

Supporting Information

Crystallization-induced Realignment of Carbon Fiber in Phase Change Material to Achieve Exceptional Thermal Transportation Properties

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SUPPLEMENT

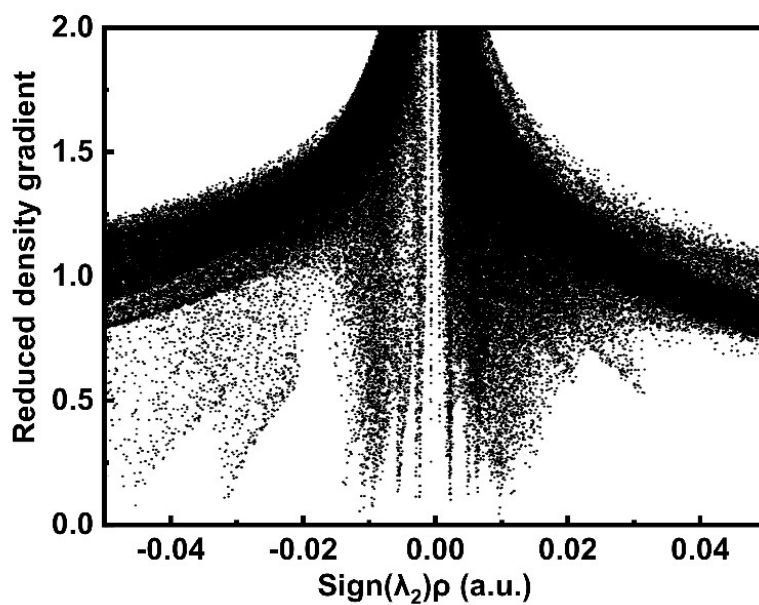


Figure S1. Plots of the reduced density gradient versus the electron density multiplied by the sign of the second Hessian eigenvalue.

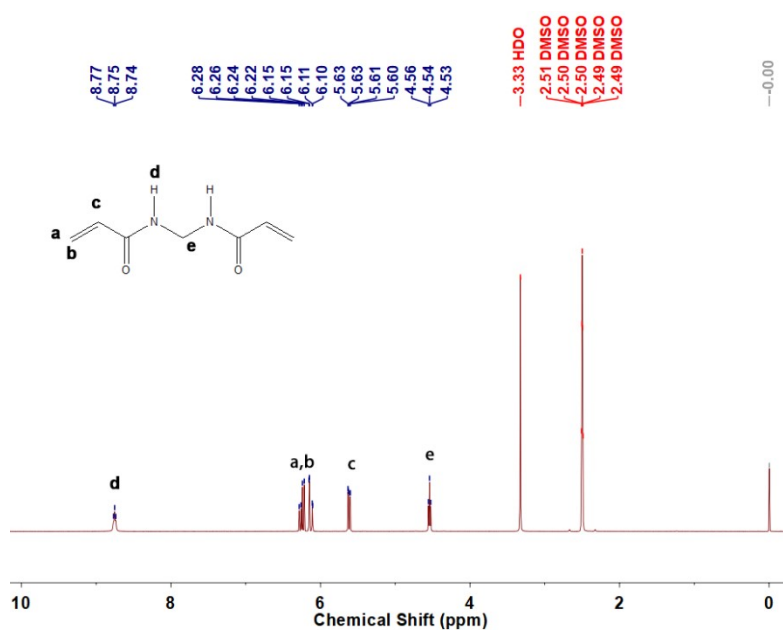


Figure S2. NMR spectrum of BAC

^1H NMR (400 MHz, $\text{DMSO}-d_6$) δ 4.54(t, $J=6.1$ Hz, 1H), 5.62(dd, $J=10.0$, 2.4 Hz, 1H), 6.13(dd, $J=17.1$, 2.4 Hz, 1H), 6.25(dd, $J=17.1$, 10 Hz, 1H), 8.75(t, $J=6.0$ Hz, 1H).

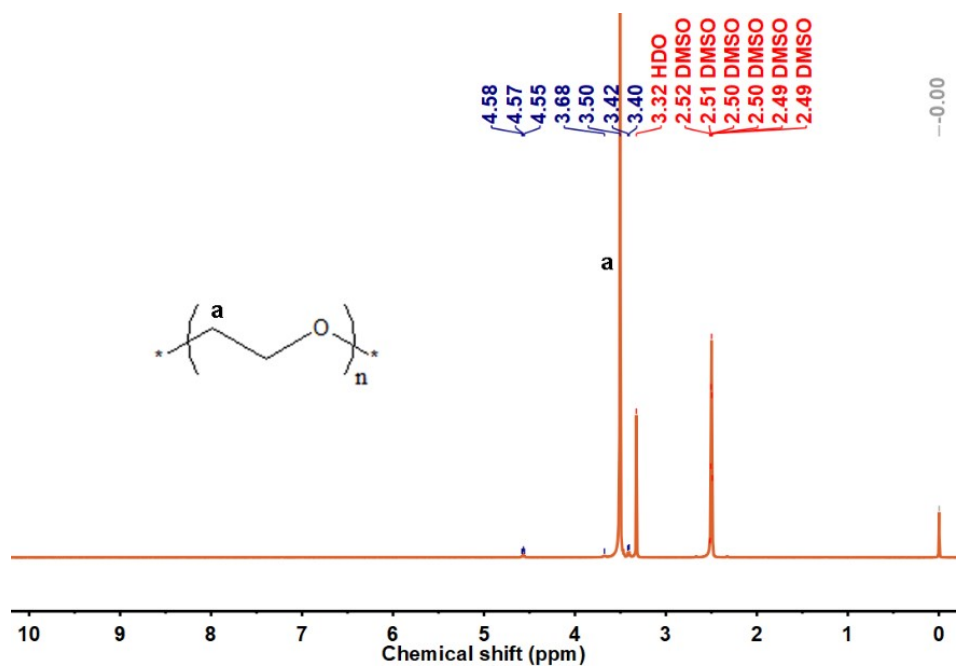


Figure S3. NMR spectrum of PEG

^1H NMR (400 MHz, $\text{DMSO-}d_6$) δ 3.41(d, $J=5.1$ Hz, 2H), 3.50(s, 115H), 3.68(s, 1H), 4.57(t, $J=5.5$ Hz, 1H)

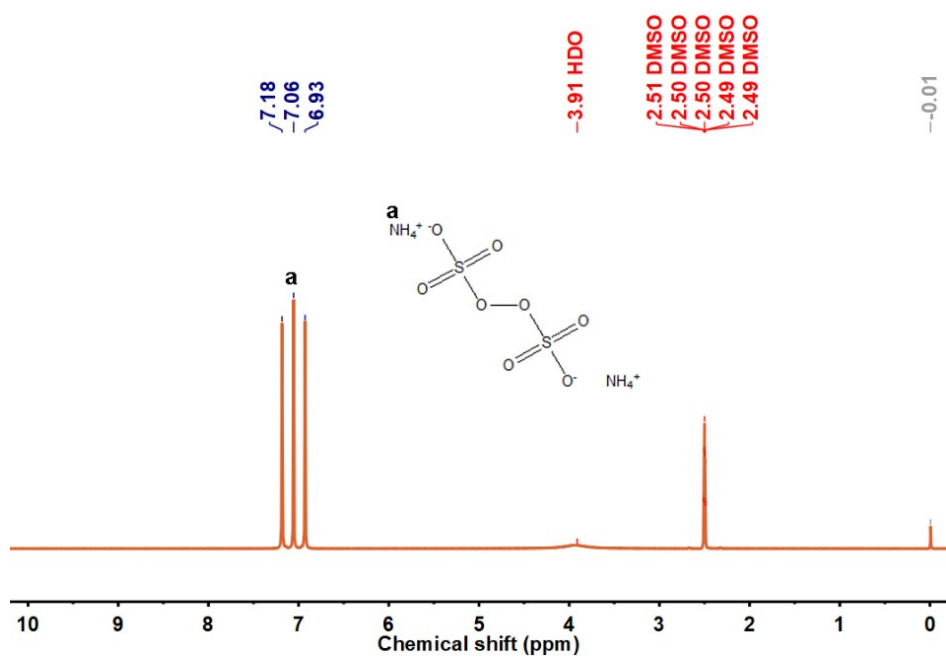


Figure S4. NMR spectrum of ammonium persulfate

^1H NMR (400 MHz, $\text{DMSO-}d_6$) δ 7.06(t, $J=52.0$ Hz)

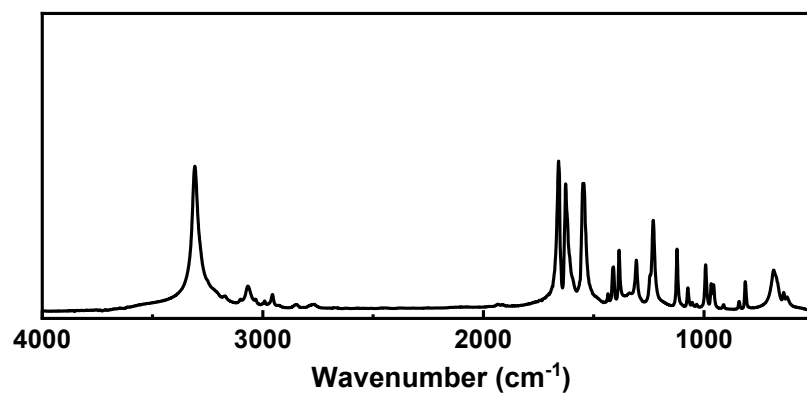


Figure S5. IR spectrum of BAC

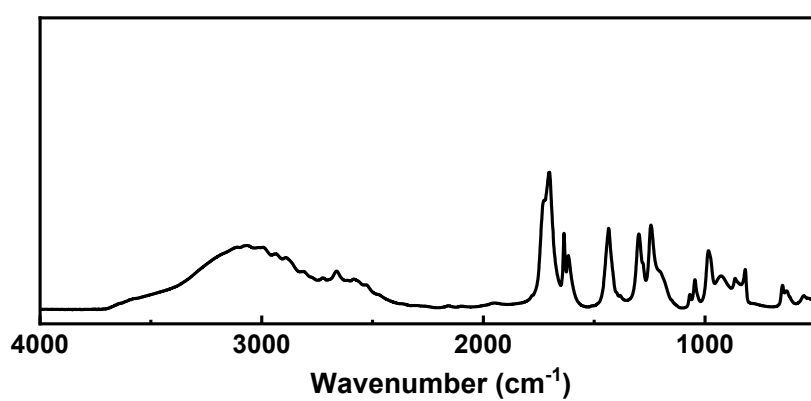


Figure S6. IR spectrum of acrylic acid

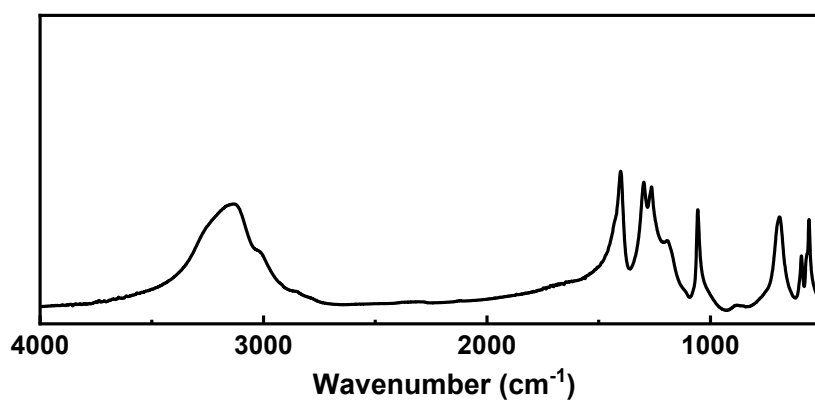


Figure S7. IR spectrum of ammonium persulfate

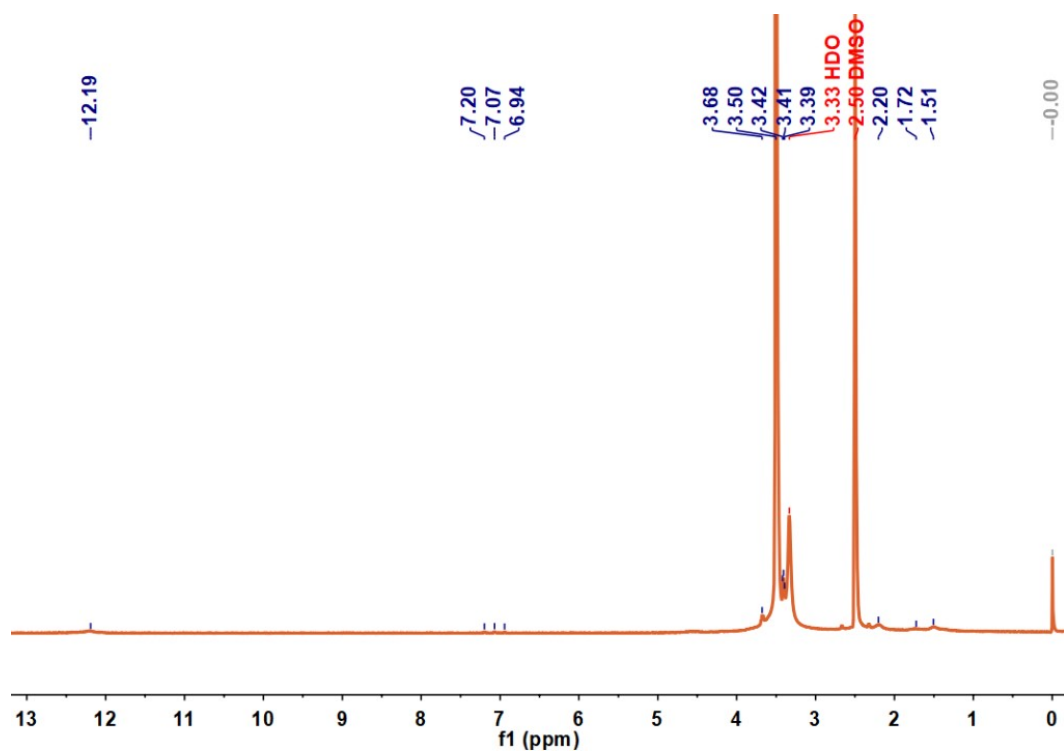


Figure S8. NMR spectrum of E10A2

¹H NMR (400 MHz, DMSO-*d*₆) δ 1.51(s), 1.72(s), 2.20(s), 3.41(t, J=5.0 Hz), 3.50(s), 3.68(s), 7.07 (t, J=51.3 Hz), 12.19(s)