

Coconut Water (*Cocos nucifera* L.) – A New Biocatalyst System for Multicomponent Synthesis of Dihydropyrimidinones and Imidazoles

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Abstract—Over the past few years, the up-gradation of resource and environmentally friendly processes around new pathways in terms of sustainable chemistry has become a focal point in chemical research. In recent years, non-hazardous and environmentally benign synthetic methodologies for multicomponent reactions have received considerable attentions. Multicomponent reactions (MCR) are accepted as an important methods for the synthesis of natural and medicinally important heterocyclic compounds. These types of reactions avoid cost and time consuming process for the purification of various precursors and isolation of intermediates. Now a days multicomponent reactions are important for academia and for industry to design less toxic and more environmentally friendly routes. The most significant multicomponent reactions are the synthesis of nitrogen containing imidazole and dihydropyrimidinones derivatives. The importance of these compounds lie in the fact that they possess the basic unit of different natural products such as alkaloids, nucleic acids, purines, histamines, histidines etc. along with diverse pharmacological properties. Several approaches were reported for the synthesis of dihydropyrimidinones as well as imidazoles which were developed either by use of expensive catalyst or by some hazardous organic solvents. Therefore a simple, efficient and green chemistry for one pot dihydropyrimidinones and imidazoles synthesis under mild conditions is required. The method shown here involves the use of coconut juice which act as biocatalyst in the synthesis of dihydropyrimidinones and imidazoles. The growing interest in coconut juice is mainly because of environmentally benign character, non hazardous and cost effectiveness. The coconut juice is flavourful, sweet, slightly acid and rich in phosphorous and potassium. It also contains proteins, fats, minerals and is very rich in carbohydrates. Compounds were characterized by spectroscopic and analytical techniques. The compounds will be evaluated for their biological activity. The data will be presented in paper.

Keywords: Dihydropyrimidinones, Imidazoles, Coconut juice, Biocatalyst, Organic synthesis.