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(54) Title: LIPHAGAL ENANTIOMERS AND THEIR DERIVATIVES AND PRECURSORS, AND ENANTIOSELECTIVE METHODS OF MAKING THE SAME

(57) Abstract: Enantioenriched compositions of liphagal and its derivatives and precursors include more than 50 mol% of a first enantiomer based on the total amount of a first and a second enantiomer. A method of making an enantioenriched composition includes catalytic enantioselective alkylation, ring expansion, and intramolecular aryne cyclization.



INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2012/040310**A. CLASSIFICATION OF SUBJECT MATTER*****A61K 31/343(2006.01)i, A61K 31/34(2006.01)i, C07D 307/77(2006.01)i, A61P 35/00(2006.01)i***

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)

A61K 31/343; C07D 307/93

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

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

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

eKOMPASS(KIPO internal) & Keywords: Liphagal, emantioselective, PI3

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2006-081659 A1 (THE UNIVERSITY OF BRITISH COLUMBIA et al.) 10 August 2006	1,2,3,7,8
A	See abstract, example 5 and claims 1-34	4-6,9-17
A	ALVAREZ-MANZANEDA, E. et al., Organic Letters, 2010, Vol.12(20), pp.4450-4453 See abstract and schemes 1-6	1-17
A	GEORGE, J.H. et al., Organic Letters, 2010, Vol. 12(10), pp.2394-2397 See abstract and schemes 1-9	1-17
A	MARION F., Organic Letters, 2006, Vol. 8(2), pp. 321-324 See abstract and schemes 1-3	1-17



Further documents are listed in the continuation of Box C.



See patent family annex.

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2006-081659 A1	10.08.2006	None	