

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
20 September 2007 (20.09.2007)

PCT

(10) International Publication Number
WO 2007/106439 A3

(51) International Patent Classification:

A61P 25/00 (2006.01) C07D 295/00 (2006.01)
A61K 31/55 (2006.01) C07D 487/00 (2006.01)

(21) International Application Number:

PCT/US2007/006219

(22) International Filing Date: 12 March 2007 (12.03.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/781,245 10 March 2006 (10.03.2006) US

(71) Applicant (for all designated States except US): **THE RESEARCH FOUNDATION OF STATE UNIVERSITY OF NEW YORK** [US/US]; STOR Intellectual Property Division, UB Technology Incubator, Suite 111, Amherst, NY 14228-2567 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **DAVIES, Huw, M.I.** [US/US]; 6283 Creekhaven, E. Amherst, NY 14051 (US).

(74) Agents: **KADLE, Ranjana** et al.; Hodgson Russ LLP, The Guaranty Building, 140 Pearl Street, Suite 100, Buffalo, NY 14202-4040 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

(88) Date of publication of the international search report:
30 October 2008



WO 2007/106439 A3

(54) Title: HOMOTROPANES WITH CENTRAL NERVOUS SYSTEM ACTIVITY

(57) Abstract: Disclosed are novel homotropane compounds with CNS activity. These compounds can be used for alleviating symptoms of CNS disorders.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US07/06219

A. CLASSIFICATION OF SUBJECT MATTER IPC: A61P 25/00(2006.01);A61K 31/55(2006.01);C07D 295/00(2006.01),487/00(2006.01) USPC: 514/212.07,214.03;540/520,582,585 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) U.S. : 514/212.07, 214.03; 540/520, 582, 585 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 practicable, search terms used) CAS ONLINE		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DAVIES et al., Diastereoselective Kinetic Protonation of Exocyclic Enolates Derived from Bicyclic Ketones: Control of Stereochemistry Mediated by Bridging Heteroatoms, Journal of Organic Chemistry, 16 November 2001, Vol. 66, No. 23, pages 7898-7902, especially examples 8, 9, 12a, 12b, 15, etc.	1, 2, 7, 12 and 14-19
X	BECKER et al., Formation and Trapping of 6-Azabicyclo[3.2.2]non-5-ene, A Strained Bridgehead Imine, Tetrahedron Letters, 1982, Vol. 23, No. 18, pages 1883-1886, especially example 14.	1
X	BASTABLE et al., Solvolytic Rearrangements of Azabicyclic Compounds. Part 1. Identification of Products, Journal of the Chemical Society, Perkin Transactions 1, 1981, Vol. 5, pages 1339-1345, especially example 11.	1
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.		
* Special categories of cited documents:		
"A"	document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E"	earlier application or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O"	document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P"	document published prior to the international filing date but later than the priority date claimed	
Date of the actual completion of the international search 02 June 2008 (02.06.2008)		Date of mailing of the international search report 08 AUG 2008
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201		Authorized officer Brenda L. Coleman Telephone No. 571-272-1600