

Oxidation Catalysis In Ionic Liquids

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Ionic liquids based upon substituted imidazolium cations have been used as alternative solvent media for the selective oxidation of alcohols to their respective aldehydes and ketones. Different catalytic systems have been studied including ones using the ruthenium catalyst tetrapropylammonium perruthenate ('TPAP'). TPAP has been used in conjunction with either *N*-methylmorpholine-*N'*-oxide or molecular oxygen as oxidants. It has been demonstrated that benzylic alcohols are oxidized in good to excellent yields whereas aliphatic alcohols require far greater reaction times and give poor yields. The reaction products can be easily removed from the reaction mixture by extraction with ether.