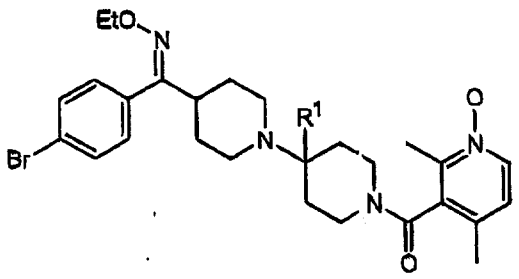
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CLAIMS

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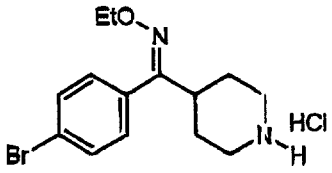
What is claimed is:

1. A process for preparing a compound of formula (I)



I

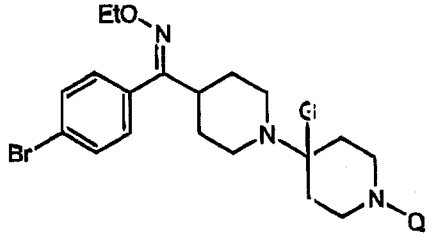
from a compound of formula II:



II

said process comprising:

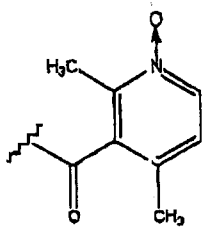
(a) converting the oxime of formula II to a compound of formula III:



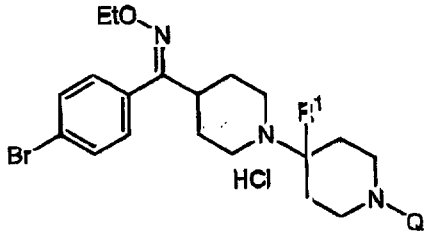
III

where G is a leaving group selected from the group consisting of CN, Y, OSO_2R^1, $OCOCY_3$ and benzotriazolyl, with R^1 being an alkyl or aryl group; Y is a halogen; and Q is an N-protecting moiety selected from the group consisting of allyl, methoxymethyl, benzyloxymethyl, CY_3CO (where Y is a halogen), benzyloxycarbonyl, trityl, pivaloyloxymethyl, tetrahydranyl, benzyl, di(p-methoxyphenyl)methyl, triphenylmethyl, (p-methoxyphenyl)diphenylmethyl, diphenylphosphinyl, benzenesulfenyl, methylcarbamate, 2-trimethylsilylethyl carbamate, 1-methyl-1-

phenylethyl carbamate, t-butyl carbamate ("t-Boc"), cyclobutyl carbamate, 1-methylcyclobutyl carbamate, adamantyl carbamate, vinyl carbamate, allyl carbamate, cinnamyl carbamate, 8-quinolyl carbamate, 4,5-diphenyl-3-oxazolin-2-one, benzyl carbamate, 9-anthrylmethyl carbamate, diphenylmethyl carbamate, *S*-benzylcarbamate, and the moiety:

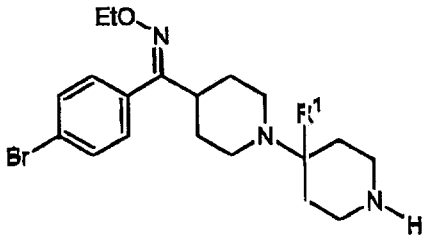


(b) reacting said compound of formula I I with a suitable Grignard reagent in a suitable solvent, followed by work-up, to yield a compound of formula IV:



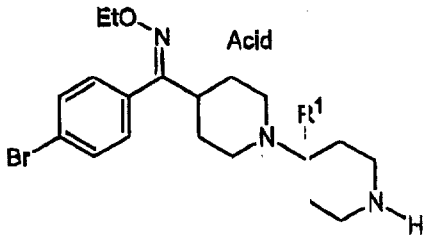
IV

(c) deprotecting said compound of formula IV to a compound of formula V:



V

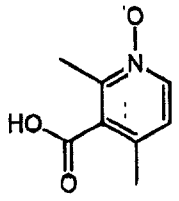
(d) forming the salt of the compound of formula V to form the compound of formula VI:



VI

and

(e) reacting said compound of formula VI with a compound of formula VII:

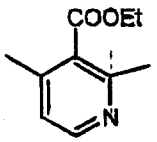


VII

to yield the compound of formula I.

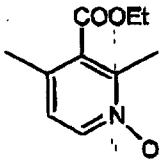
2. The process of claim 1, wherein G is CN, Cl is Boc and R^1 is methyl.

3. The process of claim 2, wherein said compound of formula VII is prepared from a compound of formula VIII:



VIII

said process comprising first oxidizing the compound of formula VIII to a compound of formula IX:



IX

followed by converting the compound of formula IX to the compound of formula VII.

4. The process of claim 2, wherein step (a) comprises (i) converting said compound of formula II to a free base by use of a basic compound and (ii) reacting said free base with a cyanating agent and N-Boc-piperidin-4-one, wherein said cyanating agent is selected from the group consisting of: HCN, acetone cyanohydrin; cyclohexanone cyanohydrin; a mixture of $(C_2H_5)_2AlCN$ and $Ti(OPr)_4$, a mixture of acetic acid, H_2SO_4; $NaHSO_4$, $KHSO_3$ or $Na_2S_2O_5$ and a cyanide source such as NaCN or KCN; trimethylsilylcyanide; glycolonitrile; mandelonitrile; glycinonitrile; acetone amino nitrile; and dimethylaminoacetonitrile.

5 The process of claim 4, wherein said cyanating agent is acetone cyanohydrin.

6. The process of claim 4, wherein said basic compound is selected from the group consisting of:

a metal hydroxide, oxide, carbonate and a bicarbonate, wherein the metal is selected from the group consisting of lithium, sodium, potassium, rubidium, cesium, beryllium, magnesium, calcium, strontium, barium, aluminum, indium, thallium, titanium, zirconium, cobalt, copper, silver, zinc, cadmium, mercury and cerium;

a metal salt of a C_1-C_{12} alkanol, a C_3-C_{12} cycloalkanol, a (C_3-C_8 cycloalkyl)C_1-C_6 alkanol;

ammonia, a C_1-C_{12} alkylamine, a di(C_1-C_{12} alkyl)amine, a C_3-C_8 cycloalkylamine, a N-(C_3-C_8 cycloalkyl)-N-(C_1-C_{12} alkyl)amine. a di(C_3-C_8 cycloalkyl)amine, a (C_3-C_8 cycloalkyl)C_1-C_6 alkylamine, a N-(C_3-C_8-cycloalkyl)C_1-C_6-alkyl-N-(C_1-C_{12} alkyl)amine, a N-(C_3-C_8 cycloalkyl)C_1-C_6 alkyl-N-(C_3-C_8 cycloalkyl)amine, a di[(C_1-C_6 cycloalkyl)C_1-C_6 alkyl[amine; and

a heterocyclic amine selected from the group consisting of imidazole, triazole, pyrrolidine, piperidine, heptamethyleneimine, morpholine, thiomorpholine and a 1-(C_1-C_4 alkyl)piperazine.

7. The process of claim 6, wherein said basic compound is selected from the group consisting of KOH, NaOH, Na_2CO_3, K_2CO_3, $NaHCO_3$, $KHCO_3$, tetramethylguanidine, DBU, diisopropylethylamine and mixtures thereof.

8. The process of claim 7, wherein said basic compound is K_2CO_3.

9. The process of claim 2, wherein said Grignard reagent in step (b) is selected from the group consisting of MeMgCl, MeMgBr and MeMgI.

10. The process of claim 9, wherein said Grignard reagent is MeMgCl.

11. The process of claim 2, wherein said solvent in step (b) is selected from toluene, xylene, chlorobenzene, or dichlorobenzene alone or in admixture with a solvent selected from the group consisting of a C_5-C_{12} alkyl ether, 1,2-dimethoxyethane, 1.2-diethoxyethane, diglyme, 1.4-dioxane and tetrahydrofuran.

12. The process of claim 2, wherein said work-up in step (b) is treatment with an acid in an organic solvent.

13. The process of claim 12, wherein said acid is HCl and said solvent is ethyl acetate.

14. The process of claim 2, wherein said deprotection in step (c) is performed using HCl, acetic acid, trifluoroacetic acid or mixtures thereof.

15. The process of claim 2, wherein said salt in step (d) is an acetate, oxalate, tartarate, citrate or a benzoate.

16. The process of claim 15, wherein said salt is an oxalate.

17. The process of claim 2, wherein said reaction in step (e) is performed using a coupling agent selected from the group consisting of ethyl chloroformate; isobutyl chloroformate; methanesulfonyl chloride; toluenesulfonyl chloride; diethyl chlorophosphonate; diethyl cyanophosphite; 1,1-carbonyldiimidazole; N,N-dicyclohexylcarbodiimide ; 7-azabenzotriazol-1-yl)oxytris(dimethylamonino)phosphonium hexafluorophosphate; benzotriazol-1-yloxytris(diemthylamino)phosphonium hexafluorophosphate; bis(2-oxo-3-oxazolidinyl)phosphinic chloride; bromotris(dimethylamino)phosphonium hexafluorophosphate; diphenylphosphinic chloride; propanephosphoric anhydride; bis(tetramethylenefluoroformamidinium)hexafluorophosphate; 2-chloro-1,3-dimethylimidazolidinium hexafluorophosphate; O-(7-azabenzotriazol-1-yl)-1,3-dimethyl-1,3-trimethyleneuronium hexafluorophosphate; O-(7-azabenzotriazol-1-yl)1,1,3,3-bis(tetramethyelne)uronium hexafluorophosphate; S-(7-azabenzotriazol-1-yl)-1,1,3,3-bis(tetramethylene)thiouronium hexafluorophosphate; O-(7-azabenzotriazol-1yl)1,1,3,3-bis(tetramethylene)uronium hexafluorophosphate; O-(7-azabenzotriazol-1-yl)-1,1,3,3-tetramethyluronium hexafluorophosphate; O-(benzotriazol-1-yl)-1,1,3,3-bis(pentamethylene)uronium hexafluorophosphate; O-(benzotriazol-1-yl)-1,1,3,3(tetramethylene)uronium hexafluorophosphate; O-(benzotriazolyl-1-yl)-1,1,3,3-tetramethyluronium hexafluorophosphate; S-(1-Oxido-2-pyridinyl)-1,1,3,3-tetramethylthiouronium hexafluorophosphate; (7-azabenzotriazol-1-yl-)oxytris(pyrrolidino)phosphonium hexafluorophosphate; benzotriazol-1-yloxy-tripyrrolidinophosphonium hexafluorophosphate; bromotripyrrolidinophosphonium hexafluorophosphate; chlorotripyrrolidinophosphonium hexafluorophosphate; chloro-1,1,3,3-bis(tetramethylene)formamidinium hexafluorophosphate; O-(benzotriazol-1-yl)-1,1,3,3-tetramethyluronium tetrafluoroborate; O-(3,4-dihydro-4-oxo-1,2,3-benzotriazin-3-yl)1,1,3,3-tetramethyluronium tetrafluoroborate; tetramethylfluoroformamidinium hexafluorophosphate; S-(1-oxido-2-pyrodinyl)-

1,1,3,3-tetramethylthiouronium hexafluorophosphate; and 1-ethyl-3-(3-dimethylaminopropyl)-carbodiimide hydrochloride salt with or without 1-hydroxybenzotriazole hydrate.

18. The process of claim 17, wherein said coupling agent is 1-ethyl-3-(3-dimethylaminopropyl)-carbodiimide hydrochloride salt with 1-hydroxybenzotriazole hydrate, ans the coupling is performed in the presence of a solvent selected from the group consisting of a hydrocarbon, ether, alcohol, ketone, ester and mixtures thereof.

19. The process of claim 18, wherein said solvent for coupling is a mixture of an alcohol and an ether.

20. The process of claim 19, wherein said alcohol is butanol and said ether is THF.

21. The process of claim 3, wherein said oxidation of the compound of formula VIII is performed using a reagent selected from the group consisting of H_2O_2 ; inorganic peroxide; organic peroxide; peroxide-containing complexes; inorganic peroxide; inorganic oxidizing reagent; peracid; peracid-generating complex; and a peroxy compound, in a solvent.

22. The process of claim 21, wherein said reagent is m-chloroperbenzoic acid; a combination of phthalic anhydride and urea-H_2O_2; KMnO4; oxone; ozone; inorganic peracids; peracetic acid; Na_2WO_4; a mixture of benzonitrile, H_2O_2 and methanol; or a mixture of trifluoroacetic acid, H_2O_2 and H_2SO_4.

23. The process of claim 22, wherein said reagent is the combination of phthalic anhydride and urea-H_2O_2.

24. The process of claim 21, wherein said solvent for oxidation is selected from the group consisting of a C_3-C_9 alkanone, a C_4-C_{10} cycloalkanone, a C_5-C_{12} alkyl ether, 1,2-dimethoxyethane, 1,2-diethoxyethane, acetonitrile, benzonitrile, diglyme, tetrahydrofuran, 1,4-dioxan, benzene, toluene, xylene, chlorobenzene, dichlorobenzene, acetonitrile, dimethyl sulphoxide, sulpholane and mixtures thereof.

25. The process of claim 24, wherein said solvent is acetonitrile.

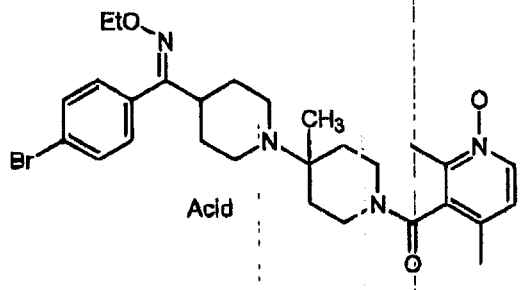
26. The process of claim 3, wherein said conversion of the compound of formula IX to the compound of formula VII is base-catalyzed.

27. The process of claim 26, wherein said base is selected from the group consisting of a metal hydroxide, oxide, carbonate and a bicarbonate, wherein the metal is selected from the group consisting of lithium, sodium, potassium, rubidium,

cesium, beryllium, magnesium, calcium, strontium, barium, aluminum, indium, thallium, titanium, zirconium, cobalt, copper, silver, zinc, cadmium, mercury and cerium; and a metal salt of a C_1-C_{12} alkanol, a C_3-C_{12} cycloalkanol, a (C_3-C_8 cycloalkyl)C_1-C_6 alkanol.

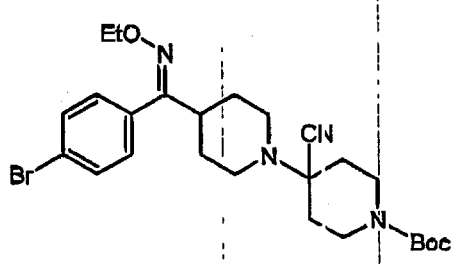
28. The process of claim 27, wherein said base is LiOH.

29. The process of claim 2, wherein said compound of formula I is further converted to an acid salt of formula X:



X

30. A compound of the formula:



including isomers of said compound.

31. A compound of the formula:

