

A NEW METHOD OF SYNTHESIS OF BENZIMIDAZOLE SCHIFF BASES CATALYSED BY COPPER NANOPARTICLES

Nilesh Gandhare^a, Ratiram Chaudhary^b, Khalid Al Mousa^c, Harjeet Juneja^d, Naziyanaz Pathan^e,
Parvez Ali^{c*}

^aDepartment of Chemistry, Nabira Mahavidyalaya, Rashtrasant Tukadoji Maharaj Nagpur University, Dhantoli, Katol-441302 (India)

^bPost Graduate Teaching Department of Chemistry, S. K. Porwal College, RTM Nagpur University, Mall Road, Kamptee-441001 (India)

^cCenter for Health Studies, Prince Sultan Military Medical City, Al Sulaimaniah, Riyadh-11159 (Saudi Arabia)

^dPost Graduate Teaching Department of Chemistry, Rashtrasant Tukadoji Maharaj Nagpur University, Amravati Road, Nagpur-440033 (India)

^eDepartment of Chemistry, Government Institute of Science, R. T. Road, Nagpur- 440001 (India)

*e-mail: aparvez@psmmc.med.sa; phone: (+966) 554137472

Abstract. In the present research article, we have described an efficient one pot synthesis of benzimidazole Schiff bases by using copper nanoparticles (Cu NPs) as a heterogeneous catalyst, *via* the reaction of aromatic aldehydes with 2-aminobenzimidazole under solvent free condition. Interestingly, an excellent recyclability and reusability of nanoparticles up to four times without any additional treatment have been reported. The present reported method offers several advantages in terms of green synthesis, easy procedure, excellent yields, cost reduction of catalysis and shorter reaction time.

Keywords: 2-aminobenzimidazole, Schiff bases, synthesis, nanocatalyst.