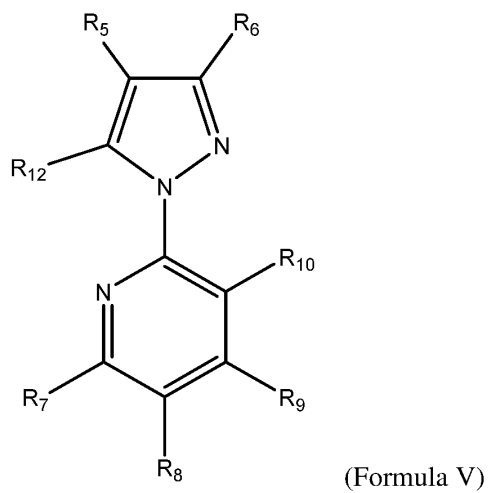


WHAT IS CLAIMED IS:

1. A compound of Formula V, wherein



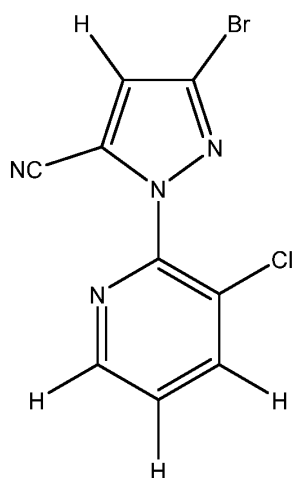
R₅ is hydrogen;

each of R₆ and R₁₀ is independently a halogen;

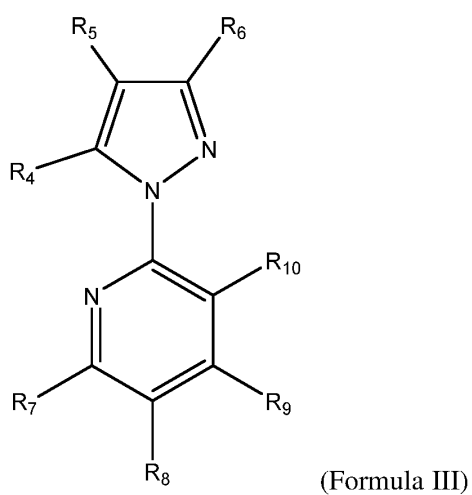
each of R₇ – R₉ is independently selected from hydrogen and halogen; and

R₁₂ is nitrile.

2. The compound of claim 1, wherein the compound is



3. A method of preparing a compound of Formula III, wherein

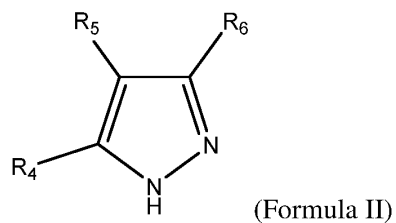


each of $R_4 - R_{10}$ is independently selected from hydrogen and halogen; and

wherein at least one of R_4 , R_5 , and R_6 is hydrogen, the method comprising

I) forming a mixture comprising

A) a compound of Formula II, wherein



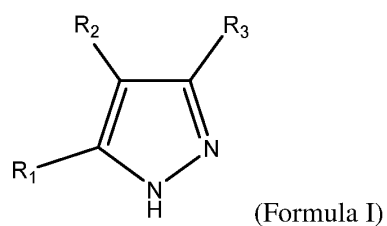
each of R₄, R₅, and R₆ is independently selected from hydrogen and halogen;

wherein at least one of R₄, R₅, and R₆ is hydrogen; and

wherein the compound of Formula II is prepared according to a method comprising

i) forming a mixture comprising

a) a compound of Formula I, wherein



each of R₁, R₂, and R₃ is independently a halogen;

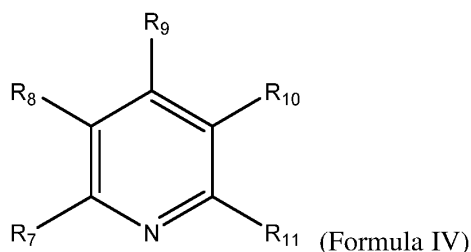
b) optionally a dehalogenation reagent;

c) a reducing agent; and

d) a solvent; and

ii) reacting the mixture;

B) a compound of Formula IV, wherein



each of R₇ – R₁₁ is independently selected from hydrogen and halogen;

C) a solvent;

D) an inorganic base; and

E) optionally an additive; and

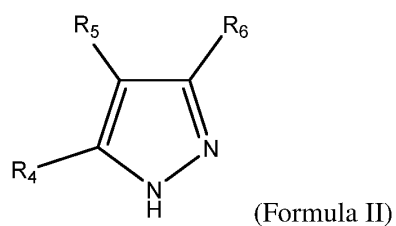
II) reacting the mixture.

4. The method of claim 3, wherein the additive is selected from potassium iodide, a phase transfer catalyst, and combinations thereof.
5. The method of claim 4, wherein the phase transfer catalyst is selected from butyl ammonium chloride, tetra butyl ammonium bromide, aliquat-336, 18-crown-6, and combinations thereof.
6. The method of claim 3, wherein the method step II) of reacting the mixture occurs at a reaction temperature in the range of about 140 °C to about 200 °C.
7. The method of claim 3, wherein the inorganic base is selected from powder sodium hydroxide, powder potassium hydroxide, sodium carbonate, potassium carbonate, potassium phosphate, powder sodium methoxide, powder potassium t-butoxide, and combinations thereof.
8. The method of claim 3, wherein the compound of Formula I is prepared according to a method comprising
 - I) forming a mixture comprising
 - A) pyrazole or a pyrazole derivative;
 - B) a halogenation reagent;

- C) water;
- D) optionally a solvent; and
- E) optionally an inorganic base; and

II) reacting the mixture.

9. A method of preparing a compound of Formula II, wherein

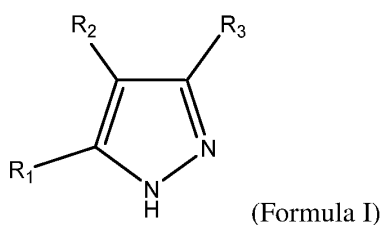


each of R₄, R₅, and R₆ is independently selected from hydrogen and halogen; and

wherein at least one of R₄, R₅, and R₆ is hydrogen, the method comprising

I) forming a mixture comprising

A) a compound of Formula I, wherein



each of R₁, R₂, and R₃ is independently a halogen; and

wherein the compound of Formula I is prepared according to a method comprising

i) forming a mixture comprising

a) pyrazole or a pyrazole derivative;

- b) a halogenation reagent;
- c) water;
- d) optionally a solvent; and
- e) optionally an inorganic base; and

ii) reacting the mixture;

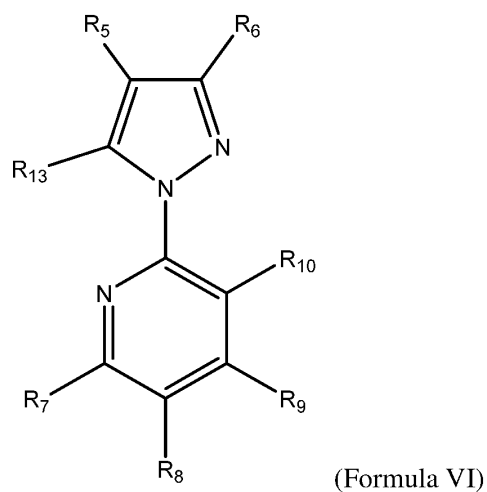
B) optionally a dehalogenation reagent;

C) a reducing agent; and

D) a solvent; and

II) reacting the mixture.

10. A method of preparing a compound of Formula VI, wherein

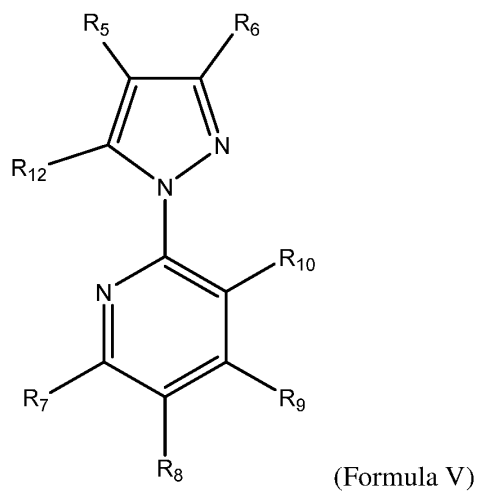


each of R₅ – R₁₀ is independently selected from hydrogen and halogen; and

R₁₃ is an organic acid, the method comprising

I) forming a mixture comprising

A) a compound of Formula V, wherein



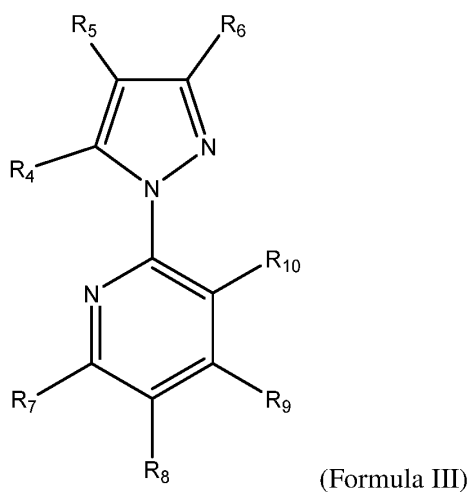
each of R₅ – R₁₀ is independently selected from hydrogen and halogen;

R₁₂ is nitrile; and

wherein the compound of Formula V is prepared according to a method comprising

i) forming a mixture comprising

a) a compound of Formula III, wherein



each of $R_4 - R_{10}$ is independently selected from hydrogen and halogen; and wherein at least one of R_4 , R_5 , and R_6 is hydrogen;

- b) a cyanide reagent;
- c) a solvent;
- d) a compound comprising a metal; and
- e) optionally an additive; and

ii) reacting the mixture; and

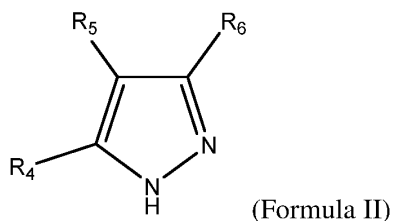
B) an acid; and

II) reacting the mixture.

11. The method of claim 10, wherein the compound of Formula III is prepared according to a method comprising

I) forming a mixture comprising

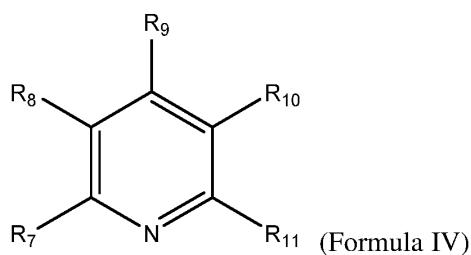
A) a compound of Formula II, wherein



each of R₄, R₅, and R₆ is independently selected from hydrogen and halogen; and

wherein at least one of R₄, R₅, and R₆ is hydrogen;

B) a compound of Formula IV, wherein



each of R₇ – R₁₁ is independently selected from hydrogen and halogen;

C) a solvent;

D) an inorganic base; and

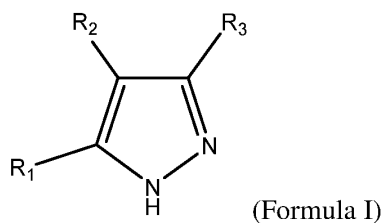
E) optionally an additive; and

II) reacting the mixture.

12. The method of claim 10, wherein the inorganic base is selected from powder sodium hydroxide, powder potassium hydroxide, sodium carbonate, potassium carbonate, potassium phosphate, powder sodium methoxide, powder potassium t-butoxide, and combinations thereof.
13. The method of claim 10, wherein the compound of Formula II is prepared according to a method comprising

I) forming a mixture comprising

A) a compound of Formula I, wherein



each of R₁, R₂, and R₃ is independently a halogen;

B) optionally a dehalogenation reagent;

C) a reducing agent; and

D) a solvent; and

II) reacting the mixture.

14. The method of claim 13, wherein the compound of Formula I is prepared according to a method comprising

I) forming a mixture comprising

A) pyrazole or a pyrazole derivative;

B) a halogenation reagent;

C) water;

D) optionally a solvent; and

E) optionally an inorganic base; and

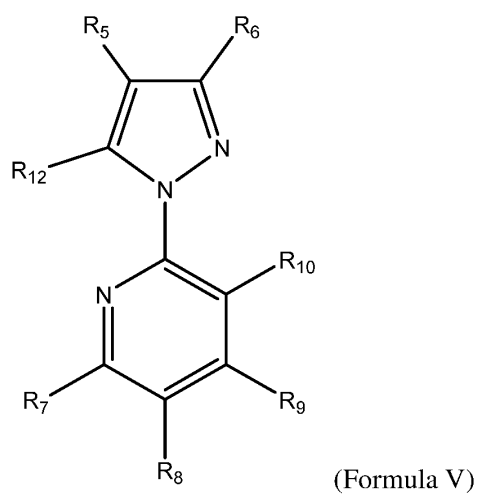
II) reacting the mixture.

15. The method of claim 14, wherein the halogenation reagent comprises

A) a reagent selected from hydrogen bromide, bromine, N-bromosuccinimide, 1,3-dibromo-5,5-dimethylhydantoin, sodium bromide, potassium bromide, and combinations thereof; and

B) optionally hydrogen peroxide.

16. A method of preparing a compound of Formula V, wherein

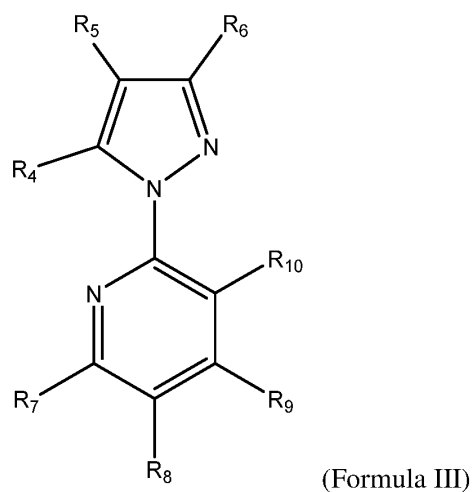


each of R₅ – R₁₀ is independently selected from hydrogen and halogen; and

R₁₂ is nitrile, the method comprising

I) forming a mixture comprising

A) a compound of Formula III, wherein



R₄ is a halogen; and

each of R₅ – R₁₀ is independently selected from hydrogen and halogen;

B) a cyanide reagent;

C) a solvent;

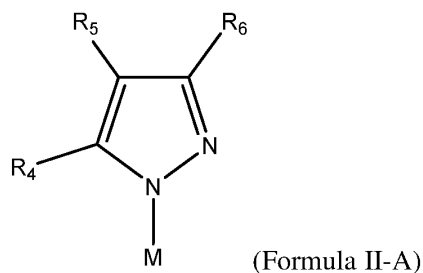
D) a compound comprising a metal; and

E) optionally an additive; and

II) reacting the mixture.

17. The method of claim 16, wherein the compound comprising a metal is a transition metal catalyst.

18. A method of preparing a compound of Formula II-A, wherein



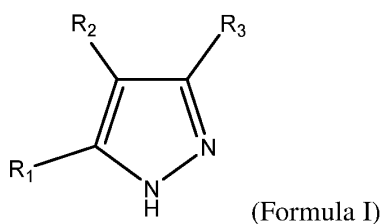
M is selected from alkali metals and alkaline metals;

each of R₄, R₅, and R₆ is independently selected from hydrogen and halogen; and

wherein at least one of R₄, R₅, and R₆ is hydrogen, the method comprising

I) forming a mixture comprising

A) a compound of Formula I, wherein



each of R₁, R₂, and R₃ is independently a halogen; and

wherein the compound of Formula I is prepared according to a method comprising

i) forming a mixture comprising

a) pyrazole or a pyrazole derivative;

b) a halogenation reagent;

c) water;

d) optionally a solvent; and

e) optionally an inorganic base; and

ii) reacting the mixture;

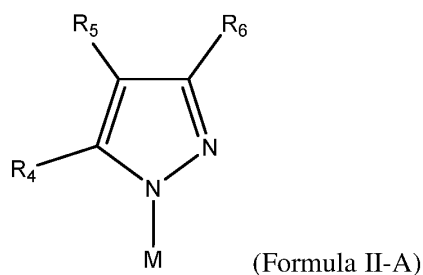
B) optionally a dehalogenation reagent;

C) a reducing agent; and

D) a solvent; and

II) reacting the mixture.

19. A compound of Formula II-A, wherein



M is selected from alkali metals and alkaline metals;

each of R₄, R₅, and R₆ is independently selected from hydrogen and halogen; and

wherein at least one of R₄, R₅, and R₆ is hydrogen.

20. The compound of claim 120, wherein the compound is

