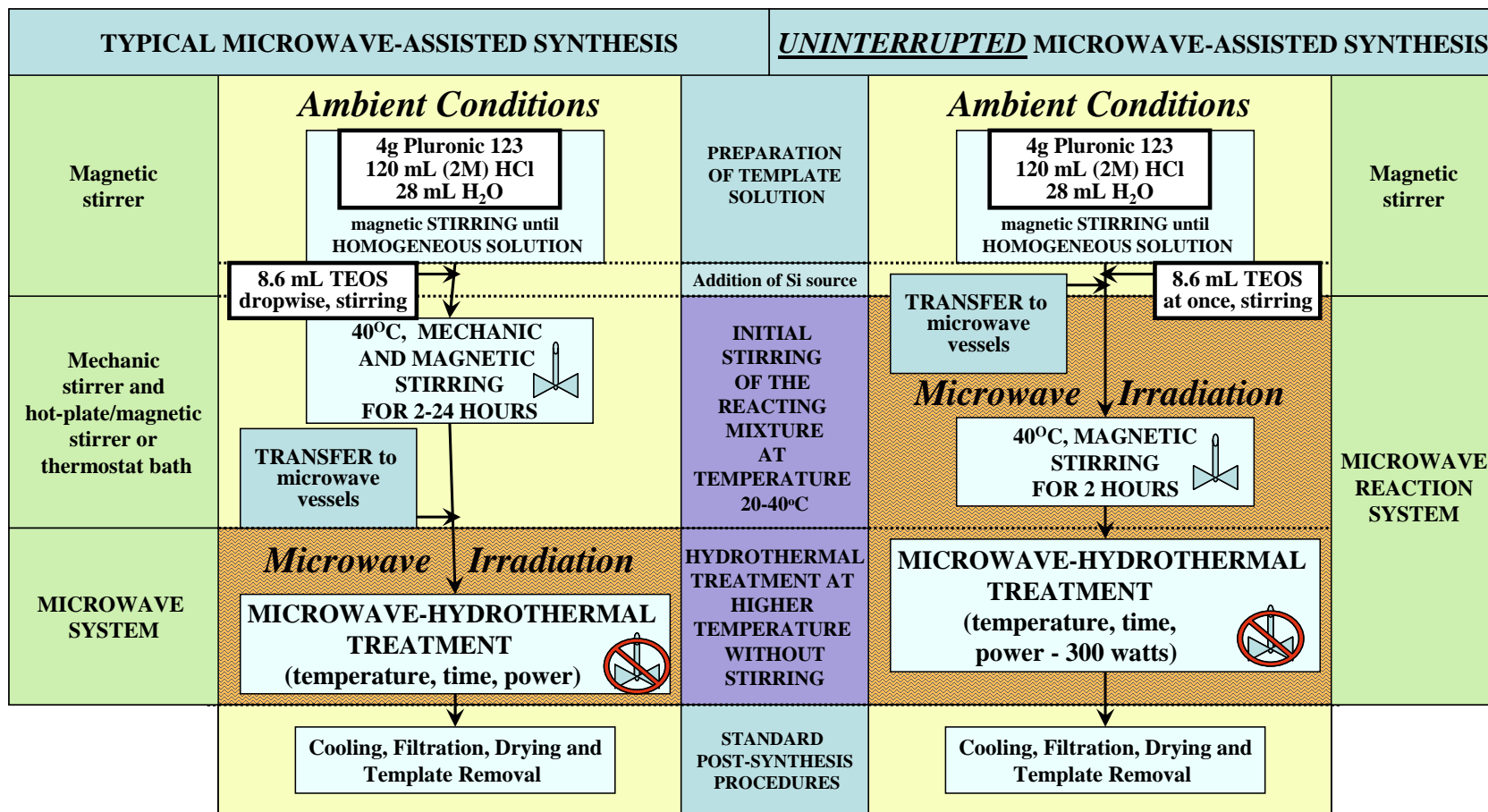


Temperature Programmed Microwave-Assisted Synthesis of SBA-15 Ordered Mesoporous Silica

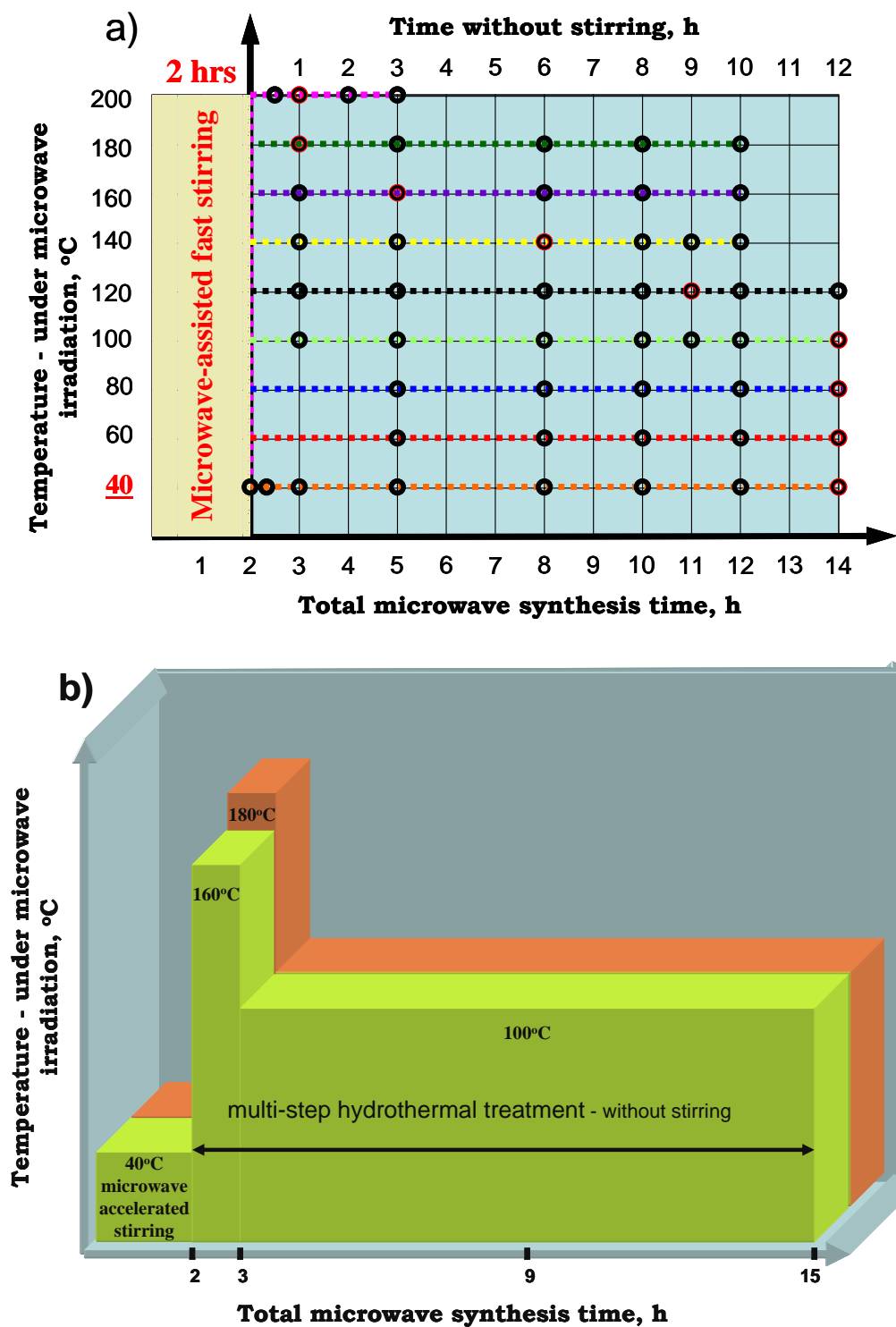
Ewa B. Celer and Mietek Jaroniec*

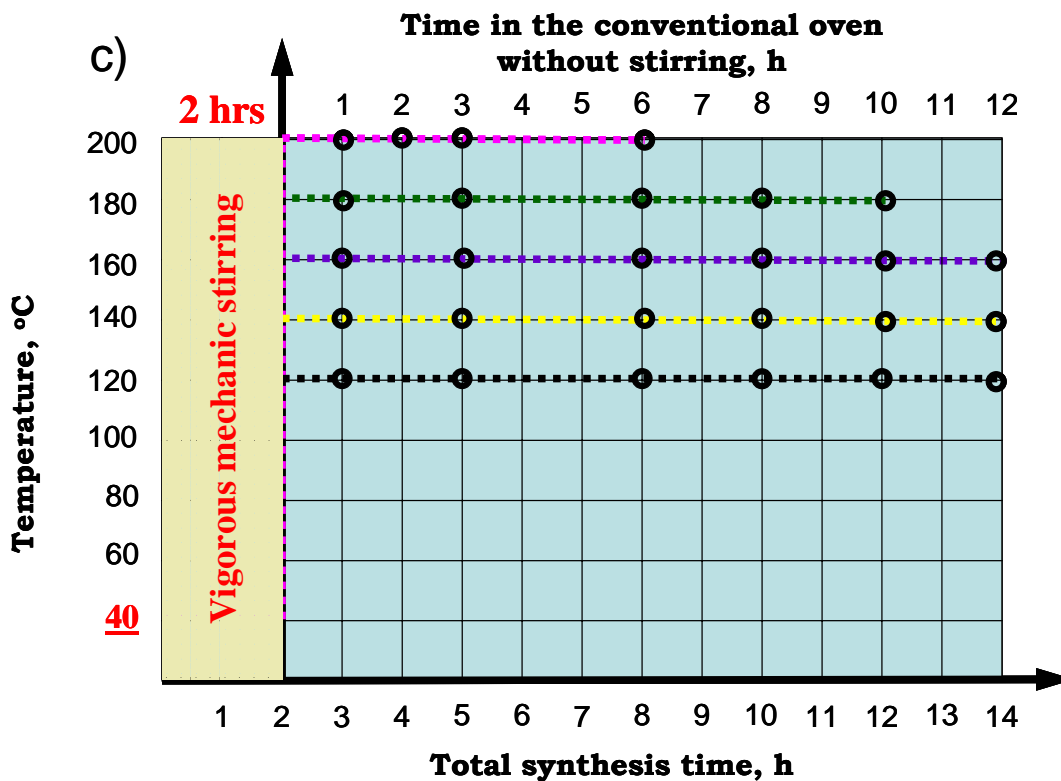
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Scheme S1. Comparison of the key features of the conventional microwave-assisted synthesis (microwave irradiation for a single-step hydrothermal treatment only) and the uninterrupted temperature-programmed microwave-assisted synthesis (microwave irradiation for both the initial stirring of the reacting mixture and temperature-programmed hydrothermal treatment).





Scheme S2. Graphical illustration showing the temperature and time used for the synthesis of the SBA-15 samples studied. **Panels a and b** show experimental conditions for the SBA-15 MS and PS samples synthesized entirely under microwave irradiation using single-step and two-step hydrothermal treatments, respectively. **Panel c** shows experimental conditions used for the conventional synthesis of the SBA-15 OS samples; in this synthesis the hydrothermal treatment was performed in a regular oven. Dots indicate specific temperature and time at which each SBA-15 sample was synthesized. The samples shown in Figure 1 are marked in red.

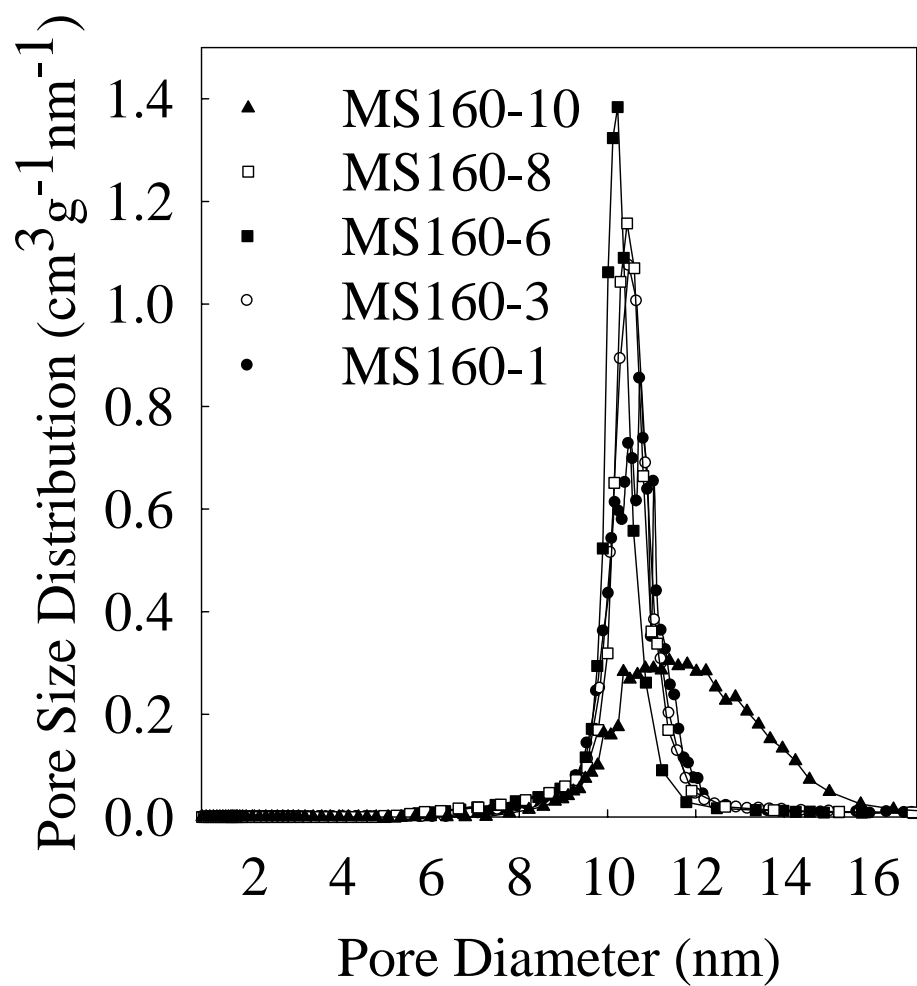


Figure S1. Pore size distributions for the SBA-15 samples synthesized by employing an initial fast stirring in the microwave oven at 40°C for 2 hours followed by hydrothermal treatment under microwave irradiation at 160°C for 1, 3, 6, 8 and 10 hours, respectively.

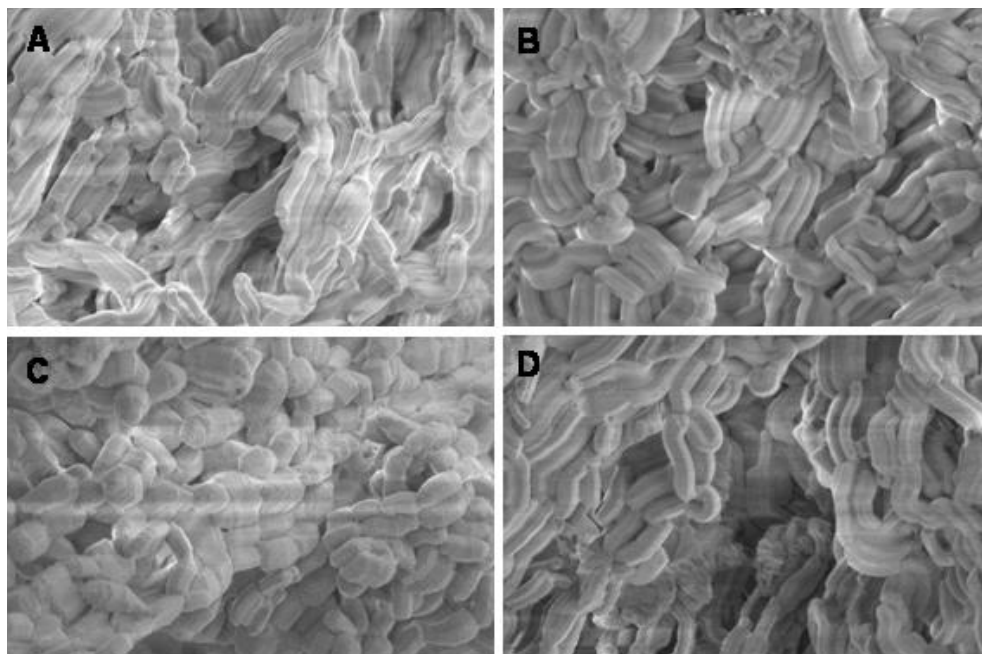


Figure S2. SEM images for selected SBA-15 samples prepared by microwave-assisted synthesis: A) as-synthesized MS-160-3, B) calcined MS-160-3, C) as-synthesized MS-180-3 and D) as-synthesized MS-100-12. These images were taken using a model S-4300 Field Emission Scanning Electron Microscope from Hitachi. The width of each panel corresponds to 10.3 μm. A rope-like morphology of SBA-15 is observed for the samples synthesized at the temperature range from 100 to 160°C (panels A, B and D), while discoid particles are formed at 180°C (panel C).