

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
14 March 2002 (14.03.2002)

PCT

(10) International Publication Number
WO 02/20697 A3

(51) International Patent Classification⁷: C09K 19/18,
19/30, 19/34, C07C 25/24, 255/50, 43/225

(21) International Application Number: PCT/US01/27194

(22) International Filing Date: 30 August 2001 (30.08.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
09/655,466 5 September 2000 (05.09.2000) US

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(81) Designated States (national): AE, AG, AL, AM, AT, AT
(utility model), AU, AZ, BA, BB, BG, BR, BY, BZ, CA,
CH, CN, CO, CR, CU, CZ, CZ (utility model), DE, DE
(utility model), DK, DK (utility model), DM, DZ, EC, EE,
EE (utility model), ES, FI, FI (utility model), GB, GD, GE,
GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ,
LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN,
MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG,
SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,
YU, ZA, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian
patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European
patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,
IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF,
CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD,
TG).

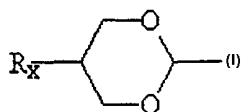
Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:
10 May 2002

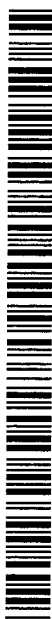
For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: POLAR TOLANE LIQUID CRYSTALS



(57) Abstract: A new class of liquid crystal compounds is based on tolane and bis-tolane structures: (I), in which X is a polar group such as F (fluoro), CN (cyano), OCF₃ (trifluoromethoxy), or NCS (isothiocyanate) at least one of the pairs of sites Y₁ and Y₂, Z₁ and Z₂, and for the bis-tolane derivatives, A₁ and A₂ are fluoro groups. T₁ for the tolane derivatives is always a triple bond. For the bis-tolane derivatives, T₁ and T₂ are either both triple bonds or one of the two groups is a double bond with and

the other remains a triple bond. R_n or R_m may be an alkyl group having the general formula C_nH_{2n+1}, an alkenyl group having the general formula C_nH_{2n-1}, an alkoxy group having the general formula OC_nH_{2n+1}, or an alkenoxy group having the general formula -OC_nH_{2n-1}. Additionally, for the tolane compounds, R_n may be a cyclohexyl substituent: (II), or a dioxane substituent: (III), in which R_x is an alkyl group having the general formula C_xH_{2x+1}, an alkenyl group having the general formula C_xH_{2x-1}, an alkoxy group having the general formula OC_xH_{2x+1}, or an alkenoxy group having the general formula OC_xH_{2x-1}. These compounds exhibit useful nematic ranges and melting points. Also disclosed are eutectic mixtures including these compounds.



INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/27194

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C09K19/18 C09K19/30 C09K19/34 C07C25/24 C07C255/50
C07C43/225

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07C C09K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

CHEM ABS Data, EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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A	claims; example 2 ---	17
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X	DATABASE WPI Section Ch, Week 199348 Derwent Publications Ltd., London, GB; Class E13, AN 1993-383033 XP002192887 & JP 05 286920 A (SEIMI CHEM KK), 2 November 1993 (1993-11-02) abstract --- -/--	1,3

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

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- *A* document defining the general state of the art which is not considered to be of particular relevance
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Date of the actual completion of the international search 13 March 2002	Date of mailing of the international search report 26/03/2002
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer Puetz, C

INTERNATIONAL SEARCH REPORT

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PCT/US 01/27194

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
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