**Oxidation of alcohols using clean oxidant TBHP over magnetically retrievable spinels and nano-crystalline perovskite catalysts**

Anand S. Burangea and Radha V. Jayarama\*

\* Corresponding author - Tel.: + 91- 22 3361 2607; Fax: +91- 22 3361 1020.

E-mail address - rv.jayaram@ictmumbai.edu.in

aDepartment of Chemistry, Institute of Chemical Technology,

Matunga, Mumbai- 400 019, India

**Abstract**

The magnetically retrievable MFe2O4 spinels (M = Mn, Co, Ni, Cu, Zn) and nanocrystalline phase pure CeCrO3 oxide were prepared by solid state synthesis. The materials were characterized by techniques such as X-ray diffraction (XRD), High Resolution Transmission Electron Microscopy (HR-TEM), EDX, SEM techniques. The catalytic activity was tested for the oxidation of benzylic alcohols using TBHP as an oxidant. Among the catalyst systems tested, CoFe2O4/TBHP and CeCrO3/TBHP in DMSO were found to be more efficient than the others. Possibility of magnetic separation and reusability make these catalyst systems economically and environmentally viable.



**Bibliography**

1. A. S. Burange, R. V. Jayaram, R. Shukla and A. K. Tyagi., *Catalysis Communications*, 2013, **40**, 27-31.
2. A. S. Burange, S. R. Kale, R. Zboril, M. B. Gawande and R. V. Jayaram., *RSC Advances*, 2014, **4**, 6597-6601.

Trusted Area: Chemical Education and Catalysis

Oral presentation by Prof. Radha Jayaram