

Supporting Information

Melamine foam and cellulose nanofiber co-mediated assembly of graphene nanoplatelets to construct three-dimensional network towards advanced phase change material

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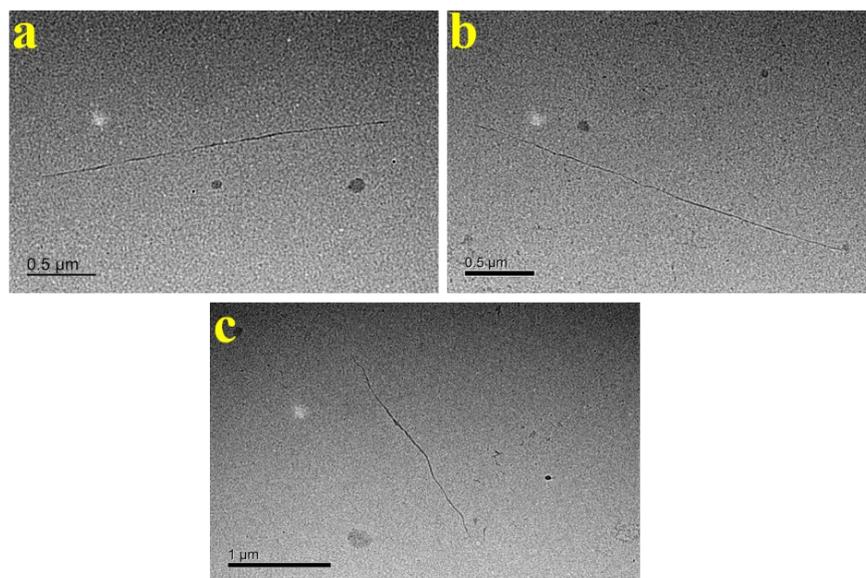


Figure S1. TEM images of CNF solution (the concentration of CNF solution was 0.01 wt%) (a-c).

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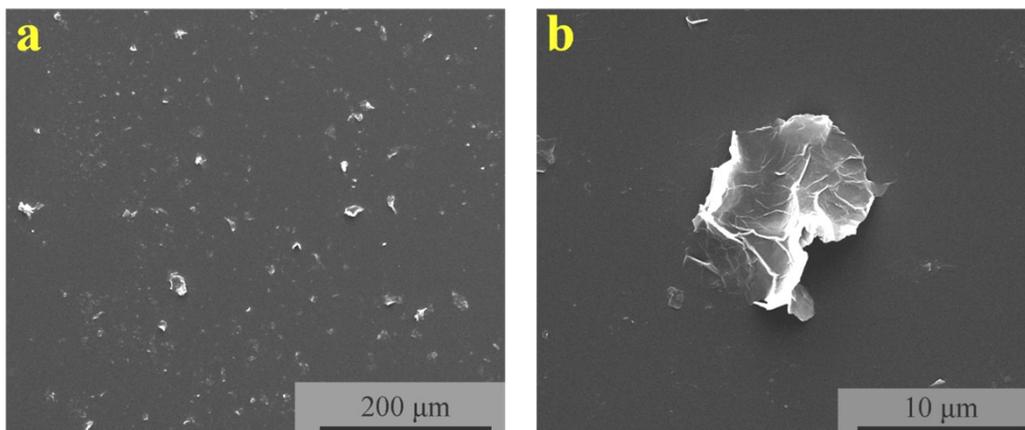


Figure S2. SEM images of CNF-dispersed GNPs which were obtained at (a) low and (b) high magnifications. The concentrations of CNF and GNPs solution were 0.1 and 0.3 mg/mL, respectively).

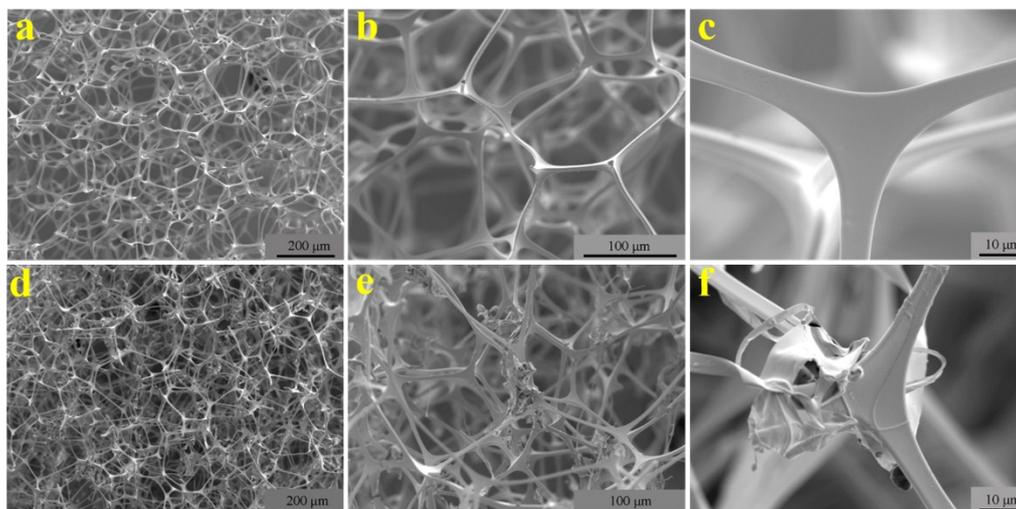


Figure S3. SEM images showing the morphologies of pure MF (a-c) and CNF@MF (d-f) obtained at different magnifications.

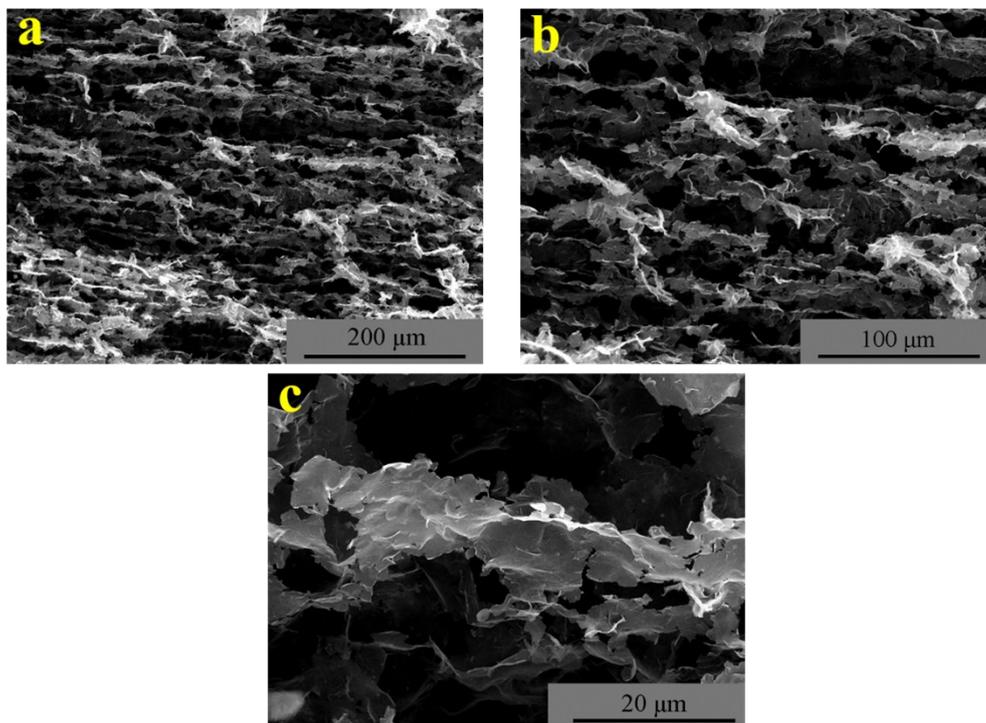


Figure S4. SEM images showing the morphologies of the representative CF5G16-N sample obtained at different magnifications.

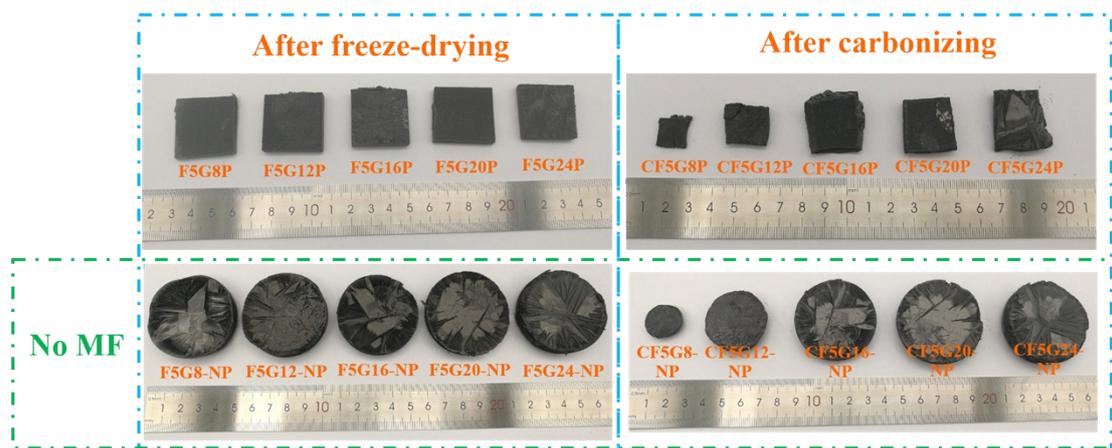


Figure S5. Photographs of the representative samples as indicated before carbonization (left) and after carbonization (right).

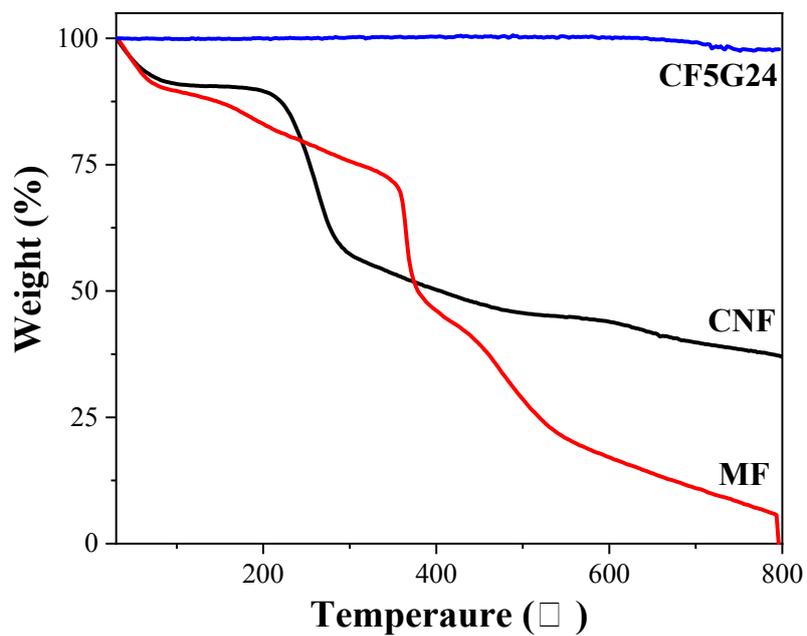


Figure S6. Thermogravimetric curves of the representative samples as indicated.

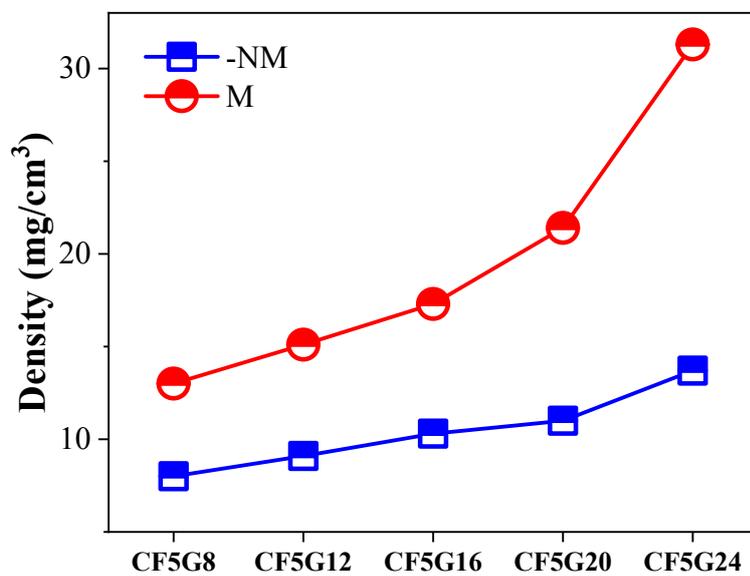


Figure S7. Comparison of the density between the two different series of samples. Here, '-NM' represents carbonized aerogels having no MF, while '-M' represents ones having MF.

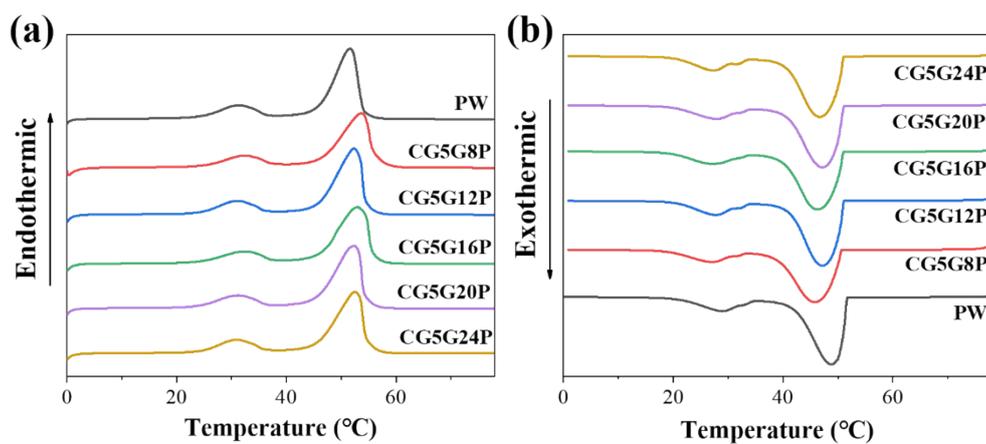


Figure S8. DSC curves of the representative samples as indicated in the graphs obtained during the heating (a) and cooling (b) processes.

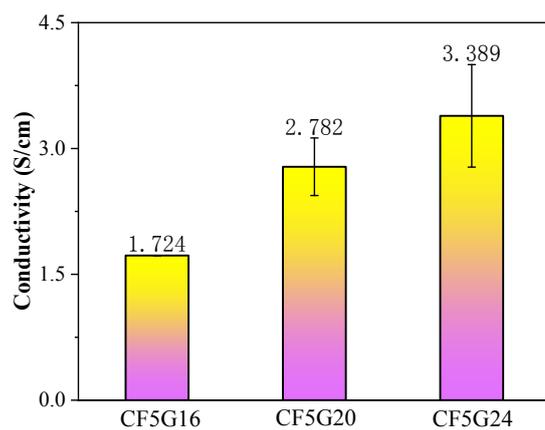


Figure S9. Comparison of the conductivity between the representative samples as indicated.

Table S1. Sample notations and the corresponding compositions.

| Sample notation | GNP content (wt%) | PW content (wt%) |
|------------------------|--------------------------|-------------------------|
| PW | 0 | 100 |
| CF5G8-NP | 1.30 | 98.70 |
| CF5G8 | 2.08 | 97.92 |
| CF5G12-NP | 1.60 | 98.40 |
| CF5G12 | 2.55 | 97.45 |
| CF5G16-NP | 2.00 | 98.00 |
| CF5G16 | 3.43 | 96.57 |
| CF5G20-NP | 2.55 | 97.45 |
| CF5G20 | 3.62 | 96.38 |
| CF5G24-NP | 2.93 | 97.07 |
| CF5G24 | 4.14 | 95.86 |