Supporting Information

Table T-1. Physicochemical properties of products obtained using various acid sources without and with stirring state. All samples were synthesized at a similar mixing ratio to the basic reaction mixture 30°C for 6 h using HNO_3, HBr, and H_2SO_4 in place of HCl.

Acid source	Stirring state	S_{BET} (m^2/g)	V_{meso} (ml/g)	V_{micro} (ml/g)	D_{meso} (nm)	d_{001} (nm)
HNO_3	without	732	0.50	0.08	4.00	7.03
HNO_3	with	889	0.66	0.11	4.48	7.75
HBr	without	819	0.58	0.08	4.60	8.18
HBr	with	879	0.62	0.14	4.60	8.03
H_2SO_4	without	745	0.67	0.08	5.86	8.18
H_2SO_4	with	800	0.64	0.10	5.06	8.18

All notations are consistent with those in Table 1.

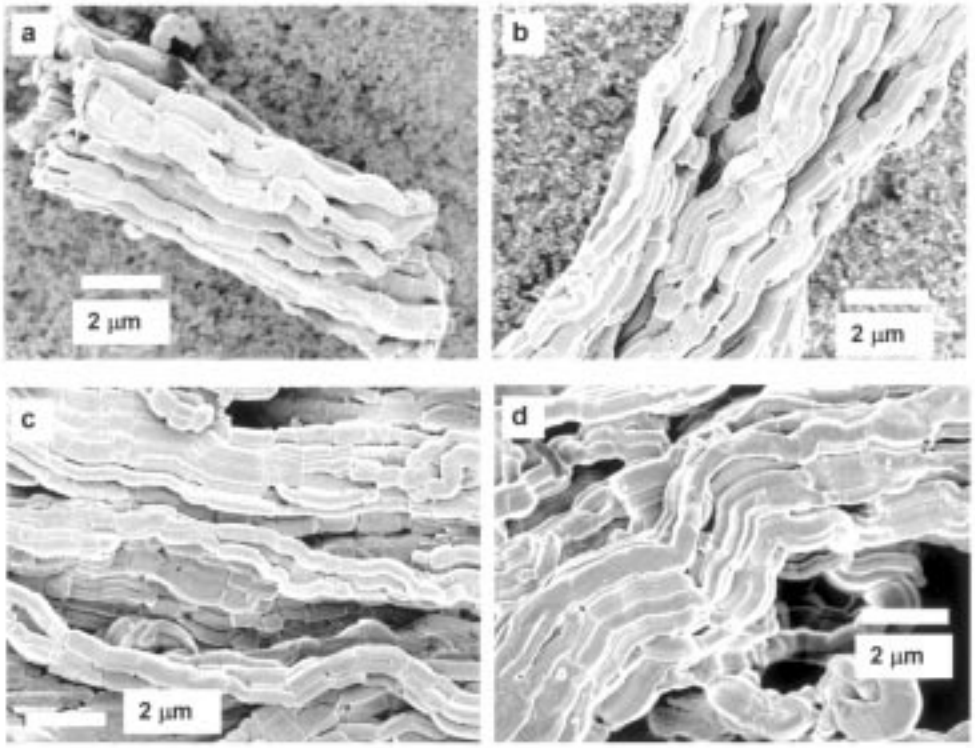

Figure S-1. FE-SEM images of fiber-like Samples FB (a), FC (b), FI (b), and the products obtained using H_2SO_4. They show that all fiber-like silicas have similar microstructures with coupling of rod-like particles of which respective length and width are almost identical, at *ca.* 1 μm and *ca.* 0.5 μm, irrespective of their different macroscopic sizes.

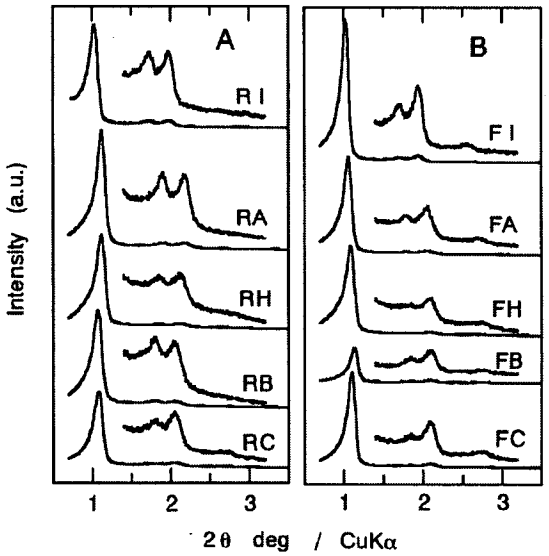

Figure S-2. Powder X-ray diffraction patterns of the representative (A) rod-like and (B) fibrous SBA-15 samples. A part of the pattern for all samples is drawn at ten magnifications. Letters in the figures correspond to sample names listed in Table 1.

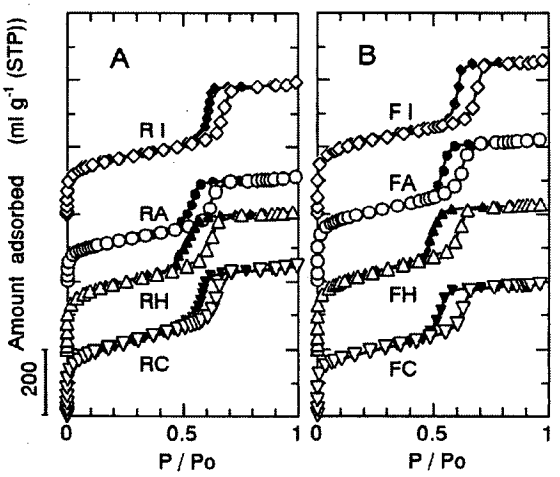

Figure S-3. Nitrogen sorption isotherms of the corresponding samples in Figure S-2. Open-adsorption; closed-desorption. Isotherms are offset by 200 ml/g for clarity.

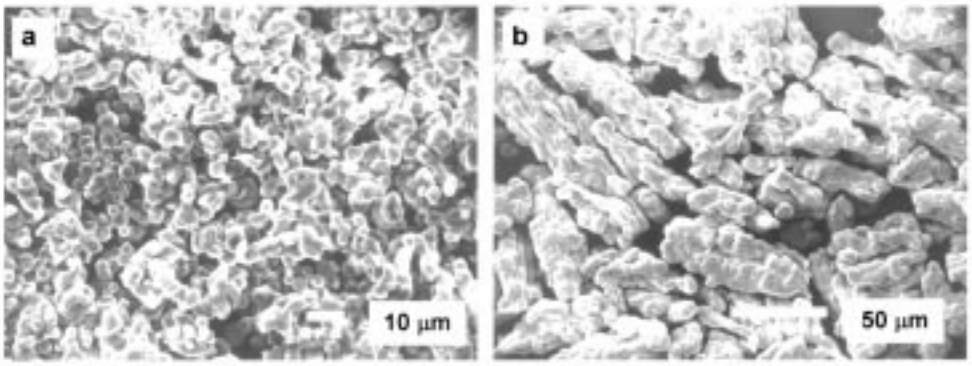

Figure S-4. SEM micrographs of the samples obtained using HNO_3 as an acid source (a) without and (b) with stirring. Formation of nearly spherical particles while agglomerated under static condition (Figure S-4a) and slight further elongation of such aggregates upon shearing flow (Figure S-4b) reflects rapid silica precipitation immediately after induction time. Each corresponding SEM image for HBr was very similar to these respective images.

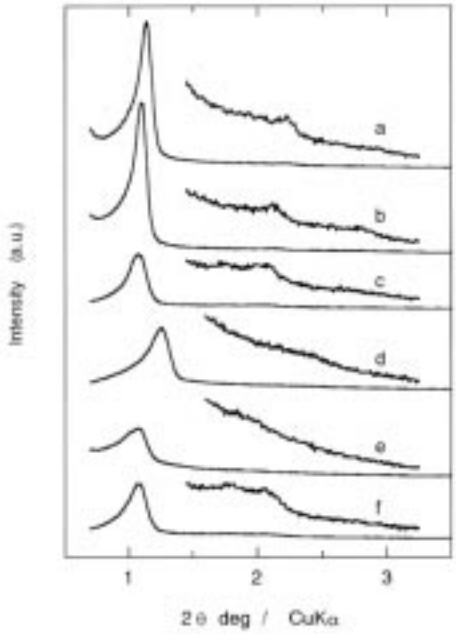

Figure S-5. Powder X-ray diffraction patterns of products obtained using various acid sources at a similar mixing ratio to the basic reaction mixture at 30°C for 6 h using HNO_3, HBr, and H_2SO_4 in place of HCl: (a), (d) HNO_3; (b), (e) HBr; and (c), (e) H_2SO_4. Lines (a), (b), (c) show results with stirring and (d), (e), (f) under static conditions. A part of the pattern for all samples is drawn at ten magnifications.

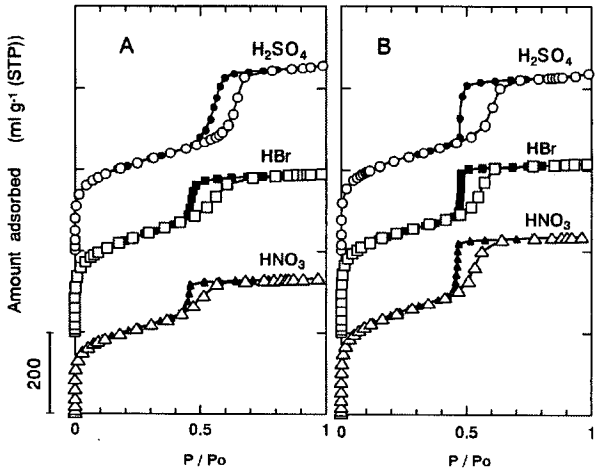

Figure S-6. Nitrogen sorption isotherms of corresponding samples in Figure S-5 obtained using various acid sources (A) under static and (B) with stirring conditions. Open-adsorption; closed-desorption. Isotherms are offset by 200 ml/g for clarity.

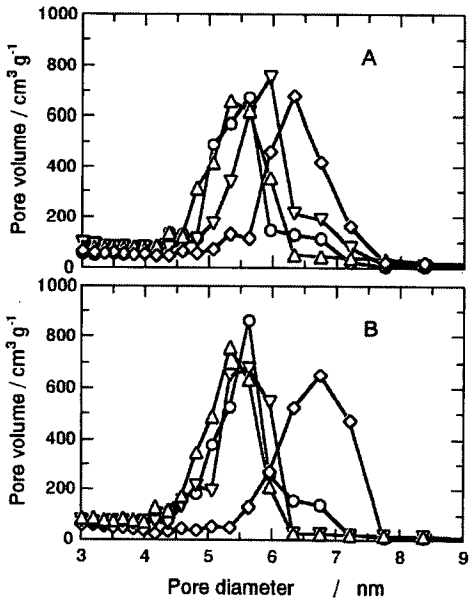

Figure S-7. BJH pore size distribution curves of corresponding samples in Figure S-6.

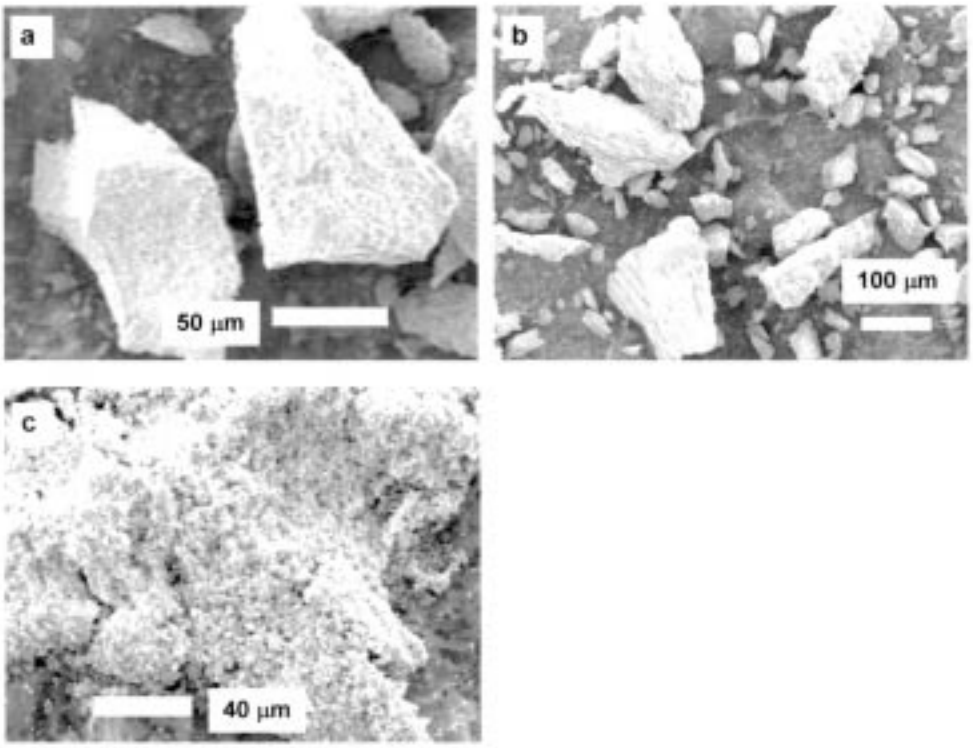

Figure S-8. FE-SEM images of the intermediate products obtained at the basic reaction mixture for 1 h (a) without and (b) with stirring, and (c) for 3 h without stirring.