

Immobilization of Ionic Liquids on Montmorillonite Clay as Catalysts for the Synthesis Glycerol Carbonate

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In this work, the supported alkyl ammonium salt ionic liquid was prepared by the immobilization of tetra alkyl amines on to Montmorillonite(MMT) clay, and its catalytic performance was studied for the synthesis of glycerol carbonate from glycerol and urea. The prepared catalysts(QX-MMT) were characterized by XRD, BET, XPS, EA, ^{13}C NMR, ^{27}Al NMR and FT-IR. The effects of the structure of ionic liquid, and various reaction parameters such as temperature, reaction time, degree of vacuum, and N_2 purge were investigated to understand the reaction mechanism. Moreover, the recycling experiments demonstrated that the catalytic activity can be essentially preserved during the reuse of catalyst.