



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
27.06.2012 Bulletin 2012/26

(51) Int Cl.:
C09K 11/06 (2006.01) **H01L 51/50** (2006.01)
H01L 51/00 (2006.01) **H05B 33/14** (2006.01)

(43) Date of publication A2:
13.06.2012 Bulletin 2012/24

(21) Application number: **12001600.1**

(22) Date of filing: **08.09.2006**

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR
Designated Extension States:
AL BA HR MK RS

(30) Priority: **08.09.2005 JP 2005260247**
13.09.2005 JP 2005264773

(62) Document number(s) of the earlier application(s) in accordance with Art. 76 EPC:
06797666.2 / 1 942 171

(71) Applicant: **Toray Industries, Inc.**
Tokyo, 103-8666 (JP)

(72) Inventors:
• **Murase, Seiichiro**
Otsu-shi
Shiga 520-0842 (JP)

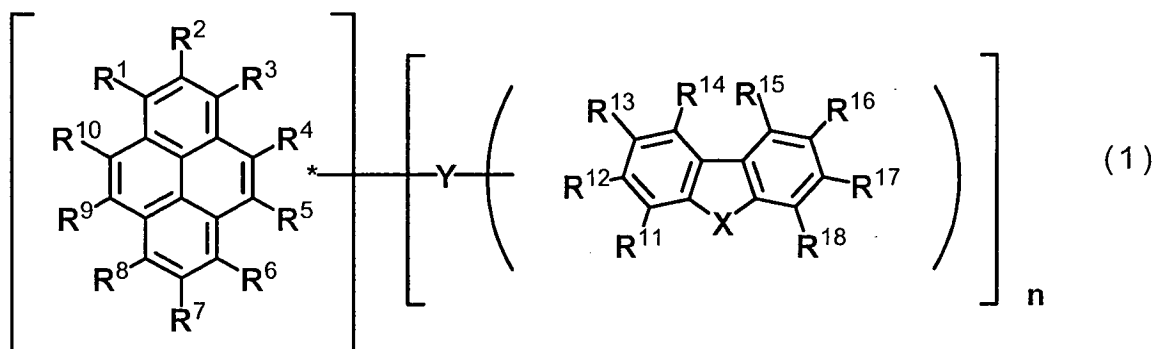
- **Nagao, Kazumana**
Otsu-shi
Shiga 520-0842 (JP)
- **Sugimoto, Kazunori**
Otsu-shi
Shiga 520-0842 (JP)
- **Ishigaki, Takeshi**
Minhang District
Shanghai City 200241 (CN)
- **Ogawa, Takafumi**
Otsu-shi
Shiga 520-0842 (JP)

(74) Representative: **Hager, Thomas Johannes**
Hoefer & Partner
Patentanwälte
Pilgersheimer Strasse 20
81543 München (DE)

(54) **Light emitting device material and light emitting device**

(57) The present invention relates to a light emitting device material containing a pyrene compound represented by the general formula (1):

[Chemical Formula 1]



wherein R¹ to R¹⁸ may be the same or different and represent a group selected from hydrogen, an alkyl group, a cycloalkyl

EP 2 463 352 A3

group, a heterocyclic group, an alkenyl group, a cycloalkenyl group, an alkynyl group, an alkoxy group, an alkylthio group, an aryloether group, an arylthioether group, an aryl group, a heteroaryl group, a halogen, a carbonyl group, a carboxyl group, an oxycarbonyl group, a carbamoyl group, an amino group, a phosphine oxide group and a silyl group; adjacent substituents among R^1 to R^{18} may be combined with each other to form a ring; n represents an integer of 1 to 3; X represents $-O-$; Y represents an arylene group or a heteroarylene group; and n substituents among R^1 to R^{10} and any one of R^{11} to R^{19} are used for linkage with Y .



EUROPEAN SEARCH REPORT

Application Number
EP 12 00 1600

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
E	WO 2006/128800 A1 (CIBA SC HOLDING AG [CH]; TANABE JUNICHI [JP]; OKA HIDETAKA [JP]; YAMAM) 7 December 2006 (2006-12-07) * compounds A-36,A-40,A-42 * * claims 1,9 *	1-8	INV. C09K11/06 H01L51/50 H01L51/00 H05B33/14
A	WO 2004/096945 A1 (FUJITSU LTD [JP]; SOTOYAMA WATARU [JP]; SATO HIROYUKI [JP]; MATSUURA A) 11 November 2004 (2004-11-11) * claims 1,6,8,11,16 * * Formulae 1.2, 1.3 *	1-8	
			TECHNICAL FIELDS SEARCHED (IPC)
			C09K
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 14 May 2012	Examiner Saldamli, Saltuk
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

1
EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 12 00 1600

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

14-05-2012

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2006128800 A1	07-12-2006	AT 455162 T	15-01-2010
		JP 2008545729 A	18-12-2008
		KR 20080018218 A	27-02-2008
		US 2009131673 A1	21-05-2009
		US 2011248217 A1	13-10-2011
		WO 2006128800 A1	07-12-2006

WO 2004096945 A1	11-11-2004	US 2005238920 A1	27-10-2005
		WO 2004096945 A1	11-11-2004

专利名称(译)	发光器件材料和发光器件		
公开(公告)号	EP2463352A3	公开(公告)日	2012-06-27
申请号	EP2012001600	申请日	2006-09-08
[标]申请(专利权)人(译)	东丽株式会社		
申请(专利权)人(译)	TORAY INDUSTRIES , INC.		
当前申请(专利权)人(译)	TORAY INDUSTRIES , INC.		
[标]发明人	MURASE SEIICHIRO NAGAO KAZUMANA SUGIMOTO KAZUNORI ISHIGAKI TAKESHI OGAWA TAKAFUMI		
发明人	MURASE, SEIICHIRO NAGAO, KAZUMANA SUGIMOTO, KAZUNORI ISHIGAKI, TAKESHI OGAWA, TAKAFUMI		
IPC分类号	C09K11/06 H01L51/50 H01L51/00 H05B33/14		
CPC分类号	C09K11/06 C09K2211/1007 C09K2211/1011 C09K2211/1029 C09K2211/1088 C09K2211/1092 H01L51/0054 H01L51/0058 H01L51/0059 H01L51/006 H01L51/0072 H01L51/0073 H01L51/0074 H01L51/0077 H01L2251/308 H05B33/14 H01L51/0067 H01L51/5024 H01L51/5072 H01L51/50		
优先权	2005260247 2005-09-08 JP 2005264773 2005-09-13 JP		
其他公开文献	EP2463352B1 EP2463352A2		
外部链接	Espacenet		

摘要(译)

[Chemical Formula 1]

本发明涉及含有通式(1)表示的茈化合物的发光元件材料, 式中, R₁~R₁₈可以相同或不同, 表示选自氢, 烷基, 环烷基, 杂环基, 烯基, 环烯基, 炔基, 烷氧基, 烷硫基, 芳基醚基, 芳基硫醚基, 芳基, 杂芳基, 卤素, 羰基, 羧基, 氧羰基, 氨基甲酰基, 氨基, 氧化膦基和甲硅烷基; R₁至R₁₈中的相邻取代基可以彼此结合以形成环; n表示1~3的整数。X表示-O-; Y表示亚芳基或亚杂芳基; 并且R₁至R₁₀中的n个取代基和R₁₁至R₁₉中的任一个用于与Y连接。

