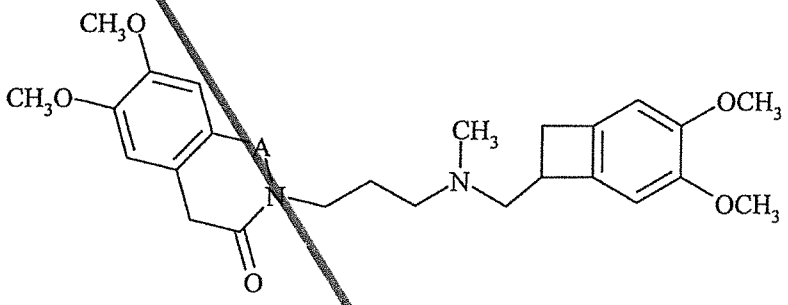
CLAIMS

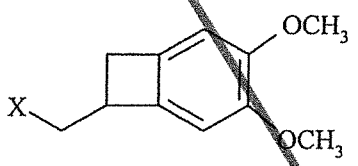
1. Process for the synthesis of the compound formula (VI), in its racemic or optically active form:



(VI),

wherein A represents H_2C-CH_2 or HC=CH,

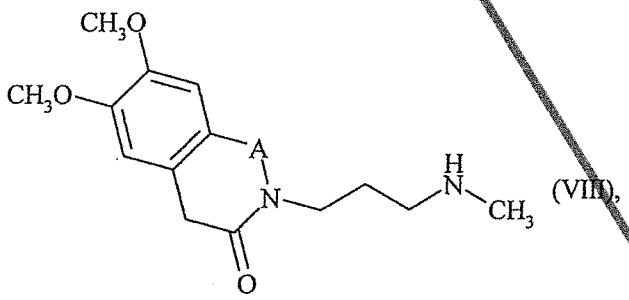
characterised in that the compound of formula (VII), in racemic or optically active form:



(VII),

wherein X represents a halogen atom, a mesylate group or a tosylate group,

is subjected to an alkylation reaction with the compound of formula (VIII):



(VIII),

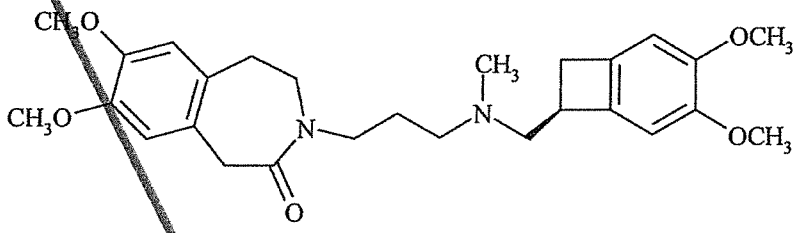
wherein A is as defined hereinbefore,

in the presence of a base,

in an organic solvent.

2. Synthesis process according to claim 1, characterised in that the compound of formula (VII) is in optically active form, and more especially of configuration (*S*).

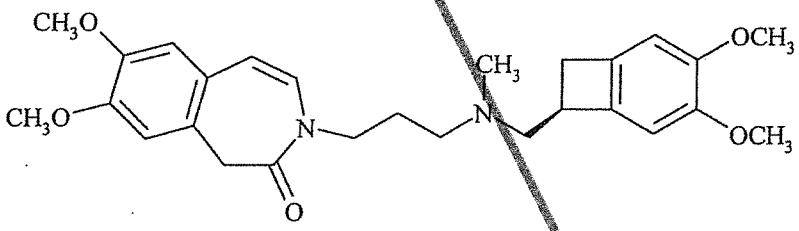
3. Synthesis process according to claim 2, characterised in that the group A represents H_2C-CH_2, and in that the product of the alkylation reaction of the compound of formula (VII) with the compound of formula (VIII) is ivabradine of formula (I):



(I),

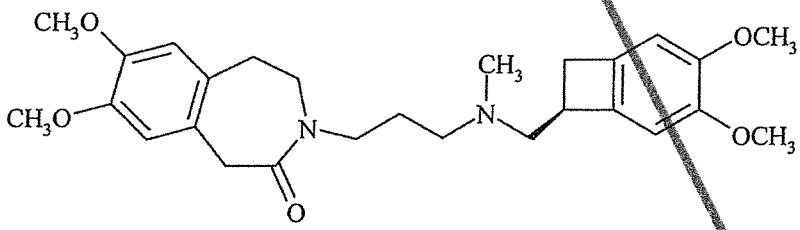
which may optionally be converted into addition salts thereof with a pharmaceutically acceptable acid selected from hydrochloric acid, hydrobromic acid, sulphuric acid, phosphoric acid, acetic acid, trifluoroacetic acid, lactic acid, pyruvic acid, malonic acid, succinic acid, glutaric acid, fumaric acid, tartaric acid, maleic acid, citric acid, ascorbic acid, oxalic acid, methanesulphonic acid, benzenesulphonic acid and camphoric acid, and into hydrates thereof.

4. Synthesis process according to claim 2, characterised in that the group A represents HC=CH, and in that the product of the alkylation reaction of the compound of formula (VII) with the compound of formula (VIII) is the compound of formula (V):



(V),

the catalytic hydrogenation of which yields ivabradine of formula (I):

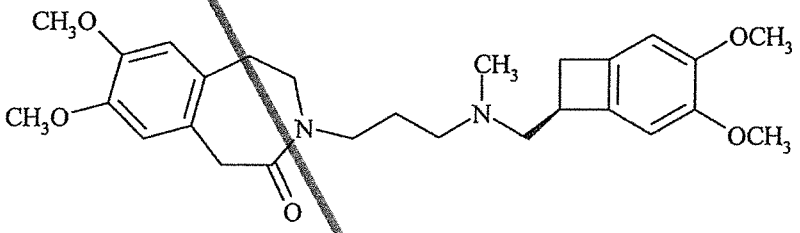


(I),

which may optionally be converted into addition salts thereof with a pharmaceutically acceptable acid selected from hydrochloric acid, hydrobromic acid, sulphuric acid, phosphoric acid, acetic acid, trifluoroacetic acid, lactic acid, pyruvic acid, malonic acid, succinic acid, glutaric acid, fumaric acid, tartaric acid, maleic acid, citric acid, ascorbic acid, oxalic acid, methanesulphonic acid, benzenesulphonic acid and camphoric acid, and into hydrates thereof.

5. Synthesis process according to claim 1, characterised in that the compound of formula (VII) is in racemic form, and in that the alkylation reaction of the compound of formula (VII) with the compound of formula (VIII) is followed by a step of optical resolution of the racemic compound of formula (VI) obtained.

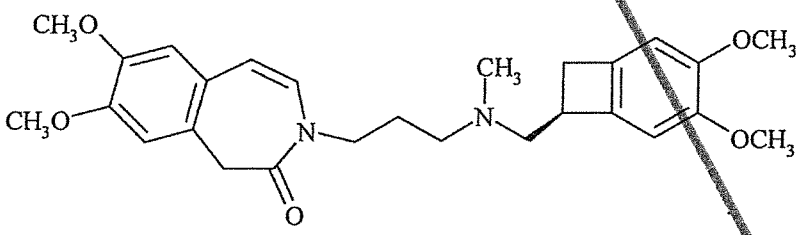
6. Synthesis process according to claim 5, characterised in that A represents H_2C-CH_2, and in that the product obtained after the step of optical resolution of the compound of formula (VI) is ivabradine of formula (I):



(I),

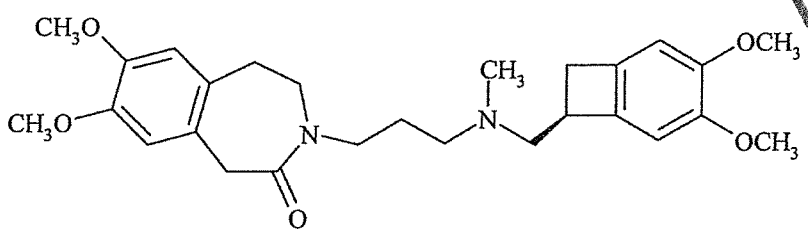
which may optionally be converted into addition salts thereof with a pharmaceutically acceptable acid selected from hydrochloric acid, hydrobromic acid, sulphuric acid, phosphoric acid, acetic acid, trifluoroacetic acid, lactic acid, pyruvic acid, malonic acid, succinic acid, glutaric acid, fumaric acid, tartaric acid, maleic acid, citric acid, ascorbic acid, oxalic acid, methanesulphonic acid, benzenesulphonic acid and camphoric acid, and into hydrates thereof.

7. Synthesis process according to claim 5, characterised in that A represents HC=CH, and in that the product obtained after the step of optical resolution of the compound of formula (VI) is the compound of formula (V):



(V),

the catalytic hydrogenation of which yields ivabradine of formula (I):



(I),

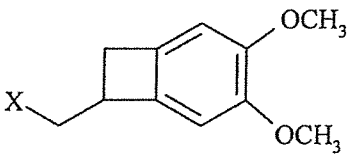
which may optionally be converted into addition salts thereof with a pharmaceutically acceptable acid selected from hydrochloric acid, hydrobromic acid, sulphuric acid, phosphoric acid, acetic acid, trifluoroacetic acid, lactic acid, pyruvic acid, malonic acid, succinic acid, glutaric acid, fumaric acid, tartaric acid, maleic acid, citric acid, ascorbic acid, oxalic acid, methanesulphonic acid, benzenesulphonic acid and camphoric acid, and into hydrates thereof.

8. Synthesis process according to any one of claims 1 to 7, characterised in that the base used to carry out the alkylation reaction of the compound of formula (VII) with the compound of formula (VIII) is selected from potassium carbonate, sodium carbonate, caesium carbonate, potassium hydrogen carbonate and sodium hydrogen carbonate.

9. Synthesis process according to any one of claims 1 to 8, characterised in that the base used to carry out the alkylation reaction of the compound of formula (VII) with the compound of formula (VIII) is potassium carbonate.

10. Synthesis process according to any one of claims 1 to 9, characterised in that the solvent used to carry out the alkylation reaction of the compound of formula (VII) with the compound of formula (VIII) is selected from acetonitrile, acetone and butan-2-one.

11. Compound of formula (VIIa), a particular case of the compounds of formula (VII), in its racemic or optically active form:

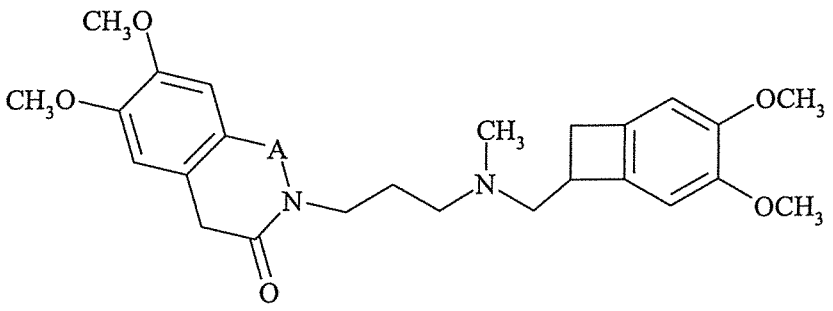


(VIIa),

wherein X represents a halogen atom or a mesylate group.

CLAIMS

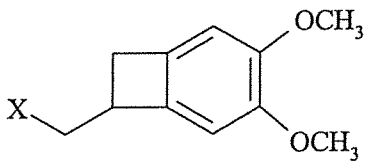
1. A process for the synthesis of the compound formula (VI), in its racemic or optically active form:



(VI),

wherein A represents H_2C-CH_2 or HC=CH,

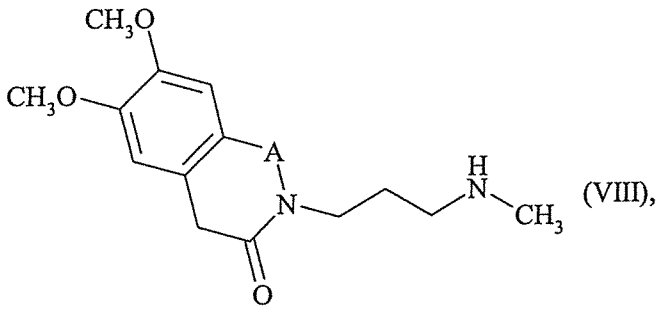
wherein a compound of formula (VII), in racemic or optically active form:



(VII),

wherein X represents a halogen atom, a mesylate group or a tosylate group,

is subjected to an alkylation reaction with the compound of formula (VIII):



(VIII),

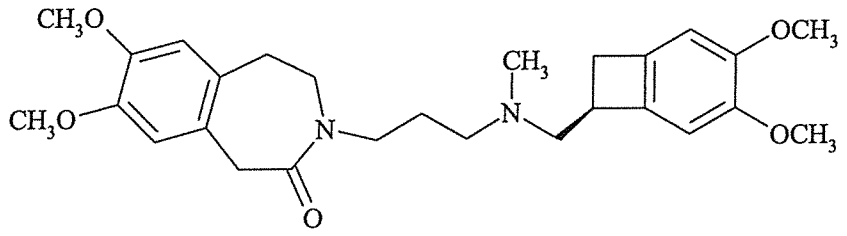
in the presence of a base,

in an organic solvent.

2. A process according to claim 1, wherein that the compound of formula (VII) is in optically active form.

3. The process according to claim 2, wherein the compound of formula (VII) is in the (*S*) configuration.

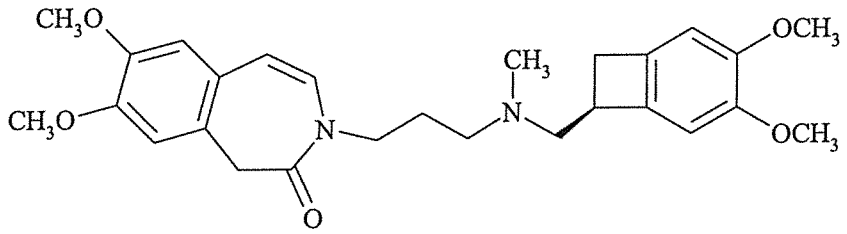
4. The process according to Claim 2, wherein the group A represents H_2C-CH_2, and wherein the product of the alkylation reaction of the compound of formula (VII) with the compound of formula (VIII) is ivabradine of formula (I):



(I),

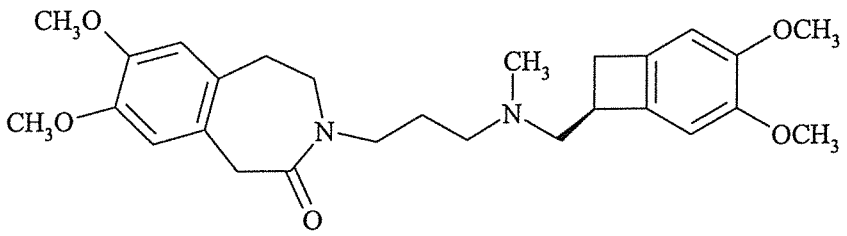
which may optionally be converted into addition salts thereof with a pharmaceutically acceptable acid selected from hydrochloric acid, hydrobromic acid, sulphuric acid, phosphoric acid, acetic acid, trifluoroacetic acid, lactic acid, pyruvic acid, malonic acid, succinic acid, glutaric acid, fumaric acid, tartaric acid, maleic acid, citric acid, ascorbic acid, oxalic acid, methanesulphonic acid, benzenesulphonic acid and camphoric acid, and/or into hydrates thereof.

5. The process according to claim 3, wherein group A represents HC=CH, and wherein the product of the alkylation reaction of the compound of formula (VII) with the compound of formula (VIII) is the compound of formula (V):



(V),

the catalytic hydrogenation of which yields ivabradine of formula (I):



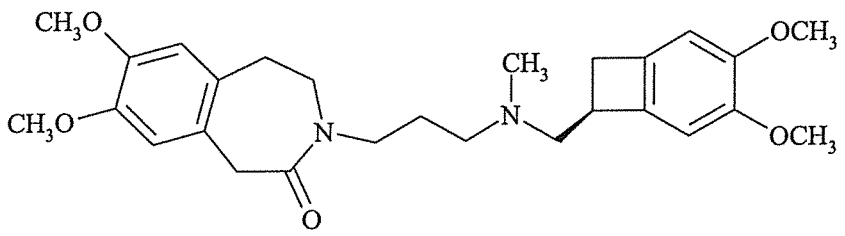
(I),

which may optionally be converted into addition salts thereof with a pharmaceutically acceptable acid selected from hydrochloric acid, hydrobromic acid, sulphuric acid, phosphoric acid, acetic acid, trifluoroacetic acid, lactic acid, pyruvic acid, malonic acid, succinic acid,

glutaric acid, fumaric acid, tartaric acid, maleic acid, citric acid, ascorbic acid, oxalic acid, methanesulphonic acid, benzenesulphonic acid and camphoric acid, and into hydrates thereof.

6. The process according to claim 1, wherein the compound of formula (VII) is in racemic form, and in that the alkylation reaction of the compound of formula (VII) with the compound of formula (VIII) is followed by a step of optical resolution of the racemic compound of formula (VI) obtained.

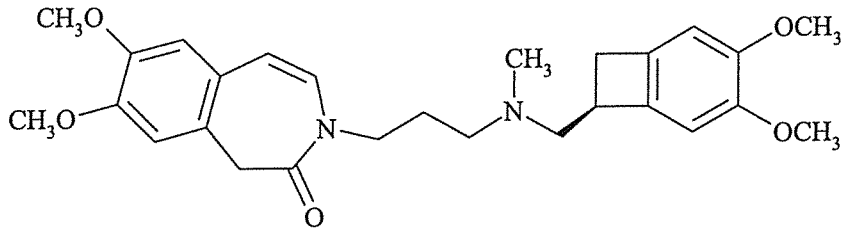
7. The process according to claim 6, wherein A represents H_2C-CH_2, and in that the product obtained after the step of optical resolution of the compound of formula (VI) is ivabradine of formula (I):



(I),

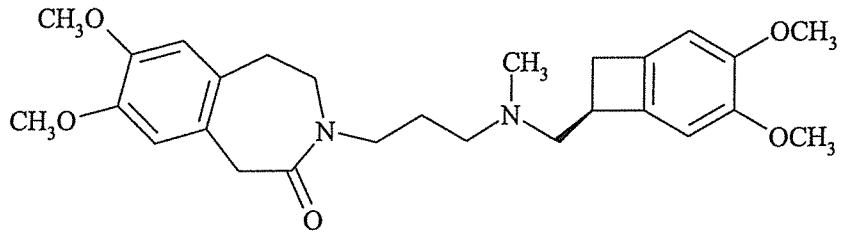
which may optionally be converted into addition salts thereof with a pharmaceutically acceptable acid selected from hydrochloric acid, hydrobromic acid, sulphuric acid, phosphoric acid, acetic acid, trifluoroacetic acid, lactic acid, pyruvic acid, malonic acid, succinic acid, glutaric acid, fumaric acid, tartaric acid, maleic acid, citric acid, ascorbic acid, oxalic acid, methanesulphonic acid, benzenesulphonic acid and camphoric acid, and into hydrates thereof.

8. The process according to claim 6, characterised in that A represents HC=CH, and in that the product obtained after the step of optical resolution of the compound of formula (VI) is the compound of formula (V):



(V),

the catalytic hydrogenation of which yields ivabradine of formula (I):



(I),

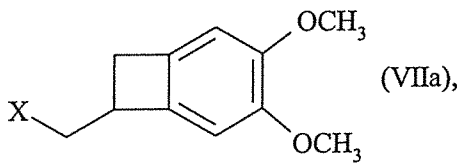
which may optionally be converted into addition salts thereof with a pharmaceutically acceptable acid selected from hydrochloric acid, hydrobromic acid, sulphuric acid, phosphoric acid, acetic acid, trifluoroacetic acid, lactic acid, pyruvic acid, malonic acid, succinic acid, glutaric acid, fumaric acid, tartaric acid, maleic acid, citric acid, ascorbic acid, oxalic acid, methanesulphonic acid, benzenesulphonic acid and camphoric acid, and into hydrates thereof.

9. The process according to claim 1, wherein the base used to carry out the alkylation reaction of the compound of formula (VII) with the compound of formula (VIII) is selected from potassium carbonate, sodium carbonate, caesium carbonate, potassium hydrogen carbonate and sodium hydrogen carbonate.

10. The process according to any one of claim 1, wherein that the base used to carry out the alkylation reaction of the compound of formula (VII) with the compound of formula (VIII) is potassium carbonate.

11. The process according to claim 1, wherein the solvent used to carry out the alkylation reaction of the compound of formula (VII) with the compound of formula (VIII) is selected from acetonitrile, acetone and butan-2-one.

12. A compound of formula (VIIa), a particular case of the compounds of formula (VII), in its racemic or optically active form:



(VIIa),

wherein X represents a halogen atom or a mesylate group.