Electronic Supplementary Material (ESI) for RSC Advances.

Supplementary Information

Graphene-decorated silica stabilized stearic acid as thermal energy storage material

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Table S1 Thermal properties of the SA^{+}/SG_5 and SA^{++}/SG_5 composites.

Samples	Loadage (β, %)	Melting temperature (T_m, ºC)	Freezing temperature (T_f, ºC)	Latent heat of melting (ΔH_m, J g^{-1})	Latent heat of freezing (ΔH_f, J g^{-1})	Theoretic values of ΔH_m (ΔH_{th}, J g^{-1})	Crystallinity of SA (F_c, %)	Efficient energy per unit mass of SA (E_{ef}, J g^{-1})
SA	100	54.11	53.22	177.3	173.8	---	100	---
SA^{+}/SG_5	39.5	43.88/51.92	47.19/50.67	60.40	59.14	70.03	86.25	152.9
SA^{++}/SG_5	44.8	45.68/52.58	47.35/52.08	70.25	68.80	79.43	88.44	156.8

Note: $\Delta H_{th} = \Delta H_{pure} \times \beta$; $E_{ef} = \Delta H_{pure} \times F_c$

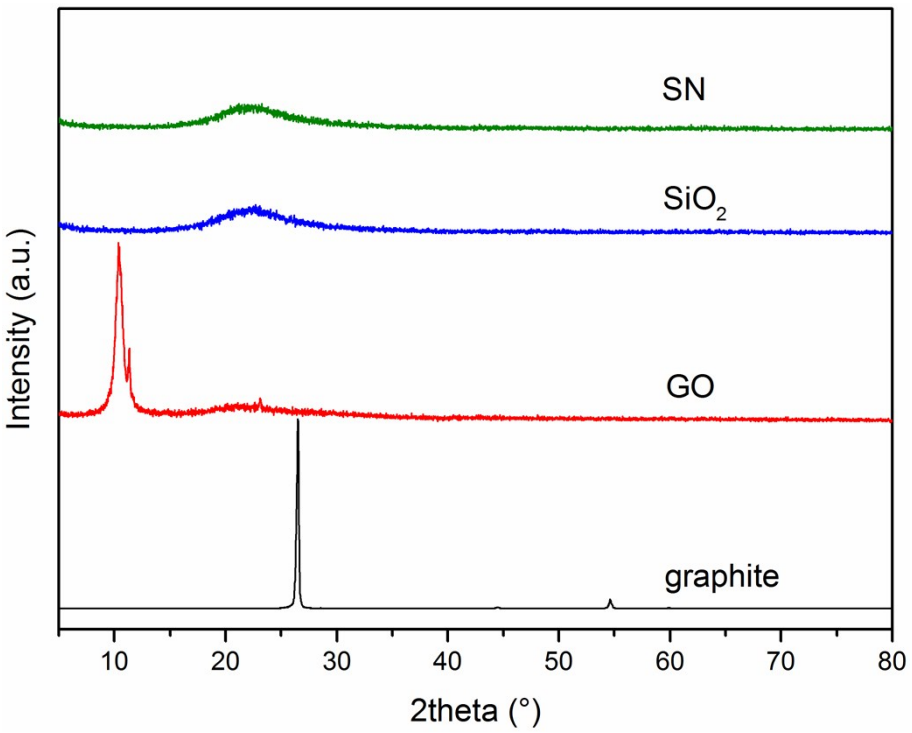

Figure S1 XRD patterns of the graphite, GO, SiO_2, and SN.

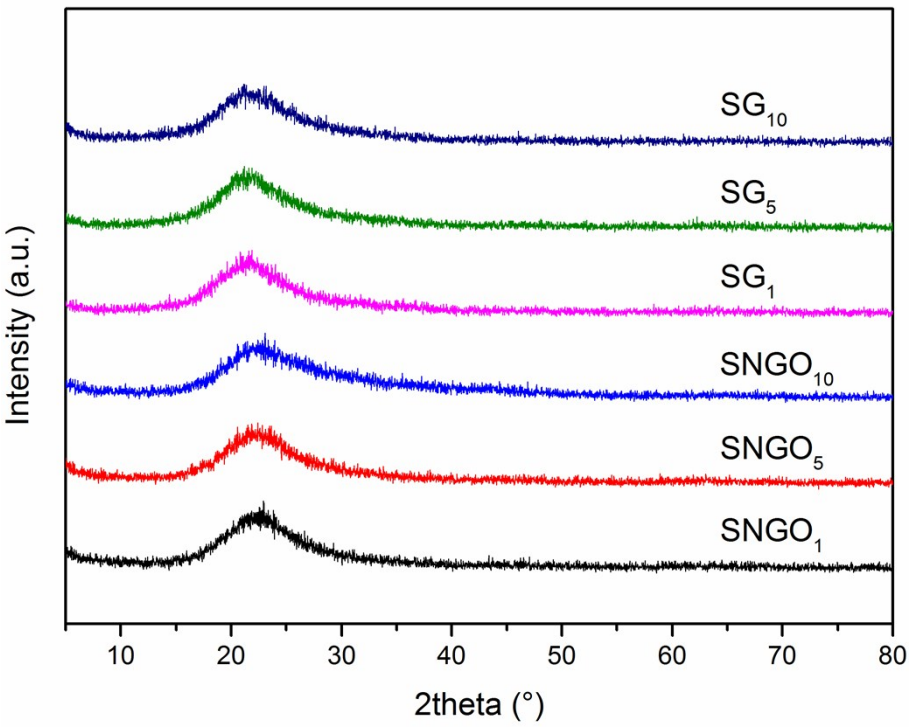

Figure S2 XRD patterns of the SNGO and SG.

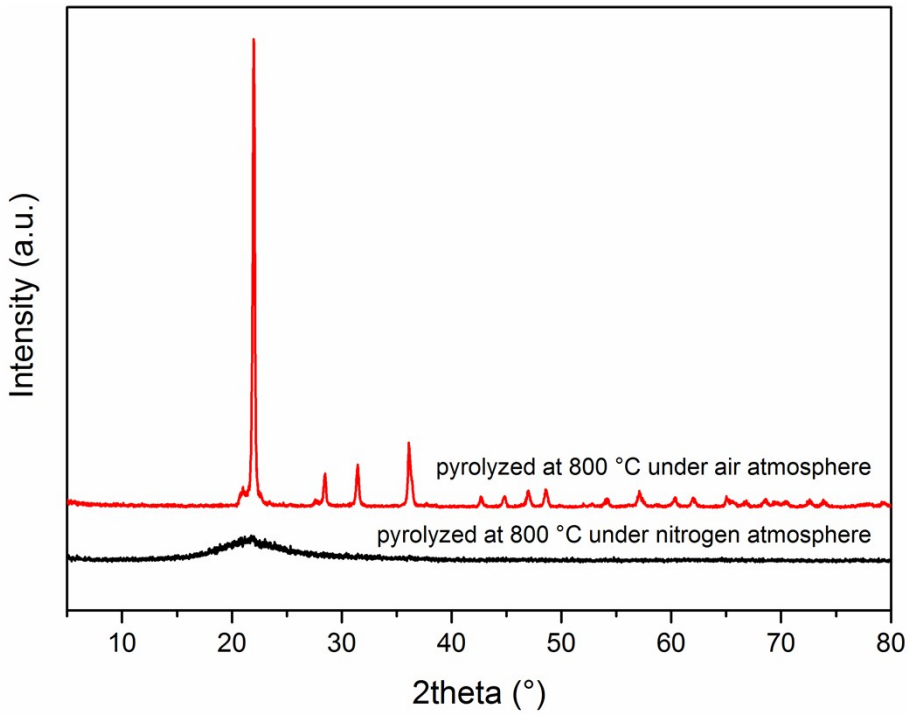

Figure S3 XRD patterns of the SiO_2 pyrolyzed at 800 °C under nitrogen atmosphere and air atmosphere, respectively.

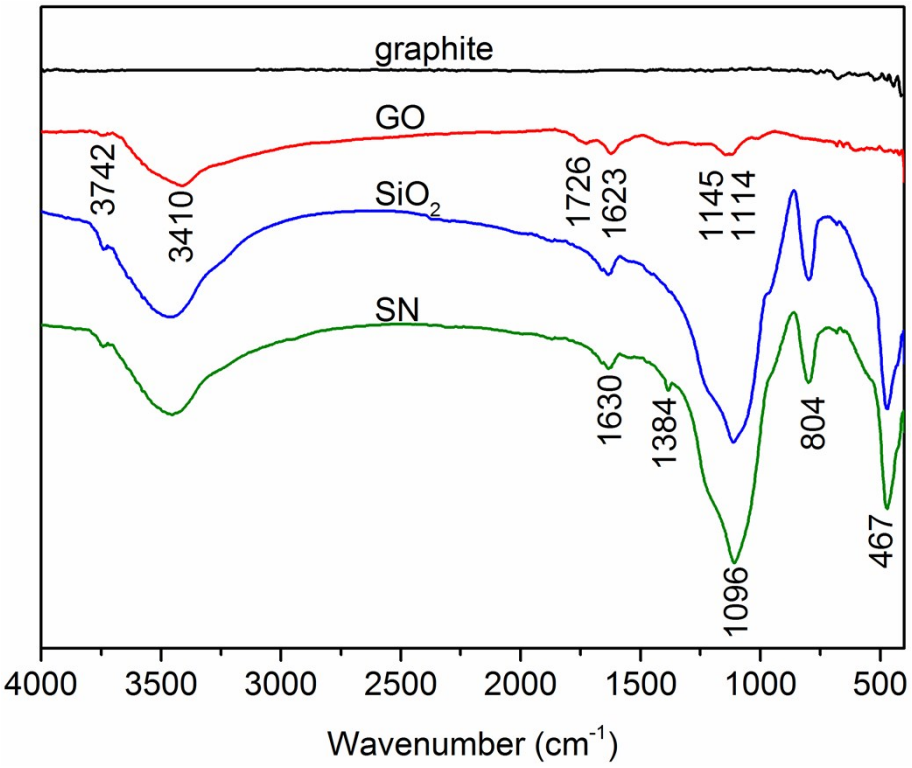

Figure S4 FTIR spectra of the graphite, GO, SiO_2, and SN.

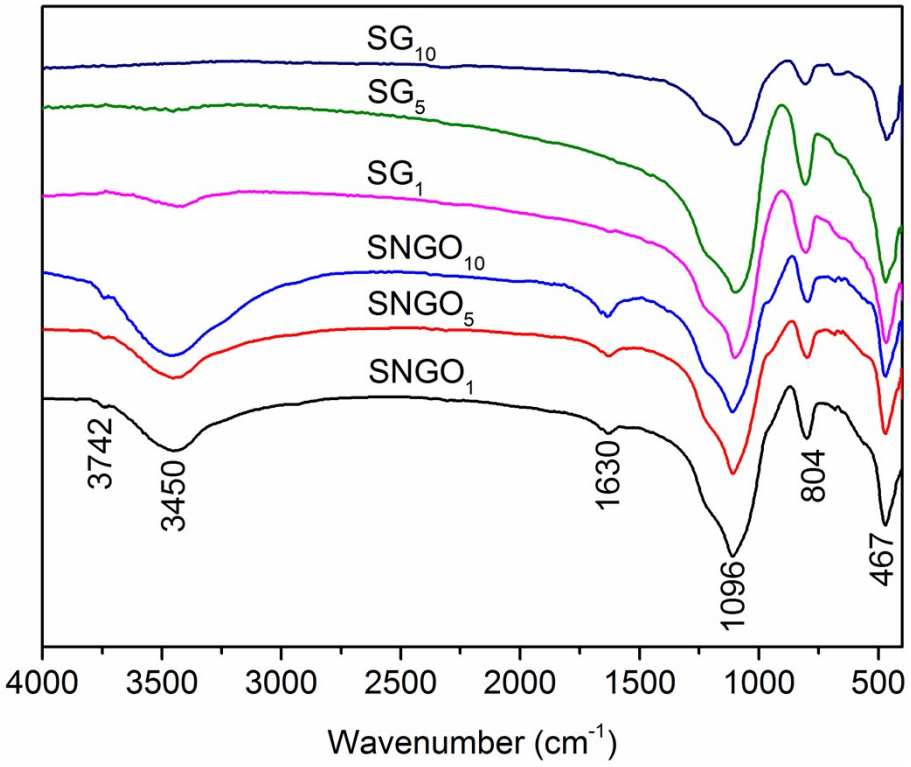

Figure S5 FTIR spectra of the SNGO and SG.

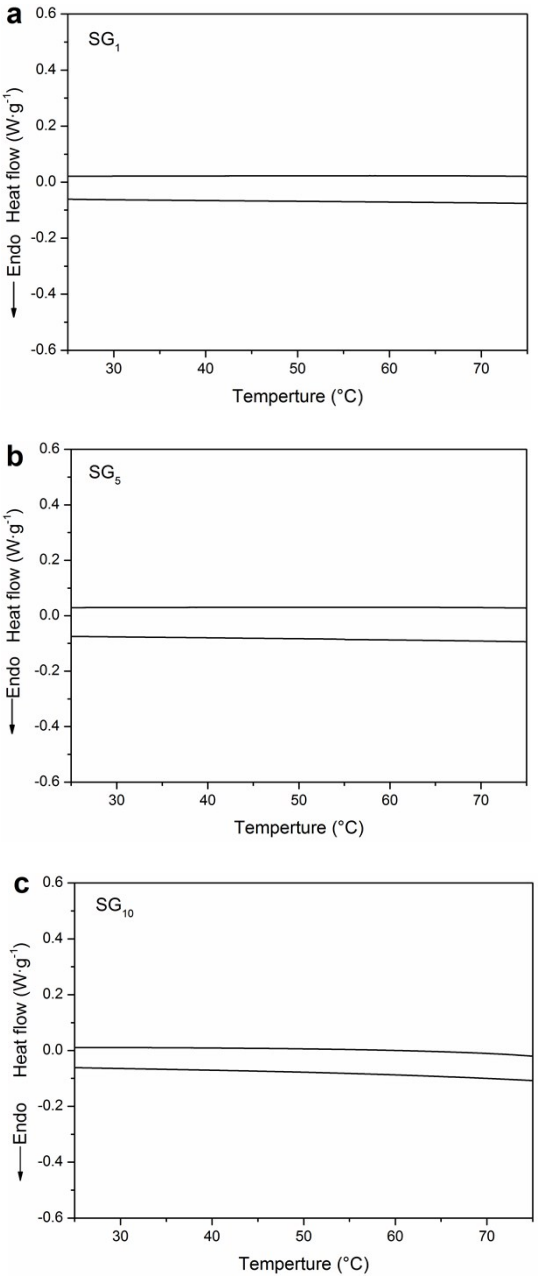

Figure S6 DSC curves of the SG_1, SG_5, and SG_{10}.