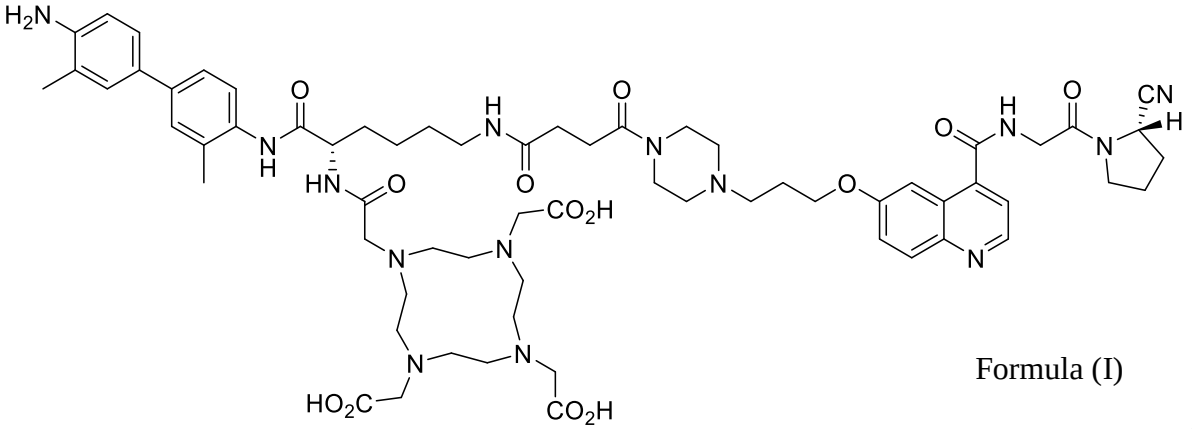
CLAIMS

1. An intermediate for synthesis of Evans blue modified FAPI, wherein the intermediate has a structure as shown in Formula (I):



Formula (I)

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2. A method for preparing the intermediate according to claim 1, wherein the method comprises the following steps:

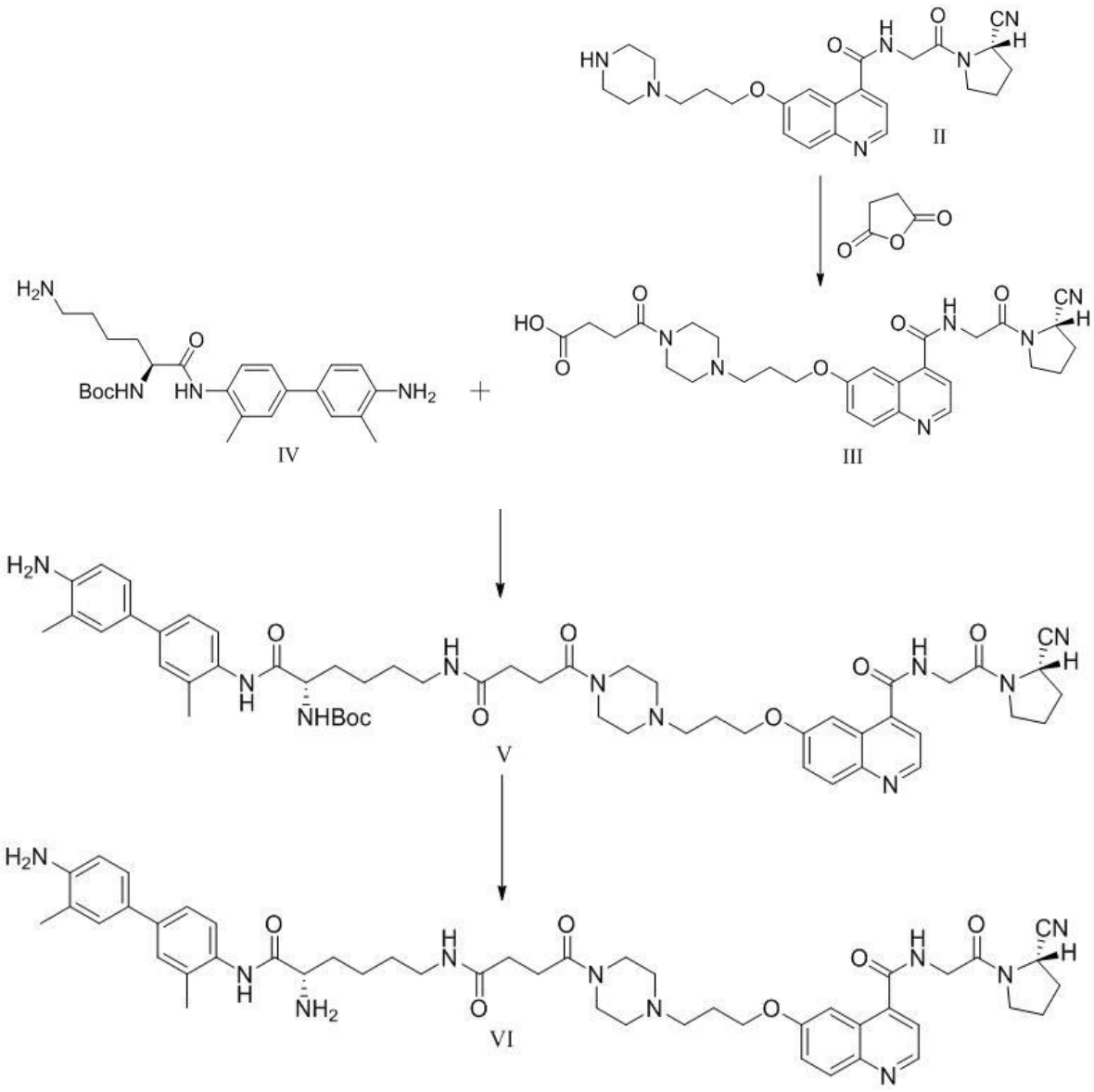
step a: subjecting (S)-N-(2-(2-cyanopyrrolidin-1-yl)-2-oxoethyl)-6-(3-(piperazin-1-yl)propoxy)quinolin-4-formamide (a compound II) to a reaction with succinic anhydride to obtain a compound III;

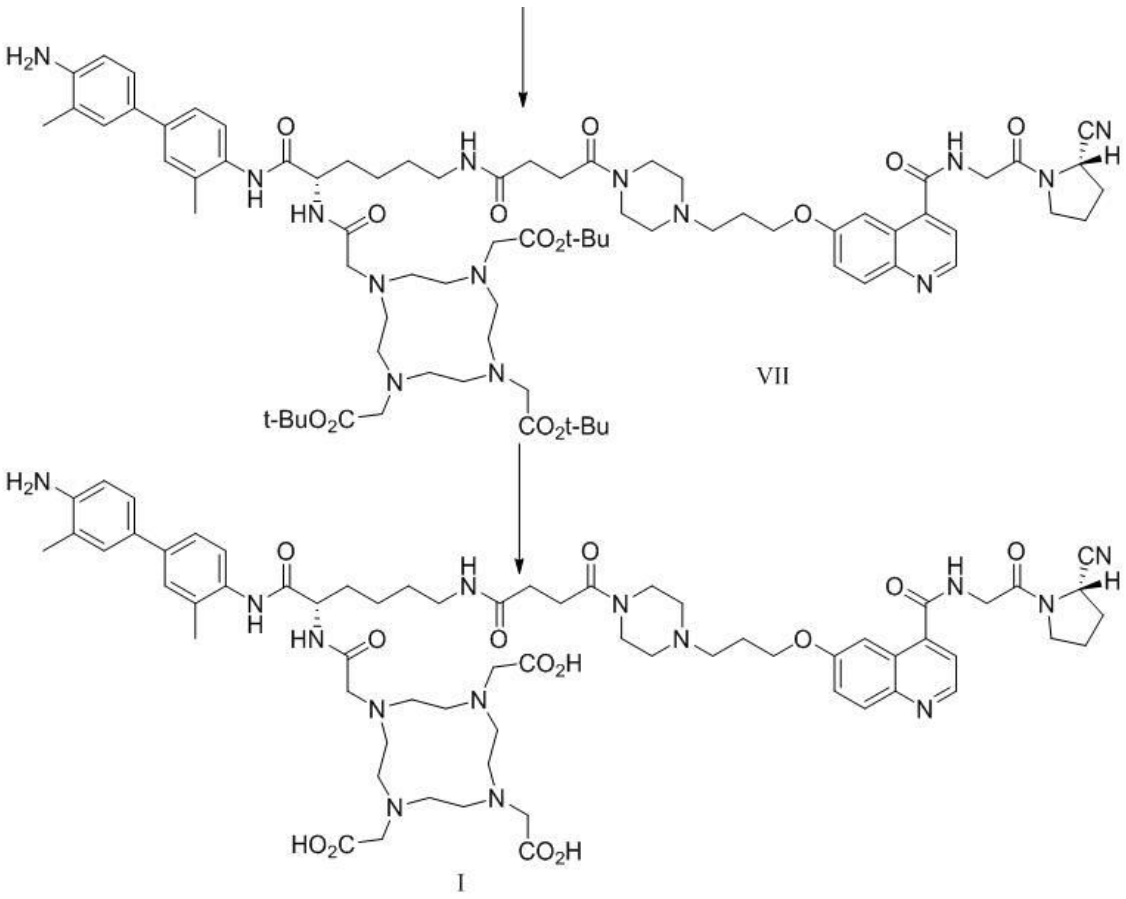
step b: subjecting the compound III to a coupling reaction with tert-butyl (S)-(6-amino-1-((4'-amino-3,3'-dimethyl-[1,1'-biphenyl]-4-yl)amino)-1-oxohexyl-2-yl)carbamate (a compound IV) and treatment to obtain a compound V;

step c: subjecting the compound V to a deprotection reaction to obtain a compound VI, and then to a substitution reaction and treatment to obtain a compound VII; and

step d: subjecting the compound VII to a hydrolysis reaction and treatment to obtain the intermediate having the structure of Formula I;

and a specific reaction formula is shown as follows:


II
IV
III
V
VI



3. The method according to claim 2, wherein the step b specifically comprises: in an N,N-dimethylformamide solvent, adding the compound III obtained in the step a and the tert-butyl (S)-(6-amino-1-((4'-amino-3,3'-dimethyl-[1,1'-biphenyl]-4-yl)amino)-1-oxohexyl-2-yl)carbamate, then adding a condensing agent and an organic alkali, performing stirring for a reaction at 20-45°C for 1-8 hours, and performing treatment to obtain the compound V.

4. The method according to claim 3, wherein the condensing agent comprises any one of HATU, HBTU, TBTU, TSTU, PyAOP, and PyBOP.

5. The method according to claim 3, wherein the organic alkali comprises any one of N,N-diisopropylethylamine and triethylamine.

6. The method according to claim 2, wherein the step c specifically comprises: in an organic solvent, adding the compound V obtained in the step b, then adding an organic acid, performing stirring for a reaction at 20-45°C for 1-8 hours to obtain the compound VI, then adding an excess amount of an organic alkali, adding tri-tert-butyl

2,2’,2’’-(10-(2-((2,5-dioxopyrrolidin-1-yl)oxy)-2-oxoethyl)-1,4,7,10-tetraazacyclododecan-1,4,7-triyl)triacetate, performing stirring for a reaction at 15-45°C for 1-8 hours, and performing treatment to obtain the compound VII.

7. The method according to claim 6, wherein the organic solvent comprises any one of dichloromethane, N,N-dimethylformamide, or a mixture of the two.

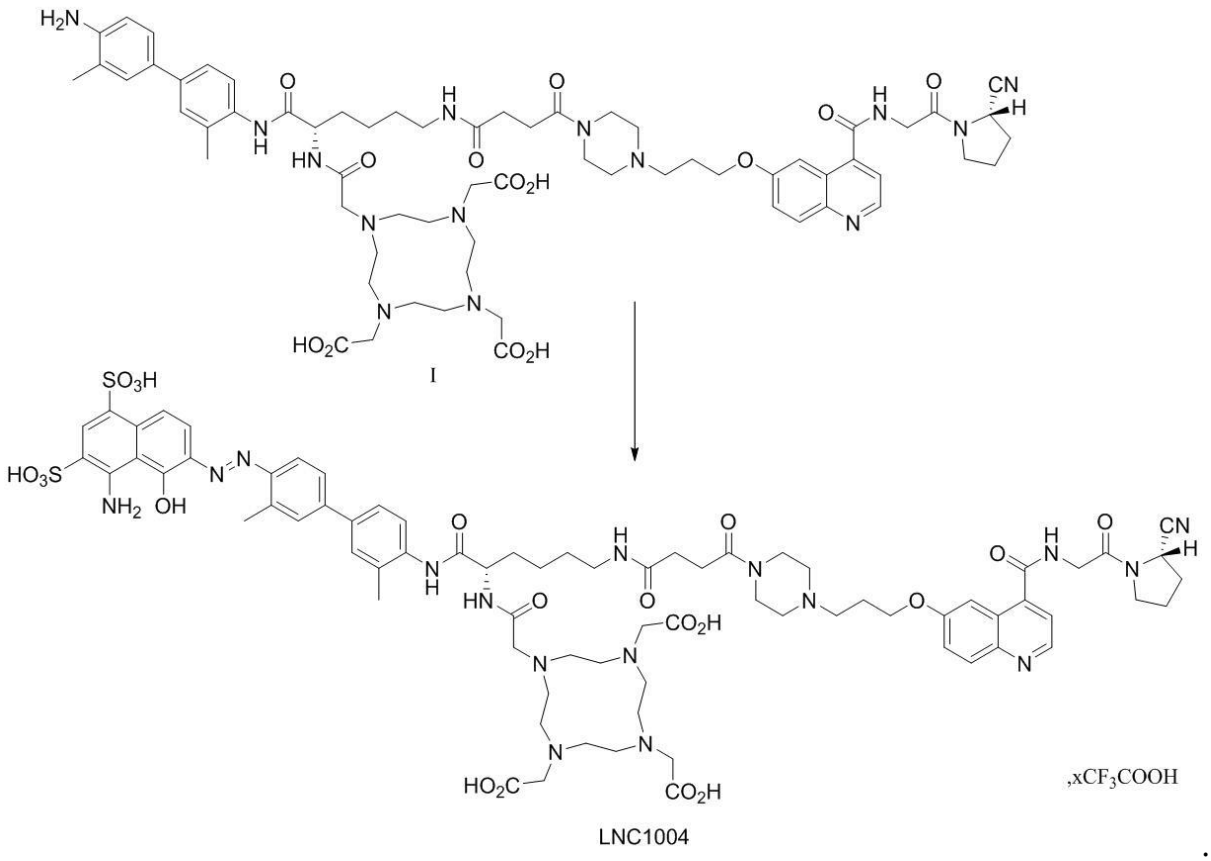
8. The method according to claim 6, wherein the organic acid comprises any one of trifluoroacetic acid and p-toluenesulfonic acid.

9. The method according to claim 6, wherein the organic alkali comprises any one of N,N-diisopropylethylamine and triethylamine.

10. The method according to claim 2, wherein the step d specifically comprises: in an organic solvent, adding the compound VII obtained in the step c, then adding an organic acid, performing stirring for a reaction at 20-45°C for 1-8 hours, and performing treatment to obtain the intermediate having the structure of Formula I.

11. The method according to claim 10, wherein the organic acid comprises any one of trifluoroacetic acid and p-toluenesulfonic acid.

12. Use of the intermediate according to claim 1 in synthesis of Evans blue modified FAPI, wherein the use comprises the following steps: dissolving the intermediate having the structure of Formula I in water, sequentially adding a hydrochloric acid solution and sodium nitrite for a reaction to generate a diazonium salt solution under stirring conditions at -5°C to 25°C, then mixing a 1-amino-8-naphthol-2,4-disulfonic acid monosodium salt and sodium bicarbonate for an acid-base neutralization reaction to generate an aqueous solution of the 1-amino-8-naphthol-2,4-disulfonic acid monosodium salt and the sodium bicarbonate, dropping the diazonium salt solution into the aqueous solution of the 1-amino-8-naphthol-2,4-disulfonic acid monosodium salt and the sodium bicarbonate for a reaction for 1-8 hours under stirring at -5°C to 25°C, and performing post-treatment to obtain Evans blue modified FAPI; and a specific reaction formula is shown as follows:



13. The use according to claim 12, wherein a molar concentration of the hydrochloric acid solution is 0.5-6 mol/L.

14. The use according to claim 12, wherein a molar ratio of hydrochloric acid to the intermediate after addition of the hydrochloric acid solution is 1.0-3.0.

15. The use according to claim 12, wherein a molar ratio of the sodium nitrite to the intermediate is 1.0-3.0.

16. The use according to claim 12, wherein a molar ratio of the 1-amino-8-naphthol-2,4-disulfonic acid monosodium salt to the intermediate is 1.0-3.0.

17. The use according to claim 12, wherein a molar ratio of the sodium bicarbonate to the intermediate is 5.0-10.0.