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(54) Title: COMPOSITIONS CONTAINING DIACYLTARTARIC SALTS OF (E)-METANICOTINE

(57) Abstract: Patients susceptible to or suffering from conditions and disorders, such as central nervous system disorders, are treated by administering to a patient in need thereof compositions that are 2,3-diacyltartaric acid salts of E-metanicotine.

INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61K31/465 A61P25/00 A61P43/00

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 A61K

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, BIOSIS, EMBASE, WPI Data, PAJ, EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 96 20600 A (R.J. REYNOLDS TOBACCO COMPANY) 11 July 1996 (1996-07-11) cited in the application	1-6
A	abstract page 11, line 13 page 19 page 23 page 44 -page 45	7
Y	US 5 663 356 A (GRAHAM RUECROFT ET AL.) 2 July 1997 (1997-07-02) cited in the application the whole document	1-6
A		7
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Further documents are listed in the continuation of box C. Patent family members are listed in annex.

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- *Z* document member of the same patent family

Date of the actual completion of the international search 3 April 2002	Date of mailing of the international search report 18/04/2002
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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 Gac, G
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International Application No
PCT/US 01/40689

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	ACETO ET AL.: "Optically pure (+)-nicotine from (+.-)-nicotine and biological comparisons with (-)-nicotine" J. MED. CHEM., vol. 22, no. 2, 1979, pages 174-177, XP001064612 the whole document	1-6
Y	US 5 723 477 A (IAN A. MCDONALD ET AL.) 3 March 1998 (1998-03-03) column 1 column 11 lines 11-17, 45-48	1-6
A	MAESEN T L M ET AL: "PROTON DISTRIBUTION IN MODIFIED FAU-TYPE ZEOLITES" JOURNAL OF CATALYSIS, ACADEMIC PRESS, DULUTH, MN, US, vol. 182, no. 1, 15 February 1999 (1999-02-15), pages 270-273, XP000800891 ISSN: 0021-9517 the whole document	7-9

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/40689

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9620600	A	11-07-1996	US 5597919	A 28-01-1997
			US 5824692	A 20-10-1998
			US 5731314	A 24-03-1998
			AU 4610896	A 24-07-1996
			EP 0801527	A1 22-10-1997
			JP 2001520628	T 30-10-2001
			WO 9620600	A1 11-07-1996
			US 5885998	A 23-03-1999
			US 6107298	A 22-08-2000
US 5663356	A	02-09-1997	AU 2736097	A 12-11-1997
			WO 9740013	A1 30-10-1997
US 5723477	A	03-03-1998	US 5594011	A 14-01-1997
			AU 693285	B2 25-06-1998
			AU 3954495	A 06-06-1996
			CA 2180843	A1 23-05-1996
			EP 0739342	A1 30-10-1996
			JP 9508648	T 02-09-1997
			WO 9615123	A1 23-05-1996
			US 5705512	A 06-01-1998
			US 5677459	A 14-10-1997
US 5703100	A 30-12-1997			