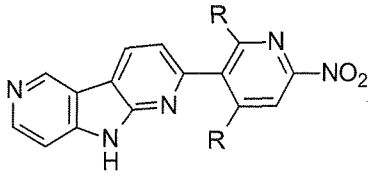
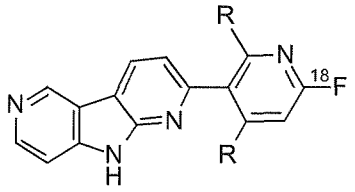


10

in dimethylsulfoxide and sonicate prior to end of bombardment with aqueous [18]fluoride ion to a compound of formula



I

and, if desired, converting the compounds obtained into pharmaceutically acceptable acid addition salts.

In another aspect, there is provided a compound of formula **I** as defined herein for use in binding and imaging tau aggregates, beta-amyloid aggregates or alpha-synuclein aggregates.

In another aspect, there is provided a compound of formula **I** as defined herein for use in binding and imaging tau aggregates in Alzheimer patients.

In another aspect, there is provided a compound of formula **I** as defined herein for use in diagnostic imaging of tau-aggregates in the brain of a mammal.

In another aspect, there is provided a method of imaging tau-aggregate deposits, comprising

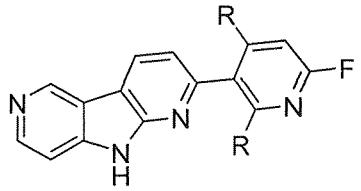
- detecting the compound of formula **I** that had associated with one or more tau-aggregate deposits following introduction of a detectable quantity of a preparation as defined herein into a mammal.

A further object of the embodiments disclosed herein is a pharmaceutical composition, containing compounds of formula **I** and pharmaceutically acceptable carriers, which may be used for identifying potential patients.

In another aspect, there is provided a pharmaceutical preparation comprising a compound of formula **I** as defined herein and a pharmaceutical acceptable carrier.

## Claims

1. A compound of formula



I

wherein

R is hydrogen or tritium;

F is fluoro or $^{18}$fluoro;

wherein the compound of formula I does not have tritium and $^{18}$F simultaneously,

or a pharmaceutically acceptable acid addition salt.

2. A compounds of formula I according to claim 1, which compounds are

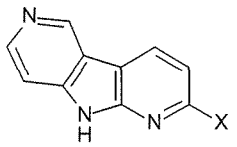
2-(6-fluoro-pyridin-3-yl)-9H-dipyrido[2,3-b;3',4'-d]pyrrole

$^{3}$H-2-(6-fluoro-pyridin-3-yl)-9H-dipyrido[2,3-b;3',4'-d]pyrrole

and [18F]-2-(6-fluoro-pyridin-3-yl)-9H-dipyrido[2,3-b;3',4'-d]pyrrole.

3. A process for the manufacture of a compound of formula **I** as defined in any one of claims 1 or 2, which process comprises

a) coupling a compound of formula **2** (X = Cl, Br)



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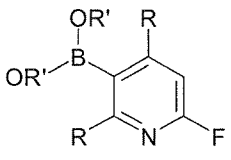
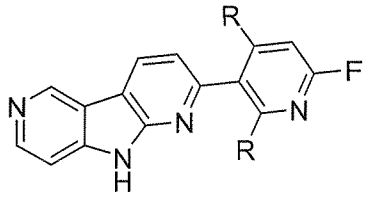
with suitable boronic acids or boronic acid esters of formula **3**



3,

wherein R' is hydrogen or lower alkyl,

to afford compounds of formula **I**



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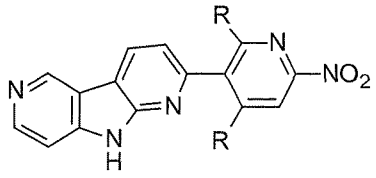
wherein R is tritium, and, if desired, converting the compounds obtained into pharmaceutically acceptable acid addition salts or

d) dissolving a compound of formula **10**



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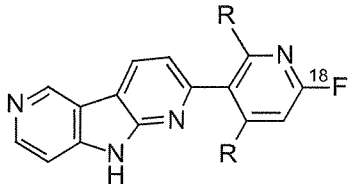
in dimethylsulfoxide and sonicate prior to end of bombardment with aqueous [18]fluoride ion to a compound of formula



I

and, if desired, converting the compounds obtained into pharmaceutically acceptable acid addition salts.

4. A compound of formula **I** according to any one of claims 1 or 2 for use in binding and imaging tau aggregates, beta-amyloid aggregates or alpha-synuclein aggregates.

5. A compound of formula **I** according to any one of claims 1 or 2 for use in binding and imaging tau aggregates in Alzheimer patients.

6. A compound of formula **I** according to any one of claims 1 or 2 for use in diagnostic imaging of tau-aggregates in the brain of a mammal.

7. A pharmaceutical preparation comprising a compound of formula **I** according to any one of claims 1 or 2 and a pharmaceutical acceptable carrier.

8. A method of imaging tau-aggregate deposits, comprising detecting the compound of formula I that had associated with one or more tau-aggregate deposits following introduction of a detectable quantity of a preparation according to claim 7 into a mammal.

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