

Title (en)

ORGANIC MATERIALS WITH TUNABLE ELECTRIC AND ELECTROLUMINESCENT PROPERTIES

Title (de)

ORGANISCHE MATERIALIEN MIT EINSTELLBAREN ELEKTRISCHEN UND ELEKTROLUMINESZENTEN EIGENSCHAFTEN

Title (fr)

MATERIAUX ORGANIQUES AVEC PROPRIETES ELECTRIQUES ET ELECTROLUMINESCENTES ACCORDABLES

Publication

EP 1706470 A1 20061004 (EN)

Application

EP 05722477 A 20050121

Priority

- US 2005001779 W 20050121
- US 53877304 P 20040123
- US 3537905 A 20050112

Abstract (en)

[origin: WO2005073340A1] A new class of materials for use in electric and electroluminescent devices having one or more phosphine oxide moieties bonded by single bonds to two outer groups. In embodiments having two or more phosphine oxide moieties, the two or more phosphine oxide moieties are further joined by a bridging group. By selecting appropriate bridging and outer groups, the new class of materials of the present invention enables designers to "tune" the electrical and electroluminescent characteristics of the materials. The phosphine oxide moiety restricts electron conjugation between the bridging and outer groups, isolating the bridging and outer groups from each other, and allowing the photophysical properties of the bridging and outer groups to be maintained in the molecule. The lowest energy component (bridging group or particular outer group) thus defines the triplet state, highest occupied molecular orbital and lowest unoccupied molecular energies for the entire molecule.

IPC 8 full level

C09K 11/06 (2006.01); **H05B 33/14** (2006.01); **H05B 33/22** (2006.01); **H10K 99/00** (2023.01)

CPC (source: EP KR)

C09K 11/06 (2013.01 - KR); **H10K 85/60** (2023.02 - EP); **H10K 50/11** (2023.02 - EP); **H10K 50/18** (2023.02 - EP KR); **H10K 2102/103** (2023.02 - EP); **Y02E 10/549** (2013.01 - EP)

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)

WO 2005073340 A1 20050811; EP 1706470 A1 20061004; JP 2007524672 A 20070830; KR 20070004641 A 20070109

DOCDB simple family (application)

US 2005001779 W 20050121; EP 05722477 A 20050121; JP 2006551256 A 20050121; KR 20067016925 A 20060823