Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

Supporting Information

A plum-pudding like mesoporous SiO_2/flake graphite nanocomposite with superior rate performance for LIBs anode material

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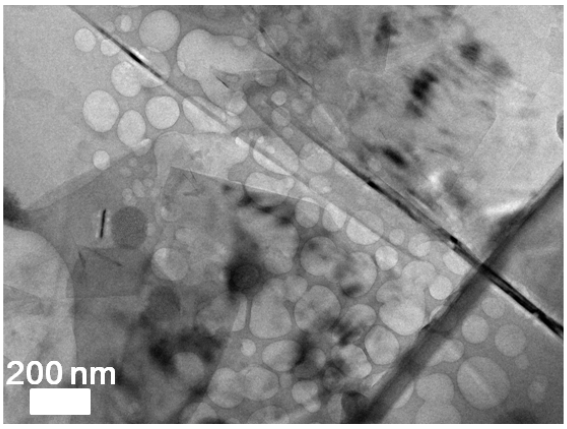

Figure S1. TEM image of the pure flake graphite obtained by etching the pp-MSNs/FG nanocomposite using the HF aqueous solution.

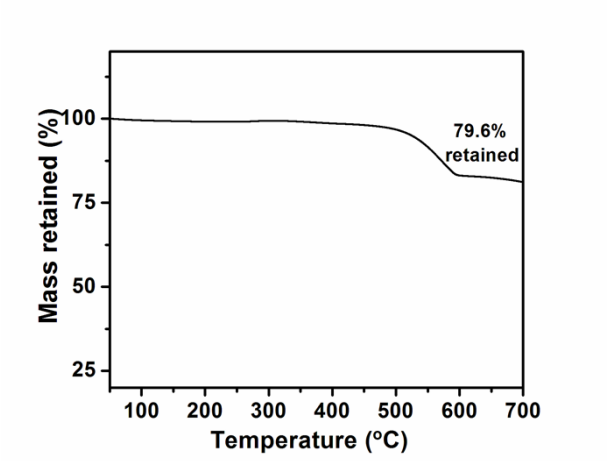

Figure S2. TG curve of the pp-MSNs/FG nanocomposite under air atmosphere.

Table S1. Specific surface area, pore volume and average pore diameter of MSNs and pp-MSNs/FG nanocomposite.

Samples	**BET** ($m^2\ g^{-1}$)	**Pore volume** ($cm^3\ g^{-1}$)	**Pore diameter** (nm)
MSNs	424.3	0.59	2.4
pp-MSNs/FG	210.9	0.45	1.6, 2.2

Table S2. The atom and weight percentages of C, O and Si contents of the pp-MSNs/FG in XPS analysis result.

	C	**Si**	**O**
At.%	40.4	20.58	39.02
Wt.%	28.76	34.19	37.05

Table S3. Electrochemical properties of pp-MSNs/FG nanocomposite and other reported anode materials.

Material	Current density ($mA\ g^{-1}$)	Capacity ($mAh\ g^{-1}$)	Ref.
Nanostructured SiO_2/C composites	250 500 1000	551 451 356	Ref. 42
Nitrogen-doped ordered mesoporous carbon/silica	250 500 1000	490 372 289	Ref. 39
Nanosilica/carbon composite	50 600	680 358	Ref. 33
Carbon/silica composite	200 500 1000	430 320 210	Ref. 41
SiO2/Cu/polyacrylonitrile-C composite	440	352	Ref. 38
pp-MSNs/FG	300 500 1000 3000 5000	667.1 656.1 561.5 343.8 239.6	This work

Table S4. The electrical resistivities (ρ) of FG and pp-MSNs/FG.

Material	FG	pp-MSNs/FG	MSNs
ρ (Ω•m)	6.4×10^{-6}	3.4×10^{-4}	insulator