

3rd Annual Congress on**Pollution and Global Warming**

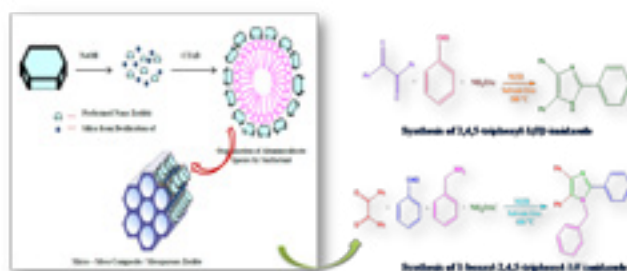
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Mesoporous zeolite BEA: Synthesis, characterization and their catalytic application in multi-component reactionsJenifer J Gabla¹, Sunil R Mistry² and Kalpana C Maheria¹¹S V National Institute of Technology, India²Mandvi Science College, India

The mesoporous zeolite BEA (MZB or BEA/MCM-41 composite) material with bimodal pore structure, acidity and surface area has been synthesized by using zeolite BEA as silica-alumina source. The material was characterized by various techniques such as powder SAXS/WAXS, N₂ adsorption-desorption isotherm, NH₃-TPD, ICP-OES, TGA-DTA, FT-IR, Pyridine IR, SEM, TEM, ²⁷Al and ²⁹Si NMR. Powder SAXS/WAXS showed the existence of well-structured microphase of zeolite BEA and mesophase of MCM-41 in the composite materials. In addition, the significant improvement in the catalytic properties of MZB material was investigated for the synthesis of various biologically active compounds through multi-component reactions (MCRs). The MZB material display excellent activity towards the synthesis of 2,4,5-triphenyl-1(*H*)-imidazoles and 1-benzyl-2,4,5-triphenyl-1*H*-imidazoles through MCRs in high yield within shorter reaction time and with low catalyst loading as compared to the microporous zeolite H-BEA. Solvent-free protocol makes the process environmentally benign and economically viable. The present protocol will serve as green tool and opens a new avenue in the area of environmentally benign synthesis of biologically active drug like molecules.

**Biography**

Jenifer J Gabla has obtained her MSc degree in Organic Chemistry, in the year 2013 from Uka Tarsadia University, Bardoli, Gujarat. She is currently pursuing her PhD in the area of solid acid catalyzed multicomponent reactions for the synthesis of biologically active drug molecules, at Applied Chemistry Department (ACD), S V National Institute of Technology (SVNIT) under the guidance of Kalpana Maheria, Assistant Professor & Head, ACD, SVNIT, Surat, Gujarat, India. Her research focuses on development of novel zeolite based catalytic materials and exploring their utility in the green process development for the synthesis of medicinal compounds. She has presented her research in several national and international conferences.

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