

Oxidation of Alcohols Types Using Nano-Graphene Oxide (NGO) as Heterogeneous Catalyst

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Abstract : We describe an efficient method for oxidation of alcohols to related aldehydes and ketones by hydrogen peroxide as oxidizing agent, under reflux conditions. Nano-graphene oxide (NGO) as a heterogeneous catalyst was used and had their activity compared with other various catalysts. This catalyst was found to be an excellent catalyst for oxidation of alcohols. The effects of various parameters, including catalyst type, nature of the substituent in the alcohols and temperature, on the yield of the carboxylic acids were studied. Nano-graphene oxide was synthesized by the oxidation of graphite powders. This nanocatalyst was found to be highly efficient in this reaction and products were obtained in good to excellent yields. The recovered nano-catalyst was successfully reused for several runs without significant loss in its catalytic activity.

Keywords : nano-graphene oxide, oxidation, aldehyde, ketone, catalyst

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