**Laboratory for Green Chemistry**

**Department of Chemistry, MMNSS College, Kottiyam**

Green chemistry is an approach to the design and optimization of chemical reaction methodologies to intentionally reduce or eliminate chemical hazards. The goal of green chemistry is to create better, safer chemicals while choosing the safest, most efficient ways to synthesize them and to reduce wastes. The ongoing research projects of our laboratory aims at design and synthesis of new chemical entities employing green chemistry approaches.

**Solvolytic studies of Organosulfur Intermediates employing Green Chemistry protocols**

Oragnosulfur intermediates like α-oxoketene dithioacetals and β-oxodithioesters are valuable intermediates in synthetic chemistry. Our research aims at developing green procedures for the synthetic procedures employing these intermediates. Recently, we have established a green chemical approach to the solvolytic reactions of α-oxoketene dithioacetals using Amberlyst resin. The reaction progressed under mild conditions and afforded the corresponding thiolesters in good yields and purity.

**Design and Synthesis of Organic Inorganic Hybrid Materials from Bisimidazole Derivatives: A Green Chemistry Approach**

Bisimidazole derivatives have been extensively used as ligands for the preparation of co ordination complexes and for the preparation of ionic liquids. In the present project, we have prepared a simple bisimidazole derivative employing a green synthetic chemistry approach under solvent free conditions which also circumvents the use of column chromatography for the purification of the ligand. Further studies pertaining to the development of novel organic-inorganic hybrid materials using these versatile ligands is in progress in our laboratory.

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