Supporting Information

High temperature synthesis of exceptionally stable pure silica MCM-41 and stabilisation of calcined mesoporous silicas via refluxing in water

Wantana Sangchoom and Robert Mokaya

School of Chemistry, University of Nottingham, University Park, NG7 2RD Nottingham, U.K. Fax: +44 (0) 115 951 3562; Tel: +44 (0) 115 846 6174; E-mail:

r.mokaya@nottingham.ac.uk (R. Mokaya)
**Supporting Figure 1.** Pore size distribution of the standard MCM-41-150 before and after refluxing in water for 24 h (Ref 24 h).
Supporting Figure 2. Powder XRD patterns (a), nitrogen sorption isotherms (b), and pore size distribution curves (c) of the MCM-41-165 sample before and after refluxing in water for 24 h (Ref 24 h), refluxing in water for 24 h followed by calcination at 1000 °C for 4 h (Ref 24 + 1000 °C) or direct calcination at 1000 °C for 4 h (Cal 1000 °C). The isotherm after direct calcination at 1000 °C is similar to that of Ref 24 + 1000 °C.
Supporting Figure 3. Pore size distribution (PSD) curves of the MCM-41-180 sample before and after refluxing in water for 24 h (Ref 24 h), refluxing in water for 24 h followed by calcination at 1000 °C for 4 h (Ref 24 + 1000 °C) or direct calcination at 1000 °C for 4 h (Cal 1000 °C).
Supporting Figure 4. Pore size distribution curves of the MCM-41-190 sample before and after refluxing in water for 24 h (Ref 24 h), refluxing in water for 24 h followed by calcination at 1000 °C for 4 h (Ref 24 + 1000 °C) or direct calcination at 1000 °C for 4 h (Cal 1000 °C).
Supporting Figure 5. Nitrogen sorption isotherms (left) and pore size distribution curves (right) of samples MCM-41-180 (top) and MCM-41-190 (bottom) before and after refluxing in water at 60 °C for 24 h.
Supporting Figure 6. $^{29}$Si MAS NMR spectra of samples MCM-41-180 (left) and MCM-41-190 (right) before and after refluxing in water for 24 h (Ref 24 h), and then calcination at 1000 °C for 4 h (Ref 24 h + 1000 °C).