

Efficient One-Pot Microwave Synthesis of 2,4,5-trisubstituted Imidazoles Using Catalyst

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Abstract: Microwave assisted one pot synthesis organic is a new and quickly growing area in synthetic organic chemistry. A rapid and efficient microwave-induced one-pot synthesis of 2,4,5-trisubstituted imidazoles has been developed. This protocol involves the reaction of aldehydes, 1,2-diketones, and ammonium acetate in a single step, using microwave irradiation as the energy source. The reaction proceeds rapidly, affording the desired tri substituted imidazoles in excellent yield. The key advantages of this process are reaction proceeded smoothly and products obtained in excellent yield with high purity, cost effectiveness of catalyst. The synthesized compounds were fully characterized by spectroscopic methods, including ¹H NMR and IR.

Keywords: Imidazole synthesis, Microwave-assisted

