Supporting Information

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

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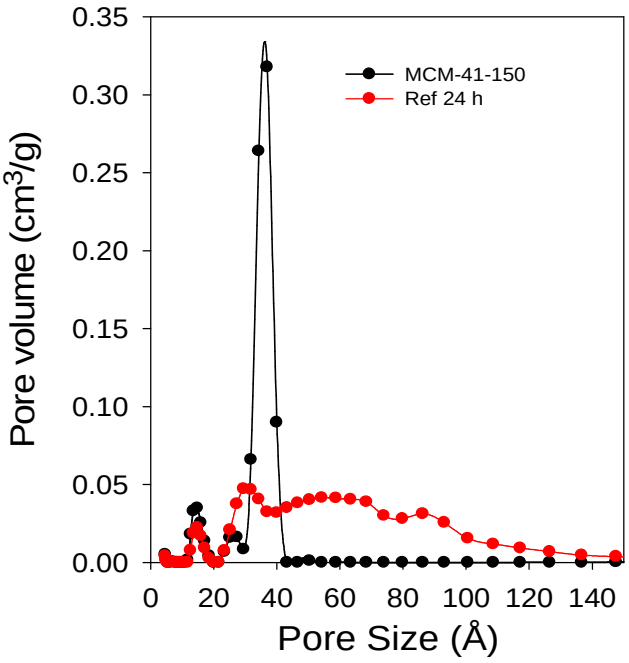
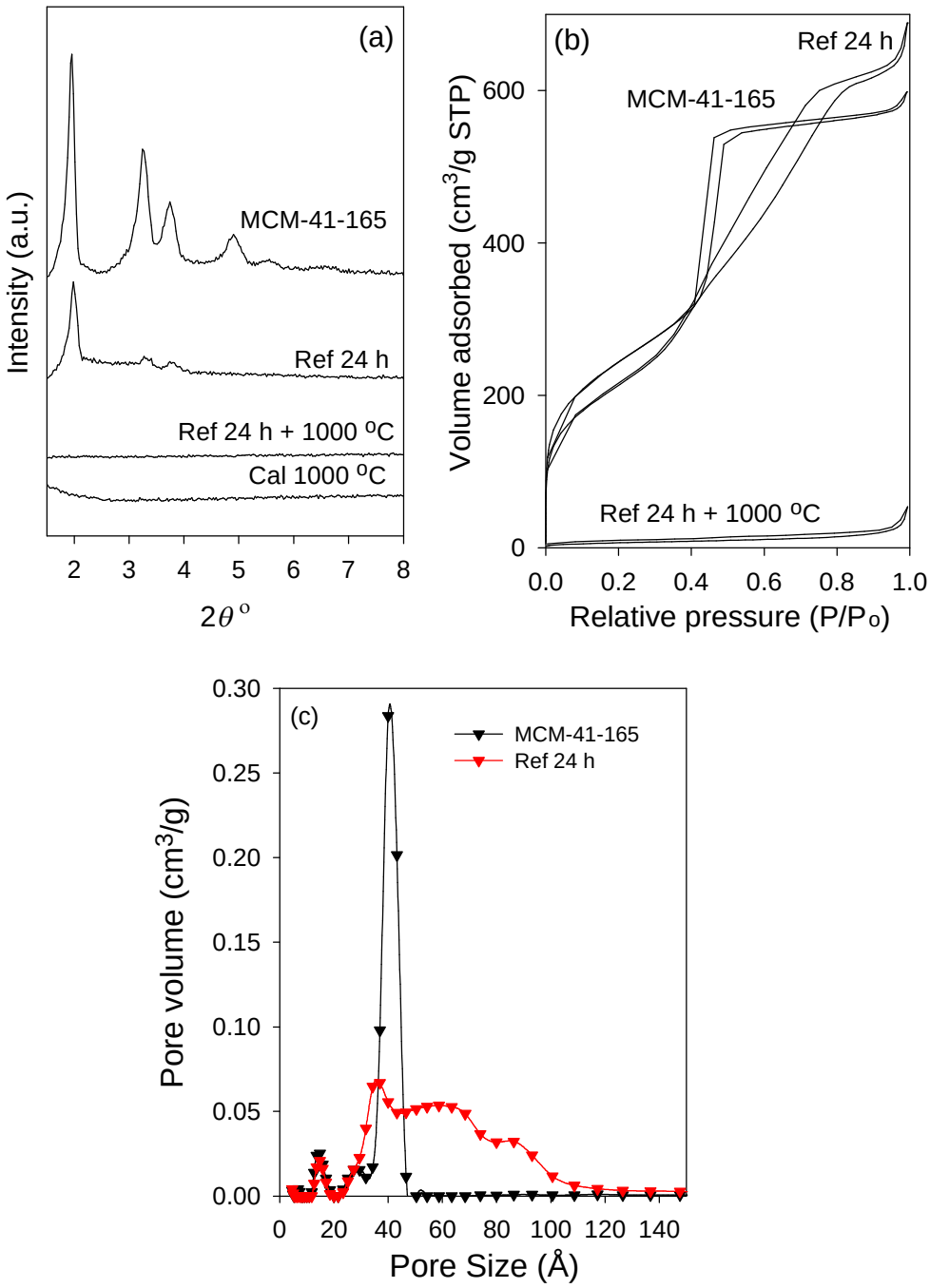
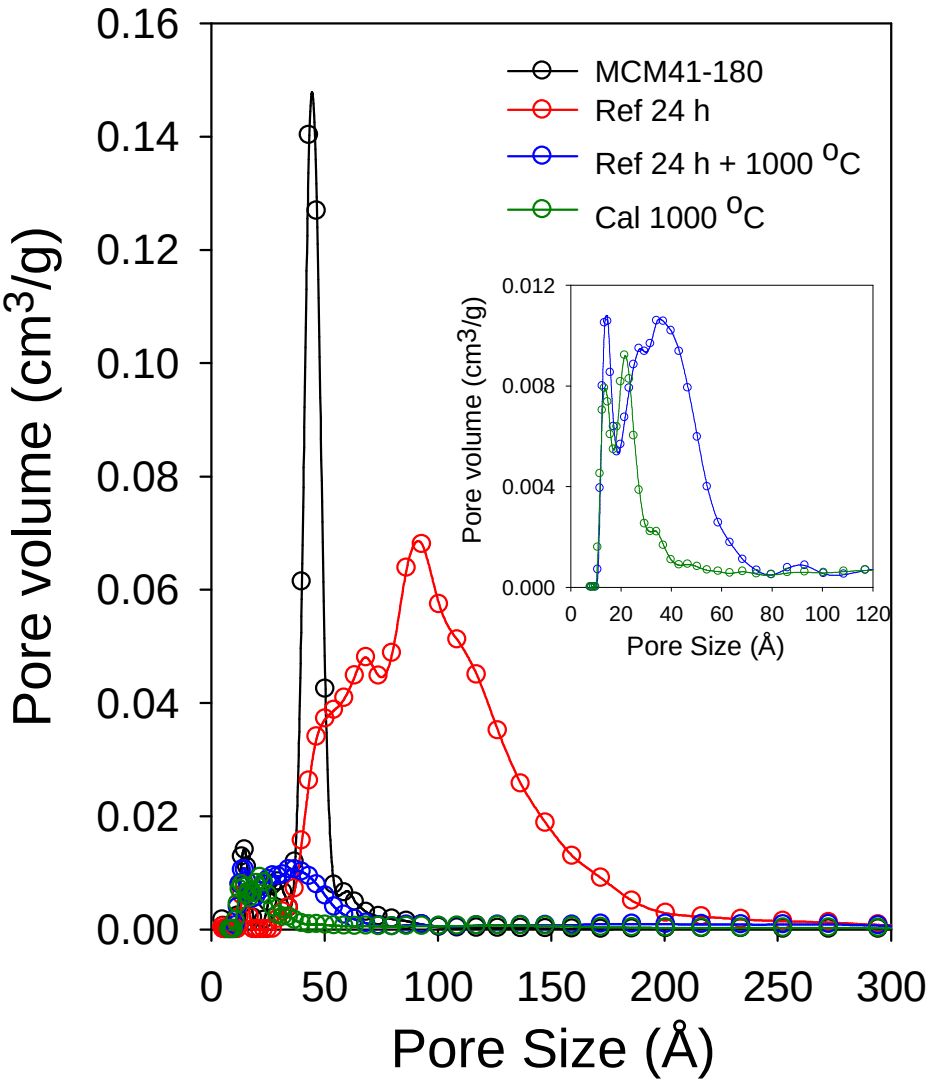


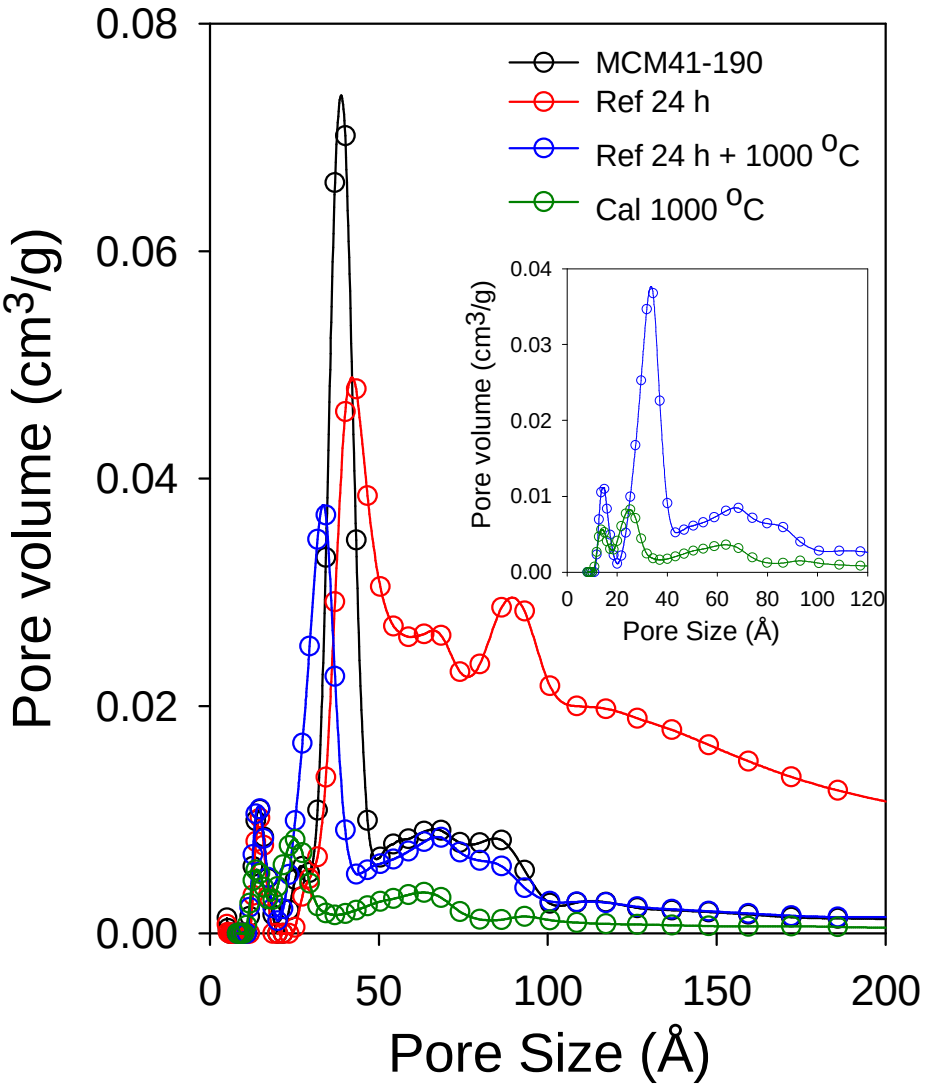
Supporting Figure 1. Pore size distribution of the standard MCM-41-150 before and after refluxing in water for 24 h (Ref 24 h).



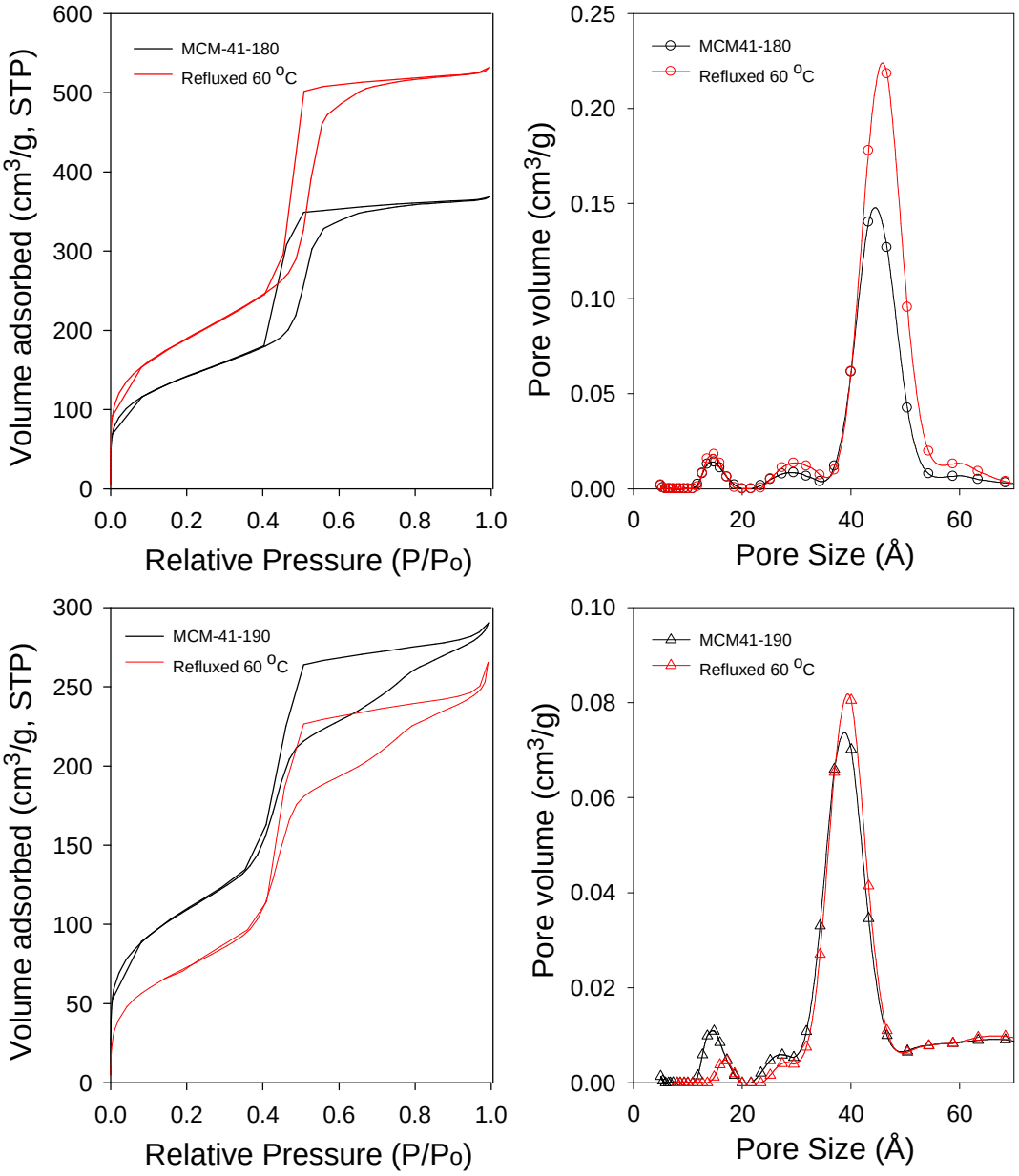
Supporting Figure 2. Powder XRD patterns (a), nitrogen sorption isotherms (b), and pore size distribution curves (c) of the MCM-41-165 sample before and after refluxing in water for 24 h (Ref 24 h), refluxing in water for 24 h followed by calcination at 1000 °C for 4 h (Ref 24 + 1000 °C) or direct calcination 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.



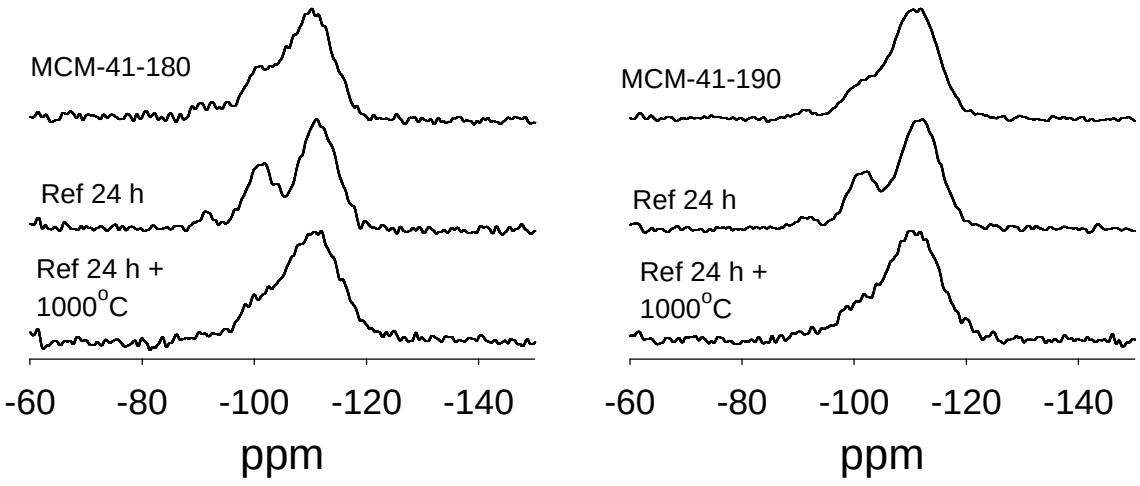
Supporting Figure 3. Pore size distribution (PSD) curves of the MCM-41-180 sample before and after refluxing in water for 24 h (Ref 24 h), refluxing in water for 24 h followed by calcination at 1000 ^{o}C for 4 h (Ref 24 + 1000 ^{o}C) or direct calcination at 1000 ^{o}C for 4 h (Cal 1000 ^{o}C).



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 ^{o}C for 4 h (Ref 24 h + 1000 ^{o}C).