Abstract: In its many embodiments, the present invention provides certain pentfluorosulfur imino heterocyclic compounds, including compounds formula (a) and pharmaceutically acceptable salts thereof. Compounds of formula (a) have the general structure: (a) wherein each variable is selected independently and as defined therein. Pharmaceutical compositions comprising one or more such compounds (alone and in combination with one or more other active agents), and methods for their preparation and use in treating pathologies associated with amyloid beta (Aβ) protein, including Alzheimer’s disease, are also disclosed.
(88) Date of publication of the international search report:
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INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - A01N 43/54; A61K 31/505 (2010.01)
USPC - 514/272
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)
USPC: 514/272

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC: 514/256-257; 514/259.5; 514/268; 514/274 (see search terms below)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
WEST/PUBDB, USPTO, USOC, EPAB, JPAB
Google: Scholar/Patents: bace1 inhibitors pentafluoro alzheimer's amyloid beta galantamine beta-secretase memantine asp2 inhibitors sulfur pentafluoro cyclic imine imino amide sulfonamide

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>US 2007/0287692 A1 (WU et al.) 13 December 2007 (13.12.2007) para [0006]-[0009], [0016]; [0024], [0031], [0034], [0040]-[0042], [0048], [0059]-[0059], [0147], [0164], [0220]-[0228], [0239]</td>
<td>1-29</td>
</tr>
<tr>
<td>Y</td>
<td>STACHEL et al. Structure-Based Design of Potent and Selective Cell-Permeable Inhibitors of Human Beta-Secretase (SACE-1). Journal of Medicinal Chemistry. 2004, Vol 47, pg 6447-6450; pg 6447, col 1, para 2; pg 6448, col 1, para 3; col 2, para 1-2; pg 6448, Fig 1; pg 6449, col 1, para 2-3; col 2, para 1</td>
<td>1-29</td>
</tr>
</tbody>
</table>

Further documents are listed in the continuation of Box C.

* Special categories of cited documents:
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Date of the actual completion of the international search
13 November 2010 (13.11.2010)

Date of mailing of the international search report
22 Nov 2010

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