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(54) Title **SYNTHESIS OF 18F-RADIOLABELED STYRYLPYRIDINES FROM TOSYLATE PRECURSORS AND STABLE PHARMACEUTICAL COMPOSITIONS THEREOF**

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Enclosed is a translation of the patent claims in Norwegian. Please note that as per the Norwegian Patents Acts, section 66i the patent will receive protection in Norway only as far as there is agreement between the translation and the language of the application/patent granted at the EPO. In matters concerning the validity of the patent, language of the application/patent granted at the EPO will be used as the basis for the decision. The patent documents published by the EPO are available through Espacenet (http://worldwide.espacenet.com) or via the search engine on our website here: https://search.patentstyret.no/

Patentkrav

1. Fremgangsmåte for å fremstille en radiofarmasøytisk sammensetning for positronemisjonstomografi (PET)-avbildning av nevrodegenerative sykdommer i hjernen omfattende:

en effektiv mengde av ((E)-4-(2-(6-(2-(2-(2-[^{18}F] fluoretoksy)etoksy)etoksy)pyridin-3-yl)vinyl)-N-metylbenzenamin);

10,0 % (volum/volum) etylalkohol; og

0,5 % (vekt/volum) natriumaskorbat,

i 0,9 % (vekt/volum) vandig natriumklorid,

hvori fremgangsmåten omfatter trinnene:

å fremstille en mono Boc-beskyttet vinylanilinforbindelse;

å omdanne vinylanilinforbindelsen til et metyl-, t-butylkarbamatderivat;

å reagere 2-halo 5-iodopyridin med trietylenglykol;

å reagere metyl-, t-butylkarbamatderivatet med den resulterende forbindelsen ifølge trinnet med å reagere 2-halo 5-iodopyridin med trietylenglykol for å fremstille (E)-tert-butyl 4-(2-(6-(2-(2-(2-hydroksyetoksy)etoksy)etoksy)pyridin-3-yl)vinyl)fenyl(metyl)karbamat; og

å reagere (E)-tert-butyl 4-(2-(6-(2-(2-(2-hydroksyetoksy)etoksy)etoksy)pyridin-3-yl)vinyl)fenyl(metyl)karbamatet med tosylklorid for å danne (E)-2-(2-(2-(5-(4-(tert-butoksykarbonyl(metyl)amino)styryl)pyridin-2-yloksy)etoksy)etoksy)etyl 4-metylbenzensulfonat;

å reagere (E)-2-(2-(2-(5-(4-(tert-butoksykarbonyl(metyl)amino)styryl)pyridin-2-yloksy)etoksy)etoksy)etyl

4-metylbenzensulfonat og et [18F]-fluoridion i dimetylsulfoksid (DMSO)-oppløsning eller et aprotisk løsemiddel med høyt kokepunkt for å fremstille (*E*)-4-(2-(6-(2-(2-(2-[^{18}F]fluoretoksy)etoksy)etoksy)pyridin-3-yl)vinyl)-N-metylbenzenamin);

å isolere (*E*)-4-(2-(6-(2-(2-(2-[^{18}F]fluoretoksy)etoksy)etoksy)pyridin-3-yl)vinyl)-N-metylbenzenaminet);

å rense (*E*)-4-(2-(6-(2-(2-(2-[^{18}F]fluoretoksy)etoksy)etoksy)pyridin-3-yl)vinyl)-N-metylbenzenaminet); og

å formulere (*E*)-4-(2-(6-(2-(2-(2-[^{18}F]fluoretoksy)etoksy)etoksy)pyridin-3-yl)vinyl)-N-metylbenzenaminet) i en 0,9 % (w/v) vandig natriumklorid-etylalkoholoppløsning omfattende etylalkohol med 10,0 % (volum/volum) av den totale sammensetningen og natriumaskorbat med 0,5 % (vekt/volum) av den totale sammensetningen.

2. Forbindelse med formel