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Conversion of Alcohols to Carbonyls and Monohydroxy Phenols with UHP in Ionic Liquid: Use of Acidic Amberlite Resin (IRA-120) as Catalyst

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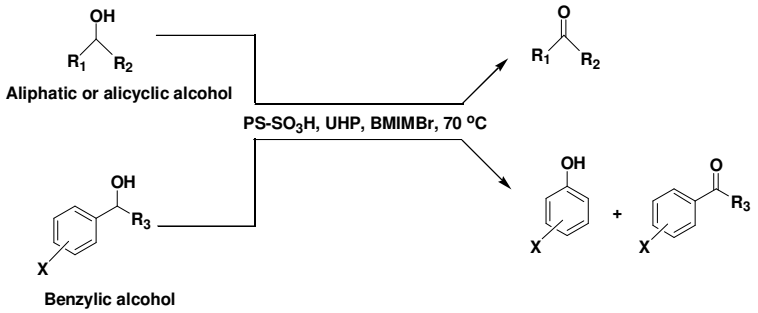
Oxidative transformation of alcohols to carbonyl and other industrially important molecules such as phenols is one such attractive area due to the wide ranging utility of these products as precursors and intermediates for many drugs, resins, vitamins, fragrances, plasticizers, pharmaceuticals, disinfectant, bis-phenol A and other uses. Apart from the conventional methods[1] there have been several reports for preparation of such oxidative products using oxygen or hydrogen peroxide as the oxidants under the influence of different metal catalysts[2-4].



Scheme 1

We observed that aromatic alcohols, on oxidation with urea-hydrogen peroxide in presence of acidic Amberlite IR-120 resin in ionic liquid at 70 °C produced phenols and carbonyl compounds in 30-60 minutes. Under similar condition aliphatic and alicyclic alcohols yielded carbonyl compounds only.

References

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