Electronic Supplementary Material (ESI) for RSC Advances.

Self-assembled boron nitride nanosheets-based aerogels as support frameworks for efficient thermal energy storage phase change materials

Lanshu Xu[1], Yujie Ding[1], Laishun Wang[2*]

[1] Zhuhai Fudan Innovation Institution, Zhuhai, 518057, China

[2] Sino-French Institute for Nuclear Energy and Technology, Sun Yat-sen University, Zhuhai, 519080, China

[*]Corresponding author: Laishun Wang (E-mail: wanglaish@mail.sysu.edu.cn)

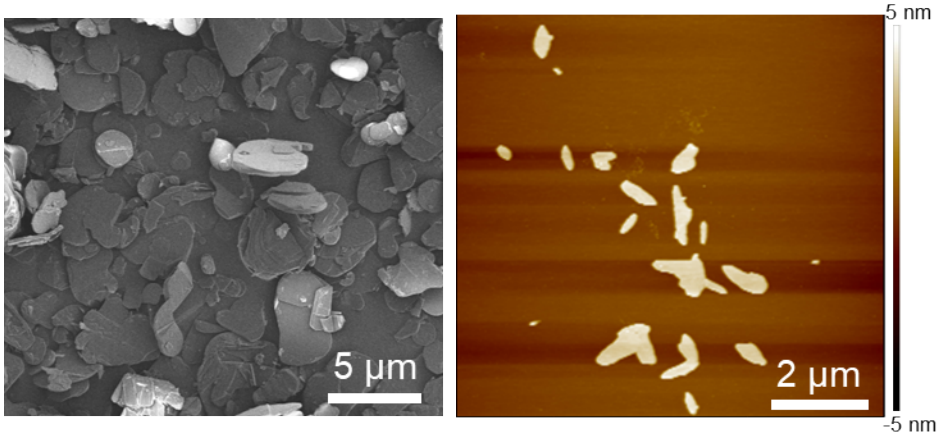

Fig. S1 SEM image of h-BN and AFM image of BNNSs.

The rigid and thick bulk h-BN powders were transformed into BNNSs with few layers.

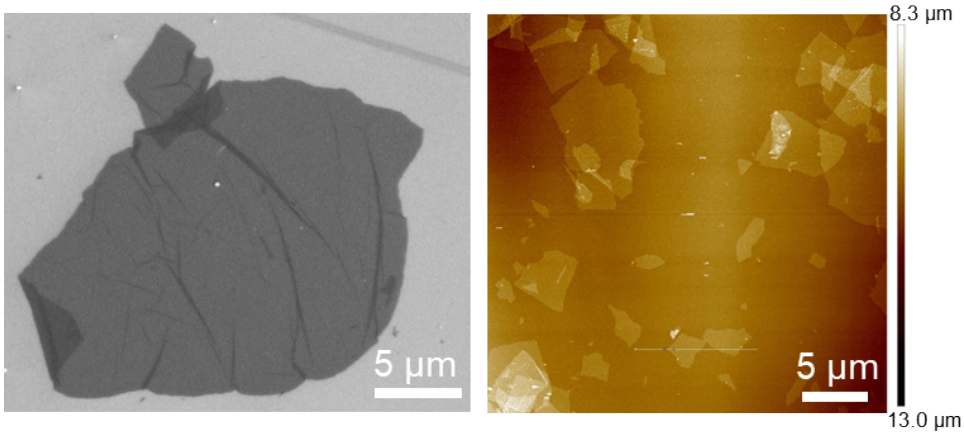

Fig. S2 TEM and AFM images of GO nanosheets.

The majority of graphene is monolayer with lateral size of 5-8 μm.

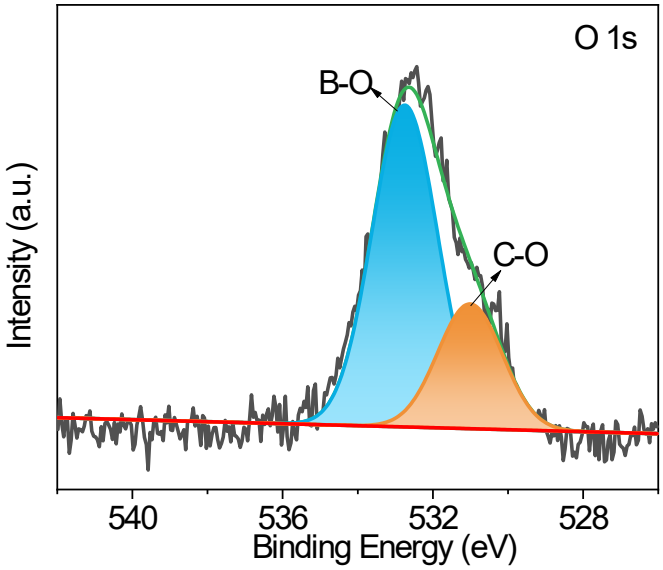

Fig. S3 High-resolution deconvoluted XPS spectrum of O 1s of BG-85 aerogel.

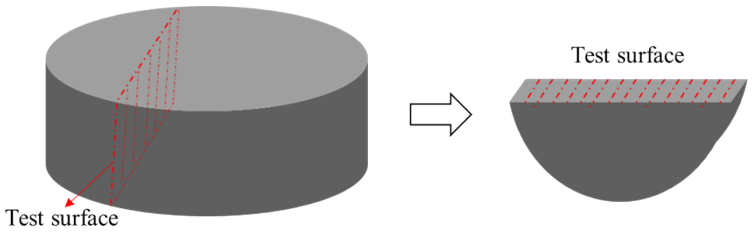

Fig. S4 Illustration of test surface for XRD.

Samples	T_m/°C	T_c/°C	ΔH_m/J/g	ΔH_c/J/g	T_{monset}/°C	T_{mend}/°C	T_{conset}/°C	T_{cend}/°C

PEG	65.7	40.4	192.3	184.8	49.7	75.7	47.5	27.3
BGP-80	66.5	43.0	169.6	149.1	54.1	73.8	49.3	33.2
BGP-85	66.5	43.1	187.2	172	55.8	74.0	48.8	32.9
BGP-90	66.5	45.6	176.6	158.2	55.1	73.6	50.5	35.6
BGP-95	66.7	43.5	181.5	159.6	51.6	76.6	49.8	30.2

Table S1 Specific parameters of phase change enthalpies and characteristic temperatures.

Note: T_m: Melting point temperature, T_c: Crystallisation temperature, ΔH_m: Melting enthalpy, ΔH_c: Crystallisation enthalpy, T_{monset}: Melting start point temperature, T_{mend}: Melting end point temperature, T_{conset}: Crystallisation start point temperature and T_{cend}: Crystallisation end point temperature.

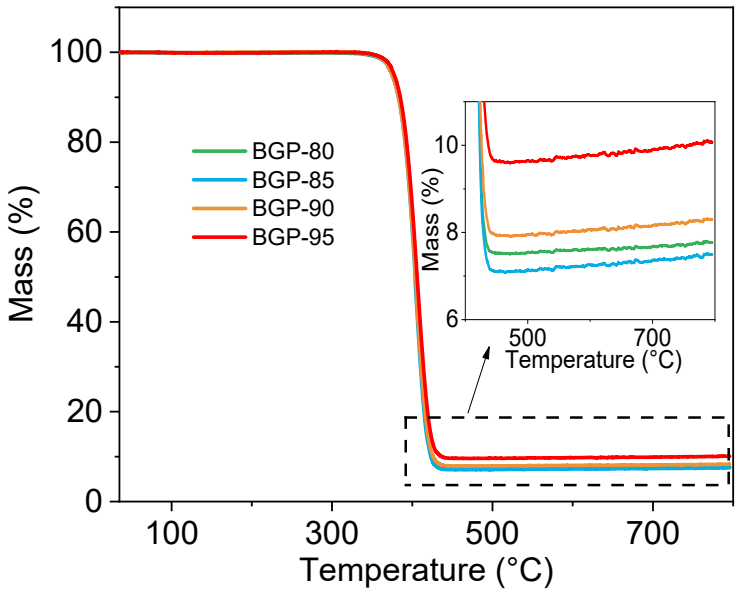

Fig. S5 Thermogravimetric analysis (TGA) of BGP composite PCMs.