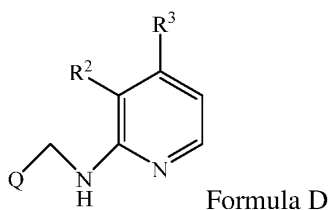
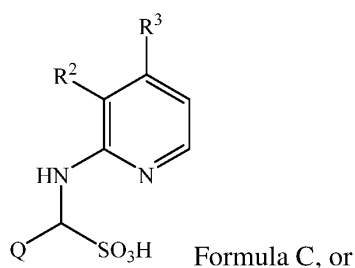
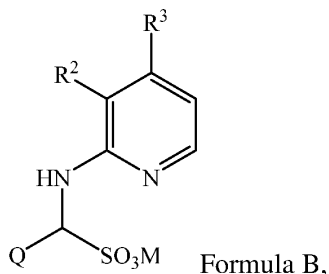


CLAIMS

What is claimed is:

1. A method of preparing a compound of Formula B, Formula C, or Formula D:



wherein Q is a 3- to 10- membered ring system containing ring members selected from carbon atoms and up to 4 heteroatoms independently selected from up to 2 O, up to 2 S, and up to 4 N, wherein up to 3 carbon atom ring members are independently selected from C(=O) and C(=S) and such ring system is optionally substituted with up to 5 substituents independently selected from R^A;

each R^A is independently halogen, hydroxy, SF₅, C(O)(C₁-C₈ alkyl), C(O)O(C₁-C₈ alkyl), N(C₁-C₈ alkyl)(C₁-C₈ alkyl), C(O)N(C₁-C₈ alkyl)(C₁-C₈ alkyl), C(=S)N(C₁-C₈ alkyl)(C₁-C₈ alkyl), SO₂N(C₁-C₈ alkyl)(C₁-C₈ alkyl), OC(O)(C₁-C₈ alkyl), OC(O)O(C₁-C₈ alkyl), OC(O)N(C₁-C₈ alkyl)(C₁-C₈ alkyl), N(C₁-C₈ alkyl)C(O)O(C₁-C₈ alkyl), N(C₁-C₈ alkyl)C(O)N(C₁-C₈ alkyl)(C₁-C₈ alkyl), OSO₂(C₁-C₈ alkyl), OSO₂N(C₁-C₈ alkyl)(C₁-C₈ alkyl), N(C₁-C₈ alkyl)SO₂(C₁-C₈ alkyl), or C₁-C₈ alkyl, C₁-C₈ haloalkyl, C₂-C₈ alkenyl, C₂-C₈ alkynyl, C₃-C₁₀ cycloalkyl, C₃-C₁₀ halocycloalkyl, C₄-C₁₀ alkylcycloalkyl, C₄-C₁₀

cycloalkylalkyl, C₆-C₁₄ cycloalkylcycloalkyl, C₅-C₁₀ alkylcycloalkylalkyl, C₃-C₈ cycloalkenyl, C₁-C₈ alkoxy, C₁-C₈ haloalkoxy, C₃-C₈ cycloalkoxy, C₃-C₈ halocycloalkoxy, C₄-C₁₀ cycloalkylalkoxy, C₂-C₈ alkenyloxy, C₂-C₈ alkynyloxy, C₁-C₈ alkylthio, C₁-C₈ alkylsulfinyl, C₁-C₈ alkylsulfonyl, C₃-C₈ cycloalkylthio, C₃-C₈ cycloalkylsulfinyl, C₃-C₈ cycloalkylsulfonyl, C₄-C₁₀ cycloalkylalkylthio, C₄-C₁₀ cycloalkylalkylsulfinyl, C₄-C₁₀ cycloalkylalkylsulfonyl, C₂-C₈ alkenylthio, C₂-C₈ alkenylsulfinyl, C₂-C₈ alkenylsulfonyl, C₂-C₈ alkynylthio, C₂-C₈ alkynylsulfinyl or C₂-C₈ alkynylsulfonyl; or

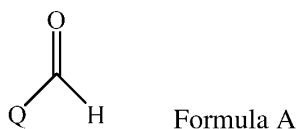
two R^A substituents on adjacent ring atoms are taken together to form a 5- to 7-membered carbocyclic or heterocyclic ring, each ring containing ring members selected from carbon atoms and up to 3 heteroatoms independently selected from up to 2 O, up to 2 S, and up to 3 N, wherein up to 2 carbon atom ring members are independently selected from C(O) and C(=S) and such ring is optionally substituted with up to 3 substituents independently selected from the group consisting of halogen, hydroxy, C₁-C₄ alkyl, C₁-C₄ haloalkyl, C₂-C₄ alkenyl, C₂-C₄ haloalkenyl, C₂-C₄ alkynyl, C₂-C₄ haloalkynyl, C₃-C₇ cycloalkyl, C₃-C₇ halocycloalkyl, C₄-C₈ alkylcycloalkyl, C₄-C₈ haloalkylcycloalkyl, C₄-C₈ cycloalkylalkyl, C₄-C₈ halocycloalkylalkyl, C₁-C₈ alkoxy, C₁-C₈ haloalkoxy, C₂-C₈ alkoxycarbonyl, C₂-C₆ haloalkoxycarbonyl, C₂-C₆ alkylcarbonyl and C₂-C₆ haloalkylcarbonyl;

each of R² and R³ is independently H, F, C₁-C₄ alkyl or C₁-C₄ haloalkyl; and

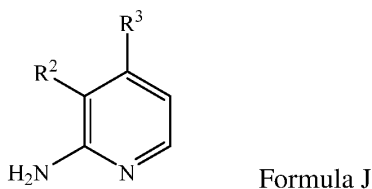
M is an inorganic cation or organic cation;

comprising:

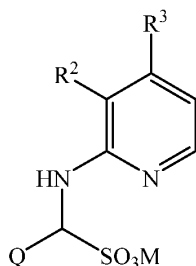
(a) contacting a compound of Formula A



with a compound of Formula J



and a salt comprising at least one bisulfite salt, at least one metabisulfite salt, or mixtures thereof to form a compound of Formula B

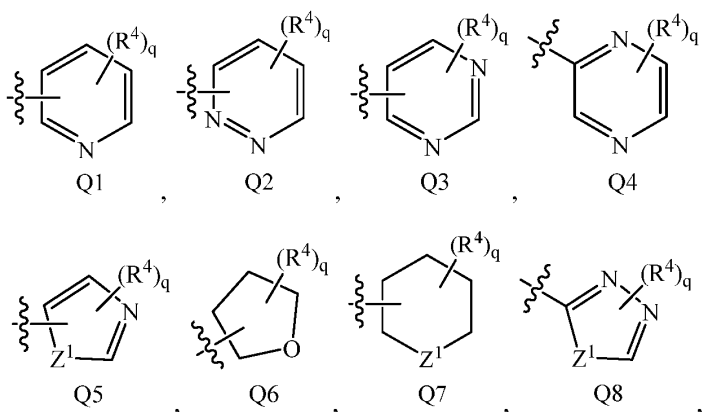


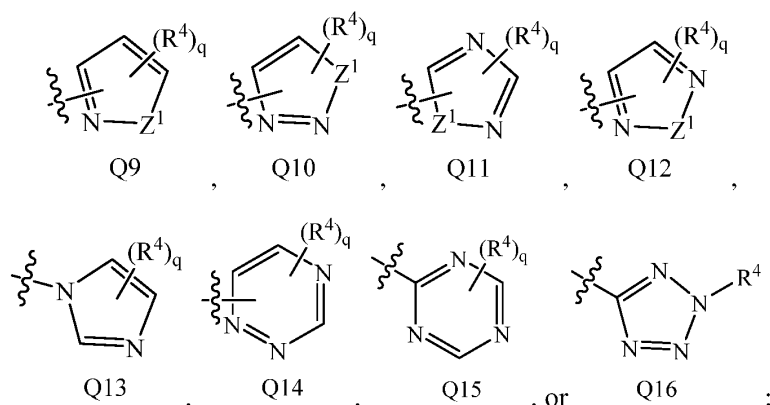
Formula B,

wherein M is at least one inorganic cation, at least one organic cation, or mixtures thereof derived from the salt.

2. The method of claim 1, wherein Q is triazolyl, pyridinyl, or pyrimidinyl, each optionally substituted with up to 2 substitutions independently selected from the group consisting of halogen, C₁-C₈ alkyl, C₁-C₈ haloalkyl, C₃-C₁₀ cycloalkyl, C₃-C₁₀ halocycloalkyl, C₁-C₈ alkoxy, C₁-C₈ haloalkoxy, C₃-C₈ cycloalkoxy, C₃-C₈ halocycloalkoxy, and C₄-C₁₀ cycloalkylalkoxy.

3. The method of claim 1, wherein Q is selected from one of the following ring structures:





wherein Z^1 is O, S, or NR^5 ;

each R^4 or R^5 is independently H, halogen, hydroxy, SF_5 , $C(O)(C_1-C_8 \text{ alkyl})$,

- 5 $C(O)O(C_1-C_8 \text{ alkyl})$, $N(C_1-C_8 \text{ alkyl})(C_1-C_8 \text{ alkyl})$, $C(O)N(C_1-C_8 \text{ alkyl})(C_1-C_8 \text{ alkyl})$, $C(=S)N(C_1-C_8 \text{ alkyl})(C_1-C_8 \text{ alkyl})$, $SO_2N(C_1-C_8 \text{ alkyl})(C_1-C_8 \text{ alkyl})$, $OC(O)(C_1-C_8 \text{ alkyl})$, $OC(O)O(C_1-C_8 \text{ alkyl})$, $OC(O)N(C_1-C_8 \text{ alkyl})(C_1-C_8 \text{ alkyl})$, $N(C_1-C_8 \text{ alkyl})C(O)O(C_1-C_8 \text{ alkyl})$, $N(C_1-C_8 \text{ alkyl})C(O)N(C_1-C_8 \text{ alkyl})(C_1-C_8 \text{ alkyl})$, $OSO_2(C_1-C_8 \text{ alkyl})$, $OSO_2N(C_1-C_8 \text{ alkyl})(C_1-C_8 \text{ alkyl})$, $N(C_1-C_8 \text{ alkyl})SO_2(C_1-C_8 \text{ alkyl})$, or $C_1-C_8 \text{ alkyl}$, $C_1-C_8 \text{ haloalkyl}$, C_2-C_8
- 10 alkenyl , $C_2-C_8 \text{ alkynyl}$, $C_3-C_{10} \text{ cycloalkyl}$, $C_3-C_{10} \text{ halocycloalkyl}$, $C_4-C_{10} \text{ alkylcycloalkyl}$, $C_4-C_{10} \text{ cycloalkylalkyl}$, $C_6-C_{14} \text{ cycloalkylcycloalkyl}$, $C_5-C_{10} \text{ alkylcycloalkylalkyl}$, $C_3-C_8 \text{ cycloalkenyl}$, $C_1-C_8 \text{ alkoxy}$, $C_1-C_8 \text{ haloalkoxy}$, $C_3-C_8 \text{ cycloalkoxy}$, $C_3-C_8 \text{ halocycloalkoxy}$, $C_4-C_{10} \text{ cycloalkylalkoxy}$, $C_2-C_8 \text{ alkenyloxy}$, $C_2-C_8 \text{ alkynyloxy}$, $C_1-C_8 \text{ alkylthio}$, $C_1-C_8 \text{ alkylsulfinyl}$, $C_1-C_8 \text{ alkylsulfonyl}$, $C_3-C_8 \text{ cycloalkylthio}$, $C_3-C_8 \text{ cycloalkylsulfinyl}$, C_3-C_8
- 15 $\text{cycloalkylsulfonyl}$, $C_4-C_{10} \text{ cycloalkylalkylthio}$, $C_4-C_{10} \text{ cycloalkylalkylsulfinyl}$, $C_4-C_{10} \text{ cycloalkylalkylsulfonyl}$, $C_2-C_8 \text{ alkenylthio}$, $C_2-C_8 \text{ alkenylsulfinyl}$, $C_2-C_8 \text{ alkenylsulfonyl}$, $C_2-C_8 \text{ alkynylthio}$, $C_2-C_8 \text{ alkynylsulfinyl}$ or $C_2-C_8 \text{ alkynylsulfonyl}$; and

each q is independently 0, 1, or 2.

- 20 4. The method of claim 1, wherein the salt comprises sodium bisulfite, potassium bisulfite, ammonium bisulfite, trimethylammonium bisulfite, triethylammonium bisulfite, sodium metabisulfite, potassium metabisulfite, ammonium metabisulfite, trimethylammonium metabisulfite, triethylammonium metabisulfite, or mixtures thereof.

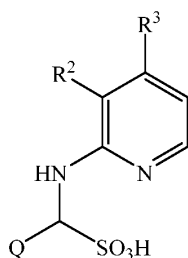
5. The method of claim 1, wherein **M** is sodium, potassium, ammonium, trimethylammonium, triethylammonium, lithium, or mixtures thereof.

6. The method of claim 1, wherein Step (a) is performed in the presence of a solvent comprising water, C₁-C₄ monohydric alcohol, C₂-C₆ polyhydric alcohol, or mixtures thereof.

7. The method of claim 1, further comprising:

(b) contacting the compound of Formula **B** from Step (a) with an acid comprising at least one inorganic acid, at least one organic acid, or mixtures thereof to form a compound of

10 Formula **C**:



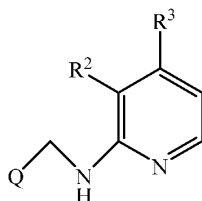
Formula C.

8. The method of claim 7, wherein the acid comprises an inorganic acid selected from hydrochloric acid (HCl), hydrobromic acid (HBr), phosphoric acid (H₃PO₄), sulfuric acid (H₂SO₄), and boric acid (H₃BO₃).

9. The method of claim 7, wherein the acid comprises an organic acid selected from formic acid, acetic acid, propionic acid, citric acid, malic acid, and sulfonic acids.

10. The method of claim 7, further comprising:

(c) contacting the compound of Formula **B** from Step (a) or the compound of Formula **C** from Step (b) with a reducing agent to form the compound of Formula **D**



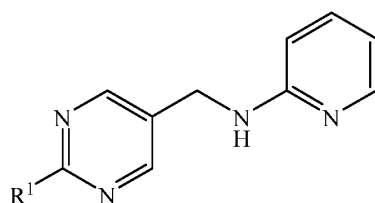
Formula D.

11. The method of claim 10, wherein the reducing agent comprises a borohydride reducing agent selected from sodium borohydride (NaBH_4), sodium triacetoxyborohydride ($\text{NaBH}(\text{CH}_3\text{COO})_3$), lithium borohydride (LiBH_4), potassium borohydride (KBH_4), or mixtures thereof.

12. The method of claim 10, wherein the reducing agent comprises lithium aluminium hydride (LiAlH_4), diisobutylaluminium hydride (DIBALH), or mixtures thereof.

10

13. The method of claim 10 for preparing a compound of Formula 1

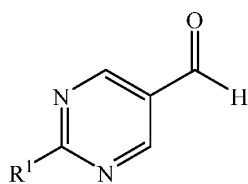


Formula 1

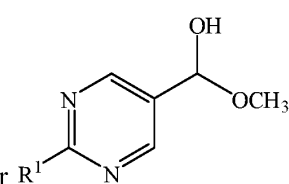
wherein R^1 is H or $\text{C}_1\text{-C}_3$ alkyl,

- 15 comprising:

(A) contacting a compound of Formula 2 or Formula 2a

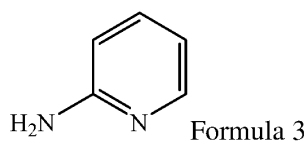


Formula 2 or

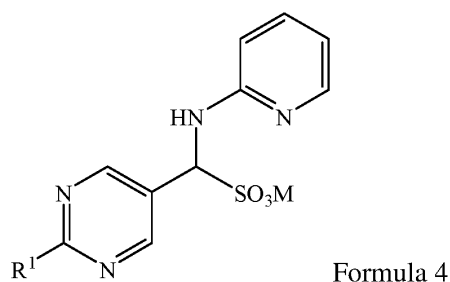


Formula 2a

with 2-aminopyridine (3)

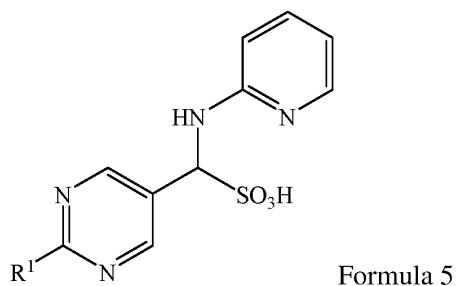


and sodium bisulfite in the presence of water to form a compound of Formula 4



wherein R¹ is H or C₁-C₃ alkyl and M is Na or K or Li;

- 5 (B) contacting the compound of Formula 4 with an acid to form a compound of Formula 5



wherein R¹ is C₁-C₃ alkyl; and

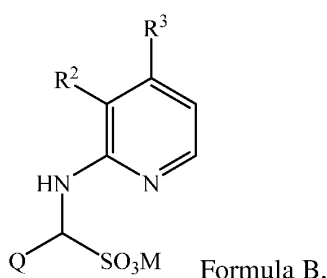
- (C) contacting the compound of Formula 4 or the compound of Formula 5 with a borohydride reducing agent in the presence of a solvent comprising water, C₁-C₄ monohydric alcohol, C₂-C₆ polyhydric alcohol, or mixtures thereof in the optional presence of an inorganic or organic base to form the compound of Formula 1.
- 10

14. The method of claim 13, wherein Step (C) further comprises
- (i) contacting the reaction mixture with water and adjusting the pH of the reaction mixture
- 15 with acid to pH less than 5,
- (ii) separating resulting aqueous and organic phases of the reaction mixture,
- (iii) adjusting the pH of the aqueous phase to pH 5 or greater with aqueous base, and

(iv) extracting the compound of Formula **1** into an organic solvent selected from C₇-C₁₀ aromatic hydrocarbons, haloalkanes, halogenated benzenes, C₅-C₁₀ aliphatic hydrocarbons, and C₅-C₁₀ cycloaliphatic hydrocarbons.

15. The method of claim 14, wherein the organic solvent of Step (iv) is toluene, dichloromethane, 1,2-dichloroethane or 1-chlorobutane.

16. A method for preparing a compound of Formula **B**:



- 10 wherein Q is a 3- to 10- membered ring system containing ring members selected from carbon atoms and up to 4 heteroatoms independently selected from up to 2 O, up to 2 S, and up to 4 N, wherein up to 3 carbon atom ring members are independently selected from C(=O) and C(=S) and such ring system is optionally substituted with up to 5 substituents independently selected from R^A;

- 15 each R^A is independently halogen, hydroxy, SF₅, C(O)(C₁-C₈ alkyl), C(O)O(C₁-C₈ alkyl), N(C₁-C₈ alkyl)(C₁-C₈ alkyl), C(O)N(C₁-C₈ alkyl)(C₁-C₈ alkyl), C(=S)N(C₁-C₈ alkyl)(C₁-C₈ alkyl), SO₂N(C₁-C₈ alkyl)(C₁-C₈ alkyl), OC(O)(C₁-C₈ alkyl), OC(O)O(C₁-C₈ alkyl), OC(O)N(C₁-C₈ alkyl)(C₁-C₈ alkyl), N(C₁-C₈ alkyl)C(O)O(C₁-C₈ alkyl), N(C₁-C₈ alkyl)C(O)N(C₁-C₈ alkyl)(C₁-C₈ alkyl), OSO₂(C₁-C₈ alkyl), OSO₂N(C₁-C₈ alkyl)(C₁-C₈ alkyl), N(C₁-C₈ alkyl)SO₂(C₁-C₈ alkyl), or C₁-C₈ alkyl, C₁-C₈ haloalkyl, C₂-C₈ alkenyl, C₂-C₈ alkynyl, C₃-C₁₀ cycloalkyl, C₃-C₁₀ halocycloalkyl, C₄-C₁₀ alkylcycloalkyl, C₄-C₁₀ cycloalkylalkyl, C₆-C₁₄ cycloalkylcycloalkyl, C₅-C₁₀ alkylcycloalkylalkyl, C₃-C₈ cycloalkenyl, C₁-C₈ alkoxy, C₁-C₈ haloalkoxy, C₃-C₈ cycloalkoxy, C₃-C₈ halocycloalkoxy, C₄-C₁₀ cycloalkylalkoxy, C₂-C₈ alkenyloxy, C₂-C₈ alkynyloxy, C₁-C₈ alkylthio, C₁-C₈ alkylsulfinyl, C₁-C₈ alkylsulfonyl, C₃-C₈ cycloalkylthio, C₃-C₈ cycloalkylsulfinyl, C₃-C₈ cycloalkylsulfonyl, C₄-C₁₀ cycloalkylalkylthio, C₄-C₁₀ cycloalkylalkylsulfinyl, C₄-C₁₀

cycloalkylalkylsulfonyl, C₂-C₈ alkenylthio, C₂-C₈ alkenylsulfinyl, C₂-C₈ alkenylsulfonyl, C₂-C₈ alkynylthio, C₂-C₈ alkynylsulfinyl or C₂-C₈ alkynylsulfonyl; or

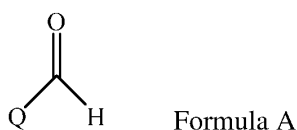
two R^A substituents on adjacent ring atoms are taken together to form a 5- to 7-membered carbocyclic or heterocyclic ring, each ring containing ring members selected from carbon atoms and up to 3 heteroatoms independently selected from up to 2 O, up to 2 S, and up to 3 N, wherein up to 2 carbon atom ring members are independently selected from C(O) and C(=S) and such ring is optionally substituted with up to 3 substituents independently selected from the group consisting of halogen, hydroxy, C₁-C₄ alkyl, C₁-C₄ haloalkyl, C₂-C₄ alkenyl, C₂-C₄ haloalkenyl, C₂-C₄ alkynyl, C₂-C₄ haloalkynyl, C₃-C₇ cycloalkyl, C₃-C₇ halocycloalkyl, C₄-C₈ alkylcycloalkyl, C₄-C₈ haloalkylcycloalkyl, C₄-C₈ cycloalkylalkyl, C₄-C₈ halocycloalkylalkyl, C₁-C₈ alkoxy, C₁-C₈ haloalkoxy, C₂-C₈ alkoxycarbonyl, C₂-C₆ haloalkoxycarbonyl, C₂-C₆ alkylcarbonyl and C₂-C₆ haloalkylcarbonyl;

each of R² and R³ is independently H, F, C₁-C₄ alkyl or C₁-C₄ haloalkyl; and

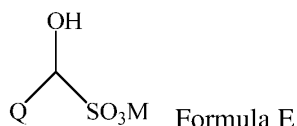
M is an inorganic cation or organic cation;

comprising:

(a) contacting a compound of Formula A

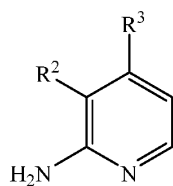


with a salt comprising at least one bisulfite salt, at least one metabisulfite salt, or mixtures thereof to form a compound of Formula E

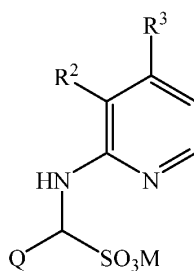


wherein M is at least one inorganic cation, at least one organic cation, or mixtures thereof derived from the salt; and

(b) contacting the compound of Formula E from Step (a) with a compound of Formula J to form a compound of Formula B

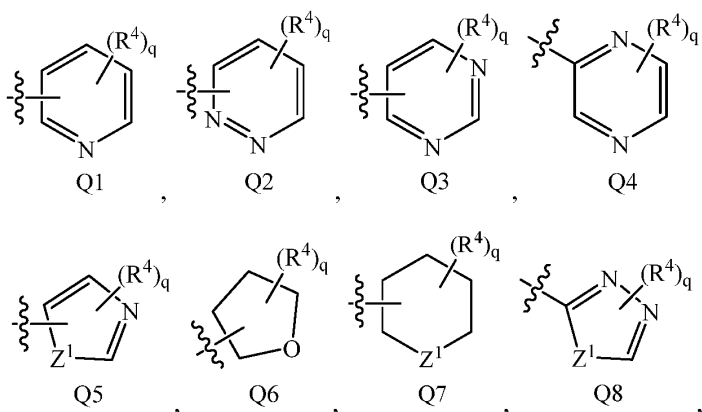


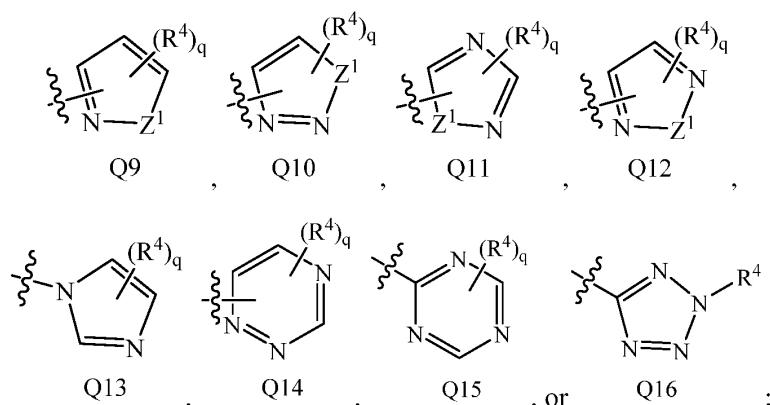
Formula J



Formula B.

17. The method of claim 16, wherein Q is triazolyl, pyridinyl, or pyrimidinyl, each optionally substituted with up to 2 substitutions independently selected from the group consisting of halogen, C₁-C₈ alkyl, C₁-C₈ haloalkyl, C₃-C₁₀ cycloalkyl, C₃-C₁₀ halocycloalkyl, C₁-C₈ alkoxy, C₁-C₈ haloalkoxy, C₃-C₈ cycloalkoxy, C₃-C₈ halocycloalkoxy, and C₄-C₁₀ cycloalkylalkoxy.
18. The method of claim 16, wherein Q is selected from one of the following ring structures:





wherein Z^1 is O, S, or NR^5 ;

each R^4 or R^5 is independently H, halogen, hydroxy, SF_5 , $C(O)(C_1-C_8 \text{ alkyl})$,

- 5 $C(O)O(C_1-C_8 \text{ alkyl})$, $N(C_1-C_8 \text{ alkyl})(C_1-C_8 \text{ alkyl})$, $C(O)N(C_1-C_8 \text{ alkyl})(C_1-C_8 \text{ alkyl})$, $C(=S)N(C_1-C_8 \text{ alkyl})(C_1-C_8 \text{ alkyl})$, $SO_2N(C_1-C_8 \text{ alkyl})(C_1-C_8 \text{ alkyl})$, $OC(O)(C_1-C_8 \text{ alkyl})$, $OC(O)O(C_1-C_8 \text{ alkyl})$, $OC(O)N(C_1-C_8 \text{ alkyl})(C_1-C_8 \text{ alkyl})$, $N(C_1-C_8 \text{ alkyl})C(O)O(C_1-C_8 \text{ alkyl})$, $N(C_1-C_8 \text{ alkyl})C(O)N(C_1-C_8 \text{ alkyl})(C_1-C_8 \text{ alkyl})$, $OSO_2(C_1-C_8 \text{ alkyl})$, $OSO_2N(C_1-C_8 \text{ alkyl})(C_1-C_8 \text{ alkyl})$, $N(C_1-C_8 \text{ alkyl})SO_2(C_1-C_8 \text{ alkyl})$, or $C_1-C_8 \text{ alkyl}$, $C_1-C_8 \text{ haloalkyl}$, C_2-C_8
- 10 alkenyl , $C_2-C_8 \text{ alkynyl}$, $C_3-C_{10} \text{ cycloalkyl}$, $C_3-C_{10} \text{ halocycloalkyl}$, $C_4-C_{10} \text{ alkylcycloalkyl}$, $C_4-C_{10} \text{ cycloalkylalkyl}$, $C_6-C_{14} \text{ cycloalkylcycloalkyl}$, $C_5-C_{10} \text{ alkylcycloalkylalkyl}$, $C_3-C_8 \text{ cycloalkenyl}$, $C_1-C_8 \text{ alkoxy}$, $C_1-C_8 \text{ haloalkoxy}$, $C_3-C_8 \text{ cycloalkoxy}$, $C_3-C_8 \text{ halocycloalkoxy}$, $C_4-C_{10} \text{ cycloalkylalkoxy}$, $C_2-C_8 \text{ alkenyloxy}$, $C_2-C_8 \text{ alkynyloxy}$, $C_1-C_8 \text{ alkylthio}$, $C_1-C_8 \text{ alkylsulfinyl}$, $C_1-C_8 \text{ alkylsulfonyl}$, $C_3-C_8 \text{ cycloalkylthio}$, $C_3-C_8 \text{ cycloalkylsulfinyl}$, C_3-C_8
- 15 $\text{cycloalkylsulfonyl}$, $C_4-C_{10} \text{ cycloalkylalkylthio}$, $C_4-C_{10} \text{ cycloalkylalkylsulfinyl}$, $C_4-C_{10} \text{ cycloalkylalkylsulfonyl}$, $C_2-C_8 \text{ alkenylthio}$, $C_2-C_8 \text{ alkenylsulfinyl}$, $C_2-C_8 \text{ alkenylsulfonyl}$, $C_2-C_8 \text{ alkynylthio}$, $C_2-C_8 \text{ alkynylsulfinyl}$ or $C_2-C_8 \text{ alkynylsulfonyl}$; and

each q is independently 0, 1, or 2.

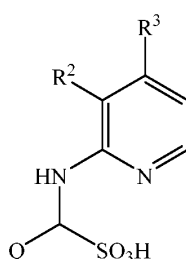
- 20 19. The method of claim 16, wherein the salt comprises sodium bisulfite, potassium bisulfite, ammonium bisulfite, trimethylammonium bisulfite, triethylammonium bisulfite, sodium metabisulfite, potassium metabisulfite, ammonium metabisulfite, trimethylammonium metabisulfite, triethylammonium metabisulfite, or mixtures thereof.

20. The method of claim 16, wherein **M** is sodium, potassium, ammonium, trimethylammonium, triethylammonium, lithium, or mixtures thereof.

21. The method of claim 16, wherein Step (a) is performed in the presence of a solvent comprising water, C₁-C₄ monohydric alcohol, C₂-C₆ polyhydric alcohol, or mixtures thereof.

22. The method of claim 16, further comprising:

(c) contacting the compound of Formula **B** from Step (b) with an acid selected from at least one inorganic acid, at least one organic acid, or mixtures thereof to form a compound of Formula **C**:



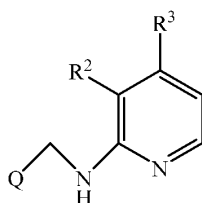
Formula C.

23. The method of claim 22, wherein the acid comprises an inorganic acid selected from hydrochloric acid (HCl), hydrobromic acid (HBr), phosphoric acid (H₃PO₄), sulfuric acid (H₂SO₄), and boric acid (H₃BO₃).

24. The method of claim 22, wherein the acid comprises an organic acid selected from formic acid, acetic acid, propionic acid, citric acid, malic acid, and sulfonic acids.

25. The method of claim 22, further comprising:

(d) contacting the compound of Formula **B** from Step (b) or the compound of Formula **C** from Step (c) with a reducing agent to form the compound of Formula **D**



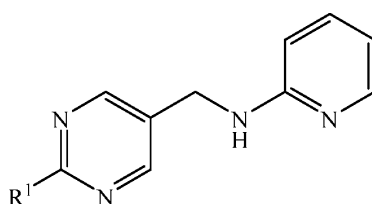
Formula D.

26. The method of claim 25, wherein the reducing agent comprises a borohydride reducing agent selected from sodium borohydride (NaBH_4), sodium triacetoxyborohydride ($\text{NaBH}(\text{CH}_3\text{COO})_3$), lithium borohydride (LiBH_4), potassium borohydride (KBH_4), or mixtures thereof.

27. The method of claim 25, wherein the reducing agent comprises lithium aluminium hydride (LiAlH_4), diisobutylaluminium hydride (DIBALH), or mixtures thereof.

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28. The method of claim 25 for preparing a compound of Formula 1

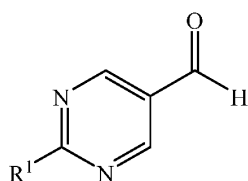


Formula 1

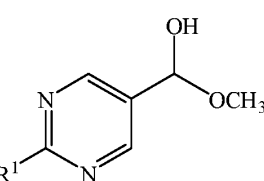
wherein R^1 is H or $\text{C}_1\text{-C}_3$ alkyl,

comprising:

- 15 (A) contacting a compound of Formula 2 or Formula 2a

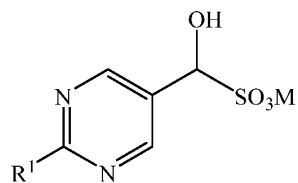


Formula 2 or



Formula 2a

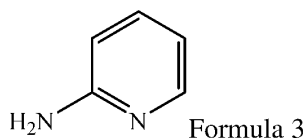
with a salt consisting of a bisulfite salt, a metabisulfite salt, or a mixture of a bisulfite salt and a metabisulfite salt in the presence of a solvent S1 to form a compound of Formula 6



Formula 6

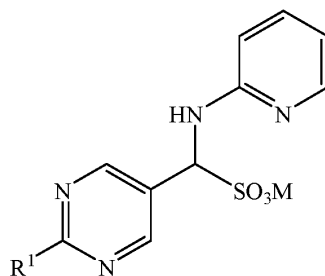
wherein R¹ is H or C₁-C₃ alkyl and M is an inorganic or organic cation;

(B) contacting the compound of Formula 6 with 2-aminopyridine (3)



Formula 3

in the presence of a solvent S1A to form a compound of Formula 4

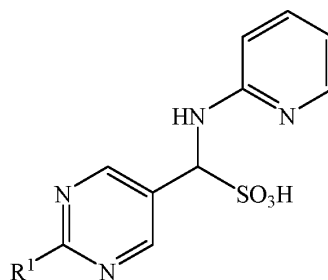


Formula 4

wherein R¹ is H or C₁-C₃ alkyl and M is an inorganic or organic cation;

(C) contacting the compound of Formula 4 with an inorganic or organic acid in the presence

of a solvent S2 to form a compound of Formula 5



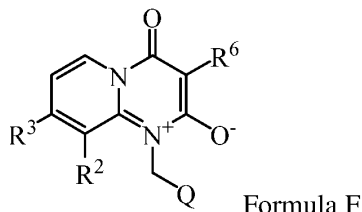
Formula 5

wherein R¹ is H or C₁-C₃ alkyl; and

(D) contacting the compound of Formula 5 with a borohydride reducing agent in the presence of an inorganic or organic base and a solvent S3 to form the compound of Formula

1.

29. A method for preparing a compound of Formula F



wherein Q is a 3- to 10- membered ring system containing ring members selected from carbon atoms and up to 4 heteroatoms independently selected from up to 2 O, up to 2 S, and up to 4 N, wherein up to 3 carbon atom ring members are independently selected from C(=O) and C(=S) and such ring system is optionally substituted with up to 5 substituents independently selected from R^A;

each R^A is independently halogen, hydroxy, SF₅, C(O)(C₁-C₈ alkyl), C(O)O(C₁-C₈ alkyl), N(C₁-C₈ alkyl)(C₁-C₈ alkyl), C(O)N(C₁-C₈ alkyl)(C₁-C₈ alkyl), C(=S)N(C₁-C₈ alkyl)(C₁-C₈ alkyl), SO₂N(C₁-C₈ alkyl)(C₁-C₈ alkyl), OC(O)(C₁-C₈ alkyl), OC(O)O(C₁-C₈ alkyl), OC(O)N(C₁-C₈ alkyl)(C₁-C₈ alkyl), N(C₁-C₈ alkyl)C(O)O(C₁-C₈ alkyl), N(C₁-C₈ alkyl)C(O)N(C₁-C₈ alkyl)(C₁-C₈ alkyl), OSO₂(C₁-C₈ alkyl), OSO₂N(C₁-C₈ alkyl)(C₁-C₈ alkyl), N(C₁-C₈ alkyl)SO₂(C₁-C₈ alkyl), or C₁-C₈ alkyl, C₁-C₈ haloalkyl, C₂-C₈ alkenyl, C₂-C₈ alkynyl, C₃-C₁₀ cycloalkyl, C₃-C₁₀ halocycloalkyl, C₄-C₁₀ alkylcycloalkyl, C₄-C₁₀ cycloalkylalkyl, C₆-C₁₄ cycloalkylcycloalkyl, C₅-C₁₀ alkylcycloalkylalkyl, C₃-C₈ cycloalkenyl, C₁-C₈ alkoxy, C₁-C₈ haloalkoxy, C₃-C₈ cycloalkoxy, C₃-C₈ halocycloalkoxy, C₄-C₁₀ cycloalkylalkoxy, C₂-C₈ alkenyloxy, C₂-C₈ alkynyloxy, C₁-C₈ alkylthio, C₁-C₈ alkylsulfinyl, C₁-C₈ alkylsulfonyl, C₃-C₈ cycloalkylthio, C₃-C₈ cycloalkylsulfinyl, C₃-C₈ cycloalkylsulfonyl, C₄-C₁₀ cycloalkylalkylthio, C₄-C₁₀ cycloalkylalkylsulfinyl, C₄-C₁₀ cycloalkylalkylsulfonyl, C₂-C₈ alkenylthio, C₂-C₈ alkenylsulfinyl, C₂-C₈ alkenylsulfonyl, C₂-C₈ alkynylthio, C₂-C₈ alkynylsulfinyl or C₂-C₈ alkynylsulfonyl; or

two R^A substituents on adjacent ring atoms are taken together to form a 5- to 7-membered carbocyclic or heterocyclic ring, each ring containing ring members selected from carbon atoms and up to 3 heteroatoms independently selected from up to 2 O, up to 2 S, and up to 3 N, wherein up to 2 carbon atom ring members are independently selected from C(O) and C(=S) and such ring is optionally substituted with up to 3 substituents independently

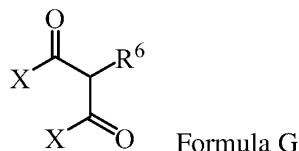
selected from the group consisting of halogen, hydroxy, C₁-C₄ alkyl, C₁-C₄ haloalkyl, C₂-C₄ alkenyl, C₂-C₄ haloalkenyl, C₂-C₄ alkynyl, C₂-C₄ haloalkynyl, C₃-C₇ cycloalkyl, C₃-C₇ halocycloalkyl, C₄-C₈ alkylcycloalkyl, C₄-C₈ haloalkylcycloalkyl, C₄-C₈ cycloalkylalkyl, C₄-C₈ halocycloalkylalkyl, C₁-C₈ alkoxy, C₁-C₈ haloalkoxy, C₂-C₈ alkoxycarbonyl, C₂-C₆ haloalkoxycarbonyl, C₂-C₆ alkylcarbonyl and C₂-C₆ haloalkylcarbonyl;

each of R² and R³ is independently H, F, C₁-C₄ alkyl or C₁-C₄ haloalkyl; and

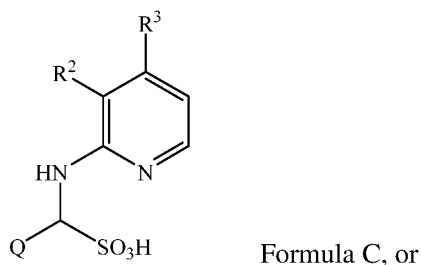
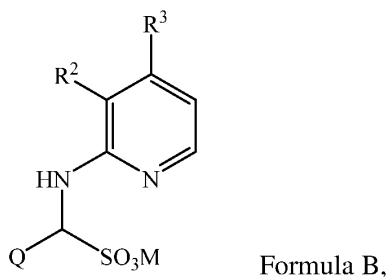
R⁶ is phenyl or pyridinyl, each optionally substituted with up to 3 substituents independently selected from phenyl, pyridinyl, halogen, C₁-C₈ alkyl, C₁-C₈ haloalkyl, C₁-C₈ alkoxy, C₁-C₈ haloalkoxy, C₃-C₈ cycloalkyl, C₃-C₈ halocycloalkyl, C₁-C₈ alkylthio or C₁-C₈ haloalkylthio;

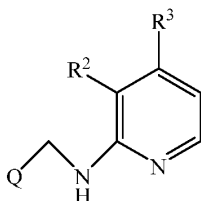
comprising:

(a) contacting a compound of Formula **G** with a compound of Formula **B**, Formula **C**, or Formula **D** to produce a compound of Formula **H**:



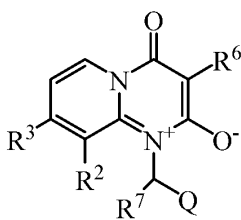
wherein X is Cl or Br,





Formula D

wherein **M** comprises at least one inorganic cation, at least one organic cation, or mixtures thereof,



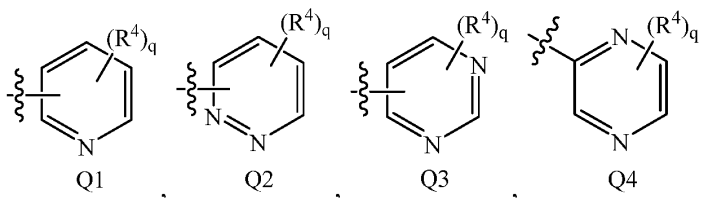
Formula H

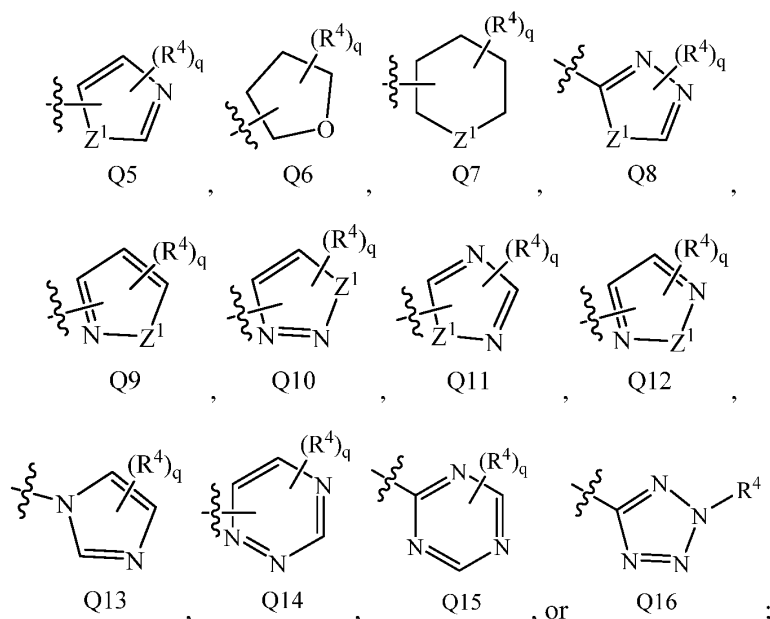
- 5 wherein R^3 is SO_3M , SO_3H , or H depending on whether a compound of Formula **B**, Formula **C**, or Formula **D** is used; and
- (b) contacting the compound of Formula **H** from Step (a) with a reducing agent to form the compound of Formula **F** if R^7 is SO_3M or SO_3H .

- 10 30. The method of claim 29, wherein **Q** is triazolyl, pyridinyl, or pyrimidinyl, each optionally substituted with up to 2 substitutions independently selected from the group consisting of halogen, $\text{C}_1\text{-C}_8$ alkyl, $\text{C}_1\text{-C}_8$ haloalkyl, $\text{C}_3\text{-C}_{10}$ cycloalkyl, $\text{C}_3\text{-C}_{10}$ halocycloalkyl, $\text{C}_1\text{-C}_8$ alkoxy, $\text{C}_1\text{-C}_8$ haloalkoxy, $\text{C}_3\text{-C}_8$ cycloalkoxy, $\text{C}_3\text{-C}_8$ halocycloalkoxy, and $\text{C}_4\text{-C}_{10}$ cycloalkylalkoxy.

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31. The method of claim 29, wherein **Q** is selected from one of the following ring structures:





wherein Z^1 is O, S, or NR^5 ;

- 5 each R^4 or R^5 is independently H, halogen, hydroxy, SF_5 , $C(O)(C_1-C_8 \text{ alkyl})$, $C(O)O(C_1-C_8 \text{ alkyl})$, $N(C_1-C_8 \text{ alkyl})(C_1-C_8 \text{ alkyl})$, $C(O)N(C_1-C_8 \text{ alkyl})(C_1-C_8 \text{ alkyl})$, $C(=S)N(C_1-C_8 \text{ alkyl})(C_1-C_8 \text{ alkyl})$, $SO_2N(C_1-C_8 \text{ alkyl})(C_1-C_8 \text{ alkyl})$, $OC(O)(C_1-C_8 \text{ alkyl})$, $OC(O)O(C_1-C_8 \text{ alkyl})$, $OC(O)N(C_1-C_8 \text{ alkyl})(C_1-C_8 \text{ alkyl})$, $N(C_1-C_8 \text{ alkyl})C(O)O(C_1-C_8 \text{ alkyl})$, $N(C_1-C_8 \text{ alkyl})C(O)N(C_1-C_8 \text{ alkyl})(C_1-C_8 \text{ alkyl})$, $OSO_2(C_1-C_8 \text{ alkyl})$, $OSO_2N(C_1-C_8 \text{ alkyl})(C_1-C_8 \text{ alkyl})$, $N(C_1-C_8 \text{ alkyl})SO_2(C_1-C_8 \text{ alkyl})$, or $C_1-C_8 \text{ alkyl}$, $C_1-C_8 \text{ haloalkyl}$, $C_2-C_8 \text{ alkenyl}$, $C_2-C_8 \text{ alkynyl}$, $C_3-C_{10} \text{ cycloalkyl}$, $C_3-C_{10} \text{ halocycloalkyl}$, $C_4-C_{10} \text{ alkylcycloalkyl}$, $C_4-C_{10} \text{ cycloalkylalkyl}$, $C_6-C_{14} \text{ cycloalkylcycloalkyl}$, $C_5-C_{10} \text{ alkylcycloalkylalkyl}$, $C_3-C_8 \text{ cycloalkenyl}$, $C_1-C_8 \text{ alkoxy}$, $C_1-C_8 \text{ haloalkoxy}$, $C_3-C_8 \text{ cycloalkoxy}$, $C_3-C_8 \text{ halocycloalkoxy}$, $C_4-C_{10} \text{ cycloalkylalkoxy}$, $C_2-C_8 \text{ alkenyloxy}$, $C_2-C_8 \text{ alkynyloxy}$, $C_1-C_8 \text{ alkylthio}$, $C_1-C_8 \text{ alkylsulfanyl}$, $C_1-C_8 \text{ alkylsulfonyl}$, $C_3-C_8 \text{ cycloalkylthio}$, $C_3-C_8 \text{ cycloalkylsulfanyl}$, $C_3-C_8 \text{ cycloalkylsulfonyl}$, $C_4-C_{10} \text{ cycloalkylalkylthio}$, $C_4-C_{10} \text{ cycloalkylalkylsulfanyl}$, $C_4-C_{10} \text{ cycloalkylalkylsulfonyl}$, $C_2-C_8 \text{ alkenylthio}$, $C_2-C_8 \text{ alkenylsulfanyl}$, $C_2-C_8 \text{ alkenylsulfonyl}$, $C_2-C_8 \text{ alkynylthio}$, $C_2-C_8 \text{ alkynylsulfanyl}$ or $C_2-C_8 \text{ alkynylsulfonyl}$; and

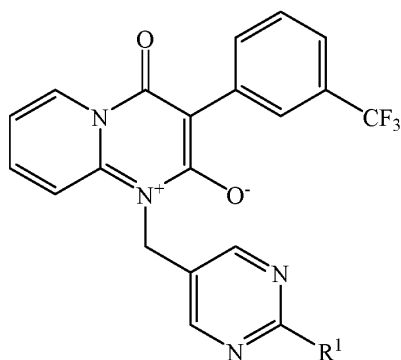
each q is independently 0, 1, or 2.

32. The method of claim 29, wherein the reducing agent comprises a borohydride reducing agent selected from sodium borohydride (NaBH_4), sodium triacetoxyborohydride ($\text{NaBH}(\text{CH}_3\text{COO})_3$), lithium borohydride (LiBH_4), potassium borohydride (KBH_4), or mixtures thereof.

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33. The method of claim 29, wherein the reducing agent comprises lithium aluminium hydride (LiAlH_4), diisobutylaluminium hydride (DIBALH), or mixtures thereof.

34. The method of claim 29 for preparing a compound of Formula 7

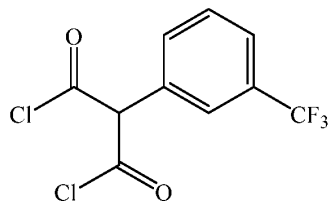


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Formula 7

wherein R^1 is H or $\text{C}_1\text{-C}_3$ alkyl,

comprising contacting a compound of Formula 1 of Claim 1 with the compound (8),

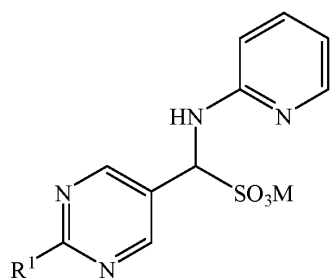


Formula 8

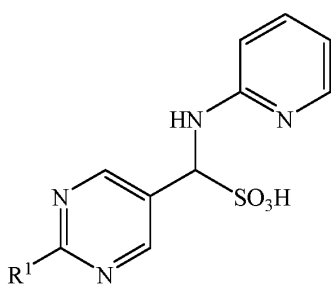
wherein the compound of Formula 1 is prepared by the method of claim 13 or 28.

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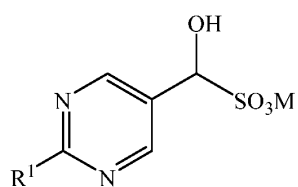
35. A compound of Formula 4, Formula 5, and/or Formula 6



Formula 4



Formula 5



Formula 6

wherein R¹ is H or C₁-C₃ alkyl and M is Na or K or Li.