

## Electronic Supplementary Information

### Experimental Section

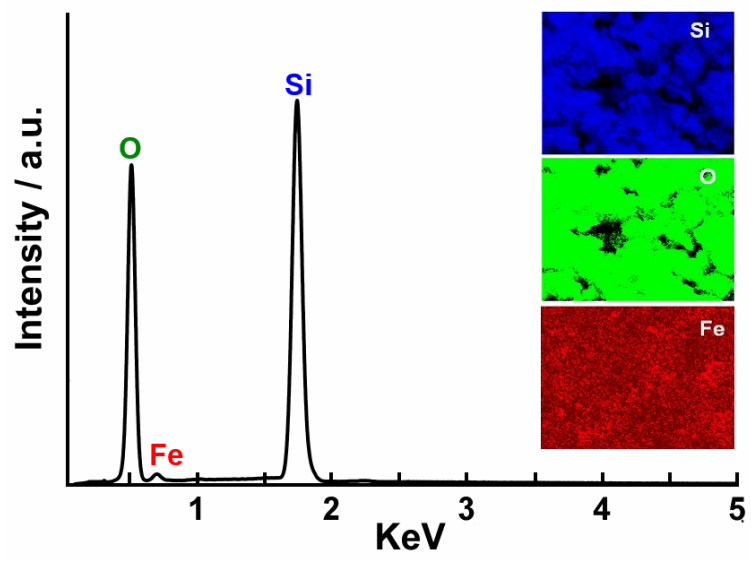
**Synthesis of mesoporous ferrosilicate materials (PS-1):** PS-1 materials with different iron content were synthesized using Brij 76 (C<sub>18</sub>EO<sub>10</sub> Polymer, molecular weight = 711) as a structure-directing agent. Tetraethoxysilane (TEOS) and iron nitrate hexahydrate were silicon and iron sources respectively. In a typical synthesis, 6.0 g of Brij 76 is dissolved in 140 g of 0.8 M HCl under vigorous stirring at 308 K. To this mixture, 15.2 g of TEOS, followed by 12 ml of iron nitrate solution were added very slowly. The resulting mixture was allowed to stir for 24 h. Then, the reaction mixture was heated at 373 K for 24 h under static condition. The solid product formed was recovered by filtration, washed with water and then dried at 373 K. After calcination at 823 K for 10 h in presence of air, the obtained product was denoted as PS-1(*x*), where *x* represents Si/Fe mole ratio in the material.

**Characterization:** The small angle x-ray scattering (SAXS) measurements were performed using two fine-focus SAXS instruments with Cr *K* $\alpha$  (Bruker, NANOSTAR) and Mo *K* $\alpha$  radiation (Rigaku Nano-Viewer). Incident X-rays were focused using a Goebel mirror for Cr-SAXS and a two-dimensional confocal mirror for Mo-SAXS, and both were collimated using the pinhole technique. Scattering patterns were observed using a multiwire 2D detector (Bruker HiSTAR) for Cr-SAXS and a pixel detector (PILATUS 100k) for Mo-SAXS. The total *q* range of the SAXS profiles was  $0.07 \leq q \leq 3 \text{ nm}^{-1}$ . To measure the SAXS profiles, the powder samples were mounted between the scotch tapes. In order to obtain SAXS pattern from only the sample, measured profiles were subtracted to SAXS profile of only scotch tape, prior to that noise and background profiles were subtracted. UV-Vis diffuse reflectance spectra of the materials were collected on Shimadzu UV-2400 spectrophotometer at ambient conditions using BaSO<sub>4</sub> as a reference. Nitrogen adsorption-desorption isotherms of PS-1 materials of different Si/Fe ratios and siliceous NPS material were measured at 77 K on a Quantachrome Autosorb 1 volumetric analyzer and at relative pressure up to ~0.99. Prior to the nitrogen sorption analysis, all the materials were out gassed for 10 h at 513 K to remove moisture and gasses adsorbed on solid surface. The external specific surface area was calculated from BET method and mean pore sized from adsorption-desorption branch of the isotherm was obtained by BJH method. Powder XRD pattern of the Fe-O material was measured using Cu *k* $\alpha_1$  radiation with Rigaku RINT-2000 x-ray diffractometer. The elemental mapping and EDS analysis of the materials were obtained on Hitachi S-4800. The HRTEM

images were obtained on JEOL JEM-2100F after dispersing the ethanolic solution of the material onto a carbon coated copper grid.

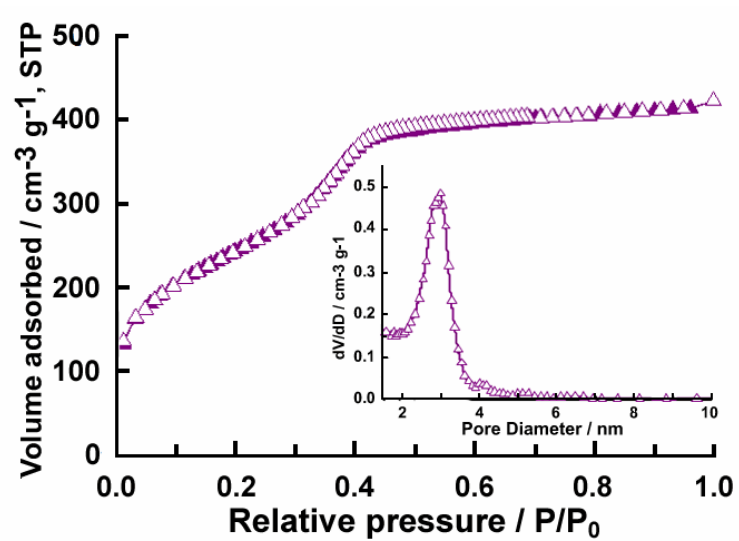
**Magnetic measurement:** The magnetization measurements up to 350 K were done in a Quantum Design superconducting quantum interference device (SQUID) magnetometer. Typically, 20 mg powder sample was filled in the Gelatin capsule for both temperature dependence of the magnetization and magnetic hysteresis loops measurements. Prior to measuring the temperature dependence of the magnetization, the sample was cooled from room temperature to 4.2 K either under a saturation field of 50 kOe, field cooled (FC) or at zero field, zero-field cooled (ZFC). In the case of ZFC measurements, the sample is demagnetized under an oscillatory magnetic field at room temperature before cooling it down to 4.2 K. All FC and ZFC measurements were carried out at the bias field of 50 Oe.

**Figure S1**



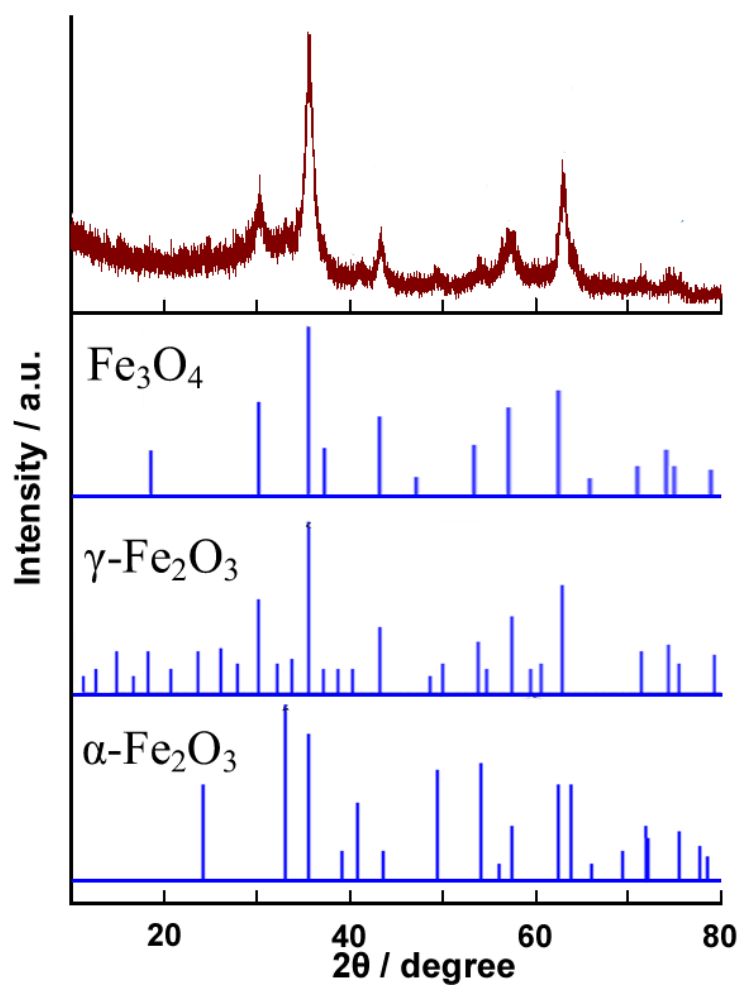
**Figure S1** The EDS pattern and elemental mapping of PS-1(22).

**Figure S2**



**Figure S2** Nitrogen adsorption-desorption isotherms of calcined MPS material (open symbols: desorption; closed symbols: adsorption). Inset image is the BJH pore size distribution.

**Figure S3**



**Figure S3** Wide-angle XRD patterns of HF-treated PS-1(22). The diffraction peaks of Fe<sub>3</sub>O<sub>4</sub>, γ-Fe<sub>2</sub>O<sub>3</sub>, and α-Fe<sub>2</sub>O<sub>3</sub> are noted as references.