Facile Synthesis of Nitriles from Aldoximes

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Nitriles are widely used for the transformation into amides, amines, esters, carboxylic acid and other useful synthons. Hence they have been used as intermediates for the synthesis of fine chemicals such as agricultural chemicals, dyes and medicines. There are several methods are reported for the synthesis of Nitriles.

One of the most general method for the synthesis of nitriles, is the nucleophillic substitution reaction of alkyl halide with metal cyanides. The method is however inconvenient because of high toxicity of metal cyanides and their troublesome handling. Consequently other method such as dehydration of primary amide or aldoximes has attracted attention. It is known that dehydration of aldoximes into nitriles can be achieved by using variety of reagents like triethylamine/sulphur dioxide, xeolites, fluoride, sulfurylchloride etc. But many of these suffer from limitations such as high toxicity, vigorous reaction conditions, unsatisfactory yield, tedious work up and use of large excess of reagents. Here with we reporting facile synthesis of nitriles from aldoximes using “ethyl 2-nitrosobenzoate” as a dehydrating agent.

References;

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