

Synthesis of Diimines from 1, 2-Dicarbonyl Compounds and Amines by Condensation.

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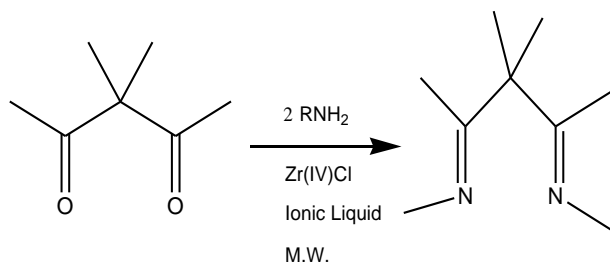
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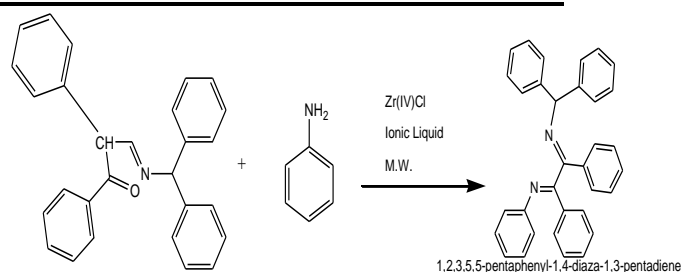
1. Introduction

The synthesis of heterocyclic compounds i.e. imidazolones, pyrimidines and also for the synthesis of metal pi complex diimines are key compounds, But the sophisticated method is not found alternative methods used are the reaction between grignard reagents with cyanides, amines to propargyl alcohol have been reported. The synthesis of N-unsubstituted diimines of benzil has also been reported using direct reaction of sodium bis(trimethylsilyl)amide with benzil, also 1,2 dicarbonyl with 1,3-diketone fails the only synthetic approach is the addition of anions of ketimines to nitriles.

We have reported a simple method for the synthesis of 1,2 -diimines & 1,3-diimines by the reaction between dicarbonyl and amines in presence of zirconium (iv) chloride in ionic liquid in microwave oven with excellent yield than earlier methods.



REACTION SCHEME:



2. General Procedure: Take in beaker diketone compound, amine, Zr(IV)chloride and add to it small amount of ionic liquid kept the beaker in microwaveoven at 300 watt for 10 min. After 10 min and workup the reaction mixture. the obtained product is evaporated on rotary evaporator. on slightly solidification add small amount of silica gel and purified it on column chromatography. The obtained product was confirmed by LCMS. Like wise some of compound synthesized are listed below.

Sr.	Reagent I (Diketone) with moles	Reagent II (Amine)	Product	Yield	M/Z
1				80%	450
2				60%	478
3				90%	540
4				85%	292
5.				90%	374

6				90%	168
7				65%	216
8				70%	402
9				50%	430

3. References

1. Liebscher, J.; Feist, K.: Synthesis 1985, 412
2. Krohnke, F.; Kickhofen, B.: Chem. Ber. 88(1988) 1103
3. Simonov, A. M.; Anisimova, A.; Borisova, T. A.: Khim. Geteros. Soedin 1973, 114
4. Grimmett, M. R.: Comprehensive Heterocyclic Chemistry Vol. 5, Part 4A, 457, Pergamon press, 1984.