Electronic Supplementary Material (ESI) for Green Chemistry

SUPPORTING INFORMATION

A Critical Investigation on the Microwave-Assisted Preparation of Supported Iron Oxide Nanoparticles on Silica-type Mesoporous Materials

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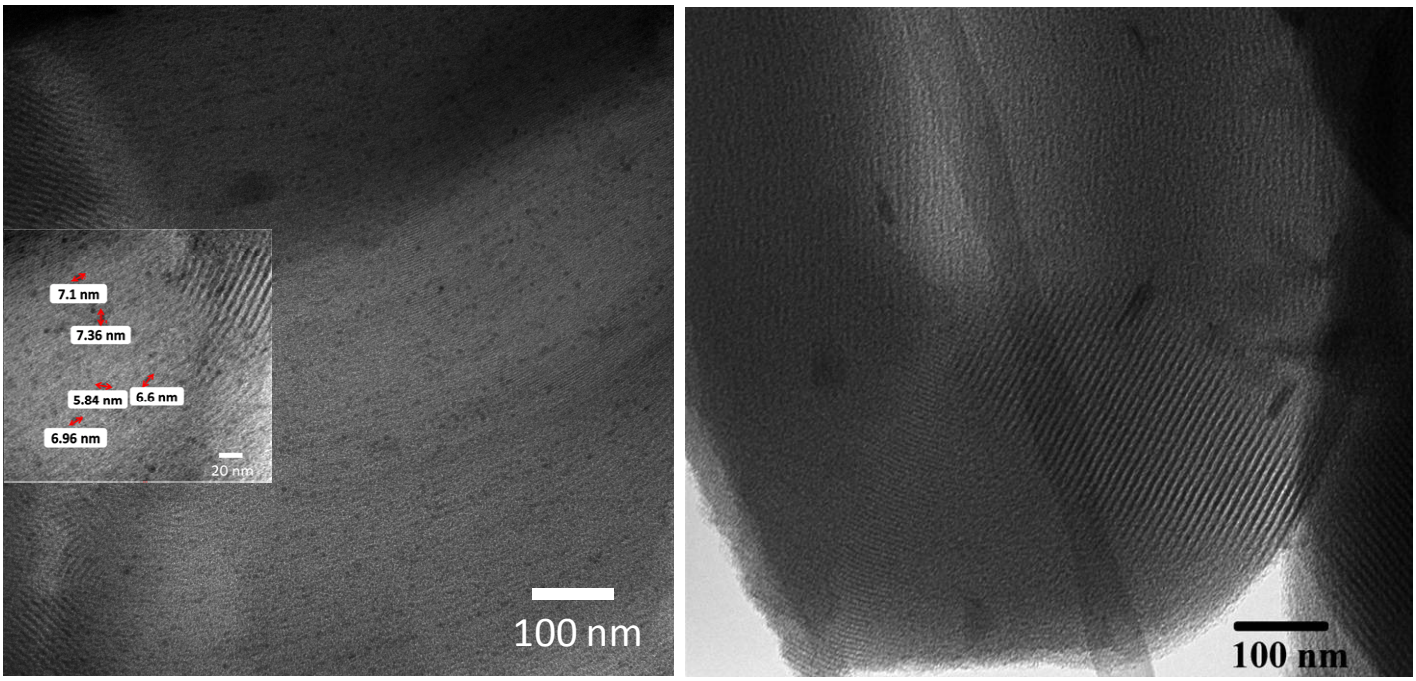

Figure S1. TEM micrographs of Fe/SBA-15 materials prepared at 187 ºC under typical conditions (1.5 min ramp, 5 min irradiation; left image) and 200 ºC (1.5 min, 5 min irradiation; right image).

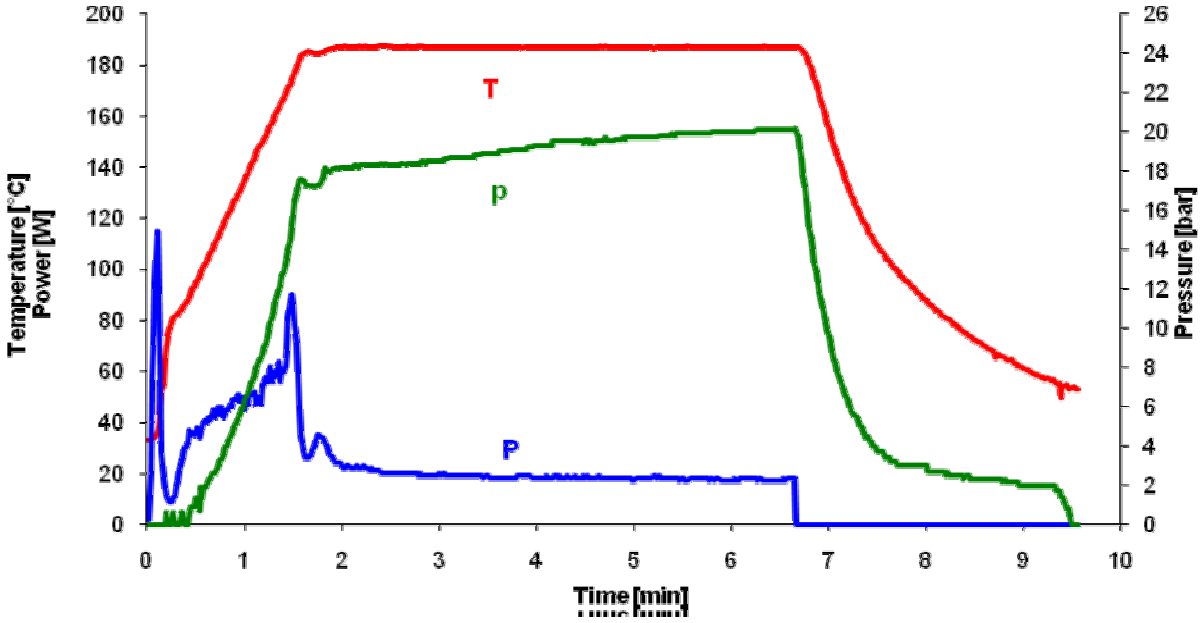

Figure S2. Temperature (T), Power (P) and pressure (p) *vs* time of irradiation profile for the experiment performed in Pyrex at 187 ºC with a 1.5 min ramp and 5 min hold time using 600 rpm stirring.

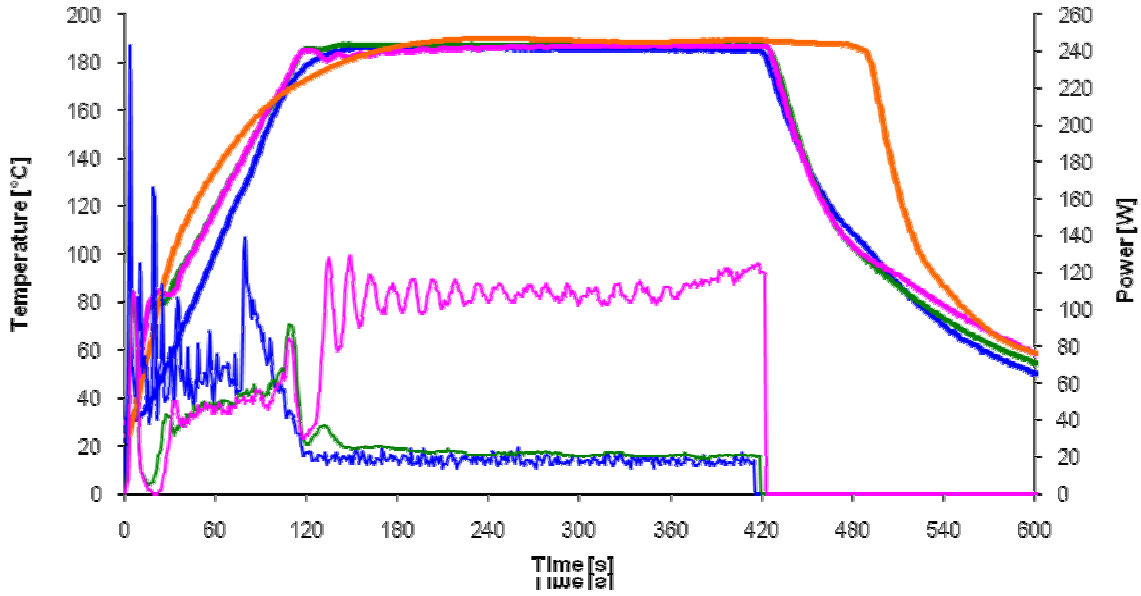

Figure S3. Temperature and Power *vs* time of irradiation profiles for A) SiC (blue); B) Pyrex (no cooling, green); C) Pyrex (with cooling, pink) and D) Conventional heating (orange).

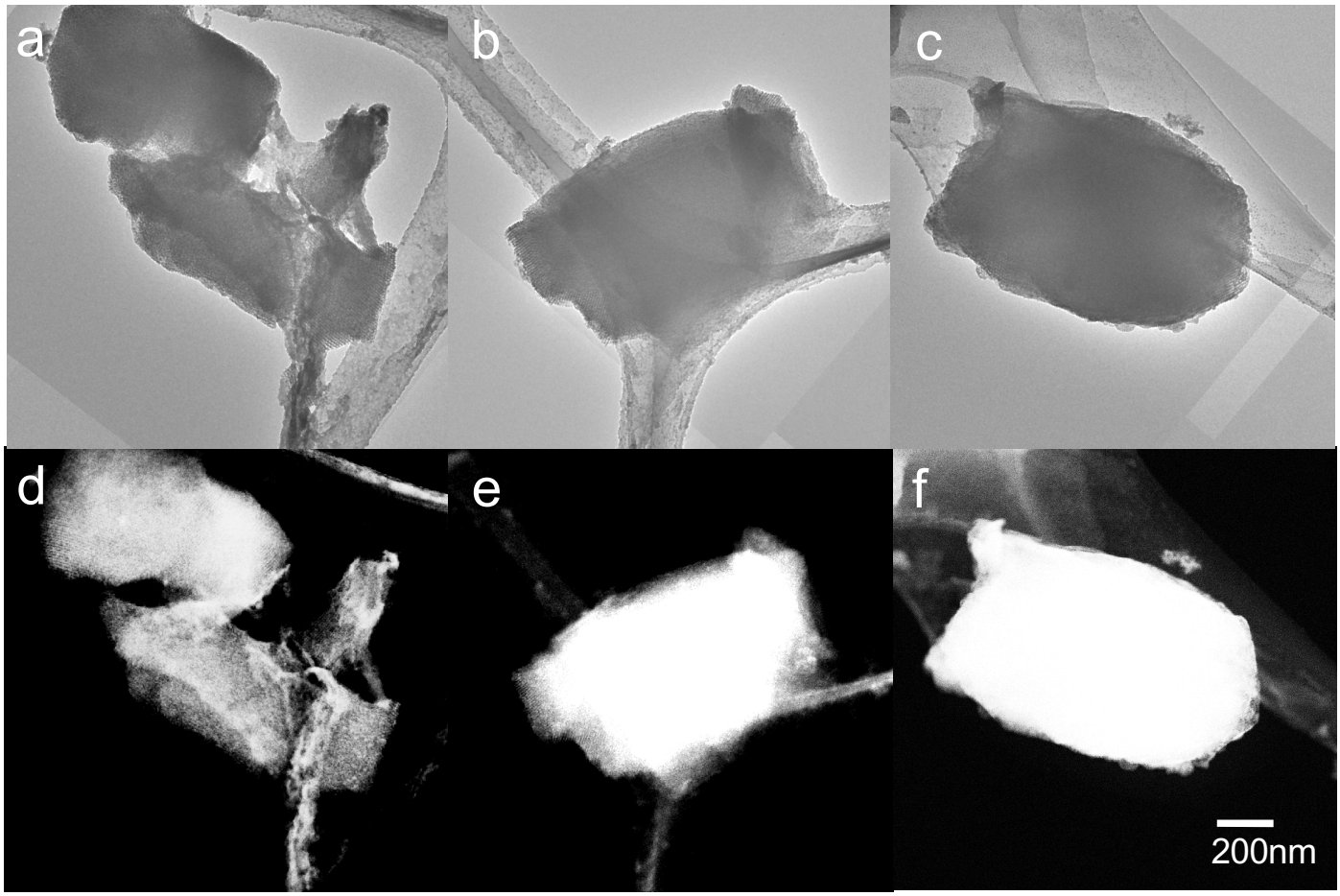

Figure S4. HRTEMs (a, b and c) and AC-HAADF STEM images (d, e and f) iron oxide nanoparticles supported on SBA-15 materials prepared using SiC vials (a, d), Pyrex vials without cooling (b, e) and Pyrex vials with cooling (c, f).

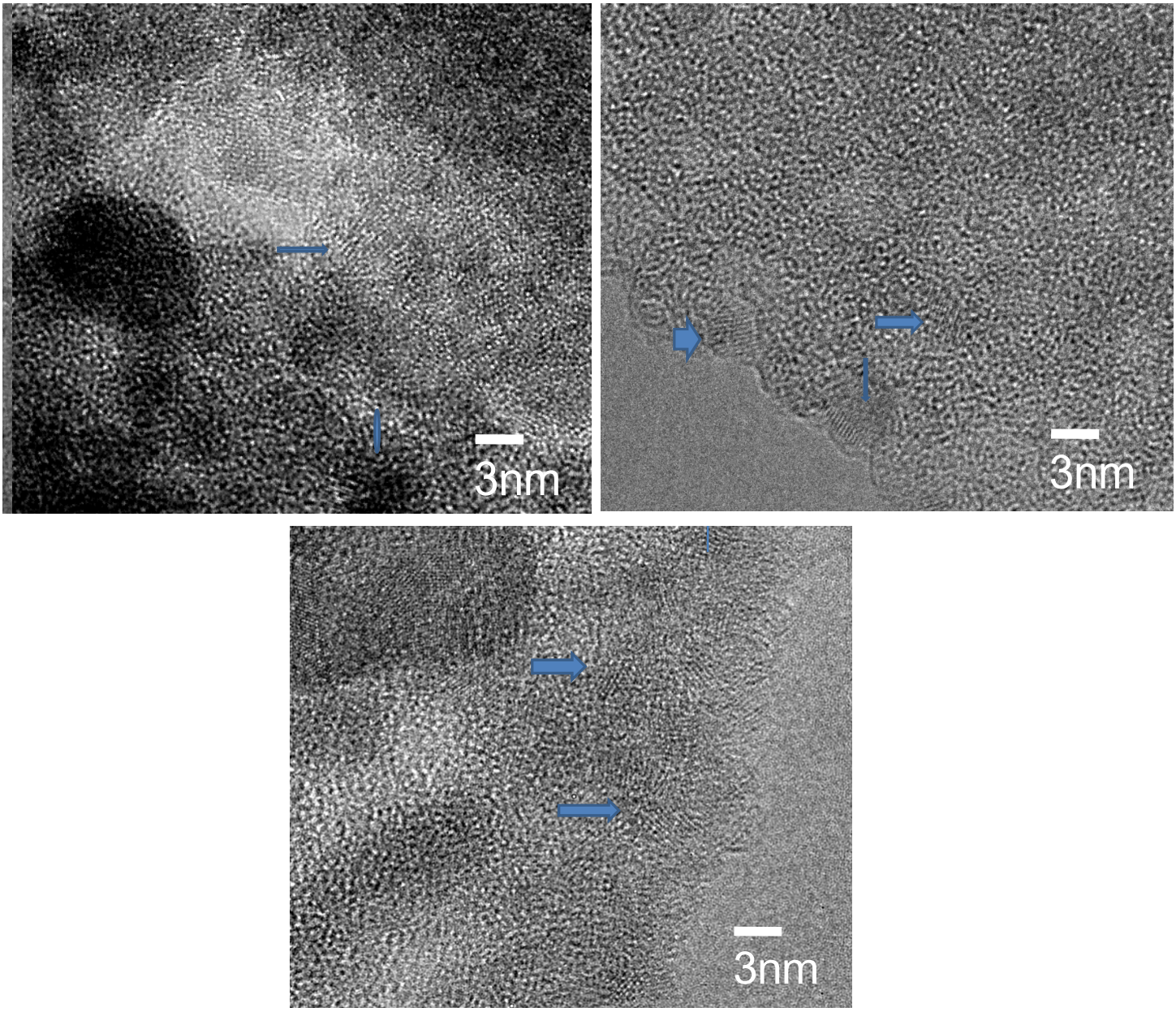

Figure S5. Atomic level resolution of HRTEM images from Fe/SBA-15 materials prepared using SiC (top, left image), Pyrex without cooling (top, right image) and Pyrex with cooling vials (bottom image), respectively.