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Chromium doped nano In₂O₃ – An efficient catalyst for synthesis of benzoxazoles and 3, 4-dihydropyrimidin-2(1H)ones

Vishvanath Patil*, Jyotsna Thakur, Nagesh Sutar

Orgnic Chemistry Research Laboratory, Department of Chemistry, C.K.Thakur A.C.S College, New Panvel, Raigad,Maharashtra, India

Abstract : Gel-combustion method was used to prepare nano In_2O_3 and nano In_2O_3 doped with Chromium. The prepared nano materials were characterized by powder XRD, Transmission electron microscopy (TEM) and standard BET technique. The effect of doping of Chromium upon catalytic activity of nano In_2O_3 was evaluated by using it in synthesis of important pharmacophores such as benzoxazoles and 3, 4-dihydropyrimidin-2(1H)-ones. Even if both nano materials were found to be useful in carrying out conversions, nano In_2O_3 doped with Chromium was found to be more effective as a catalyst in terms of reaction time and yields. The heterogeneous nature of nano materials in reaction medium made its recycling possible making overall process cost effective.

Keywords : Gel-combustion method, doped, chromium, catalytic activity, pharmacophores, effective, heterogeneous nature, recycling, cost effective.

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