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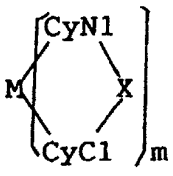
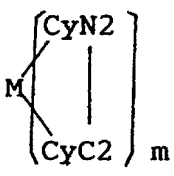
(54) Metal coordination compound, luminescence device and display apparatus

(57) An organic EL device includes a luminescence layer containing, as a luminescent material allowing a high-luminescence and high-efficiency luminescence for a long period of time, a metal coordination compound represented by the following formula (1): LmML'n, wherein M denotes Ir, Pt, Ph or Pd; L denotes a bidentate ligand; L' denotes a bidentate ligand different from L; m is an integer of 1, 2 or 3; and n is an integer of 0, 1 or 2 with the proviso that the sum of m and n is 2 or 3. The partial structure MLm is represented by a formula (2) or a formula (3) shown below, and the partial structure ML'n is represented by a formula (4) or a formula (5) shown below:



(2),



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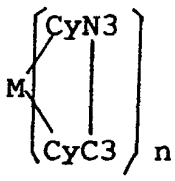

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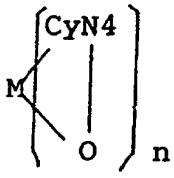

(5),

wherein CyN1, CyN2 and CyN3 independently denote a substituted or unsubstituted cyclic group containing a nitrogen atom connected to M; CyN4 denotes a cyclic group containing 8-quinoline or its derivative having a nitrogen atom

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(Cont. next page)

connected to M; CyC1, CyC2 and CyC3 independently denote a substituted or unsubstituted cyclic group containing a carbon atom connected to M, with the proviso that the metal coordination compound is represented by the formula (2) when n is 0.

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EUROPEAN SEARCH REPORT

Application Number
EP 01 12 8237

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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
MUNICH	3 September 2003	Molina de Alba, J

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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A : technological background
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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
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& : member of the same patent family, corresponding document

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Place of search	Date of completion of the search	Examiner
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Place of search	Date of completion of the search	Examiner
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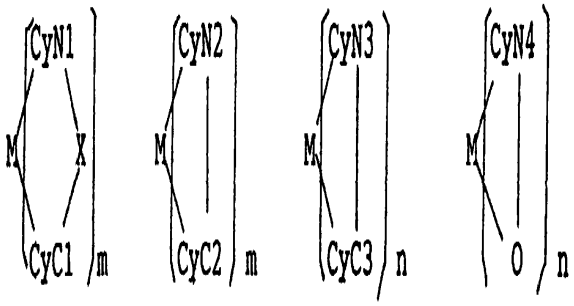
EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

专利名称(译)	金属配位化合物，发光装置和显示装置		
公开(公告)号	EP1211257A3	公开(公告)日	2003-10-29
申请号	EP2001128237	申请日	2001-11-28
[标]申请(专利权)人(译)	佳能株式会社		
申请(专利权)人(译)	佳能株式会社		
当前申请(专利权)人(译)	佳能株式会社		
[标]发明人	TSUBOYAMA AKIRA MIZUTANI HIDEMASA OKADA SHINJIRO TAKIGUCHI TAKAO MIURA SEISHI NOGUCHI KOJI MORIYAMA TAKASHI IGAWA SATOSHI KAMATANI JUN FURUGORI MANABU		
发明人	TSUBOYAMA, AKIRA MIZUTANI, HIDEMASA OKADA, SHINJIRO TAKIGUCHI, TAKAO MIURA, SEISHI NOGUCHI, KOJI MORIYAMA, TAKASHI IGAWA, SATOSHI KAMATANI, JUN FURUGORI, MANABU		
IPC分类号	H01L51/50 C07D213/06 C07D213/50 C07D213/64 C07D215/24 C07D409/04 C07F15/00 C09K11/06 H01L51/00 H01L51/30		
CPC分类号	H01L51/0085 C07F15/0033 C07F15/006 C07F15/0073 C07F15/0086 H01L51/0042 H01L51/0087 H01L51/009 H01L51/5016 Y10S428/917		
优先权	2000367080 2000-12-01 JP 2001198439 2001-06-29 JP 2001354703 2001-11-20 JP		
其他公开文献	EP1211257A2		
外部链接	Espacenet		

摘要(译)

有机EL器件包括含有作为允许长时间高发光和高效发光的发光材料的发光层的由下式（1）表示的金属配位化合物：LmML'n，其中M表示Ir，Pt，Ph或Pd; L表示二齿配体; L'表示不同于L的二齿配位体; m是整数1,2或3;并且n是0,1或2的整数，条件是m和n的和为2或3.部分结构ML m由下面所示的式（2）或式（3）表示，部分结构结构ML'n由以下所示的式（4）或式（5）表示：其中CyN1，CyN2和CyN3独立地表示含有与M连接的氮原子的取代或未取代的环状基团; CyN 4表示含有与M连接的氮原子的8-喹啉或其衍生物的环状基团; CyCl，CyC 2和CyC 3独立地表示含有与M连接的碳原子的取代或未取代的环状基团，条件是当n为0时，金属配位化合物由式（2）表示。



(2), (3), (4), (5),