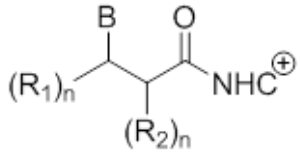
CLAIMS

1. A method for synthesizing a compound of Formula (Ia)

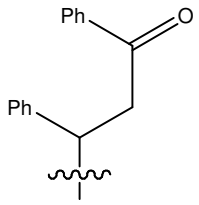
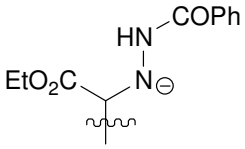
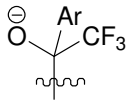


(Ia)

wherein n is 2;

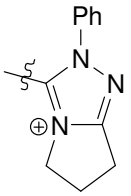
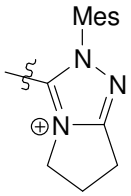
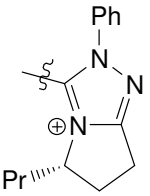
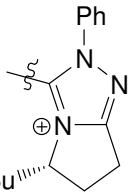
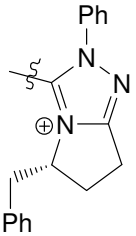
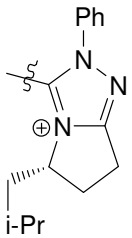
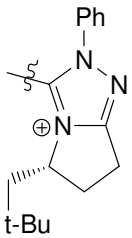
R_1 is 2-furyl, propyl, methyl, phenyl, p-tolyl, p-anisyl, p-fluorophenyl, p-chlorophenyl, p-bromophenyl, or naphthyl,

R_2 is hydrogen;

B is , , or ;

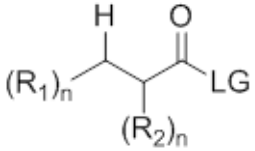
wherein Ar is phenyl; and

$NHC^{\oplus}$ is

, , , , , , or ,

comprising:

(i) activating a compound of Formula (IIa)

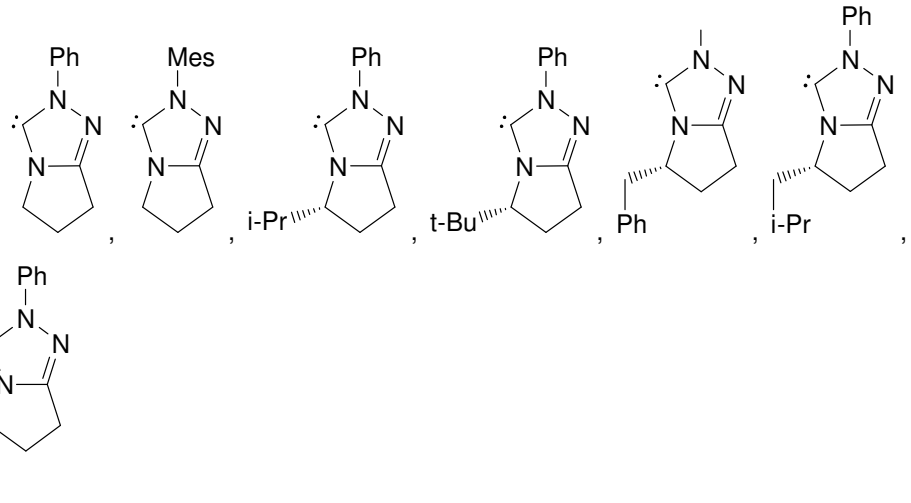


(IIa)

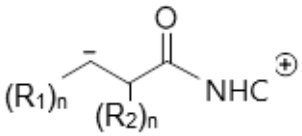
wherein

LG is -O-C_6H_4-*para*-NO_2;

by reacting said compound of Formula (IIa) with one of the compounds of Formula (III) in the presence of DBU (1,8-Diazabicyclo[5.4.0]undec-7-en)



to obtain a compound of Formula (IVa)

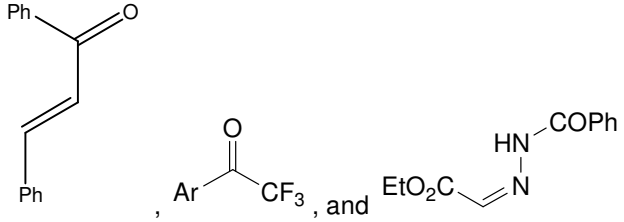


(IVa)

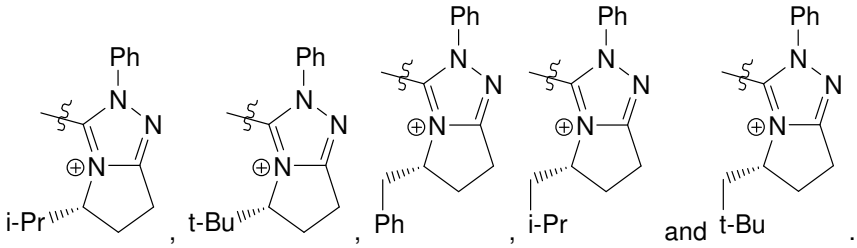
and

(ii) reacting the compound of Formula (IVa) with an electrophile to obtain the compound of Formula (Ia),

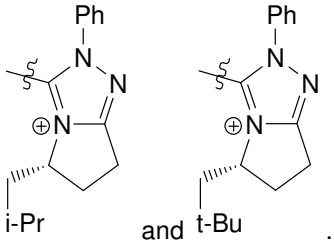
wherein the electrophile is selected from the group consisting of



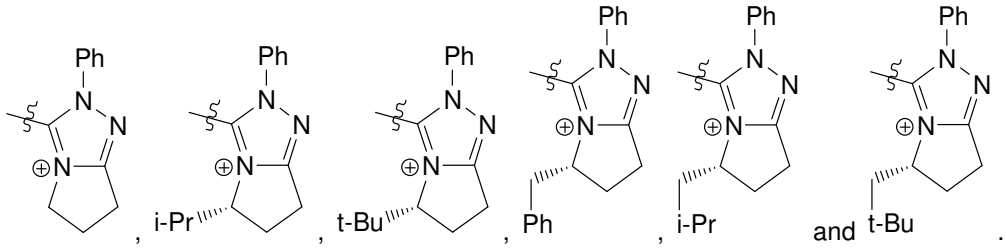
2. The method according to claim 1, wherein
NHC$^{\oplus}$ is selected from the group consisting of



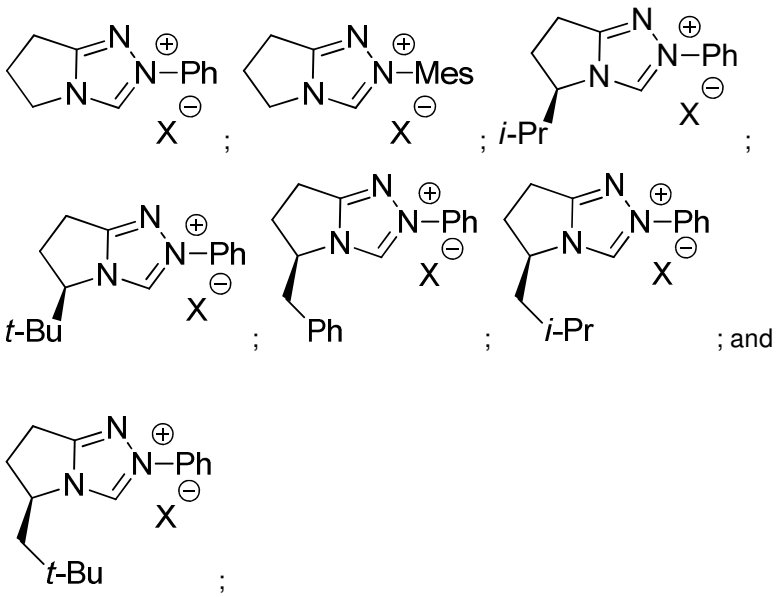
3. The method according to claim 2, wherein NHC$^{\oplus}$ is selected from the group consisting of



4. The method according to claim 1, wherein NHC$^{\oplus}$ is selected from the group consisting of

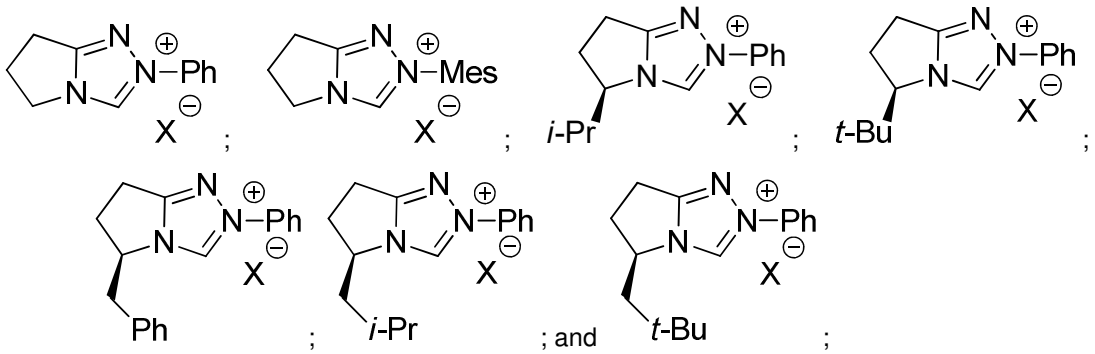


5. The method according to claim 1, wherein the compound of Formula (III) is synthesized from any of the following compounds selected from the group consisting of



wherein X is BF_4^-.

6. The method according to claim 1, wherein the compound of Formula (III) is generated *in situ* from any of the following compounds selected from the group consisting of



wherein X is BF_4^-.

7. The method according to claim 1, wherein the method is carried out in a solvent selected from the group consisting of *tert*-Butanol, toluene, THF, CH_3CN, CH_2Cl_2, dioxane, and ethyl acetate.

8. The method according to claim 1, wherein the reaction temperature of steps (i) and (ii) is 25 ℃ or 40 ℃.

9. The method according to claim 1, wherein the reaction time is about 24 hours.

10. The method according to claim 1, wherein a molecular sieve is present during the reaction.

11. The method according to claim 10, wherein the molecular sieve has apertures of a size of approximately 4 Å.

12. The method according to claim 1, wherein the method comprises further reaction steps selected from catalyst regeneration, michael reaction, aldol reaction, lactonization, and/or decarboxylation.