

## Microwave activated transesterification of ethylene carbonate with methanol using ionic liquid catalysts

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Since the first report on microwave assisted high speed synthesis, it gained considerable interest for driving chemical reactions and found successful in the selective preparation of chemicals of interest. Compared to the traditional methods in organic synthesis, microwave saves the reaction time significantly along with the improvement in yields of products very often. Transesterification of cyclic carbonates is one of the important phosgene free syntheses for dimethyl carbonate (DMC), which finds quite diversified application in the chemical industry. Due to its very high oxygen content, good blending octane, freedom from phase separation, low toxicity and rapid biodegradability, DMC established its usage as a possible gasoline-blending component. In addition to these, it meets the property for solvents, reagents (for alkylation or acylations reactions) and the component of special materials. In this work we were successful in preparing DMC and ethylene glycol (EG) from ethylene carbonate and methanol using environmentally friendly ionic liquids as catalysts. Using 1-butyl-3-methyl imidazolium chloride (BMImCl) catalyst, the reaction gave above 75 % conversion of ethylene carbonate with around 60 % yield of both DMC and EG within the shorter reaction time of 15 min at 300 W microwave power.