Electronic Supplementary Material (ESI) for RSC Advances.

Ultrathin γ-Al_2O_3 nanofibers with large specific surface area and their enhanced thermal stability by Si-doping

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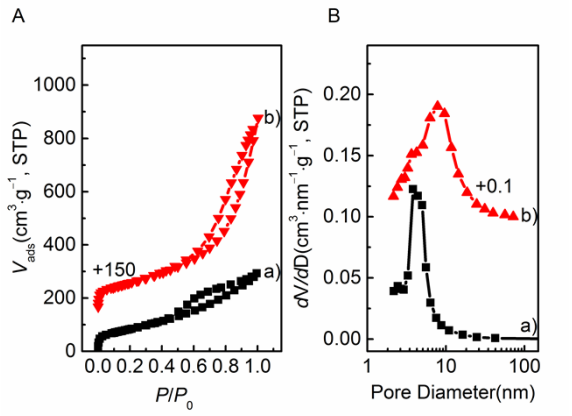
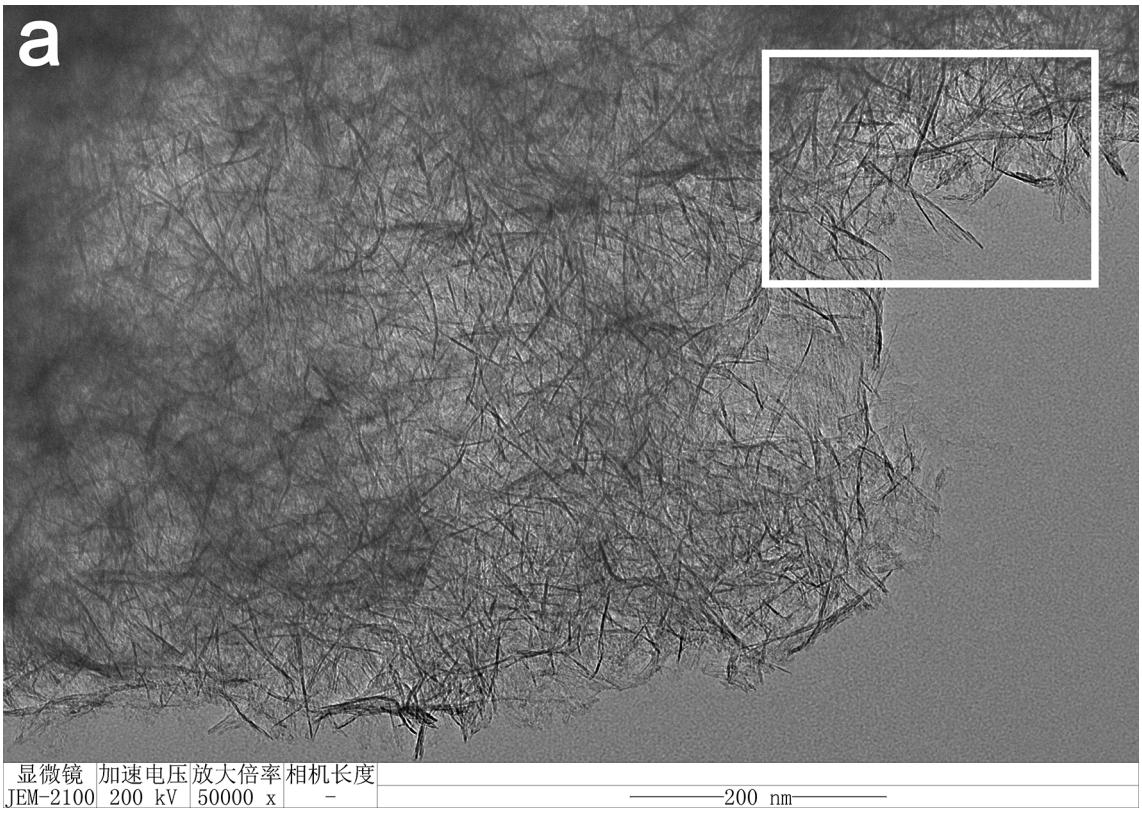


Fig. S1 (A) Nitrogen adsorption-desorption isotherms and (B) the corresponding pore size distribution curves of boehmite precursors obtained in different washing way: (a) using cool water (20 °C) and (b) using hot water (90 °C) and ethanol.



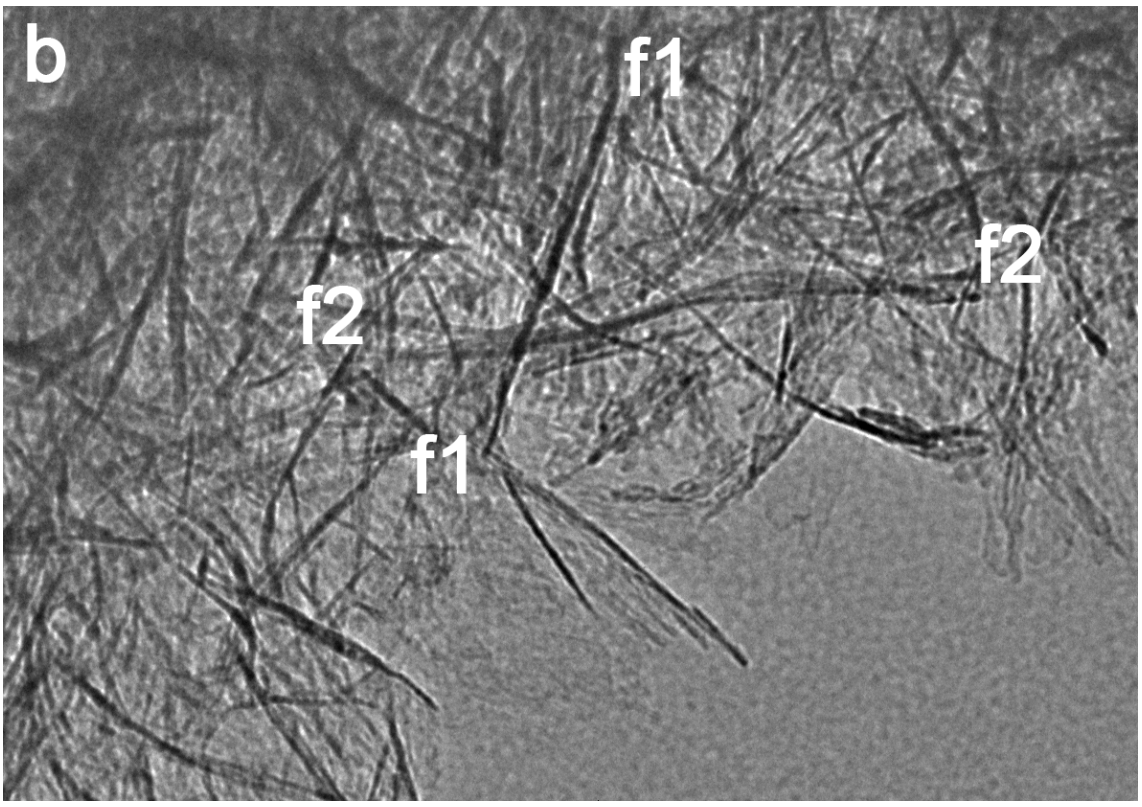


Fig. S2 (a) TEM image of alumina obtained after calcined at 500 °C and (b) its magnified image in (a).

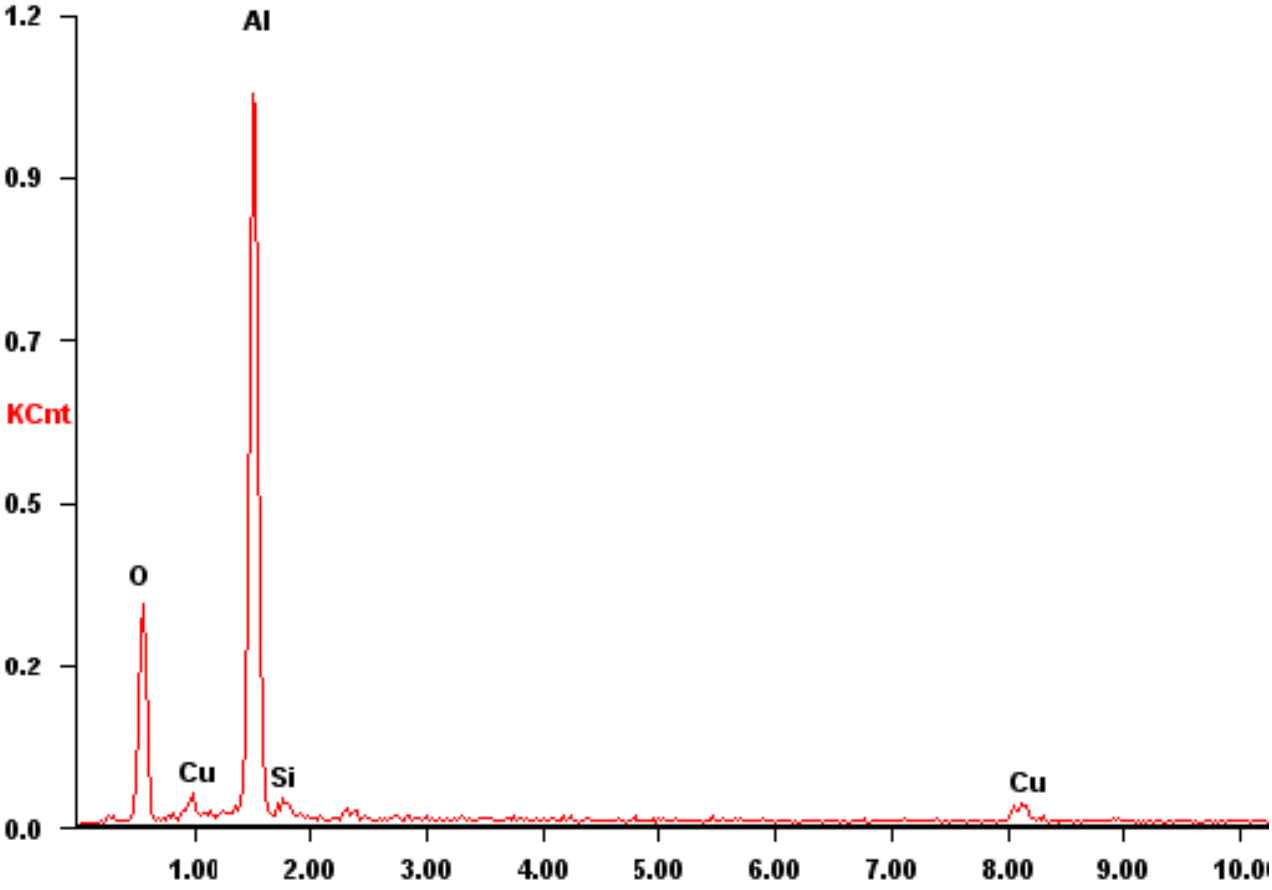


Fig. S3 EDX pattern of the Si-doped γ-Al_2O_3 nanofiber SA6%. The signal of Cu is derived from the copper foil on which the Si-doped γ-Al_2O_3 nanofibers are dispersed for SEM measurement.

Table S1 Comparison of the thermal stability of various alumina.

Products	Calcined temperature (°C)	Specific surface area ($m^2 \cdot g^{-1}$)	Pore volume ($cm^3 \cdot g^{-1}$)	Reference
A-500	500	419	1.60	
A-1000	1000	132	0.91	
A-1100	1100	104	0.55	This work
A-1200	1200	70	0.51	
SA-6%	120A0	113	0.69	
Mesoporous γ-Al_2O_3	1000	116	0.24	24
La-doped mesoporous γ-Al_2O_3	1200	101	0.66	25
γ-Al_2O_3 nanofibers	1200	68	-	30
γ-Al_2O_3 nanofibers	1200	41	0.27	31
La-doped γ-Al_2O_3 nanofibers	1200	71	0.60	32