European Patent Office

SUPPLEMENTARY PARTIAL EUROPEAN SEARCH REPORT

under Rule 46, paragraph 1 of the European Patent Convention

Application Number EP 01 94 8324

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	EP 0 949 695 A (BOSCH GMBH ROBERT ; BAYER AG (DE)) 13 October 1999 (1999-10-13) * claims 1,2,7,11,12,14,16 * * paragraph '0045! - paragraph '0050! * * page 36, paragraph 80 - page 37, paragraph 81 * -----	1-3,7-9, 14, 16-20, 23-25	C08K3/08 C08K3/10 H01J1/62 H01L33/00 H01L51/30 C09K11/06

TECHNICAL FIELDS SEARCHED (Int.Cl.7)

H01L
C08K
C09D
C09K

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 severalinventions or groups of inventions, namely:

see sheet B

The present partial 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.

Place of search	Date of completion of the search	Examiner
Munich	16 November 2004	Mill, S

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

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European Patent Office

LACK OF UNITY OF INVENTION SHEET B

Application Number
EP 01 94 8324

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: 1-34

A composition comprising:
(a) a polymer comprising repeating units of Formulas (II)-(XII)
(b) min. one luminescent metal ions or complexes.
An electroluminescent device comprising the claimed composition.
An electroluminescent composition comprising:
(a) an aromatic hydrocarbon matrix
(b) a lanthanide metal complex having an aromatic ligand.
An electroluminescent device having the claimed composition.

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2. claims: 35-37

A composition comprising:
(a) a polarizable matrix comprising discrete molecules
(b) a luminescent lanthanide metal ion.

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3. claims: 63-69

A composition comprising:
(a) a polymer of the structure-(R-polarizable ligand-R)-(Y)-, where Y is a polymer repeating unit
(b) min. one luminescent metal ion or complex.

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4. claims: 38-62

A composition comprising :
(a) a polymer comprising the repeating unit of Formula (I) and having a molecular weight of min. 30 000 Daltons.
(b) min. one luminescent metal ions or complexes.
An electroluminescent device comprising the claimed composition.

Specification of the reasons for which the European Application 01948324.7 is not considered as complying with the requirements of unity of invention according to Article 82 CBE.

In order to satisfy the requirements of unity according to Art. 82 CBE, the content of an application shall relate to only one invention or a group of inventions so linked as to form a single inventive concept, i.e. when there is a technical relationship among those inventions involving one or more of the same or corresponding special technical features. The expression "special technical features" shall mean those technical features that define a contribution which each of the claimed inventions, considered as a whole, makes over the prior art.

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:

The present invention contains 8 independent claims, namely claims 1, 14, 26, 29, 35, 38, 52 and 63.
Claims 1, 26, 35, 38 and 63 relate to electroluminescent compositions, while claims 14, 29 and 52 relate to electroluminescent devices.

The general problem presented by the present application is to provide luminescent compositions to obtain luminescent devices with higher efficiency and longer lifetimes.

A number of alternative solutions (4) to solve this problem are provided for in the independent claims 1, 26, 35, 38 and 63.
The common technical feature linking these alternatives is a metal ion or complex.
The common technical effect linking these alternative is their use in luminescent compositions.

D1 discloses an electroluminescent device comprisising a polythiophene polymer. Metallic complexes, chelates or organic nanoparticles are also comprised; the metal is selected from Ga, In and rare earth; specifically 8-hydroxyquinoline- complexes of Ga 3+, In 3+ are disclosed.
The advantageous technical effect according to the present invention, namely the use of this composition in light emitting devices is also disclosed in D1, such that the inventive idea underlying the current application is obvious.

As a result, it is concluded that the common technical feature of subinvention 1 is neither novel nor inventive over D1. Thus, the subject matter of the present application is a posteriori non-unitary.

The application contains 4 groups of inventions. Consequently, the 4 different inventions listed above are not linked together as to form a single general inventive concept within the meaning of Art. 82 EPC. In accordance with R. 46(1) EPC, the search report has been drawn up for the first invention mentioned in the claims, i.e. for Group 1 as defined above. If the search report is to cover the other inventions mentioned above (subjects 2, 3 and 4), a further search fee must be paid for each invention involved.

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 01 94 8324

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
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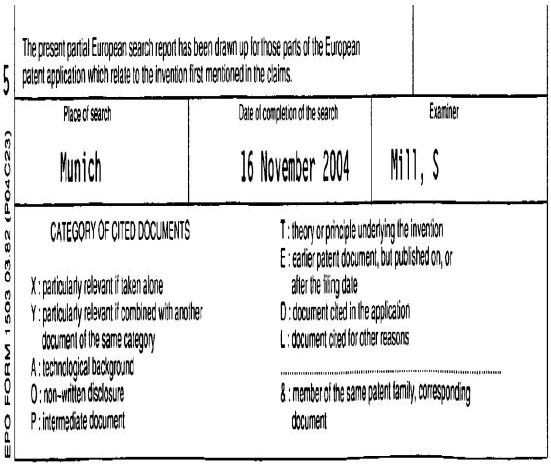
16-11-2004

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0949695 A	13-10-1999	DE 19812258 A1	23-09-1999
		CA 2266095 A1	20-09-1999
		EP 0949695 A2	13-10-1999
		JP 11329738 A	30-11-1999
		TW 408557 B	11-10-2000
		US 2002110701 A1	15-08-2002

专利名称(译)	聚合物基质电致发光材料和器件		
公开(公告)号	EP1297060A4	公开(公告)日	2005-04-20
申请号	EP2001948324	申请日	2001-06-12
申请(专利权)人(译)	MAXDEM INCORPORATED		
当前申请(专利权)人(译)	MAXDEM INCORPORATED		
[标]发明人	MARROCCO MATTHEW L III MOTAMEDI FARSHAD J		
发明人	MARROCCO, MATTHEW, L., III MOTAMEDI, FARSHAD, J.		
IPC分类号	H01L51/50 C08K3/24 C08L65/00 H01L51/00 H01L51/30 C08K3/08 C08K3/10 H01J1/62 H01L33/00 C09K11/06 C08G61/02		
CPC分类号	H01L51/0039 C08G61/10 C08G61/12 C08G61/122 C08G61/124 C08G61/125 C08G61/126 C08G73/18 C08G73/22 C08G2261/12 C08G2261/1523 C08G2261/312 C08G2261/52 C08G2261/95 C08K3/24 C08L65/00 C08L79/04 C09D5/22 C09D5/24 C09D165/00 C09D165/02 C09K11/06 C09K2211/1416 C09K2211/1425 C09K2211/145 C09K2211/1466 C09K2211/182 H01L51/0004 H01L51/0035 H01L51/0038 H01L51/0043 H01L51/0089 H01L51/5008 H01L51/5012 H01L51/5016 H01L51/5036 H01L51/5056 H01L51/5072 H01L51/5206 H01L51/5234 H01L51/56 H01L2251/306 H05B33/14 Y10T428/25		
优先权	60/211108 2000-06-12 US		
其他公开文献	EP1297060B2 EP1297060A1 EP1297060B1		
外部链接	Espacenet		

摘要(译)

本发明涉及光致发光和电致发光组合物，其包含含有芳族重复单元和发光金属离子或发光金属离子络合物的基质。本发明还涉及使用这种组合物制备这种组合物的方法和电致发光器件。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