



SUPPLEMENTARY
EUROPEAN SEARCH REPORT

Application Number

EP 01 96 1205

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (IPC)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
X	EP 0 953 624 A (CANON KK) 3 November 1999 (1999-11-03) * page 5, lines 32-45; page 18, compound 49; page 20, compounds 60-61; page 25, line 49 - page 26, line 35 * * idem * -----	1,7,9,11	C07C211/61 C07C225/22 C09K11/06 H05B33/14 H05B33/22
Y	EP 0 666 298 A (TDK CORP) 9 August 1995 (1995-08-09) * pages 21-26, 37-53 * -----	2	
X	DATABASE CAPLUS CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; XP002348490 retrieved from STN Database accession no. 1996:67472 * abstract; RN 174459-38-2 *	3-5,8, 10,12	
Y	* idem * -& JP 07 287408 A (MINORUTA KK) 31 October 1995 (1995-10-31) * page 15, compounds 61-65; page 16, compounds 66-69 * -----	6	TECHNICAL FIELDS SEARCHED (IPC)
Y	DATABASE CAPLUS CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; XP002348682 retrieved from STN Database accession no. 1999:394828 * abstract * -& JP 11 167992 A (MITSUI CHEMICALS INC) 22 June 1999 (1999-06-22) ----- -/-	6	C07C C09K H01L
2	The supplementary search report has been based on the last set of claims valid and available at the start of the search.		
Place of search		Date of completion of the search	Examiner
Berlin		3 February 2006	Van Amsterdam, L
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			



SUPPLEMENTARY
EUROPEAN SEARCH REPORT

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (IPC)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
X	DATABASE CAPLUS CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; XP002348507 retrieved from STN Database accession no. 1993:49232 * abstract; RN 113933-89-4, 144726-98-7, 144726-99-8, 145022-08-8, 145022-09-9, 145022-10-2, 145022-11-3, 145022-12-4, 145257-04-1 *	3,8,10, 12	
X	-& JP 04 186362 A (CANON KK) 3 July 1992 (1992-07-03) * page 3, right-hand column, compound 13 - page 5, left-hand column, compound 48 *	3-5	
X	EP 0 879 868 A (CANON KK) 25 November 1998 (1998-11-25) * page 14, compound 24; page 22, compound 58; page 35, line 31 - page 36, line 20 *	3,4,8, 10,12	
X	DATABASE CAPLUS CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; XP002348560 retrieved from STN Database accession no. 1992:661648 * abstract; RN 144726-98-7, 144726-99-8, 144727-00-4, 144727-01-5 *	3,8,10, 12	TECHNICAL FIELDS SEARCHED (IPC)
X	-& JP 04 181260 A (CANON KK) 29 June 1992 (1992-06-29) * page 4, right-hand column, compound 13 - page 6, right-hand column, compound 48 *	3-5	
	The supplementary search report has been based on the last set of claims valid and available at the start of the search.	-/-	
2	Place of search Berlin	Date of completion of the search 3 February 2006	Examiner Van Amsterdam, L
CATEGORY OF CITED DOCUMENTS		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	
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			



SUPPLEMENTARY
EUROPEAN SEARCH REPORT

Application Number

EP 01 96 1205

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (IPC)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
X	DATABASE CAPLUS CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; XP002348481 retrieved from STN Database accession no. 1999:427040 * abstract; RN 233262-27-6, 233262-28-7 * -& JP 11 184119 A (CANON KK) 9 July 1999 (1999-07-09) * page 9, B-16, B-17 * -----	3,8,10, 12	
X	EP 0 823 669 A (CANON KK) 11 February 1998 (1998-02-11) * page 31, compound (1)-79; page 32, compounds (1)-82, (1)-83; page 81, lines 34-53 *	3,8,10, 12	
X	DATABASE CAPLUS CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; XP002348561 retrieved from STN Database accession no. 1988:177186 * abstract; RN 113933-89-4, 113933-93-0 * -& JP 62 280850 A (CANON KK) 5 December 1987 (1987-12-05) * page 6, compounds 45-49; page 7, compounds 66-70 *	3,8,10, 12	TECHNICAL FIELDS SEARCHED (IPC)
X	WO 98/42655 A (HOECHST RESEARCH & TECHNOLOGY DEUTSCHLAND GMBH & CO KG) 1 October 1998 (1998-10-01) * page 29, line 25 - page 31, line 21; example B(a) * ----- -----	3,8,10, 12	
2	The supplementary search report has been based on the last set of claims valid and available at the start of the search.		
Place of search		Date of completion of the search	Examiner
Berlin		3 February 2006	Van Amsterdam, L
CATEGORY OF CITED DOCUMENTS		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	
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			



SUPPLEMENTARY
EUROPEAN SEARCH REPORT

Application Number

EP 01 96 1205

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (IPC)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
X	WO 98/21758 A (HOECHST RESEARCH & TECHNOLOGY DEUTSCHLAND GMBH & CO KG) 22 May 1998 (1998-05-22) * examples * -----	3,8,10, 12	
X	DATABASE CAPLUS CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; XP002348643 retrieved from STN Database accession no. 1999:638518 * abstract; RN 244301-15-3, 244301-17-5, 244301-18-6, 244301-19-7 * -& JP 11 273863 A (TOYOTA CENTRAL RESEARCH AND DEVELOPMENT LABORATORIES INC) 8 October 1999 (1999-10-08) -----	3,8,10, 12	
X	WO 00/27946 A (KK TOYOTA CHUO KENKYUSHO) 18 May 2000 (2000-05-18) * pages 23-24, 34 *	3,8,10, 12	
E	-& US 6 416 887 B1 (S TOKITO ET AL) 9 July 2002 (2002-07-09) * synthesis example 1; element production example 1; column 39, compound B *	3,8,10, 12	TECHNICAL FIELDS SEARCHED (IPC)
P,X	DATABASE CAPLUS CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; XP002348644 retrieved from STN Database accession no. 2001:451224 * abstract; RN 344449-58-7 * -& JP 2001 166519 A (CANON INC) 22 June 2001 (2001-06-22) * page 108, compound 74; page 110, compound 92 * -----	3,8,10, 12	
2	The supplementary search report has been based on the last set of claims valid and available at the start of the search.		
EPO FORM 1503 03-82 (P04C04)	Place of search	Date of completion of the search	Examiner
	Berlin	3 February 2006	Van Amsterdam, L
CATEGORY OF CITED DOCUMENTS		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	
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			



European Patent
Office

Application Number
EP 01 96 1205

CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):

- No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

- As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

- Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

- None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:



European Patent
Office

LACK OF UNITY OF INVENTION
SHEET B

Application Number
EP 01 96 1205

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-2,7,9,11

Arylamines of general formula (1) and electroluminescence devices comprising them.

2. claims: 3-6,8,10,12

Arylamines of general formula (2) and electroluminescence devices comprising them.

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

EP 01 96 1205

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.

03-02-2006

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
EP 0953624	A	03-11-1999	DE	69914523 D1		11-03-2004
			DE	69914523 T2		03-02-2005
EP 0666298	A	09-08-1995	US	5792557 A		11-08-1998
JP 07287408	A	31-10-1995	NONE			
JP 11167992	A	22-06-1999	NONE			
JP 04186362	A	03-07-1992	NONE			
EP 0879868	A	25-11-1998	DE	69804529 D1		08-05-2002
			DE	69804529 T2		02-10-2002
			US	6517957 B1		11-02-2003
JP 04181260	A	29-06-1992	JP	2879369 B2		05-04-1999
JP 11184119	A	09-07-1999	NONE			
EP 0823669	A	11-02-1998	DE	69704239 D1		19-04-2001
			DE	69704239 T2		09-08-2001
			US	5932383 A		03-08-1999
JP 62280850	A	05-12-1987	JP	2501198 B2		29-05-1996
WO 9842655	A	01-10-1998	DE	19711714 A1		01-10-1998
			EP	0968175 A1		05-01-2000
			JP	2001518913 T		16-10-2001
WO 9821758	A	22-05-1998	CN	1236486 A		24-11-1999
			DE	19646119 A1		14-05-1998
			EP	0946995 A2		06-10-1999
			JP	2001504629 T		03-04-2001
			KR	2000053102 A		25-08-2000
JP 11273863	A	08-10-1999	NONE			
WO 0027946	A	18-05-2000	US	6416887 B1		09-07-2002
US 6416887	B1	09-07-2002	WO	0027946 A1		18-05-2000
JP 2001166519	A	22-06-2001	NONE			

专利名称(译)	新型芳胺化合物和有机电致发光器件		
公开(公告)号	EP1219590A4	公开(公告)日	2006-03-29
申请号	EP2001961205	申请日	2001-08-30
[标]申请(专利权)人(译)	出光兴产株式会社		
申请(专利权)人(译)	出光兴产股份有限公司.		
当前申请(专利权)人(译)	出光兴产股份有限公司.		
[标]发明人	HOSOKAWA CHISHIO FUNAHASHI MASAKAZU		
发明人	HOSOKAWA, CHISHIO FUNAHASHI, MASAKAZU		
IPC分类号	H01L51/50 C07C211/61 C07C225/22 C09K11/06 H01L51/00 H01L51/30 H05B33/14 H05B33/22		
CPC分类号	C07C211/61 C07C225/22 C07C2603/18 C07C2603/94 C09K11/06 C09K2211/1011 C09K2211/1014 C09K2211/1029 H01L51/0052 H01L51/0054 H01L51/0059 H01L51/006 H01L51/0081 H01L51/5012 H01L51/5048 H01L2251/308 H05B33/14 H05B33/22 Y10S428/917		
代理机构(译)	GILLE HRABAL STRUCK NEIDLEIN PROP ROOS		
优先权	2000268833 2000-09-05 JP		
其他公开文献	EP1219590A1		
外部链接	Espacenet		

摘要(译)

由下列通式(1)表示的新型芳胺化合物：其中R1和R2各自独立地表示烷基，烷氧基，芳基，芳烷基或芳氧基，Ar1至Ar4各自独立地表示芳基或杂环基，条件是Ar1至Ar4中的至少两个各自表示间-联苯基或被芳基取代的联苯基。Ar1至Ar4中的其他基团各自表示联苯基，并且当被芳基取代的联苯基是被两个芳基取代的联苯基时，Ar1至Ar4中的其它基团每个代表一个芳基；和包含有机化合物层的有机电致发光器件，所述有机化合物层包含新型芳胺化合物。有机电致发光器件具有高亮度，优异的耐热性和长寿命，并且以高效率发光。该新型芳胺化合物为有机电致发光器件提供了有利的性能。

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (IPC)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
X	EP 0 953 624 A (CANON KK) 3 November 1993 (1993-11-03) * page 5, lines 32-45; page 18, compound 49; page 20, compounds 50-61; page 25, 11 lines 1-10; page 26, line 35 * idem * - page 20, line 35	1,7,9,11	C07C211/61 C07C225/22 C09K11/06 H05B33/14 H05B33/22
Y	EP 0 666 298 A (TDK CORP) 9 August 1995 (1995-08-09) * pages 21-26, 37-53	2	
X	DATABASE CAPLUS CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US XPO02348491 retrieved from STN	3-5,8, 10,12	
Y	Database accession no. 1996:67472 * abstract -& JP 07 287408 A (MINOURUTA KK) 31 October 1995 (1995-10-31) * pages 5, 16, compounds 61-65; page 16, compounds 66-69 *	6	TECHNICAL FIELD(S) SEARCHED (IPC)
Y	DATABASE CAPLUS CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US XPO02348682 retrieved from STN * abstract -& JP 11 167992 A (MITSUBISHI CHEMICALS INC) 22 June 1999 (1999-06-22)	6	C07C C09K H01L
The supplementary search report has been based on the last prior art found and available to the search office at the time of the search.			-/-
Place of search	Date of completion of the search	Examiner	
Berlin	3 February 2006	Van Amsterdam, L	
CATEGORY OF CITED DOCUMENTS			
<input checked="" type="checkbox"/> particularly relevant or taken alone <input checked="" type="checkbox"/> taken together with one or more other cited documents <input checked="" type="checkbox"/> of the same general category <input checked="" type="checkbox"/> technological background <input checked="" type="checkbox"/> prior art under Article 54(2)(a) EPC <input checked="" type="checkbox"/> intermediate document			
T : theory or principle underlying the invention B : basic document, ie. document which has been cited, or after the filing date D : document cited by the application D : document cited for other reasons E : document of the same patent family, corresponding document			