



Supporting Information

© Wiley-VCH 2007

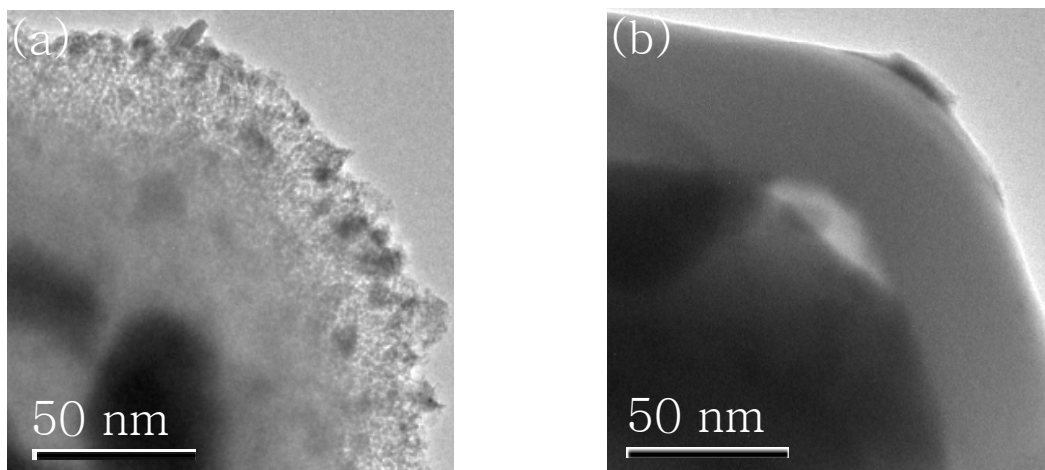
69451 Weinheim, Germany

# **A Magnetically Recyclable Nanocomposite Catalyst for Olefin Epoxidation**

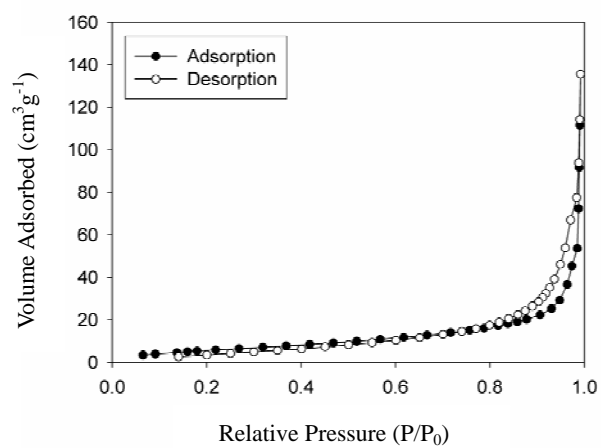
Mohammadreza Shokouhimehr, Yuanzhe Piao, Jaeyun Kim, Youngjin Jang, and Taeghwan Hyeon\*

*Materials:* Water was deionized by a Barnsted Nano Pure System. All chemicals were purchased from various companies (Aldrich, Fluka, Samchun, and Junsei) and used without further purification.

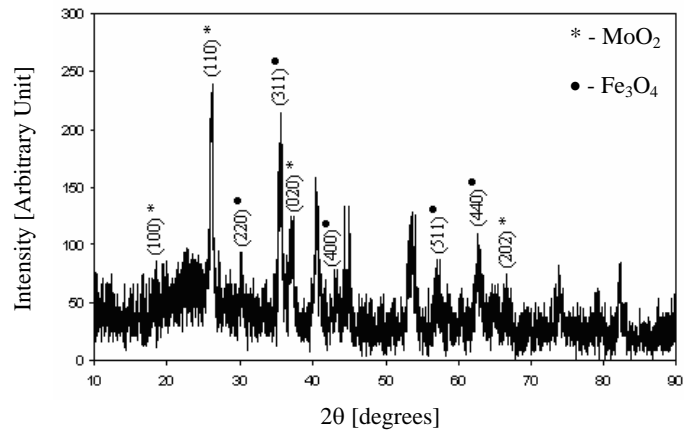
*Characterization:* Transmission electron microscope (TEM) and HRTEM images were obtained using a JEOL EM-2010 microscope equipped with EDX detector at an acceleration voltage of 200 kV. The X-ray diffraction pattern was taken by a Rigaku Dmax 2500 diffractometer system. Scanning electron microscope (SEM) images were attained by JEOL-6700 (JEOL Ltd. Japan) Inductivity coupled plasma atomic emission spectrometer (ICP-AES, Shimadzu ICPS-7500 Japan) was used for the elemental analysis.



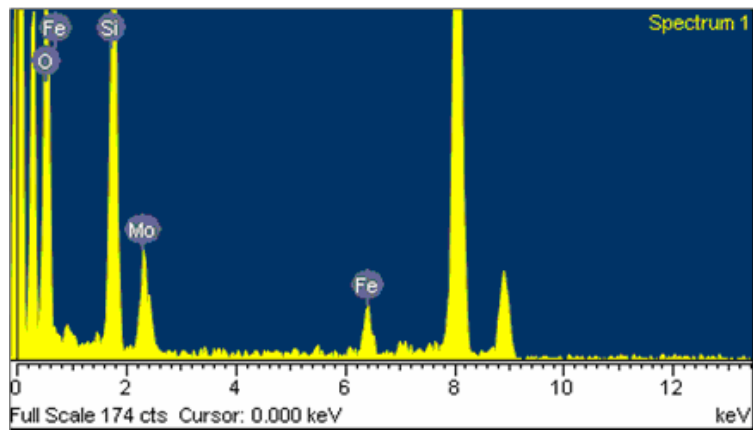
**Figure S1.** HRTEM images of a) mesoporous silica coating catalyst loaded NPs, b) dense silica coating catalyst loaded NPs.



**Figure S2.**  $N_2$  adsorption isotherm plot of dense silica coated iron oxide NPs.



**Figure S3.** XRD pattern of the Mag-Mo-Nano-catalyst.



**Figure S4.** EDX spectrum for the Mag-Mo-Nano-catalyst.

**Table S1.** Effect of solvent on the Mag-Mo-Nano-catalyst for epoxidation of cis-cyclooctene<sup>[a]</sup>

| Entry | Solvent                         | Yield [%] <sup>[b]</sup> |
|-------|---------------------------------|--------------------------|
| 1     | CCl <sub>4</sub>                | 99                       |
| 2     | CHCl <sub>3</sub>               | 91                       |
| 3     | CH <sub>3</sub> CN              | 73                       |
| 4     | Cyclohexane                     | 38                       |
| 5     | CH <sub>3</sub> NO <sub>2</sub> | 37                       |
| 6     | Dioxane                         | 21                       |

[a] Reaction conditions: 1 mmol cis-cyclooctene, 1.2 mmol <sup>t</sup>BuOOH, catalyst (1 mol%), 5 ml solvent, 5 h, 90 °C.

[b] The yields are determined by gas chromatography mass spectrometry (GC-MS) analysis using internal standard.