

SUPPORTING INFORMATION

Controllable synthesis of hollow silica nanoparticles using layered double hydroxide templates and application for thermal insulation coating

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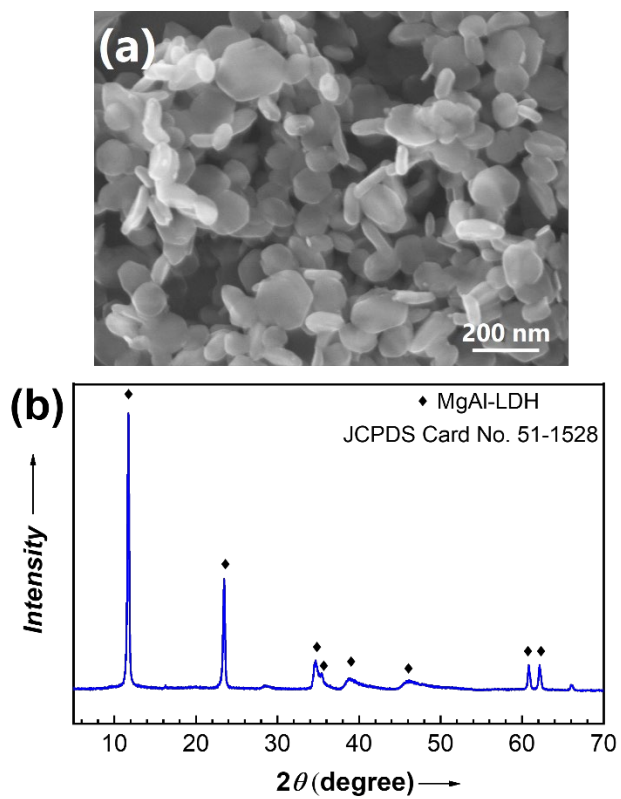


Fig. S1. FE-SEM image (a) and XRD pattern of recycling LDH template.

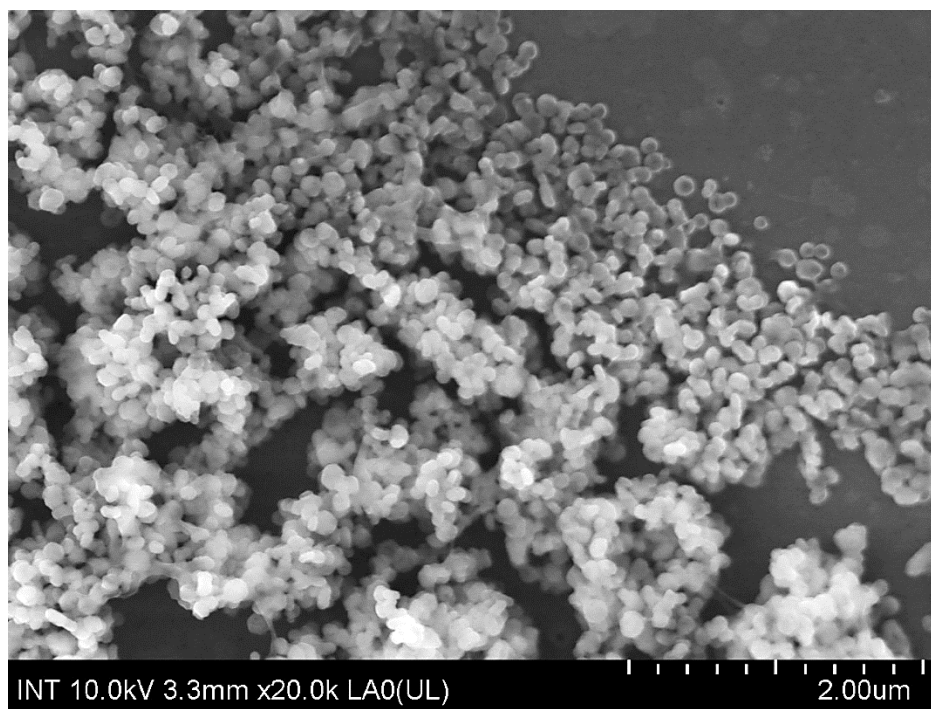


Fig. S2. Low-magnified FE-SEM image of LDH@SiO₂-100

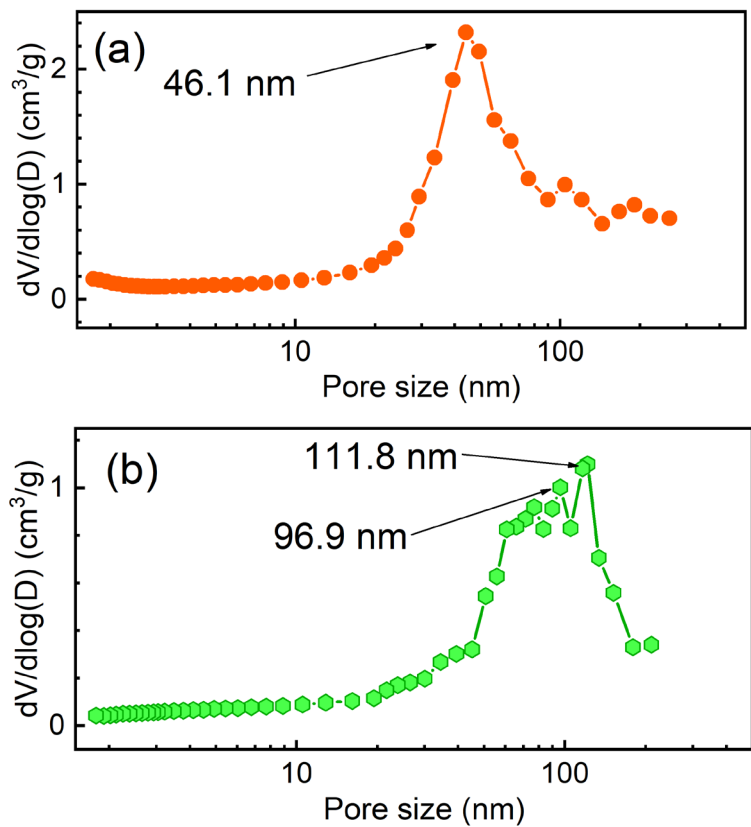


Fig. S3. Pore size distributions of HSN-80 (a) and HSN-100 (b) calculated from BJH analysis.

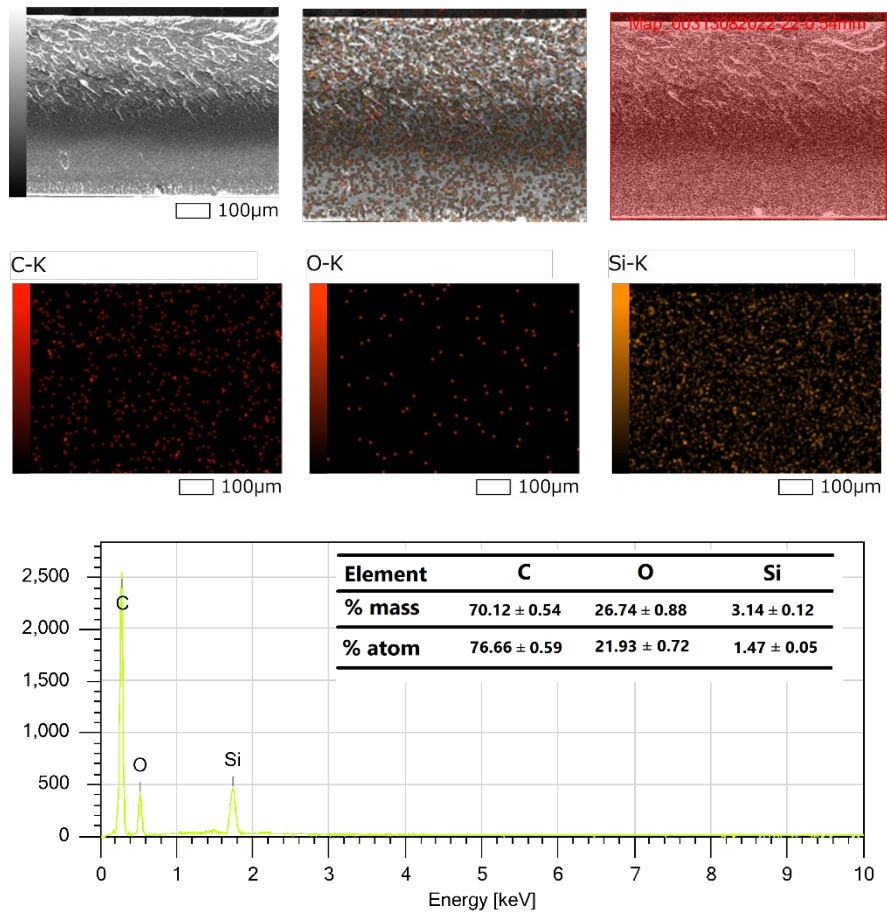


Fig. S4. EDS elemental mapping of the 10 wt% HSN/epoxy film.

Table S1. The zeta potentials of prepared particles at various particle sizes and different coating conditions.

Samples	Partilcles size (nm)	Na ₂ SiO ₃ coating (M)	Zeta potential (mV)
LDH-80	52.1	-	+60.0
LDH-100	98.2	-	+71.0
LDH-125	152.4	-	+74.9
LDH-80@SiO ₂	79.2	1.0	-19.1
LDH-100@SiO ₂	122.3	1.0	-15.0
LDH-125@SiO ₂	172.9	1.0	-18.7
HSN-80	76.6	1.0	-46.4
HSN-100	123.1	1.0	-43.1
HSN-125	176.2	1.0	-50.4
HSN-125	-	0.5	-38.5
HSN-125	-	0.75	-43.6
HSN-125	-	1.25	-41.2
HSN-125	-	1.50	-38.9