  to  $X^8$  are each C.

4. The compound of claim 1, wherein at least one of  $X^1$  to  $X^8$  is N.

5. The compound of claim 1, wherein M is selected from the group consisting of Ru, Os, Pd, Pt, Ir, Cu, and Au.

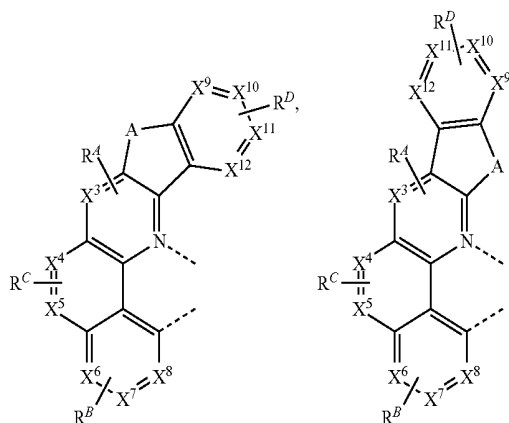
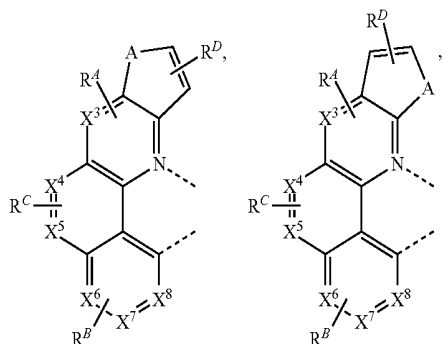
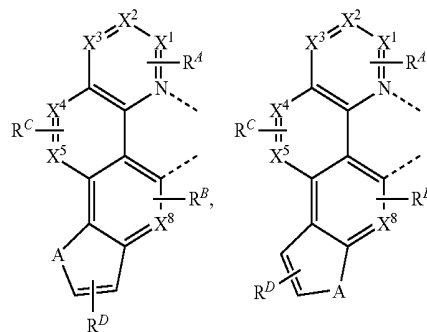
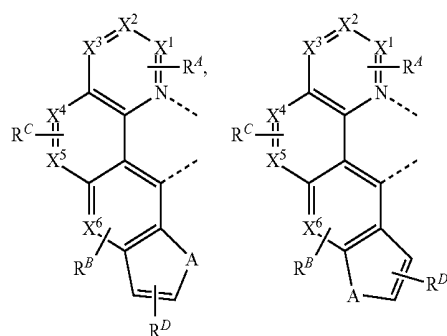
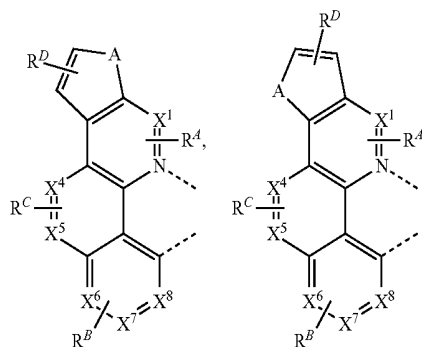
6. The compound of claim 1, wherein Formula II is substituted or unsubstituted



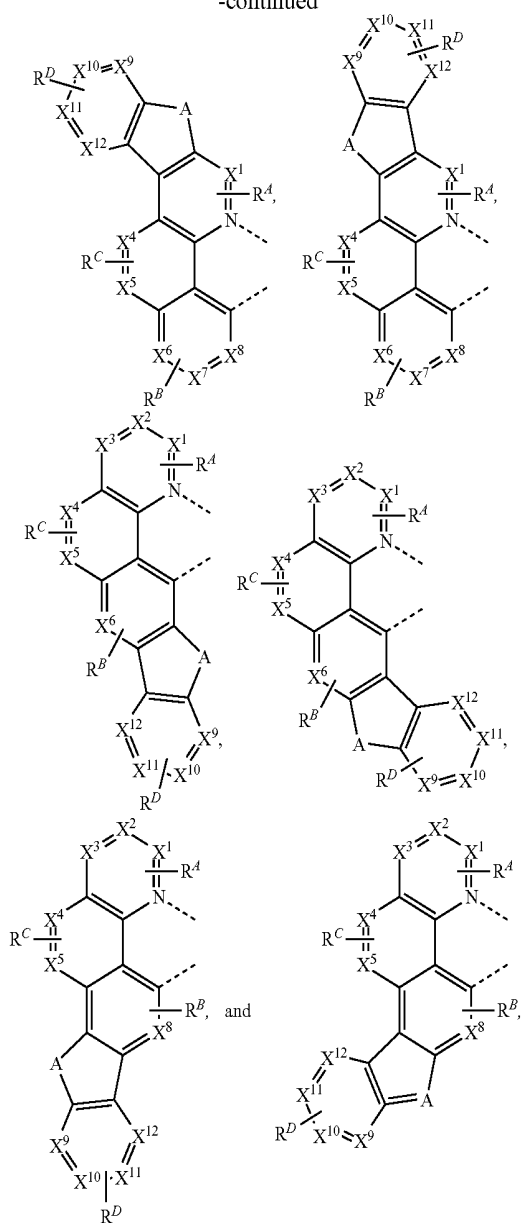
7. The compound of claim 1, wherein only one pair of  $X^1$  and  $X^2$ ,  $X^3$  and  $X^6$ , and  $X^7$  and  $X^8$  is C—C, and is joined to the structure G.

8. The compound of claim 1, wherein the first ligand  $L_A$  is selected from the group consisting of

-continued

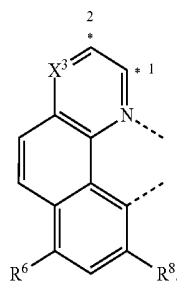


-continued



wherein  $X^9$  to  $X^{12}$  are each independently C or N; and  
 wherein no more than two N atoms are bonded to each other.

9. The compound of claim 1, wherein the first ligand  $L_A$  is selected from the group consisting of ligands  $L_{A1-O}$  to  $L_{A384-O}$ ,  $L_{A1-S}$  to  $L_{A384-S}$ , and  $L_{A1-C}$  to  $L_{A384-C}$  that are based on the structure



wherein the asterisks with an Arabic numeral indicate the points of attachment to the corresponding points of attachment in the structure G,

wherein for ligands  $L_{A1-O}$  to  $L_{A384-O}$ , A in the structure G is O,

wherein for ligands  $L_{A1-S}$  to  $L_{A384-S}$ , A in the structure G is S,

wherein for ligands  $L_{A1-C}$  to  $L_{A384-C}$ , A in the structure G is  $C(CH_3)_2$ , wherein  $X^3$ ,  $R^6$ ,  $R^8$ , and G are defined for A1 to A384 as shown below:

	$X^3$	$R^6$	$R^8$	G
A1	CH	H	H	$G^1$
A2	CH	H	H	$G^3$
A3	CH	H	H	$G^5$
A4	CH	H	H	$G^7$
A5	CH	H	H	$G^9$
A6	CH	H	H	$G^{11}$
A7	N	H	H	$G^1$
A8	N	H	H	$G^3$
A9	N	H	H	$G^5$
A10	N	H	H	$G^7$
A11	N	H	H	$G^9$
A12	N	H	H	$G^{11}$
A13	$CR^{B1}$	H	H	$G^1$
A14	$CR^{B3}$	H	H	$G^1$
A15	$CR^{B5}$	H	H	$G^1$
A16	$CR^{B7}$	H	H	$G^1$
A17	$CR^{B9}$	H	H	$G^1$
A18	$CR^{B11}$	H	H	$G^1$
A19	$CR^{B13}$	H	H	$G^1$
A20	$CR^{B15}$	H	H	$G^1$
A21	$CR^{B17}$	H	H	$G^1$
A22	$CR^{B19}$	H	H	$G^1$
A23	$CR^{B21}$	H	H	$G^1$
A24	$CR^{B23}$	H	H	$G^1$
A25	$CR^{B25}$	H	H	$G^1$
A26	$CR^{B27}$	H	H	$G^1$
A27	$CR^{B29}$	H	H	$G^1$
A28	$CR^{B31}$	H	H	$G^1$
A29	$CR^{B33}$	H	H	$G^1$
A30	$CR^{B35}$	H	H	$G^1$
A31	$CR^{B37}$	H	H	$G^1$
A32	$CR^{B39}$	H	H	$G^1$
A33	$CR^{B41}$	H	H	$G^1$
A34	$CR^{B43}$	H	H	$G^1$
A35	$CR^{B45}$	H	H	$G^1$
A36	$CR^{B47}$	H	H	$G^1$
A37	$CR^{B49}$	H	H	$G^1$
A38	$CR^{B51}$	H	H	$G^1$
A39	$CR^{B53}$	H	H	$G^1$
A40	$CR^{B55}$	H	H	$G^1$
A41	$CR^{B57}$	H	H	$G^1$
A42	$CR^{B59}$	H	H	$G^1$
A43	$CR^{B1}$	H	H	$G^2$
A44	$CR^{B3}$	H	H	$G^2$
A45	$CR^{B5}$	H	H	$G^2$
A46	$CR^{B7}$	H	H	$G^2$
A47	$CR^{B9}$	H	H	$G^2$
A48	$CR^{B11}$	H	H	$G^2$
A49	$CR^{B13}$	H	H	$G^2$
A50	$CR^{B15}$	H	H	$G^2$
A51	$CR^{B17}$	H	H	$G^2$
A52	$CR^{B19}$	H	H	$G^2$
A53	$CR^{B21}$	H	H	$G^2$
A54	$CR^{B23}$	H	H	$G^2$
A55	$CR^{B25}$	H	H	$G^2$
A56	$CR^{B27}$	H	H	$G^2$
A57	$CR^{B29}$	H	H	$G^2$
A58	$CR^{B31}$	H	H	$G^2$
A59	$CR^{B33}$	H	H	$G^2$
A60	$CR^{B35}$	H	H	$G^2$
A61	$CR^{B37}$	H	H	$G^2$
A62	$CR^{B39}$	H	H	$G^2$

-continued

	X <sup>3</sup>	R <sup>6</sup>	R <sup>8</sup>	G
A63	CR <sup>B41</sup>	H	H	G <sup>2</sup>
A64	CR <sup>B43</sup>	H	H	G <sup>2</sup>
A65	CR <sup>B45</sup>	H	H	G <sup>2</sup>
A66	CR <sup>B47</sup>	H	H	G <sup>2</sup>
A67	CR <sup>B49</sup>	H	H	G <sup>2</sup>
A68	CR <sup>B51</sup>	H	H	G <sup>2</sup>
A69	CR <sup>B53</sup>	H	H	G <sup>2</sup>
A70	CR <sup>B55</sup>	H	H	G <sup>2</sup>
A71	CR <sup>B57</sup>	H	H	G <sup>2</sup>
A72	CR <sup>B59</sup>	H	H	G <sup>2</sup>
A73	CR <sup>B1</sup>	H	H	G <sup>3</sup>
A74	CR <sup>B3</sup>	H	H	G <sup>3</sup>
A75	CR <sup>B5</sup>	H	H	G <sup>3</sup>
A76	CR <sup>B7</sup>	H	H	G <sup>3</sup>
A77	CR <sup>B9</sup>	H	H	G <sup>3</sup>
A78	CR <sup>B11</sup>	H	H	G <sup>3</sup>
A79	CR <sup>B13</sup>	H	H	G <sup>3</sup>
A80	CR <sup>B15</sup>	H	H	G <sup>3</sup>
A81	CR <sup>B17</sup>	H	H	G <sup>3</sup>
A82	CR <sup>B19</sup>	H	H	G <sup>3</sup>
A83	CR <sup>B21</sup>	H	H	G <sup>3</sup>
A84	CR <sup>B23</sup>	H	H	G <sup>3</sup>
A85	CR <sup>B25</sup>	H	H	G <sup>3</sup>
A86	CR <sup>B27</sup>	H	H	G <sup>3</sup>
A87	CR <sup>B29</sup>	H	H	G <sup>3</sup>
A88	CR <sup>B31</sup>	H	H	G <sup>3</sup>
A89	CR <sup>B33</sup>	H	H	G <sup>3</sup>
A90	CR <sup>B35</sup>	H	H	G <sup>3</sup>
A91	CR <sup>B37</sup>	H	H	G <sup>3</sup>
A92	CR <sup>B39</sup>	H	H	G <sup>3</sup>
A93	CR <sup>B41</sup>	H	H	G <sup>3</sup>
A94	CR <sup>B43</sup>	H	H	G <sup>3</sup>
A95	CR <sup>B45</sup>	H	H	G <sup>3</sup>
A96	CR <sup>B47</sup>	H	H	G <sup>3</sup>
A97	CR <sup>B49</sup>	H	H	G <sup>3</sup>
A98	CR <sup>B51</sup>	H	H	G <sup>3</sup>
A99	CR <sup>B53</sup>	H	H	G <sup>3</sup>
A100	CR <sup>B55</sup>	H	H	G <sup>3</sup>
A101	CR <sup>B57</sup>	H	H	G <sup>3</sup>
A102	CR <sup>B59</sup>	H	H	G <sup>3</sup>
A103	CR <sup>B1</sup>	H	H	G <sup>4</sup>
A104	CR <sup>B3</sup>	H	H	G <sup>4</sup>
A105	CR <sup>B5</sup>	H	H	G <sup>4</sup>
A106	CR <sup>B7</sup>	H	H	G <sup>4</sup>
A107	CR <sup>B9</sup>	H	H	G <sup>4</sup>
A108	CR <sup>B11</sup>	H	H	G <sup>4</sup>
A109	CR <sup>B13</sup>	H	H	G <sup>4</sup>
A110	CR <sup>B15</sup>	H	H	G <sup>4</sup>
A111	CR <sup>B17</sup>	H	H	G <sup>4</sup>
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A113	CR <sup>B21</sup>	H	H	G <sup>4</sup>
A114	CR <sup>B23</sup>	H	H	G <sup>4</sup>
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A117	CR <sup>B29</sup>	H	H	G <sup>4</sup>
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A119	CR <sup>B33</sup>	H	H	G <sup>4</sup>
A120	CR <sup>B35</sup>	H	H	G <sup>4</sup>
A121	CR <sup>B37</sup>	H	H	G <sup>4</sup>
A122	CR <sup>B39</sup>	H	H	G <sup>4</sup>
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A124	CR <sup>B43</sup>	H	H	G <sup>4</sup>
A125	CR <sup>B45</sup>	H	H	G <sup>4</sup>
A126	CR <sup>B47</sup>	H	H	G <sup>4</sup>
A127	CR <sup>B49</sup>	H	H	G <sup>4</sup>
A128	CR <sup>B51</sup>	H	H	G <sup>4</sup>
A129	CH	H	H	G <sup>2</sup>
A130	CH	H	H	G <sup>4</sup>
A131	CH	H	H	G <sup>6</sup>
A132	CH	H	H	G <sup>8</sup>
A133	CH	H	H	G <sup>10</sup>
A134	CH	H	H	G <sup>12</sup>
A135	N	H	H	G <sup>2</sup>
A136	N	H	H	G <sup>4</sup>

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	X <sup>3</sup>	R <sup>6</sup>	R <sup>8</sup>	G
A137	N	H	H	G <sup>6</sup>
A138	N	H	H	G <sup>8</sup>
A139	N	H	H	G <sup>10</sup>
A140	N	H	H	G <sup>12</sup>
A141	CR <sup>B2</sup>	H	H	G <sup>1</sup>
A142	CR <sup>B4</sup>	H	H	G <sup>1</sup>
A143	CR <sup>B6</sup>	H	H	G <sup>1</sup>
A144	CR <sup>B8</sup>	H	H	G <sup>1</sup>
A145	CR <sup>B10</sup>	H	H	G <sup>1</sup>
A146	CR <sup>B12</sup>	H	H	G <sup>1</sup>
A147	CR <sup>B14</sup>	H	H	G <sup>1</sup>
A148	CR <sup>B16</sup>	H	H	G <sup>1</sup>
A149	CR <sup>B18</sup>	H	H	G <sup>1</sup>
A150	CR <sup>B20</sup>	H	H	G <sup>1</sup>
A151	CR <sup>B22</sup>	H	H	G <sup>1</sup>
A152	CR <sup>B24</sup>	H	H	G <sup>1</sup>
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A173	CR <sup>B6</sup>	H	H	G <sup>2</sup>
A174	CR <sup>B8</sup>	H	H	G <sup>2</sup>
A175	CR <sup>B10</sup>	H	H	G <sup>2</sup>
A176	CR <sup>B12</sup>	H	H	G <sup>2</sup>
A177	CR <sup>B14</sup>	H	H	G <sup>2</sup>
A178	CR <sup>B16</sup>	H	H	G <sup>2</sup>
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A207	CR <sup>B14</sup>	H	H	G <sup>3</sup>
A208	CR <sup>B16</sup>	H	H	G <sup>3</sup>
A209	CR <sup>B18</sup>	H	H	G <sup>3</sup>
A210	CR <sup>B20</sup>	H	H	G <sup>3</sup>

-continued

	X <sup>3</sup>	R <sup>6</sup>	R <sup>8</sup>	G
A211	CR <sup>B22</sup>	H	H	G <sup>3</sup>
A212	CR <sup>B24</sup>	H	H	G <sup>3</sup>
A213	CR <sup>B26</sup>	H	H	G <sup>3</sup>
A214	CR <sup>B27</sup>	H	H	G <sup>3</sup>
A215	CR <sup>B30</sup>	H	H	G <sup>3</sup>
A216	CR <sup>B32</sup>	H	H	G <sup>3</sup>
A217	CR <sup>B34</sup>	H	H	G <sup>3</sup>
A218	CR <sup>B36</sup>	H	H	G <sup>3</sup>
A219	CR <sup>B38</sup>	H	H	G <sup>3</sup>
A220	CR <sup>B40</sup>	H	H	G <sup>3</sup>
A221	CR <sup>B42</sup>	H	H	G <sup>3</sup>
A222	CR <sup>B44</sup>	H	H	G <sup>3</sup>
A223	CR <sup>B46</sup>	H	H	G <sup>3</sup>
A224	CR <sup>B47</sup>	H	H	G <sup>3</sup>
A225	CR <sup>B50</sup>	H	H	G <sup>3</sup>
A226	CR <sup>B51</sup>	H	H	G <sup>3</sup>
A227	CR <sup>B54</sup>	H	H	G <sup>3</sup>
A228	CR <sup>B56</sup>	H	H	G <sup>3</sup>
A229	CR <sup>B57</sup>	H	H	G <sup>3</sup>
A230	CR <sup>B60</sup>	H	H	G <sup>3</sup>
A231	CR <sup>B2</sup>	H	H	G <sup>4</sup>
A232	CR <sup>B4</sup>	H	H	G <sup>4</sup>
A233	CR <sup>B6</sup>	H	H	G <sup>4</sup>
A234	CR <sup>B8</sup>	H	H	G <sup>4</sup>
A235	CR <sup>B10</sup>	H	H	G <sup>4</sup>
A236	CR <sup>B12</sup>	H	H	G <sup>4</sup>
A237	CR <sup>B14</sup>	H	H	G <sup>4</sup>
A238	CR <sup>B16</sup>	H	H	G <sup>4</sup>
A239	CR <sup>B18</sup>	H	H	G <sup>4</sup>
A240	CR <sup>B20</sup>	H	H	G <sup>4</sup>
A241	CR <sup>B22</sup>	H	H	G <sup>4</sup>
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A250	CR <sup>B40</sup>	H	H	G <sup>4</sup>
A251	CR <sup>B42</sup>	H	H	G <sup>4</sup>
A252	CR <sup>B44</sup>	H	H	G <sup>4</sup>
A253	CR <sup>B46</sup>	H	H	G <sup>4</sup>
A254	CR <sup>B47</sup>	H	H	G <sup>4</sup>
A255	CR <sup>B50</sup>	H	H	G <sup>4</sup>
A256	CR <sup>B52</sup>	H	H	G <sup>4</sup>
A257	CR <sup>B55</sup>	H	H	G <sup>4</sup>
A258	CR <sup>B57</sup>	H	H	G <sup>4</sup>
A259	CR <sup>B59</sup>	H	H	G <sup>4</sup>
A260	CR <sup>B1</sup>	H	H	G <sup>5</sup>
A261	CR <sup>B3</sup>	H	H	G <sup>5</sup>
A262	CR <sup>B5</sup>	H	H	G <sup>5</sup>
A263	CR <sup>B7</sup>	H	H	G <sup>5</sup>
A264	CR <sup>B9</sup>	H	H	G <sup>5</sup>
A265	CR <sup>B11</sup>	H	H	G <sup>5</sup>
A266	CR <sup>B13</sup>	H	H	G <sup>5</sup>
A267	CR <sup>B15</sup>	H	H	G <sup>5</sup>
A268	CR <sup>B17</sup>	H	H	G <sup>5</sup>
A269	CR <sup>B19</sup>	H	H	G <sup>5</sup>
A270	CR <sup>B21</sup>	H	H	G <sup>5</sup>
A271	CR <sup>B23</sup>	H	H	G <sup>5</sup>
A272	CR <sup>B25</sup>	H	H	G <sup>5</sup>
A273	CR <sup>B27</sup>	H	H	G <sup>5</sup>
A274	CR <sup>B29</sup>	H	H	G <sup>5</sup>
A275	CR <sup>B31</sup>	H	H	G <sup>5</sup>
A276	CR <sup>B33</sup>	H	H	G <sup>5</sup>
A277	CR <sup>B35</sup>	H	H	G <sup>5</sup>
A278	CR <sup>B37</sup>	H	H	G <sup>5</sup>
A279	CR <sup>B39</sup>	H	H	G <sup>5</sup>
A280	CR <sup>B41</sup>	H	H	G <sup>5</sup>
A281	CR <sup>B43</sup>	H	H	G <sup>5</sup>
A282	CR <sup>B45</sup>	H	H	G <sup>5</sup>
A283	CR <sup>B47</sup>	H	H	G <sup>5</sup>
A284	CR <sup>B49</sup>	H	H	G <sup>5</sup>

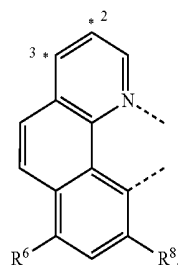
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	X <sup>3</sup>	R <sup>6</sup>	R <sup>8</sup>	G
A285	CR <sup>B51</sup>	H	H	G <sup>5</sup>
A286	CR <sup>B53</sup>	H	H	G <sup>5</sup>
A287	CR <sup>B55</sup>	H	H	G <sup>5</sup>
A288	CR <sup>B57</sup>	H	H	G <sup>5</sup>
A289	CR <sup>B59</sup>	H	H	G <sup>5</sup>
A290	CR <sup>B1</sup>	H	H	G <sup>6</sup>
A291	CR <sup>B3</sup>	H	H	G <sup>6</sup>
A292	CR <sup>B5</sup>	H	H	G <sup>6</sup>
A293	CR <sup>B7</sup>	H	H	G <sup>6</sup>
A294	CR <sup>B9</sup>	H	H	G <sup>6</sup>
A295	CR <sup>B11</sup>	H	H	G <sup>6</sup>
A296	CR <sup>B13</sup>	H	H	G <sup>6</sup>
A297	CR <sup>B15</sup>	H	H	G <sup>6</sup>
A298	CR <sup>B17</sup>	H	H	G <sup>6</sup>
A299	CR <sup>B19</sup>	H	H	G <sup>6</sup>
A200	CR <sup>B21</sup>	H	H	G <sup>6</sup>
A301	CR <sup>B23</sup>	H	H	G <sup>6</sup>
A302	CR <sup>B25</sup>	H	H	G <sup>6</sup>
A303	CR <sup>B27</sup>	H	H	G <sup>6</sup>
A304	CR <sup>B29</sup>	H	H	G <sup>6</sup>
A305	CR <sup>B31</sup>	H	H	G <sup>6</sup>
A306	CR <sup>B33</sup>	H	H	G <sup>6</sup>
A307	CR <sup>B35</sup>	H	H	G <sup>6</sup>
A308	CR <sup>B37</sup>	H	H	G <sup>6</sup>
A309	CR <sup>B39</sup>	H	H	G <sup>6</sup>
A310	CR <sup>B41</sup>	H	H	G <sup>6</sup>
A311	CR <sup>B43</sup>	H	H	G <sup>6</sup>
A312	CR <sup>B45</sup>	H	H	G <sup>6</sup>
A313	CR <sup>B47</sup>	H	H	G <sup>6</sup>
A314	CR <sup>B49</sup>	H	H	G <sup>6</sup>
A315	CR <sup>B51</sup>	H	H	G <sup>6</sup>
A316	CR <sup>B53</sup>	H	H	G <sup>6</sup>
A317	CR <sup>B55</sup>	H	H	G <sup>6</sup>
A318	CR <sup>B57</sup>	H	H	G <sup>6</sup>
A319	CR <sup>B59</sup>	H	H	G <sup>6</sup>
A320	CR <sup>B56</sup>	H	H	G <sup>4</sup>
A321	CR <sup>B58</sup>	H	H	G <sup>4</sup>
A322	CR <sup>B60</sup>	H	H	G <sup>4</sup>
A323	CR <sup>B2</sup>	H	H	G <sup>5</sup>
A324	CR <sup>B4</sup>	H	H	G <sup>5</sup>
A325	CR <sup>B6</sup>	H	H	G <sup>5</sup>
A326	CR <sup>B8</sup>	H	H	G <sup>5</sup>
A327	CR <sup>B10</sup>	H	H	G <sup>5</sup>
A328	CR <sup>B12</sup>	H	H	G <sup>5</sup>
A329	CR <sup>B14</sup>	H	H	G <sup>5</sup>
A330	CR <sup>B16</sup>	H	H	G <sup>5</sup>
A331	CR <sup>B18</sup>	H	H	G <sup>5</sup>
A332	CR <sup>B20</sup>	H	H	G <sup>5</sup>
A333	CR <sup>B22</sup>	H	H	G <sup>5</sup>
A334	CR <sup>B24</sup>	H	H	G <sup>5</sup>
A335	CR <sup>B26</sup>	H	H	G <sup>5</sup>
A336	CR <sup>B28</sup>	H	H	G <sup>5</sup>
A337	CR <sup>B30</sup>	H	H	G <sup>5</sup>
A338	CR <sup>B32</sup>	H	H	G <sup>5</sup>
A339	CR <sup>B34</sup>	H	H	G <sup>5</sup>
A340	CR <sup>B36</sup>	H	H	G <sup>5</sup>
A341	CR <sup>B38</sup>	H	H	G <sup>5</sup>
A342	CR <sup>B40</sup>	H	H	G <sup>5</sup>
A343	CR <sup>B42</sup>	H	H	G <sup>5</sup>
A344	CR <sup>B44</sup>	H	H	G <sup>5</sup>
A345	CR <sup>B46</sup>	H	H	G <sup>5</sup>
A346	CR <sup>B48</sup>	H	H	G <sup>5</sup>
A347	CR <sup>B50</sup>	H	H	G <sup>5</sup>
A348	CR <sup>B52</sup>	H	H	G <sup>5</sup>
A349	CR <sup>B54</sup>	H	H	G <sup>5</sup>
A350	CR <sup>B56</sup>	H	H	G <sup>5</sup>
A351	CR <sup>B58</sup>	H	H	G <sup>5</sup>
A352	CR <sup>B60</sup>	H	H	G <sup>5</sup>
A353	CR <sup>B1</sup>	H	H	G <sup>6</sup>
A354	CR <sup>B4</sup>	H	H	G <sup>6</sup>
A355	CR <sup>B7</sup>	H	H	G <sup>6</sup>
A356	CR <sup>B10</sup>	H	H	G <sup>6</sup>
A357	CR <sup>B13</sup>	H	H	G <sup>6</sup>
A358	CR <sup>B16</sup>	H	H	G <sup>6</sup>

-continued

	X <sup>3</sup>	R <sup>6</sup>	R <sup>8</sup>	G
A359	CR <sup>B19</sup>	H	H	G <sup>6</sup>
A360	CR <sup>B22</sup>	H	H	G <sup>6</sup>
A361	CR <sup>B25</sup>	H	H	G <sup>6</sup>
A362	CR <sup>B28</sup>	H	H	G <sup>6</sup>
A363	CR <sup>B31</sup>	H	H	G <sup>6</sup>
A364	CR <sup>B34</sup>	H	H	G <sup>6</sup>
A365	CR <sup>B37</sup>	H	H	G <sup>6</sup>
A366	CR <sup>B40</sup>	H	H	G <sup>6</sup>
A367	CR <sup>B43</sup>	H	H	G <sup>6</sup>
A368	CR <sup>B46</sup>	H	H	G <sup>6</sup>
A369	CR <sup>B49</sup>	H	H	G <sup>6</sup>
A370	CR <sup>B52</sup>	H	H	G <sup>6</sup>
A371	CR <sup>B55</sup>	H	H	G <sup>6</sup>
A372	CR <sup>B58</sup>	H	H	G <sup>6</sup>
A373	CR <sup>B61</sup>	H	H	G <sup>6</sup>
A374	CR <sup>B64</sup>	H	H	G <sup>6</sup>
A375	CR <sup>B67</sup>	H	H	G <sup>6</sup>
A376	CR <sup>B70</sup>	H	H	G <sup>6</sup>
A377	CR <sup>B73</sup>	H	H	G <sup>6</sup>
A378	CR <sup>B76</sup>	H	H	G <sup>6</sup>
A379	CR <sup>B79</sup>	H	H	G <sup>6</sup>
A380	CR <sup>B82</sup>	H	H	G <sup>6</sup>
A381	CR <sup>B85</sup>	H	H	G <sup>6</sup>
A382	CR <sup>B88</sup>	H	H	G <sup>6</sup>
A383	CR <sup>B53</sup>	H	H	G <sup>4</sup>
A384	CR <sup>B54</sup>	H	H	G <sup>4</sup>

ligands L<sub>A385-O</sub> to L<sub>A420-O</sub>, L<sub>A385-S</sub> to L<sub>A420-S</sub>, and L<sub>A385-C</sub> to L<sub>A420-C</sub> that are based on the structure



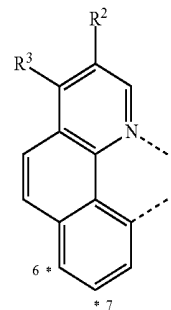
wherein the asterisks with an Arabic numeral indicate the points of attachment to the corresponding points of attachment in the structure G,  
 wherein for ligands L<sub>A385-O</sub> to L<sub>A420-O</sub>, A in the structure G is O,  
 wherein for ligands L<sub>A385-S</sub> to L<sub>A420-S</sub>, A in the structure G is S,  
 wherein for ligands L<sub>A385-C</sub> to L<sub>A420-C</sub>, A in the structure G is C(CH<sub>3</sub>)<sub>2</sub>, wherein R<sup>6</sup>, R<sup>8</sup>, and G are defined for A385 to A420 as shown below:

	R <sup>6</sup>	R <sup>8</sup>	G
A385	H	H	G <sup>13</sup>
A386	H	H	G <sup>15</sup>
A387	H	H	G <sup>17</sup>
A388	H	H	G <sup>19</sup>
A389	H	H	G <sup>21</sup>
A390	H	H	G <sup>23</sup>
A391	CH <sub>3</sub>	CH <sub>3</sub>	G <sup>13</sup>
A392	CH <sub>3</sub>	CH <sub>3</sub>	G <sup>15</sup>
A393	CH <sub>3</sub>	CH <sub>3</sub>	G <sup>17</sup>
A394	CH <sub>3</sub>	CH <sub>3</sub>	G <sup>19</sup>
A395	CH <sub>3</sub>	CH <sub>3</sub>	G <sup>21</sup>

-continued

	R <sup>6</sup>	R <sup>8</sup>	G
A396	CH <sub>3</sub>	CH <sub>3</sub>	G <sup>23</sup>
A397	CH <sub>3</sub>	CH <sub>3</sub>	G <sup>13</sup>
A398	CH <sub>3</sub>	CH <sub>3</sub>	G <sup>15</sup>
A399	CH <sub>3</sub>	CH <sub>3</sub>	G <sup>17</sup>
A400	CH <sub>3</sub>	CH <sub>3</sub>	G <sup>19</sup>
A401	CH <sub>3</sub>	CH <sub>3</sub>	G <sup>21</sup>
A402	CH <sub>3</sub>	CH <sub>3</sub>	G <sup>23</sup>
A403	H	H	G <sup>14</sup>
A404	H	H	G <sup>16</sup>
A405	H	H	G <sup>18</sup>
A406	H	H	G <sup>20</sup>
A407	H	H	G <sup>22</sup>
A408	H	H	G <sup>24</sup>
A409	CH <sub>3</sub>	CH <sub>3</sub>	G <sup>14</sup>
A410	CH <sub>3</sub>	CH <sub>3</sub>	G <sup>16</sup>
A411	CH <sub>3</sub>	CH <sub>3</sub>	G <sup>18</sup>
A412	CH <sub>3</sub>	CH <sub>3</sub>	G <sup>20</sup>
A413	CH <sub>3</sub>	CH <sub>3</sub>	G <sup>22</sup>
A414	CH <sub>3</sub>	CH <sub>3</sub>	G <sup>24</sup>
A415	CH <sub>3</sub>	CH <sub>3</sub>	G <sup>14</sup>
A416	CH <sub>3</sub>	CH <sub>3</sub>	G <sup>16</sup>
A417	CH <sub>3</sub>	CH <sub>3</sub>	G <sup>18</sup>
A418	CH <sub>3</sub>	CH <sub>3</sub>	G <sup>20</sup>
A419	CH <sub>3</sub>	CH <sub>3</sub>	G <sup>22</sup>
A420	CH <sub>3</sub>	CH <sub>3</sub>	G <sup>24</sup>

ligands L<sub>A421-O</sub> to L<sub>A1152-O</sub>, L<sub>A421-S</sub> to L<sub>A1152-S</sub>, and L<sub>A421-C</sub> to L<sub>A1152-C</sub> that are based on the structure



wherein the asterisks with an Arabic numeral indicate the points of attachment to the corresponding points of attachment in the structure G,  
 wherein for ligands L<sub>A421-O</sub> to L<sub>A1152-O</sub>, A in the structure G is O,  
 wherein for ligands L<sub>A421-S</sub> to L<sub>A1152-S</sub>, A in the structure G is S, and  
 wherein for ligands L<sub>A421-C</sub> to L<sub>A1152-C</sub>, A in the structure G is C(CH<sub>3</sub>)<sub>2</sub>, wherein R<sup>2</sup>, R<sup>3</sup>, and G are defined for A421 to A1152 as shown below:

	R <sup>2</sup>	R <sup>3</sup>	G
A421	H	H	G <sup>37</sup>
A422	H	H	G <sup>39</sup>
A423	H	H	G <sup>41</sup>
A424	H	H	G <sup>43</sup>
A425	H	H	G <sup>45</sup>
A426	H	H	G <sup>47</sup>
A427	CH <sub>3</sub>	R <sup>B1</sup>	G <sup>37</sup>
A428	CH <sub>3</sub>	R <sup>B3</sup>	G <sup>37</sup>
A429	CH <sub>3</sub>	R <sup>B5</sup>	G <sup>37</sup>
A430	CH <sub>3</sub>	R <sup>B7</sup>	G <sup>37</sup>

-continued

	R <sup>2</sup>	R <sup>3</sup>	G
A431	CH <sub>3</sub>	R <sup>B9</sup>	G <sup>37</sup>
A432	CH <sub>3</sub>	R <sup>B11</sup>	G <sup>37</sup>
A433	CH <sub>3</sub>	R <sup>B13</sup>	G <sup>37</sup>
A434	CH <sub>3</sub>	R <sup>B15</sup>	G <sup>37</sup>
A435	CH <sub>3</sub>	R <sup>B17</sup>	G <sup>37</sup>
A436	CH <sub>3</sub>	R <sup>B19</sup>	G <sup>37</sup>
A437	CH <sub>3</sub>	R <sup>B21</sup>	G <sup>37</sup>
A438	CH <sub>3</sub>	R <sup>B23</sup>	G <sup>37</sup>
A439	CH <sub>3</sub>	R <sup>B25</sup>	G <sup>37</sup>
A440	CH <sub>3</sub>	R <sup>B27</sup>	G <sup>37</sup>
A441	CH <sub>3</sub>	R <sup>B29</sup>	G <sup>37</sup>
A442	CH <sub>3</sub>	R <sup>B31</sup>	G <sup>37</sup>
A443	CH <sub>3</sub>	R <sup>B33</sup>	G <sup>37</sup>
A444	CH <sub>3</sub>	R <sup>B35</sup>	G <sup>37</sup>
A445	CH <sub>3</sub>	R <sup>B37</sup>	G <sup>37</sup>
A446	CH <sub>3</sub>	R <sup>B39</sup>	G <sup>37</sup>
A447	CH <sub>3</sub>	R <sup>B41</sup>	G <sup>37</sup>
A448	CH <sub>3</sub>	R <sup>B43</sup>	G <sup>37</sup>
A449	CH <sub>3</sub>	R <sup>B45</sup>	G <sup>37</sup>
A450	CH <sub>3</sub>	R <sup>B47</sup>	G <sup>37</sup>
A451	CH <sub>3</sub>	R <sup>B49</sup>	G <sup>37</sup>
A452	CH <sub>3</sub>	R <sup>B51</sup>	G <sup>37</sup>
A453	CH <sub>3</sub>	R <sup>B53</sup>	G <sup>37</sup>
A454	CH <sub>3</sub>	R <sup>B55</sup>	G <sup>37</sup>
A455	CH <sub>3</sub>	R <sup>B57</sup>	G <sup>37</sup>
A456	CH <sub>3</sub>	R <sup>B59</sup>	G <sup>37</sup>
A457	R <sup>B1</sup>	CH <sub>3</sub>	G <sup>37</sup>
A458	R <sup>B3</sup>	CH <sub>3</sub>	G <sup>37</sup>
A459	R <sup>B5</sup>	CH <sub>3</sub>	G <sup>37</sup>
A460	R <sup>B7</sup>	CH <sub>3</sub>	G <sup>37</sup>
A461	R <sup>B9</sup>	CH <sub>3</sub>	G <sup>37</sup>
A462	R <sup>B11</sup>	CH <sub>3</sub>	G <sup>37</sup>
A463	R <sup>B13</sup>	CH <sub>3</sub>	G <sup>37</sup>
A464	R <sup>B15</sup>	CH <sub>3</sub>	G <sup>37</sup>
A465	R <sup>B17</sup>	CH <sub>3</sub>	G <sup>37</sup>
A466	R <sup>B19</sup>	CH <sub>3</sub>	G <sup>37</sup>
A467	R <sup>B21</sup>	CH <sub>3</sub>	G <sup>37</sup>
A468	R <sup>B23</sup>	CH <sub>3</sub>	G <sup>37</sup>
A469	R <sup>B25</sup>	CH <sub>3</sub>	G <sup>37</sup>
A470	R <sup>B27</sup>	CH <sub>3</sub>	G <sup>37</sup>
A471	R <sup>B29</sup>	CH <sub>3</sub>	G <sup>37</sup>
A472	R <sup>B31</sup>	CH <sub>3</sub>	G <sup>37</sup>
A473	R <sup>B33</sup>	CH <sub>3</sub>	G <sup>37</sup>
A474	R <sup>B35</sup>	CH <sub>3</sub>	G <sup>37</sup>
A475	R <sup>B37</sup>	CH <sub>3</sub>	G <sup>37</sup>
A476	R <sup>B39</sup>	CH <sub>3</sub>	G <sup>37</sup>
A477	R <sup>B41</sup>	CH <sub>3</sub>	G <sup>37</sup>
A478	R <sup>B43</sup>	CH <sub>3</sub>	G <sup>37</sup>
A479	R <sup>B45</sup>	CH <sub>3</sub>	G <sup>37</sup>
A480	R <sup>B47</sup>	CH <sub>3</sub>	G <sup>37</sup>
A481	R <sup>B49</sup>	CH <sub>3</sub>	G <sup>37</sup>
A482	R <sup>B51</sup>	CH <sub>3</sub>	G <sup>37</sup>
A483	R <sup>B53</sup>	CH <sub>3</sub>	G <sup>37</sup>
A484	R <sup>B55</sup>	CH <sub>3</sub>	G <sup>37</sup>
A485	R <sup>B57</sup>	CH <sub>3</sub>	G <sup>37</sup>
A486	R <sup>B59</sup>	CH <sub>3</sub>	G <sup>37</sup>
A487	CH <sub>3</sub>	R <sup>B1</sup>	G <sup>38</sup>
A488	CH <sub>3</sub>	R <sup>B3</sup>	G <sup>38</sup>
A489	CH <sub>3</sub>	R <sup>B5</sup>	G <sup>38</sup>
A490	CH <sub>3</sub>	R <sup>B7</sup>	G <sup>38</sup>
A491	CH <sub>3</sub>	R <sup>B9</sup>	G <sup>38</sup>
A492	CH <sub>3</sub>	R <sup>B11</sup>	G <sup>38</sup>
A493	CH <sub>3</sub>	R <sup>B13</sup>	G <sup>38</sup>
A494	CH <sub>3</sub>	R <sup>B15</sup>	G <sup>38</sup>
A495	CH <sub>3</sub>	R <sup>B17</sup>	G <sup>38</sup>
A496	CH <sub>3</sub>	R <sup>B19</sup>	G <sup>38</sup>
A497	CH <sub>3</sub>	R <sup>B21</sup>	G <sup>38</sup>
A498	CH <sub>3</sub>	R <sup>B23</sup>	G <sup>38</sup>
A499	CH <sub>3</sub>	R <sup>B25</sup>	G <sup>38</sup>
A500	CH <sub>3</sub>	R <sup>B27</sup>	G <sup>38</sup>
A501	CH <sub>3</sub>	R <sup>B29</sup>	G <sup>38</sup>
A502	CH <sub>3</sub>	R <sup>B31</sup>	G <sup>38</sup>
A503	CH <sub>3</sub>	R <sup>B33</sup>	G <sup>38</sup>
A504	CH <sub>3</sub>	R <sup>B35</sup>	G <sup>38</sup>

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	R <sup>2</sup>	R <sup>3</sup>	G
A505	CH <sub>3</sub>	R <sup>B37</sup>	G <sup>38</sup>
A506	CH <sub>3</sub>	R <sup>B39</sup>	G <sup>38</sup>
A507	CH <sub>3</sub>	R <sup>B41</sup>	G <sup>38</sup>
A508	CH <sub>3</sub>	R <sup>B43</sup>	G <sup>38</sup>
A509	CH <sub>3</sub>	R <sup>B45</sup>	G <sup>38</sup>
A510	CH <sub>3</sub>	R <sup>B47</sup>	G <sup>38</sup>
A511	CH <sub>3</sub>	R <sup>B49</sup>	G <sup>38</sup>
A512	CH <sub>3</sub>	R <sup>B51</sup>	G <sup>38</sup>
A513	CH <sub>3</sub>	R <sup>B53</sup>	G <sup>38</sup>
A514	CH <sub>3</sub>	R <sup>B55</sup>	G <sup>38</sup>
A515	CH <sub>3</sub>	R <sup>B57</sup>	G <sup>38</sup>
A516	CH <sub>3</sub>	R <sup>B59</sup>	G <sup>38</sup>
A517	R <sup>B1</sup>	CH <sub>3</sub>	G <sup>38</sup>
A518	R <sup>B3</sup>	CH <sub>3</sub>	G <sup>38</sup>
A519	R <sup>B5</sup>	CH <sub>3</sub>	G <sup>38</sup>
A520	R <sup>B7</sup>	CH <sub>3</sub>	G <sup>38</sup>
A521	R <sup>B9</sup>	CH <sub>3</sub>	G <sup>38</sup>
A522	R <sup>B11</sup>	CH <sub>3</sub>	G <sup>38</sup>
A523	R <sup>B13</sup>	CH <sub>3</sub>	G <sup>38</sup>
A524	R <sup>B15</sup>	CH <sub>3</sub>	G <sup>38</sup>
A525	R <sup>B17</sup>	CH <sub>3</sub>	G <sup>38</sup>
A526	R <sup>B19</sup>	CH <sub>3</sub>	G <sup>38</sup>
A527	R <sup>B21</sup>	CH <sub>3</sub>	G <sup>38</sup>
A528	R <sup>B23</sup>	CH <sub>3</sub>	G <sup>38</sup>
A529	R <sup>B25</sup>	CH <sub>3</sub>	G <sup>38</sup>
A530	R <sup>B27</sup>	CH <sub>3</sub>	G <sup>38</sup>
A531	R <sup>B29</sup>	CH <sub>3</sub>	G <sup>38</sup>
A532	R <sup>B31</sup>	CH <sub>3</sub>	G <sup>38</sup>
A533	R <sup>B33</sup>	CH <sub>3</sub>	G <sup>38</sup>
A534	R <sup>B35</sup>	CH <sub>3</sub>	G <sup>38</sup>
A535	R <sup>B37</sup>	CH <sub>3</sub>	G <sup>38</sup>
A536	R <sup>B39</sup>	CH <sub>3</sub>	G <sup>38</sup>
A537	R <sup>B41</sup>	CH <sub>3</sub>	G <sup>38</sup>
A538	R <sup>B43</sup>	CH <sub>3</sub>	G <sup>38</sup>
A539	R <sup>B45</sup>	CH <sub>3</sub>	G <sup>38</sup>
A540	R <sup>B47</sup>	CH <sub>3</sub>	G <sup>38</sup>
A541	R <sup>B49</sup>	CH <sub>3</sub>	G <sup>38</sup>
A542	R <sup>B51</sup>	CH <sub>3</sub>	G <sup>38</sup>
A543	R <sup>B53</sup>	CH <sub>3</sub>	G <sup>38</sup>
A544	R <sup>B55</sup>	CH <sub>3</sub>	G <sup>38</sup>
A545	R <sup>B57</sup>	CH <sub>3</sub>	G <sup>38</sup>
A546	R <sup>B59</sup>	CH <sub>3</sub>	G <sup>38</sup>
A547	CH <sub>3</sub>	R <sup>B1</sup>	G <sup>39</sup>
A548	CH <sub>3</sub>	R <sup>B3</sup>	G <sup>39</sup>
A549	CH <sub>3</sub>	R <sup>B5</sup>	G <sup>39</sup>
A550	CH <sub>3</sub>	R <sup>B7</sup>	G <sup>39</sup>
A551	CH <sub>3</sub>	R <sup>B9</sup>	G <sup>39</sup>
A552	CH <sub>3</sub>	R <sup>B11</sup>	G <sup>39</sup>
A553	CH <sub>3</sub>	R <sup>B13</sup>	G <sup>39</sup>
A554	CH <sub>3</sub>	R <sup>B15</sup>	G <sup>39</sup>
A555	CH <sub>3</sub>	R <sup>B17</sup>	G <sup>39</sup>
A556	CH <sub>3</sub>	R <sup>B19</sup>	G <sup>39</sup>
A557	CH <sub>3</sub>	R <sup>B21</sup>	G <sup>39</sup>
A558	CH <sub>3</sub>	R <sup>B23</sup>	G <sup>39</sup>
A559	CH <sub>3</sub>	R <sup>B25</sup>	G <sup>39</sup>
A560	CH <sub>3</sub>	R <sup>B27</sup>	G <sup>39</sup>
A561	CH <sub>3</sub>	R <sup>B29</sup>	G <sup>39</sup>
A562	CH <sub>3</sub>	R <sup>B31</sup>	G <sup>39</sup>
A563	CH <sub>3</sub>	R <sup>B33</sup>	G <sup>39</sup>
A564	CH <sub>3</sub>	R <sup>B35</sup>	G <sup>39</sup>
A565	CH <sub>3</sub>	R <sup>B37</sup>	G <sup>39</sup>
A566	CH <sub>3</sub>	R <sup>B39</sup>	G <sup>39</sup>
A567	CH <sub>3</sub>	R <sup>B41</sup>	G <sup>39</sup>
A568	CH <sub>3</sub>	R <sup>B43</sup>	G <sup>39</sup>
A569	CH <sub>3</sub>	R <sup>B45</sup>	G <sup>39</sup>
A570	CH <sub>3</sub>	R <sup>B47</sup>	G <sup>39</sup>
A571	CH <sub>3</sub>	R <sup>B49</sup>	G <sup>39</sup>
A572	CH <sub>3</sub>	R <sup>B51</sup>	G <sup>39</sup>
A573	CH <sub>3</sub>	R <sup>B53</sup>	G <sup>39</sup>
A574	CH <sub>3</sub>	R <sup>B55</sup>	G <sup>39</sup>
A575	CH <sub>3</sub>	R <sup>B57</sup>	G <sup>39</sup>
A576	CH <sub>3</sub>	R <sup>B59</sup>	G <sup>39</sup>
A577	R <sup>B1</sup>	CH <sub>3</sub>	G <sup>39</sup>
A578	R <sup>B3</sup>	CH <sub>3</sub>	G <sup>39</sup>

-continued				-continued			
	R <sup>2</sup>	R <sup>3</sup>	G		R <sup>2</sup>	R <sup>3</sup>	G
A579	R <sup>B5</sup>	CH <sub>3</sub>	G <sup>39</sup>	A653	R <sup>B33</sup>	CH <sub>3</sub>	G <sup>40</sup>
A580	R <sup>B7</sup>	CH <sub>3</sub>	G <sup>39</sup>	A654	R <sup>B35</sup>	CH <sub>3</sub>	G <sup>40</sup>
A581	R <sup>B9</sup>	CH <sub>3</sub>	G <sup>39</sup>	A655	R <sup>B37</sup>	CH <sub>3</sub>	G <sup>40</sup>
A582	R <sup>B11</sup>	CH <sub>3</sub>	G <sup>39</sup>	A656	R <sup>B39</sup>	CH <sub>3</sub>	G <sup>40</sup>
A583	R <sup>B13</sup>	CH <sub>3</sub>	G <sup>39</sup>	A657	R <sup>B41</sup>	CH <sub>3</sub>	G <sup>40</sup>
A584	R <sup>B15</sup>	CH <sub>3</sub>	G <sup>39</sup>	A658	R <sup>B43</sup>	CH <sub>3</sub>	G <sup>40</sup>
A585	R <sup>B17</sup>	CH <sub>3</sub>	G <sup>39</sup>	A659	R <sup>B45</sup>	CH <sub>3</sub>	G <sup>40</sup>
A586	R <sup>B19</sup>	CH <sub>3</sub>	G <sup>39</sup>	A660	R <sup>B47</sup>	CH <sub>3</sub>	G <sup>40</sup>
A587	R <sup>B21</sup>	CH <sub>3</sub>	G <sup>39</sup>	A661	R <sup>B49</sup>	CH <sub>3</sub>	G <sup>40</sup>
A588	R <sup>B23</sup>	CH <sub>3</sub>	G <sup>39</sup>	A662	R <sup>B51</sup>	CH <sub>3</sub>	G <sup>40</sup>
A589	R <sup>B25</sup>	CH <sub>3</sub>	G <sup>39</sup>	A663	R <sup>B53</sup>	CH <sub>3</sub>	G <sup>40</sup>
A590	R <sup>B27</sup>	CH <sub>3</sub>	G <sup>39</sup>	A664	R <sup>B55</sup>	CH <sub>3</sub>	G <sup>40</sup>
A591	R <sup>B29</sup>	CH <sub>3</sub>	G <sup>39</sup>	A665	H	H	G <sup>38</sup>
A592	R <sup>B31</sup>	CH <sub>3</sub>	G <sup>39</sup>	A666	H	H	G <sup>40</sup>
A593	R <sup>B33</sup>	CH <sub>3</sub>	G <sup>39</sup>	A667	H	H	G <sup>42</sup>
A594	R <sup>B35</sup>	CH <sub>3</sub>	G <sup>39</sup>	A668	H	H	G <sup>44</sup>
A595	R <sup>B37</sup>	CH <sub>3</sub>	G <sup>39</sup>	A669	H	H	G <sup>46</sup>
A596	R <sup>B39</sup>	CH <sub>3</sub>	G <sup>39</sup>	A670	H	H	G <sup>48</sup>
A597	R <sup>B41</sup>	CH <sub>3</sub>	G <sup>39</sup>	A671	CH <sub>3</sub>	R <sup>B2</sup>	G <sup>37</sup>
A598	R <sup>B43</sup>	CH <sub>3</sub>	G <sup>39</sup>	A672	CH <sub>3</sub>	R <sup>B4</sup>	G <sup>37</sup>
A599	R <sup>B45</sup>	CH <sub>3</sub>	G <sup>39</sup>	A673	CH <sub>3</sub>	R <sup>B6</sup>	G <sup>37</sup>
A600	R <sup>B47</sup>	CH <sub>3</sub>	G <sup>39</sup>	A674	CH <sub>3</sub>	R <sup>B8</sup>	G <sup>37</sup>
A601	R <sup>B49</sup>	CH <sub>3</sub>	G <sup>39</sup>	A675	CH <sub>3</sub>	R <sup>B10</sup>	G <sup>37</sup>
A602	R <sup>B51</sup>	CH <sub>3</sub>	G <sup>39</sup>	A676	CH <sub>3</sub>	R <sup>B12</sup>	G <sup>37</sup>
A603	R <sup>B53</sup>	CH <sub>3</sub>	G <sup>39</sup>	A677	CH <sub>3</sub>	R <sup>B14</sup>	G <sup>37</sup>
A604	R <sup>B55</sup>	CH <sub>3</sub>	G <sup>39</sup>	A678	CH <sub>3</sub>	R <sup>B16</sup>	G <sup>37</sup>
A605	R <sup>B57</sup>	CH <sub>3</sub>	G <sup>39</sup>	A679	CH <sub>3</sub>	R <sup>B18</sup>	G <sup>37</sup>
A606	R <sup>B59</sup>	CH <sub>3</sub>	G <sup>39</sup>	A680	CH <sub>3</sub>	R <sup>B20</sup>	G <sup>37</sup>
A607	CH <sub>3</sub>	R <sup>B1</sup>	G <sup>40</sup>	A681	CH <sub>3</sub>	R <sup>B22</sup>	G <sup>37</sup>
A608	CH <sub>3</sub>	R <sup>B3</sup>	G <sup>40</sup>	A682	CH <sub>3</sub>	R <sup>B24</sup>	G <sup>37</sup>
A609	CH <sub>3</sub>	R <sup>B5</sup>	G <sup>40</sup>	A683	CH <sub>3</sub>	R <sup>B26</sup>	G <sup>37</sup>
A610	CH <sub>3</sub>	R <sup>B7</sup>	G <sup>40</sup>	A684	CH <sub>3</sub>	R <sup>B28</sup>	G <sup>37</sup>
A611	CH <sub>3</sub>	R <sup>B9</sup>	G <sup>40</sup>	A685	CH <sub>3</sub>	R <sup>B30</sup>	G <sup>37</sup>
A612	CH <sub>3</sub>	R <sup>B11</sup>	G <sup>40</sup>	A686	CH <sub>3</sub>	R <sup>B32</sup>	G <sup>37</sup>
A613	CH <sub>3</sub>	R <sup>B13</sup>	G <sup>40</sup>	A687	CH <sub>3</sub>	R <sup>B34</sup>	G <sup>37</sup>
A614	CH <sub>3</sub>	R <sup>B15</sup>	G <sup>40</sup>	A688	CH <sub>3</sub>	R <sup>B36</sup>	G <sup>37</sup>
A615	CH <sub>3</sub>	R <sup>B17</sup>	G <sup>40</sup>	A689	CH <sub>3</sub>	R <sup>B38</sup>	G <sup>37</sup>
A616	CH <sub>3</sub>	R <sup>B19</sup>	G <sup>40</sup>	A690	CH <sub>3</sub>	R <sup>B40</sup>	G <sup>37</sup>
A617	CH <sub>3</sub>	R <sup>B21</sup>	G <sup>40</sup>	A691	CH <sub>3</sub>	R <sup>B42</sup>	G <sup>37</sup>
A618	CH <sub>3</sub>	R <sup>B23</sup>	G <sup>40</sup>	A692	CH <sub>3</sub>	R <sup>B44</sup>	G <sup>37</sup>
A619	CH <sub>3</sub>	R <sup>B25</sup>	G <sup>40</sup>	A693	CH <sub>3</sub>	R <sup>B46</sup>	G <sup>37</sup>
A620	CH <sub>3</sub>	R <sup>B27</sup>	G <sup>40</sup>	A694	CH <sub>3</sub>	R <sup>B48</sup>	G <sup>37</sup>
A621	CH <sub>3</sub>	R <sup>B29</sup>	G <sup>40</sup>	A695	CH <sub>3</sub>	R <sup>B50</sup>	G <sup>37</sup>
A622	CH <sub>3</sub>	R <sup>B31</sup>	G <sup>40</sup>	A696	CH <sub>3</sub>	R <sup>B52</sup>	G <sup>37</sup>
A623	CH <sub>3</sub>	R <sup>B33</sup>	G <sup>40</sup>	A697	CH <sub>3</sub>	R <sup>B54</sup>	G <sup>37</sup>
A624	CH <sub>3</sub>	R <sup>B35</sup>	G <sup>40</sup>	A698	CH <sub>3</sub>	R <sup>B56</sup>	G <sup>37</sup>
A625	CH <sub>3</sub>	R <sup>B37</sup>	G <sup>40</sup>	A699	CH <sub>3</sub>	R <sup>B58</sup>	G <sup>37</sup>
A626	CH <sub>3</sub>	R <sup>B39</sup>	G <sup>40</sup>	A700	CH <sub>3</sub>	R <sup>B60</sup>	G <sup>37</sup>
A627	CH <sub>3</sub>	R <sup>B41</sup>	G <sup>40</sup>	A701	CH <sub>3</sub>	R <sup>B2</sup>	G <sup>37</sup>
A628	CH <sub>3</sub>	R <sup>B43</sup>	G <sup>40</sup>	A702	R <sup>B4</sup>	CH <sub>3</sub>	G <sup>37</sup>
A629	CH <sub>3</sub>	R <sup>B45</sup>	G <sup>40</sup>	A703	R <sup>B6</sup>	CH <sub>3</sub>	G <sup>37</sup>
A630	CH <sub>3</sub>	R <sup>B47</sup>	G <sup>40</sup>	A704	R <sup>B8</sup>	CH <sub>3</sub>	G <sup>37</sup>
A631	CH <sub>3</sub>	R <sup>B49</sup>	G <sup>40</sup>	A705	R <sup>B10</sup>	CH <sub>3</sub>	G <sup>37</sup>
A632	CH <sub>3</sub>	R <sup>B51</sup>	G <sup>40</sup>	A706	R <sup>B12</sup>	CH <sub>3</sub>	G <sup>37</sup>
A633	CH <sub>3</sub>	R <sup>B53</sup>	G <sup>40</sup>	A707	R <sup>B14</sup>	CH <sub>3</sub>	G <sup>37</sup>
A634	CH <sub>3</sub>	R <sup>B55</sup>	G <sup>40</sup>	A708	R <sup>B16</sup>	CH <sub>3</sub>	G <sup>37</sup>
A635	CH <sub>3</sub>	R <sup>B57</sup>	G <sup>40</sup>	A709	R <sup>B18</sup>	CH <sub>3</sub>	G <sup>37</sup>
A636	CH <sub>3</sub>	R <sup>B59</sup>	G <sup>40</sup>	A710	R <sup>B20</sup>	CH <sub>3</sub>	G <sup>37</sup>
A637	R <sup>B1</sup>	CH <sub>3</sub>	G <sup>40</sup>	A711	R <sup>B22</sup>	CH <sub>3</sub>	G <sup>37</sup>
A638	R <sup>B3</sup>	CH <sub>3</sub>	G <sup>40</sup>	A712	R <sup>B24</sup>	CH <sub>3</sub>	G <sup>37</sup>
A639	R <sup>B5</sup>	CH <sub>3</sub>	G <sup>40</sup>	A713	R <sup>B26</sup>	CH <sub>3</sub>	G <sup>37</sup>
A640	R <sup>B7</sup>	CH <sub>3</sub>	G <sup>40</sup>	A714	R <sup>B28</sup>	CH <sub>3</sub>	G <sup>37</sup>
A641	R <sup>B9</sup>	CH <sub>3</sub>	G <sup>40</sup>	A715	R <sup>B30</sup>	CH <sub>3</sub>	G <sup>37</sup>
A642	R <sup>B11</sup>	CH <sub>3</sub>	G <sup>40</sup>	A716	R <sup>B32</sup>	CH <sub>3</sub>	G <sup>37</sup>
A643	R <sup>B13</sup>	CH <sub>3</sub>	G <sup>40</sup>	A717	R <sup>B34</sup>	CH <sub>3</sub>	G <sup>37</sup>
A644	R <sup>B15</sup>	CH <sub>3</sub>	G <sup>40</sup>	A718	R <sup>B36</sup>	CH <sub>3</sub>	G <sup>37</sup>
A645	R <sup>B17</sup>	CH <sub>3</sub>	G <sup>40</sup>	A719	R <sup>B38</sup>	CH <sub>3</sub>	G <sup>37</sup>
A646	R <sup>B19</sup>	CH <sub>3</sub>	G <sup>40</sup>	A720	R <sup>B40</sup>	CH <sub>3</sub>	G <sup>37</sup>
A647	R <sup>B21</sup>	CH <sub>3</sub>	G <sup>40</sup>	A721	R <sup>B42</sup>	CH <sub>3</sub>	G <sup>37</sup>
A648	R <sup>B23</sup>	CH <sub>3</sub>	G <sup>40</sup>	A722	R <sup>B44</sup>	CH <sub>3</sub>	G <sup>37</sup>
A649	R <sup>B25</sup>	CH <sub>3</sub>	G <sup>40</sup>	A723	R <sup>B46</sup>	CH <sub>3</sub>	G <sup>37</sup>
A650	R <sup>B27</sup>	CH <sub>3</sub>	G <sup>40</sup>	A724	R <sup>B48</sup>	CH <sub>3</sub>	G <sup>37</sup>
A651	R <sup>B29</sup>	CH <sub>3</sub>	G <sup>40</sup>	A725	R <sup>B50</sup>	CH <sub>3</sub>	G <sup>37</sup>
A652	R <sup>B31</sup>	CH <sub>3</sub>	G <sup>40</sup>	A726	R <sup>B52</sup>	CH <sub>3</sub>	G <sup>37</sup>

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	R <sup>2</sup>	R <sup>3</sup>	G
A727	R <sup>B54</sup>	CH <sub>3</sub>	G <sup>37</sup>
A728	R <sup>B56</sup>	CH <sub>3</sub>	G <sup>37</sup>
A729	R <sup>B58</sup>	CH <sub>3</sub>	G <sup>37</sup>
A730	R <sup>B60</sup>	CH <sub>3</sub>	G <sup>37</sup>
A731	CH <sub>3</sub>	R <sup>B2</sup>	G <sup>38</sup>
A732	CH <sub>3</sub>	R <sup>B4</sup>	G <sup>38</sup>
A733	CH <sub>3</sub>	R <sup>B6</sup>	G <sup>38</sup>
A734	CH <sub>3</sub>	R <sup>B8</sup>	G <sup>38</sup>
A735	CH <sub>3</sub>	R <sup>B10</sup>	G <sup>38</sup>
A736	CH <sub>3</sub>	R <sup>B12</sup>	G <sup>38</sup>
A737	CH <sub>3</sub>	R <sup>B14</sup>	G <sup>38</sup>
A738	CH <sub>3</sub>	R <sup>B16</sup>	G <sup>38</sup>
A739	CH <sub>3</sub>	R <sup>B18</sup>	G <sup>38</sup>
A740	CH <sub>3</sub>	R <sup>B20</sup>	G <sup>38</sup>
A741	CH <sub>3</sub>	R <sup>B22</sup>	G <sup>38</sup>
A742	CH <sub>3</sub>	R <sup>B24</sup>	G <sup>38</sup>
A743	CH <sub>3</sub>	R <sup>B26</sup>	G <sup>38</sup>
A744	CH <sub>3</sub>	R <sup>B28</sup>	G <sup>38</sup>
A745	CH <sub>3</sub>	R <sup>B30</sup>	G <sup>38</sup>
A746	CH <sub>3</sub>	R <sup>B32</sup>	G <sup>38</sup>
A747	CH <sub>3</sub>	R <sup>B34</sup>	G <sup>38</sup>
A748	CH <sub>3</sub>	R <sup>B36</sup>	G <sup>38</sup>
A749	CH <sub>3</sub>	R <sup>B38</sup>	G <sup>38</sup>
A750	CH <sub>3</sub>	R <sup>B40</sup>	G <sup>38</sup>
A751	CH <sub>3</sub>	R <sup>B42</sup>	G <sup>38</sup>
A752	CH <sub>3</sub>	R <sup>B44</sup>	G <sup>38</sup>
A753	CH <sub>3</sub>	R <sup>B46</sup>	G <sup>38</sup>
A754	CH <sub>3</sub>	R <sup>B48</sup>	G <sup>38</sup>
A755	CH <sub>3</sub>	R <sup>B50</sup>	G <sup>38</sup>
A756	CH <sub>3</sub>	R <sup>B52</sup>	G <sup>38</sup>
A757	CH <sub>3</sub>	R <sup>B54</sup>	G <sup>38</sup>
A758	CH <sub>3</sub>	R <sup>B56</sup>	G <sup>38</sup>
A759	CH <sub>3</sub>	R <sup>B58</sup>	G <sup>38</sup>
A760	CH <sub>3</sub>	R <sup>B60</sup>	G <sup>38</sup>
A761	R <sup>B2</sup>	CH <sub>3</sub>	G <sup>38</sup>
A762	R <sup>B4</sup>	CH <sub>3</sub>	G <sup>38</sup>
A763	R <sup>B6</sup>	CH <sub>3</sub>	G <sup>38</sup>
A764	R <sup>B8</sup>	CH <sub>3</sub>	G <sup>38</sup>
A765	R <sup>B10</sup>	CH <sub>3</sub>	G <sup>38</sup>
A766	R <sup>B12</sup>	CH <sub>3</sub>	G <sup>38</sup>
A767	R <sup>B14</sup>	CH <sub>3</sub>	G <sup>38</sup>
A768	R <sup>B16</sup>	CH <sub>3</sub>	G <sup>38</sup>
A769	R <sup>B18</sup>	CH <sub>3</sub>	G <sup>38</sup>
A770	R <sup>B20</sup>	CH <sub>3</sub>	G <sup>38</sup>
A771	R <sup>B22</sup>	CH <sub>3</sub>	G <sup>38</sup>
A772	R <sup>B24</sup>	CH <sub>3</sub>	G <sup>38</sup>
A773	R <sup>B26</sup>	CH <sub>3</sub>	G <sup>38</sup>
A774	R <sup>B28</sup>	CH <sub>3</sub>	G <sup>38</sup>
A775	R <sup>B30</sup>	CH <sub>3</sub>	G <sup>38</sup>
A776	R <sup>B32</sup>	CH <sub>3</sub>	G <sup>38</sup>
A777	R <sup>B34</sup>	CH <sub>3</sub>	G <sup>38</sup>
A778	R <sup>B36</sup>	CH <sub>3</sub>	G <sup>38</sup>
A779	R <sup>B38</sup>	CH <sub>3</sub>	G <sup>38</sup>
A780	R <sup>B40</sup>	CH <sub>3</sub>	G <sup>38</sup>
A781	R <sup>B42</sup>	CH <sub>3</sub>	G <sup>38</sup>
A782	R <sup>B44</sup>	CH <sub>3</sub>	G <sup>38</sup>
A783	R <sup>B46</sup>	CH <sub>3</sub>	G <sup>38</sup>
A784	R <sup>B48</sup>	CH <sub>3</sub>	G <sup>38</sup>
A785	R <sup>B50</sup>	CH <sub>3</sub>	G <sup>38</sup>
A786	R <sup>B52</sup>	CH <sub>3</sub>	G <sup>38</sup>
A787	R <sup>B54</sup>	CH <sub>3</sub>	G <sup>38</sup>
A788	R <sup>B56</sup>	CH <sub>3</sub>	G <sup>38</sup>
A789	R <sup>B58</sup>	CH <sub>3</sub>	G <sup>38</sup>
A790	R <sup>B60</sup>	CH <sub>3</sub>	G <sup>38</sup>
A791	CH <sub>3</sub>	R <sup>B2</sup>	G <sup>39</sup>
A792	CH <sub>3</sub>	R <sup>B4</sup>	G <sup>39</sup>
A793	CH <sub>3</sub>	R <sup>B6</sup>	G <sup>39</sup>
A794	CH <sub>3</sub>	R <sup>B8</sup>	G <sup>39</sup>
A795	CH <sub>3</sub>	R <sup>B10</sup>	G <sup>39</sup>
A796	CH <sub>3</sub>	R <sup>B12</sup>	G <sup>39</sup>
A797	CH <sub>3</sub>	R <sup>B14</sup>	G <sup>39</sup>
A798	CH <sub>3</sub>	R <sup>B16</sup>	G <sup>39</sup>
A799	CH <sub>3</sub>	R <sup>B18</sup>	G <sup>39</sup>
A800	CH <sub>3</sub>	R <sup>B20</sup>	G <sup>39</sup>

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	R <sup>2</sup>	R <sup>3</sup>	G
A801	CH <sub>3</sub>	R <sup>B22</sup>	G <sup>39</sup>
A802	CH <sub>3</sub>	R <sup>B24</sup>	G <sup>39</sup>
A803	CH <sub>3</sub>	R <sup>B26</sup>	G <sup>39</sup>
A804	CH <sub>3</sub>	R <sup>B28</sup>	G <sup>39</sup>
A805	CH <sub>3</sub>	R <sup>B30</sup>	G <sup>39</sup>
A806	CH <sub>3</sub>	R <sup>B32</sup>	G <sup>39</sup>
A807	CH <sub>3</sub>	R <sup>B34</sup>	G <sup>39</sup>
A808	CH <sub>3</sub>	R <sup>B36</sup>	G <sup>39</sup>
A809	CH <sub>3</sub>	R <sup>B38</sup>	G <sup>39</sup>
A810	CH <sub>3</sub>	R <sup>B40</sup>	G <sup>39</sup>
A811	CH <sub>3</sub>	R <sup>B42</sup>	G <sup>39</sup>
A812	CH <sub>3</sub>	R <sup>B44</sup>	G <sup>39</sup>
A813	CH <sub>3</sub>	R <sup>B46</sup>	G <sup>39</sup>
A814	CH <sub>3</sub>	R <sup>B48</sup>	G <sup>39</sup>
A815	CH <sub>3</sub>	R <sup>B50</sup>	G <sup>39</sup>
A816	CH <sub>3</sub>	R <sup>B52</sup>	G <sup>39</sup>
A817	CH <sub>3</sub>	R <sup>B54</sup>	G <sup>39</sup>
A818	CH <sub>3</sub>	R <sup>B56</sup>	G <sup>39</sup>
A819	CH <sub>3</sub>	R <sup>B58</sup>	G <sup>39</sup>
A820	CH <sub>3</sub>	R <sup>B60</sup>	G <sup>39</sup>
A821	R <sup>B2</sup>	CH <sub>3</sub>	G <sup>39</sup>
A822	R <sup>B4</sup>	CH <sub>3</sub>	G <sup>39</sup>
A823	R <sup>B6</sup>	CH <sub>3</sub>	G <sup>39</sup>
A824	R <sup>B8</sup>	CH <sub>3</sub>	G <sup>39</sup>
A825	R <sup>B10</sup>	CH <sub>3</sub>	G <sup>39</sup>
A826	R <sup>B12</sup>	CH <sub>3</sub>	G <sup>39</sup>
A827	R <sup>B14</sup>	CH <sub>3</sub>	G <sup>39</sup>
A828	R <sup>B16</sup>	CH <sub>3</sub>	G <sup>39</sup>
A829	R <sup>B18</sup>	CH <sub>3</sub>	G <sup>39</sup>
A830	R <sup>B20</sup>	CH <sub>3</sub>	G <sup>39</sup>
A831	R <sup>B22</sup>	CH <sub>3</sub>	G <sup>39</sup>
A832	R <sup>B24</sup>	CH <sub>3</sub>	G <sup>39</sup>
A833	R <sup>B26</sup>	CH <sub>3</sub>	G <sup>39</sup>
A834	R <sup>B28</sup>	CH <sub>3</sub>	G <sup>39</sup>
A835	R <sup>B30</sup>	CH <sub>3</sub>	G <sup>39</sup>
A836	R <sup>B32</sup>	CH <sub>3</sub>	G <sup>39</sup>
A837	R <sup>B34</sup>	CH <sub>3</sub>	G <sup>39</sup>
A838	R <sup>B36</sup>	CH <sub>3</sub>	G <sup>39</sup>
A839	R <sup>B38</sup>	CH <sub>3</sub>	G <sup>39</sup>
A840	R <sup>B40</sup>	CH <sub>3</sub>	G <sup>39</sup>
A841	R <sup>B42</sup>	CH <sub>3</sub>	G <sup>39</sup>
A842	R <sup>B44</sup>	CH <sub>3</sub>	G <sup>39</sup>
A843	R <sup>B46</sup>	CH <sub>3</sub>	G <sup>39</sup>
A844	R <sup>B48</sup>	CH <sub>3</sub>	G <sup>39</sup>
A845	R <sup>B50</sup>	CH <sub>3</sub>	G <sup>39</sup>
A846	R <sup>B52</sup>	CH <sub>3</sub>	G <sup>39</sup>
A847	R <sup>B54</sup>	CH <sub>3</sub>	G <sup>39</sup>
A848	R <sup>B56</sup>	CH <sub>3</sub>	G <sup>39</sup>
A849	R <sup>B58</sup>	CH <sub>3</sub>	G <sup>39</sup>
A850	R <sup>B60</sup>	CH <sub>3</sub>	G <sup>39</sup>
A851	CH <sub>3</sub>	R <sup>B2</sup>	G <sup>40</sup>
A852	CH <sub>3</sub>	R <sup>B4</sup>	G <sup>40</sup>
A853	CH <sub>3</sub>	R <sup>B6</sup>	G <sup>40</sup>
A854	CH <sub>3</sub>	R <sup>B8</sup>	G <sup>40</sup>
A855	CH <sub>3</sub>	R <sup>B10</sup>	G <sup>40</sup>
A856	CH <sub>3</sub>	R <sup>B12</sup>	G <sup>40</sup>
A857	CH <sub>3</sub>	R <sup>B14</sup>	G <sup>40</sup>
A858	CH <sub>3</sub>	R <sup>B16</sup>	G <sup>40</sup>
A859	CH <sub>3</sub>	R <sup>B18</sup>	G <sup>40</sup>
A860	CH <sub>3</sub>	R <sup>B20</sup>	G <sup>40</sup>
A861	CH <sub>3</sub>	R <sup>B22</sup>	G <sup>40</sup>
A862	CH <sub>3</sub>	R <sup>B24</sup>	G <sup>40</sup>
A863	CH <sub>3</sub>	R <sup>B26</sup>	G <sup>40</sup>
A864	CH <sub>3</sub>	R <sup>B28</sup>	G <sup>40</sup>
A865	CH <sub>3</sub>	R <sup>B30</sup>	G <sup>40</sup>
A866	CH <sub>3</sub>	R <sup>B32</sup>	G <sup>40</sup>
A867	CH <sub>3</sub>	R <sup>B34</sup>	G <sup>40</sup>
A868	CH <sub>3</sub>	R <sup>B36</sup>	G <sup>40</sup>
A869	CH <sub>3</sub>	R <sup>B38</sup>	G <sup>40</sup>
A870	CH <sub>3</sub>	R <sup>B40</sup>	G <sup>40</sup>
A871	CH <sub>3</sub>	R <sup>B42</sup>	G <sup>40</sup>
A872	CH <sub>3</sub>	R <sup>B44</sup>	G <sup>40</sup>
A873	CH <sub>3</sub>	R <sup>B46</sup>	G <sup>40</sup>
A874	CH <sub>3</sub>	R <sup>B48</sup>	G <sup>40</sup>

-continued				-continued			
	R <sup>2</sup>	R <sup>3</sup>	G		R <sup>2</sup>	R <sup>3</sup>	G
A875	CH <sub>3</sub>	R <sup>B50</sup>	G <sup>40</sup>	A949	R <sup>B17</sup>	CH <sub>3</sub>	G <sup>41</sup>
A876	CH <sub>3</sub>	R <sup>B52</sup>	G <sup>40</sup>	A950	R <sup>B19</sup>	CH <sub>3</sub>	G <sup>41</sup>
A877	CH <sub>3</sub>	R <sup>B54</sup>	G <sup>40</sup>	A951	R <sup>B21</sup>	CH <sub>3</sub>	G <sup>41</sup>
A878	CH <sub>3</sub>	R <sup>B56</sup>	G <sup>40</sup>	A952	R <sup>B23</sup>	CH <sub>3</sub>	G <sup>41</sup>
A879	CH <sub>3</sub>	R <sup>B58</sup>	G <sup>40</sup>	A953	R <sup>B25</sup>	CH <sub>3</sub>	G <sup>41</sup>
A880	CH <sub>3</sub>	R <sup>B60</sup>	G <sup>40</sup>	A954	R <sup>B27</sup>	CH <sub>3</sub>	G <sup>41</sup>
A881	R <sup>B27</sup>	CH <sub>3</sub>	G <sup>40</sup>	A955	R <sup>B29</sup>	CH <sub>3</sub>	G <sup>41</sup>
A882	R <sup>B4</sup>	CH <sub>3</sub>	G <sup>40</sup>	A956	R <sup>B31</sup>	CH <sub>3</sub>	G <sup>41</sup>
A883	R <sup>B6</sup>	CH <sub>3</sub>	G <sup>40</sup>	A957	R <sup>B33</sup>	CH <sub>3</sub>	G <sup>41</sup>
A884	R <sup>B8</sup>	CH <sub>3</sub>	G <sup>40</sup>	A958	R <sup>B35</sup>	CH <sub>3</sub>	G <sup>41</sup>
A885	R <sup>B10</sup>	CH <sub>3</sub>	G <sup>40</sup>	A959	R <sup>B37</sup>	CH <sub>3</sub>	G <sup>41</sup>
A886	R <sup>B12</sup>	CH <sub>3</sub>	G <sup>40</sup>	A960	R <sup>B39</sup>	CH <sub>3</sub>	G <sup>41</sup>
A887	R <sup>B14</sup>	CH <sub>3</sub>	G <sup>40</sup>	A961	R <sup>B41</sup>	CH <sub>3</sub>	G <sup>41</sup>
A888	R <sup>B16</sup>	CH <sub>3</sub>	G <sup>40</sup>	A962	R <sup>B43</sup>	CH <sub>3</sub>	G <sup>41</sup>
A889	R <sup>B18</sup>	CH <sub>3</sub>	G <sup>40</sup>	A963	R <sup>B45</sup>	CH <sub>3</sub>	G <sup>41</sup>
A890	R <sup>B20</sup>	CH <sub>3</sub>	G <sup>40</sup>	A964	R <sup>B47</sup>	CH <sub>3</sub>	G <sup>41</sup>
A891	R <sup>B22</sup>	CH <sub>3</sub>	G <sup>40</sup>	A965	R <sup>B49</sup>	CH <sub>3</sub>	G <sup>41</sup>
A892	R <sup>B24</sup>	CH <sub>3</sub>	G <sup>40</sup>	A966	R <sup>B51</sup>	CH <sub>3</sub>	G <sup>41</sup>
A893	R <sup>B26</sup>	CH <sub>3</sub>	G <sup>40</sup>	A967	R <sup>B53</sup>	CH <sub>3</sub>	G <sup>41</sup>
A894	R <sup>B28</sup>	CH <sub>3</sub>	G <sup>40</sup>	A968	R <sup>B55</sup>	CH <sub>3</sub>	G <sup>41</sup>
A895	R <sup>B30</sup>	CH <sub>3</sub>	G <sup>40</sup>	A969	R <sup>B57</sup>	CH <sub>3</sub>	G <sup>41</sup>
A896	R <sup>B32</sup>	CH <sub>3</sub>	G <sup>40</sup>	A970	R <sup>B59</sup>	CH <sub>3</sub>	G <sup>41</sup>
A897	R <sup>B34</sup>	CH <sub>3</sub>	G <sup>40</sup>	A971	CH <sub>3</sub>	R <sup>B1</sup>	G <sup>42</sup>
A898	R <sup>B36</sup>	CH <sub>3</sub>	G <sup>40</sup>	A972	CH <sub>3</sub>	R <sup>B3</sup>	G <sup>42</sup>
A899	R <sup>B38</sup>	CH <sub>3</sub>	G <sup>40</sup>	A973	CH <sub>3</sub>	R <sup>B5</sup>	G <sup>42</sup>
A900	R <sup>B40</sup>	CH <sub>3</sub>	G <sup>40</sup>	A974	CH <sub>3</sub>	R <sup>B7</sup>	G <sup>42</sup>
A901	R <sup>B42</sup>	CH <sub>3</sub>	G <sup>40</sup>	A975	CH <sub>3</sub>	R <sup>B9</sup>	G <sup>42</sup>
A902	R <sup>B44</sup>	CH <sub>3</sub>	G <sup>40</sup>	A976	CH <sub>3</sub>	R <sup>B11</sup>	G <sup>42</sup>
A903	R <sup>B46</sup>	CH <sub>3</sub>	G <sup>40</sup>	A977	CH <sub>3</sub>	R <sup>B13</sup>	G <sup>42</sup>
A904	R <sup>B48</sup>	CH <sub>3</sub>	G <sup>40</sup>	A978	CH <sub>3</sub>	R <sup>B15</sup>	G <sup>42</sup>
A905	R <sup>B50</sup>	CH <sub>3</sub>	G <sup>40</sup>	A979	CH <sub>3</sub>	R <sup>B17</sup>	G <sup>42</sup>
A906	R <sup>B52</sup>	CH <sub>3</sub>	G <sup>40</sup>	A980	CH <sub>3</sub>	R <sup>B19</sup>	G <sup>42</sup>
A907	R <sup>B54</sup>	CH <sub>3</sub>	G <sup>40</sup>	A981	CH <sub>3</sub>	R <sup>B21</sup>	G <sup>42</sup>
A908	R <sup>B56</sup>	CH <sub>3</sub>	G <sup>40</sup>	A982	CH <sub>3</sub>	R <sup>B23</sup>	G <sup>42</sup>
A909	R <sup>B57</sup>	CH <sub>3</sub>	G <sup>40</sup>	A983	CH <sub>3</sub>	R <sup>B25</sup>	G <sup>42</sup>
A910	R <sup>B59</sup>	CH <sub>3</sub>	G <sup>40</sup>	A984	CH <sub>3</sub>	R <sup>B27</sup>	G <sup>42</sup>
A911	CH <sub>3</sub>	R <sup>B1</sup>	G <sup>41</sup>	A985	CH <sub>3</sub>	R <sup>B29</sup>	G <sup>42</sup>
A912	CH <sub>3</sub>	R <sup>B3</sup>	G <sup>41</sup>	A986	CH <sub>3</sub>	R <sup>B31</sup>	G <sup>42</sup>
A913	CH <sub>3</sub>	R <sup>B5</sup>	G <sup>41</sup>	A987	CH <sub>3</sub>	R <sup>B33</sup>	G <sup>42</sup>
A914	CH <sub>3</sub>	R <sup>B7</sup>	G <sup>41</sup>	A988	CH <sub>3</sub>	R <sup>B35</sup>	G <sup>42</sup>
A915	CH <sub>3</sub>	R <sup>B9</sup>	G <sup>41</sup>	A989	CH <sub>3</sub>	R <sup>B37</sup>	G <sup>42</sup>
A916	CH <sub>3</sub>	R <sup>B11</sup>	G <sup>41</sup>	A990	CH <sub>3</sub>	R <sup>B39</sup>	G <sup>42</sup>
A917	CH <sub>3</sub>	R <sup>B13</sup>	G <sup>41</sup>	A991	CH <sub>3</sub>	R <sup>B41</sup>	G <sup>42</sup>
A918	CH <sub>3</sub>	R <sup>B15</sup>	G <sup>41</sup>	A992	CH <sub>3</sub>	R <sup>B43</sup>	G <sup>42</sup>
A919	CH <sub>3</sub>	R <sup>B17</sup>	G <sup>41</sup>	A993	CH <sub>3</sub>	R <sup>B45</sup>	G <sup>42</sup>
A920	CH <sub>3</sub>	R <sup>B19</sup>	G <sup>41</sup>	A994	CH <sub>3</sub>	R <sup>B47</sup>	G <sup>42</sup>
A921	CH <sub>3</sub>	R <sup>B21</sup>	G <sup>41</sup>	A995	CH <sub>3</sub>	R <sup>B49</sup>	G <sup>42</sup>
A922	CH <sub>3</sub>	R <sup>B23</sup>	G <sup>41</sup>	A996	CH <sub>3</sub>	R <sup>B51</sup>	G <sup>42</sup>
A923	CH <sub>3</sub>	R <sup>B25</sup>	G <sup>41</sup>	A997	CH <sub>3</sub>	R <sup>B53</sup>	G <sup>42</sup>
A924	CH <sub>3</sub>	R <sup>B27</sup>	G <sup>41</sup>	A998	CH <sub>3</sub>	R <sup>B55</sup>	G <sup>42</sup>
A925	CH <sub>3</sub>	R <sup>B29</sup>	G <sup>41</sup>	A999	CH <sub>3</sub>	R <sup>B57</sup>	G <sup>42</sup>
A926	CH <sub>3</sub>	R <sup>B31</sup>	G <sup>41</sup>	A1000	CH <sub>3</sub>	R <sup>B59</sup>	G <sup>42</sup>
A927	CH <sub>3</sub>	R <sup>B33</sup>	G <sup>41</sup>	A1001	R <sup>B1</sup>	CH <sub>3</sub>	G <sup>42</sup>
A928	CH <sub>3</sub>	R <sup>B35</sup>	G <sup>41</sup>	A1002	R <sup>B3</sup>	CH <sub>3</sub>	G <sup>42</sup>
A929	CH <sub>3</sub>	R <sup>B37</sup>	G <sup>41</sup>	A1003	R <sup>B5</sup>	CH <sub>3</sub>	G <sup>42</sup>
A930	CH <sub>3</sub>	R <sup>B39</sup>	G <sup>41</sup>	A1004	R <sup>B7</sup>	CH <sub>3</sub>	G <sup>42</sup>
A931	CH <sub>3</sub>	R <sup>B41</sup>	G <sup>41</sup>	A1005	R <sup>B9</sup>	CH <sub>3</sub>	G <sup>42</sup>
A932	CH <sub>3</sub>	R <sup>B43</sup>	G <sup>41</sup>	A1006	R <sup>B11</sup>	CH <sub>3</sub>	G <sup>42</sup>
A933	CH <sub>3</sub>	R <sup>B45</sup>	G <sup>41</sup>	A1007	R <sup>B13</sup>	CH <sub>3</sub>	G <sup>42</sup>
A934	CH <sub>3</sub>	R <sup>B47</sup>	G <sup>41</sup>	A1008	R <sup>B15</sup>	CH <sub>3</sub>	G <sup>42</sup>
A935	CH <sub>3</sub>	R <sup>B49</sup>	G <sup>41</sup>	A1009	R <sup>B17</sup>	CH <sub>3</sub>	G <sup>42</sup>
A936	CH <sub>3</sub>	R <sup>B51</sup>	G <sup>41</sup>	A1010	R <sup>B19</sup>	CH <sub>3</sub>	G <sup>42</sup>
A937	CH <sub>3</sub>	R <sup>B53</sup>	G <sup>41</sup>	A1011	R <sup>B21</sup>	CH <sub>3</sub>	G <sup>42</sup>
A938	CH <sub>3</sub>	R <sup>B55</sup>	G <sup>41</sup>	A1012	R <sup>B23</sup>	CH <sub>3</sub>	G <sup>42</sup>
A939	CH <sub>3</sub>	R <sup>B57</sup>	G <sup>41</sup>	A1013	R <sup>B25</sup>	CH <sub>3</sub>	G <sup>42</sup>
A940	CH <sub>3</sub>	R <sup>B59</sup>	G <sup>41</sup>	A1014	R <sup>B27</sup>	CH <sub>3</sub>	G <sup>42</sup>
A941	R <sup>B1</sup>	CH <sub>3</sub>	G <sup>41</sup>	A1015	R <sup>B29</sup>	CH <sub>3</sub>	G <sup>42</sup>
A942	R <sup>B3</sup>	CH <sub>3</sub>	G <sup>41</sup>	A1016	R <sup>B31</sup>	CH <sub>3</sub>	G <sup>42</sup>
A943	R <sup>B5</sup>	CH <sub>3</sub>	G <sup>41</sup>	A1017	R <sup>B33</sup>	CH <sub>3</sub>	G <sup>42</sup>
A944	R <sup>B7</sup>	CH <sub>3</sub>	G <sup>41</sup>	A1018	R <sup>B35</sup>	CH <sub>3</sub>	G <sup>42</sup>
A945	R <sup>B9</sup>	CH <sub>3</sub>	G <sup>41</sup>	A1019	R <sup>B37</sup>	CH <sub>3</sub>	G <sup>42</sup>
A946	R <sup>B11</sup>	CH <sub>3</sub>	G <sup>41</sup>	A1020	R <sup>B39</sup>	CH <sub>3</sub>	G <sup>42</sup>
A947	R <sup>B13</sup>	CH <sub>3</sub>	G <sup>41</sup>	A1021	R <sup>B41</sup>	CH <sub>3</sub>	G <sup>42</sup>
A948	R <sup>B15</sup>	CH <sub>3</sub>	G <sup>41</sup>	A1022	R <sup>B43</sup>	CH <sub>3</sub>	G <sup>42</sup>

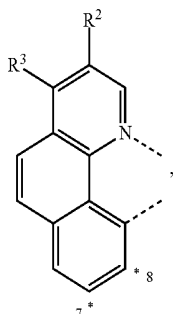
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	R <sup>2</sup>	R <sup>3</sup>	G
A1023	R <sup>B45</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1024	R <sup>B47</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1025	R <sup>B49</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1026	R <sup>B51</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1027	R <sup>B53</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1028	R <sup>B55</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1029	R <sup>B57</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1030	R <sup>B59</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1031	R <sup>B58</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1032	R <sup>B60</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1033	CH <sub>3</sub>	R <sup>B2</sup>	G <sup>41</sup>
A1034	CH <sub>3</sub>	R <sup>B4</sup>	G <sup>41</sup>
A1035	CH <sub>3</sub>	R <sup>B6</sup>	G <sup>41</sup>
A1036	CH <sub>3</sub>	R <sup>B8</sup>	G <sup>41</sup>
A1037	CH <sub>3</sub>	R <sup>B10</sup>	G <sup>41</sup>
A1038	CH <sub>3</sub>	R <sup>B12</sup>	G <sup>41</sup>
A1039	CH <sub>3</sub>	R <sup>B14</sup>	G <sup>41</sup>
A1040	CH <sub>3</sub>	R <sup>B16</sup>	G <sup>41</sup>
A1041	CH <sub>3</sub>	R <sup>B18</sup>	G <sup>41</sup>
A1042	CH <sub>3</sub>	R <sup>B20</sup>	G <sup>41</sup>
A1043	CH <sub>3</sub>	R <sup>B22</sup>	G <sup>41</sup>
A1044	CH <sub>3</sub>	R <sup>B24</sup>	G <sup>41</sup>
A1045	CH <sub>3</sub>	R <sup>B26</sup>	G <sup>41</sup>
A1046	CH <sub>3</sub>	R <sup>B28</sup>	G <sup>41</sup>
A1047	CH <sub>3</sub>	R <sup>B30</sup>	G <sup>41</sup>
A1048	CH <sub>3</sub>	R <sup>B32</sup>	G <sup>41</sup>
A1049	CH <sub>3</sub>	R <sup>B34</sup>	G <sup>41</sup>
A1050	CH <sub>3</sub>	R <sup>B36</sup>	G <sup>41</sup>
A1051	CH <sub>3</sub>	R <sup>B38</sup>	G <sup>41</sup>
A1052	CH <sub>3</sub>	R <sup>B40</sup>	G <sup>41</sup>
A1053	CH <sub>3</sub>	R <sup>B42</sup>	G <sup>41</sup>
A1054	CH <sub>3</sub>	R <sup>B44</sup>	G <sup>41</sup>
A1055	CH <sub>3</sub>	R <sup>B46</sup>	G <sup>41</sup>
A1056	CH <sub>3</sub>	R <sup>B48</sup>	G <sup>41</sup>
A1057	CH <sub>3</sub>	R <sup>B50</sup>	G <sup>41</sup>
A1058	CH <sub>3</sub>	R <sup>B52</sup>	G <sup>41</sup>
A1059	CH <sub>3</sub>	R <sup>B54</sup>	G <sup>41</sup>
A1060	CH <sub>3</sub>	R <sup>B56</sup>	G <sup>41</sup>
A1061	CH <sub>3</sub>	R <sup>B58</sup>	G <sup>41</sup>
A1062	CH <sub>3</sub>	R <sup>B60</sup>	G <sup>41</sup>
A1063	R <sup>B2</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1064	R <sup>B4</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1065	R <sup>B6</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1066	R <sup>B8</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1067	R <sup>B10</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1068	R <sup>B12</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1069	R <sup>B14</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1070	R <sup>B16</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1071	R <sup>B18</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1072	R <sup>B20</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1073	R <sup>B22</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1074	R <sup>B24</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1075	R <sup>B26</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1076	R <sup>B28</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1077	R <sup>B30</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1078	R <sup>B32</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1079	R <sup>B34</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1080	R <sup>B36</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1081	R <sup>B38</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1082	R <sup>B40</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1083	R <sup>B42</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1084	R <sup>B44</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1085	R <sup>B46</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1086	R <sup>B48</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1087	R <sup>B50</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1088	R <sup>B52</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1089	R <sup>B54</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1090	R <sup>B56</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1091	R <sup>B58</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1092	R <sup>B60</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1093	CH <sub>3</sub>	R <sup>B2</sup>	G <sup>42</sup>
A1094	CH <sub>3</sub>	R <sup>B4</sup>	G <sup>42</sup>
A1095	CH <sub>3</sub>	R <sup>B6</sup>	G <sup>42</sup>
A1096	CH <sub>3</sub>	R <sup>B8</sup>	G <sup>42</sup>

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	R <sup>2</sup>	R <sup>3</sup>	G
A1097	CH <sub>3</sub>	R <sup>B10</sup>	G <sup>42</sup>
A1098	CH <sub>3</sub>	R <sup>B12</sup>	G <sup>42</sup>
A1099	CH <sub>3</sub>	R <sup>B14</sup>	G <sup>42</sup>
A1100	CH <sub>3</sub>	R <sup>B16</sup>	G <sup>42</sup>
A1101	CH <sub>3</sub>	R <sup>B18</sup>	G <sup>42</sup>
A1102	CH <sub>3</sub>	R <sup>B20</sup>	G <sup>42</sup>
A1103	CH <sub>3</sub>	R <sup>B22</sup>	G <sup>42</sup>
A1104	CH <sub>3</sub>	R <sup>B24</sup>	G <sup>42</sup>
A1105	CH <sub>3</sub>	R <sup>B26</sup>	G <sup>42</sup>
A1106	CH <sub>3</sub>	R <sup>B28</sup>	G <sup>42</sup>
A1107	CH <sub>3</sub>	R <sup>B30</sup>	G <sup>42</sup>
A1108	CH <sub>3</sub>	R <sup>B32</sup>	G <sup>42</sup>
A1109	CH <sub>3</sub>	R <sup>B34</sup>	G <sup>42</sup>
A1110	CH <sub>3</sub>	R <sup>B36</sup>	G <sup>42</sup>
A1111	CH <sub>3</sub>	R <sup>B38</sup>	G <sup>42</sup>
A1112	CH <sub>3</sub>	R <sup>B40</sup>	G <sup>42</sup>
A1113	CH <sub>3</sub>	R <sup>B42</sup>	G <sup>42</sup>
A1114	CH <sub>3</sub>	R <sup>B44</sup>	G <sup>42</sup>
A1115	CH <sub>3</sub>	R <sup>B46</sup>	G <sup>42</sup>
A1116	CH <sub>3</sub>	R <sup>B48</sup>	G <sup>42</sup>
A1117	CH <sub>3</sub>	R <sup>B50</sup>	G <sup>42</sup>
A1118	CH <sub>3</sub>	R <sup>B52</sup>	G <sup>42</sup>
A1119	CH <sub>3</sub>	R <sup>B54</sup>	G <sup>42</sup>
A1120	CH <sub>3</sub>	R <sup>B56</sup>	G <sup>42</sup>
A1121	CH <sub>3</sub>	R <sup>B58</sup>	G <sup>42</sup>
A1122	CH <sub>3</sub>	R <sup>B60</sup>	G <sup>42</sup>
A1123	R <sup>B2</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1124	R <sup>B4</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1125	R <sup>B6</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1126	R <sup>B8</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1127	R <sup>B10</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1128	R <sup>B12</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1129	R <sup>B14</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1130	R <sup>B16</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1131	R <sup>B18</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1132	R <sup>B20</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1133	R <sup>B22</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1134	R <sup>B24</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1135	R <sup>B26</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1136	R <sup>B28</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1137	R <sup>B30</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1138	R <sup>B32</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1139	R <sup>B34</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1140	R <sup>B36</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1141	R <sup>B38</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1142	R <sup>B40</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1143	R <sup>B42</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1144	R <sup>B44</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1145	R <sup>B46</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1146	R <sup>B48</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1147	R <sup>B50</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1148	R <sup>B52</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1149	R <sup>B54</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1150	R <sup>B56</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1151	R <sup>B58</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1152	R <sup>B60</sup>	CH <sub>3</sub>	G <sup>42</sup>

ligands  $L_{A1153-O}$  to  $L_{A1764-O}$ ,  $L_{A1153-S}$  to  $L_{A1764-S}$ ,  $L_{A1153-C}$  to  $L_{A1764-C}$  that are based on the structure



wherein the asterisks with an Arabic numeral indicate the points of attachment to the corresponding points of attachment in the structure G,

wherein for ligands  $L_{A1153-O}$  to  $L_{A1764-O}$ , A in the structure G is O,

wherein for ligands  $L_{A1153-S}$  to  $L_{A1764-S}$ , A in the structure G is S, and

wherein for ligands  $L_{A1153-C}$  to  $L_{A1764-C}$ , A in the structure G is  $C(CH_3)_2$ , wherein  $R^2$ ,  $R^3$ , and G are defined for A1153 to A1764 as shown below:

	$R^2$	$R^3$	G
A1153	H	H	$G^{37}$
A1154	H	H	$G^{39}$
A1155	H	H	$G^{41}$
A1156	H	H	$G^{43}$
A1157	H	H	$G^{45}$
A1158	H	H	$G^{47}$
A1159	$CH_3$	$R^{B1}$	$G^{37}$
A1160	$CH_3$	$R^{B3}$	$G^{37}$
A1161	$CH_3$	$R^{B5}$	$G^{37}$
A1162	$CH_3$	$R^{B7}$	$G^{37}$
A1163	$CH_3$	$R^{B9}$	$G^{37}$
A1164	$CH_3$	$R^{B11}$	$G^{37}$
A1165	$CH_3$	$R^{B13}$	$G^{37}$
A1166	$CH_3$	$R^{B15}$	$G^{37}$
A1167	$CH_3$	$R^{B17}$	$G^{37}$
A1168	$CH_3$	$R^{B19}$	$G^{37}$
A1169	$CH_3$	$R^{B21}$	$G^{37}$
A1170	$CH_3$	$R^{B23}$	$G^{37}$
A1171	$CH_3$	$R^{B25}$	$G^{37}$
A1172	$CH_3$	$R^{B27}$	$G^{37}$
A1173	$CH_3$	$R^{B29}$	$G^{37}$
A1174	$CH_3$	$R^{B31}$	$G^{37}$
A1175	$CH_3$	$R^{B33}$	$G^{37}$
A1176	$CH_3$	$R^{B35}$	$G^{37}$
A1177	$CH_3$	$R^{B37}$	$G^{37}$
A1178	$CH_3$	$R^{B39}$	$G^{37}$
A1179	$CH_3$	$R^{B41}$	$G^{37}$
A1180	$CH_3$	$R^{B43}$	$G^{37}$
A1181	$CH_3$	$R^{B45}$	$G^{37}$
A1182	$CH_3$	$R^{B47}$	$G^{37}$
A1183	$CH_3$	$R^{B49}$	$G^{37}$
A1184	$CH_3$	$R^{B51}$	$G^{37}$
A1185	$CH_3$	$R^{B53}$	$G^{37}$
A1186	$CH_3$	$R^{B55}$	$G^{37}$
A1187	$CH_3$	$R^{B57}$	$G^{37}$
A1188	$CH_3$	$R^{B59}$	$G^{37}$
A1189	$R^{B1}$	$CH_3$	$G^{37}$
A1190	$R^{B3}$	$CH_3$	$G^{37}$
A1191	$R^{B5}$	$CH_3$	$G^{37}$
A1192	$R^{B7}$	$CH_3$	$G^{37}$
A1193	$R^{B9}$	$CH_3$	$G^{37}$

-continued

	$R^2$	$R^3$	G
A1194	$R^{B11}$	$CH_3$	$G^{37}$
A1195	$R^{B13}$	$CH_3$	$G^{37}$
A1196	$R^{B15}$	$CH_3$	$G^{37}$
A1197	$R^{B17}$	$CH_3$	$G^{37}$
A1198	$R^{B19}$	$CH_3$	$G^{37}$
A1199	$R^{B21}$	$CH_3$	$G^{37}$
A1200	$R^{B23}$	$CH_3$	$G^{37}$
A1201	$R^{B25}$	$CH_3$	$G^{37}$
A1202	$R^{B27}$	$CH_3$	$G^{37}$
A1203	$R^{B29}$	$CH_3$	$G^{37}$
A1204	$R^{B31}$	$CH_3$	$G^{37}$
A1205	$R^{B33}$	$CH_3$	$G^{37}$
A1206	$R^{B35}$	$CH_3$	$G^{37}$
A1207	$R^{B37}$	$CH_3$	$G^{37}$
A1208	$R^{B39}$	$CH_3$	$G^{37}$
A1209	$R^{B41}$	$CH_3$	$G^{37}$
A1210	$R^{B43}$	$CH_3$	$G^{37}$
A1211	$R^{B45}$	$CH_3$	$G^{37}$
A1212	$R^{B47}$	$CH_3$	$G^{37}$
A1213	$R^{B49}$	$CH_3$	$G^{37}$
A1214	$R^{B51}$	$CH_3$	$G^{37}$
A1215	$R^{B53}$	$CH_3$	$G^{37}$
A1216	$R^{B55}$	$CH_3$	$G^{37}$
A1217	$R^{B57}$	$CH_3$	$G^{37}$
A1218	$R^{B59}$	$CH_3$	$G^{37}$
A1219	$CH_3$	$R^{B1}$	$G^{39}$
A1220	$CH_3$	$R^{B3}$	$G^{39}$
A1221	$CH_3$	$R^{B5}$	$G^{39}$
A1222	$CH_3$	$R^{B7}$	$G^{39}$
A1223	$CH_3$	$R^{B9}$	$G^{39}$
A1224	$CH_3$	$R^{B11}$	$G^{39}$
A1225	$CH_3$	$R^{B13}$	$G^{39}$
A1226	$CH_3$	$R^{B15}$	$G^{39}$
A1227	$CH_3$	$R^{B17}$	$G^{39}$
A1228	$CH_3$	$R^{B19}$	$G^{39}$
A1229	$CH_3$	$R^{B21}$	$G^{39}$
A1230	$CH_3$	$R^{B23}$	$G^{39}$
A1231	$CH_3$	$R^{B25}$	$G^{39}$
A1232	$CH_3$	$R^{B27}$	$G^{39}$
A1233	$CH_3$	$R^{B29}$	$G^{39}$
A1234	$CH_3$	$R^{B31}$	$G^{39}$
A1235	$CH_3$	$R^{B33}$	$G^{39}$
A1236	$CH_3$	$R^{B35}$	$G^{39}$
A1237	$CH_3$	$R^{B37}$	$G^{39}$
A1238	$CH_3$	$R^{B39}$	$G^{39}$
A1239	$CH_3$	$R^{B41}$	$G^{39}$
A1240	$CH_3$	$R^{B43}$	$G^{39}$
A1241	$CH_3$	$R^{B45}$	$G^{39}$
A1242	$CH_3$	$R^{B47}$	$G^{39}$
A1243	$CH_3$	$R^{B49}$	$G^{39}$
A1244	$CH_3$	$R^{B51}$	$G^{39}$
A1245	$CH_3$	$R^{B53}$	$G^{39}$
A1246	$CH_3$	$R^{B55}$	$G^{39}$
A1247	$CH_3$	$R^{B57}$	$G^{39}$
A1248	$CH_3$	$R^{B59}$	$G^{39}$
A1249	$CH_3$	$R^{B1}$	$G^{39}$
A1250	$R^{B3}$	$CH_3$	$G^{39}$
A1251	$R^{B5}$	$CH_3$	$G^{39}$
A1252	$R^{B7}$	$CH_3$	$G^{39}$
A1253	$R^{B9}$	$CH_3$	$G^{39}$
A1254	$R^{B11}$	$CH_3$	$G^{39}$
A1255	$R^{B13}$	$CH_3$	$G^{39}$
A1256	$R^{B15}$	$CH_3$	$G^{39}$
A1257	$R^{B17}$	$CH_3$	$G^{39}$
A1258	$R^{B19}$	$CH_3$	$G^{39}$
A1259	$R^{B21}$	$CH_3$	$G^{39}$
A1260	$R^{B23}$	$CH_3$	$G^{39}$
A1261	$R^{B25}$	$CH_3$	$G^{39}$
A1262	$R^{B27}$	$CH_3$	$G^{39}$
A1263	$R^{B29}$	$CH_3$	$G^{39}$
A1264	$R^{B31}$	$CH_3$	$G^{39}$
A1265	$R^{B33}$	$CH_3$	$G^{39}$
A1266	$R^{B35}$	$CH_3$	$G^{39}$
A1267	$R^{B37}$	$CH_3$	$G^{39}$

-continued				-continued			
	R <sup>2</sup>	R <sup>3</sup>	G		R <sup>2</sup>	R <sup>3</sup>	G
A1268	R <sup>B39</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1342	CH <sub>3</sub>	R <sup>B7</sup>	G <sup>41</sup>
A1269	R <sup>B41</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1343	CH <sub>3</sub>	R <sup>B9</sup>	G <sup>41</sup>
A1270	R <sup>B43</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1344	CH <sub>3</sub>	R <sup>B11</sup>	G <sup>41</sup>
A1271	R <sup>B45</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1345	CH <sub>3</sub>	R <sup>B13</sup>	G <sup>41</sup>
A1272	R <sup>B47</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1346	CH <sub>3</sub>	R <sup>B15</sup>	G <sup>41</sup>
A1273	R <sup>B49</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1347	CH <sub>3</sub>	R <sup>B17</sup>	G <sup>41</sup>
A1274	R <sup>B51</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1348	CH <sub>3</sub>	R <sup>B19</sup>	G <sup>41</sup>
A1275	R <sup>B53</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1349	CH <sub>3</sub>	R <sup>B21</sup>	G <sup>41</sup>
A1276	R <sup>B55</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1350	CH <sub>3</sub>	R <sup>B23</sup>	G <sup>41</sup>
A1277	R <sup>B57</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1351	CH <sub>3</sub>	R <sup>B25</sup>	G <sup>41</sup>
A1278	R <sup>B59</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1352	CH <sub>3</sub>	R <sup>B27</sup>	G <sup>41</sup>
A1279	R <sup>B1</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1353	CH <sub>3</sub>	R <sup>B29</sup>	G <sup>41</sup>
A1280	CH <sub>3</sub>	R <sup>B3</sup>	G <sup>40</sup>	A1354	CH <sub>3</sub>	R <sup>B31</sup>	G <sup>41</sup>
A1281	CH <sub>3</sub>	R <sup>B5</sup>	G <sup>40</sup>	A1355	CH <sub>3</sub>	R <sup>B33</sup>	G <sup>41</sup>
A1282	CH <sub>3</sub>	R <sup>B7</sup>	G <sup>40</sup>	A1356	CH <sub>3</sub>	R <sup>B35</sup>	G <sup>41</sup>
A1283	CH <sub>3</sub>	R <sup>B9</sup>	G <sup>40</sup>	A1357	H	H	G <sup>38</sup>
A1284	CH <sub>3</sub>	R <sup>B11</sup>	G <sup>40</sup>	A1358	H	H	G <sup>40</sup>
A1285	CH <sub>3</sub>	R <sup>B13</sup>	G <sup>40</sup>	A1359	H	H	G <sup>42</sup>
A1286	CH <sub>3</sub>	R <sup>B15</sup>	G <sup>40</sup>	A1360	H	H	G <sup>44</sup>
A1287	CH <sub>3</sub>	R <sup>B17</sup>	G <sup>40</sup>	A1361	H	H	G <sup>46</sup>
A1288	CH <sub>3</sub>	R <sup>B19</sup>	G <sup>40</sup>	A1362	H	H	G <sup>48</sup>
A1289	CH <sub>3</sub>	R <sup>B21</sup>	G <sup>40</sup>	A1363	CH <sub>3</sub>	R <sup>B22</sup>	G <sup>37</sup>
A1290	CH <sub>3</sub>	R <sup>B23</sup>	G <sup>40</sup>	A1364	CH <sub>3</sub>	R <sup>B4</sup>	G <sup>37</sup>
A1291	CH <sub>3</sub>	R <sup>B25</sup>	G <sup>40</sup>	A1365	CH <sub>3</sub>	R <sup>B6</sup>	G <sup>37</sup>
A1292	CH <sub>3</sub>	R <sup>B27</sup>	G <sup>40</sup>	A1366	CH <sub>3</sub>	R <sup>B8</sup>	G <sup>37</sup>
A1293	CH <sub>3</sub>	R <sup>B29</sup>	G <sup>40</sup>	A1367	CH <sub>3</sub>	R <sup>B10</sup>	G <sup>37</sup>
A1294	CH <sub>3</sub>	R <sup>B31</sup>	G <sup>40</sup>	A1368	CH <sub>3</sub>	R <sup>B12</sup>	G <sup>37</sup>
A1295	CH <sub>3</sub>	R <sup>B33</sup>	G <sup>40</sup>	A1369	CH <sub>3</sub>	R <sup>B14</sup>	G <sup>37</sup>
A1296	CH <sub>3</sub>	R <sup>B35</sup>	G <sup>40</sup>	A1370	CH <sub>3</sub>	R <sup>B16</sup>	G <sup>37</sup>
A1297	CH <sub>3</sub>	R <sup>B37</sup>	G <sup>40</sup>	A1371	CH <sub>3</sub>	R <sup>B18</sup>	G <sup>37</sup>
A1298	CH <sub>3</sub>	R <sup>B39</sup>	G <sup>40</sup>	A1372	CH <sub>3</sub>	R <sup>B20</sup>	G <sup>37</sup>
A1299	CH <sub>3</sub>	R <sup>B41</sup>	G <sup>40</sup>	A1373	CH <sub>3</sub>	R <sup>B22</sup>	G <sup>37</sup>
A1300	CH <sub>3</sub>	R <sup>B43</sup>	G <sup>40</sup>	A1374	CH <sub>3</sub>	R <sup>B24</sup>	G <sup>37</sup>
A1301	CH <sub>3</sub>	R <sup>B45</sup>	G <sup>40</sup>	A1375	CH <sub>3</sub>	R <sup>B26</sup>	G <sup>37</sup>
A1302	CH <sub>3</sub>	R <sup>B47</sup>	G <sup>40</sup>	A1376	CH <sub>3</sub>	R <sup>B28</sup>	G <sup>37</sup>
A1303	CH <sub>3</sub>	R <sup>B49</sup>	G <sup>40</sup>	A1377	CH <sub>3</sub>	R <sup>B30</sup>	G <sup>37</sup>
A1304	CH <sub>3</sub>	R <sup>B51</sup>	G <sup>40</sup>	A1378	CH <sub>3</sub>	R <sup>B32</sup>	G <sup>37</sup>
A1305	CH <sub>3</sub>	R <sup>B53</sup>	G <sup>40</sup>	A1379	CH <sub>3</sub>	R <sup>B34</sup>	G <sup>37</sup>
A1306	CH <sub>3</sub>	R <sup>B55</sup>	G <sup>40</sup>	A1380	CH <sub>3</sub>	R <sup>B36</sup>	G <sup>37</sup>
A1307	CH <sub>3</sub>	R <sup>B57</sup>	G <sup>40</sup>	A1381	CH <sub>3</sub>	R <sup>B38</sup>	G <sup>37</sup>
A1308	CH <sub>3</sub>	R <sup>B59</sup>	G <sup>40</sup>	A1382	CH <sub>3</sub>	R <sup>B40</sup>	G <sup>37</sup>
A1309	R <sup>B1</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1383	CH <sub>3</sub>	R <sup>B42</sup>	G <sup>37</sup>
A1310	R <sup>B3</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1384	CH <sub>3</sub>	R <sup>B44</sup>	G <sup>37</sup>
A1311	R <sup>B5</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1385	CH <sub>3</sub>	R <sup>B46</sup>	G <sup>37</sup>
A1312	R <sup>B7</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1386	CH <sub>3</sub>	R <sup>B48</sup>	G <sup>37</sup>
A1313	R <sup>B9</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1387	CH <sub>3</sub>	R <sup>B50</sup>	G <sup>37</sup>
A1314	R <sup>B11</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1388	CH <sub>3</sub>	R <sup>B52</sup>	G <sup>37</sup>
A1315	R <sup>B13</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1389	CH <sub>3</sub>	R <sup>B54</sup>	G <sup>37</sup>
A1316	R <sup>B15</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1390	CH <sub>3</sub>	R <sup>B56</sup>	G <sup>37</sup>
A1317	R <sup>B17</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1391	CH <sub>3</sub>	R <sup>B58</sup>	G <sup>37</sup>
A1318	R <sup>B19</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1392	CH <sub>3</sub>	R <sup>B60</sup>	G <sup>37</sup>
A1319	R <sup>B21</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1393	R <sup>B2</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1320	R <sup>B23</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1394	R <sup>B4</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1321	R <sup>B25</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1395	R <sup>B6</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1322	R <sup>B27</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1396	R <sup>B8</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1323	R <sup>B29</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1397	R <sup>B10</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1324	R <sup>B31</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1398	R <sup>B12</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1325	R <sup>B33</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1399	R <sup>B14</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1326	R <sup>B35</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1400	R <sup>B16</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1327	R <sup>B37</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1401	R <sup>B18</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1328	R <sup>B39</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1402	R <sup>B20</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1329	R <sup>B41</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1403	R <sup>B22</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1330	R <sup>B43</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1404	R <sup>B24</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1331	R <sup>B45</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1405	R <sup>B26</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1332	R <sup>B47</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1406	R <sup>B28</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1333	R <sup>B49</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1407	R <sup>B30</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1334	R <sup>B51</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1408	R <sup>B32</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1335	R <sup>B53</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1409	R <sup>B34</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1336	R <sup>B55</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1410	R <sup>B36</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1337	R <sup>B57</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1411	R <sup>B38</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1338	R <sup>B59</sup>	CH <sub>3</sub>	G <sup>40</sup>	A1412	R <sup>B40</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1339	CH <sub>3</sub>	R <sup>B1</sup>	G <sup>41</sup>	A1413	R <sup>B42</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1340	CH <sub>3</sub>	R <sup>B3</sup>	G <sup>41</sup>	A1414	R <sup>B44</sup>	CH <sub>3</sub>	G <sup>37</sup>
A1341	CH <sub>3</sub>	R <sup>B5</sup>	G <sup>41</sup>	A1415	R <sup>B46</sup>	CH <sub>3</sub>	G <sup>37</sup>

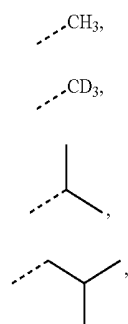
-continued				-continued			
	R <sup>2</sup>	R <sup>3</sup>	G		R <sup>2</sup>	R <sup>3</sup>	G
A1416	R <sup>B48</sup>	CH <sub>3</sub>	G <sup>37</sup>	A1490	CH <sub>3</sub>	R <sup>B16</sup>	G <sup>40</sup>
A1417	R <sup>B50</sup>	CH <sub>3</sub>	G <sup>37</sup>	A1491	CH <sub>3</sub>	R <sup>B18</sup>	G <sup>40</sup>
A1418	R <sup>B52</sup>	CH <sub>3</sub>	G <sup>37</sup>	A1492	CH <sub>3</sub>	R <sup>B20</sup>	G <sup>40</sup>
A1419	R <sup>B54</sup>	CH <sub>3</sub>	G <sup>37</sup>	A1493	CH <sub>3</sub>	R <sup>B22</sup>	G <sup>40</sup>
A1420	R <sup>B56</sup>	CH <sub>3</sub>	G <sup>37</sup>	A1494	CH <sub>3</sub>	R <sup>B24</sup>	G <sup>40</sup>
A1421	R <sup>B58</sup>	CH <sub>3</sub>	G <sup>37</sup>	A1495	CH <sub>3</sub>	R <sup>B26</sup>	G <sup>40</sup>
A1422	R <sup>B60</sup>	CH <sub>3</sub>	G <sup>37</sup>	A1496	CH <sub>3</sub>	R <sup>B28</sup>	G <sup>40</sup>
A1423	CH <sub>3</sub>	R <sup>B2</sup>	G <sup>39</sup>	A1497	CH <sub>3</sub>	R <sup>B30</sup>	G <sup>40</sup>
A1424	CH <sub>3</sub>	R <sup>B4</sup>	G <sup>39</sup>	A1498	CH <sub>3</sub>	R <sup>B32</sup>	G <sup>40</sup>
A1425	CH <sub>3</sub>	R <sup>B6</sup>	G <sup>39</sup>	A1499	CH <sub>3</sub>	R <sup>B34</sup>	G <sup>40</sup>
A1426	CH <sub>3</sub>	R <sup>B8</sup>	G <sup>39</sup>	A1500	CH <sub>3</sub>	R <sup>B36</sup>	G <sup>40</sup>
A1427	CH <sub>3</sub>	R <sup>B10</sup>	G <sup>39</sup>	A1501	CH <sub>3</sub>	R <sup>B38</sup>	G <sup>40</sup>
A1428	CH <sub>3</sub>	R <sup>B12</sup>	G <sup>39</sup>	A1502	CH <sub>3</sub>	R <sup>B40</sup>	G <sup>40</sup>
A1429	CH <sub>3</sub>	R <sup>B14</sup>	G <sup>39</sup>	A1503	CH <sub>3</sub>	R <sup>B42</sup>	G <sup>40</sup>
A1430	CH <sub>3</sub>	R <sup>B16</sup>	G <sup>39</sup>	A1504	CH <sub>3</sub>	R <sup>B44</sup>	G <sup>40</sup>
A1431	CH <sub>3</sub>	R <sup>B18</sup>	G <sup>39</sup>	A1505	CH <sub>3</sub>	R <sup>B46</sup>	G <sup>40</sup>
A1432	CH <sub>3</sub>	R <sup>B20</sup>	G <sup>39</sup>	A1506	CH <sub>3</sub>	R <sup>B48</sup>	G <sup>40</sup>
A1433	CH <sub>3</sub>	R <sup>B22</sup>	G <sup>39</sup>	A1507	CH <sub>3</sub>	R <sup>B50</sup>	G <sup>40</sup>
A1434	CH <sub>3</sub>	R <sup>B24</sup>	G <sup>39</sup>	A1508	CH <sub>3</sub>	R <sup>B52</sup>	G <sup>40</sup>
A1435	CH <sub>3</sub>	R <sup>B26</sup>	G <sup>39</sup>	A1509	CH <sub>3</sub>	R <sup>B54</sup>	G <sup>40</sup>
A1436	CH <sub>3</sub>	R <sup>B28</sup>	G <sup>39</sup>	A1510	CH <sub>3</sub>	R <sup>B56</sup>	G <sup>40</sup>
A1437	CH <sub>3</sub>	R <sup>B30</sup>	G <sup>39</sup>	A1511	CH <sub>3</sub>	R <sup>B58</sup>	G <sup>40</sup>
A1438	CH <sub>3</sub>	R <sup>B32</sup>	G <sup>39</sup>	A1512	CH <sub>3</sub>	R <sup>B60</sup>	G <sup>40</sup>
A1439	CH <sub>3</sub>	R <sup>B34</sup>	G <sup>39</sup>	A1513	R <sup>B2</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1440	CH <sub>3</sub>	R <sup>B36</sup>	G <sup>39</sup>	A1514	R <sup>B4</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1441	CH <sub>3</sub>	R <sup>B38</sup>	G <sup>39</sup>	A1515	R <sup>B6</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1442	CH <sub>3</sub>	R <sup>B40</sup>	G <sup>39</sup>	A1516	R <sup>B8</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1443	CH <sub>3</sub>	R <sup>B42</sup>	G <sup>39</sup>	A1517	R <sup>B10</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1444	CH <sub>3</sub>	R <sup>B44</sup>	G <sup>39</sup>	A1518	R <sup>B12</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1445	CH <sub>3</sub>	R <sup>B46</sup>	G <sup>39</sup>	A1519	R <sup>B14</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1446	CH <sub>3</sub>	R <sup>B48</sup>	G <sup>39</sup>	A1520	R <sup>B16</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1447	CH <sub>3</sub>	R <sup>B50</sup>	G <sup>39</sup>	A1521	R <sup>B18</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1448	CH <sub>3</sub>	R <sup>B52</sup>	G <sup>39</sup>	A1522	R <sup>B20</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1449	CH <sub>3</sub>	R <sup>B54</sup>	G <sup>39</sup>	A1523	R <sup>B22</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1450	CH <sub>3</sub>	R <sup>B56</sup>	G <sup>39</sup>	A1524	R <sup>B24</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1451	CH <sub>3</sub>	R <sup>B58</sup>	G <sup>39</sup>	A1525	R <sup>B26</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1452	CH <sub>3</sub>	R <sup>B60</sup>	G <sup>39</sup>	A1526	R <sup>B28</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1453	R <sup>B2</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1527	R <sup>B30</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1454	R <sup>B4</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1528	R <sup>B32</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1455	R <sup>B6</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1529	R <sup>B34</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1456	R <sup>B8</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1530	R <sup>B36</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1457	R <sup>B10</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1531	R <sup>B38</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1458	R <sup>B12</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1532	R <sup>B40</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1459	R <sup>B14</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1533	R <sup>B42</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1460	R <sup>B16</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1534	R <sup>B44</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1461	R <sup>B18</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1535	R <sup>B46</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1462	R <sup>B20</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1536	R <sup>B48</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1463	R <sup>B22</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1537	R <sup>B50</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1464	R <sup>B24</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1538	R <sup>B52</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1465	R <sup>B26</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1539	R <sup>B54</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1466	R <sup>B28</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1540	R <sup>B56</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1467	R <sup>B30</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1541	R <sup>B58</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1468	R <sup>B32</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1542	R <sup>B60</sup>	CH <sub>3</sub>	G <sup>40</sup>
A1469	R <sup>B34</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1543	CH <sub>3</sub>	R <sup>B2</sup>	G <sup>41</sup>
A1470	R <sup>B36</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1544	CH <sub>3</sub>	R <sup>B4</sup>	G <sup>41</sup>
A1471	R <sup>B38</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1545	CH <sub>3</sub>	R <sup>B6</sup>	G <sup>41</sup>
A1472	R <sup>B40</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1546	CH <sub>3</sub>	R <sup>B8</sup>	G <sup>41</sup>
A1473	R <sup>B42</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1547	CH <sub>3</sub>	R <sup>B10</sup>	G <sup>41</sup>
A1474	R <sup>B44</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1548	CH <sub>3</sub>	R <sup>B12</sup>	G <sup>41</sup>
A1475	R <sup>B46</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1549	CH <sub>3</sub>	R <sup>B14</sup>	G <sup>41</sup>
A1476	R <sup>B48</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1550	CH <sub>3</sub>	R <sup>B16</sup>	G <sup>41</sup>
A1477	R <sup>B50</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1551	CH <sub>3</sub>	R <sup>B18</sup>	G <sup>41</sup>
A1478	R <sup>B52</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1552	CH <sub>3</sub>	R <sup>B20</sup>	G <sup>41</sup>
A1479	R <sup>B54</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1553	CH <sub>3</sub>	R <sup>B22</sup>	G <sup>41</sup>
A1480	R <sup>B56</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1554	CH <sub>3</sub>	R <sup>B24</sup>	G <sup>41</sup>
A1481	R <sup>B58</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1555	CH <sub>3</sub>	R <sup>B26</sup>	G <sup>41</sup>
A1482	R <sup>B60</sup>	CH <sub>3</sub>	G <sup>39</sup>	A1556	CH <sub>3</sub>	R <sup>B28</sup>	G <sup>41</sup>
A1483	CH <sub>3</sub>	R <sup>B2</sup>	G <sup>40</sup>	A1557	CH <sub>3</sub>	R <sup>B30</sup>	G <sup>41</sup>
A1484	CH <sub>3</sub>	R <sup>B4</sup>	G <sup>40</sup>	A1558	CH <sub>3</sub>	R <sup>B32</sup>	G <sup>41</sup>
A1485	CH <sub>3</sub>	R <sup>B6</sup>	G <sup>40</sup>	A1559	CH <sub>3</sub>	R <sup>B34</sup>	G <sup>41</sup>
A1486	CH <sub>3</sub>	R <sup>B8</sup>	G <sup>40</sup>	A1560	CH <sub>3</sub>	R <sup>B36</sup>	G <sup>41</sup>
A1487	CH <sub>3</sub>	R <sup>B10</sup>	G <sup>40</sup>	A1561	CH <sub>3</sub>	R <sup>B37</sup>	G <sup>41</sup>
A1488	CH <sub>3</sub>	R <sup>B12</sup>	G <sup>40</sup>	A1562	CH <sub>3</sub>	R <sup>B39</sup>	G <sup>41</sup>
A1489	CH <sub>3</sub>	R <sup>B14</sup>	G <sup>40</sup>	A1563	CH <sub>3</sub>	R <sup>B41</sup>	G <sup>41</sup>

-continued				-continued			
	R <sup>2</sup>	R <sup>3</sup>	G		R <sup>2</sup>	R <sup>3</sup>	G
A1564	CH <sub>3</sub>	R <sup>B43</sup>	G <sup>41</sup>	A1638	R <sup>B11</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1565	CH <sub>3</sub>	R <sup>B45</sup>	G <sup>41</sup>	A1639	R <sup>B13</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1566	CH <sub>3</sub>	R <sup>B47</sup>	G <sup>41</sup>	A1640	R <sup>B15</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1567	CH <sub>3</sub>	R <sup>B49</sup>	G <sup>41</sup>	A1641	R <sup>B17</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1568	CH <sub>3</sub>	R <sup>B51</sup>	G <sup>41</sup>	A1642	R <sup>B19</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1569	CH <sub>3</sub>	R <sup>B53</sup>	G <sup>41</sup>	A1643	R <sup>B21</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1570	CH <sub>3</sub>	R <sup>B55</sup>	G <sup>41</sup>	A1644	R <sup>B23</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1571	CH <sub>3</sub>	R <sup>B57</sup>	G <sup>41</sup>	A1645	R <sup>B25</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1572	CH <sub>3</sub>	R <sup>B59</sup>	G <sup>41</sup>	A1646	R <sup>B27</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1573	R <sup>B1</sup>	CH <sub>3</sub>	G <sup>41</sup>	A1647	R <sup>B29</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1574	R <sup>B3</sup>	CH <sub>3</sub>	G <sup>41</sup>	A1648	R <sup>B31</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1575	R <sup>B5</sup>	CH <sub>3</sub>	G <sup>41</sup>	A1649	R <sup>B33</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1576	R <sup>B7</sup>	CH <sub>3</sub>	G <sup>41</sup>	A1650	R <sup>B35</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1577	R <sup>B9</sup>	CH <sub>3</sub>	G <sup>41</sup>	A1651	R <sup>B37</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1578	R <sup>B11</sup>	CH <sub>3</sub>	G <sup>41</sup>	A1652	R <sup>B39</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1579	R <sup>B13</sup>	CH <sub>3</sub>	G <sup>41</sup>	A1653	R <sup>B41</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1580	R <sup>B15</sup>	CH <sub>3</sub>	G <sup>41</sup>	A1654	R <sup>B43</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1581	R <sup>B17</sup>	CH <sub>3</sub>	G <sup>41</sup>	A1655	R <sup>B45</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1582	R <sup>B19</sup>	CH <sub>3</sub>	G <sup>41</sup>	A1656	R <sup>B47</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1583	R <sup>B21</sup>	CH <sub>3</sub>	G <sup>41</sup>	A1657	R <sup>B49</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1584	R <sup>B23</sup>	CH <sub>3</sub>	G <sup>41</sup>	A1658	R <sup>B51</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1585	R <sup>B25</sup>	CH <sub>3</sub>	G <sup>41</sup>	A1659	R <sup>B53</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1586	R <sup>B27</sup>	CH <sub>3</sub>	G <sup>41</sup>	A1660	R <sup>B55</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1587	R <sup>B29</sup>	CH <sub>3</sub>	G <sup>41</sup>	A1661	R <sup>B57</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1588	R <sup>B31</sup>	CH <sub>3</sub>	G <sup>41</sup>	A1662	R <sup>B59</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1589	R <sup>B33</sup>	CH <sub>3</sub>	G <sup>41</sup>	A1663	CH <sub>3</sub>	R <sup>B38</sup>	G <sup>41</sup>
A1590	R <sup>B35</sup>	CH <sub>3</sub>	G <sup>41</sup>	A1664	CH <sub>3</sub>	R <sup>B40</sup>	G <sup>41</sup>
A1591	R <sup>B37</sup>	CH <sub>3</sub>	G <sup>41</sup>	A1665	CH <sub>3</sub>	R <sup>B42</sup>	G <sup>41</sup>
A1592	R <sup>B39</sup>	CH <sub>3</sub>	G <sup>41</sup>	A1666	CH <sub>3</sub>	R <sup>B44</sup>	G <sup>41</sup>
A1593	R <sup>B41</sup>	CH <sub>3</sub>	G <sup>41</sup>	A1667	CH <sub>3</sub>	R <sup>B46</sup>	G <sup>41</sup>
A1594	R <sup>B43</sup>	CH <sub>3</sub>	G <sup>41</sup>	A1668	CH <sub>3</sub>	R <sup>B48</sup>	G <sup>41</sup>
A1595	R <sup>B45</sup>	CH <sub>3</sub>	G <sup>41</sup>	A1669	CH <sub>3</sub>	R <sup>B50</sup>	G <sup>41</sup>
A1596	R <sup>B47</sup>	CH <sub>3</sub>	G <sup>41</sup>	A1670	CH <sub>3</sub>	R <sup>B52</sup>	G <sup>41</sup>
A1597	R <sup>B49</sup>	CH <sub>3</sub>	G <sup>41</sup>	A1671	CH <sub>3</sub>	R <sup>B54</sup>	G <sup>41</sup>
A1598	R <sup>B51</sup>	CH <sub>3</sub>	G <sup>41</sup>	A1672	CH <sub>3</sub>	R <sup>B56</sup>	G <sup>41</sup>
A1599	R <sup>B53</sup>	CH <sub>3</sub>	G <sup>41</sup>	A1673	CH <sub>3</sub>	R <sup>B58</sup>	G <sup>41</sup>
A1600	R <sup>B55</sup>	CH <sub>3</sub>	G <sup>41</sup>	A1674	CH <sub>3</sub>	R <sup>B60</sup>	G <sup>41</sup>
A1601	R <sup>B57</sup>	CH <sub>3</sub>	G <sup>41</sup>	A1675	R <sup>B2</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1602	R <sup>B59</sup>	CH <sub>3</sub>	G <sup>41</sup>	A1676	R <sup>B4</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1603	CH <sub>3</sub>	R <sup>B1</sup>	G <sup>42</sup>	A1677	R <sup>B6</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1604	CH <sub>3</sub>	R <sup>B3</sup>	G <sup>42</sup>	A1678	R <sup>B8</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1605	CH <sub>3</sub>	R <sup>B5</sup>	G <sup>42</sup>	A1679	R <sup>B10</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1606	CH <sub>3</sub>	R <sup>B7</sup>	G <sup>42</sup>	A1680	R <sup>B12</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1607	CH <sub>3</sub>	R <sup>B9</sup>	G <sup>42</sup>	A1681	R <sup>B14</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1608	CH <sub>3</sub>	R <sup>B11</sup>	G <sup>42</sup>	A1682	R <sup>B16</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1609	CH <sub>3</sub>	R <sup>B13</sup>	G <sup>42</sup>	A1683	R <sup>B18</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1610	CH <sub>3</sub>	R <sup>B15</sup>	G <sup>42</sup>	A1684	R <sup>B20</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1611	CH <sub>3</sub>	R <sup>B17</sup>	G <sup>42</sup>	A1685	R <sup>B22</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1612	CH <sub>3</sub>	R <sup>B19</sup>	G <sup>42</sup>	A1686	R <sup>B24</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1613	CH <sub>3</sub>	R <sup>B21</sup>	G <sup>42</sup>	A1687	R <sup>B26</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1614	CH <sub>3</sub>	R <sup>B23</sup>	G <sup>42</sup>	A1688	R <sup>B28</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1615	CH <sub>3</sub>	R <sup>B25</sup>	G <sup>42</sup>	A1689	R <sup>B30</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1616	CH <sub>3</sub>	R <sup>B27</sup>	G <sup>42</sup>	A1690	R <sup>B32</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1617	CH <sub>3</sub>	R <sup>B29</sup>	G <sup>42</sup>	A1691	R <sup>B34</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1618	CH <sub>3</sub>	R <sup>B31</sup>	G <sup>42</sup>	A1692	R <sup>B36</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1619	CH <sub>3</sub>	R <sup>B33</sup>	G <sup>42</sup>	A1693	R <sup>B38</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1620	CH <sub>3</sub>	R <sup>B35</sup>	G <sup>42</sup>	A1694	R <sup>B40</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1621	CH <sub>3</sub>	R <sup>B37</sup>	G <sup>42</sup>	A1695	R <sup>B42</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1622	CH <sub>3</sub>	R <sup>B39</sup>	G <sup>42</sup>	A1696	R <sup>B44</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1623	CH <sub>3</sub>	R <sup>B41</sup>	G <sup>42</sup>	A1697	R <sup>B46</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1624	CH <sub>3</sub>	R <sup>B43</sup>	G <sup>42</sup>	A1698	R <sup>B48</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1625	CH <sub>3</sub>	R <sup>B45</sup>	G <sup>42</sup>	A1699	R <sup>B50</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1626	CH <sub>3</sub>	R <sup>B47</sup>	G <sup>42</sup>	A1700	R <sup>B52</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1627	CH <sub>3</sub>	R <sup>B49</sup>	G <sup>42</sup>	A1701	R <sup>B54</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1628	CH <sub>3</sub>	R <sup>B51</sup>	G <sup>42</sup>	A1702	R <sup>B56</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1629	CH <sub>3</sub>	R <sup>B53</sup>	G <sup>42</sup>	A1703	R <sup>B58</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1630	CH <sub>3</sub>	R <sup>B55</sup>	G <sup>42</sup>	A1704	R <sup>B60</sup>	CH <sub>3</sub>	G <sup>41</sup>
A1631	CH <sub>3</sub>	R <sup>B57</sup>	G <sup>42</sup>	A1705	CH <sub>3</sub>	R <sup>B2</sup>	G <sup>42</sup>
A1632	CH <sub>3</sub>	R <sup>B59</sup>	G <sup>42</sup>	A1706	CH <sub>3</sub>	R <sup>B4</sup>	G <sup>42</sup>
A1633	R <sup>B1</sup>	CH <sub>3</sub>	G <sup>42</sup>	A1707	CH <sub>3</sub>	R <sup>B6</sup>	G <sup>42</sup>
A1634	R <sup>B3</sup>	CH <sub>3</sub>	G <sup>42</sup>	A1708	CH <sub>3</sub>	R <sup>B8</sup>	G <sup>42</sup>
A1635	R <sup>B5</sup>	CH <sub>3</sub>	G <sup>42</sup>	A1709	CH <sub>3</sub>	R <sup>B10</sup>	G <sup>42</sup>
A1636	R <sup>B7</sup>	CH <sub>3</sub>	G <sup>42</sup>	A1710	CH <sub>3</sub>	R <sup>B12</sup>	G <sup>42</sup>
A1637	R <sup>B9</sup>	CH <sub>3</sub>	G <sup>42</sup>	A1711	CH <sub>3</sub>	R <sup>B14</sup>	G <sup>42</sup>

-continued

	R <sup>2</sup>	R <sup>3</sup>	G
A1712	CH <sub>3</sub>	R <sup>B16</sup>	G <sup>42</sup>
A1713	CH <sub>3</sub>	R <sup>B18</sup>	G <sup>42</sup>
A1714	CH <sub>3</sub>	R <sup>B20</sup>	G <sup>42</sup>
A1715	CH <sub>3</sub>	R <sup>B22</sup>	G <sup>42</sup>
A1716	CH <sub>3</sub>	R <sup>B24</sup>	G <sup>42</sup>
A1717	CH <sub>3</sub>	R <sup>B26</sup>	G <sup>42</sup>
A1718	CH <sub>3</sub>	R <sup>B28</sup>	G <sup>42</sup>
A1719	CH <sub>3</sub>	R <sup>B30</sup>	G <sup>42</sup>
A1720	CH <sub>3</sub>	R <sup>B32</sup>	G <sup>42</sup>
A1721	CH <sub>3</sub>	R <sup>B34</sup>	G <sup>42</sup>
A1722	CH <sub>3</sub>	R <sup>B36</sup>	G <sup>42</sup>
A1723	CH <sub>3</sub>	R <sup>B38</sup>	G <sup>42</sup>
A1724	CH <sub>3</sub>	R <sup>B40</sup>	G <sup>42</sup>
A1725	CH <sub>3</sub>	R <sup>B42</sup>	G <sup>42</sup>
A1726	CH <sub>3</sub>	R <sup>B44</sup>	G <sup>42</sup>
A1727	CH <sub>3</sub>	R <sup>B46</sup>	G <sup>42</sup>
A1728	CH <sub>3</sub>	R <sup>B48</sup>	G <sup>42</sup>
A1729	CH <sub>3</sub>	R <sup>B50</sup>	G <sup>42</sup>
A1730	CH <sub>3</sub>	R <sup>B52</sup>	G <sup>42</sup>
A1731	CH <sub>3</sub>	R <sup>B54</sup>	G <sup>42</sup>
A1732	CH <sub>3</sub>	R <sup>B56</sup>	G <sup>42</sup>
A1733	CH <sub>3</sub>	R <sup>B58</sup>	G <sup>42</sup>
A1734	CH <sub>3</sub>	R <sup>B60</sup>	G <sup>42</sup>
A1735	R <sup>B2</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1736	R <sup>B4</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1737	R <sup>B6</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1738	R <sup>B8</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1739	R <sup>B10</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1740	R <sup>B12</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1741	R <sup>B14</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1742	R <sup>B16</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1743	R <sup>B18</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1744	R <sup>B20</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1745	R <sup>B22</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1746	R <sup>B24</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1747	R <sup>B26</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1748	R <sup>B28</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1749	R <sup>B30</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1750	R <sup>B32</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1751	R <sup>B34</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1752	R <sup>B36</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1753	R <sup>B38</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1754	R <sup>B40</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1755	R <sup>B42</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1756	R <sup>B44</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1757	R <sup>B46</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1758	R <sup>B48</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1759	R <sup>B50</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1760	R <sup>B52</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1761	R <sup>B54</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1762	R <sup>B56</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1763	R <sup>B58</sup>	CH <sub>3</sub>	G <sup>42</sup>
A1764	R <sup>B60</sup>	CH <sub>3</sub>	G <sup>42</sup>

wherein R<sup>B1</sup> to R<sup>B60</sup> have the following structures:



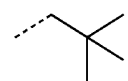
R<sup>B1</sup>

R<sup>B2</sup>

R<sup>B3</sup>

R<sup>B4</sup>

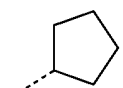
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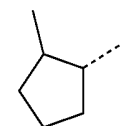
R<sup>B5</sup>



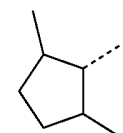
R<sup>B6</sup>



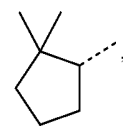
R<sup>B7</sup>



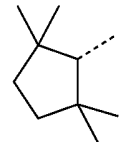
R<sup>B8</sup>



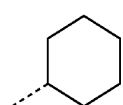
R<sup>B9</sup>



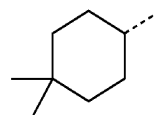
R<sup>B10</sup>



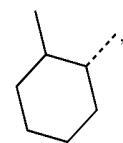
R<sup>B11</sup>



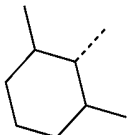
R<sup>B12</sup>



R<sup>B13</sup>

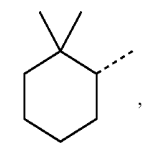


R<sup>B14</sup>

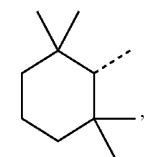


R<sup>B15</sup>

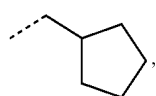
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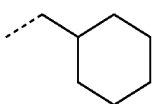
R<sup>B16</sup>



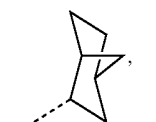
R<sup>B17</sup>



R<sup>B18</sup>



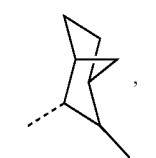
R<sup>B19</sup>



R<sup>B20</sup>



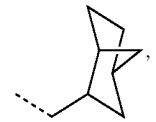
R<sup>B21</sup>



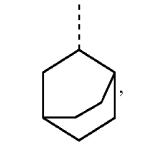
R<sup>B22</sup>



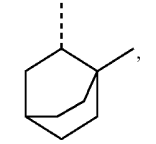
R<sup>B23</sup>



R<sup>B24</sup>

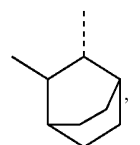


R<sup>B25</sup>

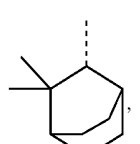


R<sup>B26</sup>

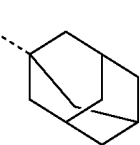
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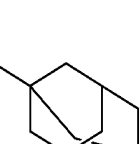
R<sup>B27</sup>



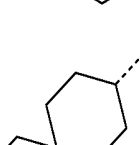
R<sup>B28</sup>



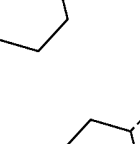
R<sup>B29</sup>



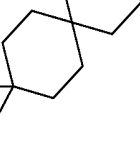
R<sup>B30</sup>



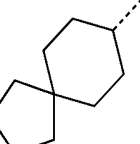
R<sup>B31</sup>



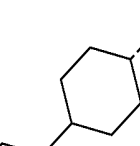
R<sup>B32</sup>



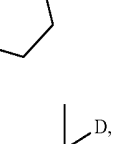
R<sup>B33</sup>



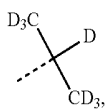
R<sup>B34</sup>



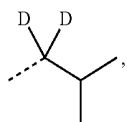
R<sup>B35</sup>



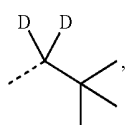
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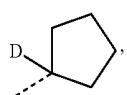
R<sup>B36</sup>



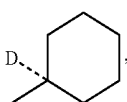
R<sup>B37</sup>



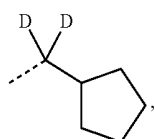
R<sup>B38</sup>



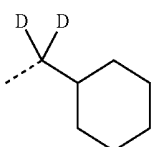
R<sup>B39</sup>



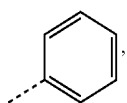
R<sup>B40</sup>



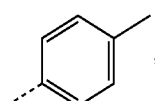
R<sup>B41</sup>



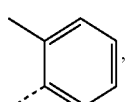
R<sup>B42</sup>



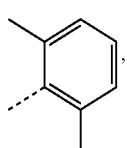
R<sup>B43</sup>



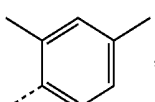
R<sup>B44</sup>



R<sup>B45</sup>

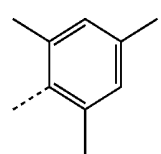


R<sup>B46</sup>

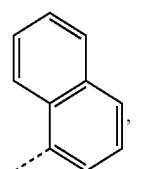


R<sup>B47</sup>

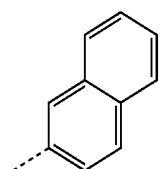
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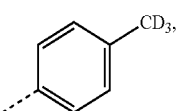
R<sup>B48</sup>



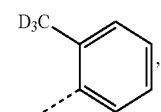
R<sup>B49</sup>



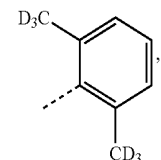
R<sup>B50</sup>



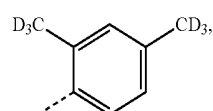
R<sup>B51</sup>



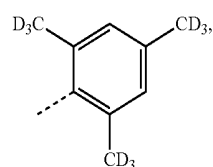
R<sup>B52</sup>



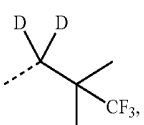
R<sup>B53</sup>



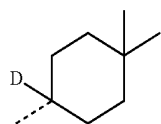
R<sup>B54</sup>



R<sup>B55</sup>

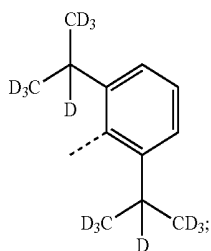
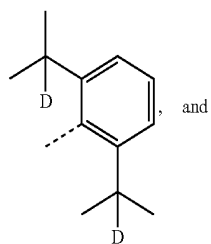
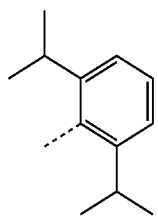


R<sup>B56</sup>

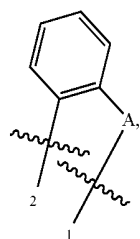
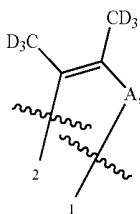
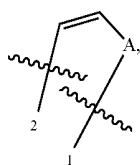


R<sup>B57</sup>

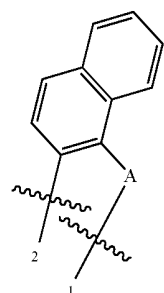
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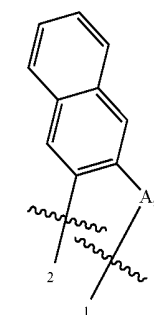
wherein G<sup>1</sup> to G<sup>48</sup> have the following structures:



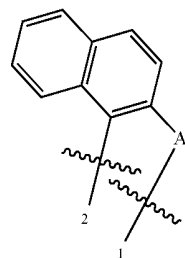
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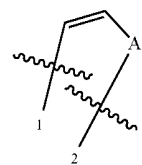
R<sup>B59</sup>



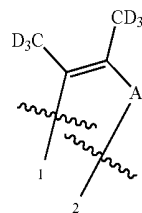
R<sup>B60</sup>



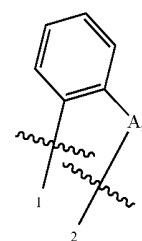
G<sup>1</sup>



G<sup>2</sup>



G<sup>3</sup>



G<sup>4</sup>

G<sup>5</sup>

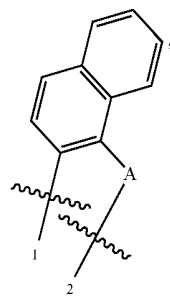
G<sup>6</sup>

G<sup>7</sup>

G<sup>8</sup>

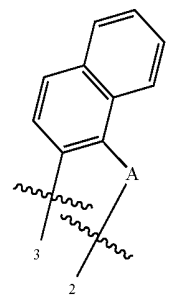
G<sup>9</sup>

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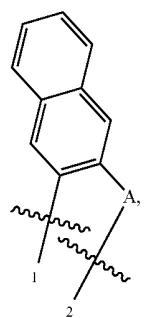


G<sup>10</sup>

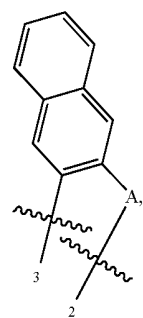
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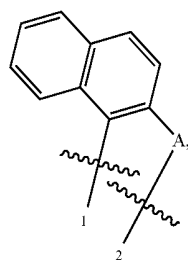
G<sup>16</sup>



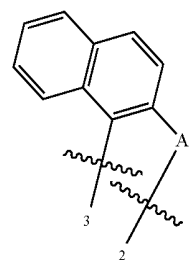
G<sup>11</sup>



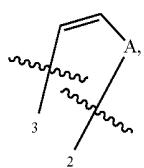
G<sup>17</sup>



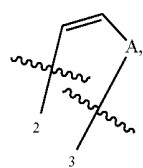
G<sup>12</sup>



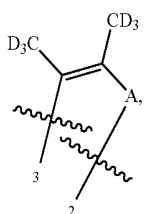
G<sup>18</sup>



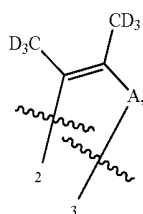
G<sup>13</sup>



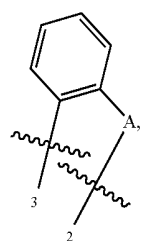
G<sup>19</sup>



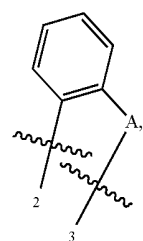
G<sup>14</sup>



G<sup>20</sup>

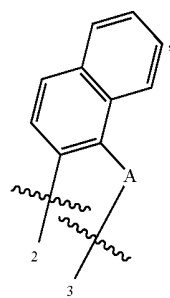


G<sup>15</sup>



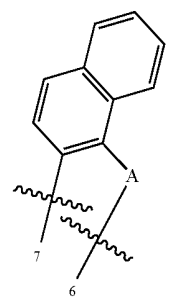
G<sup>21</sup>

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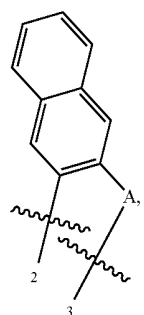


G<sup>22</sup>

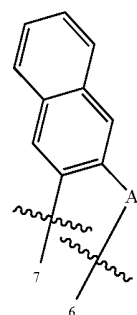
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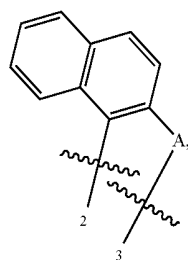
G<sup>28</sup>



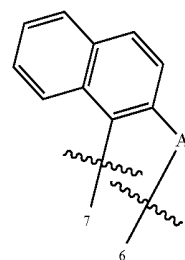
G<sup>23</sup>



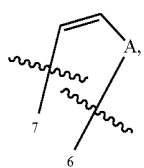
G<sup>29</sup>



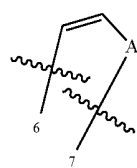
G<sup>24</sup>



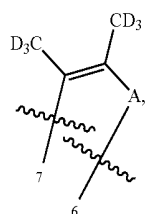
G<sup>30</sup>



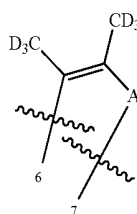
G<sup>25</sup>



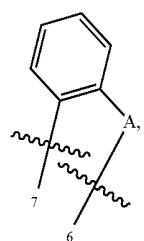
G<sup>31</sup>



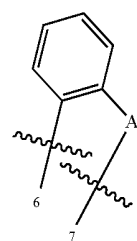
G<sup>26</sup>



G<sup>32</sup>

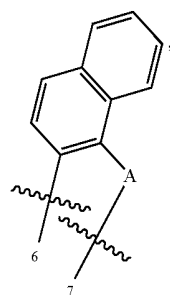


G<sup>27</sup>



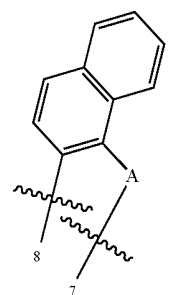
G<sup>33</sup>

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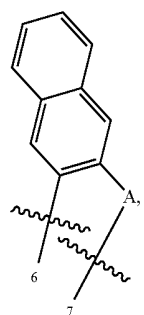


G<sup>34</sup>

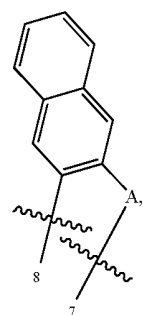
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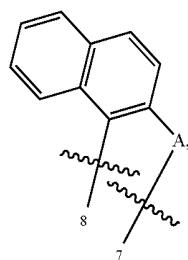
G<sup>40</sup>



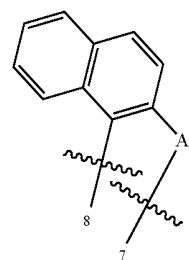
G<sup>35</sup>



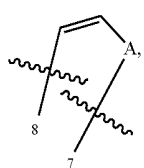
G<sup>41</sup>



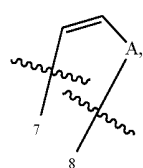
G<sup>36</sup>



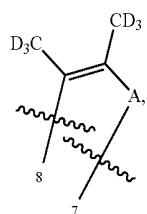
G<sup>42</sup>



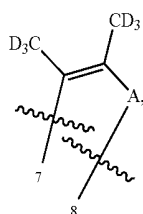
G<sup>37</sup>



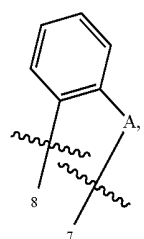
G<sup>43</sup>



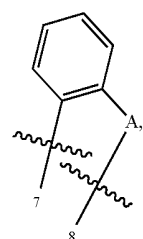
G<sup>38</sup>



G<sup>44</sup>

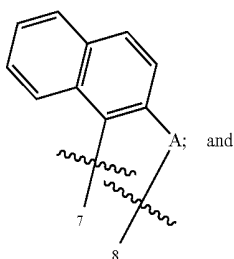
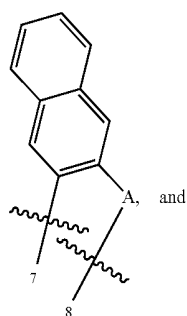
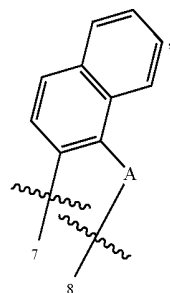


G<sup>39</sup>



G<sup>45</sup>

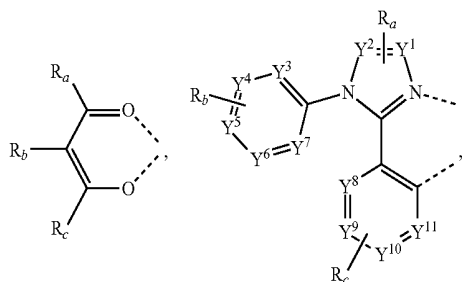
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wherein the Arabic Numerals indicate the points of attachment to the corresponding points of attachment in ligand  $L_A$ .

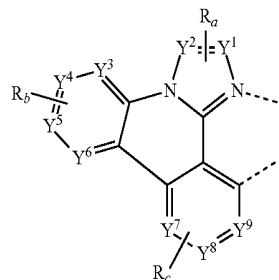
10. The compound of claim 1, wherein the compound has a formula of  $M(L_A)_x(L_B)_y(L_C)_z$  wherein  $L_B$  and  $L_C$  are each a bidentate ligand; and wherein  $x$  is 1, 2, or 3;  $y$  is 0, 1, or 2;  $z$  is 0, 1, or 2; and  $x+y+z$  is the oxidation state of the metal  $M$ .

11. The compound of claim 10, wherein  $L_B$  and  $L_C$  are each independently selected from the group consisting of:

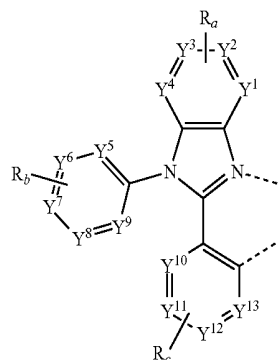


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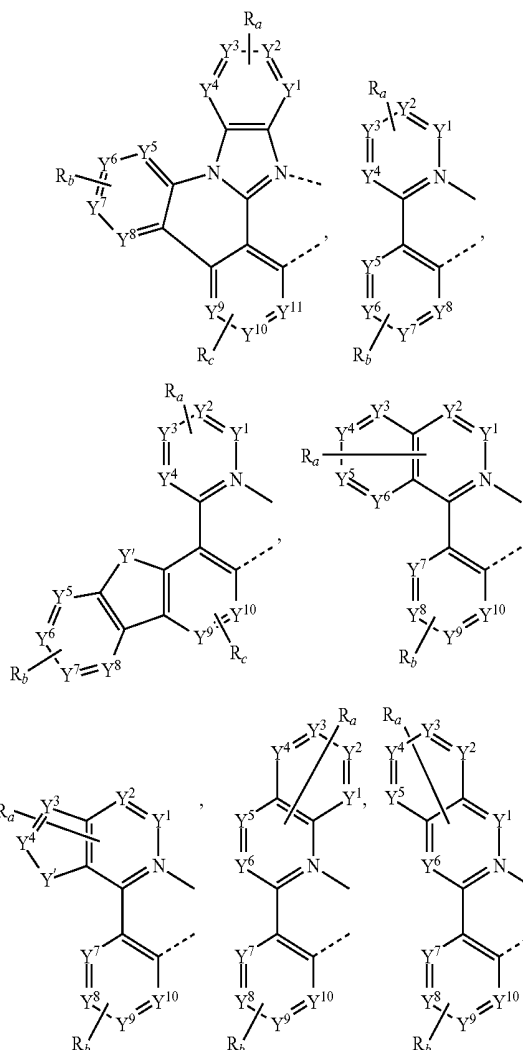
G<sup>46</sup>

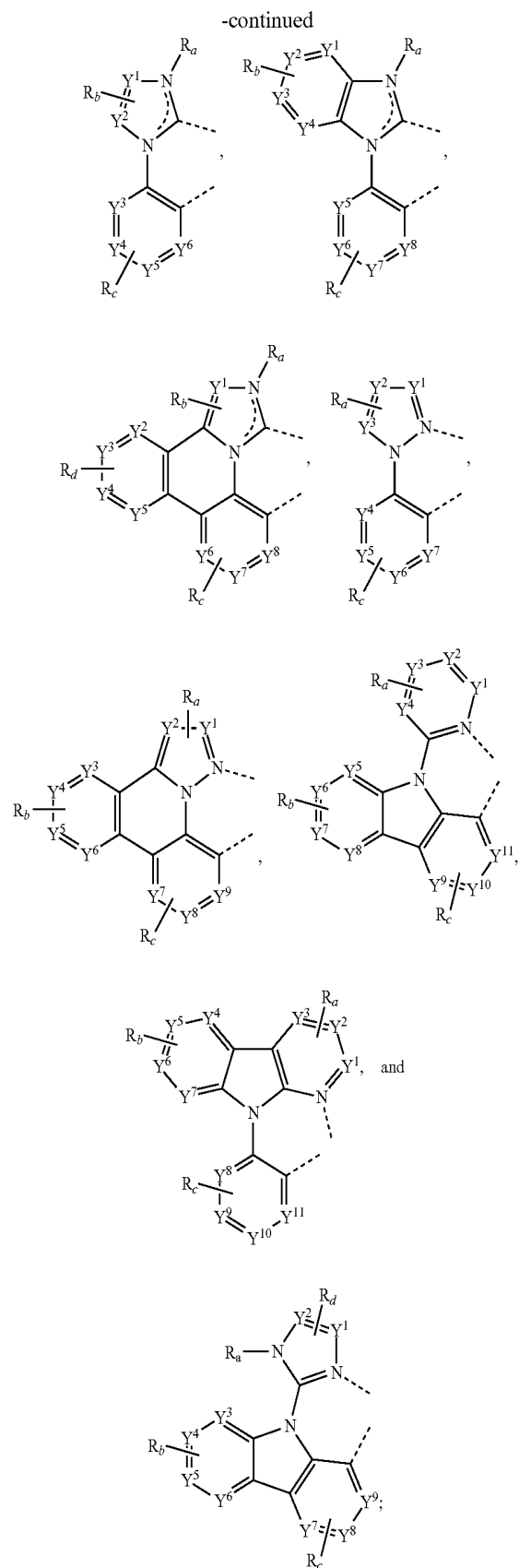


G<sup>47</sup>



G<sup>48</sup>





wherein each Y<sup>1</sup> to Y<sup>13</sup> are independently selected from the group consisting of carbon and nitrogen;

wherein Y' is selected from the group consisting of BR<sub>e</sub>, NR<sub>e</sub>, PR<sub>e</sub>, O, S, Se, C=O, S=O, SO<sub>2</sub>, CR<sub>e</sub>R<sub>f</sub>, SiR<sub>e</sub>R<sub>f</sub>, and GeR<sub>e</sub>R<sub>f</sub>;

wherein R<sub>e</sub> and R<sub>f</sub> are optionally fused or joined to form a ring;

wherein each R<sub>e</sub> and R<sub>f</sub> is independently selected from the group consisting of hydrogen, deuterium, halogen, alkyl, cycloalkyl, heteroalkyl, heterocycloalkyl, arylalkyl, alkoxy, aryloxy, amino, silyl, alkenyl, cycloalkenyl, heteroalkenyl, alkynyl, aryl, heteroaryl, acyl, carboxylic acid, ether, ester, nitrile, isonitrile, sulfanyl, sulfinyl, sulfonyl, phosphino, and combinations thereof;

wherein each R<sub>a</sub>, R<sub>b</sub>, R<sub>e</sub>, and R<sub>d</sub> may independently represent from mono substitution to the maximum possible number of substitution, or no substitution;

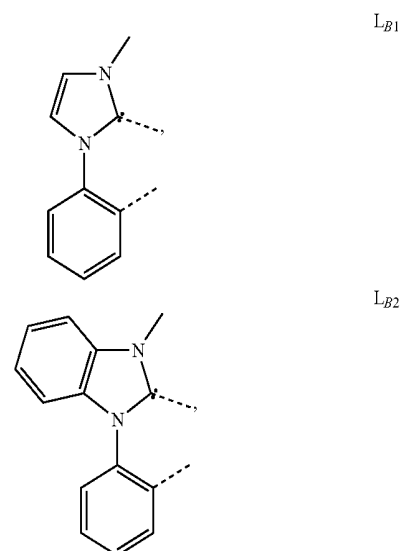
wherein each R<sub>a</sub>, R<sub>b</sub>, R<sub>e</sub>, and R<sub>d</sub> is independently hydrogen or a substituent selected from the group consisting of deuterium, halogen, alkyl, cycloalkyl, heteroalkyl, heterocycloalkyl, arylalkyl, alkoxy, aryloxy, amino, silyl, alkenyl, cycloalkenyl, heteroalkenyl, alkynyl, aryl, heteroaryl, acyl, carboxylic acid, ether, ester, nitrile, isonitrile, sulfanyl, sulfinyl, sulfonyl, phosphino, and combinations thereof; and

wherein any two adjacent substituents of R<sub>a</sub>, R<sub>b</sub>, R<sub>e</sub>, and R<sub>d</sub> are optionally fused or joined to form a ring or form a multidentate ligand.

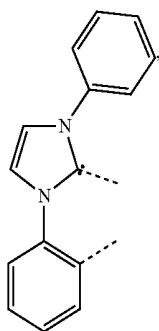
12. The compound of claim 9, wherein the compound is Compound Ai-F having the formula Ir(L<sub>Ai-F</sub>)<sub>3</sub>, Compound By-F having the formula Ir(L<sub>Ai-F</sub>)(L<sub>Bk</sub>)<sub>2</sub>, or Compound Cz-F having the formula Ir(L<sub>Ai-F</sub>)<sub>2</sub>(L<sub>Cj</sub>);

wherein i is an integer from 1 to 1764, and k is an integer from 1 to 490, j is an integer from 1 to 1260, y=490i+k-4908, and z=1764i+j-1764; and wherein F is O, S, or C;

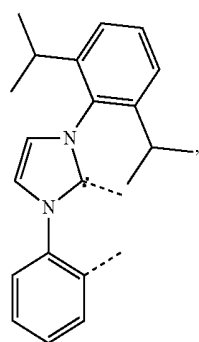
wherein L<sub>Bk</sub> is selected from the group consisting of the following structures:



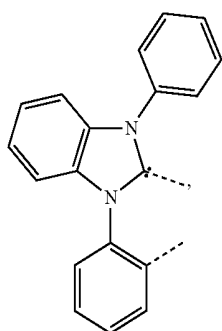
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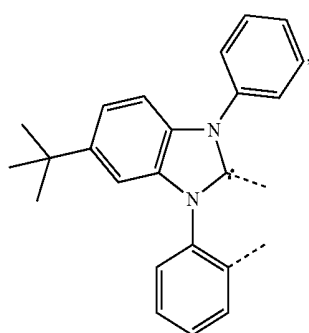
L<sub>B3</sub>



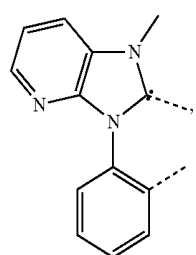
L<sub>B4</sub>



L<sub>B5</sub>

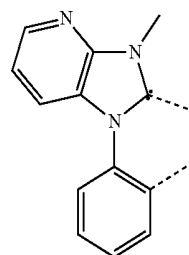


L<sub>B6</sub>

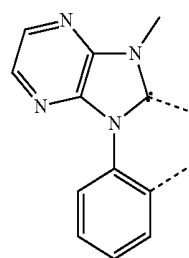


L<sub>B7</sub>

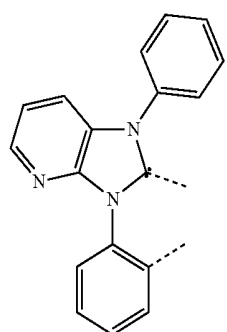
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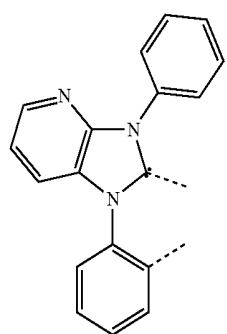
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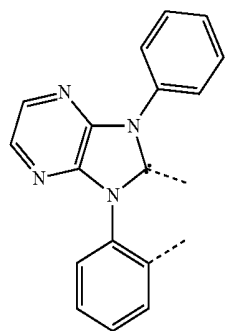
L<sub>B9</sub>



L<sub>B10</sub>

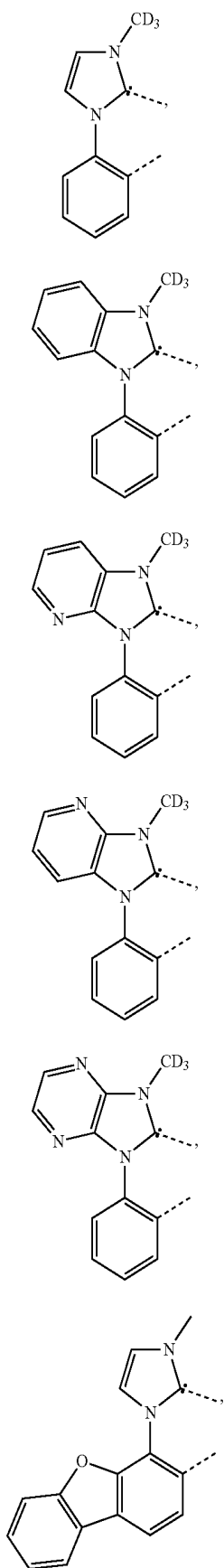


L<sub>B11</sub>



L<sub>B12</sub>

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L<sub>B13</sub>

L<sub>B14</sub>

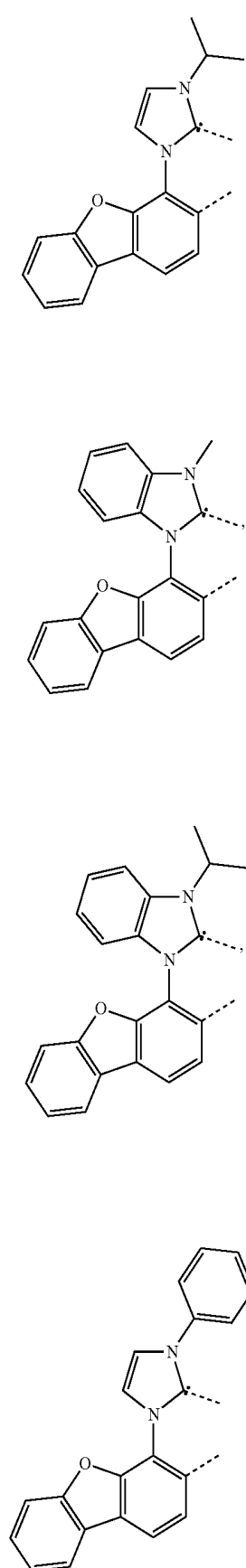
L<sub>B15</sub>

L<sub>B16</sub>

L<sub>B17</sub>

L<sub>B18</sub>

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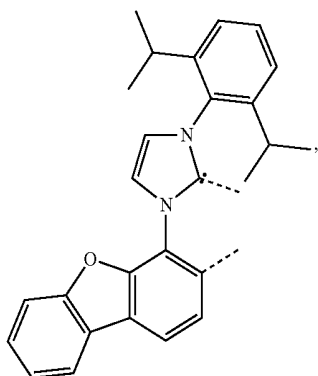
L<sub>B19</sub>

L<sub>B20</sub>

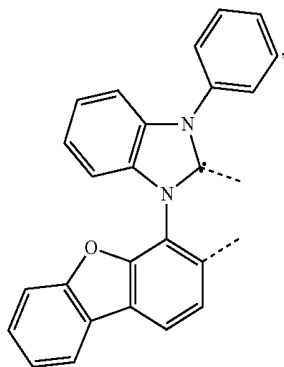
L<sub>B21</sub>

L<sub>B22</sub>

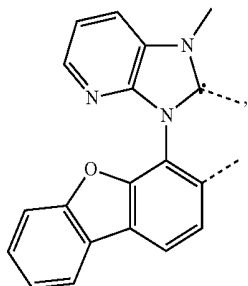
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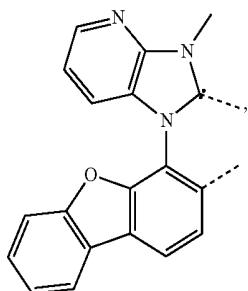
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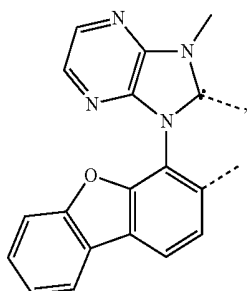
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L<sub>B25</sub>

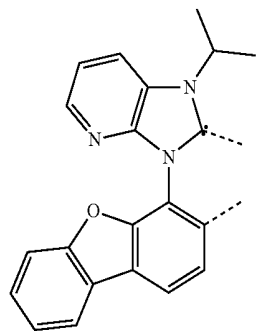


L<sub>B26</sub>

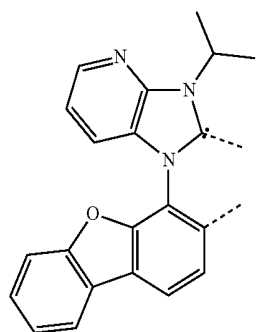


L<sub>B27</sub>

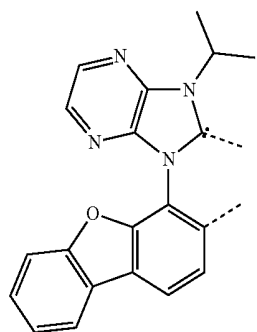
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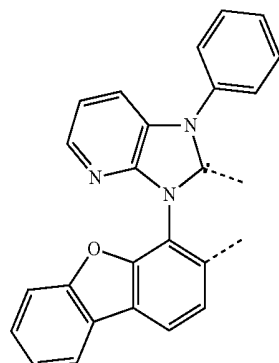
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L<sub>B29</sub>

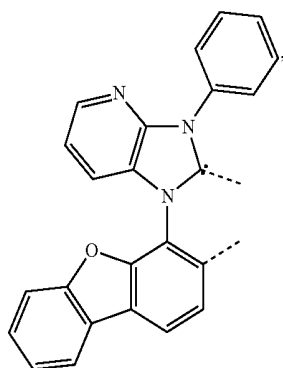


L<sub>B30</sub>

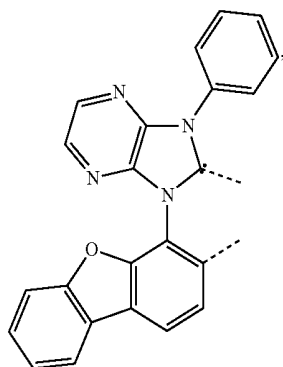


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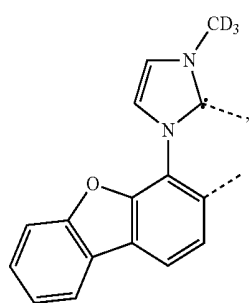
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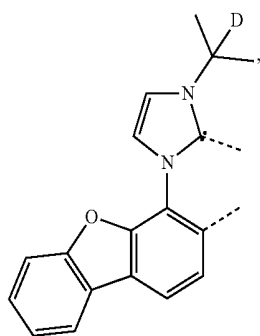
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L<sub>B33</sub>

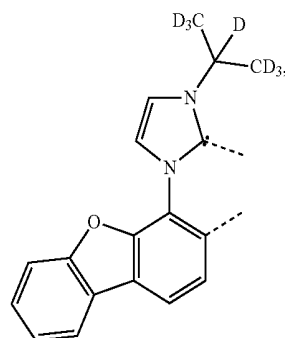


L<sub>B34</sub>

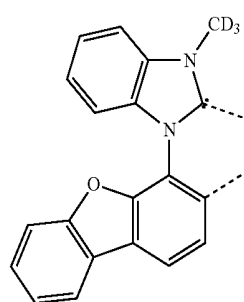


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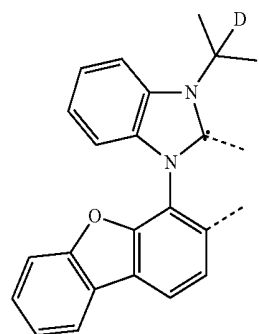
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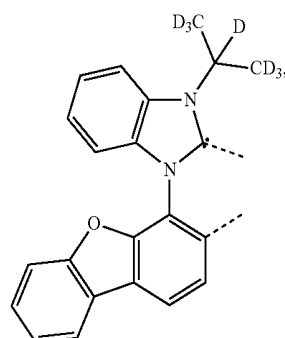
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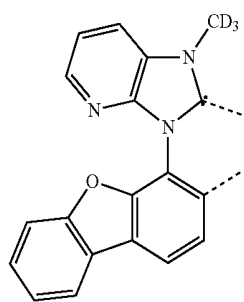
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L<sub>B38</sub>

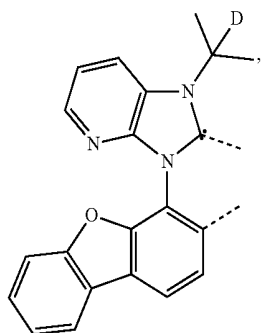


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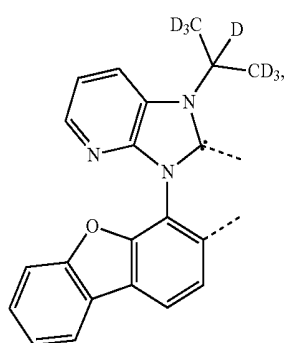


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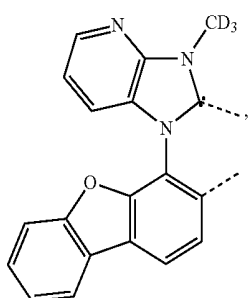
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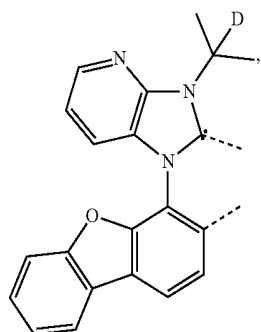
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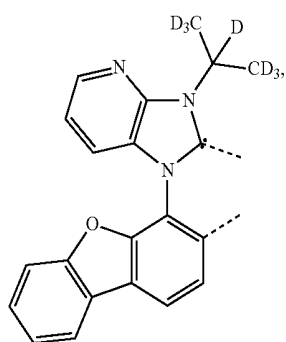
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L<sub>B43</sub>

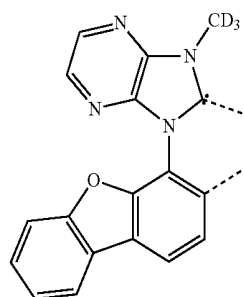


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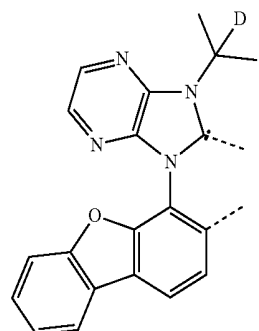


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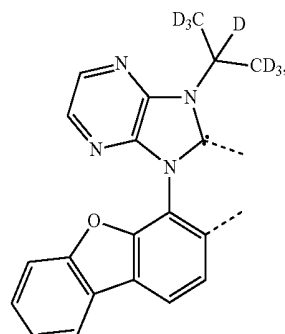
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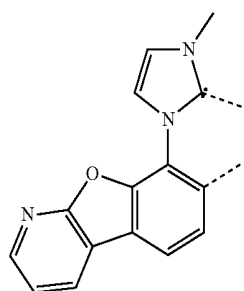
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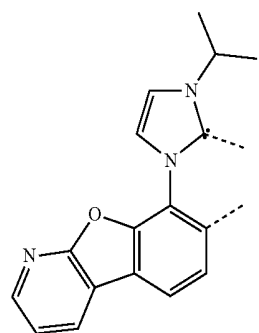
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L<sub>B48</sub>

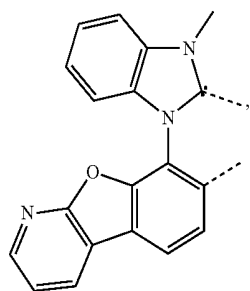


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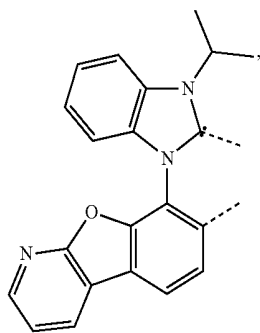


L<sub>B50</sub>

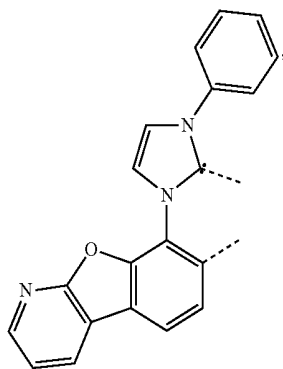
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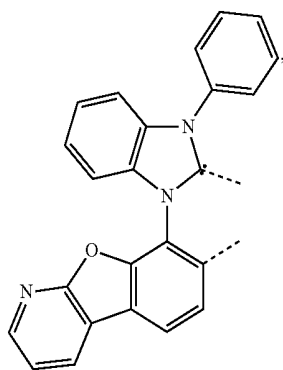
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L<sub>B52</sub>

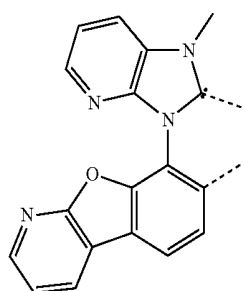


L<sub>B53</sub>

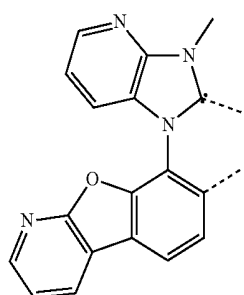


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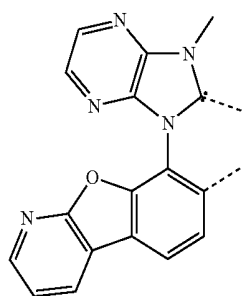
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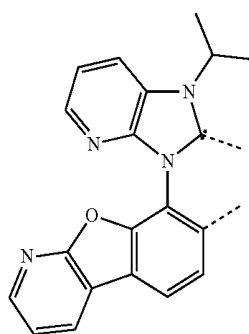
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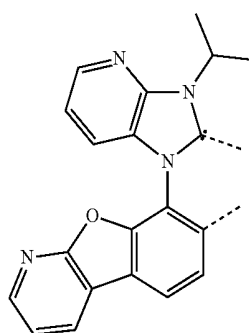
L<sub>B56</sub>



L<sub>B57</sub>

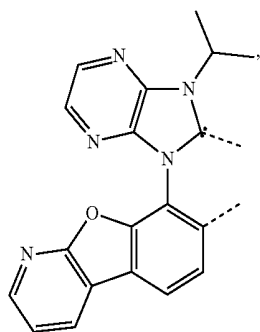


L<sub>B58</sub>



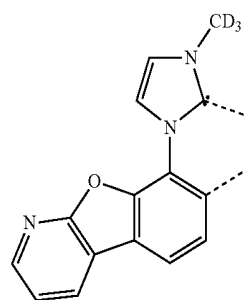
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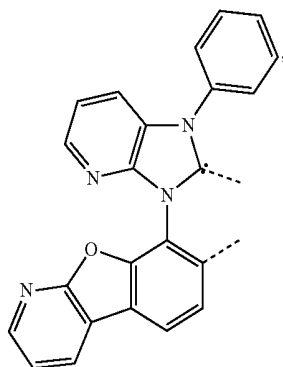


L<sub>B60</sub>

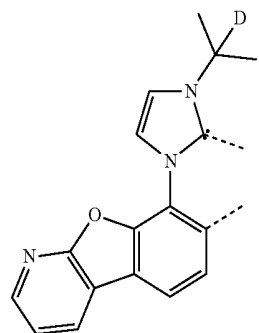
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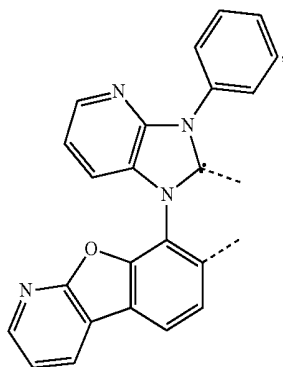
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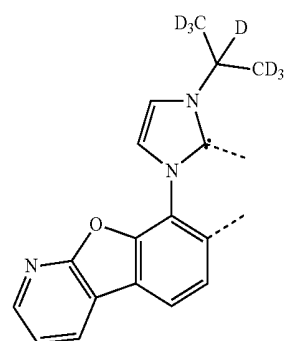
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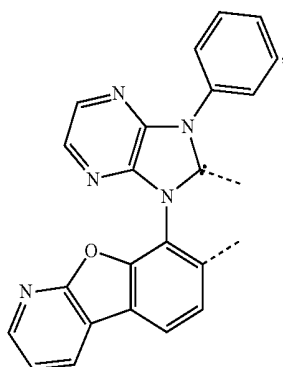
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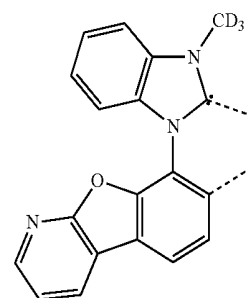
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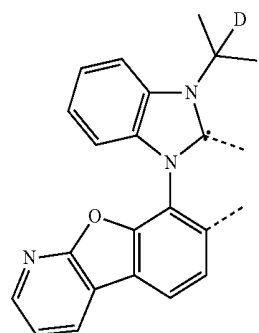
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L<sub>B63</sub>

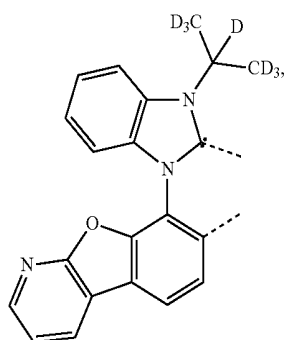


L<sub>B67</sub>

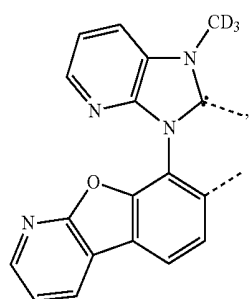


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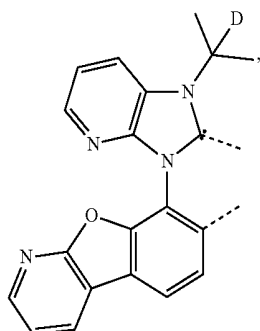
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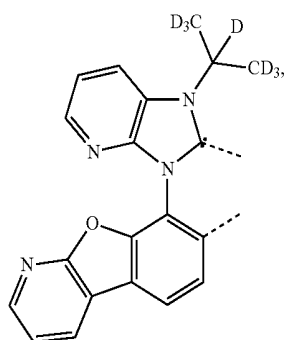
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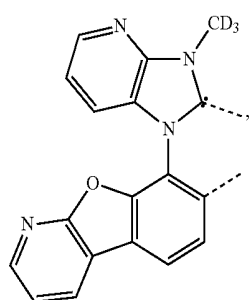
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L<sub>B71</sub>

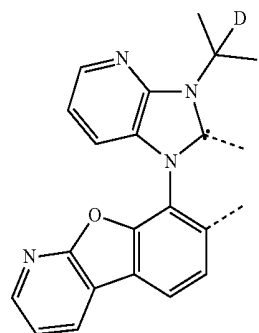


L<sub>B72</sub>

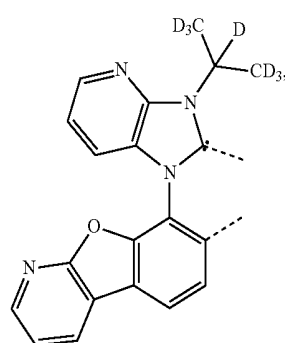


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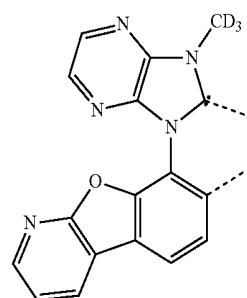
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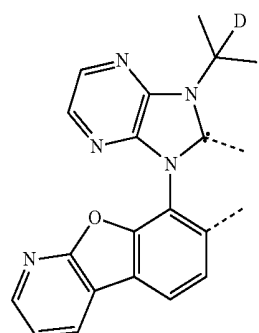
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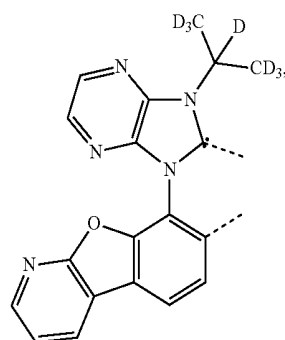
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L<sub>B76</sub>

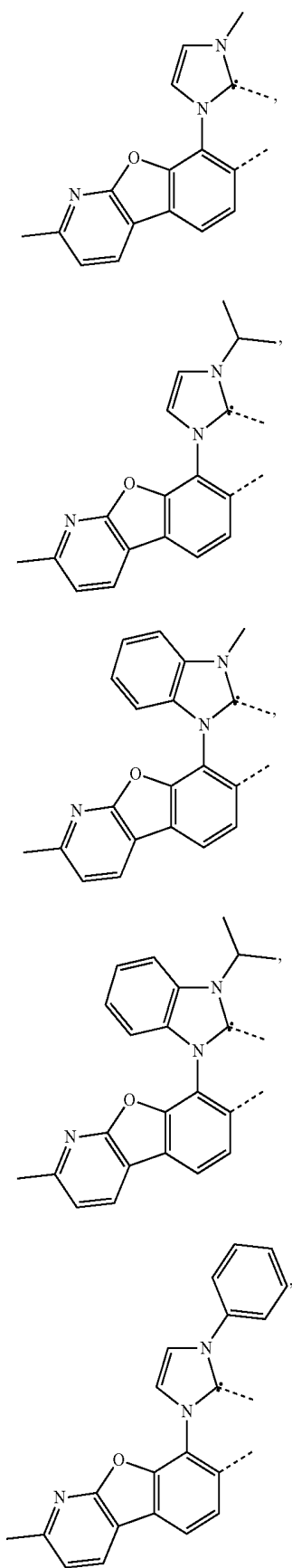


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L<sub>B78</sub>

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L<sub>B79</sub>

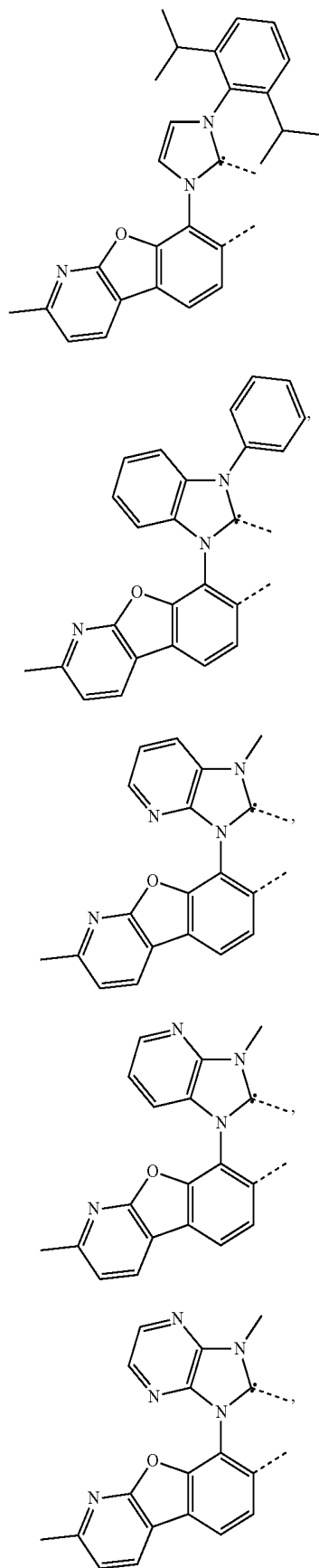
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L<sub>B82</sub>

L<sub>B83</sub>

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L<sub>B84</sub>

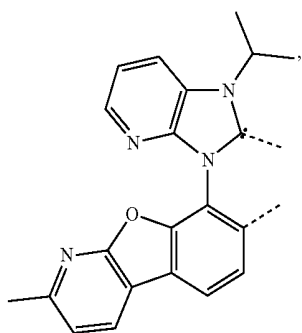
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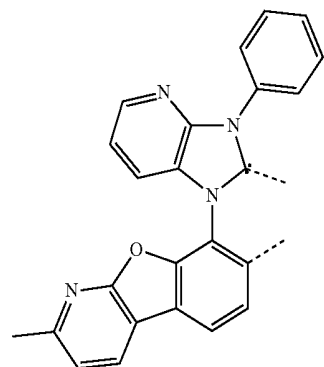
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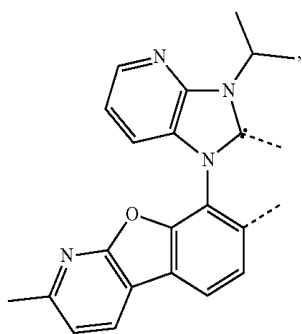


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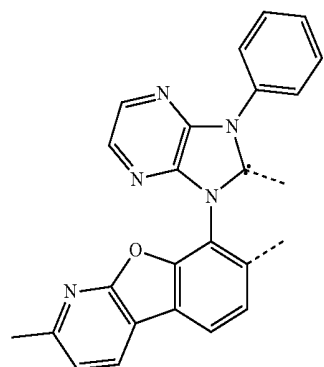
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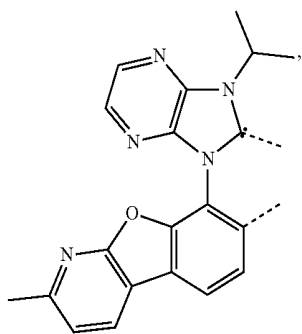
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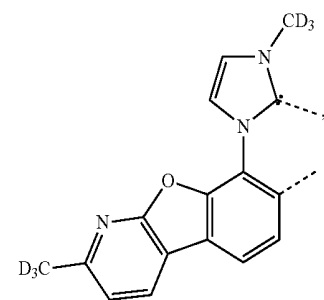
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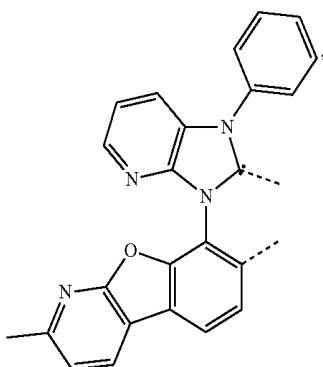
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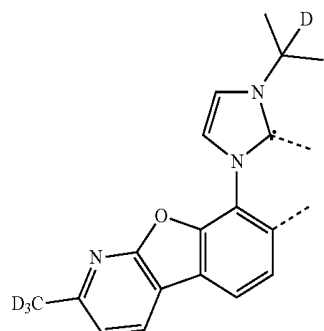
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L<sub>B95</sub>

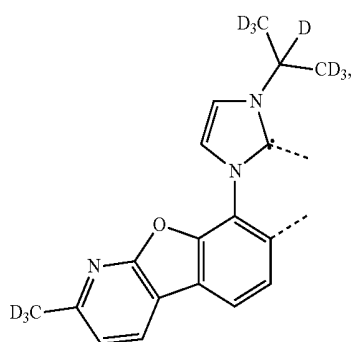


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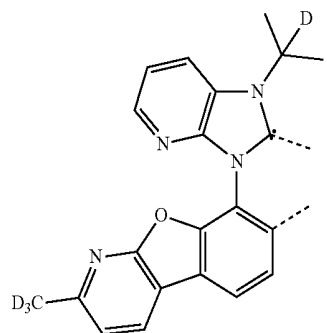
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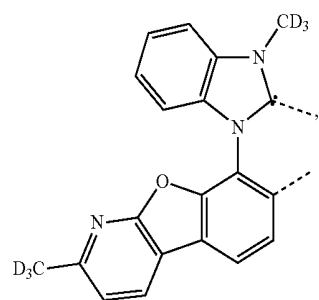


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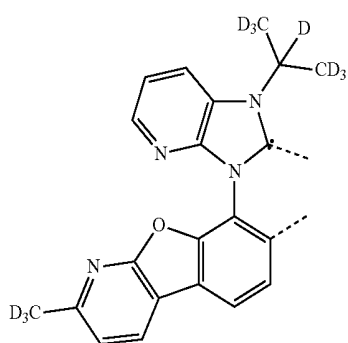
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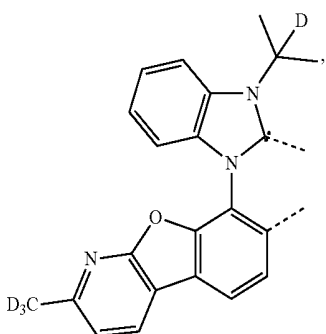
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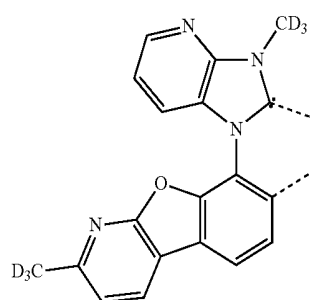
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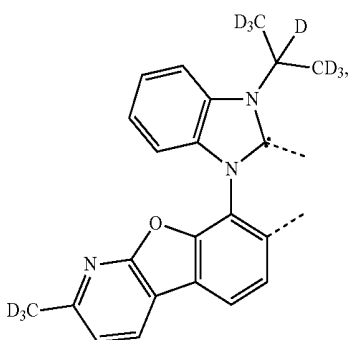
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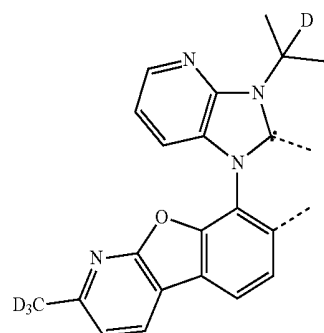
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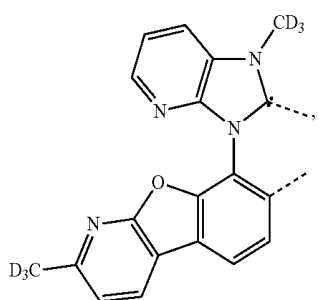
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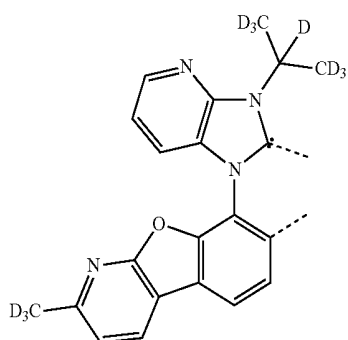
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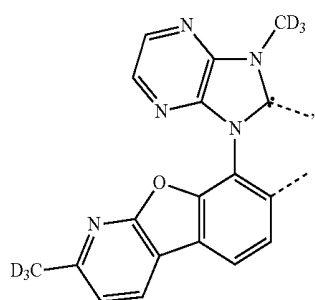


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L<sub>B106</sub>

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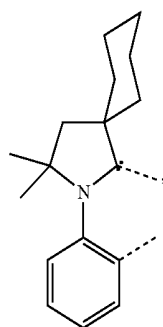
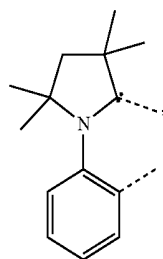
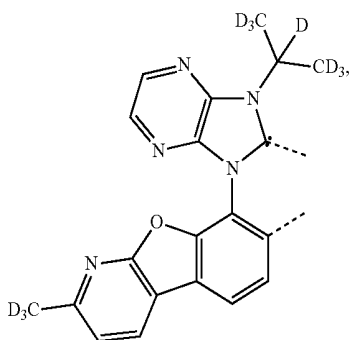
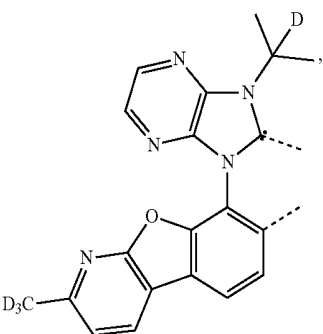
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L<sub>B108</sub>

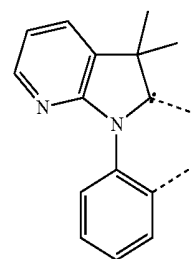
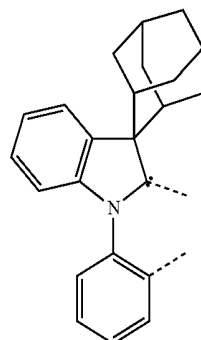
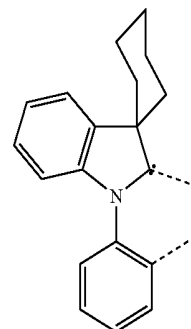
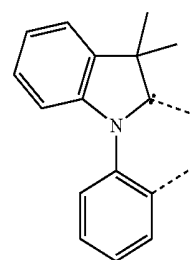
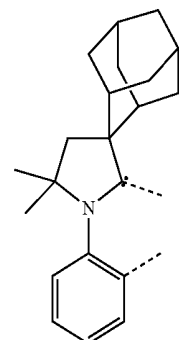
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L<sub>B110</sub>

L<sub>B111</sub>



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L<sub>B112</sub>

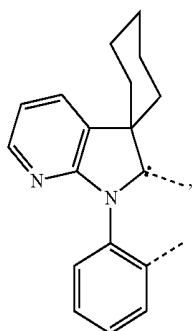
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L<sub>B114</sub>

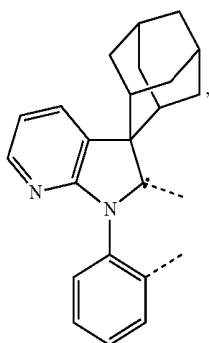
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L<sub>B116</sub>

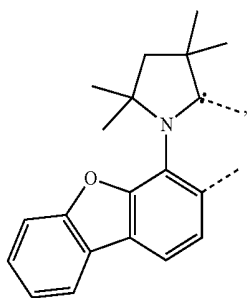
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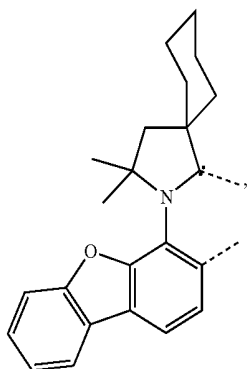
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L<sub>B118</sub>

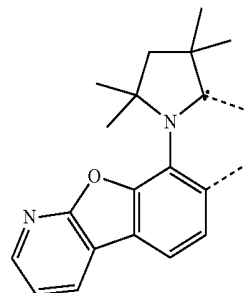


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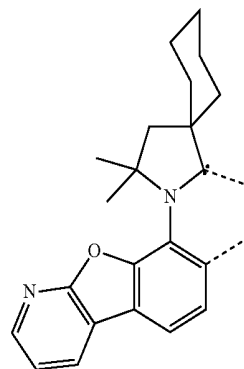


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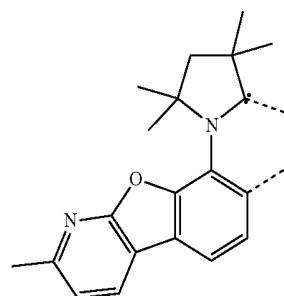
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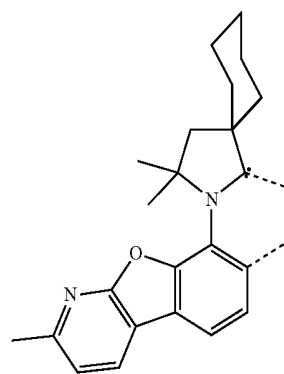
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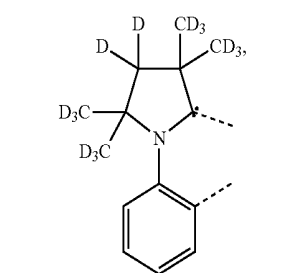
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L<sub>B123</sub>

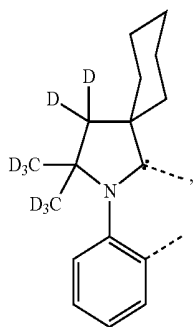


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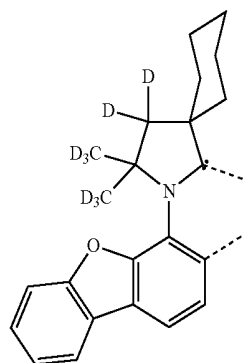
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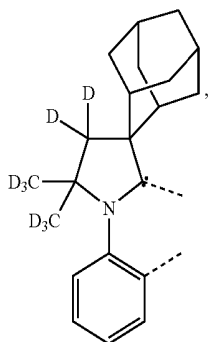


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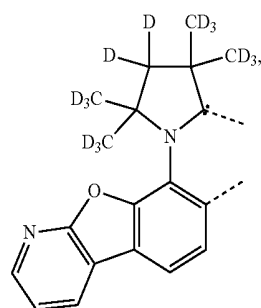
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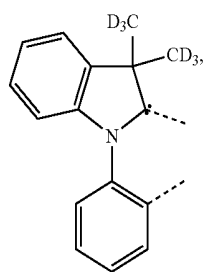
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L<sub>B127</sub>

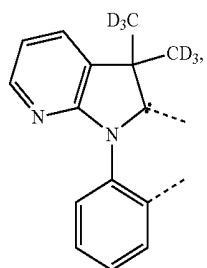


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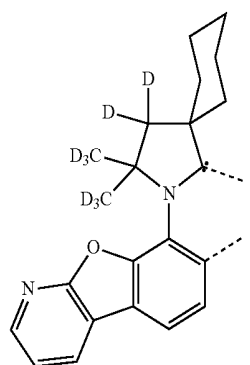


L<sub>B128</sub>

L<sub>B133</sub>

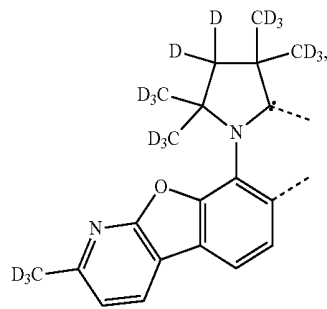
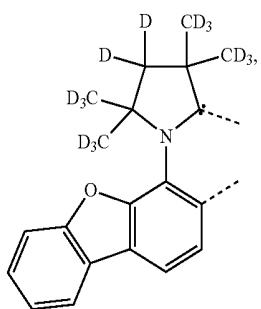


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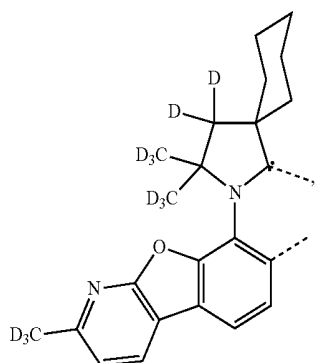


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L<sub>B134</sub>

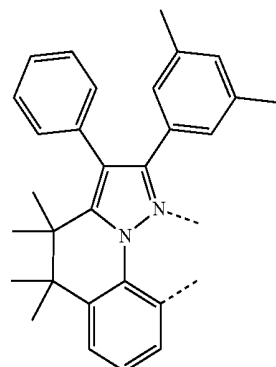


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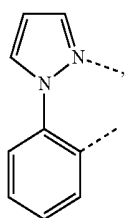


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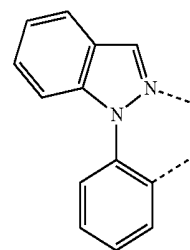
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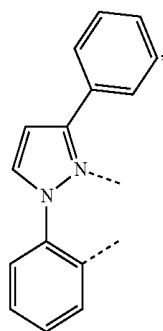
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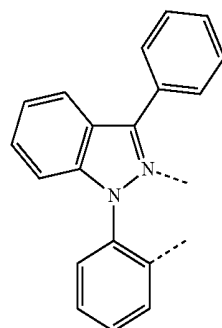
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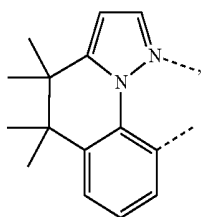
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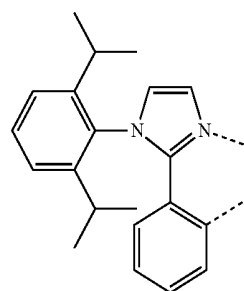
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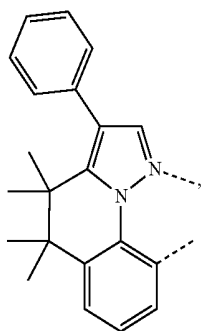
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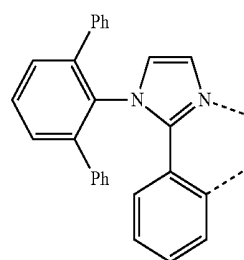
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L<sub>B143</sub>

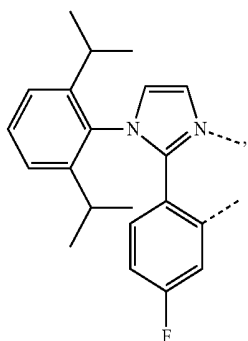


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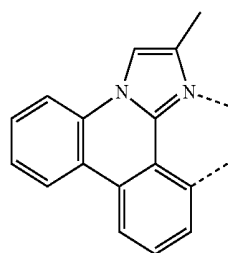
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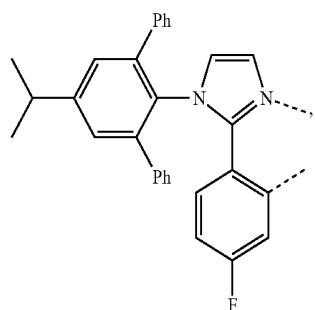


LB145

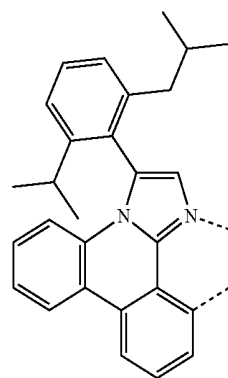
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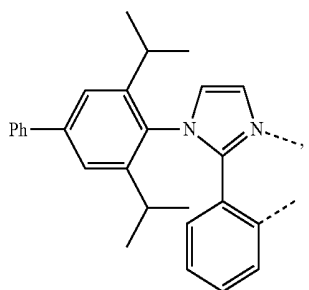
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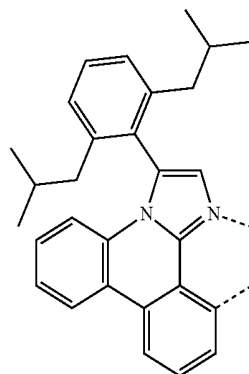
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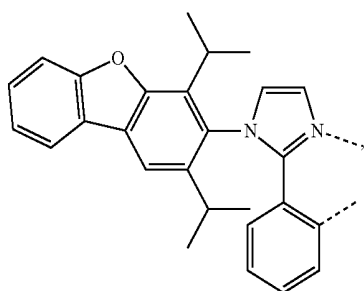
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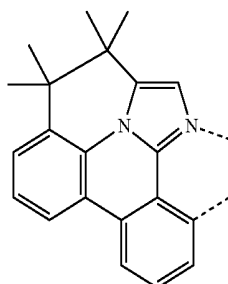
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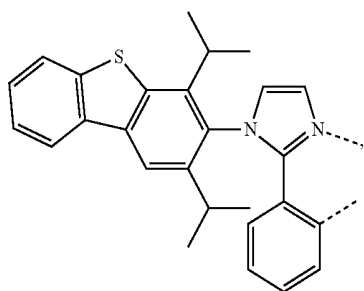
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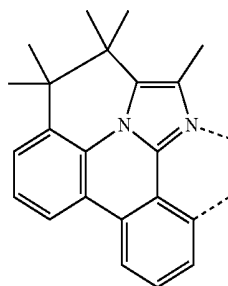
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LB153

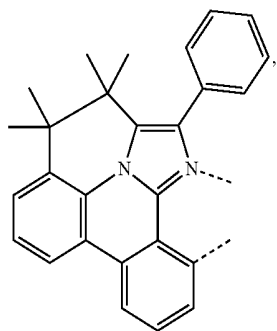


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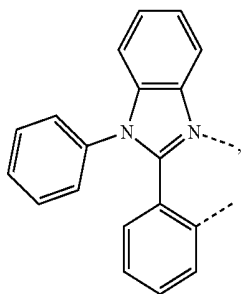


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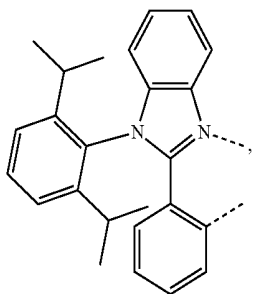
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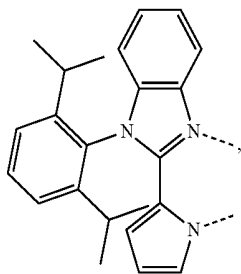
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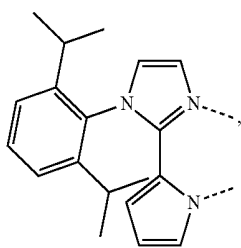
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LB157

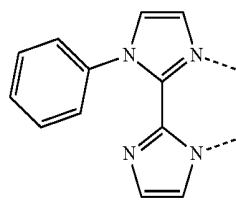


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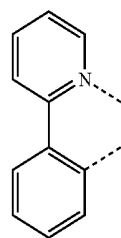


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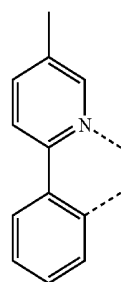
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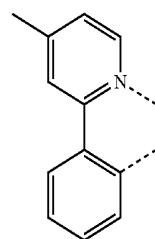
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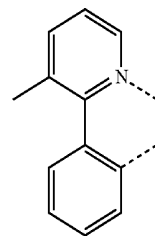
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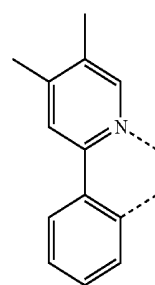
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LB163

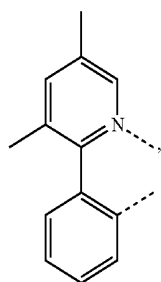


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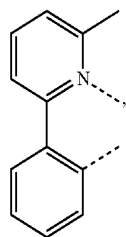


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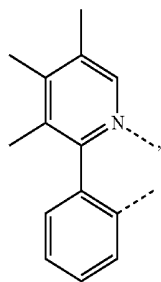
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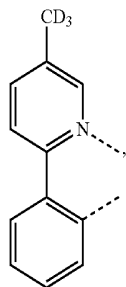
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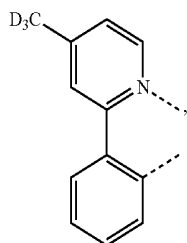
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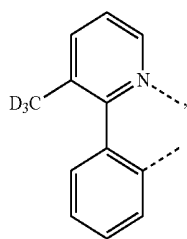
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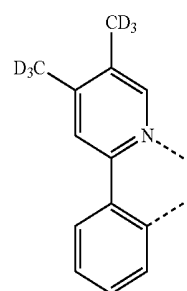


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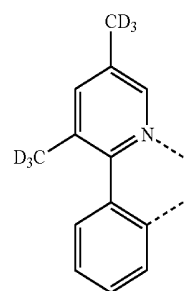


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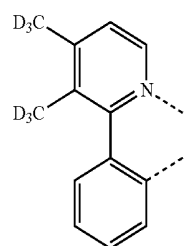
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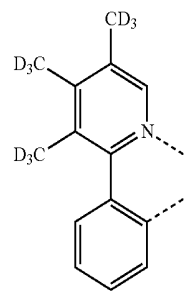
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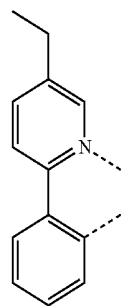
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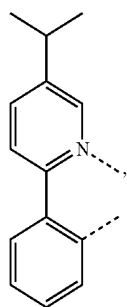


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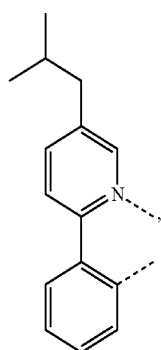


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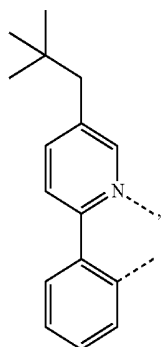
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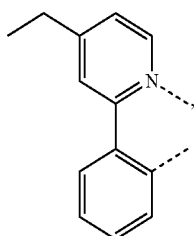
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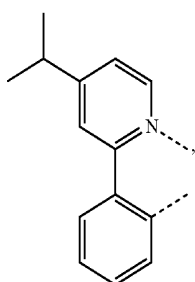
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LB179

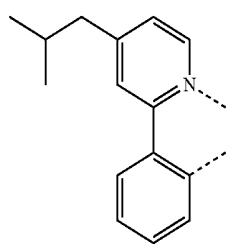


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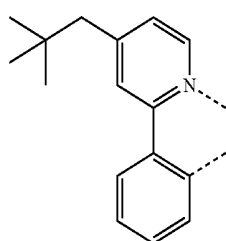


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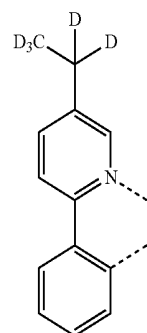
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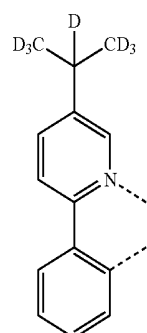
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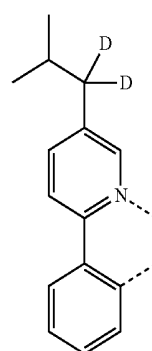
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LB184

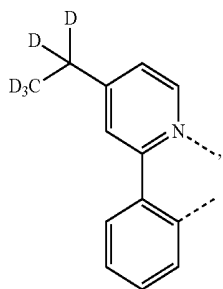


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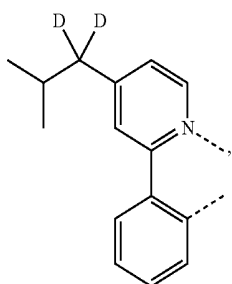


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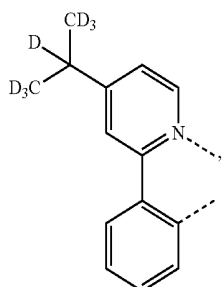
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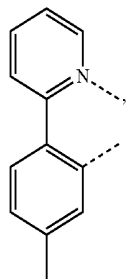
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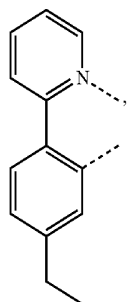
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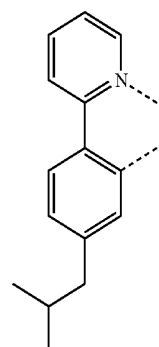


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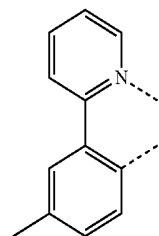


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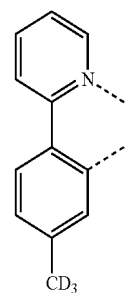
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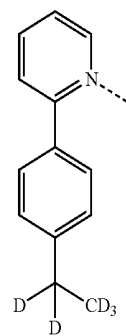
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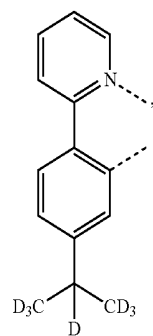
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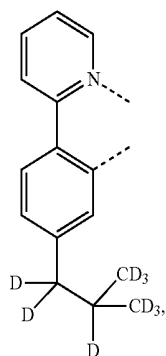


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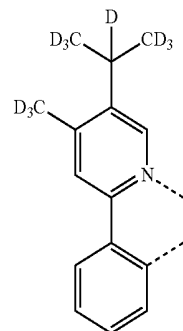
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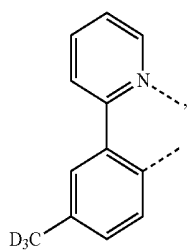


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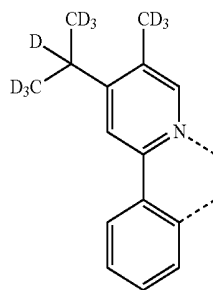
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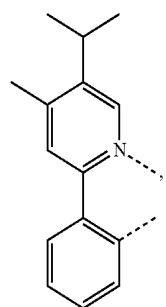
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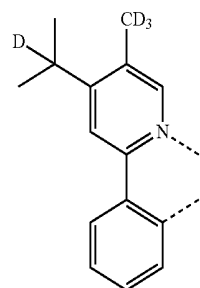
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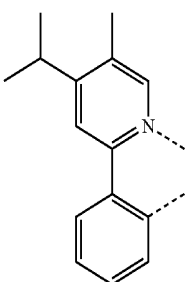
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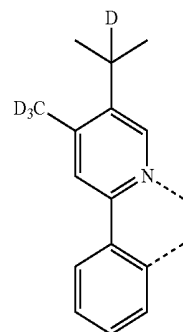
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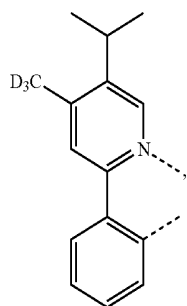
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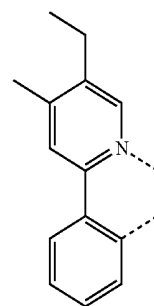
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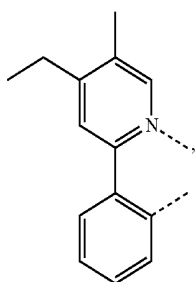


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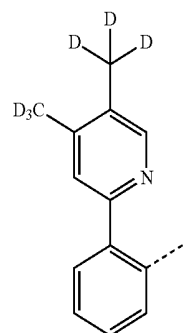
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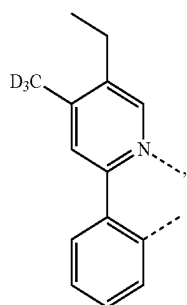
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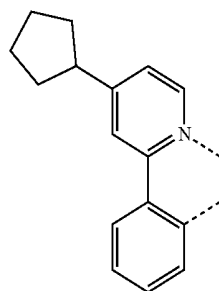


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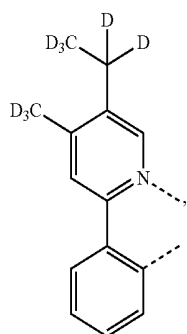
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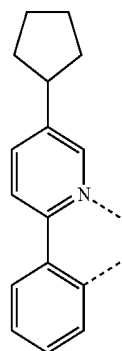
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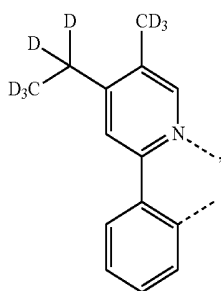
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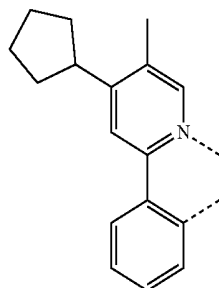
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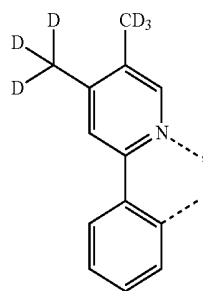
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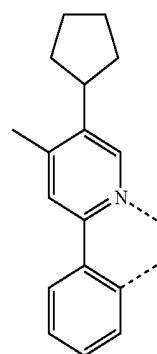
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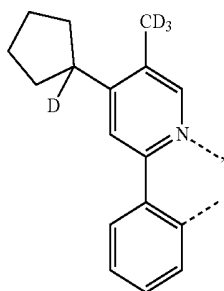
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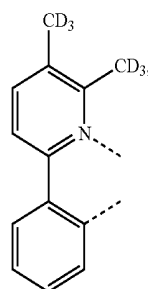


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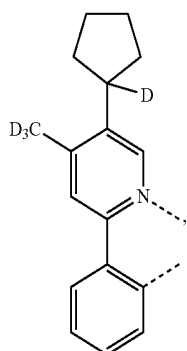


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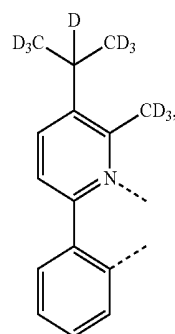
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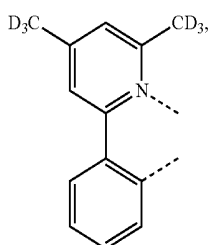
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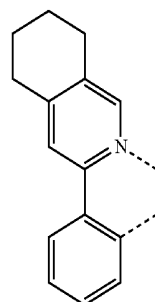
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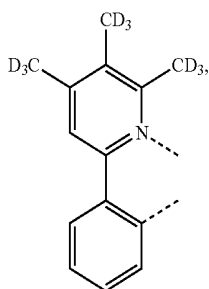
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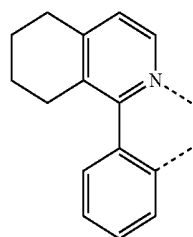
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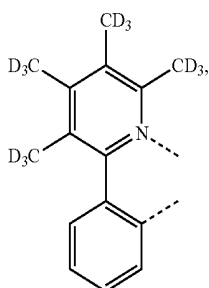
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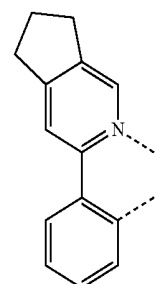
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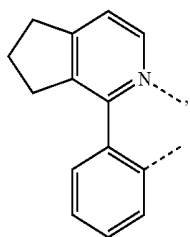


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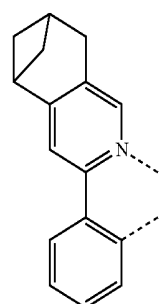
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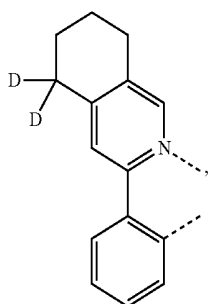


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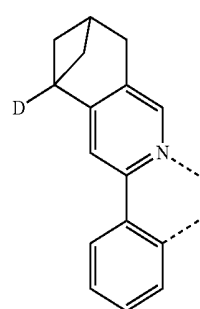
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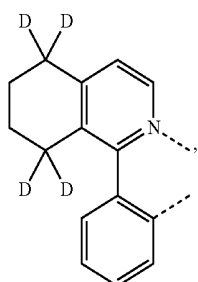
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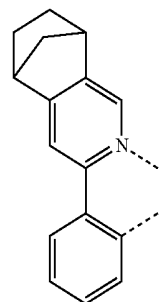
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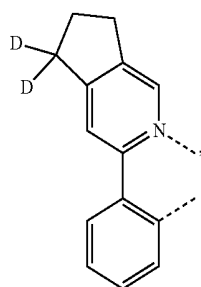
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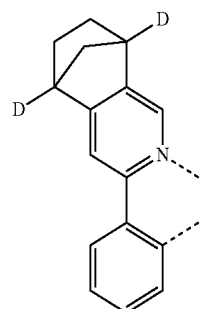
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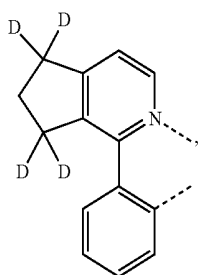
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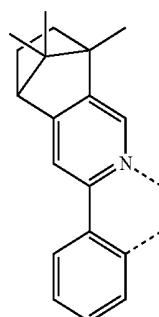
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L<sub>B235</sub>

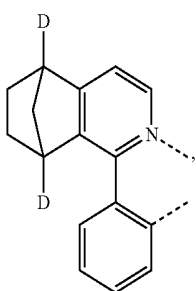
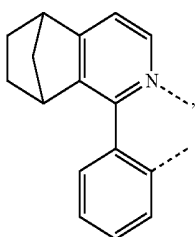
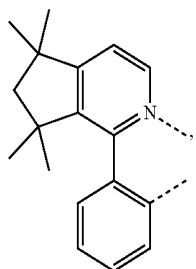
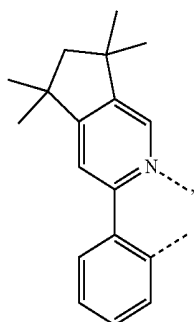
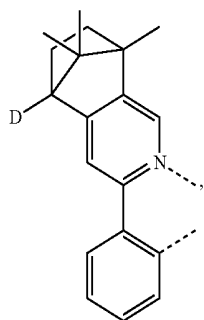


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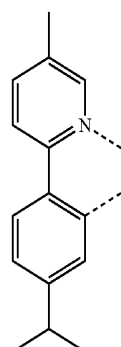
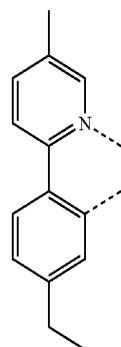
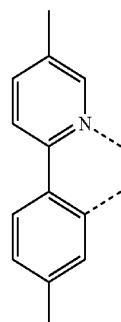
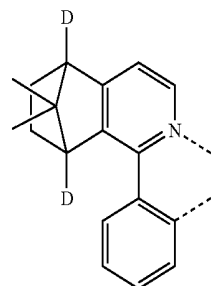


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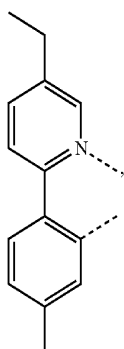
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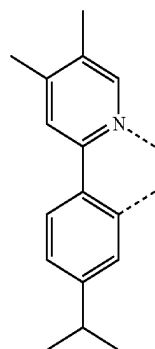


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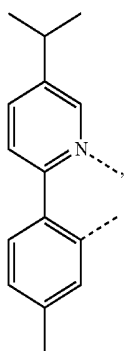


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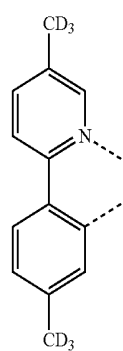
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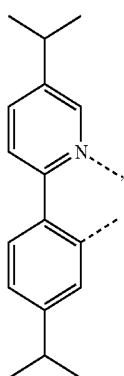
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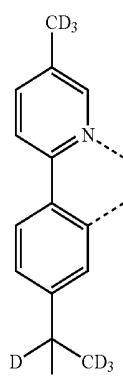
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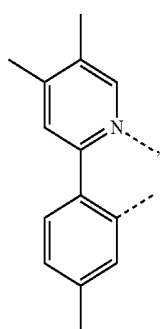
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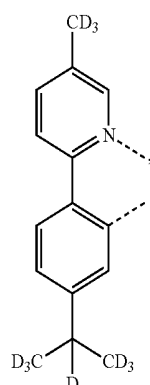
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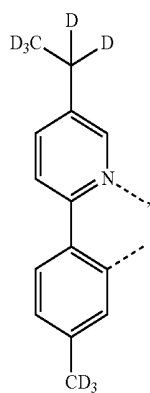


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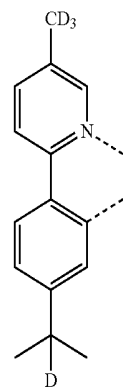
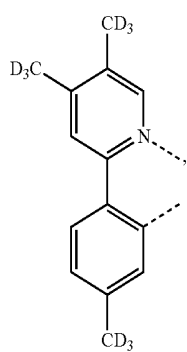
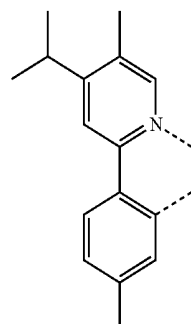
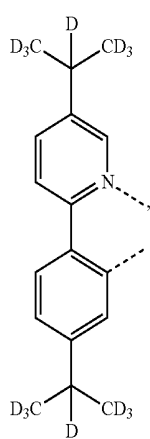
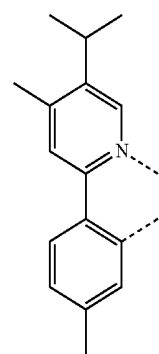
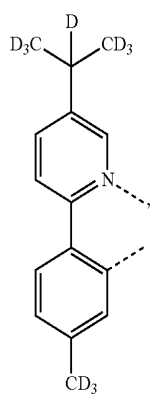
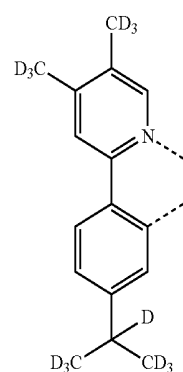


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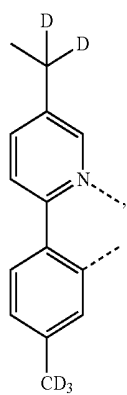
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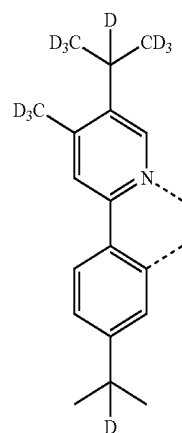


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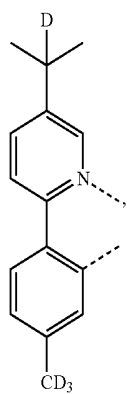


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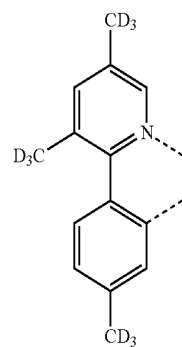
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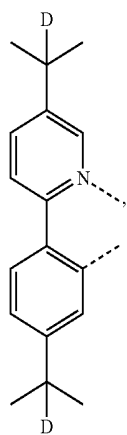
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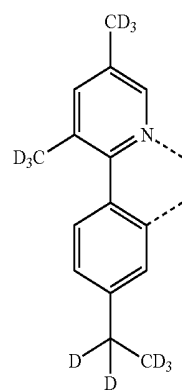
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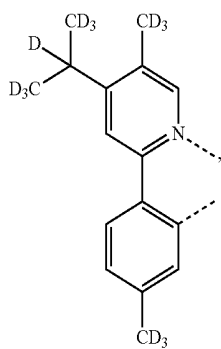
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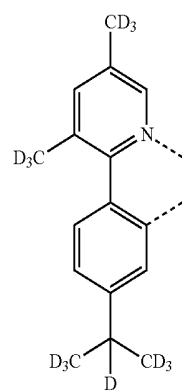
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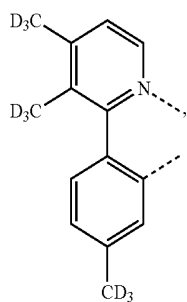


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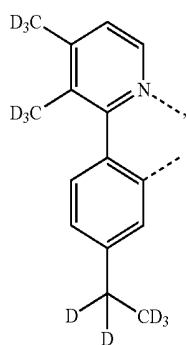


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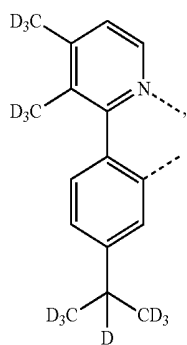
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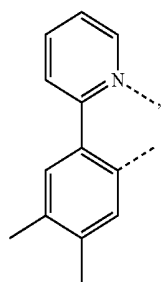
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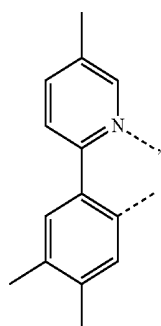
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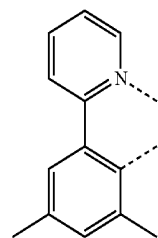


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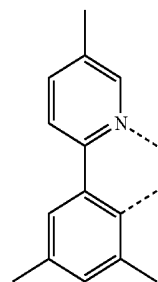


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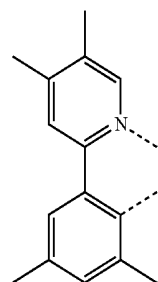
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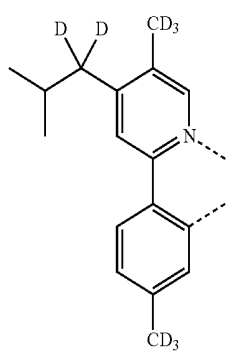
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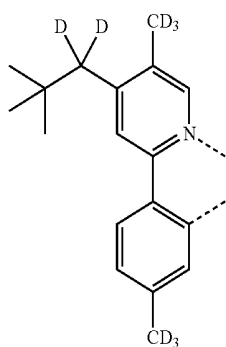
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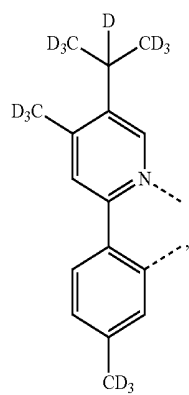


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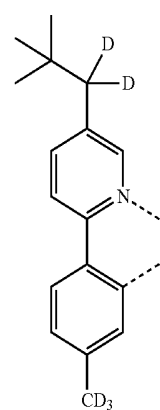
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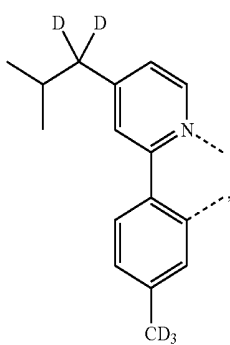


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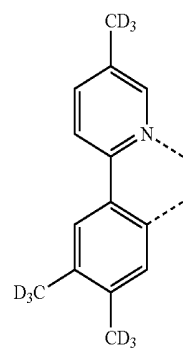
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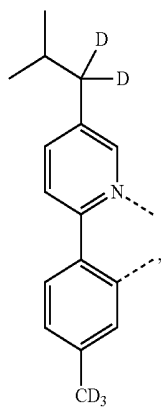
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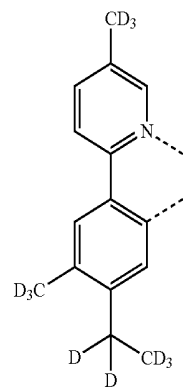
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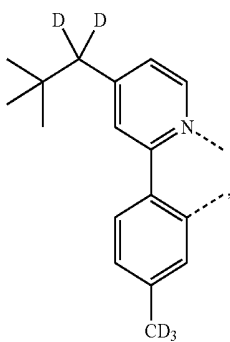
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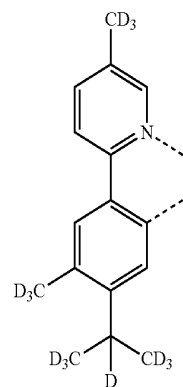
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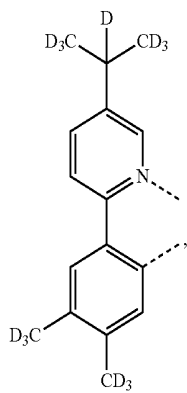


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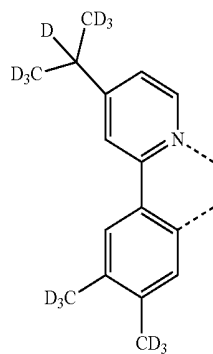
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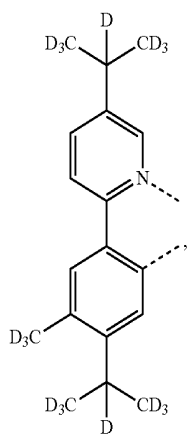


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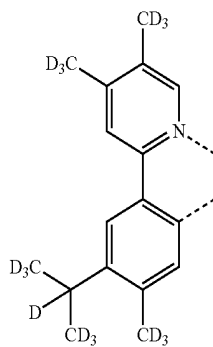
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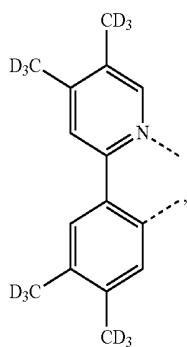
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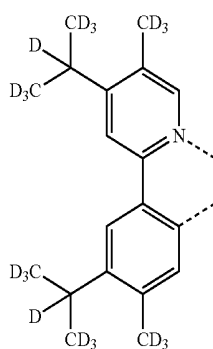
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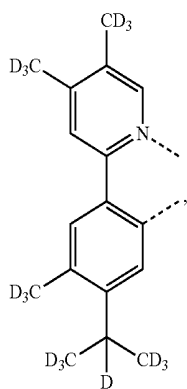
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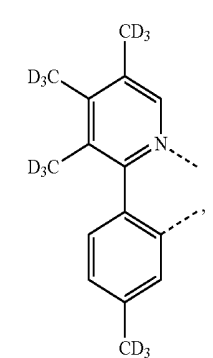
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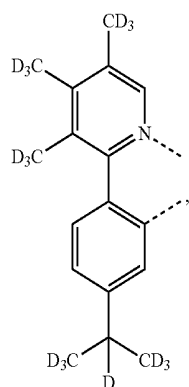


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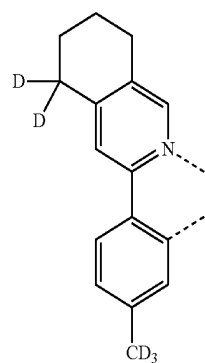
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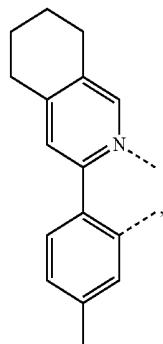


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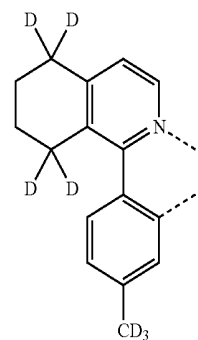
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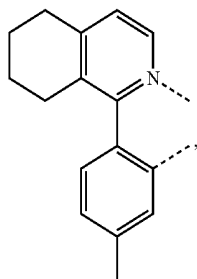
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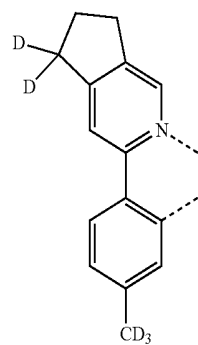
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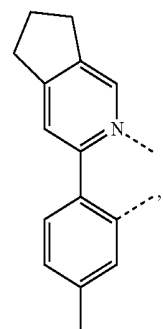
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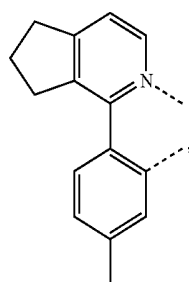
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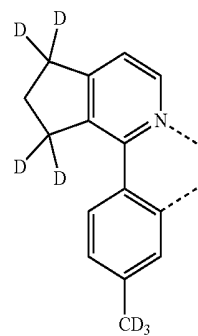
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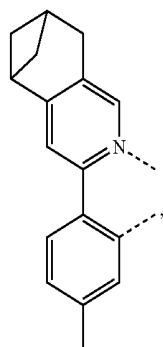


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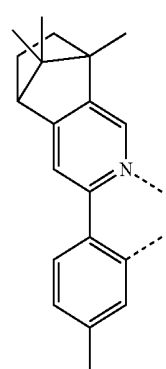
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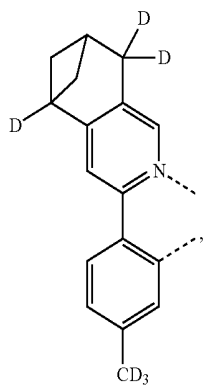


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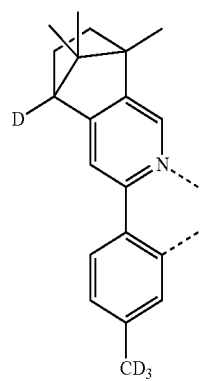
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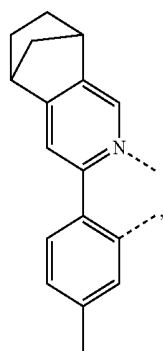
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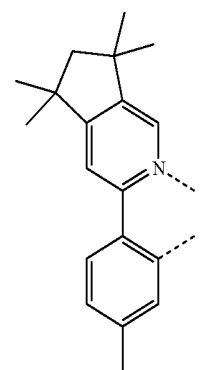
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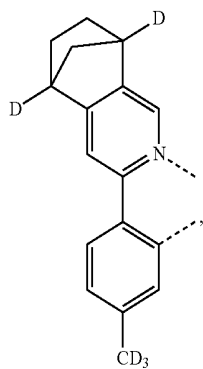
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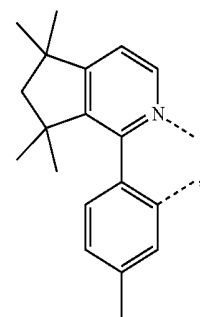
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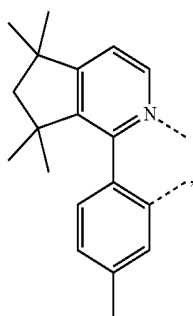


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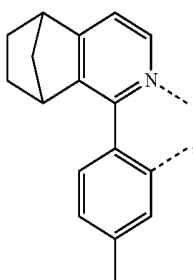


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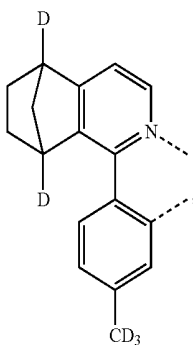
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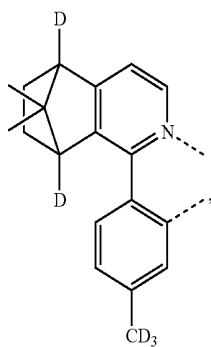
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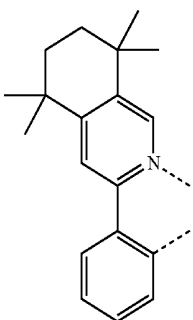
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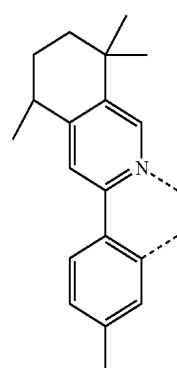


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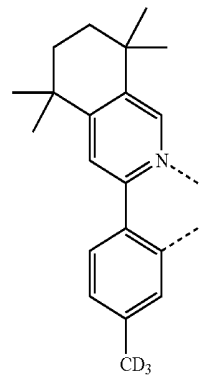


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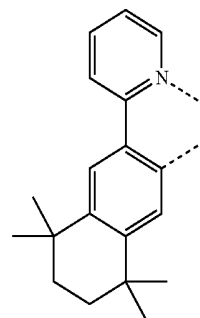
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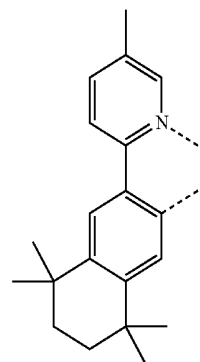
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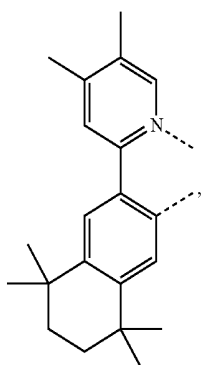


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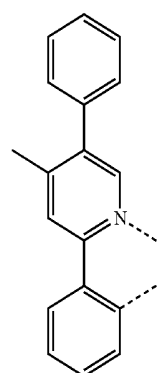
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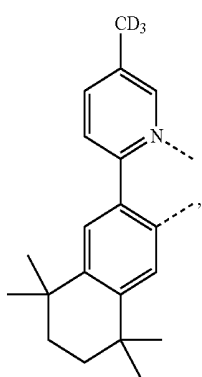


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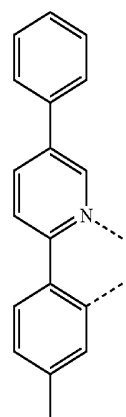
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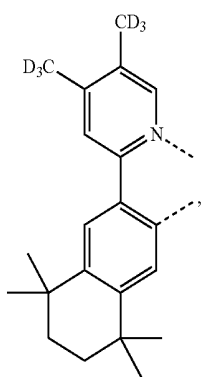
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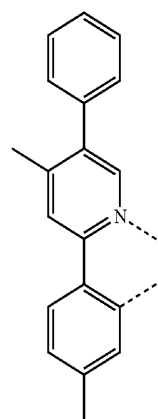
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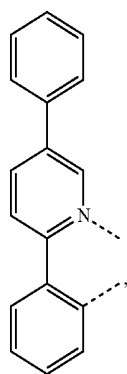
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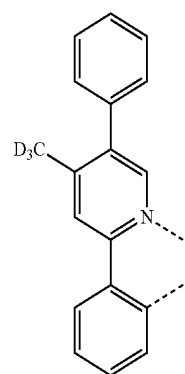
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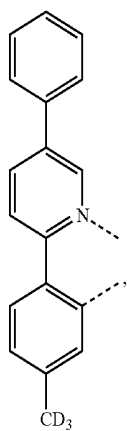


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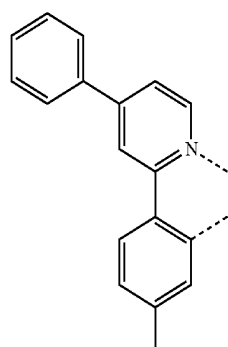
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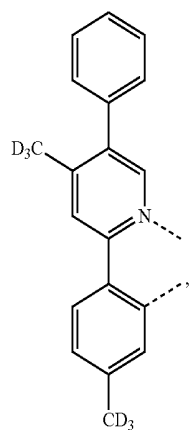


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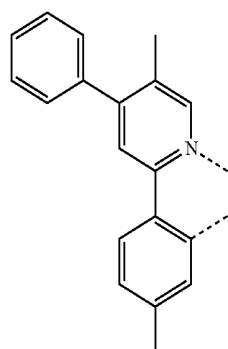
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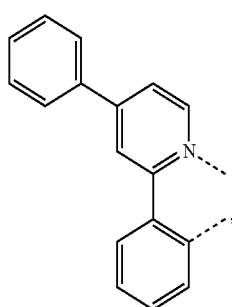
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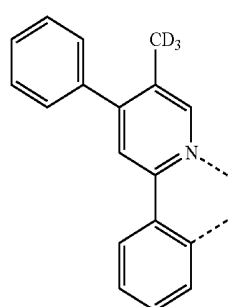
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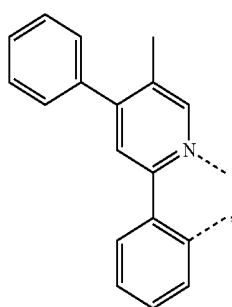
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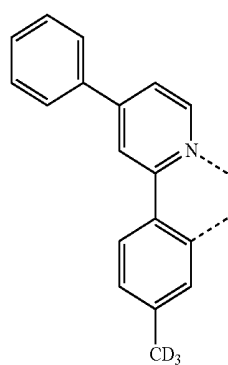
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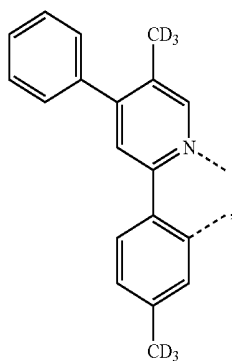


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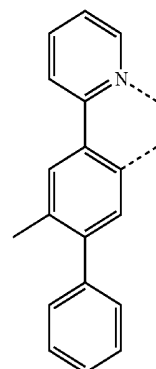
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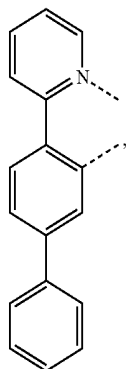
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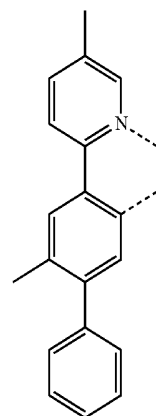


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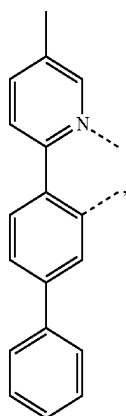
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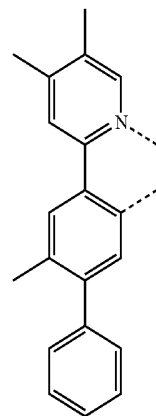
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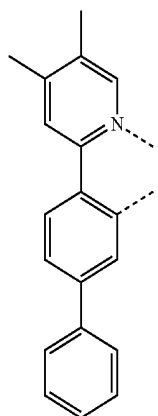
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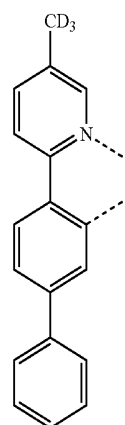
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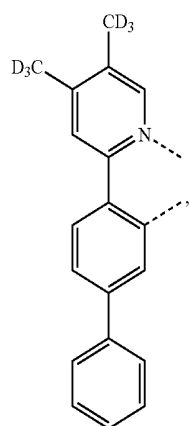
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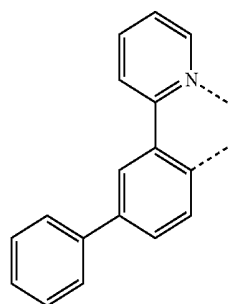


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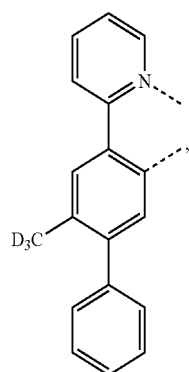


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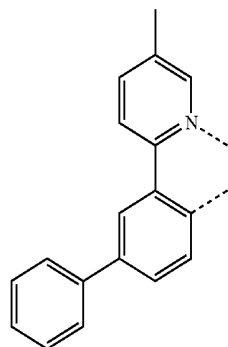
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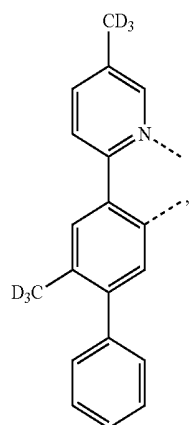
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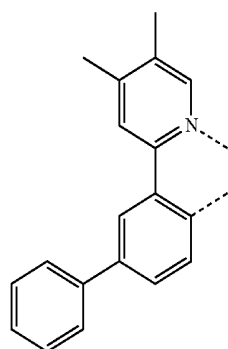
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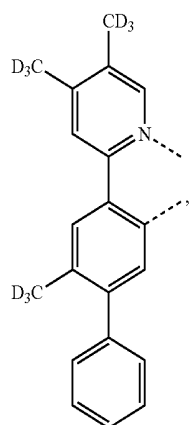
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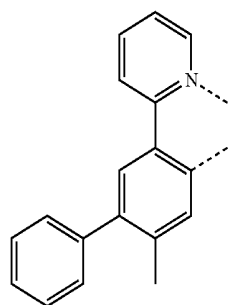
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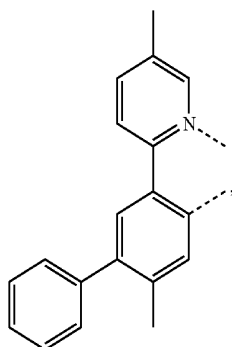


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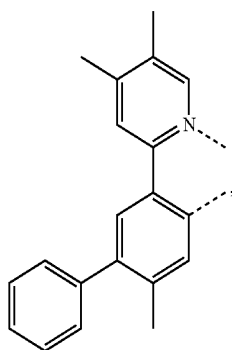


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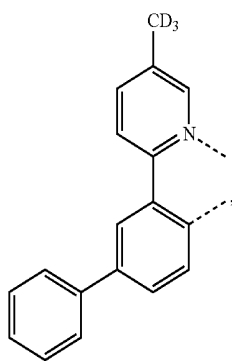
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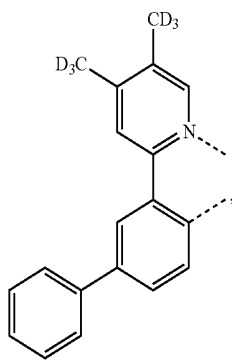
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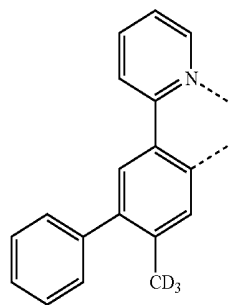


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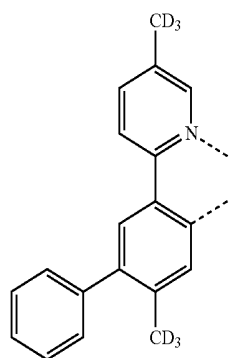


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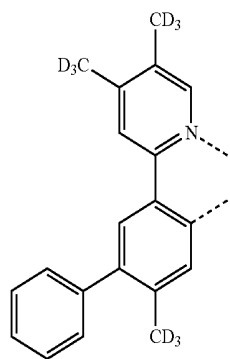
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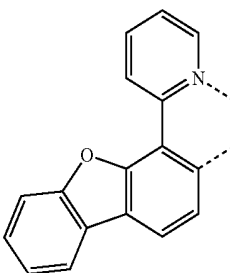
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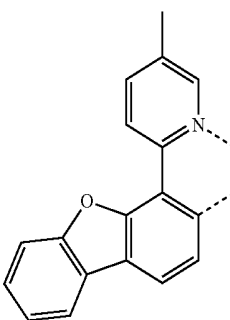
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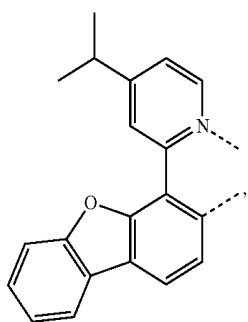


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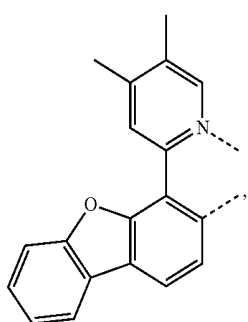


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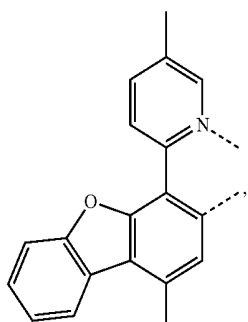
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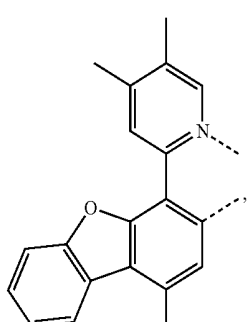
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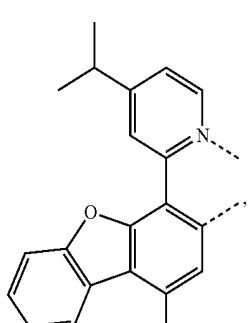
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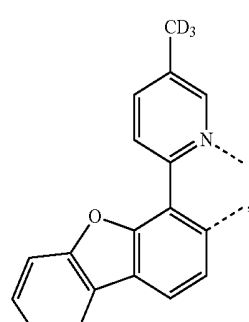


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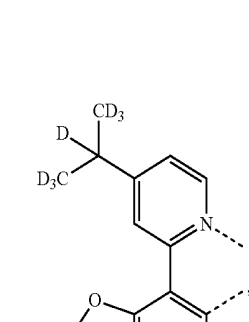


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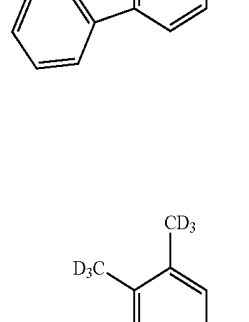
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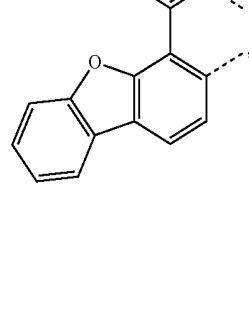
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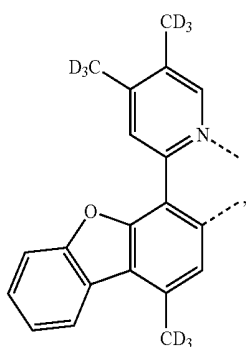


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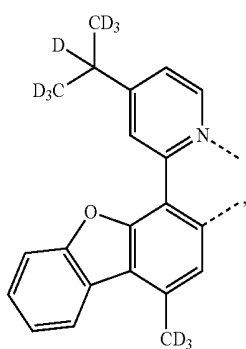


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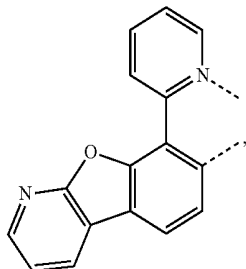
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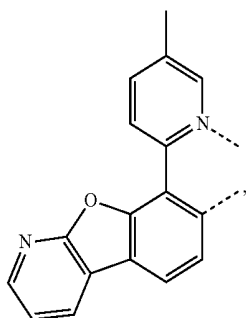
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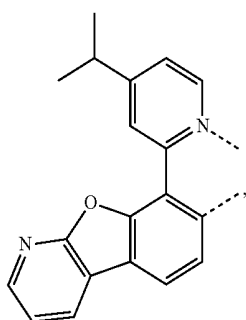
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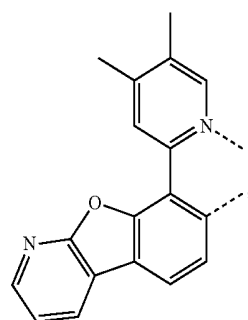


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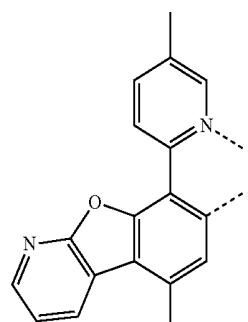


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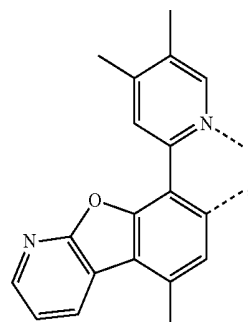
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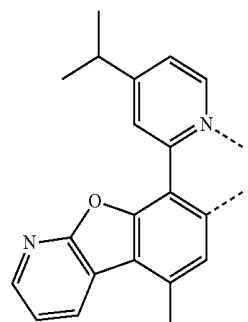
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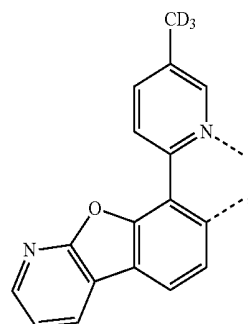
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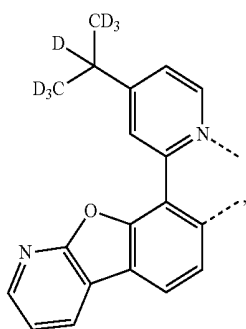


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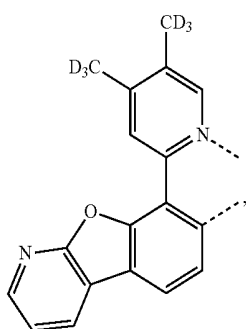


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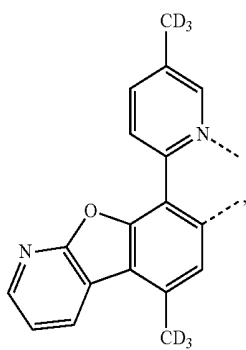
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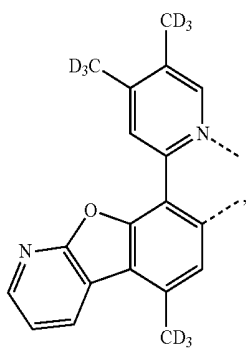
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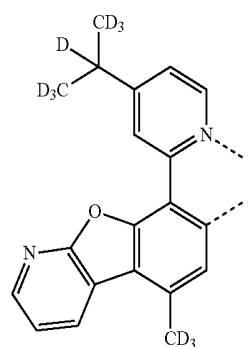


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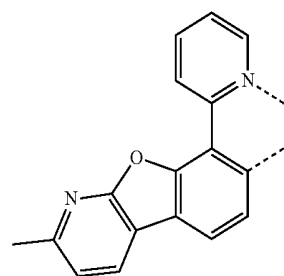


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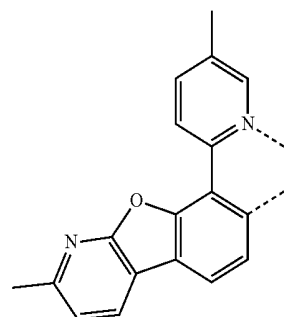
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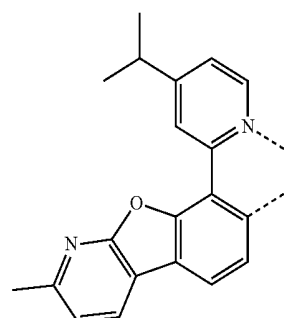
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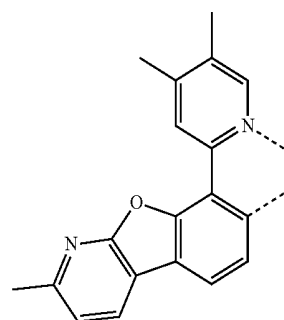
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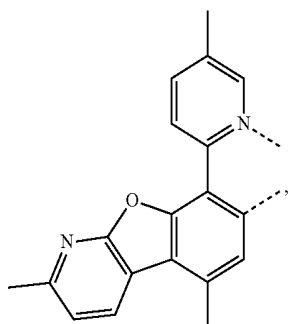


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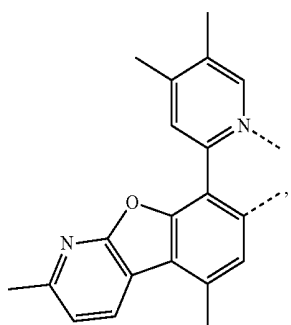


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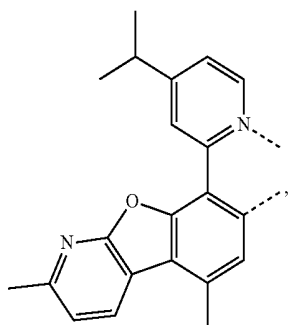
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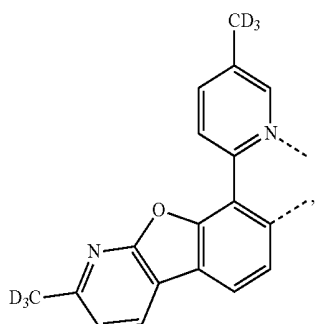
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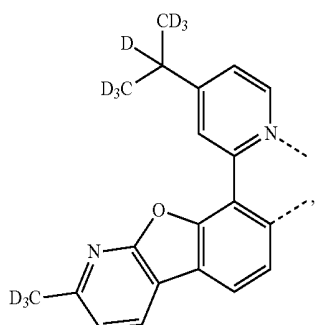
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LB392

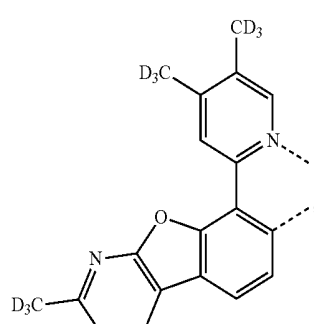


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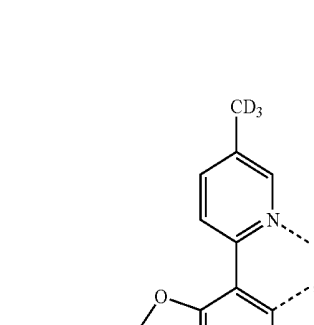


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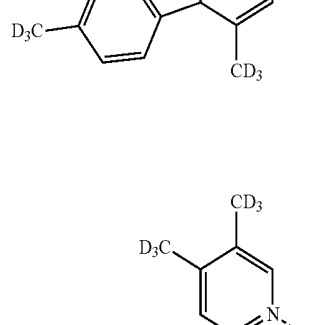
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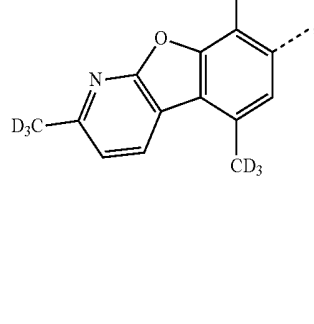
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LB396

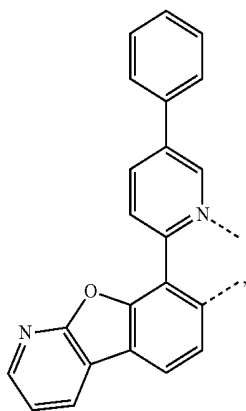


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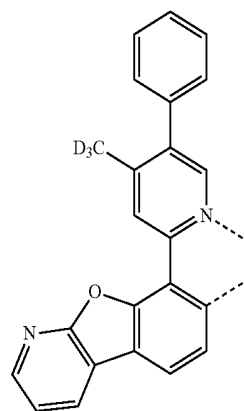
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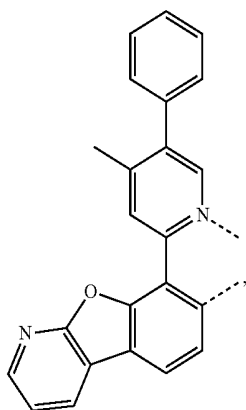


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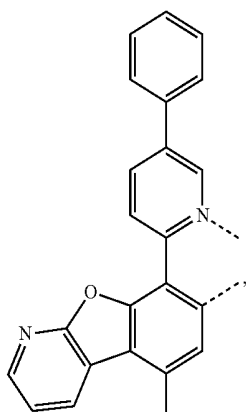
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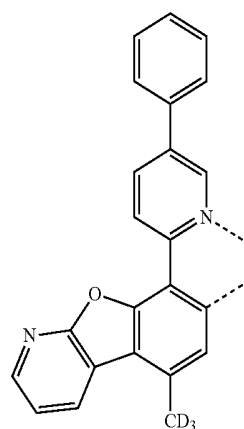
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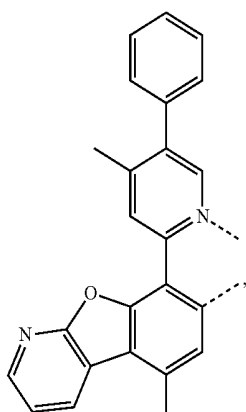
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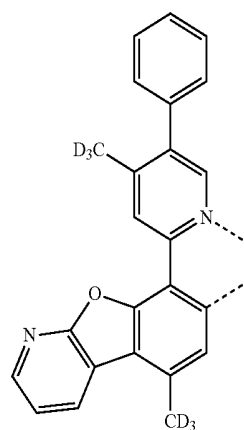
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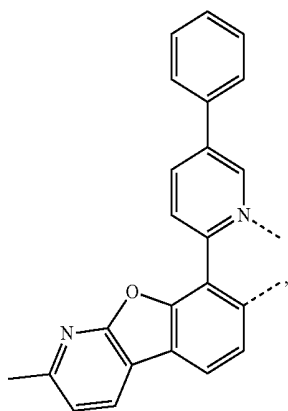


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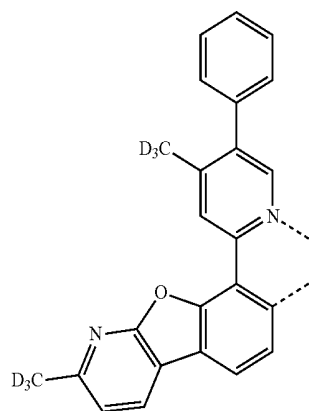
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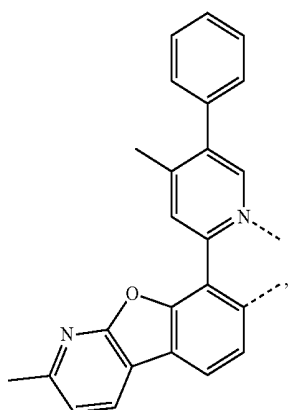


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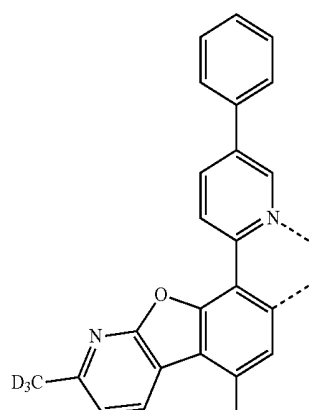
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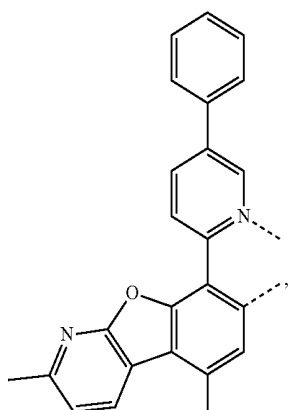
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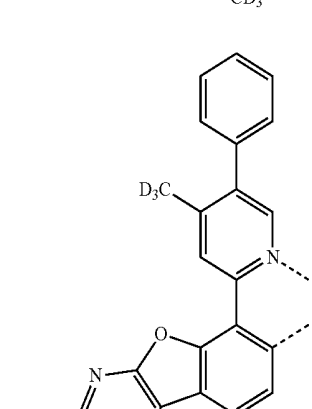
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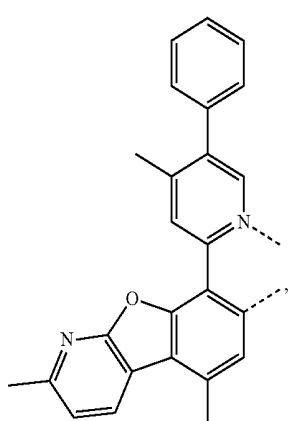
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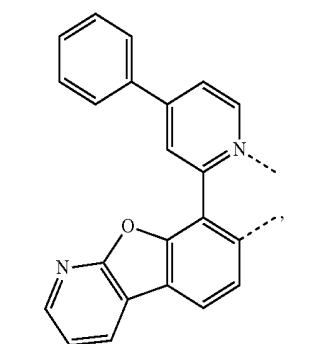
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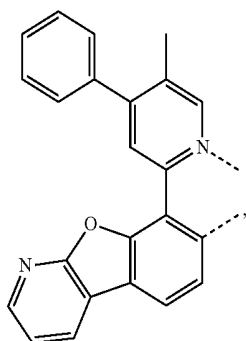


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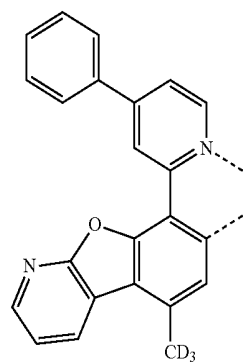
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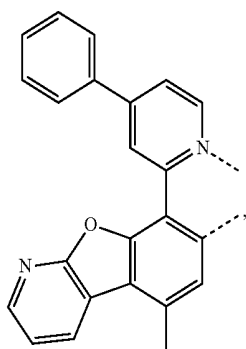


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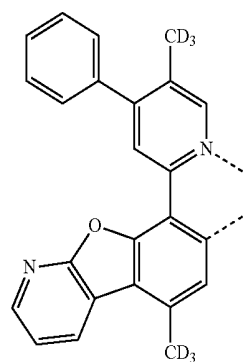
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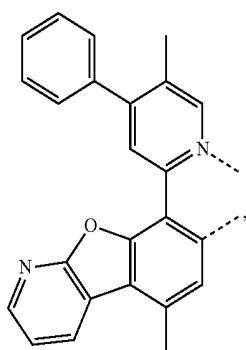
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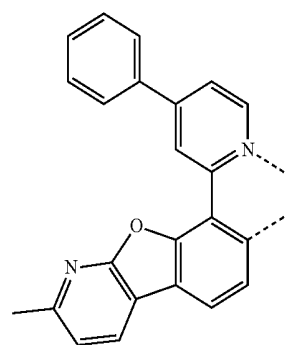
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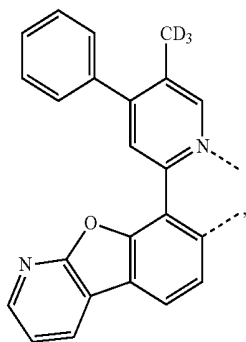
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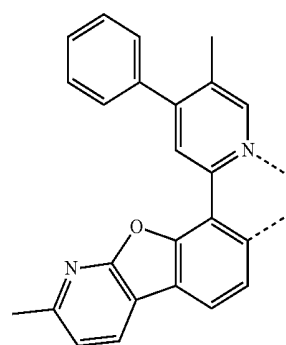
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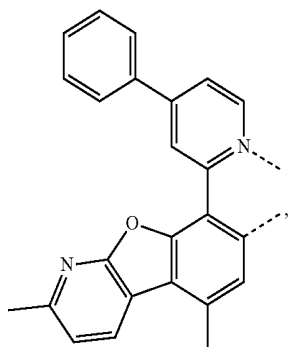


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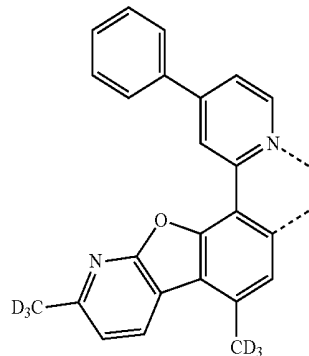
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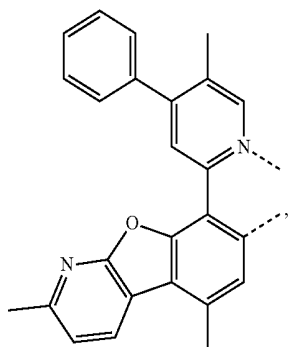


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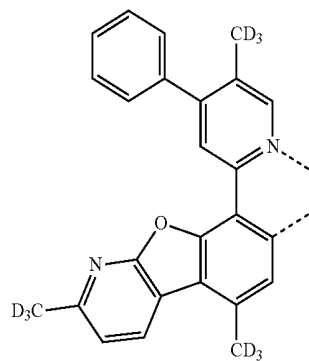
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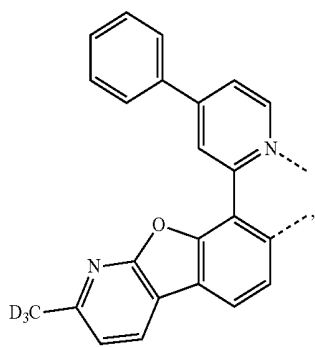
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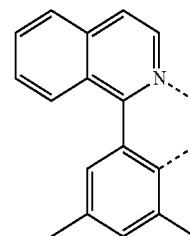
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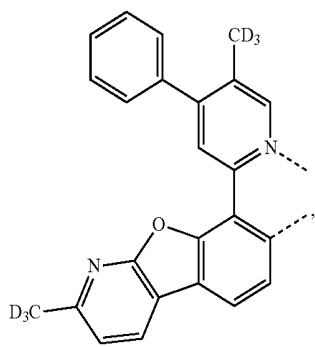
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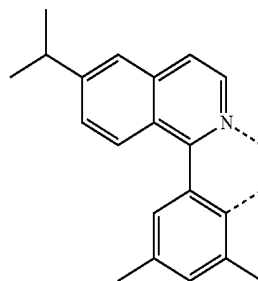
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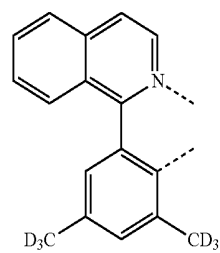
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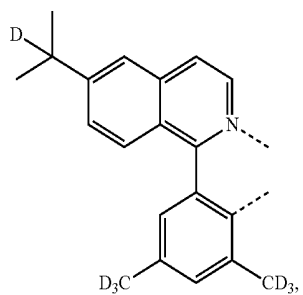


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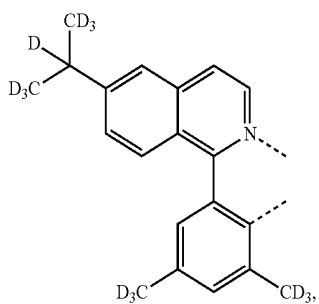


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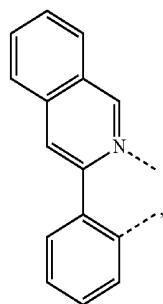
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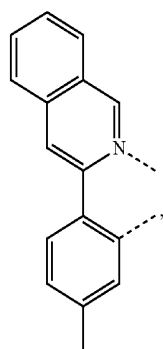
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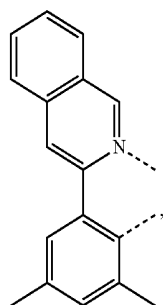
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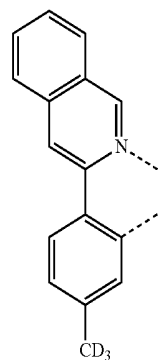


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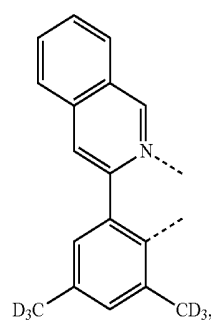


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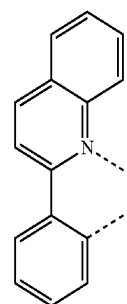
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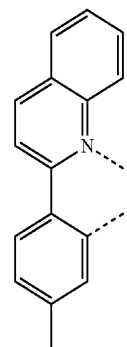
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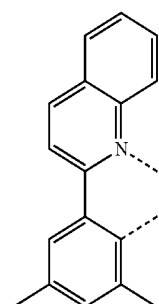
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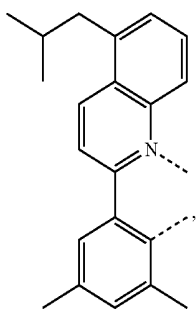


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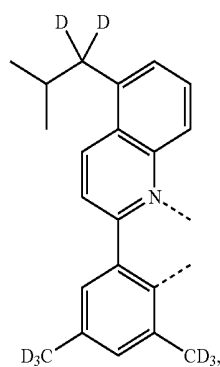
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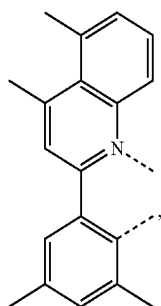


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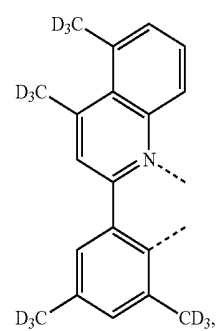
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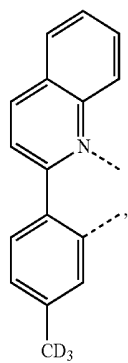
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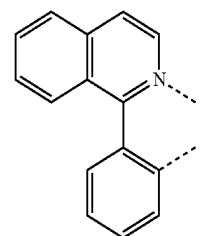
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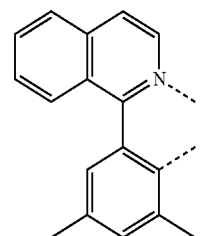
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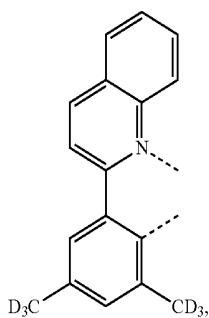
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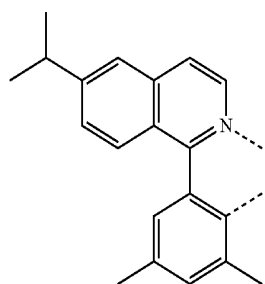
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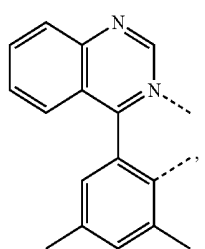
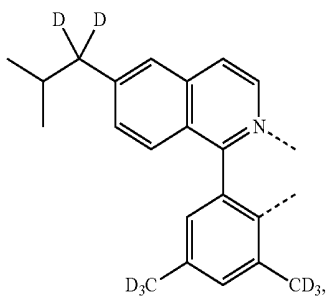
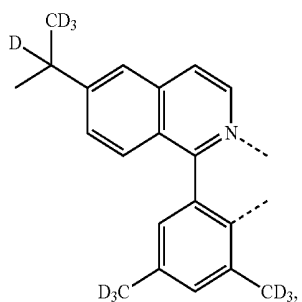
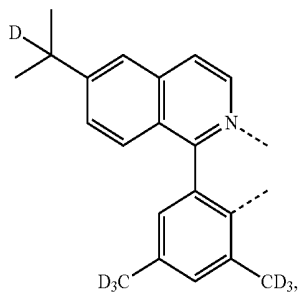
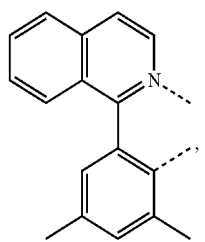
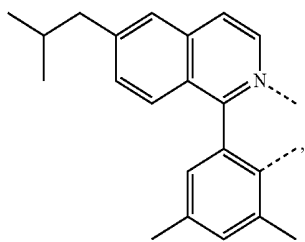


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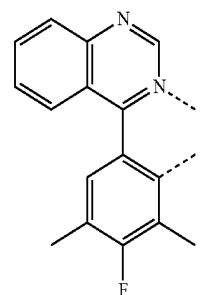
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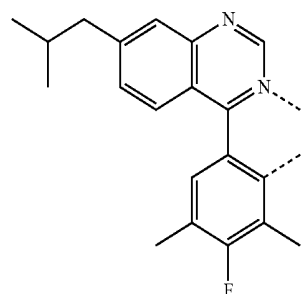
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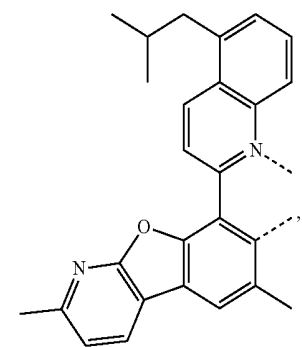


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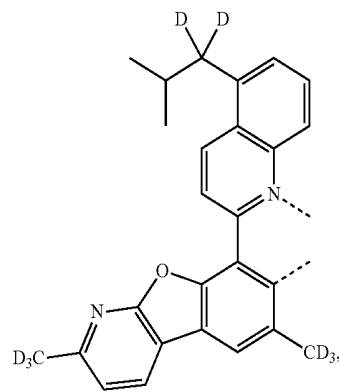
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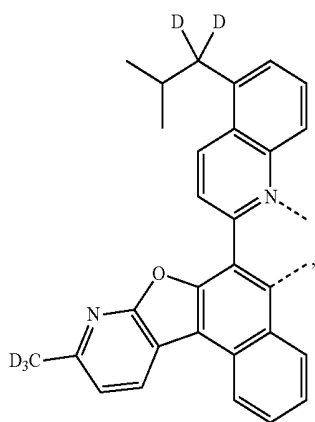


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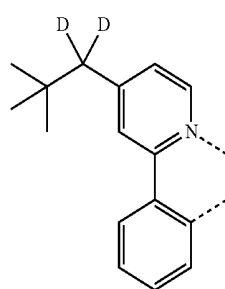


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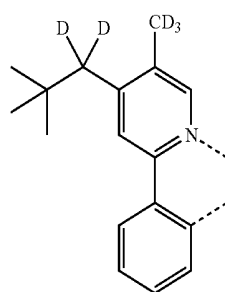
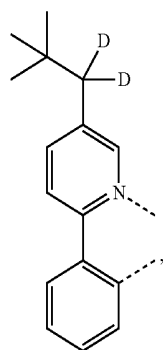
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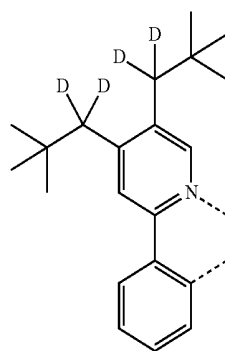
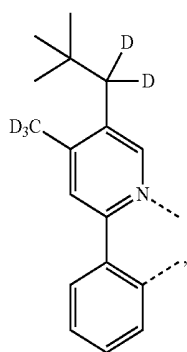
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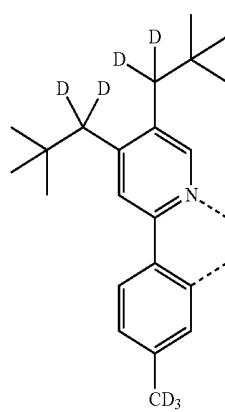
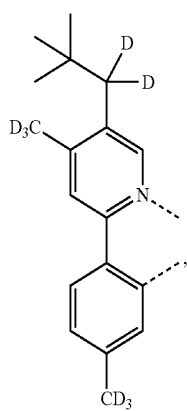
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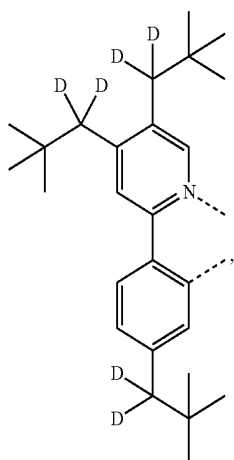
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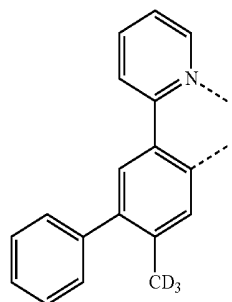
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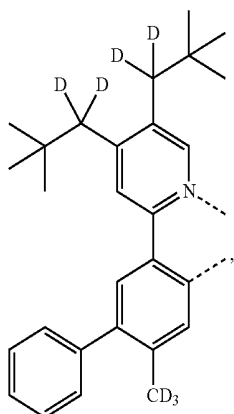


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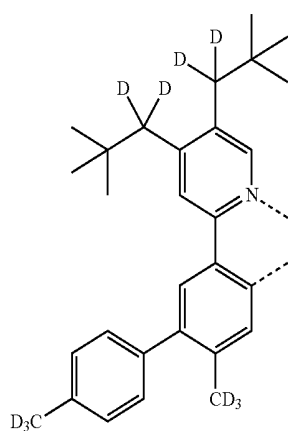
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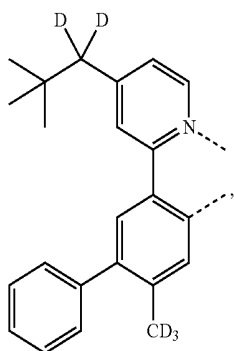
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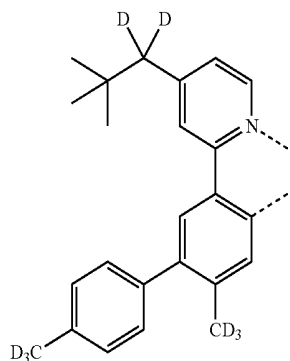
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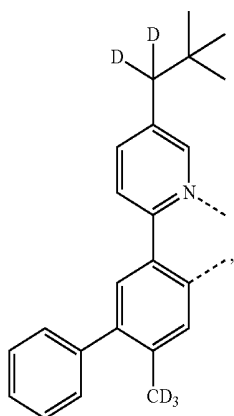
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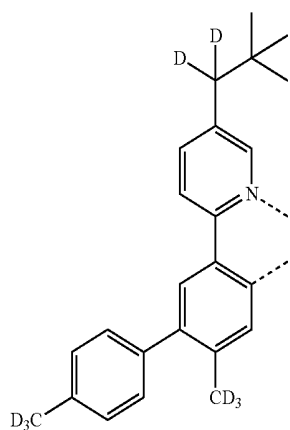
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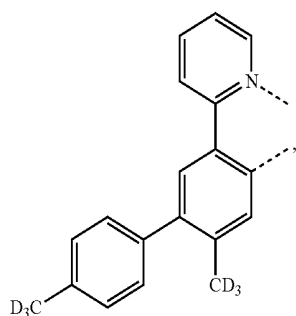


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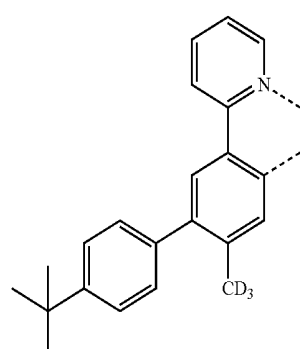
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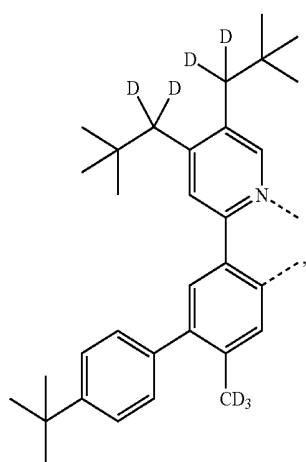


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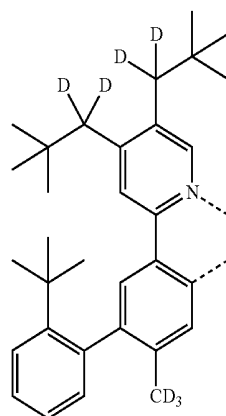
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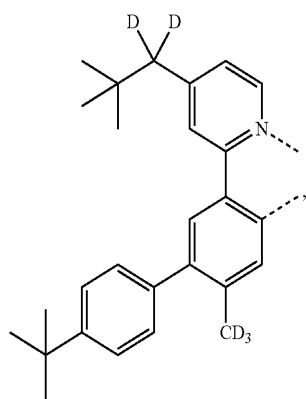
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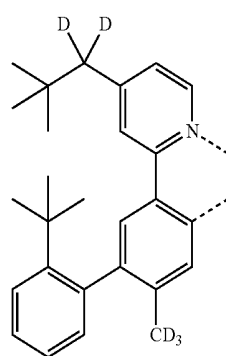
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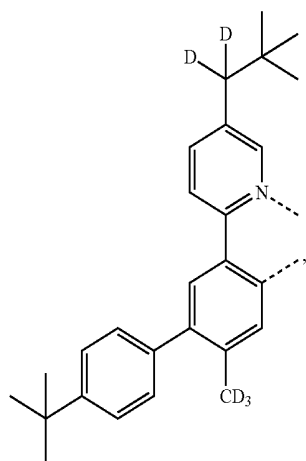
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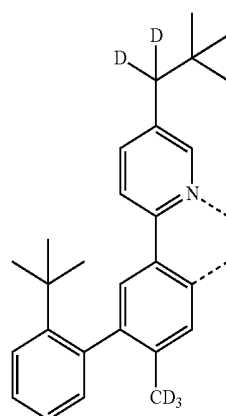
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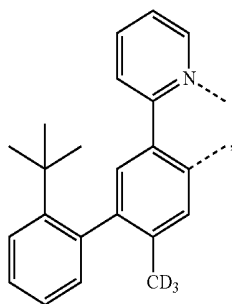


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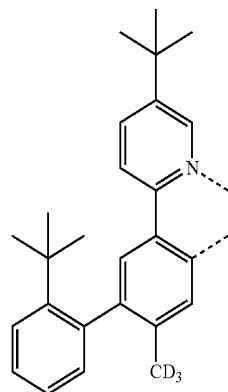
L<sub>B482</sub>

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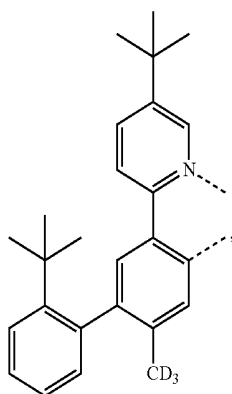


L<sub>B483</sub>

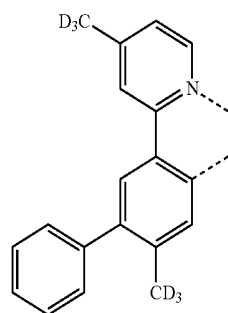
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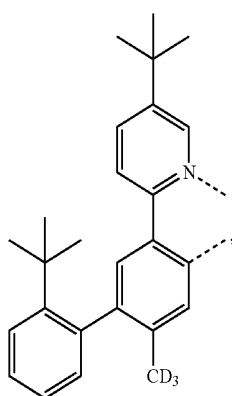
L<sub>B487</sub>



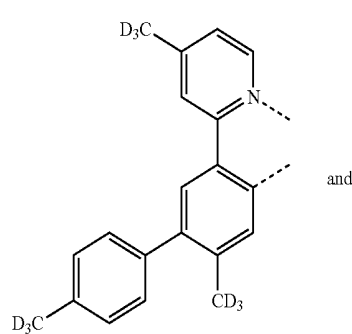
L<sub>B483</sub>



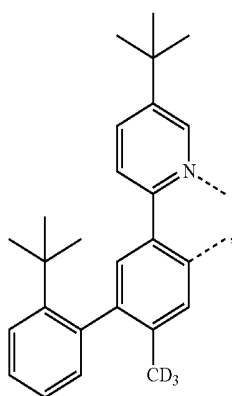
L<sub>B488</sub>



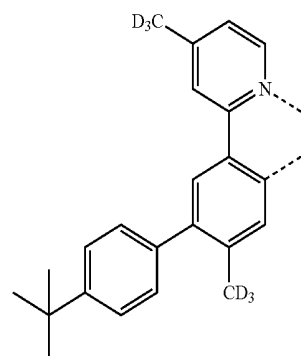
L<sub>B485</sub>



L<sub>B489</sub>

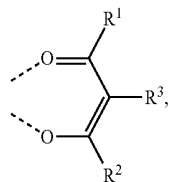


L<sub>B486</sub>



L<sub>B490</sub>

wherein  $L_{C1}$  through  $L_{C1260}$  are based on a structure of Formula X



in which  $R^1$ ,  $R^2$ , and  $R^3$  are defined as:

Ligand	$R^1$	$R^2$	$R^3$
$L_{C1}$	$R^{D1}$	$R^{D1}$	H
$L_{C2}$	$R^{D2}$	$R^{D2}$	H
$L_{C3}$	$R^{D3}$	$R^{D3}$	H
$L_{C4}$	$R^{D4}$	$R^{D4}$	H
$L_{C5}$	$R^{D5}$	$R^{D5}$	H
$L_{C6}$	$R^{D6}$	$R^{D6}$	H
$L_{C7}$	$R^{D7}$	$R^{D7}$	H
$L_{C8}$	$R^{D8}$	$R^{D8}$	H
$L_{C9}$	$R^{D9}$	$R^{D9}$	H
$L_{C10}$	$R^{D10}$	$R^{D10}$	H
$L_{C11}$	$R^{D11}$	$R^{D11}$	H
$L_{C12}$	$R^{D12}$	$R^{D12}$	H
$L_{C13}$	$R^{D13}$	$R^{D13}$	H
$L_{C14}$	$R^{D14}$	$R^{D14}$	H
$L_{C15}$	$R^{D15}$	$R^{D15}$	H
$L_{C16}$	$R^{D16}$	$R^{D16}$	H
$L_{C17}$	$R^{D17}$	$R^{D17}$	H
$L_{C18}$	$R^{D18}$	$R^{D18}$	H
$L_{C19}$	$R^{D19}$	$R^{D19}$	H
$L_{C20}$	$R^{D20}$	$R^{D20}$	H
$L_{C21}$	$R^{D21}$	$R^{D21}$	H
$L_{C22}$	$R^{D22}$	$R^{D22}$	H
$L_{C23}$	$R^{D23}$	$R^{D23}$	H
$L_{C24}$	$R^{D24}$	$R^{D24}$	H
$L_{C25}$	$R^{D25}$	$R^{D25}$	H
$L_{C26}$	$R^{D26}$	$R^{D26}$	H
$L_{C27}$	$R^{D27}$	$R^{D27}$	H
$L_{C28}$	$R^{D28}$	$R^{D28}$	H
$L_{C29}$	$R^{D29}$	$R^{D29}$	H
$L_{C30}$	$R^{D30}$	$R^{D30}$	H
$L_{C31}$	$R^{D31}$	$R^{D31}$	H
$L_{C32}$	$R^{D32}$	$R^{D32}$	H
$L_{C33}$	$R^{D33}$	$R^{D33}$	H
$L_{C34}$	$R^{D34}$	$R^{D34}$	H
$L_{C35}$	$R^{D35}$	$R^{D35}$	H
$L_{C36}$	$R^{D40}$	$R^{D40}$	H
$L_{C37}$	$R^{D41}$	$R^{D41}$	H
$L_{C38}$	$R^{D42}$	$R^{D42}$	H
$L_{C39}$	$R^{D64}$	$R^{D64}$	H
$L_{C40}$	$R^{D66}$	$R^{D66}$	H
$L_{C41}$	$R^{D68}$	$R^{D68}$	H
$L_{C42}$	$R^{D76}$	$R^{D76}$	H
$L_{C43}$	$R^{D1}$	$R^{D2}$	H
$L_{C44}$	$R^{D1}$	$R^{D3}$	H
$L_{C45}$	$R^{D1}$	$R^{D4}$	H
$L_{C46}$	$R^{D1}$	$R^{D5}$	H
$L_{C47}$	$R^{D1}$	$R^{D6}$	H
$L_{C48}$	$R^{D1}$	$R^{D7}$	H
$L_{C49}$	$R^{D1}$	$R^{D8}$	H
$L_{C50}$	$R^{D1}$	$R^{D9}$	H
$L_{C51}$	$R^{D1}$	$R^{D10}$	H
$L_{C52}$	$R^{D1}$	$R^{D11}$	H
$L_{C53}$	$R^{D1}$	$R^{D12}$	H
$L_{C54}$	$R^{D1}$	$R^{D13}$	H
$L_{C55}$	$R^{D1}$	$R^{D14}$	H
$L_{C56}$	$R^{D1}$	$R^{D15}$	H
$L_{C57}$	$R^{D1}$	$R^{D16}$	H
$L_{C58}$	$R^{D1}$	$R^{D17}$	H
$L_{C59}$	$R^{D1}$	$R^{D18}$	H

-continued

Ligand	$R^1$	$R^2$	$R^3$
$L_{C60}$	$R^{D1}$	$R^{D19}$	H
$L_{C61}$	$R^{D1}$	$R^{D20}$	H
$L_{C62}$	$R^{D1}$	$R^{D21}$	H
$L_{C63}$	$R^{D1}$	$R^{D22}$	H
$L_{C64}$	$R^{D1}$	$R^{D23}$	H
$L_{C65}$	$R^{D1}$	$R^{D24}$	H
$L_{C66}$	$R^{D1}$	$R^{D25}$	H
$L_{C67}$	$R^{D1}$	$R^{D26}$	H
$L_{C68}$	$R^{D1}$	$R^{D27}$	H
$L_{C69}$	$R^{D1}$	$R^{D28}$	H
$L_{C70}$	$R^{D1}$	$R^{D29}$	H
$L_{C71}$	$R^{D1}$	$R^{D30}$	H
$L_{C72}$	$R^{D1}$	$R^{D31}$	H
$L_{C73}$	$R^{D1}$	$R^{D32}$	H
$L_{C74}$	$R^{D1}$	$R^{D33}$	H
$L_{C75}$	$R^{D1}$	$R^{D34}$	H
$L_{C76}$	$R^{D1}$	$R^{D35}$	H
$L_{C77}$	$R^{D1}$	$R^{D40}$	H
$L_{C78}$	$R^{D1}$	$R^{D41}$	H
$L_{C79}$	$R^{D1}$	$R^{D42}$	H
$L_{C80}$	$R^{D1}$	$R^{D64}$	H
$L_{C81}$	$R^{D1}$	$R^{D66}$	H
$L_{C82}$	$R^{D1}$	$R^{D68}$	H
$L_{C83}$	$R^{D1}$	$R^{D76}$	H
$L_{C84}$	$R^{D2}$	$R^{D1}$	H
$L_{C85}$	$R^{D2}$	$R^{D3}$	H
$L_{C86}$	$R^{D2}$	$R^{D4}$	H
$L_{C87}$	$R^{D2}$	$R^{D5}$	H
$L_{C88}$	$R^{D2}$	$R^{D6}$	H
$L_{C89}$	$R^{D2}$	$R^{D7}$	H
$L_{C90}$	$R^{D2}$	$R^{D8}$	H
$L_{C91}$	$R^{D2}$	$R^{D9}$	H
$L_{C92}$	$R^{D2}$	$R^{D10}$	H
$L_{C93}$	$R^{D2}$	$R^{D11}$	H
$L_{C94}$	$R^{D2}$	$R^{D12}$	H
$L_{C95}$	$R^{D2}$	$R^{D13}$	H
$L_{C96}$	$R^{D2}$	$R^{D14}$	H
$L_{C97}$	$R^{D2}$	$R^{D15}$	H
$L_{C98}$	$R^{D2}$	$R^{D16}$	H
$L_{C99}$	$R^{D2}$	$R^{D17}$	H
$L_{C100}$	$R^{D2}$	$R^{D18}$	H
$L_{C101}$	$R^{D2}$	$R^{D19}$	H
$L_{C102}$	$R^{D2}$	$R^{D20}$	H
$L_{C103}$	$R^{D2}$	$R^{D21}$	H
$L_{C104}$	$R^{D2}$	$R^{D22}$	H
$L_{C105}$	$R^{D2}$	$R^{D23}$	H
$L_{C106}$	$R^{D2}$	$R^{D24}$	H
$L_{C107}$	$R^{D2}$	$R^{D25}$	H
$L_{C108}$	$R^{D2}$	$R^{D26}$	H
$L_{C109}$	$R^{D2}$	$R^{D27}$	H
$L_{C110}$	$R^{D2}$	$R^{D28}$	H
$L_{C111}$	$R^{D2}$	$R^{D29}$	H
$L_{C112}$	$R^{D2}$	$R^{D30}$	H
$L_{C113}$	$R^{D2}$	$R^{D31}$	H
$L_{C114}$	$R^{D2}$	$R^{D32}$	H
$L_{C115}$	$R^{D2}$	$R^{D33}$	H
$L_{C116}$	$R^{D2}$	$R^{D34}$	H
$L_{C117}$	$R^{D2}$	$R^{D35}$	H
$L_{C118}$	$R^{D2}$	$R^{D40}$	H
$L_{C119}$	$R^{D2}$	$R^{D41}$	H
$L_{C120}$	$R^{D2}$	$R^{D42}$	H
$L_{C121}$	$R^{D2}$	$R^{D64}$	H
$L_{C122}$	$R^{D2}$	$R^{D66}$	H
$L_{C123}$	$R^{D2}$	$R^{D68}$	H
$L_{C124}$	$R^{D2}$	$R^{D76}$	H
$L_{C125}$	$R^{D3}$	$R^{D4}$	H
$L_{C126}$	$R^{D3}$	$R^{D5}$	H
$L_{C127}$	$R^{D3}$	$R^{D6}$	H
$L_{C128}$	$R^{D3}$	$R^{D7}$	H
$L_{C129}$	$R^{D3}$	$R^{D8}$	H
$L_{C130}$	$R^{D3}$	$R^{D9}$	H
$L_{C131}$	$R^{D3}$	$R^{D10}$	H
$L_{C132}$	$R^{D3}$	$R^{D11}$	H
$L_{C133}$	$R^{D3}$	$R^{D12}$	H

-continued

Ligand	R <sup>1</sup>	R <sup>2</sup>	R <sup>3</sup>
L <sub>C134</sub>	R <sup>D3</sup>	R <sup>D13</sup>	H
L <sub>C135</sub>	R <sup>D3</sup>	R <sup>D14</sup>	H
L <sub>C136</sub>	R <sup>D3</sup>	R <sup>D15</sup>	H
L <sub>C137</sub>	R <sup>D3</sup>	R <sup>D16</sup>	H
L <sub>C138</sub>	R <sup>D3</sup>	R <sup>D17</sup>	H
L <sub>C139</sub>	R <sup>D3</sup>	R <sup>D18</sup>	H
L <sub>C140</sub>	R <sup>D3</sup>	R <sup>D19</sup>	H
L <sub>C141</sub>	R <sup>D3</sup>	R <sup>D20</sup>	H
L <sub>C142</sub>	R <sup>D3</sup>	R <sup>D21</sup>	H
L <sub>C143</sub>	R <sup>D3</sup>	R <sup>D22</sup>	H
L <sub>C144</sub>	R <sup>D3</sup>	R <sup>D23</sup>	H
L <sub>C145</sub>	R <sup>D3</sup>	R <sup>D24</sup>	H
L <sub>C146</sub>	R <sup>D3</sup>	R <sup>D25</sup>	H
L <sub>C147</sub>	R <sup>D3</sup>	R <sup>D26</sup>	H
L <sub>C148</sub>	R <sup>D3</sup>	R <sup>D27</sup>	H
L <sub>C149</sub>	R <sup>D3</sup>	R <sup>D28</sup>	H
L <sub>C150</sub>	R <sup>D3</sup>	R <sup>D29</sup>	H
L <sub>C151</sub>	R <sup>D3</sup>	R <sup>D30</sup>	H
L <sub>C152</sub>	R <sup>D3</sup>	R <sup>D31</sup>	H
L <sub>C153</sub>	R <sup>D3</sup>	R <sup>D32</sup>	H
L <sub>C154</sub>	R <sup>D3</sup>	R <sup>D33</sup>	H
L <sub>C155</sub>	R <sup>D3</sup>	R <sup>D34</sup>	H
L <sub>C156</sub>	R <sup>D3</sup>	R <sup>D35</sup>	H
L <sub>C157</sub>	R <sup>D3</sup>	R <sup>D40</sup>	H
L <sub>C158</sub>	R <sup>D3</sup>	R <sup>D41</sup>	H
L <sub>C159</sub>	R <sup>D3</sup>	R <sup>D42</sup>	H
L <sub>C160</sub>	R <sup>D3</sup>	R <sup>D64</sup>	H
L <sub>C161</sub>	R <sup>D3</sup>	R <sup>D66</sup>	H
L <sub>C162</sub>	R <sup>D3</sup>	R <sup>D68</sup>	H
L <sub>C163</sub>	R <sup>D3</sup>	R <sup>D76</sup>	H
L <sub>C164</sub>	R <sup>D4</sup>	R <sup>D5</sup>	H
L <sub>C165</sub>	R <sup>D4</sup>	R <sup>D6</sup>	H
L <sub>C166</sub>	R <sup>D4</sup>	R <sup>D7</sup>	H
L <sub>C167</sub>	R <sup>D4</sup>	R <sup>D8</sup>	H
L <sub>C168</sub>	R <sup>D4</sup>	R <sup>D9</sup>	H
L <sub>C169</sub>	R <sup>D4</sup>	R <sup>D10</sup>	H
L <sub>C170</sub>	R <sup>D4</sup>	R <sup>D11</sup>	H
L <sub>C171</sub>	R <sup>D4</sup>	R <sup>D12</sup>	H
L <sub>C172</sub>	R <sup>D4</sup>	R <sup>D13</sup>	H
L <sub>C173</sub>	R <sup>D4</sup>	R <sup>D14</sup>	H
L <sub>C174</sub>	R <sup>D4</sup>	R <sup>D15</sup>	H
L <sub>C175</sub>	R <sup>D4</sup>	R <sup>D16</sup>	H
L <sub>C176</sub>	R <sup>D4</sup>	R <sup>D17</sup>	H
L <sub>C177</sub>	R <sup>D4</sup>	R <sup>D18</sup>	H
L <sub>C178</sub>	R <sup>D4</sup>	R <sup>D19</sup>	H
L <sub>C179</sub>	R <sup>D4</sup>	R <sup>D20</sup>	H
L <sub>C180</sub>	R <sup>D4</sup>	R <sup>D21</sup>	H
L <sub>C181</sub>	R <sup>D4</sup>	R <sup>D22</sup>	H
L <sub>C182</sub>	R <sup>D4</sup>	R <sup>D23</sup>	H
L <sub>C183</sub>	R <sup>D4</sup>	R <sup>D24</sup>	H
L <sub>C184</sub>	R <sup>D4</sup>	R <sup>D25</sup>	H
L <sub>C185</sub>	R <sup>D4</sup>	R <sup>D26</sup>	H
L <sub>C186</sub>	R <sup>D4</sup>	R <sup>D27</sup>	H
L <sub>C187</sub>	R <sup>D4</sup>	R <sup>D28</sup>	H
L <sub>C188</sub>	R <sup>D4</sup>	R <sup>D29</sup>	H
L <sub>C189</sub>	R <sup>D4</sup>	R <sup>D30</sup>	H
L <sub>C190</sub>	R <sup>D4</sup>	R <sup>D31</sup>	H
L <sub>C191</sub>	R <sup>D4</sup>	R <sup>D32</sup>	H
L <sub>C192</sub>	R <sup>D4</sup>	R <sup>D33</sup>	H
L <sub>C193</sub>	R <sup>D4</sup>	R <sup>D34</sup>	H
L <sub>C194</sub>	R <sup>D4</sup>	R <sup>D35</sup>	H
L <sub>C195</sub>	R <sup>D4</sup>	R <sup>D40</sup>	H
L <sub>C196</sub>	R <sup>D4</sup>	R <sup>D41</sup>	H
L <sub>C197</sub>	R <sup>D4</sup>	R <sup>D42</sup>	H
L <sub>C198</sub>	R <sup>D4</sup>	R <sup>D64</sup>	H
L <sub>C199</sub>	R <sup>D4</sup>	R <sup>D66</sup>	H
L <sub>C200</sub>	R <sup>D4</sup>	R <sup>D68</sup>	H
L <sub>C201</sub>	R <sup>D4</sup>	R <sup>D76</sup>	H
L <sub>C202</sub>	R <sup>D4</sup>	R <sup>D1</sup>	H
L <sub>C203</sub>	R <sup>D7</sup>	R <sup>D5</sup>	H
L <sub>C204</sub>	R <sup>D7</sup>	R <sup>D6</sup>	H
L <sub>C205</sub>	R <sup>D7</sup>	R <sup>D8</sup>	H
L <sub>C206</sub>	R <sup>D7</sup>	R <sup>D9</sup>	H
L <sub>C207</sub>	R <sup>D7</sup>	R <sup>D10</sup>	H

-continued

Ligand	R <sup>1</sup>	R <sup>2</sup>	R <sup>3</sup>
L <sub>C208</sub>	R <sup>D7</sup>	R <sup>D11</sup>	H
L <sub>C209</sub>	R <sup>D7</sup>	R <sup>D12</sup>	H
L <sub>C210</sub>	R <sup>D7</sup>	R <sup>D13</sup>	H
L <sub>C211</sub>	R <sup>D7</sup>	R <sup>D14</sup>	H
L <sub>C212</sub>	R <sup>D7</sup>	R <sup>D15</sup>	H
L <sub>C213</sub>	R <sup>D7</sup>	R <sup>D16</sup>	H
L <sub>C214</sub>	R <sup>D7</sup>	R <sup>D17</sup>	H
L <sub>C215</sub>	R <sup>D7</sup>	R <sup>D18</sup>	H
L <sub>C216</sub>	R <sup>D7</sup>	R <sup>D19</sup>	H
L <sub>C217</sub>	R <sup>D7</sup>	R <sup>D20</sup>	H
L <sub>C218</sub>	R <sup>D7</sup>	R <sup>D21</sup>	H
L <sub>C219</sub>	R <sup>D7</sup>	R <sup>D22</sup>	H
L <sub>C220</sub>	R <sup>D7</sup>	R <sup>D23</sup>	H
L <sub>C221</sub>	R <sup>D7</sup>	R <sup>D24</sup>	H
L <sub>C222</sub>	R <sup>D7</sup>	R <sup>D25</sup>	H
L <sub>C223</sub>	R <sup>D7</sup>	R <sup>D26</sup>	H
L <sub>C224</sub>	R <sup>D7</sup>	R <sup>D27</sup>	H
L <sub>C225</sub>	R <sup>D7</sup>	R <sup>D28</sup>	H
L <sub>C226</sub>	R <sup>D7</sup>	R <sup>D29</sup>	H
L <sub>C227</sub>	R <sup>D7</sup>	R <sup>D30</sup>	H
L <sub>C228</sub>	R <sup>D7</sup>	R <sup>D31</sup>	H
L <sub>C229</sub>	R <sup>D7</sup>	R <sup>D32</sup>	H
L <sub>C230</sub>	R <sup>D7</sup>	R <sup>D33</sup>	H
L <sub>C231</sub>	R <sup>D7</sup>	R <sup>D34</sup>	H
L <sub>C232</sub>	R <sup>D7</sup>	R <sup>D35</sup>	H
L <sub>C233</sub>	R <sup>D7</sup>	R <sup>D40</sup>	H
L <sub>C234</sub>	R <sup>D7</sup>	R <sup>D41</sup>	H
L <sub>C235</sub>	R <sup>D7</sup>	R <sup>D42</sup>	H
L <sub>C236</sub>	R <sup>D7</sup>	R <sup>D64</sup>	H
L <sub>C237</sub>	R <sup>D7</sup>	R <sup>D66</sup>	H
L <sub>C238</sub>	R <sup>D7</sup>	R <sup>D68</sup>	H
L <sub>C239</sub>	R <sup>D7</sup>	R <sup>D76</sup>	H
L <sub>C240</sub>	R <sup>D8</sup>	R <sup>D5</sup>	H
L <sub>C241</sub>	R <sup>D8</sup>	R <sup>D6</sup>	H
L <sub>C242</sub>	R <sup>D8</sup>	R <sup>D9</sup>	H
L <sub>C243</sub>	R <sup>D8</sup>	R <sup>D10</sup>	H
L <sub>C244</sub>	R <sup>D8</sup>	R <sup>D11</sup>	H
L <sub>C245</sub>	R <sup>D8</sup>	R <sup>D12</sup>	H
L <sub>C246</sub>	R <sup>D8</sup>	R <sup>D13</sup>	H
L <sub>C247</sub>	R <sup>D8</sup>	R <sup>D14</sup>	H
L <sub>C248</sub>	R <sup>D8</sup>	R <sup>D15</sup>	H
L <sub>C249</sub>	R <sup>D8</sup>	R <sup>D16</sup>	H
L <sub>C250</sub>	R <sup>D8</sup>	R <sup>D17</sup>	H
L <sub>C251</sub>	R <sup>D8</sup>	R <sup>D18</sup>	H
L <sub>C252</sub>	R <sup>D8</sup>	R <sup>D19</sup>	H
L <sub>C253</sub>	R <sup>D8</sup>	R <sup>D20</sup>	H
L <sub>C254</sub>	R <sup>D8</sup>	R <sup>D21</sup>	H
L <sub>C255</sub>	R <sup>D8</sup>	R <sup>D22</sup>	H
L <sub>C256</sub>	R <sup>D8</sup>	R <sup>D23</sup>	H
L <sub>C257</sub>	R <sup>D8</sup>	R <sup>D24</sup>	H
L <sub>C258</sub>	R <sup>D8</sup>	R <sup>D25</sup>	H
L <sub>C259</sub>	R <sup>D8</sup>	R <sup>D26</sup>	H
L <sub>C260</sub>	R <sup>D8</sup>	R <sup>D27</sup>	H
L <sub>C261</sub>	R <sup>D8</sup>	R <sup>D28</sup>	H
L <sub>C262</sub>	R <sup>D8</sup>	R <sup>D29</sup>	H
L <sub>C263</sub>	R <sup>D8</sup>	R <sup>D30</sup>	H
L <sub>C264</sub>	R <sup>D8</sup>	R <sup>D31</sup>	H
L <sub>C265</sub>	R <sup>D8</sup>	R <sup>D32</sup>	H
L <sub>C266</sub>	R <sup>D8</sup>	R <sup>D33</sup>	H
L <sub>C267</sub>	R <sup>D8</sup>	R <sup>D34</sup>	H
L <sub>C268</sub>	R <sup>D8</sup>	R <sup>D35</sup>	H
L <sub>C269</sub>	R <sup>D8</sup>	R <sup>D40</sup>	H
L <sub>C270</sub>	R <sup>D8</sup>	R <sup>D41</sup>	H
L <sub>C271</sub>	R <sup>D8</sup>	R <sup>D42</sup>	H
L <sub>C272</sub>	R <sup>D8</sup>	R <sup>D64</sup>	H
L <sub>C273</sub>	R <sup>D8</sup>	R <sup>D66</sup>	H
L <sub>C274</sub>	R <sup>D8</sup>	R <sup>D68</sup>	H
L <sub>C275</sub>	R <sup>D8</sup>	R <sup>D76</sup>	H
L <sub>C276</sub>	R <sup>D11</sup>	R <sup>D5</sup>	H
L <sub>C277</sub>	R <sup>D11</sup>	R <sup>D6</sup>	H
L <sub>C278</sub>	R <sup>D11</sup>	R <sup>D9</sup>	H
L <sub>C279</sub>	R <sup>D11</sup>	R <sup>D10</sup>	H
L <sub>C280</sub>	R <sup>D11</sup>	R <sup>D12</sup>	H
L <sub>C281</sub>	R <sup>D11</sup>	R <sup>D13</sup>	H

-continued

Ligand	R <sup>1</sup>	R <sup>2</sup>	R <sup>3</sup>
L <sub>C282</sub>	R <sup>D11</sup>	R <sup>D14</sup>	H
L <sub>C283</sub>	R <sup>D11</sup>	R <sup>D15</sup>	H
L <sub>C284</sub>	R <sup>D11</sup>	R <sup>D16</sup>	H
L <sub>C285</sub>	R <sup>D11</sup>	R <sup>D17</sup>	H
L <sub>C286</sub>	R <sup>D11</sup>	R <sup>D18</sup>	H
L <sub>C287</sub>	R <sup>D11</sup>	R <sup>D19</sup>	H
L <sub>C288</sub>	R <sup>D11</sup>	R <sup>D20</sup>	H
L <sub>C289</sub>	R <sup>D11</sup>	R <sup>D21</sup>	H
L <sub>C290</sub>	R <sup>D11</sup>	R <sup>D22</sup>	H
L <sub>C291</sub>	R <sup>D11</sup>	R <sup>D23</sup>	H
L <sub>C292</sub>	R <sup>D11</sup>	R <sup>D24</sup>	H
L <sub>C293</sub>	R <sup>D11</sup>	R <sup>D25</sup>	H
L <sub>C294</sub>	R <sup>D11</sup>	R <sup>D26</sup>	H
L <sub>C295</sub>	R <sup>D11</sup>	R <sup>D27</sup>	H
L <sub>C296</sub>	R <sup>D11</sup>	R <sup>D28</sup>	H
L <sub>C297</sub>	R <sup>D11</sup>	R <sup>D29</sup>	H
L <sub>C298</sub>	R <sup>D11</sup>	R <sup>D30</sup>	H
L <sub>C299</sub>	R <sup>D11</sup>	R <sup>D31</sup>	H
L <sub>C300</sub>	R <sup>D11</sup>	R <sup>D32</sup>	H
L <sub>C301</sub>	R <sup>D11</sup>	R <sup>D33</sup>	H
L <sub>C302</sub>	R <sup>D11</sup>	R <sup>D34</sup>	H
L <sub>C303</sub>	R <sup>D11</sup>	R <sup>D35</sup>	H
L <sub>C304</sub>	R <sup>D11</sup>	R <sup>D40</sup>	H
L <sub>C305</sub>	R <sup>D11</sup>	R <sup>D41</sup>	H
L <sub>C306</sub>	R <sup>D11</sup>	R <sup>D42</sup>	H
L <sub>C307</sub>	R <sup>D11</sup>	R <sup>D64</sup>	H
L <sub>C308</sub>	R <sup>D11</sup>	R <sup>D66</sup>	H
L <sub>C309</sub>	R <sup>D11</sup>	R <sup>D68</sup>	H
L <sub>C310</sub>	R <sup>D11</sup>	R <sup>D76</sup>	H
L <sub>C311</sub>	R <sup>D13</sup>	R <sup>D5</sup>	H
L <sub>C312</sub>	R <sup>D13</sup>	R <sup>D6</sup>	H
L <sub>C313</sub>	R <sup>D13</sup>	R <sup>D9</sup>	H
L <sub>C314</sub>	R <sup>D13</sup>	R <sup>D10</sup>	H
L <sub>C315</sub>	R <sup>D13</sup>	R <sup>D12</sup>	H
L <sub>C316</sub>	R <sup>D13</sup>	R <sup>D14</sup>	H
L <sub>C317</sub>	R <sup>D13</sup>	R <sup>D15</sup>	H
L <sub>C318</sub>	R <sup>D13</sup>	R <sup>D16</sup>	H
L <sub>C319</sub>	R <sup>D13</sup>	R <sup>D17</sup>	H
L <sub>C320</sub>	R <sup>D13</sup>	R <sup>D18</sup>	H
L <sub>C321</sub>	R <sup>D13</sup>	R <sup>D19</sup>	H
L <sub>C322</sub>	R <sup>D13</sup>	R <sup>D20</sup>	H
L <sub>C323</sub>	R <sup>D13</sup>	R <sup>D21</sup>	H
L <sub>C324</sub>	R <sup>D13</sup>	R <sup>D22</sup>	H
L <sub>C325</sub>	R <sup>D13</sup>	R <sup>D23</sup>	H
L <sub>C326</sub>	R <sup>D13</sup>	R <sup>D24</sup>	H
L <sub>C327</sub>	R <sup>D13</sup>	R <sup>D25</sup>	H
L <sub>C328</sub>	R <sup>D13</sup>	R <sup>D26</sup>	H
L <sub>C329</sub>	R <sup>D13</sup>	R <sup>D27</sup>	H
L <sub>C330</sub>	R <sup>D13</sup>	R <sup>D28</sup>	H
L <sub>C331</sub>	R <sup>D13</sup>	R <sup>D29</sup>	H
L <sub>C332</sub>	R <sup>D13</sup>	R <sup>D30</sup>	H
L <sub>C333</sub>	R <sup>D13</sup>	R <sup>D31</sup>	H
L <sub>C334</sub>	R <sup>D13</sup>	R <sup>D32</sup>	H
L <sub>C335</sub>	R <sup>D13</sup>	R <sup>D33</sup>	H
L <sub>C336</sub>	R <sup>D13</sup>	R <sup>D34</sup>	H
L <sub>C337</sub>	R <sup>D13</sup>	R <sup>D35</sup>	H
L <sub>C338</sub>	R <sup>D13</sup>	R <sup>D40</sup>	H
L <sub>C339</sub>	R <sup>D13</sup>	R <sup>D41</sup>	H
L <sub>C340</sub>	R <sup>D13</sup>	R <sup>D42</sup>	H
L <sub>C341</sub>	R <sup>D13</sup>	R <sup>D64</sup>	H
L <sub>C342</sub>	R <sup>D13</sup>	R <sup>D66</sup>	H
L <sub>C343</sub>	R <sup>D13</sup>	R <sup>D68</sup>	H
L <sub>C344</sub>	R <sup>D13</sup>	R <sup>D76</sup>	H
L <sub>C345</sub>	R <sup>D14</sup>	R <sup>D5</sup>	H
L <sub>C346</sub>	R <sup>D14</sup>	R <sup>D6</sup>	H
L <sub>C347</sub>	R <sup>D14</sup>	R <sup>D9</sup>	H
L <sub>C348</sub>	R <sup>D14</sup>	R <sup>D10</sup>	H
L <sub>C349</sub>	R <sup>D14</sup>	R <sup>D12</sup>	H
L <sub>C350</sub>	R <sup>D14</sup>	R <sup>D15</sup>	H
L <sub>C351</sub>	R <sup>D14</sup>	R <sup>D16</sup>	H
L <sub>C352</sub>	R <sup>D14</sup>	R <sup>D17</sup>	H
L <sub>C353</sub>	R <sup>D14</sup>	R <sup>D18</sup>	H
L <sub>C354</sub>	R <sup>D14</sup>	R <sup>D19</sup>	H
L <sub>C355</sub>	R <sup>D14</sup>	R <sup>D20</sup>	H

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Ligand	R <sup>1</sup>	R <sup>2</sup>	R <sup>3</sup>
L <sub>C356</sub>	R <sup>D14</sup>	R <sup>D21</sup>	H
L <sub>C357</sub>	R <sup>D14</sup>	R <sup>D22</sup>	H
L <sub>C358</sub>	R <sup>D14</sup>	R <sup>D23</sup>	H
L <sub>C359</sub>	R <sup>D14</sup>	R <sup>D24</sup>	H
L <sub>C360</sub>	R <sup>D14</sup>	R <sup>D25</sup>	H
L <sub>C361</sub>	R <sup>D14</sup>	R <sup>D26</sup>	H
L <sub>C362</sub>	R <sup>D14</sup>	R <sup>D27</sup>	H
L <sub>C363</sub>	R <sup>D14</sup>	R <sup>D28</sup>	H
L <sub>C364</sub>	R <sup>D14</sup>	R <sup>D29</sup>	H
L <sub>C365</sub>	R <sup>D14</sup>	R <sup>D30</sup>	H
L <sub>C366</sub>	R <sup>D14</sup>	R <sup>D31</sup>	H
L <sub>C367</sub>	R <sup>D14</sup>	R <sup>D32</sup>	H
L <sub>C368</sub>	R <sup>D14</sup>	R <sup>D33</sup>	H
L <sub>C369</sub>	R <sup>D14</sup>	R <sup>D34</sup>	H
L <sub>C370</sub>	R <sup>D14</sup>	R <sup>D35</sup>	H
L <sub>C371</sub>	R <sup>D14</sup>	R <sup>D40</sup>	H
L <sub>C372</sub>	R <sup>D14</sup>	R <sup>D41</sup>	H
L <sub>C373</sub>	R <sup>D14</sup>	R <sup>D42</sup>	H
L <sub>C374</sub>	R <sup>D14</sup>	R <sup>D64</sup>	H
L <sub>C375</sub>	R <sup>D14</sup>	R <sup>D66</sup>	H
L <sub>C376</sub>	R <sup>D14</sup>	R <sup>D68</sup>	H
L <sub>C377</sub>	R <sup>D14</sup>	R <sup>D76</sup>	H
L <sub>C378</sub>	R <sup>D22</sup>	R <sup>D5</sup>	H
L <sub>C379</sub>	R <sup>D22</sup>	R <sup>D6</sup>	H
L <sub>C380</sub>	R <sup>D22</sup>	R <sup>D9</sup>	H
L <sub>C381</sub>	R <sup>D22</sup>	R <sup>D10</sup>	H
L <sub>C382</sub>	R <sup>D22</sup>	R <sup>D12</sup>	H
L <sub>C383</sub>	R <sup>D22</sup>	R <sup>D15</sup>	H
L <sub>C384</sub>	R <sup>D22</sup>	R <sup>D16</sup>	H
L <sub>C385</sub>	R <sup>D22</sup>	R <sup>D17</sup>	H
L <sub>C386</sub>	R <sup>D22</sup>	R <sup>D18</sup>	H
L <sub>C387</sub>	R <sup>D22</sup>	R <sup>D19</sup>	H
L <sub>C388</sub>	R <sup>D22</sup>	R <sup>D20</sup>	H
L <sub>C389</sub>	R <sup>D22</sup>	R <sup>D21</sup>	H
L <sub>C390</sub>	R <sup>D22</sup>	R <sup>D23</sup>	H
L <sub>C391</sub>	R <sup>D22</sup>	R <sup>D24</sup>	H
L <sub>C392</sub>	R <sup>D22</sup>	R <sup>D25</sup>	H
L <sub>C393</sub>	R <sup>D22</sup>	R <sup>D26</sup>	H
L <sub>C394</sub>	R <sup>D22</sup>	R <sup>D27</sup>	H
L <sub>C395</sub>	R <sup>D22</sup>	R <sup>D28</sup>	H
L <sub>C396</sub>	R <sup>D22</sup>	R <sup>D29</sup>	H
L <sub>C397</sub>	R <sup>D22</sup>	R <sup>D30</sup>	H
L <sub>C398</sub>	R <sup>D22</sup>	R <sup>D31</sup>	H
L <sub>C399</sub>	R <sup>D22</sup>	R <sup>D32</sup>	H
L <sub>C400</sub>	R <sup>D22</sup>	R <sup>D33</sup>	H
L <sub>C401</sub>	R <sup>D22</sup>	R <sup>D34</sup>	H
L <sub>C402</sub>	R <sup>D22</sup>	R <sup>D35</sup>	H
L <sub>C403</sub>	R <sup>D22</sup>	R <sup>D40</sup>	H
L <sub>C404</sub>	R <sup>D22</sup>	R <sup>D41</sup>	H
L <sub>C405</sub>	R <sup>D22</sup>	R <sup>D42</sup>	H
L <sub>C406</sub>	R <sup>D22</sup>	R <sup>D64</sup>	H
L <sub>C407</sub>	R <sup>D22</sup>	R <sup>D66</sup>	H
L <sub>C408</sub>	R <sup>D22</sup>	R <sup>D68</sup>	H
L <sub>C409</sub>	R <sup>D22</sup>	R <sup>D76</sup>	H
L <sub>C410</sub>	R <sup>D26</sup>	R <sup>D5</sup>	H
L <sub>C411</sub>	R <sup>D26</sup>	R <sup>D6</sup>	H
L <sub>C412</sub>	R <sup>D26</sup>	R <sup>D9</sup>	H
L <sub>C413</sub>	R <sup>D26</sup>	R <sup>D10</sup>	H
L <sub>C414</sub>	R <sup>D26</sup>	R <sup>D12</sup>	H
L <sub>C415</sub>	R <sup>D26</sup>	R <sup>D15</sup>	H
L <sub>C416</sub>	R <sup>D26</sup>	R <sup>D16</sup>	H
L <sub>C417</sub>	R <sup>D26</sup>	R <sup>D17</sup>	H
L <sub>C418</sub>	R <sup>D26</sup>	R <sup>D18</sup>	H
L <sub>C419</sub>	R <sup>D26</sup>	R <sup>D19</sup>	H
L <sub>C420</sub>	R <sup>D26</sup>	R <sup>D20</sup>	H
L <sub>C421</sub>	R <sup>D26</sup>	R <sup>D21</sup>	H
L <sub>C422</sub>	R <sup>D26</sup>	R <sup>D23</sup>	H
L <sub>C423</sub>	R <sup>D26</sup>	R <sup>D24</sup>	H
L <sub>C424</sub>	R <sup>D26</sup>	R <sup>D25</sup>	H
L <sub>C425</sub>	R <sup>D26</sup>	R <sup>D27</sup>	H
L <sub>C426</sub>	R <sup>D26</sup>	R <sup>D28</sup>	H
L <sub>C427</sub>	R <sup>D26</sup>	R <sup>D29</sup>	H
L <sub>C428</sub>	R <sup>D26</sup>	R <sup>D30</sup>	H
L <sub>C429</sub>	R <sup>D26</sup>	R <sup>D31</sup>	H

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Ligand	R <sup>1</sup>	R <sup>2</sup>	R <sup>3</sup>
L <sub>C430</sub>	R <sup>D26</sup>	R <sup>D32</sup>	H
L <sub>C431</sub>	R <sup>D26</sup>	R <sup>D33</sup>	H
L <sub>C432</sub>	R <sup>D26</sup>	R <sup>D34</sup>	H
L <sub>C433</sub>	R <sup>D26</sup>	R <sup>D35</sup>	H
L <sub>C434</sub>	R <sup>D26</sup>	R <sup>D40</sup>	H
L <sub>C435</sub>	R <sup>D26</sup>	R <sup>D41</sup>	H
L <sub>C436</sub>	R <sup>D26</sup>	R <sup>D42</sup>	H
L <sub>C437</sub>	R <sup>D26</sup>	R <sup>D64</sup>	H
L <sub>C438</sub>	R <sup>D26</sup>	R <sup>D66</sup>	H
L <sub>C439</sub>	R <sup>D26</sup>	R <sup>D68</sup>	H
L <sub>C440</sub>	R <sup>D26</sup>	R <sup>D76</sup>	H
L <sub>C441</sub>	R <sup>D35</sup>	R <sup>D5</sup>	H
L <sub>C442</sub>	R <sup>D35</sup>	R <sup>D6</sup>	H
L <sub>C443</sub>	R <sup>D35</sup>	R <sup>D9</sup>	H
L <sub>C444</sub>	R <sup>D35</sup>	R <sup>D10</sup>	H
L <sub>C445</sub>	R <sup>D35</sup>	R <sup>D12</sup>	H
L <sub>C446</sub>	R <sup>D35</sup>	R <sup>D15</sup>	H
L <sub>C447</sub>	R <sup>D35</sup>	R <sup>D16</sup>	H
L <sub>C448</sub>	R <sup>D35</sup>	R <sup>D17</sup>	H
L <sub>C449</sub>	R <sup>D35</sup>	R <sup>D18</sup>	H
L <sub>C450</sub>	R <sup>D35</sup>	R <sup>D19</sup>	H
L <sub>C451</sub>	R <sup>D35</sup>	R <sup>D20</sup>	H
L <sub>C452</sub>	R <sup>D35</sup>	R <sup>D21</sup>	H
L <sub>C453</sub>	R <sup>D35</sup>	R <sup>D23</sup>	H
L <sub>C454</sub>	R <sup>D35</sup>	R <sup>D24</sup>	H
L <sub>C455</sub>	R <sup>D35</sup>	R <sup>D25</sup>	H
L <sub>C456</sub>	R <sup>D35</sup>	R <sup>D27</sup>	H
L <sub>C457</sub>	R <sup>D35</sup>	R <sup>D28</sup>	H
L <sub>C458</sub>	R <sup>D35</sup>	R <sup>D29</sup>	H
L <sub>C459</sub>	R <sup>D35</sup>	R <sup>D30</sup>	H
L <sub>C460</sub>	R <sup>D35</sup>	R <sup>D31</sup>	H
L <sub>C461</sub>	R <sup>D35</sup>	R <sup>D32</sup>	H
L <sub>C462</sub>	R <sup>D35</sup>	R <sup>D33</sup>	H
L <sub>C463</sub>	R <sup>D35</sup>	R <sup>D34</sup>	H
L <sub>C464</sub>	R <sup>D35</sup>	R <sup>D40</sup>	H
L <sub>C465</sub>	R <sup>D35</sup>	R <sup>D41</sup>	H
L <sub>C466</sub>	R <sup>D35</sup>	R <sup>D42</sup>	H
L <sub>C467</sub>	R <sup>D35</sup>	R <sup>D64</sup>	H
L <sub>C468</sub>	R <sup>D35</sup>	R <sup>D66</sup>	H
L <sub>C469</sub>	R <sup>D35</sup>	R <sup>D68</sup>	H
L <sub>C470</sub>	R <sup>D35</sup>	R <sup>D76</sup>	H
L <sub>C471</sub>	R <sup>D40</sup>	R <sup>D5</sup>	H
L <sub>C472</sub>	R <sup>D40</sup>	R <sup>D6</sup>	H
L <sub>C473</sub>	R <sup>D40</sup>	R <sup>D9</sup>	H
L <sub>C474</sub>	R <sup>D40</sup>	R <sup>D10</sup>	H
L <sub>C475</sub>	R <sup>D40</sup>	R <sup>D12</sup>	H
L <sub>C476</sub>	R <sup>D40</sup>	R <sup>D15</sup>	H
L <sub>C477</sub>	R <sup>D40</sup>	R <sup>D16</sup>	H
L <sub>C478</sub>	R <sup>D40</sup>	R <sup>D17</sup>	H
L <sub>C479</sub>	R <sup>D40</sup>	R <sup>D18</sup>	H
L <sub>C480</sub>	R <sup>D40</sup>	R <sup>D19</sup>	H
L <sub>C481</sub>	R <sup>D40</sup>	R <sup>D20</sup>	H
L <sub>C482</sub>	R <sup>D40</sup>	R <sup>D21</sup>	H
L <sub>C483</sub>	R <sup>D40</sup>	R <sup>D23</sup>	H
L <sub>C484</sub>	R <sup>D40</sup>	R <sup>D24</sup>	H
L <sub>C485</sub>	R <sup>D40</sup>	R <sup>D25</sup>	H
L <sub>C486</sub>	R <sup>D40</sup>	R <sup>D27</sup>	H
L <sub>C487</sub>	R <sup>D40</sup>	R <sup>D28</sup>	H
L <sub>C488</sub>	R <sup>D40</sup>	R <sup>D29</sup>	H
L <sub>C489</sub>	R <sup>D40</sup>	R <sup>D30</sup>	H
L <sub>C490</sub>	R <sup>D40</sup>	R <sup>D31</sup>	H
L <sub>C491</sub>	R <sup>D40</sup>	R <sup>D32</sup>	H
L <sub>C492</sub>	R <sup>D40</sup>	R <sup>D33</sup>	H
L <sub>C493</sub>	R <sup>D40</sup>	R <sup>D34</sup>	H
L <sub>C494</sub>	R <sup>D40</sup>	R <sup>D41</sup>	H
L <sub>C495</sub>	R <sup>D40</sup>	R <sup>D42</sup>	H
L <sub>C496</sub>	R <sup>D40</sup>	R <sup>D64</sup>	H
L <sub>C497</sub>	R <sup>D40</sup>	R <sup>D66</sup>	H
L <sub>C498</sub>	R <sup>D40</sup>	R <sup>D68</sup>	H
L <sub>C499</sub>	R <sup>D40</sup>	R <sup>D76</sup>	H
L <sub>C500</sub>	R <sup>D41</sup>	R <sup>D5</sup>	H
L <sub>C501</sub>	R <sup>D41</sup>	R <sup>D6</sup>	H
L <sub>C502</sub>	R <sup>D41</sup>	R <sup>D9</sup>	H
L <sub>C503</sub>	R <sup>D41</sup>	R <sup>D10</sup>	H

-continued

Ligand	R <sup>1</sup>	R <sup>2</sup>	R <sup>3</sup>
L <sub>C504</sub>	R <sup>D41</sup>	R <sup>D12</sup>	H
L <sub>C505</sub>	R <sup>D41</sup>	R <sup>D15</sup>	H
L <sub>C506</sub>	R <sup>D41</sup>	R <sup>D16</sup>	H
L <sub>C507</sub>	R <sup>D41</sup>	R <sup>D17</sup>	H
L <sub>C508</sub>	R <sup>D41</sup>	R <sup>D18</sup>	H
L <sub>C509</sub>	R <sup>D41</sup>	R <sup>D19</sup>	H
L <sub>C510</sub>	R <sup>D41</sup>	R <sup>D20</sup>	H
L <sub>C511</sub>	R <sup>D41</sup>	R <sup>D21</sup>	H
L <sub>C512</sub>	R <sup>D41</sup>	R <sup>D23</sup>	H
L <sub>C513</sub>	R <sup>D41</sup>	R <sup>D24</sup>	H
L <sub>C514</sub>	R <sup>D41</sup>	R <sup>D25</sup>	H
L <sub>C515</sub>	R <sup>D41</sup>	R <sup>D27</sup>	H
L <sub>C516</sub>	R <sup>D41</sup>	R <sup>D28</sup>	H
L <sub>C517</sub>	R <sup>D41</sup>	R <sup>D29</sup>	H
L <sub>C518</sub>	R <sup>D41</sup>	R <sup>D30</sup>	H
L <sub>C519</sub>	R <sup>D41</sup>	R <sup>D31</sup>	H
L <sub>C520</sub>	R <sup>D41</sup>	R <sup>D32</sup>	H
L <sub>C521</sub>	R <sup>D41</sup>	R <sup>D33</sup>	H
L <sub>C522</sub>	R <sup>D41</sup>	R <sup>D34</sup>	H
L <sub>C523</sub>	R <sup>D41</sup>	R <sup>D42</sup>	H
L <sub>C524</sub>	R <sup>D41</sup>	R <sup>D64</sup>	H
L <sub>C525</sub>	R <sup>D41</sup>	R <sup>D66</sup>	H
L <sub>C526</sub>	R <sup>D41</sup>	R <sup>D68</sup>	H
L <sub>C527</sub>	R <sup>D41</sup>	R <sup>D76</sup>	H
L <sub>C528</sub>	R <sup>D64</sup>	R <sup>D5</sup>	H
L <sub>C529</sub>	R <sup>D64</sup>	R <sup>D6</sup>	H
L <sub>C530</sub>	R <sup>D64</sup>	R <sup>D9</sup>	H
L <sub>C531</sub>	R <sup>D64</sup>	R <sup>D10</sup>	H
L <sub>C532</sub>	R <sup>D64</sup>	R <sup>D12</sup>	H
L <sub>C533</sub>	R <sup>D64</sup>	R <sup>D15</sup>	H
L <sub>C534</sub>	R <sup>D64</sup>	R <sup>D16</sup>	H
L <sub>C535</sub>	R <sup>D64</sup>	R <sup>D17</sup>	H
L <sub>C536</sub>	R <sup>D64</sup>	R <sup>D18</sup>	H
L <sub>C537</sub>	R <sup>D64</sup>	R <sup>D19</sup>	H
L <sub>C538</sub>	R <sup>D64</sup>	R <sup>D20</sup>	H
L <sub>C539</sub>	R <sup>D64</sup>	R <sup>D21</sup>	H
L <sub>C540</sub>	R <sup>D64</sup>	R <sup>D23</sup>	H
L <sub>C541</sub>	R <sup>D64</sup>	R <sup>D24</sup>	H
L <sub>C542</sub>	R <sup>D64</sup>	R <sup>D25</sup>	H
L <sub>C543</sub>	R <sup>D64</sup>	R <sup>D27</sup>	H
L <sub>C544</sub>	R <sup>D64</sup>	R <sup>D28</sup>	H
L <sub>C545</sub>	R <sup>D64</sup>	R <sup>D29</sup>	H
L <sub>C546</sub>	R <sup>D64</sup>	R <sup>D30</sup>	H
L <sub>C547</sub>	R <sup>D64</sup>	R <sup>D31</sup>	H
L <sub>C548</sub>	R <sup>D64</sup>	R <sup>D32</sup>	H
L <sub>C549</sub>	R <sup>D64</sup>	R <sup>D33</sup>	H
L <sub>C550</sub>	R <sup>D64</sup>	R <sup>D34</sup>	H
L <sub>C551</sub>	R <sup>D64</sup>	R <sup>D42</sup>	H
L <sub>C552</sub>	R <sup>D64</sup>	R <sup>D64</sup>	H
L <sub>C553</sub>	R <sup>D64</sup>	R <sup>D66</sup>	H
L <sub>C554</sub>	R <sup>D64</sup>	R <sup>D68</sup>	H
L <sub>C555</sub>	R <sup>D66</sup>	R <sup>D76</sup>	H
L <sub>C556</sub>	R <sup>D66</sup>	R <sup>D5</sup>	H
L <sub>C557</sub>	R <sup>D66</sup>	R <sup>D6</sup>	H
L <sub>C558</sub>	R <sup>D66</sup>	R <sup>D9</sup>	H
L <sub>C559</sub>	R <sup>D66</sup>	R <sup>D10</sup>	H
L <sub>C560</sub>	R <sup>D66</sup>	R <sup>D12</sup>	H
L <sub>C561</sub>	R <sup>D66</sup>	R <sup>D15</sup>	H
L <sub>C562</sub>	R <sup>D66</sup>	R <sup>D16</sup>	H
L <sub>C563</sub>	R <sup>D66</sup>	R <sup>D17</sup>	H
L <sub>C564</sub>	R <sup>D66</sup>	R <sup>D18</sup>	H
L <sub>C565</sub>	R <sup>D66</sup>	R <sup>D19</sup>	H
L <sub>C566</sub>	R <sup>D66</sup>	R <sup>D20</sup>	H
L <sub>C567</sub>	R <sup>D66</sup>	R <sup>D21</sup>	H
L <sub>C568</sub>	R <sup>D66</sup>	R <sup>D23</sup>	H
L <sub>C569</sub>	R <sup>D66</sup>	R <sup>D24</sup>	H
L <sub>C570</sub>	R <sup>D66</sup>	R <sup>D25</sup>	H
L <sub>C571</sub>	R <sup>D66</sup>	R <sup>D27</sup>	H
L <sub>C572</sub>	R <sup>D66</sup>	R <sup>D28</sup>	H
L <sub>C573</sub>	R <sup>D66</sup>	R <sup>D29</sup>	H
L <sub>C574</sub>	R <sup>D66</sup>	R <sup>D30</sup>	H
L <sub>C575</sub>	R <sup>D66</sup>	R <sup>D31</sup>	H
L <sub>C576</sub>	R <sup>D66</sup>	R <sup>D32</sup>	H
L <sub>C577</sub>	R <sup>D66</sup>	R <sup>D33</sup>	H

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Ligand	R <sup>1</sup>	R <sup>2</sup>	R <sup>3</sup>
L <sub>C578</sub>	R <sup>D66</sup>	R <sup>D34</sup>	H
L <sub>C579</sub>	R <sup>D66</sup>	R <sup>D42</sup>	H
L <sub>C580</sub>	R <sup>D66</sup>	R <sup>D68</sup>	H
L <sub>C581</sub>	R <sup>D66</sup>	R <sup>D76</sup>	H
L <sub>C582</sub>	R <sup>D68</sup>	R <sup>D5</sup>	H
L <sub>C583</sub>	R <sup>D68</sup>	R <sup>D6</sup>	H
L <sub>C584</sub>	R <sup>D68</sup>	R <sup>D9</sup>	H
L <sub>C585</sub>	R <sup>D68</sup>	R <sup>D10</sup>	H
L <sub>C586</sub>	R <sup>D68</sup>	R <sup>D12</sup>	H
L <sub>C587</sub>	R <sup>D68</sup>	R <sup>D15</sup>	H
L <sub>C588</sub>	R <sup>D68</sup>	R <sup>D16</sup>	H
L <sub>C589</sub>	R <sup>D68</sup>	R <sup>D17</sup>	H
L <sub>C590</sub>	R <sup>D68</sup>	R <sup>D18</sup>	H
L <sub>C591</sub>	R <sup>D68</sup>	R <sup>D19</sup>	H
L <sub>C592</sub>	R <sup>D68</sup>	R <sup>D20</sup>	H
L <sub>C593</sub>	R <sup>D68</sup>	R <sup>D21</sup>	H
L <sub>C594</sub>	R <sup>D68</sup>	R <sup>D23</sup>	H
L <sub>C595</sub>	R <sup>D68</sup>	R <sup>D24</sup>	H
L <sub>C596</sub>	R <sup>D68</sup>	R <sup>D25</sup>	H
L <sub>C597</sub>	R <sup>D68</sup>	R <sup>D27</sup>	H
L <sub>C598</sub>	R <sup>D68</sup>	R <sup>D28</sup>	H
L <sub>C599</sub>	R <sup>D68</sup>	R <sup>D29</sup>	H
L <sub>C600</sub>	R <sup>D68</sup>	R <sup>D30</sup>	H
L <sub>C601</sub>	R <sup>D68</sup>	R <sup>D31</sup>	H
L <sub>C602</sub>	R <sup>D68</sup>	R <sup>D32</sup>	H
L <sub>C603</sub>	R <sup>D68</sup>	R <sup>D33</sup>	H
L <sub>C604</sub>	R <sup>D68</sup>	R <sup>D34</sup>	H
L <sub>C605</sub>	R <sup>D68</sup>	R <sup>D42</sup>	H
L <sub>C606</sub>	R <sup>D68</sup>	R <sup>D76</sup>	H
L <sub>C607</sub>	R <sup>D76</sup>	R <sup>D5</sup>	H
L <sub>C608</sub>	R <sup>D76</sup>	R <sup>D6</sup>	H
L <sub>C609</sub>	R <sup>D76</sup>	R <sup>D9</sup>	H
L <sub>C610</sub>	R <sup>D76</sup>	R <sup>D10</sup>	H
L <sub>C611</sub>	R <sup>D76</sup>	R <sup>D12</sup>	H
L <sub>C612</sub>	R <sup>D76</sup>	R <sup>D15</sup>	H
L <sub>C613</sub>	R <sup>D76</sup>	R <sup>D16</sup>	H
L <sub>C614</sub>	R <sup>D76</sup>	R <sup>D17</sup>	H
L <sub>C615</sub>	R <sup>D76</sup>	R <sup>D18</sup>	H
L <sub>C616</sub>	R <sup>D76</sup>	R <sup>D19</sup>	H
L <sub>C617</sub>	R <sup>D76</sup>	R <sup>D20</sup>	H
L <sub>C618</sub>	R <sup>D76</sup>	R <sup>D21</sup>	H
L <sub>C619</sub>	R <sup>D76</sup>	R <sup>D23</sup>	H
L <sub>C620</sub>	R <sup>D76</sup>	R <sup>D24</sup>	H
L <sub>C621</sub>	R <sup>D76</sup>	R <sup>D25</sup>	H
L <sub>C622</sub>	R <sup>D76</sup>	R <sup>D27</sup>	H
L <sub>C623</sub>	R <sup>D76</sup>	R <sup>D28</sup>	H
L <sub>C624</sub>	R <sup>D76</sup>	R <sup>D29</sup>	H
L <sub>C625</sub>	R <sup>D76</sup>	R <sup>D30</sup>	H
L <sub>C626</sub>	R <sup>D76</sup>	R <sup>D31</sup>	H
L <sub>C627</sub>	R <sup>D76</sup>	R <sup>D32</sup>	H
L <sub>C628</sub>	R <sup>D76</sup>	R <sup>D33</sup>	H
L <sub>C629</sub>	R <sup>D76</sup>	R <sup>D34</sup>	H
L <sub>C630</sub>	R <sup>D76</sup>	R <sup>D42</sup>	H
L <sub>C631</sub>	R <sup>D1</sup>	R <sup>D1</sup>	R <sup>D1</sup>
L <sub>C632</sub>	R <sup>D2</sup>	R <sup>D2</sup>	R <sup>D1</sup>
L <sub>C633</sub>	R <sup>D3</sup>	R <sup>D3</sup>	R <sup>D1</sup>
L <sub>C634</sub>	R <sup>D4</sup>	R <sup>D4</sup>	R <sup>D1</sup>
L <sub>C635</sub>	R <sup>D5</sup>	R <sup>D5</sup>	R <sup>D1</sup>
L <sub>C636</sub>	R <sup>D6</sup>	R <sup>D6</sup>	R <sup>D1</sup>
L <sub>C637</sub>	R <sup>D7</sup>	R <sup>D7</sup>	R <sup>D1</sup>
L <sub>C638</sub>	R <sup>D8</sup>	R <sup>D8</sup>	R <sup>D1</sup>
L <sub>C639</sub>	R <sup>D9</sup>	R <sup>D9</sup>	R <sup>D1</sup>
L <sub>C640</sub>	R <sup>D10</sup>	R <sup>D10</sup>	R <sup>D1</sup>
L <sub>C641</sub>	R <sup>D11</sup>	R <sup>D11</sup>	R <sup>D1</sup>
L <sub>C642</sub>	R <sup>D12</sup>	R <sup>D12</sup>	R <sup>D1</sup>
L <sub>C643</sub>	R <sup>D13</sup>	R <sup>D13</sup>	R <sup>D1</sup>
L <sub>C644</sub>	R <sup>D14</sup>	R <sup>D14</sup>	R <sup>D1</sup>
L <sub>C645</sub>	R <sup>D15</sup>	R <sup>D15</sup>	R <sup>D1</sup>
L <sub>C646</sub>	R <sup>D16</sup>	R <sup>D16</sup>	R <sup>D1</sup>
L <sub>C647</sub>	R <sup>D17</sup>	R <sup>D17</sup>	R <sup>D1</sup>
L <sub>C648</sub>	R <sup>D18</sup>	R <sup>D18</sup>	R <sup>D1</sup>
L <sub>C649</sub>	R <sup>D19</sup>	R <sup>D19</sup>	R <sup>D1</sup>
L <sub>C650</sub>	R <sup>D20</sup>	R <sup>D20</sup>	R <sup>D1</sup>
L <sub>C651</sub>	R <sup>D21</sup>	R <sup>D21</sup>	R <sup>D1</sup>

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Ligand	R <sup>1</sup>	R <sup>2</sup>	R <sup>3</sup>
L <sub>C652</sub>	R <sup>D22</sup>	R <sup>D22</sup>	R <sup>D1</sup>
L <sub>C653</sub>	R <sup>D23</sup>	R <sup>D23</sup>	R <sup>D1</sup>
L <sub>C654</sub>	R <sup>D24</sup>	R <sup>D24</sup>	R <sup>D1</sup>
L <sub>C655</sub>	R <sup>D25</sup>	R <sup>D25</sup>	R <sup>D1</sup>
L <sub>C656</sub>	R <sup>D26</sup>	R <sup>D26</sup>	R <sup>D1</sup>
L <sub>C657</sub>	R <sup>D27</sup>	R <sup>D27</sup>	R <sup>D1</sup>
L <sub>C658</sub>	R <sup>D28</sup>	R <sup>D28</sup>	R <sup>D1</sup>
L <sub>C659</sub>	R <sup>D29</sup>	R <sup>D29</sup>	R <sup>D1</sup>
L <sub>C660</sub>	R <sup>D30</sup>	R <sup>D30</sup>	R <sup>D1</sup>
L <sub>C661</sub>	R <sup>D31</sup>	R <sup>D31</sup>	R <sup>D1</sup>
L <sub>C662</sub>	R <sup>D32</sup>	R <sup>D32</sup>	R <sup>D1</sup>
L <sub>C663</sub>	R <sup>D33</sup>	R <sup>D33</sup>	R <sup>D1</sup>
L <sub>C664</sub>	R <sup>D34</sup>	R <sup>D34</sup>	R <sup>D1</sup>
L <sub>C665</sub>	R <sup>D35</sup>	R <sup>D35</sup>	R <sup>D1</sup>
L <sub>C666</sub>	R <sup>D40</sup>	R <sup>D40</sup>	R <sup>D1</sup>
L <sub>C667</sub>	R <sup>D41</sup>	R <sup>D41</sup>	R <sup>D1</sup>
L <sub>C668</sub>	R <sup>D42</sup>	R <sup>D42</sup>	R <sup>D1</sup>
L <sub>C669</sub>	R <sup>D64</sup>	R <sup>D64</sup>	R <sup>D1</sup>
L <sub>C670</sub>	R <sup>D66</sup>	R <sup>D66</sup>	R <sup>D1</sup>
L <sub>C671</sub>	R <sup>D68</sup>	R <sup>D68</sup>	R <sup>D1</sup>
L <sub>C672</sub>	R <sup>D76</sup>	R <sup>D76</sup>	R <sup>D1</sup>
L <sub>C673</sub>	R <sup>D1</sup>	R <sup>D2</sup>	R <sup>D1</sup>
L <sub>C674</sub>	R <sup>D1</sup>	R <sup>D3</sup>	R <sup>D1</sup>
L <sub>C675</sub>	R <sup>D1</sup>	R <sup>D4</sup>	R <sup>D1</sup>
L <sub>C676</sub>	R <sup>D1</sup>	R <sup>D5</sup>	R <sup>D1</sup>
L <sub>C677</sub>	R <sup>D1</sup>	R <sup>D6</sup>	R <sup>D1</sup>
L <sub>C678</sub>	R <sup>D1</sup>	R <sup>D7</sup>	R <sup>D1</sup>
L <sub>C679</sub>	R <sup>D1</sup>	R <sup>D8</sup>	R <sup>D1</sup>
L <sub>C680</sub>	R <sup>D1</sup>	R <sup>D9</sup>	R <sup>D1</sup>
L <sub>C681</sub>	R <sup>D1</sup>	R <sup>D10</sup>	R <sup>D1</sup>
L <sub>C682</sub>	R <sup>D1</sup>	R <sup>D11</sup>	R <sup>D1</sup>
L <sub>C683</sub>	R <sup>D1</sup>	R <sup>D12</sup>	R <sup>D1</sup>
L <sub>C684</sub>	R <sup>D1</sup>	R <sup>D13</sup>	R <sup>D1</sup>
L <sub>C685</sub>	R <sup>D1</sup>	R <sup>D14</sup>	R <sup>D1</sup>
L <sub>C686</sub>	R <sup>D1</sup>	R <sup>D15</sup>	R <sup>D1</sup>
L <sub>C687</sub>	R <sup>D1</sup>	R <sup>D16</sup>	R <sup>D1</sup>
L <sub>C688</sub>	R <sup>D1</sup>	R <sup>D17</sup>	R <sup>D1</sup>
L <sub>C689</sub>	R <sup>D1</sup>	R <sup>D18</sup>	R <sup>D1</sup>
L <sub>C690</sub>	R <sup>D1</sup>	R <sup>D19</sup>	R <sup>D1</sup>
L <sub>C691</sub>	R <sup>D1</sup>	R <sup>D20</sup>	R <sup>D1</sup>
L <sub>C692</sub>	R <sup>D1</sup>	R <sup>D21</sup>	R <sup>D1</sup>
L <sub>C693</sub>	R <sup>D1</sup>	R <sup>D22</sup>	R <sup>D1</sup>
L <sub>C694</sub>	R <sup>D1</sup>	R <sup>D23</sup>	R <sup>D1</sup>
L <sub>C695</sub>	R <sup>D1</sup>	R <sup>D24</sup>	R <sup>D1</sup>
L <sub>C696</sub>	R <sup>D1</sup>	R <sup>D25</sup>	R <sup>D1</sup>
L <sub>C697</sub>	R <sup>D1</sup>	R <sup>D26</sup>	R <sup>D1</sup>
L <sub>C698</sub>	R <sup>D1</sup>	R <sup>D27</sup>	R <sup>D1</sup>
L <sub>C699</sub>	R <sup>D1</sup>	R <sup>D28</sup>	R <sup>D1</sup>
L <sub>C700</sub>	R <sup>D1</sup>	R <sup>D29</sup>	R <sup>D1</sup>
L <sub>C701</sub>	R <sup>D1</sup>	R <sup>D30</sup>	R <sup>D1</sup>
L <sub>C702</sub>	R <sup>D1</sup>	R <sup>D31</sup>	R <sup>D1</sup>
L <sub>C703</sub>	R <sup>D1</sup>	R <sup>D32</sup>	R <sup>D1</sup>
L <sub>C704</sub>	R <sup>D1</sup>	R <sup>D33</sup>	R <sup>D1</sup>
L <sub>C705</sub>	R <sup>D1</sup>	R <sup>D34</sup>	R <sup>D1</sup>
L <sub>C706</sub>	R <sup>D1</sup>	R <sup>D35</sup>	R <sup>D1</sup>
L <sub>C707</sub>	R <sup>D1</sup>	R <sup>D40</sup>	R <sup>D1</sup>
L <sub>C708</sub>	R <sup>D1</sup>	R <sup>D41</sup>	R <sup>D1</sup>
L <sub>C709</sub>	R <sup>D1</sup>	R <sup>D42</sup>	R <sup>D1</sup>
L <sub>C710</sub>	R <sup>D1</sup>	R <sup>D64</sup>	R <sup>D1</sup>
L <sub>C711</sub>	R <sup>D1</sup>	R <sup>D66</sup>	R <sup>D1</sup>
L <sub>C712</sub>	R <sup>D1</sup>	R <sup>D68</sup>	R <sup>D1</sup>
L <sub>C713</sub>	R <sup>D1</sup>	R <sup>D76</sup>	R <sup>D1</sup>
L <sub>C714</sub>	R <sup>D2</sup>	R <sup>D1</sup>	R <sup>D1</sup>
L <sub>C715</sub>	R <sup>D2</sup>	R <sup>D3</sup>	R <sup>D1</sup>
L <sub>C716</sub>	R <sup>D2</sup>	R <sup>D4</sup>	R <sup>D1</sup>
L <sub>C717</sub>	R <sup>D2</sup>	R <sup>D5</sup>	R <sup>D1</sup>
L <sub>C718</sub>	R <sup>D2</sup>	R <sup>D6</sup>	R <sup>D1</sup>
L <sub>C719</sub>	R <sup>D2</sup>	R <sup>D7</sup>	R <sup>D1</sup>
L <sub>C720</sub>	R <sup>D2</sup>	R <sup>D8</sup>	R <sup>D1</sup>
L <sub>C721</sub>	R <sup>D2</sup>	R <sup>D9</sup>	R <sup>D1</sup>
L <sub>C722</sub>	R <sup>D2</sup>	R <sup>D10</sup>	R <sup>D1</sup>
L <sub>C723</sub>	R <sup>D2</sup>	R <sup>D11</sup>	R <sup>D1</sup>
L <sub>C724</sub>	R <sup>D2</sup>	R <sup>D12</sup>	R <sup>D1</sup>
L <sub>C725</sub>	R <sup>D2</sup>	R <sup>D13</sup>	R <sup>D1</sup>

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Ligand	R <sup>1</sup>	R <sup>2</sup>	R <sup>3</sup>
L <sub>C726</sub>	R <sup>D2</sup>	R <sup>D14</sup>	R <sup>D1</sup>
L <sub>C727</sub>	R <sup>D2</sup>	R <sup>D15</sup>	R <sup>D1</sup>
L <sub>C728</sub>	R <sup>D2</sup>	R <sup>D16</sup>	R <sup>D1</sup>
L <sub>C729</sub>	R <sup>D2</sup>	R <sup>D17</sup>	R <sup>D1</sup>
L <sub>C730</sub>	R <sup>D2</sup>	R <sup>D18</sup>	R <sup>D1</sup>
L <sub>C731</sub>	R <sup>D2</sup>	R <sup>D19</sup>	R <sup>D1</sup>
L <sub>C732</sub>	R <sup>D2</sup>	R <sup>D20</sup>	R <sup>D1</sup>
L <sub>C733</sub>	R <sup>D2</sup>	R <sup>D21</sup>	R <sup>D1</sup>
L <sub>C734</sub>	R <sup>D2</sup>	R <sup>D22</sup>	R <sup>D1</sup>
L <sub>C735</sub>	R <sup>D2</sup>	R <sup>D23</sup>	R <sup>D1</sup>
L <sub>C736</sub>	R <sup>D2</sup>	R <sup>D24</sup>	R <sup>D1</sup>
L <sub>C737</sub>	R <sup>D2</sup>	R <sup>D25</sup>	R <sup>D1</sup>
L <sub>C738</sub>	R <sup>D2</sup>	R <sup>D26</sup>	R <sup>D1</sup>
L <sub>C739</sub>	R <sup>D2</sup>	R <sup>D27</sup>	R <sup>D1</sup>
L <sub>C740</sub>	R <sup>D2</sup>	R <sup>D28</sup>	R <sup>D1</sup>
L <sub>C741</sub>	R <sup>D2</sup>	R <sup>D29</sup>	R <sup>D1</sup>
L <sub>C742</sub>	R <sup>D2</sup>	R <sup>D30</sup>	R <sup>D1</sup>
L <sub>C743</sub>	R <sup>D2</sup>	R <sup>D31</sup>	R <sup>D1</sup>
L <sub>C744</sub>	R <sup>D2</sup>	R <sup>D32</sup>	R <sup>D1</sup>
L <sub>C745</sub>	R <sup>D2</sup>	R <sup>D33</sup>	R <sup>D1</sup>
L <sub>C746</sub>	R <sup>D2</sup>	R <sup>D34</sup>	R <sup>D1</sup>
L <sub>C747</sub>	R <sup>D2</sup>	R <sup>D35</sup>	R <sup>D1</sup>
L <sub>C748</sub>	R <sup>D2</sup>	R <sup>D40</sup>	R <sup>D1</sup>
L <sub>C749</sub>	R <sup>D2</sup>	R <sup>D41</sup>	R <sup>D1</sup>
L <sub>C750</sub>	R <sup>D2</sup>	R <sup>D42</sup>	R <sup>D1</sup>
L <sub>C751</sub>	R <sup>D2</sup>	R <sup>D64</sup>	R <sup>D1</sup>
L <sub>C752</sub>	R <sup>D2</sup>	R <sup>D66</sup>	R <sup>D1</sup>
L <sub>C753</sub>	R <sup>D2</sup>	R <sup>D68</sup>	R <sup>D1</sup>
L <sub>C754</sub>	R <sup>D2</sup>	R <sup>D76</sup>	R <sup>D1</sup>
L <sub>C755</sub>	R <sup>D3</sup>	R <sup>D4</sup>	R <sup>D1</sup>
L <sub>C756</sub>	R <sup>D3</sup>	R <sup>D5</sup>	R <sup>D1</sup>
L <sub>C757</sub>	R <sup>D3</sup>	R <sup>D6</sup>	R <sup>D1</sup>
L <sub>C758</sub>	R <sup>D3</sup>	R <sup>D7</sup>	R <sup>D1</sup>
L <sub>C759</sub>	R <sup>D3</sup>	R <sup>D8</sup>	R <sup>D1</sup>
L <sub>C760</sub>	R <sup>D3</sup>	R <sup>D9</sup>	R <sup>D1</sup>
L <sub>C761</sub>	R <sup>D3</sup>	R <sup>D10</sup>	R <sup>D1</sup>
L <sub>C762</sub>	R <sup>D3</sup>	R <sup>D11</sup>	R <sup>D1</sup>
L <sub>C763</sub>	R <sup>D3</sup>	R <sup>D12</sup>	R <sup>D1</sup>
L <sub>C764</sub>	R <sup>D3</sup>	R <sup>D13</sup>	R <sup>D1</sup>
L <sub>C765</sub>	R <sup>D3</sup>	R <sup>D14</sup>	R <sup>D1</sup>
L <sub>C766</sub>	R <sup>D3</sup>	R <sup>D15</sup>	R <sup>D1</sup>
L <sub>C767</sub>	R <sup>D3</sup>	R <sup>D16</sup>	R <sup>D1</sup>
L <sub>C768</sub>	R <sup>D3</sup>	R <sup>D17</sup>	R <sup>D1</sup>
L <sub>C769</sub>	R <sup>D3</sup>	R <sup>D18</sup>	R <sup>D1</sup>
L <sub>C770</sub>	R <sup>D3</sup>	R <sup>D19</sup>	R <sup>D1</sup>
L <sub>C771</sub>	R <sup>D3</sup>	R <sup>D20</sup>	R <sup>D1</sup>
L <sub>C772</sub>	R <sup>D3</sup>	R <sup>D21</sup>	R <sup>D1</sup>
L <sub>C773</sub>	R <sup>D3</sup>	R <sup>D22</sup>	R <sup>D1</sup>
L <sub>C774</sub>	R <sup>D3</sup>	R <sup>D23</sup>	R <sup>D1</sup>
L <sub>C775</sub>	R <sup>D3</sup>	R <sup>D24</sup>	R <sup>D1</sup>
L <sub>C776</sub>	R <sup>D3</sup>	R <sup>D25</sup>	R <sup>D1</sup>
L <sub>C777</sub>	R <sup>D3</sup>	R <sup>D26</sup>	R <sup>D1</sup>
L <sub>C778</sub>	R <sup>D3</sup>	R <sup>D27</sup>	R <sup>D1</sup>
L <sub>C779</sub>	R <sup>D3</sup>	R <sup>D28</sup>	R <sup>D1</sup>
L <sub>C780</sub>	R <sup>D3</sup>	R <sup>D29</sup>	R <sup>D1</sup>
L <sub>C781</sub>	R <sup>D3</sup>	R <sup>D30</sup>	R <sup>D1</sup>
L <sub>C782</sub>	R <sup>D3</sup>	R <sup>D31</sup>	R <sup>D1</sup>
L <sub>C783</sub>	R <sup>D3</sup>	R <sup>D32</sup>	R <sup>D1</sup>
L <sub>C784</sub>	R <sup>D3</sup>	R <sup>D33</sup>	R <sup>D1</sup>
L <sub>C785</sub>	R <sup>D3</sup>	R <sup>D34</sup>	R <sup>D1</sup>
L <sub>C786</sub>	R <sup>D3</sup>	R <sup>D35</sup>	R <sup>D1</sup>
L <sub>C787</sub>	R <sup>D3</sup>	R <sup>D40</sup>	R <sup>D1</sup>
L <sub>C788</sub>	R <sup>D3</sup>	R <sup>D41</sup>	R <sup>D1</sup>
L <sub>C789</sub>	R <sup>D3</sup>	R <sup>D42</sup>	R <sup>D1</sup>
L <sub>C790</sub>	R <sup>D3</sup>	R <sup>D64</sup>	R <sup>D1</sup>
L <sub>C791</sub>	R <sup>D3</sup>	R <sup>D66</sup>	R <sup>D1</sup>
L <sub>C792</sub>	R <sup>D3</sup>	R <sup>D68</sup>	R <sup>D1</sup>
L <sub>C793</sub>	R <sup>D3</sup>	R <sup>D76</sup>	R <sup>D1</sup>
L <sub>C794</sub>	R <sup>D4</sup>	R <sup>D5</sup>	R <sup>D1</sup>
L <sub>C795</sub>	R <sup>D4</sup>	R <sup>D6</sup>	R <sup>D1</sup>
L <sub>C796</sub>	R <sup>D4</sup>	R <sup>D7</sup>	R <sup>D1</sup>
L <sub>C797</sub>	R <sup>D4</sup>	R <sup>D8</sup>	R <sup>D1</sup>
L <sub>C798</sub>	R <sup>D4</sup>	R <sup>D9</sup>	R <sup>D1</sup>
L <sub>C799</sub>	R <sup>D4</sup>	R <sup>D10</sup>	R <sup>D1</sup>

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Ligand	R <sup>1</sup>	R <sup>2</sup>	R <sup>3</sup>
L <sub>C800</sub>	R <sup>D4</sup>	R <sup>D11</sup>	R <sup>D1</sup>
L <sub>C801</sub>	R <sup>D4</sup>	R <sup>D12</sup>	R <sup>D1</sup>
L <sub>C802</sub>	R <sup>D4</sup>	R <sup>D13</sup>	R <sup>D1</sup>
L <sub>C803</sub>	R <sup>D4</sup>	R <sup>D14</sup>	R <sup>D1</sup>
L <sub>C804</sub>	R <sup>D4</sup>	R <sup>D15</sup>	R <sup>D1</sup>
L <sub>C805</sub>	R <sup>D4</sup>	R <sup>D16</sup>	R <sup>D1</sup>
L <sub>C806</sub>	R <sup>D4</sup>	R <sup>D17</sup>	R <sup>D1</sup>
L <sub>C807</sub>	R <sup>D4</sup>	R <sup>D18</sup>	R <sup>D1</sup>
L <sub>C808</sub>	R <sup>D4</sup>	R <sup>D19</sup>	R <sup>D1</sup>
L <sub>C809</sub>	R <sup>D4</sup>	R <sup>D20</sup>	R <sup>D1</sup>
L <sub>C810</sub>	R <sup>D4</sup>	R <sup>D21</sup>	R <sup>D1</sup>
L <sub>C811</sub>	R <sup>D4</sup>	R <sup>D22</sup>	R <sup>D1</sup>
L <sub>C812</sub>	R <sup>D4</sup>	R <sup>D23</sup>	R <sup>D1</sup>
L <sub>C813</sub>	R <sup>D4</sup>	R <sup>D24</sup>	R <sup>D1</sup>
L <sub>C814</sub>	R <sup>D4</sup>	R <sup>D25</sup>	R <sup>D1</sup>
L <sub>C815</sub>	R <sup>D4</sup>	R <sup>D26</sup>	R <sup>D1</sup>
L <sub>C816</sub>	R <sup>D4</sup>	R <sup>D27</sup>	R <sup>D1</sup>
L <sub>C817</sub>	R <sup>D4</sup>	R <sup>D28</sup>	R <sup>D1</sup>
L <sub>C818</sub>	R <sup>D4</sup>	R <sup>D29</sup>	R <sup>D1</sup>
L <sub>C819</sub>	R <sup>D4</sup>	R <sup>D30</sup>	R <sup>D1</sup>
L <sub>C820</sub>	R <sup>D4</sup>	R <sup>D31</sup>	R <sup>D1</sup>
L <sub>C821</sub>	R <sup>D4</sup>	R <sup>D32</sup>	R <sup>D1</sup>
L <sub>C822</sub>	R <sup>D4</sup>	R <sup>D33</sup>	R <sup>D1</sup>
L <sub>C823</sub>	R <sup>D4</sup>	R <sup>D34</sup>	R <sup>D1</sup>
L <sub>C824</sub>	R <sup>D4</sup>	R <sup>D35</sup>	R <sup>D1</sup>
L <sub>C825</sub>	R <sup>D4</sup>	R <sup>D40</sup>	R <sup>D1</sup>
L <sub>C826</sub>	R <sup>D4</sup>	R <sup>D41</sup>	R <sup>D1</sup>
L <sub>C827</sub>	R <sup>D4</sup>	R <sup>D42</sup>	R <sup>D1</sup>
L <sub>C828</sub>	R <sup>D4</sup>	R <sup>D64</sup>	R <sup>D1</sup>
L <sub>C829</sub>	R <sup>D4</sup>	R <sup>D66</sup>	R <sup>D1</sup>
L <sub>C830</sub>	R <sup>D4</sup>	R <sup>D68</sup>	R <sup>D1</sup>
L <sub>C831</sub>	R <sup>D4</sup>	R <sup>D76</sup>	R <sup>D1</sup>
L <sub>C832</sub>	R <sup>D4</sup>	R <sup>D1</sup>	R <sup>D1</sup>
L <sub>C833</sub>	R <sup>D7</sup>	R <sup>D5</sup>	R <sup>D1</sup>
L <sub>C834</sub>	R <sup>D7</sup>	R <sup>D6</sup>	R <sup>D1</sup>
L <sub>C835</sub>	R <sup>D7</sup>	R <sup>D8</sup>	R <sup>D1</sup>
L <sub>C836</sub>	R <sup>D7</sup>	R <sup>D9</sup>	R <sup>D1</sup>
L <sub>C837</sub>	R <sup>D7</sup>	R <sup>D10</sup>	R <sup>D1</sup>
L <sub>C838</sub>	R <sup>D7</sup>	R <sup>D11</sup>	R <sup>D1</sup>
L <sub>C839</sub>	R <sup>D7</sup>	R <sup>D12</sup>	R <sup>D1</sup>
L <sub>C840</sub>	R <sup>D7</sup>	R <sup>D13</sup>	R <sup>D1</sup>
L <sub>C841</sub>	R <sup>D7</sup>	R <sup>D14</sup>	R <sup>D1</sup>
L <sub>C842</sub>	R <sup>D7</sup>	R <sup>D15</sup>	R <sup>D1</sup>
L <sub>C843</sub>	R <sup>D7</sup>	R <sup>D16</sup>	R <sup>D1</sup>
L <sub>C844</sub>	R <sup>D7</sup>	R <sup>D17</sup>	R <sup>D1</sup>
L <sub>C845</sub>	R <sup>D7</sup>	R <sup>D18</sup>	R <sup>D1</sup>
L <sub>C846</sub>	R <sup>D7</sup>	R <sup>D19</sup>	R <sup>D1</sup>
L <sub>C847</sub>	R <sup>D7</sup>	R <sup>D20</sup>	R <sup>D1</sup>
L <sub>C848</sub>	R <sup>D7</sup>	R <sup>D21</sup>	R <sup>D1</sup>
L <sub>C849</sub>	R <sup>D7</sup>	R <sup>D22</sup>	R <sup>D1</sup>
L <sub>C850</sub>	R <sup>D7</sup>	R <sup>D23</sup>	R <sup>D1</sup>
L <sub>C851</sub>	R <sup>D7</sup>	R <sup>D24</sup>	R <sup>D1</sup>
L <sub>C852</sub>	R <sup>D7</sup>	R <sup>D25</sup>	R <sup>D1</sup>
L <sub>C853</sub>	R <sup>D7</sup>	R <sup>D26</sup>	R <sup>D1</sup>
L <sub>C854</sub>	R <sup>D7</sup>	R <sup>D27</sup>	R <sup>D1</sup>
L <sub>C855</sub>	R <sup>D7</sup>	R <sup>D28</sup>	R <sup>D1</sup>
L <sub>C856</sub>	R <sup>D7</sup>	R <sup>D29</sup>	R <sup>D1</sup>
L <sub>C857</sub>	R <sup>D7</sup>	R <sup>D30</sup>	R <sup>D1</sup>
L <sub>C858</sub>	R <sup>D7</sup>	R <sup>D31</sup>	R <sup>D1</sup>
L <sub>C859</sub>	R <sup>D7</sup>	R <sup>D32</sup>	R <sup>D1</sup>
L <sub>C860</sub>	R <sup>D7</sup>	R <sup>D33</sup>	R <sup>D1</sup>
L <sub>C861</sub>	R <sup>D7</sup>	R <sup>D34</sup>	R <sup>D1</sup>
L <sub>C862</sub>	R <sup>D7</sup>	R <sup>D35</sup>	R <sup>D1</sup>
L <sub>C863</sub>	R <sup>D7</sup>	R <sup>D40</sup>	R <sup>D1</sup>
L <sub>C864</sub>	R <sup>D7</sup>	R <sup>D41</sup>	R <sup>D1</sup>
L <sub>C865</sub>	R <sup>D7</sup>	R <sup>D42</sup>	R <sup>D1</sup>
L <sub>C866</sub>	R <sup>D7</sup>	R <sup>D64</sup>	R <sup>D1</sup>
L <sub>C867</sub>	R <sup>D7</sup>	R <sup>D66</sup>	R <sup>D1</sup>
L <sub>C868</sub>	R <sup>D7</sup>	R <sup>D68</sup>	R <sup>D1</sup>
L <sub>C869</sub>	R <sup>D7</sup>	R <sup>D76</sup>	R <sup>D1</sup>
L <sub>C870</sub>	R <sup>D8</sup>	R <sup>D5</sup>	R <sup>D1</sup>
L <sub>C871</sub>	R <sup>D8</sup>	R <sup>D6</sup>	R <sup>D1</sup>
L <sub>C872</sub>	R <sup>D8</sup>	R <sup>D9</sup>	R <sup>D1</sup>
L <sub>C873</sub>	R <sup>D8</sup>	R <sup>D10</sup>	R <sup>D1</sup>

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Ligand	R <sup>1</sup>	R <sup>2</sup>	R <sup>3</sup>
L <sub>C874</sub>	R <sup>D8</sup>	R <sup>D11</sup>	R <sup>D1</sup>
L <sub>C875</sub>	R <sup>D8</sup>	R <sup>D12</sup>	R <sup>D1</sup>
L <sub>C876</sub>	R <sup>D8</sup>	R <sup>D13</sup>	R <sup>D1</sup>
L <sub>C877</sub>	R <sup>D8</sup>	R <sup>D14</sup>	R <sup>D1</sup>
L <sub>C878</sub>	R <sup>D8</sup>	R <sup>D15</sup>	R <sup>D1</sup>
L <sub>C879</sub>	R <sup>D8</sup>	R <sup>D16</sup>	R <sup>D1</sup>
L <sub>C880</sub>	R <sup>D8</sup>	R <sup>D17</sup>	R <sup>D1</sup>
L <sub>C881</sub>	R <sup>D8</sup>	R <sup>D18</sup>	R <sup>D1</sup>
L <sub>C882</sub>	R <sup>D8</sup>	R <sup>D19</sup>	R <sup>D1</sup>
L <sub>C883</sub>	R <sup>D8</sup>	R <sup>D20</sup>	R <sup>D1</sup>
L <sub>C884</sub>	R <sup>D8</sup>	R <sup>D21</sup>	R <sup>D1</sup>
L <sub>C885</sub>	R <sup>D8</sup>	R <sup>D22</sup>	R <sup>D1</sup>
L <sub>C886</sub>	R <sup>D8</sup>	R <sup>D23</sup>	R <sup>D1</sup>
L <sub>C887</sub>	R <sup>D8</sup>	R <sup>D24</sup>	R <sup>D1</sup>
L <sub>C888</sub>	R <sup>D8</sup>	R <sup>D25</sup>	R <sup>D1</sup>
L <sub>C889</sub>	R <sup>D8</sup>	R <sup>D26</sup>	R <sup>D1</sup>
L <sub>C890</sub>	R <sup>D8</sup>	R <sup>D27</sup>	R <sup>D1</sup>
L <sub>C891</sub>	R <sup>D8</sup>	R <sup>D28</sup>	R <sup>D1</sup>
L <sub>C892</sub>	R <sup>D8</sup>	R <sup>D29</sup>	R <sup>D1</sup>
L <sub>C893</sub>	R <sup>D8</sup>	R <sup>D30</sup>	R <sup>D1</sup>
L <sub>C894</sub>	R <sup>D8</sup>	R <sup>D31</sup>	R <sup>D1</sup>
L <sub>C895</sub>	R <sup>D8</sup>	R <sup>D32</sup>	R <sup>D1</sup>
L <sub>C896</sub>	R <sup>D8</sup>	R <sup>D33</sup>	R <sup>D1</sup>
L <sub>C897</sub>	R <sup>D8</sup>	R <sup>D34</sup>	R <sup>D1</sup>
L <sub>C898</sub>	R <sup>D8</sup>	R <sup>D35</sup>	R <sup>D1</sup>
L <sub>C899</sub>	R <sup>D8</sup>	R <sup>D40</sup>	R <sup>D1</sup>
L <sub>C900</sub>	R <sup>D8</sup>	R <sup>D41</sup>	R <sup>D1</sup>
L <sub>C901</sub>	R <sup>D8</sup>	R <sup>D42</sup>	R <sup>D1</sup>
L <sub>C902</sub>	R <sup>D8</sup>	R <sup>D64</sup>	R <sup>D1</sup>
L <sub>C903</sub>	R <sup>D8</sup>	R <sup>D66</sup>	R <sup>D1</sup>
L <sub>C904</sub>	R <sup>D8</sup>	R <sup>D68</sup>	R <sup>D1</sup>
L <sub>C905</sub>	R <sup>D8</sup>	R <sup>D76</sup>	R <sup>D1</sup>
L <sub>C906</sub>	R <sup>D11</sup>	R <sup>D5</sup>	R <sup>D1</sup>
L <sub>C907</sub>	R <sup>D11</sup>	R <sup>D6</sup>	R <sup>D1</sup>
L <sub>C908</sub>	R <sup>D11</sup>	R <sup>D9</sup>	R <sup>D1</sup>
L <sub>C909</sub>	R <sup>D11</sup>	R <sup>D10</sup>	R <sup>D1</sup>
L <sub>C910</sub>	R <sup>D11</sup>	R <sup>D12</sup>	R <sup>D1</sup>
L <sub>C911</sub>	R <sup>D11</sup>	R <sup>D13</sup>	R <sup>D1</sup>
L <sub>C912</sub>	R <sup>D11</sup>	R <sup>D14</sup>	R <sup>D1</sup>
L <sub>C913</sub>	R <sup>D11</sup>	R <sup>D15</sup>	R <sup>D1</sup>
L <sub>C914</sub>	R <sup>D11</sup>	R <sup>D16</sup>	R <sup>D1</sup>
L <sub>C915</sub>	R <sup>D11</sup>	R <sup>D17</sup>	R <sup>D1</sup>
L <sub>C916</sub>	R <sup>D11</sup>	R <sup>D18</sup>	R <sup>D1</sup>
L <sub>C917</sub>	R <sup>D11</sup>	R <sup>D19</sup>	R <sup>D1</sup>
L <sub>C918</sub>	R <sup>D11</sup>	R <sup>D20</sup>	R <sup>D1</sup>
L <sub>C919</sub>	R <sup>D11</sup>	R <sup>D21</sup>	R <sup>D1</sup>
L <sub>C920</sub>	R <sup>D11</sup>	R <sup>D22</sup>	R <sup>D1</sup>
L <sub>C921</sub>	R <sup>D11</sup>	R <sup>D23</sup>	R <sup>D1</sup>
L <sub>C922</sub>	R <sup>D11</sup>	R <sup>D24</sup>	R <sup>D1</sup>
L <sub>C923</sub>	R <sup>D11</sup>	R <sup>D25</sup>	R <sup>D1</sup>
L <sub>C924</sub>	R <sup>D11</sup>	R <sup>D26</sup>	R <sup>D1</sup>
L <sub>C925</sub>	R <sup>D11</sup>	R <sup>D27</sup>	R <sup>D1</sup>
L <sub>C926</sub>	R <sup>D11</sup>	R <sup>D28</sup>	R <sup>D1</sup>
L <sub>C927</sub>	R <sup>D11</sup>	R <sup>D29</sup>	R <sup>D1</sup>
L <sub>C928</sub>	R <sup>D11</sup>	R <sup>D30</sup>	R <sup>D1</sup>
L <sub>C929</sub>	R <sup>D11</sup>	R <sup>D31</sup>	R <sup>D1</sup>
L <sub>C930</sub>	R <sup>D11</sup>	R <sup>D32</sup>	R <sup>D1</sup>
L <sub>C931</sub>	R <sup>D11</sup>	R <sup>D33</sup>	R <sup>D1</sup>
L <sub>C932</sub>	R <sup>D11</sup>	R <sup>D34</sup>	R <sup>D1</sup>
L <sub>C933</sub>	R <sup>D11</sup>	R <sup>D35</sup>	R <sup>D1</sup>
L <sub>C934</sub>	R <sup>D11</sup>	R <sup>D40</sup>	R <sup>D1</sup>
L <sub>C935</sub>	R <sup>D11</sup>	R <sup>D41</sup>	R <sup>D1</sup>
L <sub>C936</sub>	R <sup>D11</sup>	R <sup>D42</sup>	R <sup>D1</sup>
L <sub>C937</sub>	R <sup>D11</sup>	R <sup>D64</sup>	R <sup>D1</sup>
L <sub>C938</sub>	R <sup>D11</sup>	R <sup>D66</sup>	R <sup>D1</sup>
L <sub>C939</sub>	R <sup>D11</sup>	R <sup>D68</sup>	R <sup>D1</sup>
L <sub>C940</sub>	R <sup>D11</sup>	R <sup>D76</sup>	R <sup>D1</sup>
L <sub>C941</sub>	R <sup>D13</sup>	R <sup>D5</sup>	R <sup>D1</sup>
L <sub>C942</sub>	R <sup>D13</sup>	R <sup>D6</sup>	R <sup>D1</sup>
L <sub>C943</sub>	R <sup>D13</sup>	R <sup>D9</sup>	R <sup>D1</sup>
L <sub>C944</sub>	R <sup>D13</sup>	R <sup>D10</sup>	R <sup>D1</sup>
L <sub>C945</sub>	R <sup>D13</sup>	R <sup>D12</sup>	R <sup>D1</sup>
L <sub>C946</sub>	R <sup>D13</sup>	R <sup>D14</sup>	R <sup>D1</sup>
L <sub>C947</sub>	R <sup>D13</sup>	R <sup>D15</sup>	R <sup>D1</sup>

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Ligand	R <sup>1</sup>	R <sup>2</sup>	R <sup>3</sup>
L <sub>C948</sub>	R <sup>D13</sup>	R <sup>D16</sup>	R <sup>D1</sup>
L <sub>C949</sub>	R <sup>D13</sup>	R <sup>D17</sup>	R <sup>D1</sup>
L <sub>C950</sub>	R <sup>D13</sup>	R <sup>D18</sup>	R <sup>D1</sup>
L <sub>C951</sub>	R <sup>D13</sup>	R <sup>D19</sup>	R <sup>D1</sup>
L <sub>C952</sub>	R <sup>D13</sup>	R <sup>D20</sup>	R <sup>D1</sup>
L <sub>C953</sub>	R <sup>D13</sup>	R <sup>D21</sup>	R <sup>D1</sup>
L <sub>C954</sub>	R <sup>D13</sup>	R <sup>D22</sup>	R <sup>D1</sup>
L <sub>C955</sub>	R <sup>D13</sup>	R <sup>D23</sup>	R <sup>D1</sup>
L <sub>C956</sub>	R <sup>D13</sup>	R <sup>D24</sup>	R <sup>D1</sup>
L <sub>C957</sub>	R <sup>D13</sup>	R <sup>D25</sup>	R <sup>D1</sup>
L <sub>C958</sub>	R <sup>D13</sup>	R <sup>D26</sup>	R <sup>D1</sup>
L <sub>C959</sub>	R <sup>D13</sup>	R <sup>D27</sup>	R <sup>D1</sup>
L <sub>C960</sub>	R <sup>D13</sup>	R <sup>D28</sup>	R <sup>D1</sup>
L <sub>C961</sub>	R <sup>D13</sup>	R <sup>D29</sup>	R <sup>D1</sup>
L <sub>C962</sub>	R <sup>D13</sup>	R <sup>D30</sup>	R <sup>D1</sup>
L <sub>C963</sub>	R <sup>D13</sup>	R <sup>D31</sup>	R <sup>D1</sup>
L <sub>C964</sub>	R <sup>D13</sup>	R <sup>D32</sup>	R <sup>D1</sup>
L <sub>C965</sub>	R <sup>D13</sup>	R <sup>D33</sup>	R <sup>D1</sup>
L <sub>C966</sub>	R <sup>D13</sup>	R <sup>D34</sup>	R <sup>D1</sup>
L <sub>C967</sub>	R <sup>D13</sup>	R <sup>D35</sup>	R <sup>D1</sup>
L <sub>C968</sub>	R <sup>D13</sup>	R <sup>D40</sup>	R <sup>D1</sup>
L <sub>C969</sub>	R <sup>D13</sup>	R <sup>D41</sup>	R <sup>D1</sup>
L <sub>C970</sub>	R <sup>D13</sup>	R <sup>D42</sup>	R <sup>D1</sup>
L <sub>C971</sub>	R <sup>D13</sup>	R <sup>D64</sup>	R <sup>D1</sup>
L <sub>C972</sub>	R <sup>D13</sup>	R <sup>D66</sup>	R <sup>D1</sup>
L <sub>C973</sub>	R <sup>D13</sup>	R <sup>D68</sup>	R <sup>D1</sup>
L <sub>C974</sub>	R <sup>D13</sup>	R <sup>D76</sup>	R <sup>D1</sup>
L <sub>C975</sub>	R <sup>D14</sup>	R <sup>D5</sup>	R <sup>D1</sup>
L <sub>C976</sub>	R <sup>D14</sup>	R <sup>D6</sup>	R <sup>D1</sup>
L <sub>C977</sub>	R <sup>D14</sup>	R <sup>D9</sup>	R <sup>D1</sup>
L <sub>C978</sub>	R <sup>D14</sup>	R <sup>D10</sup>	R <sup>D1</sup>
L <sub>C979</sub>	R <sup>D14</sup>	R <sup>D12</sup>	R <sup>D1</sup>
L <sub>C980</sub>	R <sup>D14</sup>	R <sup>D15</sup>	R <sup>D1</sup>
L <sub>C981</sub>	R <sup>D14</sup>	R <sup>D16</sup>	R <sup>D1</sup>
L <sub>C982</sub>	R <sup>D14</sup>	R <sup>D17</sup>	R <sup>D1</sup>
L <sub>C983</sub>	R <sup>D14</sup>	R <sup>D18</sup>	R <sup>D1</sup>
L <sub>C984</sub>	R <sup>D14</sup>	R <sup>D19</sup>	R <sup>D1</sup>
L <sub>C985</sub>	R <sup>D14</sup>	R <sup>D20</sup>	R <sup>D1</sup>
L <sub>C986</sub>	R <sup>D14</sup>	R <sup>D21</sup>	R <sup>D1</sup>
L <sub>C987</sub>	R <sup>D14</sup>	R <sup>D22</sup>	R <sup>D1</sup>
L <sub>C988</sub>	R <sup>D14</sup>	R <sup>D23</sup>	R <sup>D1</sup>
L <sub>C989</sub>	R <sup>D14</sup>	R <sup>D24</sup>	R <sup>D1</sup>
L <sub>C990</sub>	R <sup>D14</sup>	R <sup>D25</sup>	R <sup>D1</sup>
L <sub>C991</sub>	R <sup>D14</sup>	R <sup>D26</sup>	R <sup>D1</sup>
L <sub>C992</sub>	R <sup>D14</sup>	R <sup>D27</sup>	R <sup>D1</sup>
L <sub>C993</sub>	R <sup>D14</sup>	R <sup>D28</sup>	R <sup>D1</sup>
L <sub>C994</sub>	R <sup>D14</sup>	R <sup>D29</sup>	R <sup>D1</sup>
L <sub>C995</sub>	R <sup>D14</sup>	R <sup>D30</sup>	R <sup>D1</sup>
L <sub>C996</sub>	R <sup>D14</sup>	R <sup>D31</sup>	R <sup>D1</sup>
L <sub>C997</sub>	R <sup>D14</sup>	R <sup>D32</sup>	R <sup>D1</sup>
L <sub>C998</sub>	R <sup>D14</sup>	R <sup>D33</sup>	R <sup>D1</sup>
L <sub>C999</sub>	R <sup>D14</sup>	R <sup>D34</sup>	R <sup>D1</sup>
L <sub>C1000</sub>	R <sup>D14</sup>	R <sup>D35</sup>	R <sup>D1</sup>
L <sub>C1001</sub>	R <sup>D14</sup>	R <sup>D40</sup>	R <sup>D1</sup>
L <sub>C1002</sub>	R <sup>D14</sup>	R <sup>D41</sup>	R <sup>D1</sup>
L <sub>C1003</sub>	R <sup>D14</sup>	R <sup>D42</sup>	R <sup>D1</sup>
L <sub>C1004</sub>	R <sup>D14</sup>	R <sup>D64</sup>	R <sup>D1</sup>
L <sub>C1005</sub>	R <sup>D14</sup>	R <sup>D66</sup>	R <sup>D1</sup>
L <sub>C1006</sub>	R <sup>D14</sup>	R <sup>D68</sup>	R <sup>D1</sup>
L <sub>C1007</sub>	R <sup>D14</sup>	R <sup>D76</sup>	R <sup>D1</sup>
L <sub>C1008</sub>	R <sup>D22</sup>	R <sup>D5</sup>	R <sup>D1</sup>
L <sub>C1009</sub>	R <sup>D22</sup>	R <sup>D6</sup>	R <sup>D1</sup>
L <sub>C1010</sub>	R <sup>D22</sup>	R <sup>D9</sup>	R <sup>D1</sup>
L <sub>C1011</sub>	R <sup>D22</sup>	R <sup>D10</sup>	R <sup>D1</sup>
L <sub>C1012</sub>	R <sup>D22</sup>	R <sup>D12</sup>	R <sup>D1</sup>
L <sub>C1013</sub>	R <sup>D22</sup>	R <sup>D15</sup>	R <sup>D1</sup>
L <sub>C1014</sub>	R <sup>D22</sup>	R <sup>D16</sup>	R <sup>D1</sup>
L <sub>C1015</sub>	R <sup>D22</sup>	R <sup>D17</sup>	R <sup>D1</sup>
L <sub>C1016</sub>	R <sup>D22</sup>	R <sup>D18</sup>	R <sup>D1</sup>
L <sub>C1017</sub>	R <sup>D22</sup>	R <sup>D19</sup>	R <sup>D1</sup>
L <sub>C1018</sub>	R <sup>D22</sup>	R <sup>D20</sup>	R <sup>D1</sup>
L <sub>C1019</sub>	R <sup>D22</sup>	R <sup>D21</sup>	R <sup>D1</sup>
L <sub>C1020</sub>	R <sup>D22</sup>	R <sup>D23</sup>	R <sup>D1</sup>
L <sub>C1021</sub>	R <sup>D22</sup>	R <sup>D24</sup>	R <sup>D1</sup>

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Ligand	R <sup>1</sup>	R <sup>2</sup>	R <sup>3</sup>
LC1022	R <sup>D22</sup>	R <sup>D25</sup>	R <sup>D1</sup>
LC1023	R <sup>D22</sup>	R <sup>D26</sup>	R <sup>D1</sup>
LC1024	R <sup>D22</sup>	R <sup>D27</sup>	R <sup>D1</sup>
LC1025	R <sup>D22</sup>	R <sup>D28</sup>	R <sup>D1</sup>
LC1026	R <sup>D22</sup>	R <sup>D29</sup>	R <sup>D1</sup>
LC1027	R <sup>D22</sup>	R <sup>D30</sup>	R <sup>D1</sup>
LC1028	R <sup>D22</sup>	R <sup>D31</sup>	R <sup>D1</sup>
LC1029	R <sup>D22</sup>	R <sup>D32</sup>	R <sup>D1</sup>
LC1030	R <sup>D22</sup>	R <sup>D33</sup>	R <sup>D1</sup>
LC1031	R <sup>D22</sup>	R <sup>D34</sup>	R <sup>D1</sup>
LC1032	R <sup>D22</sup>	R <sup>D35</sup>	R <sup>D1</sup>
LC1033	R <sup>D22</sup>	R <sup>D40</sup>	R <sup>D1</sup>
LC1034	R <sup>D22</sup>	R <sup>D41</sup>	R <sup>D1</sup>
LC1035	R <sup>D22</sup>	R <sup>D42</sup>	R <sup>D1</sup>
LC1036	R <sup>D22</sup>	R <sup>D64</sup>	R <sup>D1</sup>
LC1037	R <sup>D22</sup>	R <sup>D66</sup>	R <sup>D1</sup>
LC1038	R <sup>D22</sup>	R <sup>D68</sup>	R <sup>D1</sup>
LC1039	R <sup>D22</sup>	R <sup>D76</sup>	R <sup>D1</sup>
LC1040	R <sup>D26</sup>	R <sup>D5</sup>	R <sup>D1</sup>
LC1041	R <sup>D26</sup>	R <sup>D6</sup>	R <sup>D1</sup>
LC1042	R <sup>D26</sup>	R <sup>D9</sup>	R <sup>D1</sup>
LC1043	R <sup>D26</sup>	R <sup>D10</sup>	R <sup>D1</sup>
LC1044	R <sup>D26</sup>	R <sup>D12</sup>	R <sup>D1</sup>
LC1045	R <sup>D26</sup>	R <sup>D15</sup>	R <sup>D1</sup>
LC1046	R <sup>D26</sup>	R <sup>D16</sup>	R <sup>D1</sup>
LC1047	R <sup>D26</sup>	R <sup>D17</sup>	R <sup>D1</sup>
LC1048	R <sup>D26</sup>	R <sup>D18</sup>	R <sup>D1</sup>
LC1049	R <sup>D26</sup>	R <sup>D19</sup>	R <sup>D1</sup>
LC1050	R <sup>D26</sup>	R <sup>D20</sup>	R <sup>D1</sup>
LC1051	R <sup>D26</sup>	R <sup>D21</sup>	R <sup>D1</sup>
LC1052	R <sup>D26</sup>	R <sup>D23</sup>	R <sup>D1</sup>
LC1053	R <sup>D26</sup>	R <sup>D24</sup>	R <sup>D1</sup>
LC1054	R <sup>D26</sup>	R <sup>D25</sup>	R <sup>D1</sup>
LC1055	R <sup>D26</sup>	R <sup>D27</sup>	R <sup>D1</sup>
LC1056	R <sup>D26</sup>	R <sup>D28</sup>	R <sup>D1</sup>
LC1057	R <sup>D26</sup>	R <sup>D29</sup>	R <sup>D1</sup>
LC1058	R <sup>D26</sup>	R <sup>D30</sup>	R <sup>D1</sup>
LC1059	R <sup>D26</sup>	R <sup>D31</sup>	R <sup>D1</sup>
LC1060	R <sup>D26</sup>	R <sup>D32</sup>	R <sup>D1</sup>
LC1061	R <sup>D26</sup>	R <sup>D33</sup>	R <sup>D1</sup>
LC1062	R <sup>D26</sup>	R <sup>D34</sup>	R <sup>D1</sup>
LC1063	R <sup>D26</sup>	R <sup>D35</sup>	R <sup>D1</sup>
LC1064	R <sup>D26</sup>	R <sup>D40</sup>	R <sup>D1</sup>
LC1065	R <sup>D26</sup>	R <sup>D41</sup>	R <sup>D1</sup>
LC1066	R <sup>D26</sup>	R <sup>D42</sup>	R <sup>D1</sup>
LC1067	R <sup>D26</sup>	R <sup>D64</sup>	R <sup>D1</sup>
LC1068	R <sup>D26</sup>	R <sup>D66</sup>	R <sup>D1</sup>
LC1069	R <sup>D26</sup>	R <sup>D68</sup>	R <sup>D1</sup>
LC1070	R <sup>D26</sup>	R <sup>D76</sup>	R <sup>D1</sup>
LC1071	R <sup>D35</sup>	R <sup>D5</sup>	R <sup>D1</sup>
LC1072	R <sup>D35</sup>	R <sup>D6</sup>	R <sup>D1</sup>
LC1073	R <sup>D35</sup>	R <sup>D9</sup>	R <sup>D1</sup>
LC1074	R <sup>D35</sup>	R <sup>D10</sup>	R <sup>D1</sup>
LC1075	R <sup>D35</sup>	R <sup>D12</sup>	R <sup>D1</sup>
LC1076	R <sup>D35</sup>	R <sup>D15</sup>	R <sup>D1</sup>
LC1077	R <sup>D35</sup>	R <sup>D16</sup>	R <sup>D1</sup>
LC1078	R <sup>D35</sup>	R <sup>D17</sup>	R <sup>D1</sup>
LC1079	R <sup>D35</sup>	R <sup>D18</sup>	R <sup>D1</sup>
LC1080	R <sup>D35</sup>	R <sup>D19</sup>	R <sup>D1</sup>
LC1081	R <sup>D35</sup>	R <sup>D20</sup>	R <sup>D1</sup>
LC1082	R <sup>D35</sup>	R <sup>D21</sup>	R <sup>D1</sup>
LC1083	R <sup>D35</sup>	R <sup>D23</sup>	R <sup>D1</sup>
LC1084	R <sup>D35</sup>	R <sup>D24</sup>	R <sup>D1</sup>
LC1085	R <sup>D35</sup>	R <sup>D25</sup>	R <sup>D1</sup>
LC1086	R <sup>D35</sup>	R <sup>D27</sup>	R <sup>D1</sup>
LC1087	R <sup>D35</sup>	R <sup>D28</sup>	R <sup>D1</sup>
LC1088	R <sup>D35</sup>	R <sup>D29</sup>	R <sup>D1</sup>
LC1089	R <sup>D35</sup>	R <sup>D30</sup>	R <sup>D1</sup>
LC1090	R <sup>D35</sup>	R <sup>D31</sup>	R <sup>D1</sup>
LC1091	R <sup>D35</sup>	R <sup>D32</sup>	R <sup>D1</sup>
LC1092	R <sup>D35</sup>	R <sup>D33</sup>	R <sup>D1</sup>
LC1093	R <sup>D35</sup>	R <sup>D34</sup>	R <sup>D1</sup>
LC1094	R <sup>D35</sup>	R <sup>D40</sup>	R <sup>D1</sup>
LC1095	R <sup>D35</sup>	R <sup>D41</sup>	R <sup>D1</sup>

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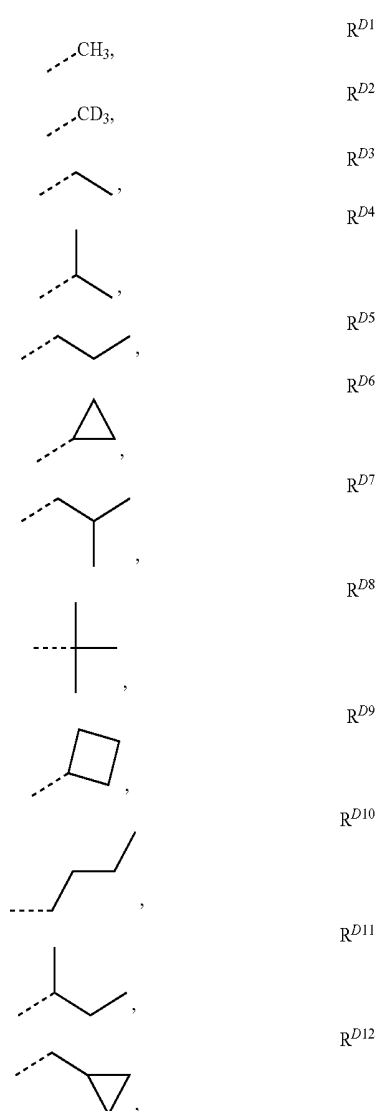
Ligand	R <sup>1</sup>	R <sup>2</sup>	R <sup>3</sup>
LC1096	R <sup>D35</sup>	R <sup>D42</sup>	R <sup>D1</sup>
LC1097	R <sup>D35</sup>	R <sup>D64</sup>	R <sup>D1</sup>
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LC1101	R <sup>D40</sup>	R <sup>D5</sup>	R <sup>D1</sup>
LC1102	R <sup>D40</sup>	R <sup>D6</sup>	R <sup>D1</sup>
LC1103	R <sup>D40</sup>	R <sup>D9</sup>	R <sup>D1</sup>
LC1104	R <sup>D40</sup>	R <sup>D10</sup>	R <sup>D1</sup>
LC1105	R <sup>D40</sup>	R <sup>D12</sup>	R <sup>D1</sup>
LC1106	R <sup>D40</sup>	R <sup>D15</sup>	R <sup>D1</sup>
LC1107	R <sup>D40</sup>	R <sup>D16</sup>	R <sup>D1</sup>
LC1108	R <sup>D40</sup>	R <sup>D17</sup>	R <sup>D1</sup>
LC1109	R <sup>D40</sup>	R <sup>D18</sup>	R <sup>D1</sup>
LC1110	R <sup>D40</sup>	R <sup>D19</sup>	R <sup>D1</sup>
LC1111	R <sup>D40</sup>	R <sup>D20</sup>	R <sup>D1</sup>
LC1102	R <sup>D40</sup>	R <sup>D21</sup>	R <sup>D1</sup>
LC1103	R <sup>D40</sup>	R <sup>D23</sup>	R <sup>D1</sup>
LC1104	R <sup>D40</sup>	R <sup>D24</sup>	R <sup>D1</sup>
LC1105	R <sup>D40</sup>	R <sup>D25</sup>	R <sup>D1</sup>
LC1106	R <sup>D40</sup>	R <sup>D27</sup>	R <sup>D1</sup>
LC1107	R <sup>D40</sup>	R <sup>D28</sup>	R <sup>D1</sup>
LC1118	R <sup>D40</sup>	R <sup>D29</sup>	R <sup>D1</sup>
LC1119	R <sup>D40</sup>	R <sup>D30</sup>	R <sup>D1</sup>
LC1120	R <sup>D40</sup>	R <sup>D31</sup>	R <sup>D1</sup>
LC1121	R <sup>D40</sup>	R <sup>D32</sup>	R <sup>D1</sup>
LC1122	R <sup>D40</sup>	R <sup>D33</sup>	R <sup>D1</sup>
LC1123	R <sup>D40</sup>	R <sup>D34</sup>	R <sup>D1</sup>
LC1124	R <sup>D40</sup>	R <sup>D41</sup>	R <sup>D1</sup>
LC1125	R <sup>D40</sup>	R <sup>D42</sup>	R <sup>D1</sup>
LC1126	R <sup>D40</sup>	R <sup>D64</sup>	R <sup>D1</sup>
LC1127	R <sup>D40</sup>	R <sup>D66</sup>	R <sup>D1</sup>
LC1128	R <sup>D40</sup>	R <sup>D68</sup>	R <sup>D1</sup>
LC1129	R <sup>D40</sup>	R <sup>D76</sup>	R <sup>D1</sup>
LC1130	R <sup>D41</sup>	R <sup>D5</sup>	R <sup>D1</sup>
LC1131	R <sup>D41</sup>	R <sup>D6</sup>	R <sup>D1</sup>
LC1132	R <sup>D41</sup>	R <sup>D9</sup>	R <sup>D1</sup>
LC1133	R <sup>D41</sup>	R <sup>D10</sup>	R <sup>D1</sup>
LC1134	R <sup>D41</sup>	R <sup>D12</sup>	R <sup>D1</sup>
LC1135	R <sup>D41</sup>	R <sup>D15</sup>	R <sup>D1</sup>
LC1136	R <sup>D41</sup>	R <sup>D16</sup>	R <sup>D1</sup>
LC1137	R <sup>D41</sup>	R <sup>D17</sup>	R <sup>D1</sup>
LC1138	R <sup>D41</sup>	R <sup>D18</sup>	R <sup>D1</sup>
LC1139	R <sup>D41</sup>	R <sup>D19</sup>	R <sup>D1</sup>
LC1140	R <sup>D41</sup>	R <sup>D20</sup>	R <sup>D1</sup>
LC1141	R <sup>D41</sup>	R <sup>D21</sup>	R <sup>D1</sup>
LC1142	R <sup>D41</sup>	R <sup>D23</sup>	R <sup>D1</sup>
LC1143	R <sup>D41</sup>	R <sup>D24</sup>	R <sup>D1</sup>
LC1144	R <sup>D41</sup>	R <sup>D25</sup>	R <sup>D1</sup>
LC1145	R <sup>D41</sup>	R <sup>D27</sup>	R <sup>D1</sup>
LC1146	R <sup>D41</sup>	R <sup>D28</sup>	R <sup>D1</sup>
LC1147	R <sup>D41</sup>	R <sup>D29</sup>	R <sup>D1</sup>
LC1148	R <sup>D41</sup>	R <sup>D30</sup>	R <sup>D1</sup>
LC1149	R <sup>D41</sup>	R <sup>D31</sup>	R <sup>D1</sup>
LC1150	R <sup>D41</sup>	R <sup>D32</sup>	R <sup>D1</sup>
LC1151	R <sup>D41</sup>	R <sup>D33</sup>	R <sup>D1</sup>
LC1152	R <sup>D41</sup>	R <sup>D34</sup>	R <sup>D1</sup>
LC1153	R <sup>D41</sup>	R <sup>D42</sup>	R <sup>D1</sup>
LC1154	R <sup>D41</sup>	R <sup>D64</sup>	R <sup>D1</sup>
LC1155	R <sup>D41</sup>	R <sup>D66</sup>	R <sup>D1</sup>
LC1156	R <sup>D41</sup>	R <sup>D68</sup>	R <sup>D1</sup>
LC1157	R <sup>D41</sup>	R <sup>D76</sup>	R <sup>D1</sup>
LC1158	R <sup>D64</sup>	R <sup>D5</sup>	R <sup>D1</sup>
LC1159	R <sup>D64</sup>	R <sup>D6</sup>	R <sup>D1</sup>
LC1160	R <sup>D64</sup>	R <sup>D9</sup>	R <sup>D1</sup>
LC1161	R <sup>D64</sup>	R <sup>D10</sup>	R <sup>D1</sup>
LC1162	R <sup>D64</sup>	R <sup>D12</sup>	R <sup>D1</sup>
LC1163	R <sup>D64</sup>	R <sup>D15</sup>	R <sup>D1</sup>
LC1164	R <sup>D64</sup>	R <sup>D16</sup>	R <sup>D1</sup>
LC1165	R <sup>D64</sup>	R <sup>D17</sup>	R <sup>D1</sup>
LC1166	R <sup>D64</sup>	R <sup>D18</sup>	R <sup>D1</sup>
LC1167	R <sup>D64</sup>	R <sup>D19</sup>	R <sup>D1</sup>
LC1168	R <sup>D64</sup>	R <sup>D20</sup>	R <sup>D1</sup>
LC1169	R <sup>D64</sup>	R <sup>D21</sup>	R <sup>D1</sup>

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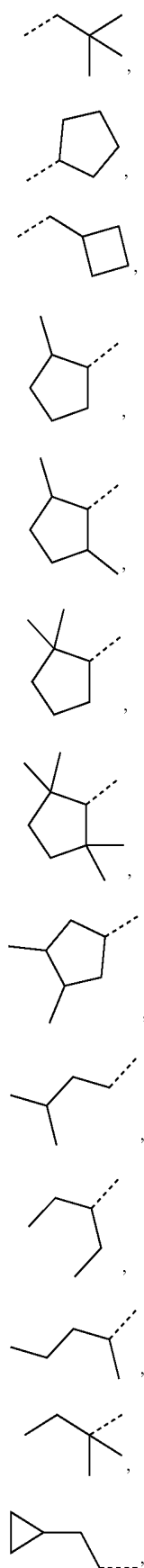
Ligand	R <sup>1</sup>	R <sup>2</sup>	R <sup>3</sup>
L <sub>CI170</sub>	R <sup>D64</sup>	R <sup>D23</sup>	R <sup>D1</sup>
L <sub>CI171</sub>	R <sup>D64</sup>	R <sup>D24</sup>	R <sup>D1</sup>
L <sub>CI172</sub>	R <sup>D64</sup>	R <sup>D25</sup>	R <sup>D1</sup>
L <sub>CI173</sub>	R <sup>D64</sup>	R <sup>D27</sup>	R <sup>D1</sup>
L <sub>CI174</sub>	R <sup>D64</sup>	R <sup>D28</sup>	R <sup>D1</sup>
L <sub>CI175</sub>	R <sup>D64</sup>	R <sup>D29</sup>	R <sup>D1</sup>
L <sub>CI176</sub>	R <sup>D64</sup>	R <sup>D30</sup>	R <sup>D1</sup>
L <sub>CI177</sub>	R <sup>D64</sup>	R <sup>D31</sup>	R <sup>D1</sup>
L <sub>CI178</sub>	R <sup>D64</sup>	R <sup>D32</sup>	R <sup>D1</sup>
L <sub>CI179</sub>	R <sup>D64</sup>	R <sup>D33</sup>	R <sup>D1</sup>
L <sub>CI180</sub>	R <sup>D64</sup>	R <sup>D34</sup>	R <sup>D1</sup>
L <sub>CI181</sub>	R <sup>D64</sup>	R <sup>D42</sup>	R <sup>D1</sup>
L <sub>CI182</sub>	R <sup>D64</sup>	R <sup>D64</sup>	R <sup>D1</sup>
L <sub>CI183</sub>	R <sup>D64</sup>	R <sup>D66</sup>	R <sup>D1</sup>
L <sub>CI184</sub>	R <sup>D64</sup>	R <sup>D68</sup>	R <sup>D1</sup>
L <sub>CI185</sub>	R <sup>D64</sup>	R <sup>D76</sup>	R <sup>D1</sup>
L <sub>CI186</sub>	R <sup>D66</sup>	R <sup>D5</sup>	R <sup>D1</sup>
L <sub>CI187</sub>	R <sup>D66</sup>	R <sup>D6</sup>	R <sup>D1</sup>
L <sub>CI188</sub>	R <sup>D66</sup>	R <sup>D9</sup>	R <sup>D1</sup>
L <sub>CI189</sub>	R <sup>D66</sup>	R <sup>D10</sup>	R <sup>D1</sup>
L <sub>CI190</sub>	R <sup>D66</sup>	R <sup>D12</sup>	R <sup>D1</sup>
L <sub>CI191</sub>	R <sup>D66</sup>	R <sup>D15</sup>	R <sup>D1</sup>
L <sub>CI192</sub>	R <sup>D66</sup>	R <sup>D16</sup>	R <sup>D1</sup>
L <sub>CI193</sub>	R <sup>D66</sup>	R <sup>D17</sup>	R <sup>D1</sup>
L <sub>CI194</sub>	R <sup>D66</sup>	R <sup>D18</sup>	R <sup>D1</sup>
L <sub>CI195</sub>	R <sup>D66</sup>	R <sup>D19</sup>	R <sup>D1</sup>
L <sub>CI196</sub>	R <sup>D66</sup>	R <sup>D20</sup>	R <sup>D1</sup>
L <sub>CI197</sub>	R <sup>D66</sup>	R <sup>D21</sup>	R <sup>D1</sup>
L <sub>CI198</sub>	R <sup>D66</sup>	R <sup>D23</sup>	R <sup>D1</sup>
L <sub>CI199</sub>	R <sup>D66</sup>	R <sup>D24</sup>	R <sup>D1</sup>
L <sub>CI200</sub>	R <sup>D66</sup>	R <sup>D25</sup>	R <sup>D1</sup>
L <sub>CI201</sub>	R <sup>D66</sup>	R <sup>D27</sup>	R <sup>D1</sup>
L <sub>CI202</sub>	R <sup>D66</sup>	R <sup>D28</sup>	R <sup>D1</sup>
L <sub>CI203</sub>	R <sup>D66</sup>	R <sup>D29</sup>	R <sup>D1</sup>
L <sub>CI204</sub>	R <sup>D66</sup>	R <sup>D30</sup>	R <sup>D1</sup>
L <sub>CI205</sub>	R <sup>D66</sup>	R <sup>D31</sup>	R <sup>D1</sup>
L <sub>CI206</sub>	R <sup>D66</sup>	R <sup>D32</sup>	R <sup>D1</sup>
L <sub>CI207</sub>	R <sup>D66</sup>	R <sup>D33</sup>	R <sup>D1</sup>
L <sub>CI208</sub>	R <sup>D66</sup>	R <sup>D34</sup>	R <sup>D1</sup>
L <sub>CI209</sub>	R <sup>D66</sup>	R <sup>D42</sup>	R <sup>D1</sup>
L <sub>CI210</sub>	R <sup>D66</sup>	R <sup>D68</sup>	R <sup>D1</sup>
L <sub>CI211</sub>	R <sup>D66</sup>	R <sup>D76</sup>	R <sup>D1</sup>
L <sub>CI212</sub>	R <sup>D68</sup>	R <sup>D5</sup>	R <sup>D1</sup>
L <sub>CI213</sub>	R <sup>D68</sup>	R <sup>D6</sup>	R <sup>D1</sup>
L <sub>CI214</sub>	R <sup>D68</sup>	R <sup>D9</sup>	R <sup>D1</sup>
L <sub>CI215</sub>	R <sup>D68</sup>	R <sup>D10</sup>	R <sup>D1</sup>
L <sub>CI216</sub>	R <sup>D68</sup>	R <sup>D12</sup>	R <sup>D1</sup>
L <sub>CI217</sub>	R <sup>D68</sup>	R <sup>D15</sup>	R <sup>D1</sup>
L <sub>CI218</sub>	R <sup>D68</sup>	R <sup>D16</sup>	R <sup>D1</sup>
L <sub>CI219</sub>	R <sup>D68</sup>	R <sup>D17</sup>	R <sup>D1</sup>
L <sub>CI220</sub>	R <sup>D68</sup>	R <sup>D18</sup>	R <sup>D1</sup>
L <sub>CI221</sub>	R <sup>D68</sup>	R <sup>D19</sup>	R <sup>D1</sup>
L <sub>CI222</sub>	R <sup>D68</sup>	R <sup>D20</sup>	R <sup>D1</sup>
L <sub>CI223</sub>	R <sup>D68</sup>	R <sup>D21</sup>	R <sup>D1</sup>
L <sub>CI224</sub>	R <sup>D68</sup>	R <sup>D23</sup>	R <sup>D1</sup>
L <sub>CI225</sub>	R <sup>D68</sup>	R <sup>D24</sup>	R <sup>D1</sup>
L <sub>CI226</sub>	R <sup>D68</sup>	R <sup>D25</sup>	R <sup>D1</sup>
L <sub>CI227</sub>	R <sup>D68</sup>	R <sup>D27</sup>	R <sup>D1</sup>
L <sub>CI228</sub>	R <sup>D68</sup>	R <sup>D28</sup>	R <sup>D1</sup>
L <sub>CI229</sub>	R <sup>D68</sup>	R <sup>D29</sup>	R <sup>D1</sup>
L <sub>CI230</sub>	R <sup>D68</sup>	R <sup>D30</sup>	R <sup>D1</sup>
L <sub>CI231</sub>	R <sup>D68</sup>	R <sup>D31</sup>	R <sup>D1</sup>
L <sub>CI232</sub>	R <sup>D68</sup>	R <sup>D32</sup>	R <sup>D1</sup>
L <sub>CI233</sub>	R <sup>D68</sup>	R <sup>D33</sup>	R <sup>D1</sup>
L <sub>CI234</sub>	R <sup>D68</sup>	R <sup>D34</sup>	R <sup>D1</sup>
L <sub>CI235</sub>	R <sup>D68</sup>	R <sup>D42</sup>	R <sup>D1</sup>
L <sub>CI236</sub>	R <sup>D68</sup>	R <sup>D76</sup>	R <sup>D1</sup>
L <sub>CI237</sub>	R <sup>D76</sup>	R <sup>D5</sup>	R <sup>D1</sup>
L <sub>CI238</sub>	R <sup>D76</sup>	R <sup>D6</sup>	R <sup>D1</sup>
L <sub>CI239</sub>	R <sup>D76</sup>	R <sup>D9</sup>	R <sup>D1</sup>
L <sub>CI240</sub>	R <sup>D76</sup>	R <sup>D10</sup>	R <sup>D1</sup>
L <sub>CI241</sub>	R <sup>D76</sup>	R <sup>D12</sup>	R <sup>D1</sup>
L <sub>CI242</sub>	R <sup>D76</sup>	R <sup>D15</sup>	R <sup>D1</sup>
L <sub>CI243</sub>	R <sup>D76</sup>	R <sup>D16</sup>	R <sup>D1</sup>

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Ligand	R <sup>1</sup>	R <sup>2</sup>	R <sup>3</sup>
L <sub>CI244</sub>	R <sup>D76</sup>	R <sup>D17</sup>	R <sup>D1</sup>
L <sub>CI245</sub>	R <sup>D76</sup>	R <sup>D18</sup>	R <sup>D1</sup>
L <sub>CI246</sub>	R <sup>D76</sup>	R <sup>D19</sup>	R <sup>D1</sup>
L <sub>CI247</sub>	R <sup>D76</sup>	R <sup>D20</sup>	R <sup>D1</sup>
L <sub>CI248</sub>	R <sup>D76</sup>	R <sup>D21</sup>	R <sup>D1</sup>
L <sub>CI249</sub>	R <sup>D76</sup>	R <sup>D23</sup>	R <sup>D1</sup>
L <sub>CI250</sub>	R <sup>D76</sup>	R <sup>D24</sup>	R <sup>D1</sup>
L <sub>CI251</sub>	R <sup>D76</sup>	R <sup>D25</sup>	R <sup>D1</sup>
L <sub>CI252</sub>	R <sup>D76</sup>	R <sup>D27</sup>	R <sup>D1</sup>
L <sub>CI253</sub>	R <sup>D76</sup>	R <sup>D28</sup>	R <sup>D1</sup>
L <sub>CI254</sub>	R <sup>D76</sup>	R <sup>D29</sup>	R <sup>D1</sup>
L <sub>CI255</sub>	R <sup>D76</sup>	R <sup>D30</sup>	R <sup>D1</sup>
L <sub>CI256</sub>	R <sup>D76</sup>	R <sup>D31</sup>	R <sup>D1</sup>
L <sub>CI257</sub>	R <sup>D76</sup>	R <sup>D32</sup>	R <sup>D1</sup>
L <sub>CI258</sub>	R <sup>D76</sup>	R <sup>D33</sup>	R <sup>D1</sup>
L <sub>CI259</sub>	R <sup>D76</sup>	R <sup>D34</sup>	R <sup>D1</sup>
L <sub>CI260</sub>	R <sup>D76</sup>	R <sup>D42</sup>	R <sup>D1</sup>

wherein R<sup>D1</sup> to R<sup>D21</sup> have the following structures:

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R<sup>D13</sup>

R<sup>D14</sup>

R<sup>D15</sup>

R<sup>D16</sup>

R<sup>D17</sup>

R<sup>D18</sup>

R<sup>D19</sup>

R<sup>D20</sup>

R<sup>D21</sup>

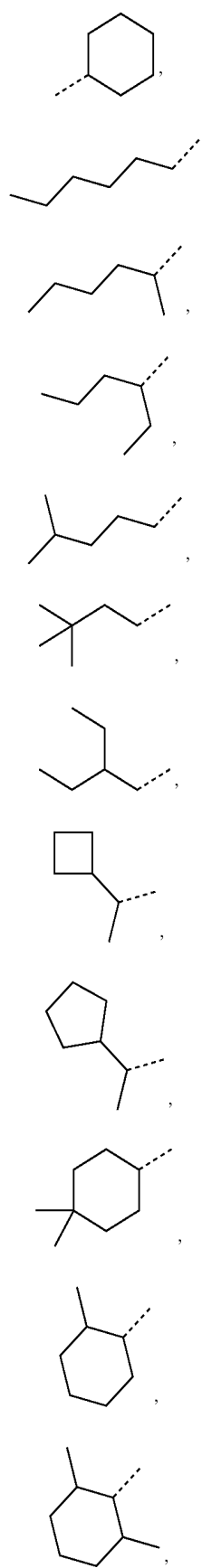
R<sup>D22</sup>

R<sup>D23</sup>

R<sup>D24</sup>

R<sup>D25</sup>

-continued



R<sup>D26</sup>

R<sup>D27</sup>

R<sup>D28</sup>

R<sup>D29</sup>

R<sup>D30</sup>

R<sup>D31</sup>

R<sup>D32</sup>

R<sup>D33</sup>

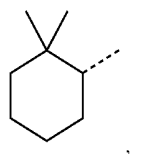
R<sup>D34</sup>

R<sup>D35</sup>

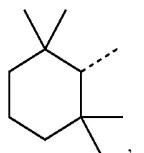
R<sup>D36</sup>

R<sup>D37</sup>

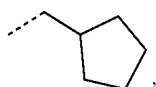
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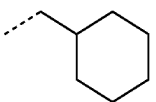
R<sup>D38</sup>



R<sup>D39</sup>



R<sup>D40</sup>



R<sup>D41</sup>



R<sup>D42</sup>



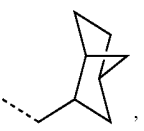
R<sup>D43</sup>



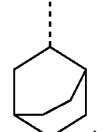
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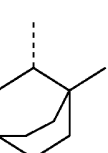
R<sup>D45</sup>



R<sup>D46</sup>

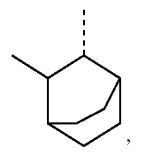


R<sup>D47</sup>

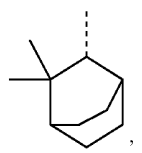


R<sup>D48</sup>

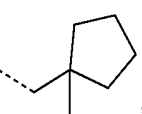
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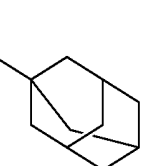
R<sup>D49</sup>



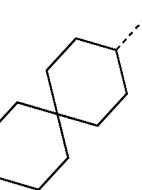
R<sup>D50</sup>



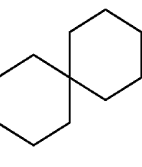
R<sup>D51</sup>



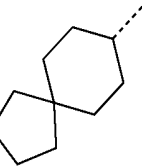
R<sup>D52</sup>



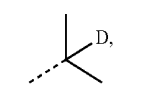
R<sup>D53</sup>



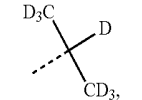
R<sup>D54</sup>



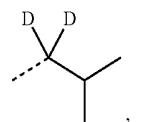
R<sup>D55</sup>



R<sup>D56</sup>

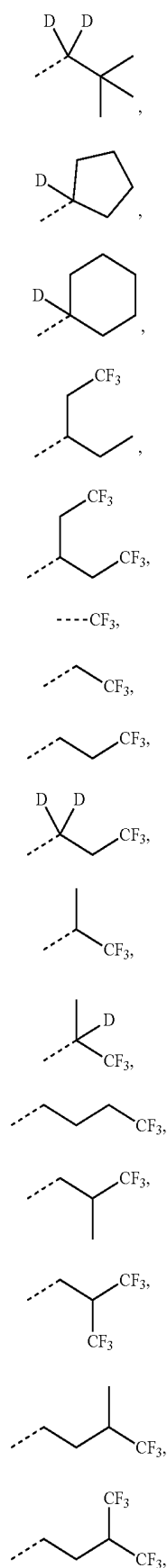


R<sup>D57</sup>



R<sup>D58</sup>

-continued



R<sup>D59</sup>

R<sup>D60</sup>

R<sup>D61</sup>

R<sup>D62</sup>

R<sup>D63</sup>

R<sup>D64</sup>

R<sup>D65</sup>

R<sup>D66</sup>

R<sup>D67</sup>

R<sup>D68</sup>

R<sup>D69</sup>

R<sup>D70</sup>

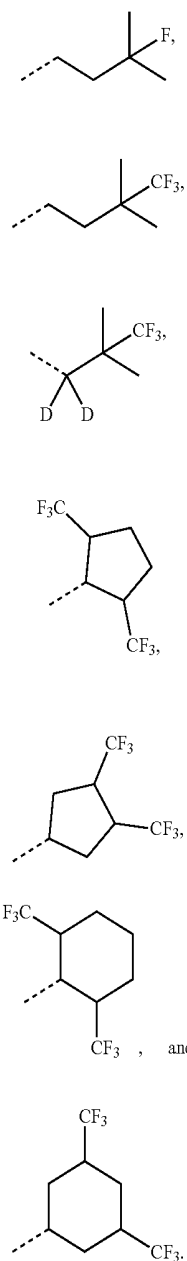
R<sup>D71</sup>

R<sup>D72</sup>

R<sup>D73</sup>

R<sup>D74</sup>

-continued



R<sup>D75</sup>

R<sup>D76</sup>

R<sup>D77</sup>

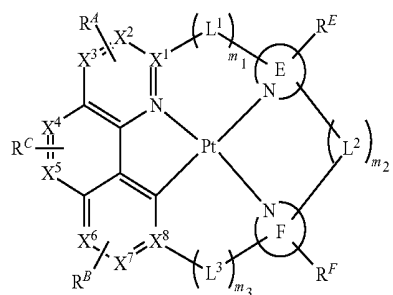
R<sup>D78</sup>

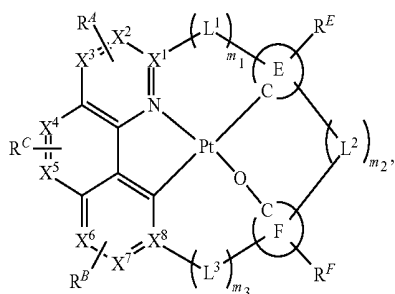
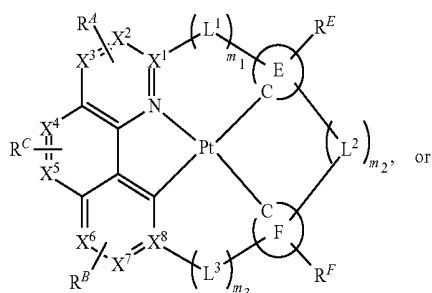
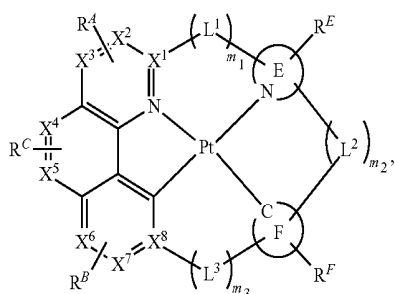
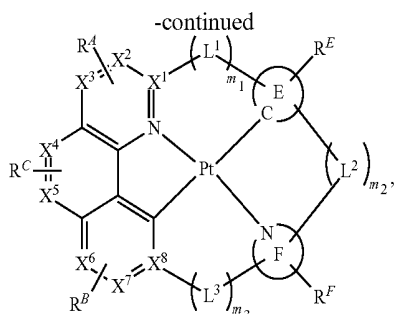
R<sup>D79</sup>

R<sup>D80</sup>

R<sup>D81</sup>

13. The compound of claim 1, wherein the compound has the formula:





wherein rings E and F each independently represents a 5-membered or 6-membered carbocyclic or heterocyclic ring;

wherein  $R^E$  and  $R^F$  each independently represents mono to the maximum possible number of substitutions, or no substitution;

wherein  $m_1$ ,  $m_2$ , and  $m_3$  are each independently an integer of 0 or 1; when  $m_2$  is 0, both  $m_1$  and  $m_3$  are 1; when  $m_2$  is 1, each  $m_1$  and  $m_3$  independently can be 0 or 1;

wherein when  $m_1$  is 0,  $L^1$  is not present; when  $m_2$  is 0,  $L^2$  is not present; when  $m_3$  is 0,  $L^3$  is not present;

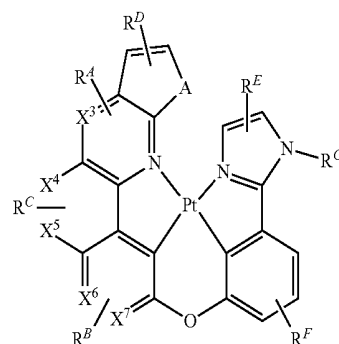
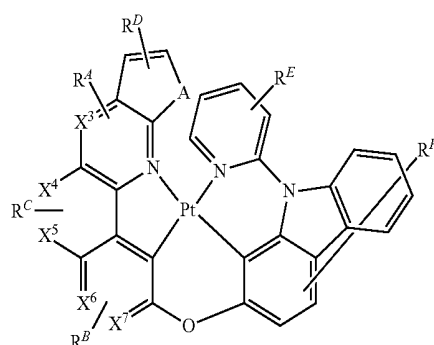
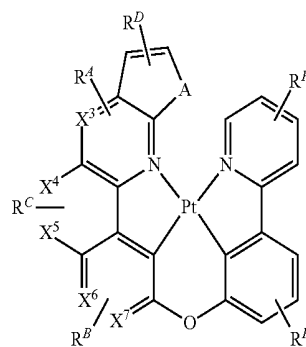
wherein  $L^1$ ,  $L^2$ , and  $L^3$  are each independently selected from the group consisting of a direct bond, BR, NR, PR, O, S, Se, C=O, S=O, SO<sub>2</sub>, CRR', SiRR', GeRR', alkyl, cycloalkyl, and combinations thereof;

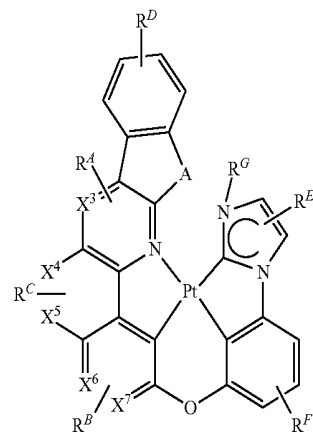
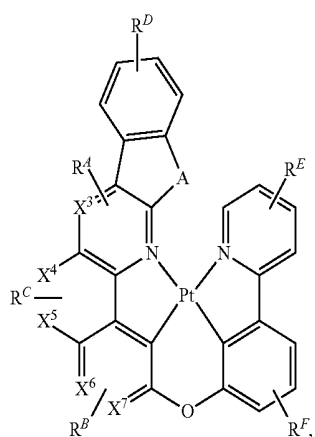
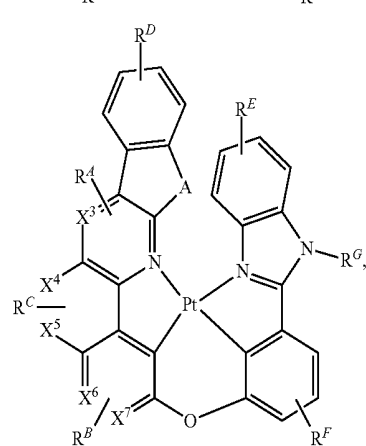
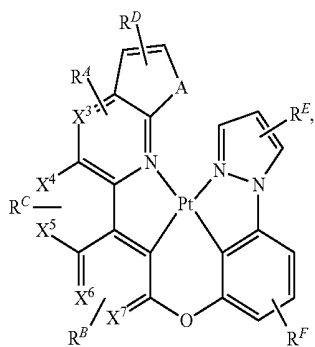
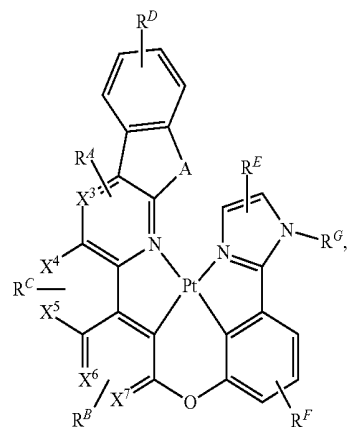
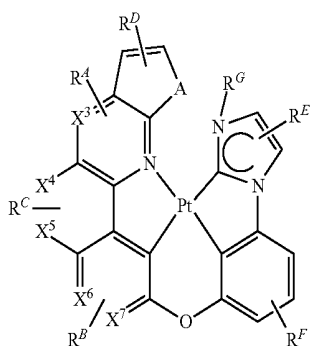
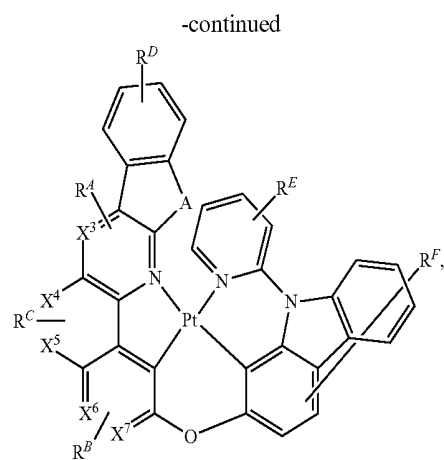
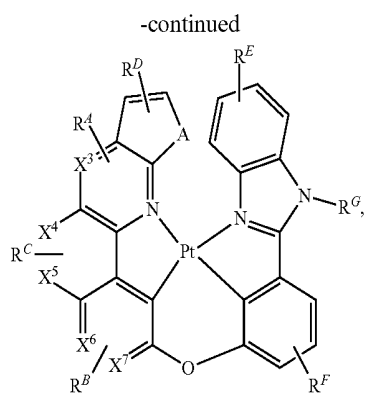
wherein  $R^E$  and  $R^F$  are each independently hydrogen or a substituent selected from the group consisting of deuterium, halogen, alkyl, cycloalkyl, heteroalkyl, heterocycloalkyl, arylalkyl, alkoxy, aryloxy, amino, silyl, alkenyl, cycloalkenyl, heteroalkenyl, alkynyl, aryl, heteroaryl, acyl, carboxylic acid, ether, ester, nitrile, isonitrile, sulfanyl, sulfinyl, sulfonyl, phosphino, and combinations thereof;

wherein R and R' are each independently selected from the group consisting of hydrogen, deuterium, halogen, alkyl, cycloalkyl, heteroalkyl, heterocycloalkyl, arylalkyl, alkoxy, aryloxy, amino, silyl, alkenyl, cycloalkenyl, heteroalkenyl, alkynyl, aryl, heteroaryl, acyl, carboxylic acid, ether, ester, nitrile, isonitrile, sulfanyl, sulfinyl, sulfonyl, phosphino, and combinations thereof; and

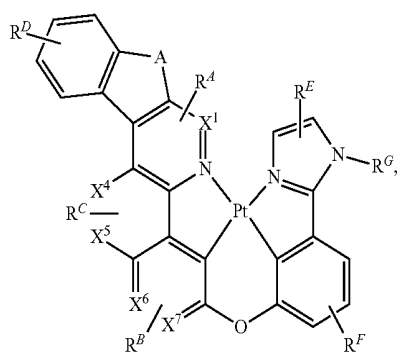
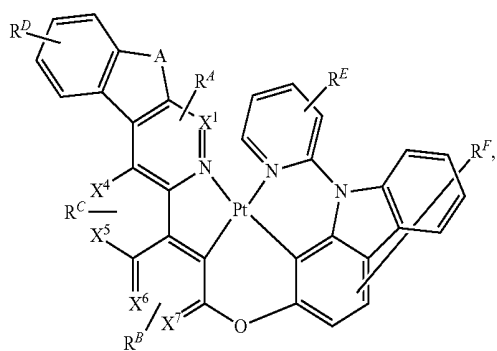
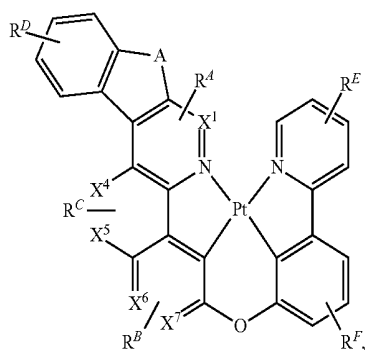
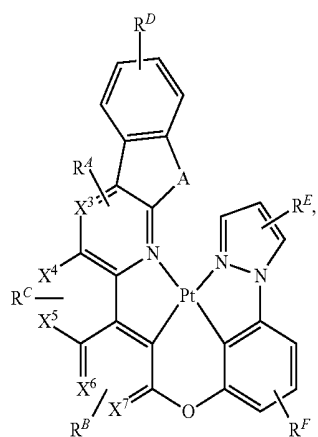
wherein any adjacent  $R^E$ ,  $R^F$ , R, and R' can be joined to form a ring.

14. The compound of claim 13, wherein the compound has the formula:

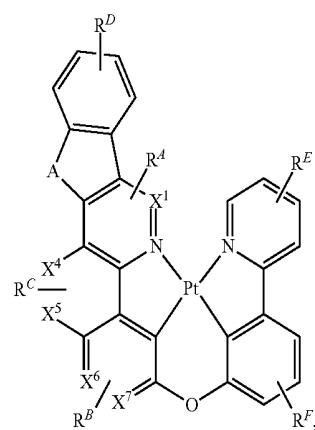
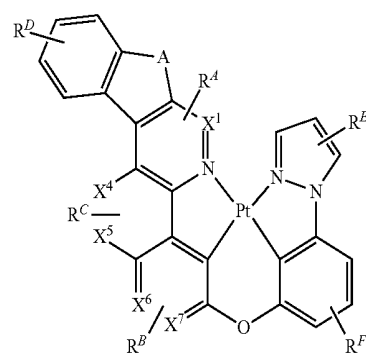
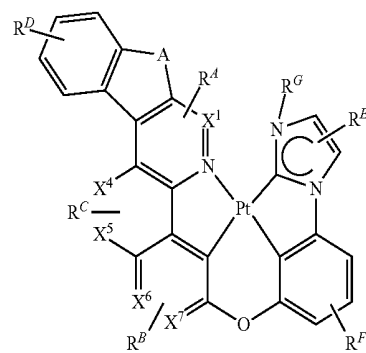
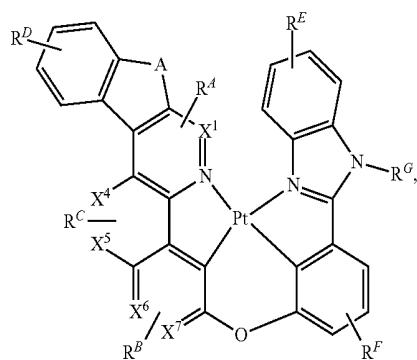




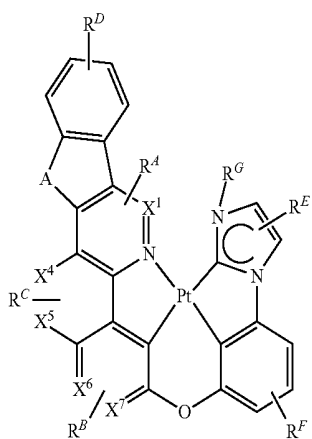
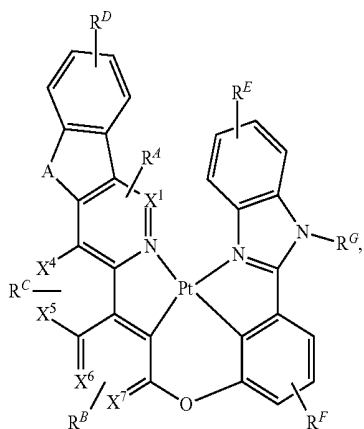
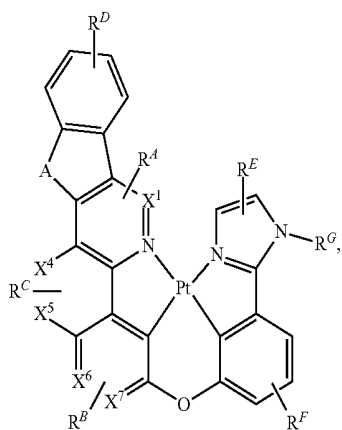
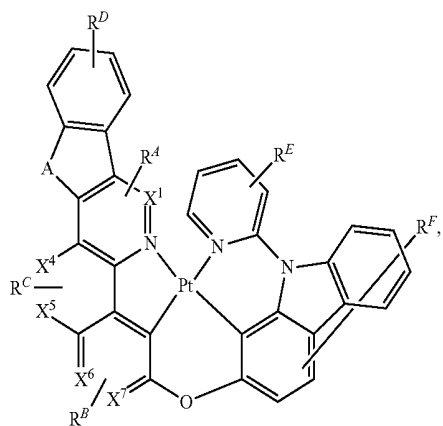
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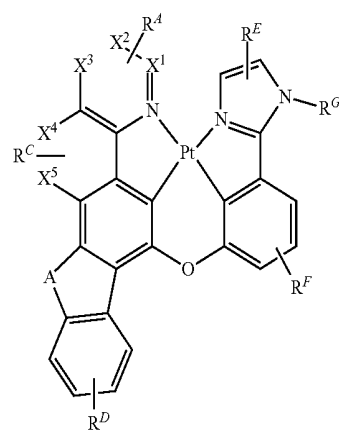
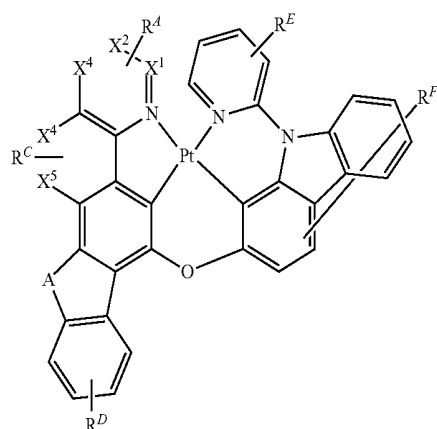
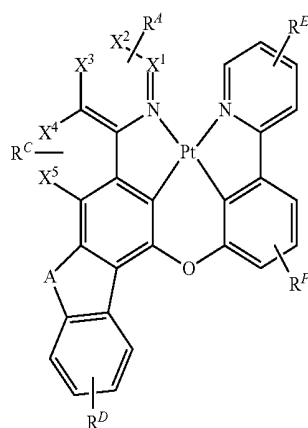
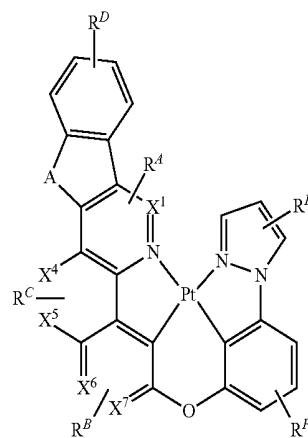
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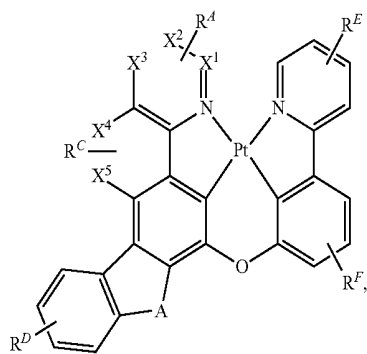
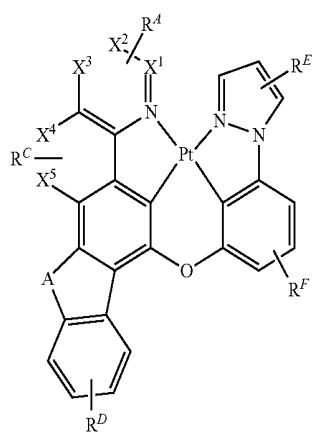
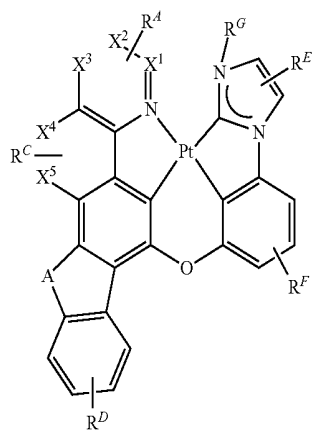
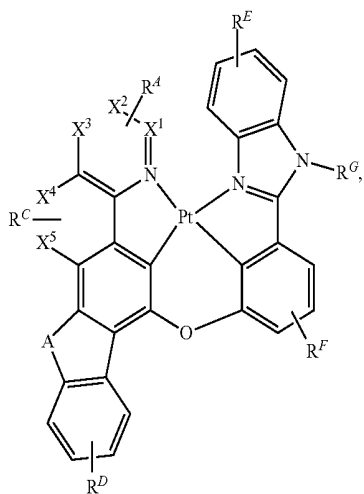
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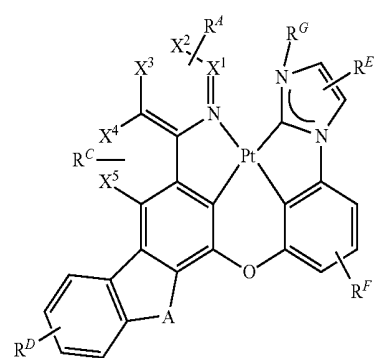
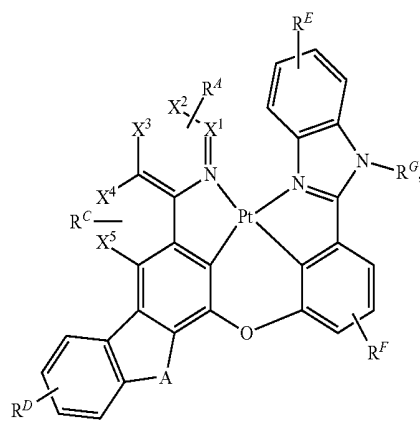
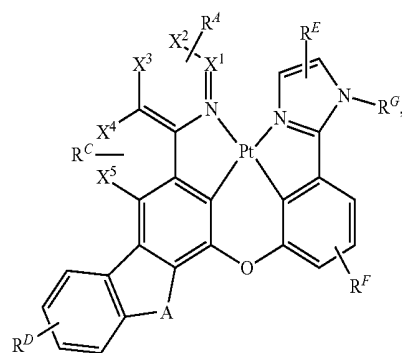
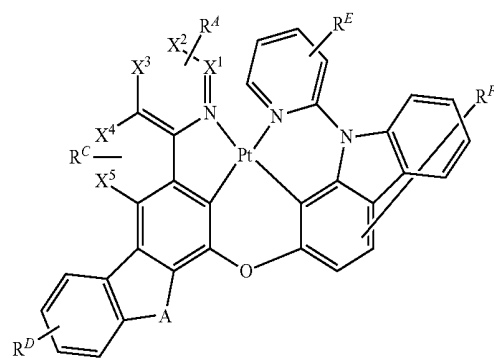
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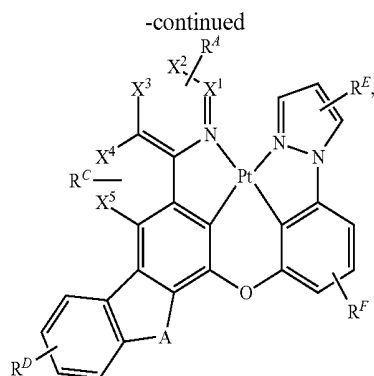


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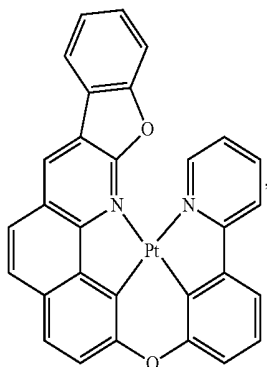




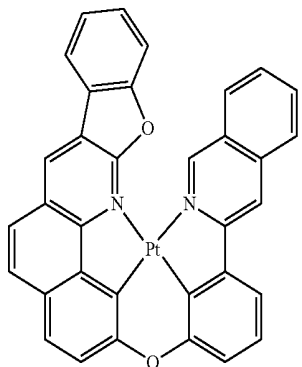
wherein  $R^G$  is selected from the group consisting of alkyl, cycloalkyl, heteroalkyl, heterocycloalkyl, arylalkyl, aryl, heteroaryl, partially or fully deuterated variants thereof, partially or fully fluorinated variants thereof, and combinations thereof.

15. The compound of claim 13, wherein the compound has the formula selected from the group consisting of:

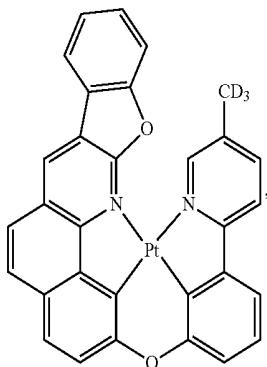
Compound D1



Compound D2

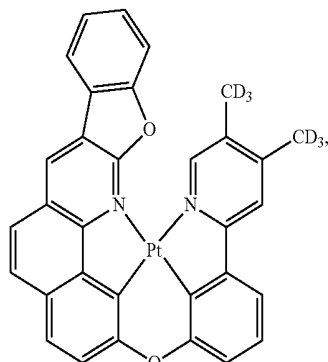


Compound D3

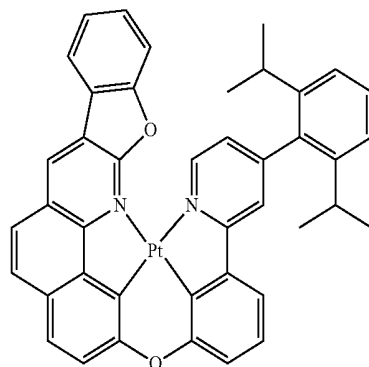


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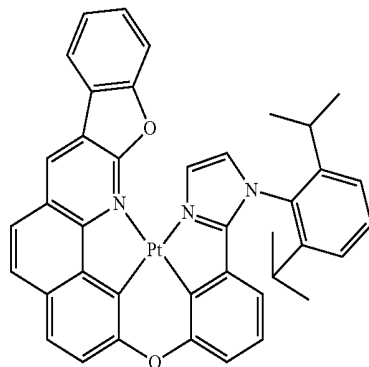
Compound D4



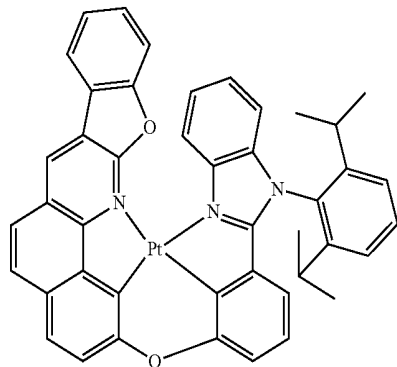
Compound D5



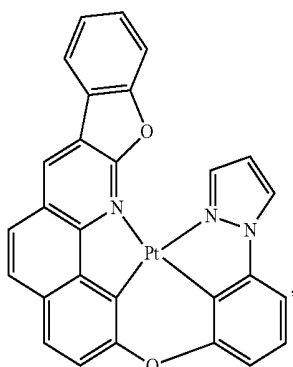
Compound D6



Compound D7

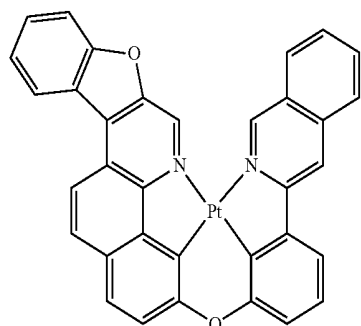


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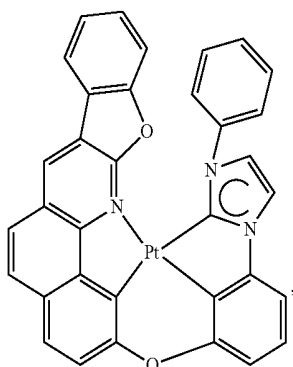


Compound D8

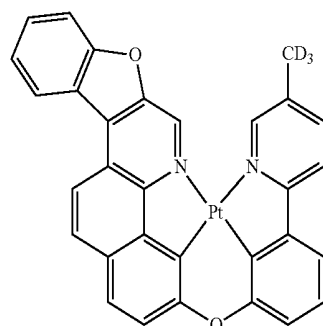
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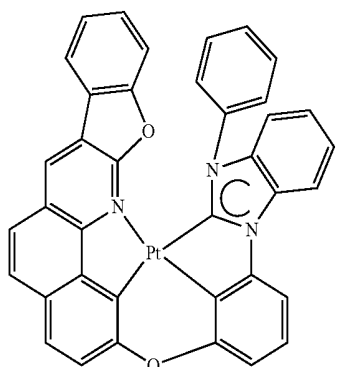
Compound D12



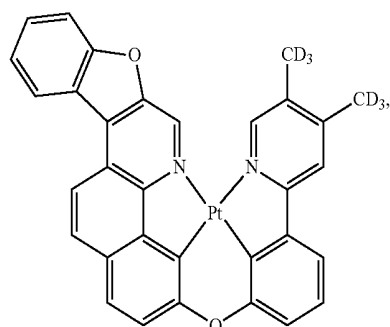
Compound D9



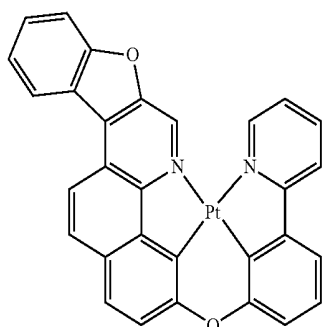
Compound D13



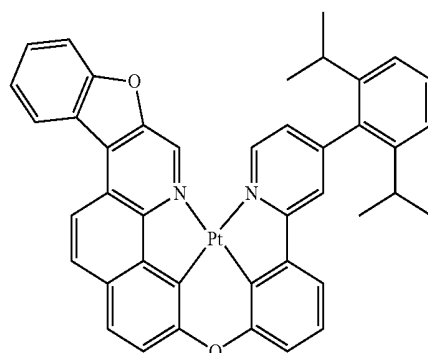
Compound D10



Compound D14



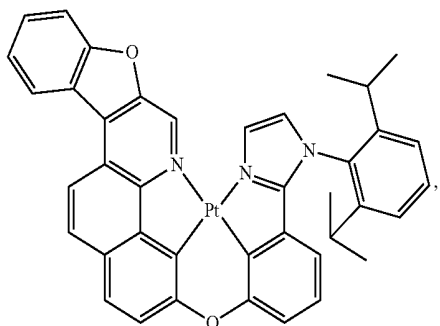
Compound D11



Compound D15

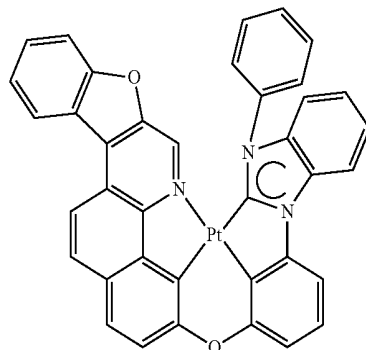
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Compound D16

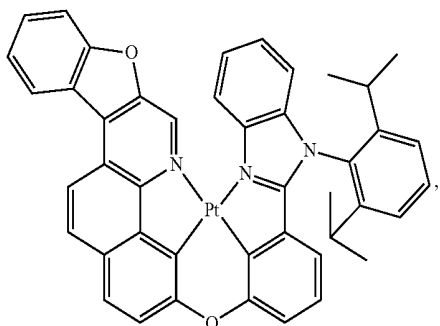


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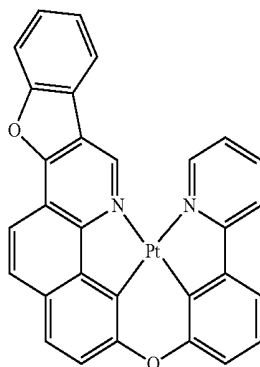
Compound D20



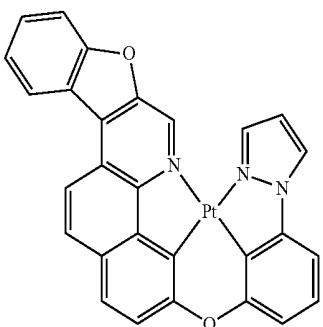
Compound D17



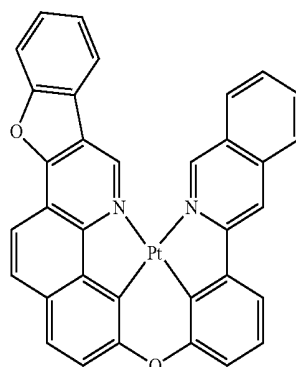
Compound D21



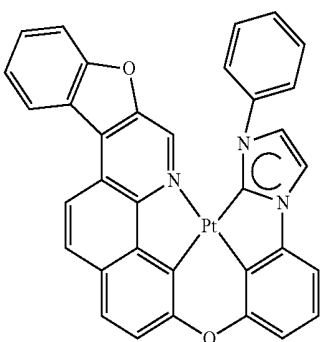
Compound D18



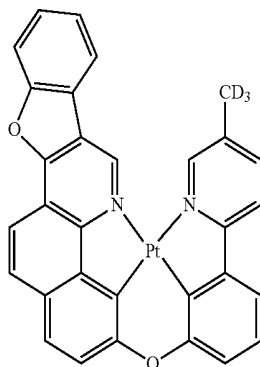
Compound D22



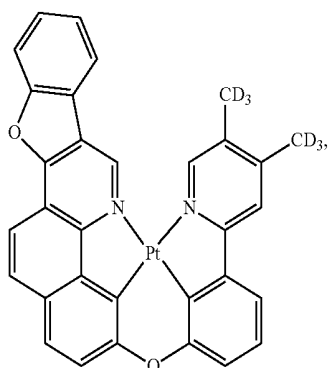
Compound D19



Compound D23

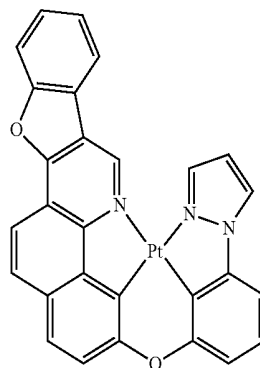


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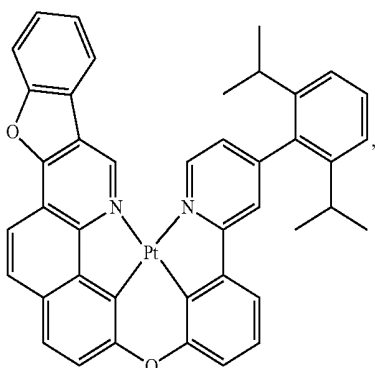


Compound D24

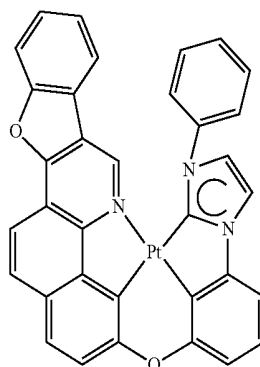
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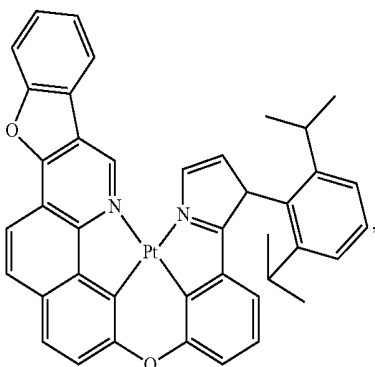
Compound D28



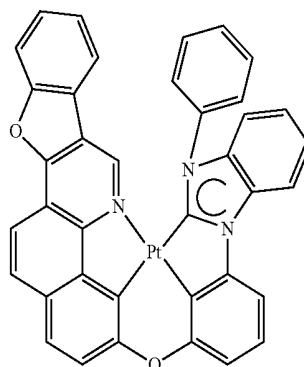
Compound D25



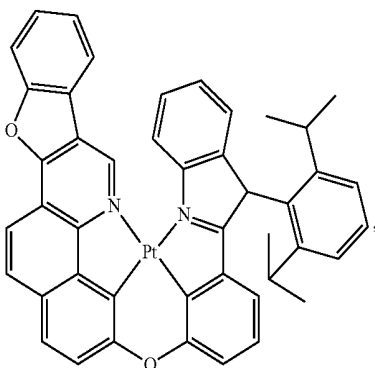
Compound D29



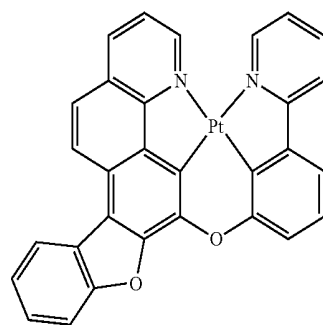
Compound D26



Compound D30

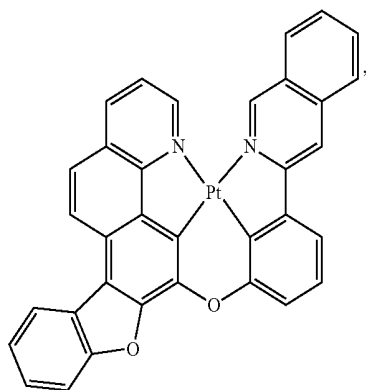


Compound D27



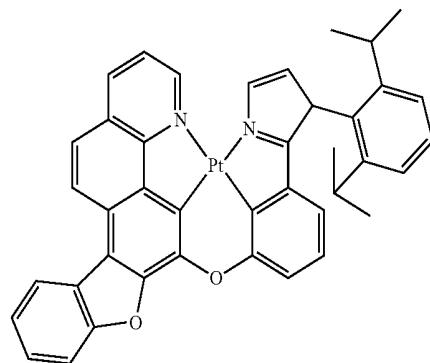
Compound D31

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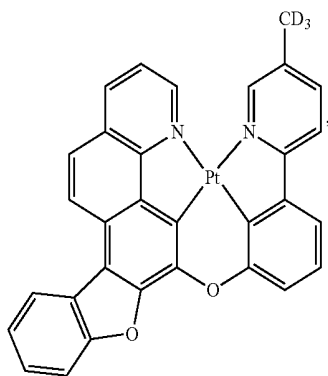


Compound D32

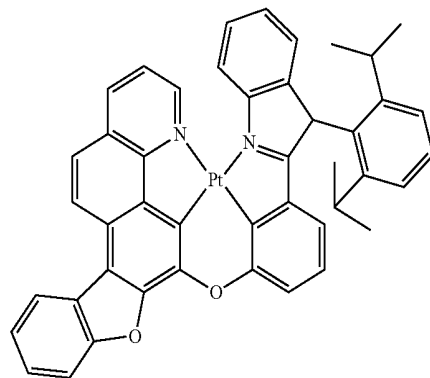
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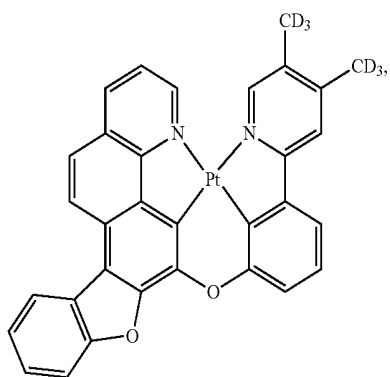
Compound D36



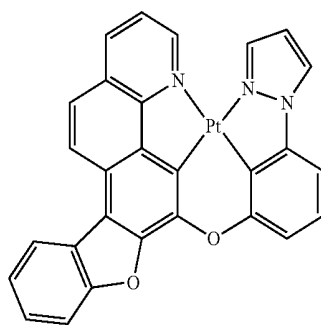
Compound D33



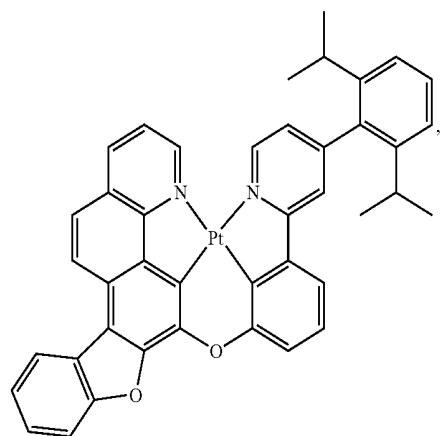
Compound D37



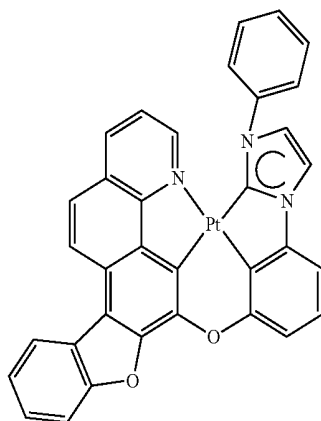
Compound D34



Compound D38

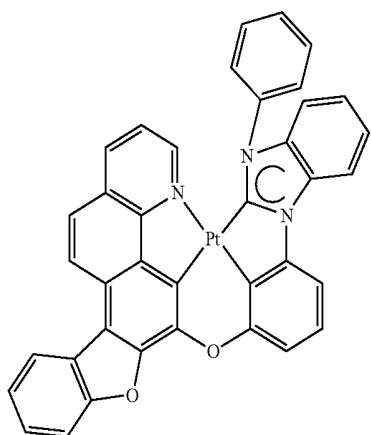


Compound D35



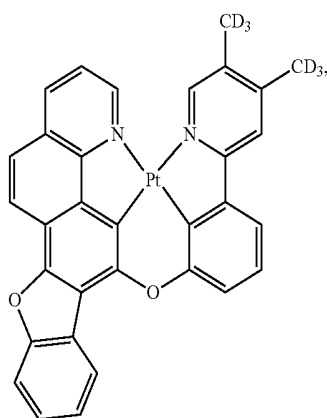
Compound D39

-continued



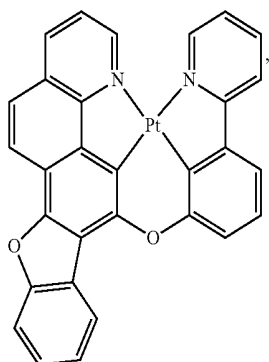
Compound D40

-continued

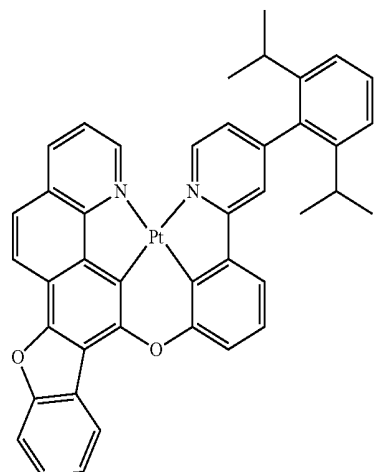


Compound D44

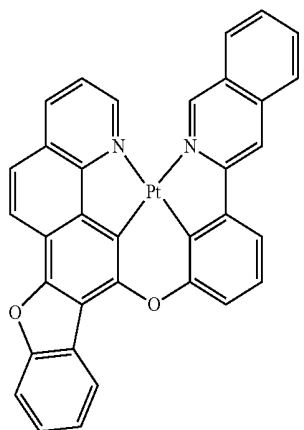
Compound D41



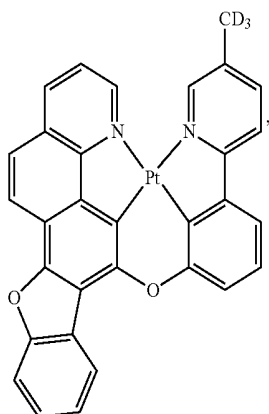
Compound D45



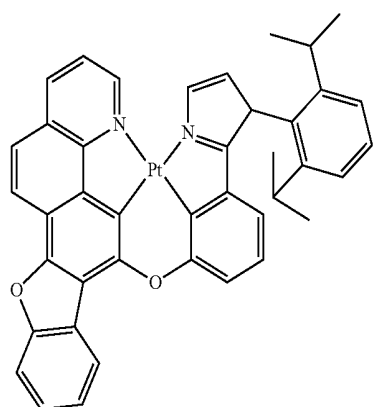
Compound D42



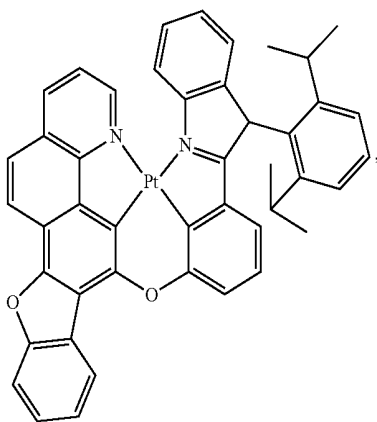
Compound D43



Compound D46

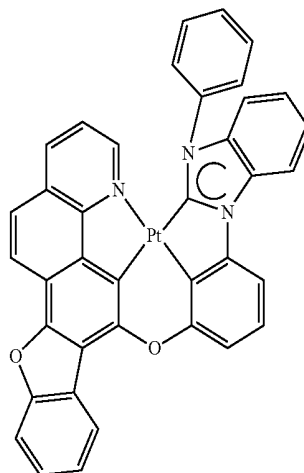


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Compound D47

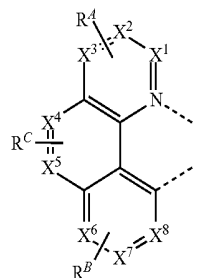
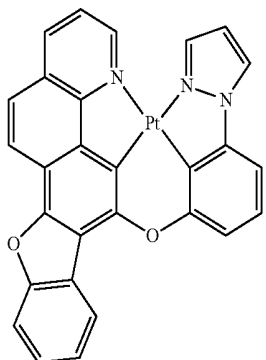
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Compound D50

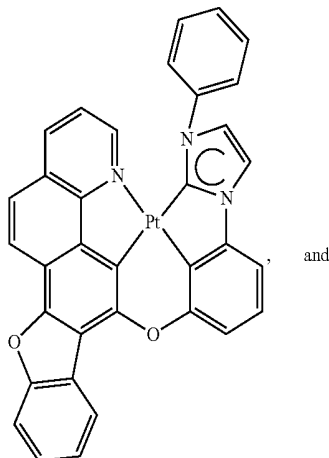
16. An organic light emitting device (OLED) comprising:  
 an anode;  
 a cathode; and an organic layer, disposed between the anode and the cathode, comprising a compound comprising a first ligand  $L_A$  of Formula I

Compound D48

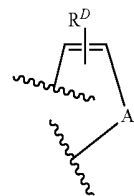


wherein  $X^1$ — $X^8$  are each independently C or N;  
 wherein no more than two N atoms are bonded to each other;  
 wherein at least one pair of  $X^1$  and  $X^2$ ,  $X^2$  and  $X^3$ ,  $X^6$  and  $X^7$ , and  $X^7$  and  $X^8$  is C—C, and is joined to a structure G of Formula II

Compound D49



and



wherein A is selected from the group consisting of O, S, Se, and  $NR^1$ ;  
 wherein  $R^A$ ,  $R^B$ ,  $R^C$ , and  $R^D$  each independently represents mono to the maximum number of allowable substitutions, or no substitution;  
 wherein each  $R^A$ ,  $R^B$ ,  $R^C$ ,  $R^D$ , and  $R^1$  is independently hydrogen or a substituent selected from the group consisting of deuterium, halogen, alkyl, cycloalkyl, heteroalkyl, heterocycloalkyl, arylalkyl, alkoxy, ary-

loxy, amino, silyl, alkenyl, cycloalkenyl, heteroalkenyl, alkynyl, aryl, heteroaryl, acyl, carboxylic acid, ether, ester, nitrile, isonitrile, sulfanyl, sulfinyl, sulfonyl, phosphino, and combinations thereof;

wherein any two substituents may be joined or fused together to form a ring;

wherein  $L_A$  is complexed to a metal M;

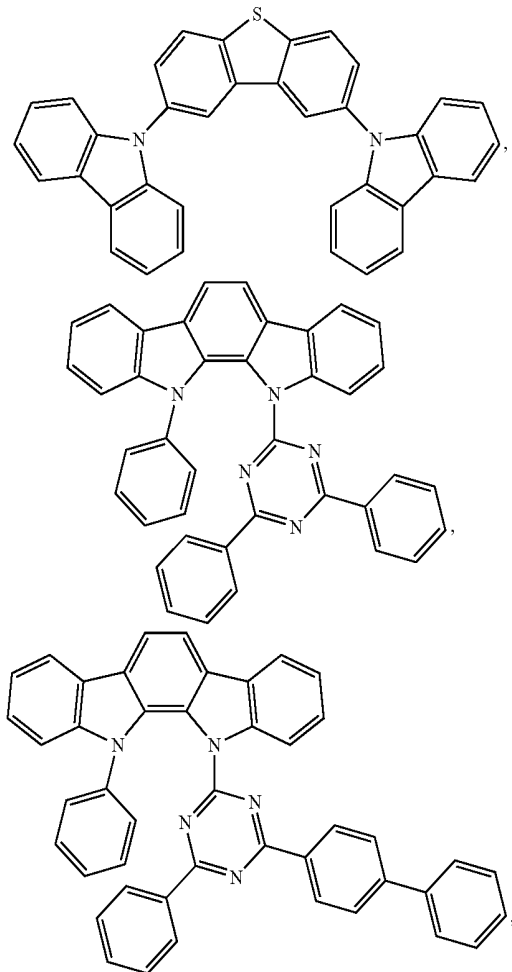
wherein M is optionally coordinated to other ligands;

wherein the ligand  $L_A$  is optionally linked with other ligands to comprise a tridentate, tetradentate, pentadentate, or hexadentate ligand.

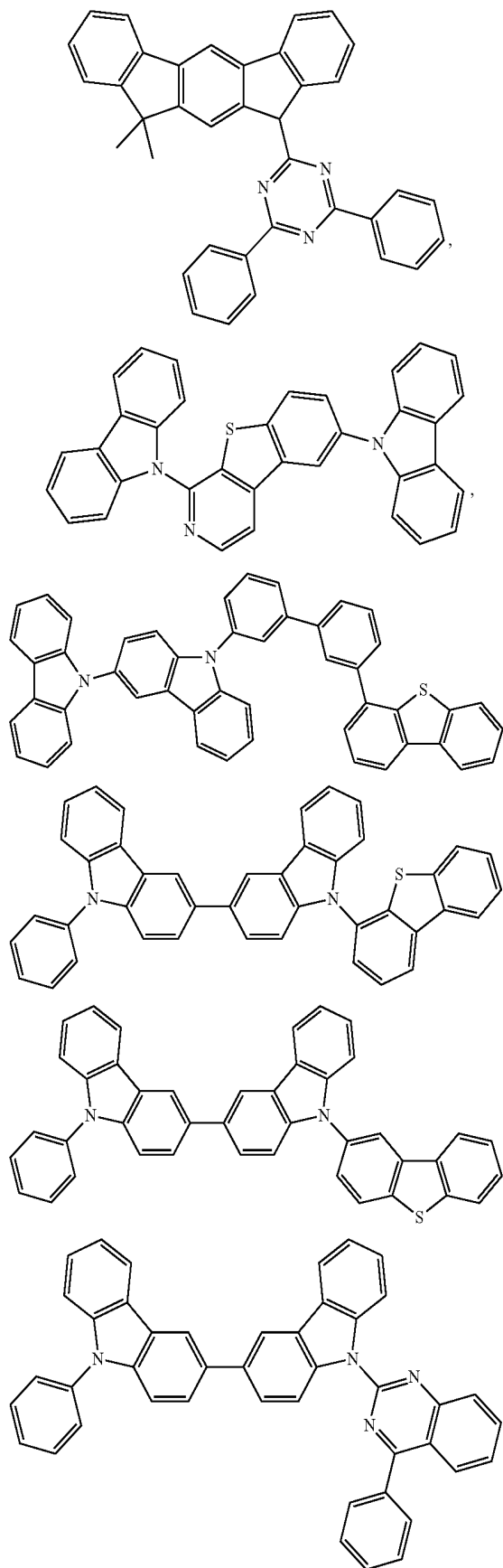
**17.** The OLED of claim 16, wherein the organic layer is an emissive layer and the compound is an emissive dopant or a non-emissive dopant.

**18.** The OLED of claim 16, wherein the organic layer further comprises a host, wherein the host comprises at least one chemical group selected from the group consisting of triphenylene, carbazole, dibenzothiophene, dibenzofuran, dibenzoselenophene, azatriphenylene, azacarbazole, aza-dibenzothiophene, aza-dibenzofuran, and aza-dibenzoselenophene.

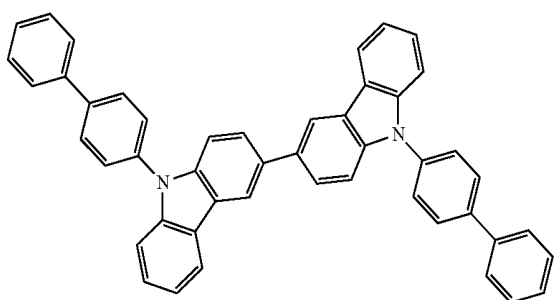
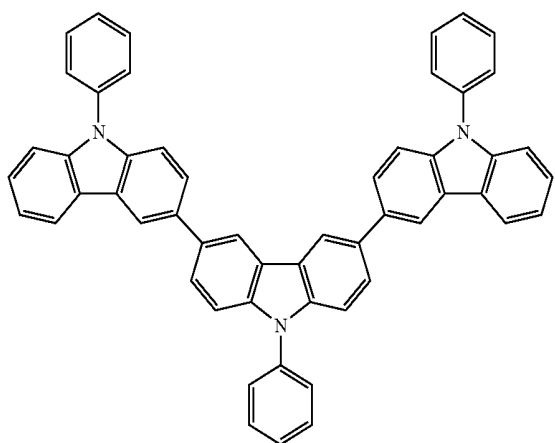
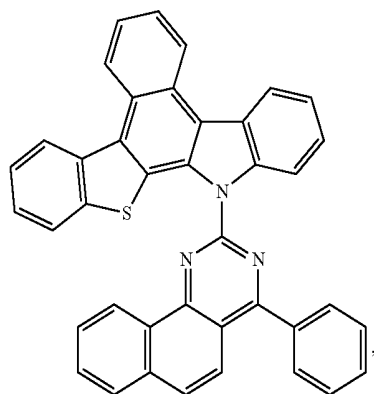
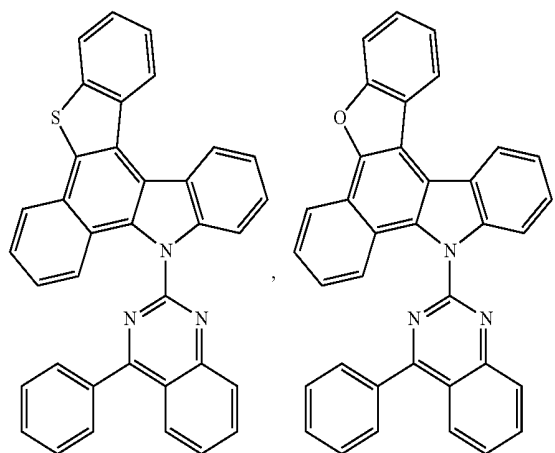
**19.** The OLED of claim 18, wherein the host is selected from the group consisting of:



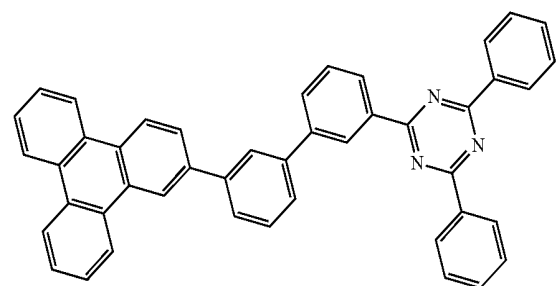
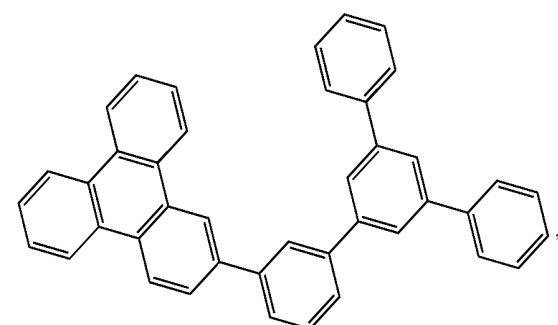
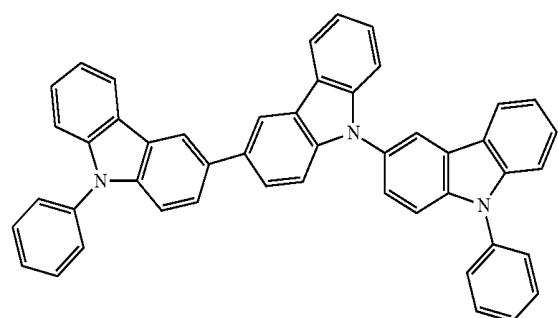
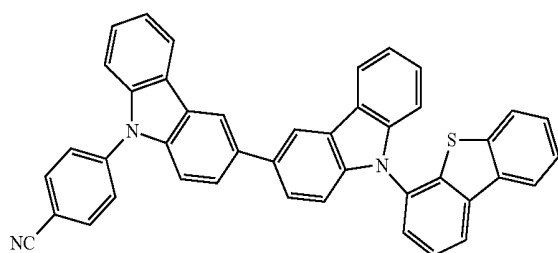
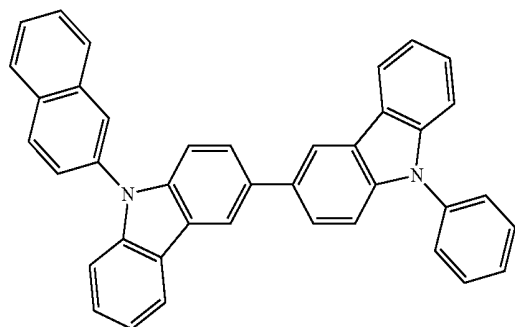
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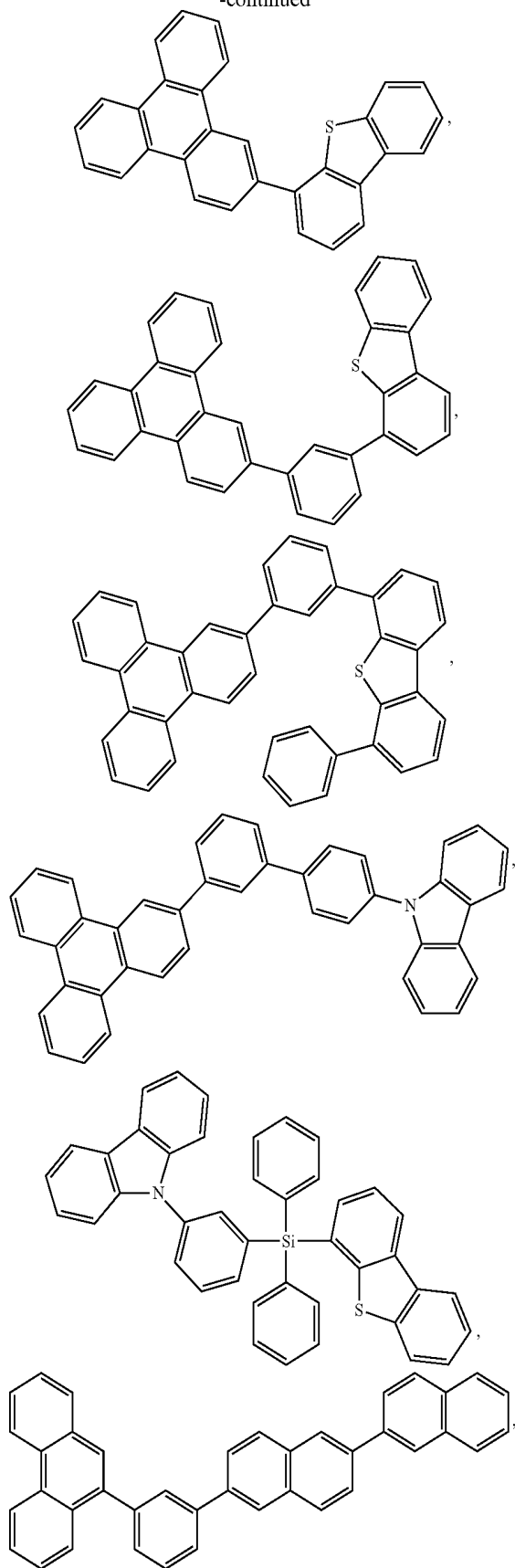
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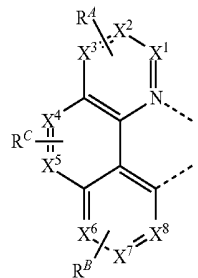
and combinations thereof.

20. A consumer product comprising an organic light-emitting device comprising:

an anode;

a cathode; and

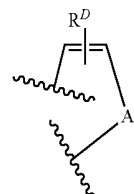
an organic layer, disposed between the anode and the cathode, comprising a compound comprising a first ligand  $L_A$  of Formula I



wherein  $X^1-X^8$  are each independently C or N;

wherein no more than two N atoms are bonded to each other;

wherein at least one pair of  $X^1$  and  $X^2$ ,  $X^2$  and  $X^3$ ,  $X^6$  and  $X^7$ , and  $X^7$  and  $X^8$  is C—C, and is joined to a structure G of Formula II



wherein A is selected from the group consisting of O, S, Se, and  $NR^1$ ;

wherein  $R^A$ ,  $R^B$ ,  $R^C$ , and  $R^D$  each independently represents mono to the maximum number of allowable substitutions, or no substitution;

wherein each  $R^A$ ,  $R^B$ ,  $R^C$ ,  $R^D$ , and  $R^1$  is independently hydrogen or a substituent selected from the group consisting of deuterium, halogen, alkyl, cycloalkyl, heteroalkyl, heterocycloalkyl, arylalkyl, alkoxy, aryloxy, amino, silyl, alkenyl, cycloalkenyl, heteroalkenyl, alkynyl, aryl, heteroaryl, acyl, carboxylic acid, ether, ester, nitrile, isonitrile, sulfanyl, sulfinyl, sulfonyl, phosphino, and combinations thereof;

wherein any two substituents may be joined or fused together to form a ring;

wherein  $L_A$  is complexed to a metal M;

wherein M is optionally coordinated to other ligands;

wherein the ligand  $L_A$  is optionally linked with other ligands to comprise a tridentate, tetradentate, pentadentate, or hexadentate ligand.

\* \* \* \* \*

专利名称(译)	有机电致发光材料和器件		
公开(公告)号	<a href="#">US20190372029A1</a>	公开(公告)日	2019-12-05
申请号	US16/424923	申请日	2019-05-29
[标]申请(专利权)人(译)	环球展览公司		
申请(专利权)人(译)	通用显示器公司		
当前申请(专利权)人(译)	通用显示器公司		
[标]发明人	JI ZHIQIANG BOUDREULT PIERRE LUC T DYATKIN ALEXEY BORISOVICH TSAI JUI YI FELDMAN JERALD MA BIN DEANGELIS ALAN		
发明人	JI, ZHIQIANG BOUDREULT, PIERRE-LUC T. DYATKIN, ALEXEY BORISOVICH TSAI, JUI-YI FELDMAN, JERALD MA, BIN DEANGELIS, ALAN		
IPC分类号	H01L51/00 H01L51/50		
CPC分类号	H01L51/5056 H01L51/5024 H01L51/5072 H01L51/0087 H01L51/0073 H01L51/0067 H01L51/0074 H01L51/0072 H01L51/0054 C07F15/0033 C09K11/06 H01L51/0085 H01L51/5016 C09K2211/1029 C09K2211/185 H01L51/5004 H01L51/5088 H01L51/5096 H01L2251/552		
优先权	62/680283 2018-06-04 US 62/683797 2018-06-12 US		
外部链接	<a href="#">Espacenet</a> <a href="#">USPTO</a>		

摘要(译)

包括式I的配体L一种的化合物被披露。

