

Tailor -made dicationic room temperature ionic liquids containing Bis -trifluoromethane sulfonimide anion for esterification reaction at ambientcondition

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Tailor -made dicationic room temperature ionic liquids (RTILs) based on N-methylimidazolium ring -bridged with tetra ethylene glycol chain and Bis -trifluoromethane sulfonimide anions was synthesized, characterized, and evaluated their dual catalytic as well as solvent property in esterification of acids with alkyl halides. On screening, the imidazolium based RTIL was showed efficient yields and selectivity of respective esters. Especially, 0.1 equiv. of ([tetraEG(mim)₂][NTf₂]₂) was found to be efficient and reusable catalyst system. As a result, 100 % conversion and up to 94 % yield of ester product in 30 min reaction time was achieved. Furthermore, the RTIL was easily separate from the reaction mixture and reused several times without significant loss of catalytic activity and selectivity. This work was supported by Basic Science Research Program through the NRF funded by Ministry of Education (NRF-2013R1A1A2060638).