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(54) Title: ALPHA, OMEGA-DIFUNCTIONAL ALDARAMIDES

(57) Abstract: Alpha, omega-difunctional aldaramides, in particular diaminoaldaramides, dihydroxyaldaramides, bis(alkoxycarbonylalkyl)aldaramides, and bis(carboxyalkyl)aldaramides, and processes for preparing the aldaramides are provided.



WO 2006/091902 A3

INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER INV. C07C235/10 C07C235/12 C07C235/08 C07C231/02 C08G69/26 C08B37/00 C08G73/02		
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) C07C C08G C08B		
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Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, CHEM ABS Data, WPI Data, PAJ		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	WO 2005/082978 A (E.I. DUPONT DE NEMOURS AND COMPANY; ANDREWS, MARK, ALLEN; CHENAULT, H.) 9 September 2005 (2005-09-09) the whole document	1-26
X	BONNET D ET AL: "Synthesis of an amphiphilic aldehyde using as a key step the condensation of a lipophilic glyoxylic acid amide derivative with tris(hydroxymethyl)aminomethane" TETRAHEDRON LETTERS, ELSEVIER, AMSTERDAM, NL, vol. 42, no. 10, 4 March 2001 (2001-03-04), pages 1875-1877, XP004316743 ISSN: 0040-4039	1-5, 11-14
Y	page 1876, Scheme 1 (2->3)	15-18
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		"&" document member of the same patent family
Date of the actual completion of the international search	Date of mailing of the international search report	
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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 Sen, Alina	

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	SAMARESH GHOSH ET AL: "Toward chiral polyamidoamine PAMAM) dendritic architecture with tartaric acid core" JOURNAL OF THE INDIAN CHEMICAL SOCIETY, vol. 79, no. 5, 2002, pages 442-443, XP009067241	1-5, 11-14
Y	page 442, Scheme 1	15-18
X	US 2003/158152 A1 (PECANHA EMERSON POLEY ET AL) 21 August 2003 (2003-08-21) cited in the application	6-10
Y	[0012]-[0028]; Table 1, compounds 3a-3g, 4a-4f, 5a-5d, 10a-10f; [0057]-[0058]; examples; claims	15-18
X	HOAGLAND P D: "THE FORMATION OF INTERMEDIATE LACTONES DURING AMINOLYSIS OF DIETHYL GALACTARATE" CARBOHYDRATE RESEARCH, ELSEVIER SCIENTIFIC PUBLISHING COMPANY. AMSTERDAM, NL, vol. 98, 16 December 1981 (1981-12-16), pages 203-208, XP001013051 ISSN: 0008-6215 page 205; pages 207-208, "Experimental"	1-5, 11-26
X	KIELY D E ET AL: "Hydroxylated Nylons Based on Unprotected Esterified D-Glucaric Acid by Simple Condensation Reactions" JOURNAL OF THE AMERICAN CHEMICAL SOCIETY, AMERICAN CHEMICAL SOCIETY, WASHINGTON, DC, US, vol. 116, 1994, pages 571-578, XP002279111 ISSN: 0002-7863	1-5, 11-14
Y	page 572, Scheme 1; page 573, "D-Glucaro-1,4:6,3-dilactone (5)"; page 574, Scheme 5; page 575, "Summary"	15-18
X	US 4 833 230 A (KIELY ET AL) 23 May 1989 (1989-05-23) claims, e.g. claim 19	1-5, 11-14
X	US 5 434 233 A (KIELY ET AL) 18 July 1995 (1995-07-18) column 1, line 65 - column 2, line 26; column 2, lines 50-60; column 3, line 50 - column 4, line 19; claims	1-5, 11-14

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/US2006/006758

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 2005082978	A	09-09-2005	NONE	
US 2003158152	A1	21-08-2003	AU 2331302 A BR 0005525 A WO 0242412 A2 CN 1406223 A EP 1335895 A2 JP 2004513971 T ZA 200205854 A	03-06-2002 02-09-2003 30-05-2002 26-03-2003 20-08-2003 13-05-2004 22-10-2003
US 4833230	A	23-05-1989	NONE	
US 5434233	A	18-07-1995	NONE	