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(54) Title: [11C]METHOXY-RADIOLABELLED 2,3',4,5'-TETRAMETHYLSTILBENE (TMS) AND ITS PREPARATION AND USE

(57) Abstract: This invention pertains generally to the field of radiochemical synthesis, and more specifically to methods of preparing [¹¹C]methoxy-radiolabelled 2,3',4,5' -tetramethoxystilbene (TMS) from an unlabelled hydroxy precursor of 2,3',4,5' -tetramethoxystilbene (TMS) that has a pendant hydroxyl group, by reaction with [¹¹C]methyl trifluoromethanesulfonate (CF₃SO₂O¹¹CH₃), also known as [¹¹C]methyl triflate, or [¹¹C]methyl iodide (¹¹CH₃I). This reaction converts the pendant hydroxyl group into a pendant [¹¹C]methoxy group. The resulting [¹¹C]methoxy-radiolabelled product is useful, for example, as an in vivo positron emission tomography (PET) tracer, for example, for tumours (e.g., cancer tumours) and/or beta amyloid plaques (e.g., Alzheimer's disease). The present invention also pertains to the resulting [¹¹C]methoxy radiolabelled products, compositions comprising them, their use in methods of (e.g., PET) imaging, their use in methods of medical treatment and diagnosis, etc.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

INV. C07C59/68 C07B59/00 A61K31/09 A61P25/28 A61P25/16
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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 C07B

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)

EPO-Internal, WPI Data, CHEM ABS Data, BEILSTEIN Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 2006/066104 A (TRUSTEES OF THE UNIVERSITY OF [US]; KUNG HANK F [US]; KUNG MEI-PING [U] 22 June 2006 (2006-06-22) claims 1, 35,36	1-69
A	WO 03/018013 A (PROMEDITECH INC [KR]; KIM SANG-HEE [KR]; CHUN YOUNG-JIN [KR]) 6 March 2003 (2003-03-06) claims 1,4; page 26	1-69

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:

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- *&* document member of the same patent family

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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
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