

## Synthesis of 2,4,5-trisubstituted imidazoles, quinoxalines and 1,5-benzodiazepines over eco-friendly and highly efficient $ZrO_2-Al_2O_3$ catalyst

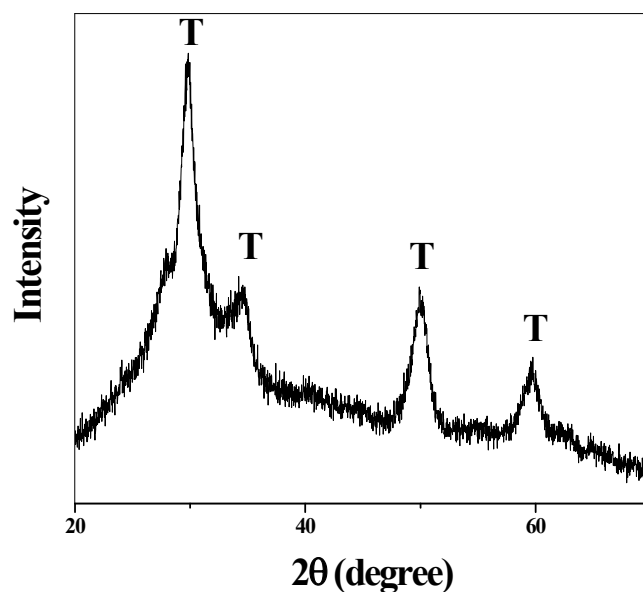
N. Thimmaraju<sup>1,2</sup> and S. Z. Mohamed Shamsuddin<sup>\*1,2</sup>

<sup>1</sup>Chemistry Research Laboratory, HMS Institute of Technology, Tumkur-572104, Karnataka, India.

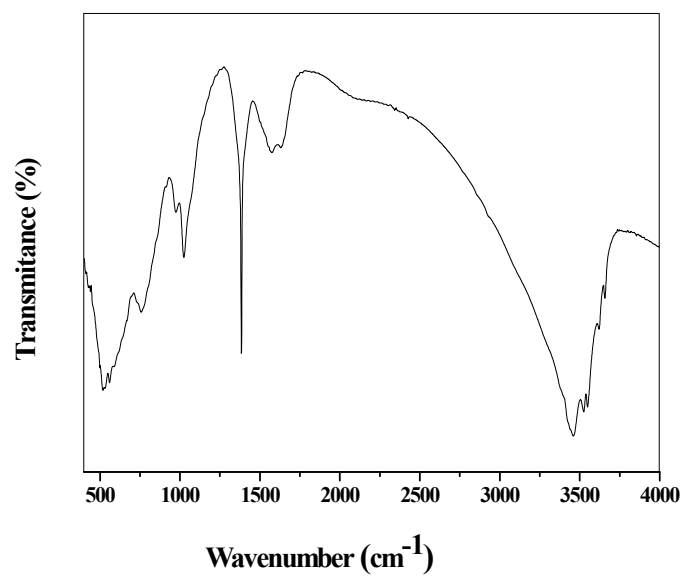
<sup>2</sup>Research and Development Center, Bharathiar University, Coimbatore, India.

\*Corresponding author: E-mail address: [mohamed.shamshuddin@gmail.com](mailto:mohamed.shamshuddin@gmail.com)

Phone no: +91-9844718742



**Figure S1.** PXRD patterns of ZA-IMG after 6<sup>th</sup> reaction cycles. [*T*- tetragonal  $ZrO_2$ ].



**Figure S2.** The FT-IR spectrum of ZA-IMG after 6<sup>th</sup> reaction cycles.