

Synthesis of cyclic carbonate from allyl glycidyl ether and carbon dioxide using immobilized ionic liquid catalyst

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Ionic liquids have attracted much attention both as a catalyst as well as an alternative reaction medium for homogeneous catalysis. The advantages of using the immobilized ionic liquid are desirable from an economic and toxicological point of view. In order to take the advantages of both ionic liquid and heterogeneous support, we synthesized silica supported imidazolium catalyst by post alkylation method in which the hybrid silica obtained by immobilizing imidazole on silica was further reacted with alkyl halide. The catalytic activity studies were performed for the cycloaddition of carbon dioxide to allyl glycidyl ether. All reactions were carried out in a batch autoclave reactor and the influence of temperature, CO₂ pressure and reaction time were studied.