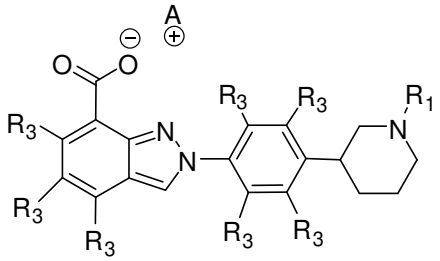
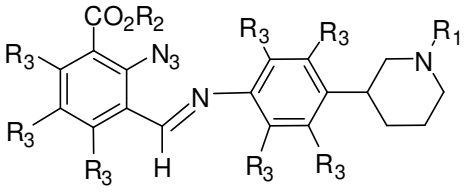
CLAIMS

1. A process for preparing a salt of Formula (7), comprising:



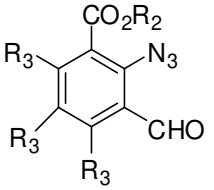
(7),

(a) preparing a compound of Formula (1), or a salt thereof, comprising:

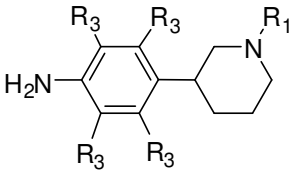


(1),

contacting a compound of Formula (2), or a salt thereof, with a compound of Formula (3), or a salt thereof,

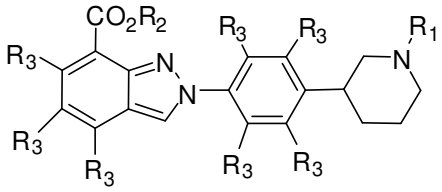


(2),



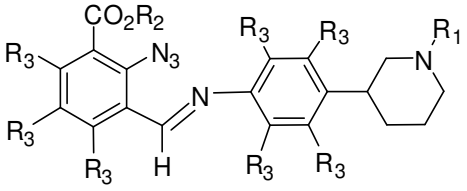
(3),

(b) preparing a compound of Formula (5), or a salt thereof, comprising:



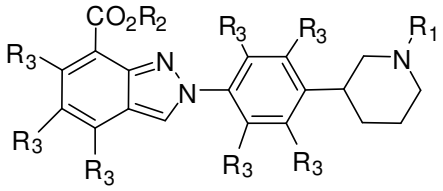
(5),

contacting the compound of Formula (1), or a salt thereof, with a catalyst,



(1),

(c) contacting the compound of Formula (5), or a salt thereof, with a metal hydroxide,



(5),

wherein:

R_1 is H or an amine protecting group;

R_2 is H, $C_{1\text{-}10}$ alkyl, $C_{1\text{-}10}$ haloalkyl, or aryl;

each R_3 is independently H, halogen, $C_{1\text{-}10}$ alkyl, $C_{1\text{-}10}$ haloalkyl, or aryl and

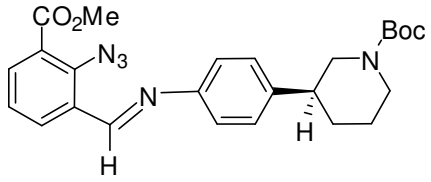
A is a cation.

2. The process of claim 1, wherein the contacting in step (a) is in the presence of trifluoroacetic acid (TFA).

3. The process of claims 1 or 2, wherein R_1 is *tert*-butyloxycarbonyl (Boc), 9-fluorenylmethyloxycarbonyl (Fmoc), carboxybenzyl group (Cbz), *p*-methoxybenzyl carbonyl (Moz), acetyl (Ac), benzoyl (Bz), *p*-methoxybenzyl (PMB), 3,4-dimethoxybenzyl (DMPM), *p*-methoxyphenyl (PMP), 2-naphthylmethyl ether (Nap), tosyl (Ts), or trichloroethyl chloroformate (Troc).

4. The process of any one of claims 1 to 3, wherein R_1 is *tert*-butyloxycarbonyl group (Boc).

5. The process of claim 1, wherein the compound of Formula (1) has a structure of Formula (4):

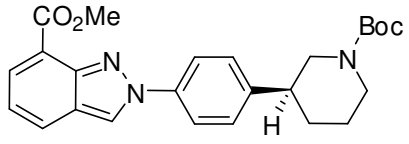


(4).

6. The process of claim 1, wherein in step (b) the catalyst is copper (II) trifluoromethanesulfonate ($Cu(OTf)_2$).

7. The process of claim 1, wherein in step (b) the contacting is in the presence of tetrahydrofuran (THF).

8. The process of claim 1, wherein the compound of Formula (5) of step (b) has a structure of Formula (6):



(6).

9. The process of claim 1, wherein in step (c) the cation is an alkali metal cation.

10. The process of claim 9, wherein the alkali metal cation is lithium cation.

11. The process of any one of claims 9 to 10, wherein R_1 is an amine protecting group.

12. The process of claim 11, wherein the amine protecting group is *tert*-butyloxycarbonyl (Boc), 9-fluorenylmethyloxycarbonyl (Fmoc), carboxybenzyl group (Cbz), *p*-methoxybenzyl carbonyl (Moz), acetyl (Ac), benzoyl (Bz), *p*-methoxybenzyl (PMB), 3,4-dimethoxybenzyl (DMPM), *p*-methoxyphenyl (PMP), 2-naphthylmethyl ether (Nap), tosyl (Ts), or trichloroethyl chloroformate (Troc).

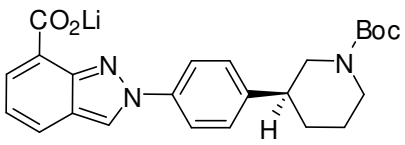
13. The process of claim 12, wherein the amine protecting group is *tert*-butyloxycarbonyl group (Boc).

14. The process of any one of claims 1 or 9 to 13, wherein R_2 is $C_{1\text{-}10}$ alkyl.

15. The process of claim 14, wherein R_2 is methyl.

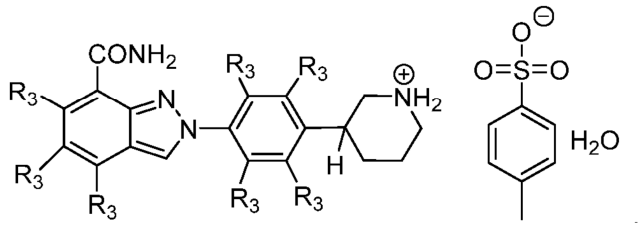
16. The process of any one of claims 1 or 9 to 15, wherein each R_3 is H.

17. The process of claim 16, wherein the salt of Formula (7) has a structure of Formula (8):



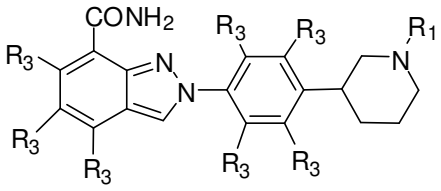
(8).

18. The process of claim 1, further comprising preparing a hydrate salt having the following structure,



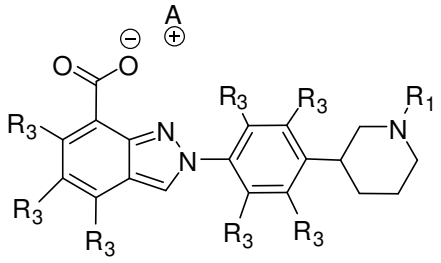
comprising:

(a) preparing a compound of Formula (9), or a salt thereof, comprising



(9),

contacting the salt of the compound of Formula (7), with a coupling reagent and ammonium hydroxide in the presence of an acid



(7),

wherein:

R_1 is H or an amine protecting group;

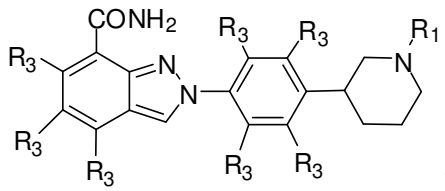
R_2 is H, $C_{1\text{-}10}$ alkyl, $C_{1\text{-}10}$ haloalkyl, or aryl;

each R_3 is independently H, halogen, $C_{1\text{-}10}$ alkyl, $C_{1\text{-}10}$ haloalkyl, or aryl; and

A is a cation;

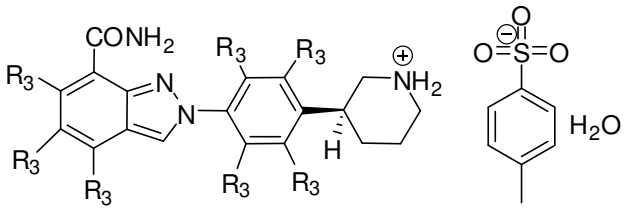
and

(b) contacting the compound of Formula (9), or a salt thereof,



with *para*-toluene sulfonic acid monohydrate (*p*TSA·H_2O).

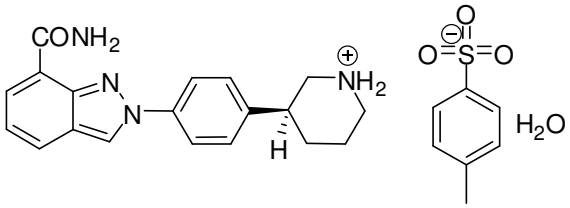
19. The process of claim 18, wherein the hydrate salt has the structure of Formula (11):



(11).

20. The process of any one of claims 18 to 19, wherein each R_3 is H.

21. The process of claim 20, wherein the salt of Formula (11) has a structure of Formula (12):



(12).