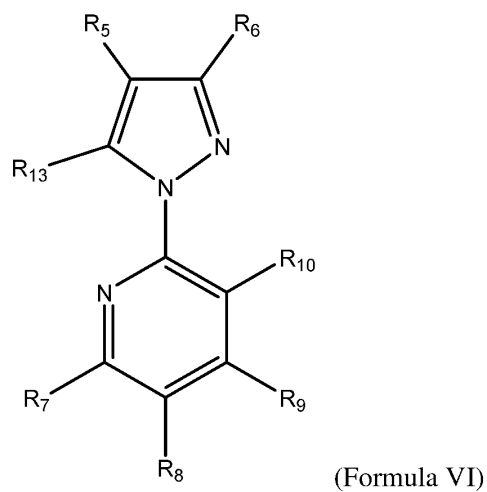


WHAT IS CLAIMED IS:

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

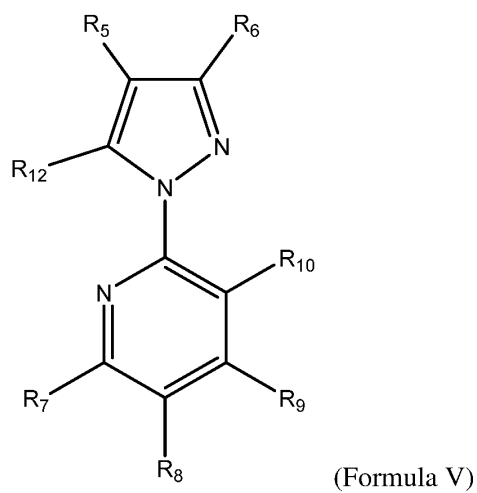


each of R₅ – R₁₀ is independently selected from hydrogen and halogen; and

R₁₃ is an organic acid, the method comprising

I) forming a mixture comprising

A) a compound of Formula V, wherein



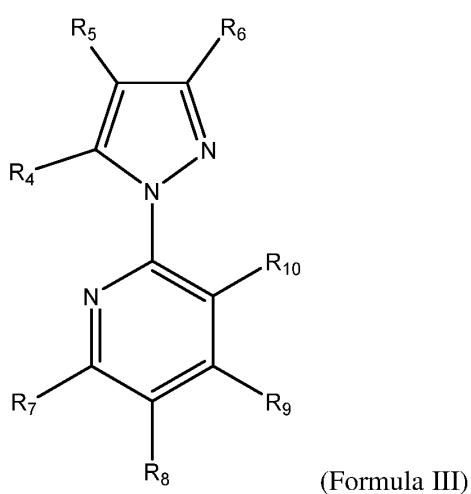
each of $R_5 - R_{10}$ is independently selected from hydrogen and halogen;

R_{12} is selected from ether, ester, and 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



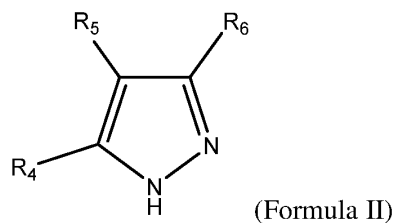
R_4 is hydrogen;

each of $R_5 - R_{10}$ is independently selected from hydrogen and halogen; and

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

IA) forming a mixture comprising

AA) a compound of Formula II, wherein



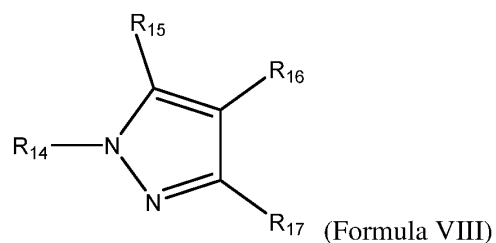
each of R₄, R₅, and R₆ is independently selected from hydrogen and halogen;

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

ia) forming a mixture comprising

aa) a compound of Formula VIII, wherein



R₁₄ is selected from substituted or unsubstituted carbocycle and substituted or unsubstituted heterocycle;

each of R₁₅, R₁₆, and R₁₇ is independently selected from hydrogen and halogen; and

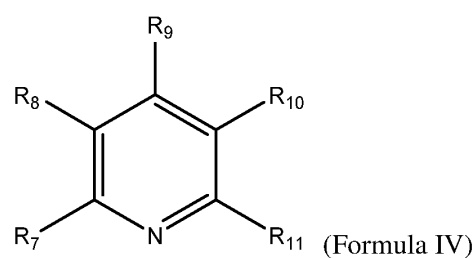
wherein at least one of R₁₅, R₁₆, and R₁₇ is a halogen;

bb) a solvent; and

cc) an acid; and

iiia) reacting the mixture;

BB) a compound of Formula IV, wherein



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

CC) a solvent;

DD) an inorganic base; and

EE) optionally an additive; and

IIA) reacting the mixture;

b) a solvent;

c) a base comprising

a compound comprising a metal; and

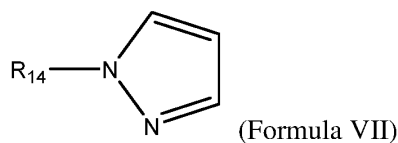
optionally a first amine base;

d) optionally an additive; and

- e) optionally a second amine base; and
 - ii) reacting the mixture with an organic compound; and
- B) a metal hydroxide; and
- II) reacting the mixture.
2. The method of claim 1, wherein the metal hydroxide is selected from alkali hydroxide, alkaline earth metal hydroxide, and combinations thereof.
 3. The method of claim 1, wherein the method step II) of reacting the mixture occurs at a reaction temperature in the range of about 0 °C to about 90 °C.
 4. The method of claim 1, wherein the compound comprising a metal is a Grignard reagent.
 5. The method of claim 1, wherein the first amine base and the second amine base are each independently selected from *i*Pr₂NH, TMP, hexamethyldisilazane, Et₂NH, *c*-hexyl₂NH, and combinations thereof.
 6. The method of claim 1, wherein the solvent b) is selected from THF, toluene, 1,4-dioxane, Me-THF, and combinations thereof.
 7. The method of claim 1, wherein the method step ii) of reacting the mixture occurs at a reaction temperature in the range of about 0 °C to about 50 °C.
 8. The method of claim 1, wherein the compound of Formula VIII is prepared according to a method comprising

I) forming a mixture comprising

A) a compound of Formula VII, wherein



R₁₄ is selected from substituted or unsubstituted carbocycle and substituted or unsubstituted heterocycle;

B) a solvent;

C) a base comprising

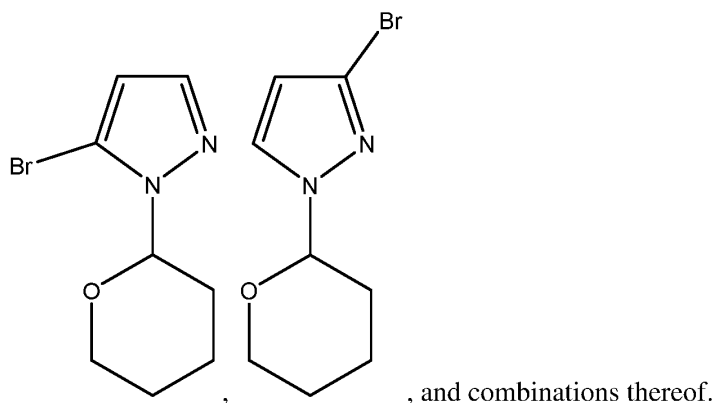
a compound comprising a metal; and

optionally a first amine base; and

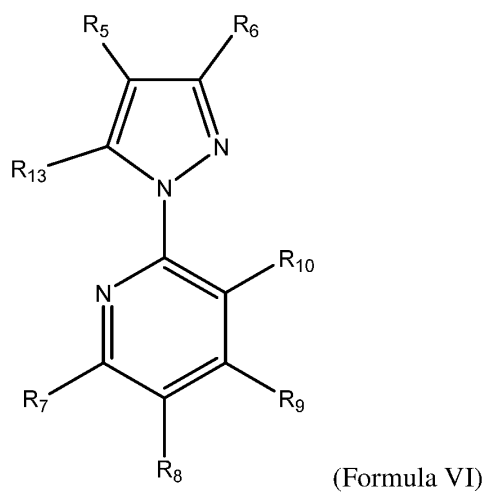
D) optionally a second amine base; and

II) reacting the mixture with a halogenation reagent.

9. The method of claim 30, wherein the method produces a compound selected from



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

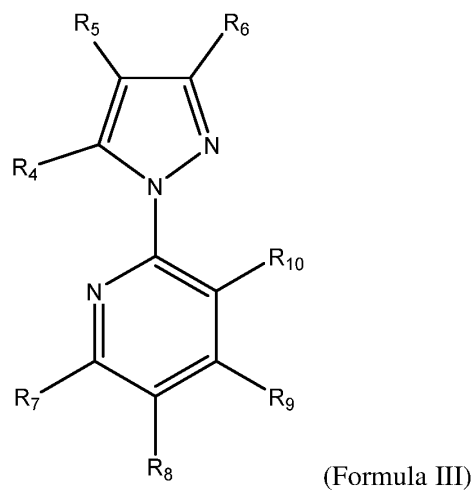


each of $R_5 - R_{10}$ is independently selected from hydrogen and halogen; and

R_{13} is an organic acid, the method comprising

I) forming a mixture comprising

A) a compound of Formula III, wherein



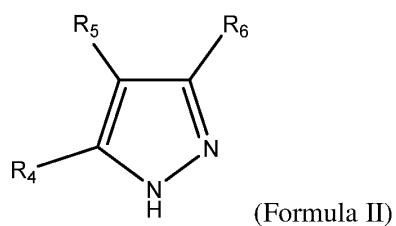
R_4 is hydrogen;

each of $R_5 - R_{10}$ is independently selected from hydrogen and halogen; and

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



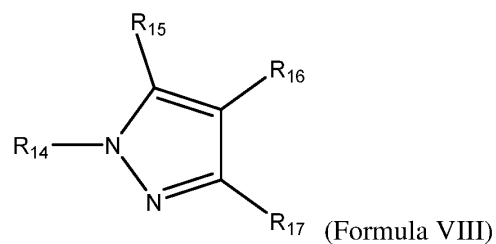
each of R₄, R₅, and R₆ is independently selected from hydrogen and halogen;

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

IA) forming a mixture comprising

AA) a compound of Formula VIII, wherein



R₁₄ is selected from substituted or unsubstituted carbocycle and substituted or unsubstituted heterocycle;

each of R_{15} , R_{16} , and R_{17} is independently selected from hydrogen and halogen; and

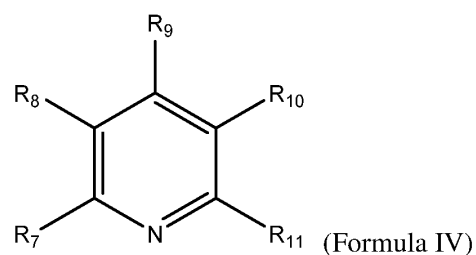
wherein at least one of R_{15} , R_{16} , and R_{17} is a halogen;

BB) a solvent; and

CC) an acid; and

IIa) reacting the mixture;

b) a compound of Formula IV, wherein



each of $R_7 - R_{11}$ is independently selected from hydrogen and halogen;

c) a solvent;

d) an inorganic base; and

e) optionally an additive; and

ii) reacting the mixture;

B) a solvent;

C) a base comprising

a compound comprising a metal; and

optionally a first amine base;

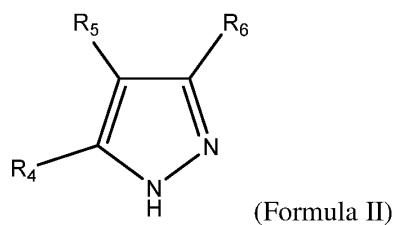
D) optionally an additive; and

E) optionally a second amine base; and

II) reacting the mixture with a carbonyl-containing compound.

11. The method of claim 10, wherein the compound comprising a metal is a Grignard reagent.

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

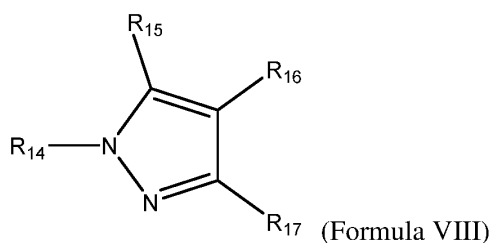


each of R₄, R₅, and R₆ is independently selected from hydrogen and halogen; and

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

I) forming a mixture comprising

A) a compound of Formula VIII, wherein



R₁₄ is selected from substituted or unsubstituted carbocycle and substituted or unsubstituted heterocycle;

each of R₁₅, R₁₆, and R₁₇ is independently selected from hydrogen and halogen;
and

wherein at least one of R₁₅, R₁₆, and R₁₇ is a halogen;

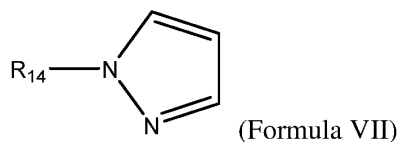
B) a solvent; and

C) an acid; and

II) reacting the mixture.

13. The method of claim 12, wherein the solvent is selected from methanol, ethanol, isopropanol, toluene, 1,4-dioxane, tetrahydrofuran, and combinations thereof.

14. A method of preparing a compound of Formula VII, wherein



R₁₄ is selected from substituted or unsubstituted carbocycle and substituted or unsubstituted heterocycle, the method comprising

I) forming a mixture comprising

A) pyrazole or a pyrazole derivative;

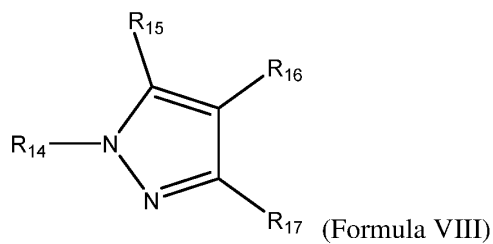
B) a cycloalkene or heterocycloalkene;

C) optionally a solvent; and

D) an acid; and

II) reacting the mixture.

15. A method of preparing a compound of Formula VIII, wherein



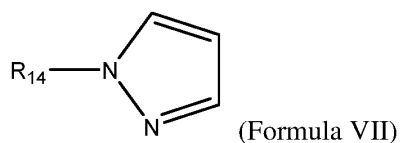
R₁₄ is selected from substituted or unsubstituted carbocycle and substituted or unsubstituted heterocycle;

each of R₁₅, R₁₆, and R₁₇ is independently selected from hydrogen and halogen; and

wherein at least one of R₁₅, R₁₆, and R₁₇ is a halogen, the method comprising

I) forming a mixture comprising

A) the compound of Formula VII, wherein



R₁₄ is selected from substituted or unsubstituted carbocycle and substituted or unsubstituted heterocycle;

B) a solvent;

C) a base comprising

a compound comprising a metal; and

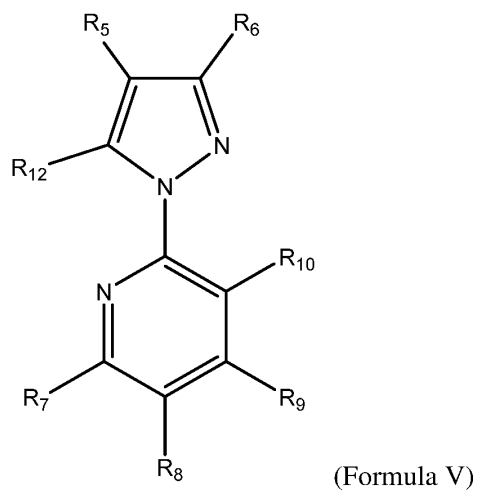
optionally a first amine base; and

D) optionally a second amine base; and

II) reacting the mixture with a halogenation reagent.

16. The method of claim 15, wherein the compound comprising a metal is a Grignard reagent.

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

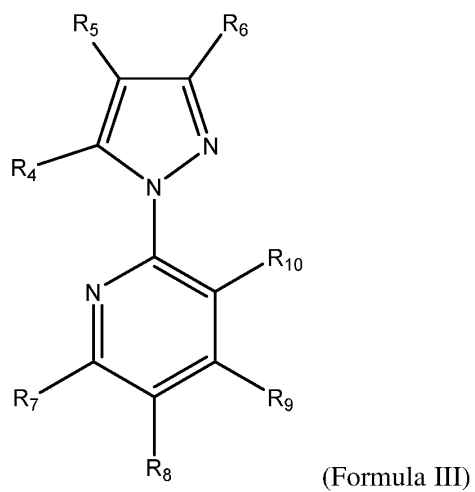


each of $R_5 - R_{10}$ is independently selected from hydrogen and halogen; and

R_{12} is selected from ether, ester, and nitrile, the method comprising

i) forming a mixture comprising

a) a compound of Formula III, wherein



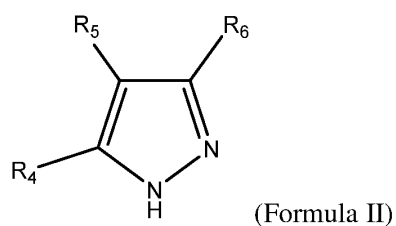
R_4 is hydrogen;

each of $R_5 - R_{10}$ is independently selected from hydrogen and halogen; and

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

IA) forming a mixture comprising

AA) a compound of Formula II, wherein



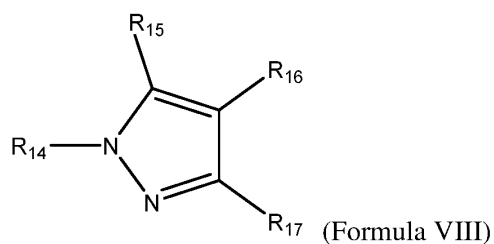
each of R_4 , R_5 , and R_6 is independently selected from hydrogen and halogen;

wherein at least one of R_4 , R_5 , and R_6 is hydrogen; and

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

ia) forming a mixture comprising

aa) a compound of Formula VIII, wherein



R_{14} is selected from substituted or unsubstituted carbocycle and substituted or unsubstituted heterocycle;

each of R₁₅, R₁₆, and R₁₇ is independently selected from hydrogen and halogen; and

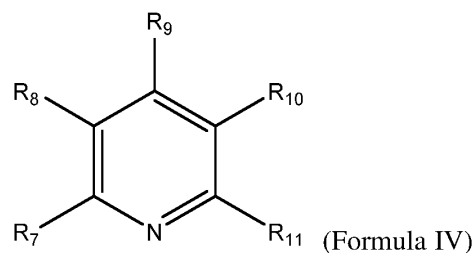
wherein at least one of R₁₅, R₁₆, and R₁₇ is a halogen;

bb) a solvent; and

cc) an acid; and

ii) reacting the mixture;

BB) a compound of Formula IV, wherein



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

CC) a solvent;

DD) an inorganic base; and

EE) optionally an additive; and

IIA) reacting the mixture;

b) a solvent;

c) a base comprising

a compound comprising a metal; and

optionally a first amine base;

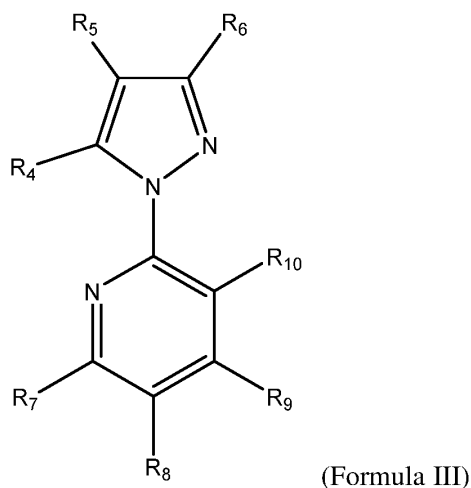
d) optionally an additive; and

e) optionally a second amine base; and

ii) reacting the mixture with an organic compound.

18. The method of claim 17, wherein the compound comprising a metal is a Grignard reagent.

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

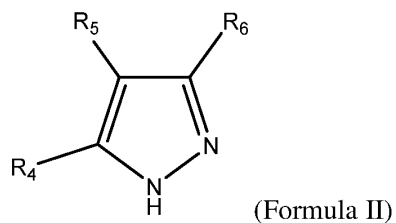


R₄ is hydrogen; and

each of R₅ – R₁₀ is independently selected from hydrogen and halogen, the method comprising

i) forming a mixture comprising

a) a compound of Formula II, wherein



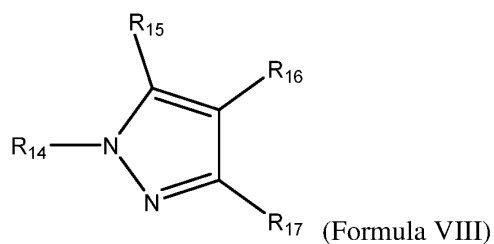
each of R₄, R₅, and R₆ is independently selected from hydrogen and halogen;

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

IA) forming a mixture comprising

AA) a compound of Formula VIII, wherein



R₁₄ is selected from substituted or unsubstituted carbocycle and substituted or unsubstituted heterocycle;

each of R₁₅, R₁₆, and R₁₇ is independently selected from hydrogen and halogen; and

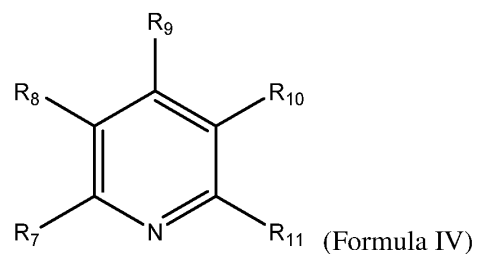
wherein at least one of R₁₅, R₁₆, and R₁₇ is a halogen;

BB) a solvent; and

CC) an acid; and

IIa) 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.