

Title (en)
FLUORINATED FLUORENE DERIVATIVES

Title (de)
FLUORIERTE FLUOREN-DERIVATE

Title (fr)
DERIVES FLUORENES FLUORES

Publication
EP 1373434 A1 20040102 (DE)

Application
EP 02708347 A 20020307

Priority
• DE 10115955 A 20010330
• EP 0202503 W 20020307

Abstract (en)
[origin: WO02079344A1] The invention relates to novel fluorinated fluorene derivatives with negative anisotropy of the dielectric constant, of formula 1, $R_{<1>} - (-A_{<1>} - Z_{<1>})_{k1} - (A_{<2>} - Z_{<2>})_{k2} - W - (-Z_{<3>} - A_{<3>})_{k3} - (-Z_{<4>} - A_{<4>})_{k4} - R_{<2>}$, where W = partial formula (2), $L_{<1>}$, $L_{<2>}$ independently = H, F, Cl, $-CH_2F$, $-CHF_2$, or $-CF_3$, with the proviso that both $L_{<1>}$ and $L_{<2>}$ H, $L_{<3>}$, $L_{<4>}$ independently = H or F and $R_{<1>}$, $R_{<2>}$, $A_{<1>}$, $A_{<2>}$, $A_{<3>}$, $A_{<4>}$, $Z_{<1>}$, $Z_{<2>}$, $Z_{<3>}$, $Z_{<4>}$, k_1 , k_2 , k_3 and k_4 have the given meanings. The invention further relates to liquid crystal media, optical and electro-optical display elements.

IPC 1-7
C09K 19/32; **C07C 25/22**; **C07C 25/24**; **C07C 43/225**; **G02F 1/13**

IPC 8 full level
G02F 1/13 (2006.01); **C07C 22/08** (2006.01); **C07C 23/18** (2006.01); **C07C 23/40** (2006.01); **C07C 25/22** (2006.01); **C07C 25/24** (2006.01); **C07C 43/225** (2006.01); **C07C 49/755** (2006.01); **C09K 19/32** (2006.01); **C09K 19/54** (2006.01)

CPC (source: EP KR US)
C07C 22/08 (2013.01 - EP US); **C07C 23/18** (2013.01 - EP US); **C07C 25/22** (2013.01 - EP US); **C07C 25/24** (2013.01 - EP US); **C07C 49/755** (2013.01 - EP US); **C09K 19/32** (2013.01 - EP KR US); **C09K 2323/00** (2020.08 - EP US)

Citation (search report)
See references of WO 02079344A1

Citation (examination)
• WO 02055463 A1 20020718 - CLARIANT INT LTD [CH], et al
• EP 1223209 A1 20020717 - CLARIANT INT LTD [CH]

Designated contracting state (EPC)
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DOCDB simple family (publication)
WO 02079344 A1 20021010; DE 10115955 A1 20021010; DE 10115955 B4 20171019; EP 1373434 A1 20040102; JP 2004531508 A 20041014; JP 2010059165 A 20100318; KR 100830788 B1 20080520; KR 20040002887 A 20040107; TW I305769 B 20090201; US 2004106798 A1 20040603; US 7087272 B2 20060808

DOCDB simple family (application)
EP 0202503 W 20020307; DE 10115955 A 20010330; EP 02708347 A 20020307; JP 2002578351 A 20020307; JP 2009242883 A 20091021; KR 20037012776 A 20030929; TW 91105768 A 20020325; US 47333203 A 20030929