A Green Synthesis of 3-Carbethoxycinnolines

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Abstract—*Cinnolines constitutes an important class of nitrogen heterocycles because of their potential pharmacodynamic properties such as antibacterial, antifungal, antitumor, sedative, analgesic, anti-inflammatory, antimalarial, CNS depressant and pollen suppressants etc. In the recent times, a large emphasis has been laid in the development of strategies for synthesis of organic compounds in accordance to the principles of green chemistry where the chemical reactions are designed in environmental friendly way. Basically it includes the use of cheap and inexpensive reagents under milder conditions to produce high yields with reduced reaction times. Synthesis of 3-cabethoxycinnolines by thermal method requires longer reaction times and gives poor yield. Thus in the present work 3-carbethoxycinnolines have been synthesized by cyclisation of phenylhydrazono-carbethoxyacetones in the presence of p-toluenesulfonic acid using grinding technique at room temperature. The phenylhydrazono-carbethoxyacetones are prepared by using benzenediazonium chloride and ethylacetoacetate. Synthesis of compound under grinding condition provides high yields and avoids excess use of hazardous organic solvents during the reaction as well as at its work up stage. The structures of compounds have been established on the basis of their elemental analysis, ^{1}H-NMR and IR spectra.*