Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A.

Supporting Information

Synthesis of "graphene-like" mesoporous carbons for shape stabilized phase change material with high loading capacity and improved latent heat

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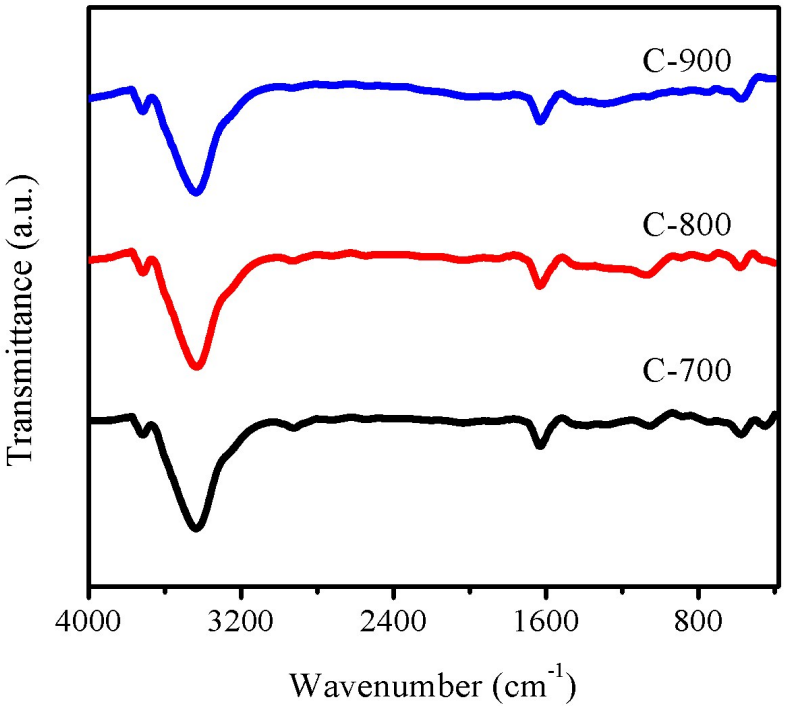

Fig. S1 FTIR spectra of as-prepared porous carbons.

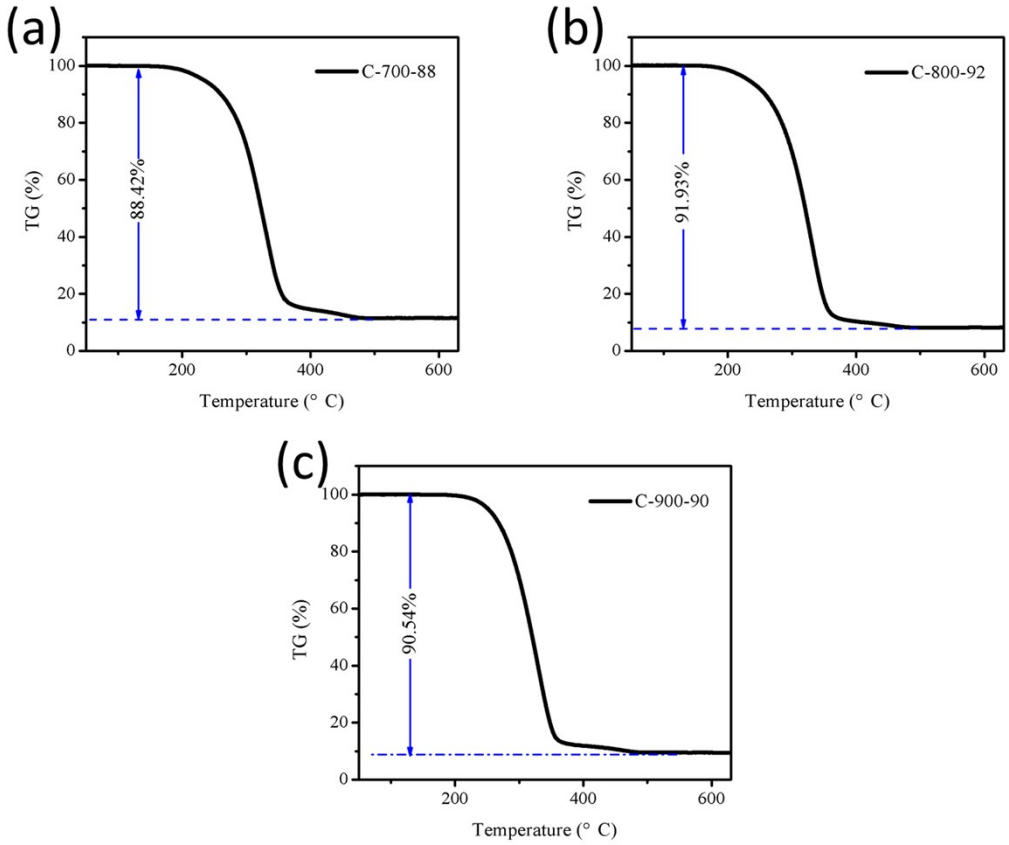

Fig. S2 TG results of PCMs after exposure on filter papers at 80 °C for 24 h.

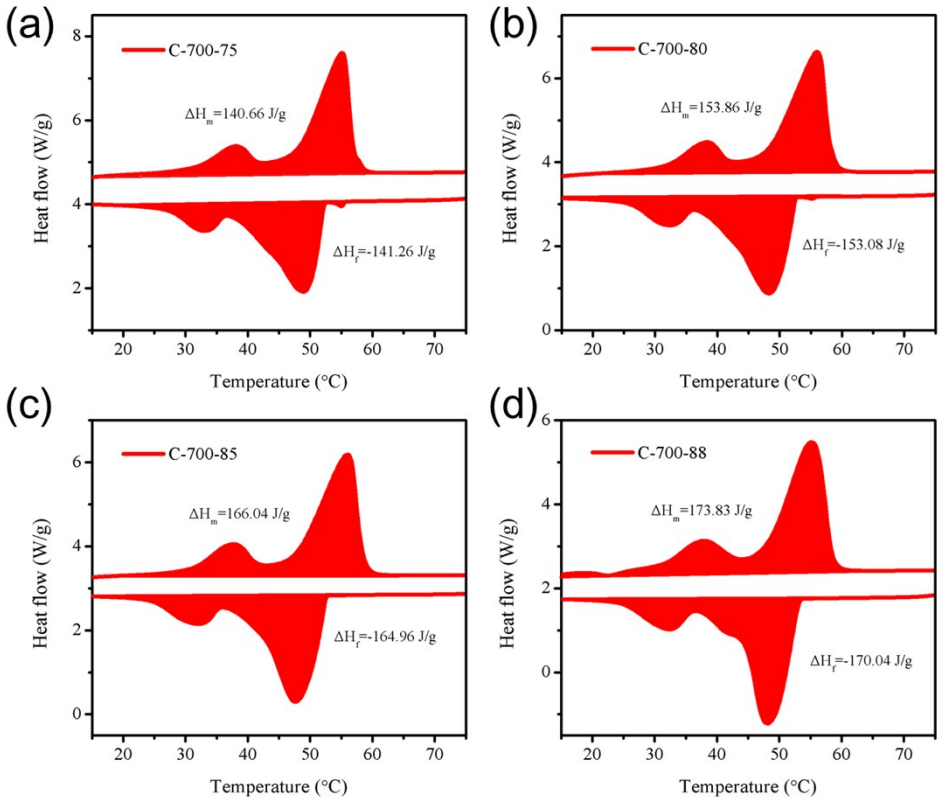

Fig. S3 DSC curves of (a) C-700-75, (b) C-700-80, (c) C-700-85 and (d) C-700-88.

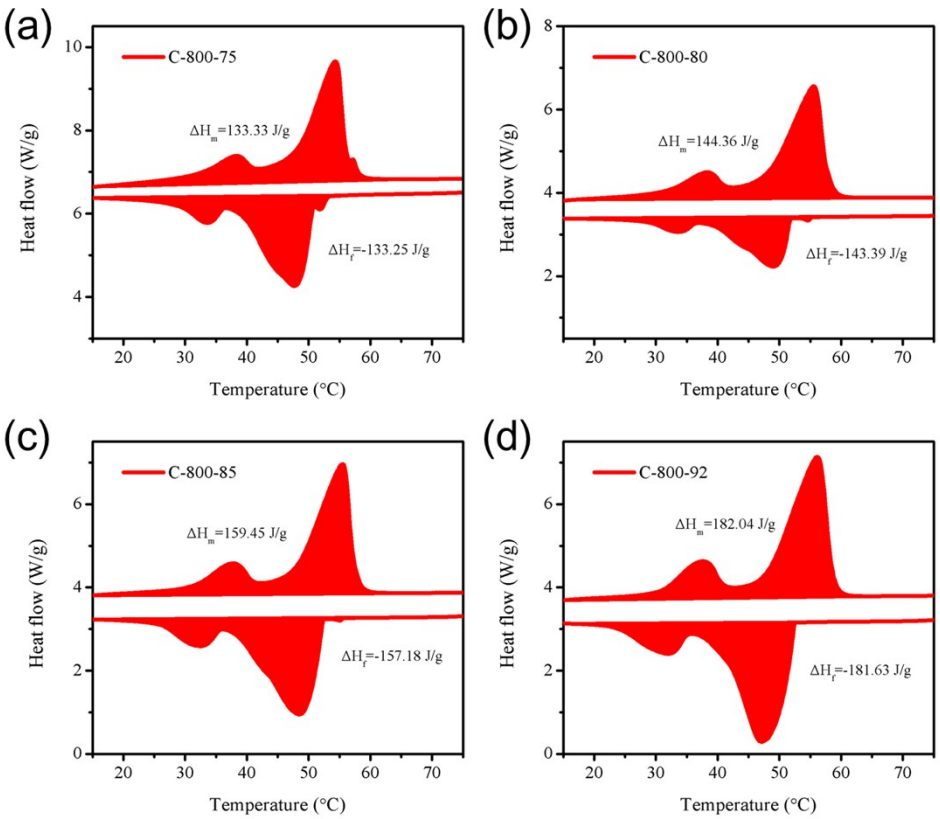

Fig. S4 DSC curves of (a) C-800-75, (b) C-800-80, (c) C-800-85 and (d) C-800-92.

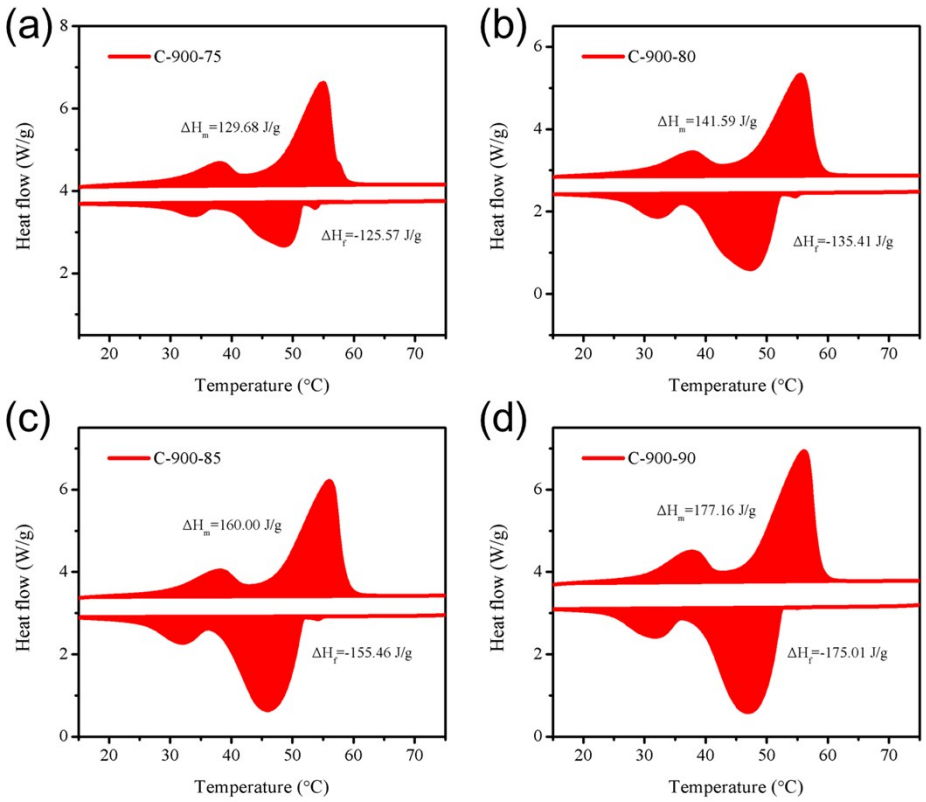

Fig. S5 DSC curves of (a) C-900-75, (b) C-900-80, (c) C-900-85 and (d) C-900-90.

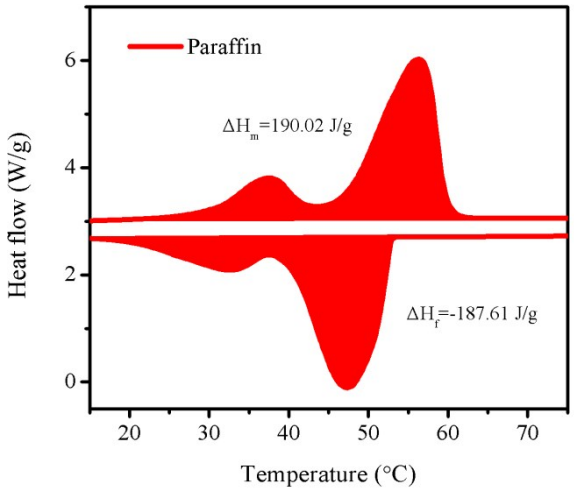

Fig. S6 DSC curve of pure paraffin.

Table S1 Melting temperature (T_m) fo the PCMs

Supporting material	Paraffin loading fraction (%)	Onset T_m (°C)	Peak T_m (°C)	End T_m (°C)
C-700	75	47.2	55.1	57.0
	80	47.3	55.9	58.2
	85	47.0	56.0	58.4
	88	47.9	55.9	59.0
C-800	75	47.1	54.3	56.2
	80	47.1	55.6	58.0
	85	47.1	55.5	57.6
	92	47.2	56.2	58.6
C-900	75	46.9	55.0	57.2
	80	46.8	55.6	58.1
	85	46.8	56.0	58.4
	90	46.8	56.1	58.4
Paraffin		46.7	56.2	59.7

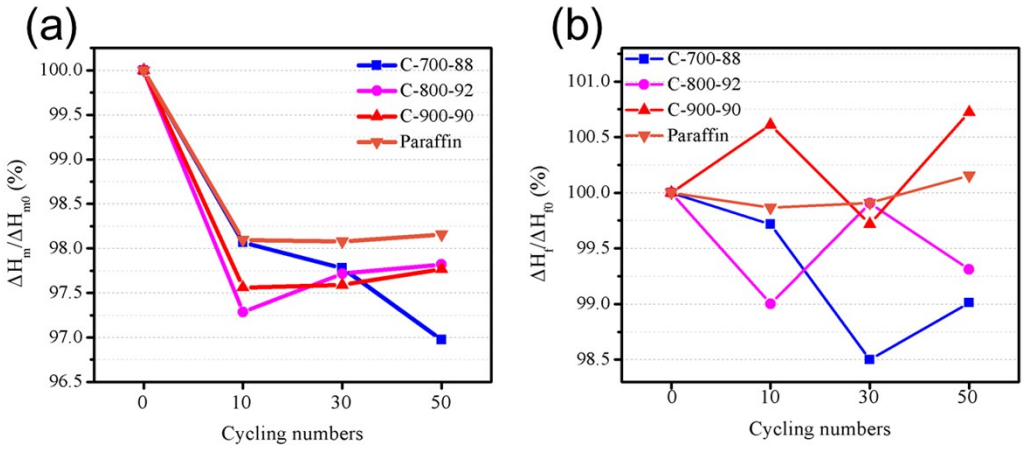

Fig. S7 Varying trend of (a) melting latent heat and (b) freezing latent heat of PCMs after thermal cycling. ΔH_{m0} and ΔH_m are melting latent heat before and after thermal cycling, respectively; ΔH_{f0} and ΔH_f are freezing latent heat before and after thermal cycling, respectively.

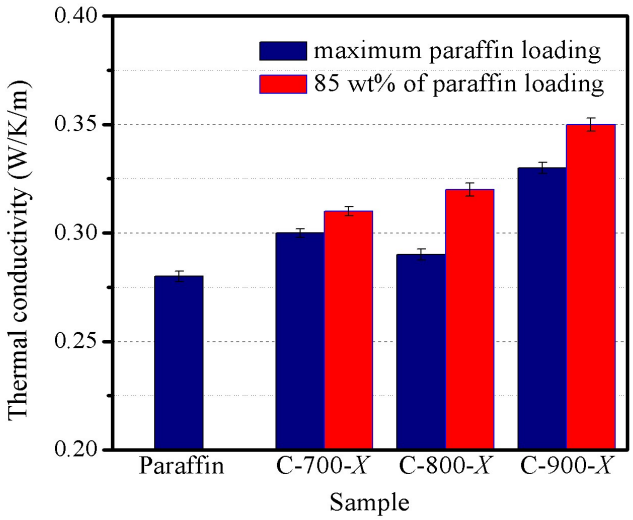

Fig. S8 Thermal conductivity of pure paraffin and the as-prepared PCMs.