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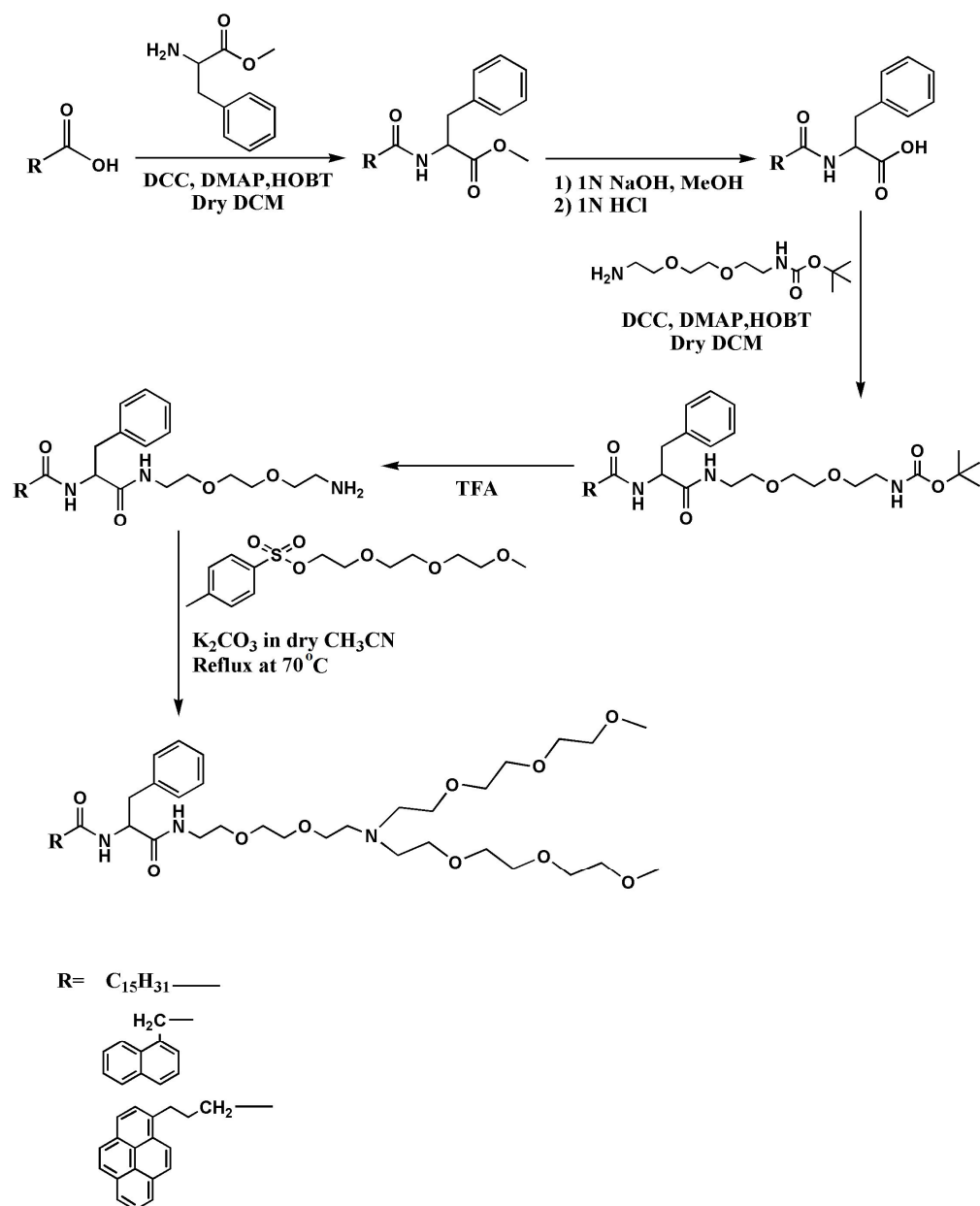
Supporting Information

Hydrophobic End-Modulated Amino-Acid-Based Neutral Hydrogelators: Structure-Specific Inclusion of Carbon Nanomaterials

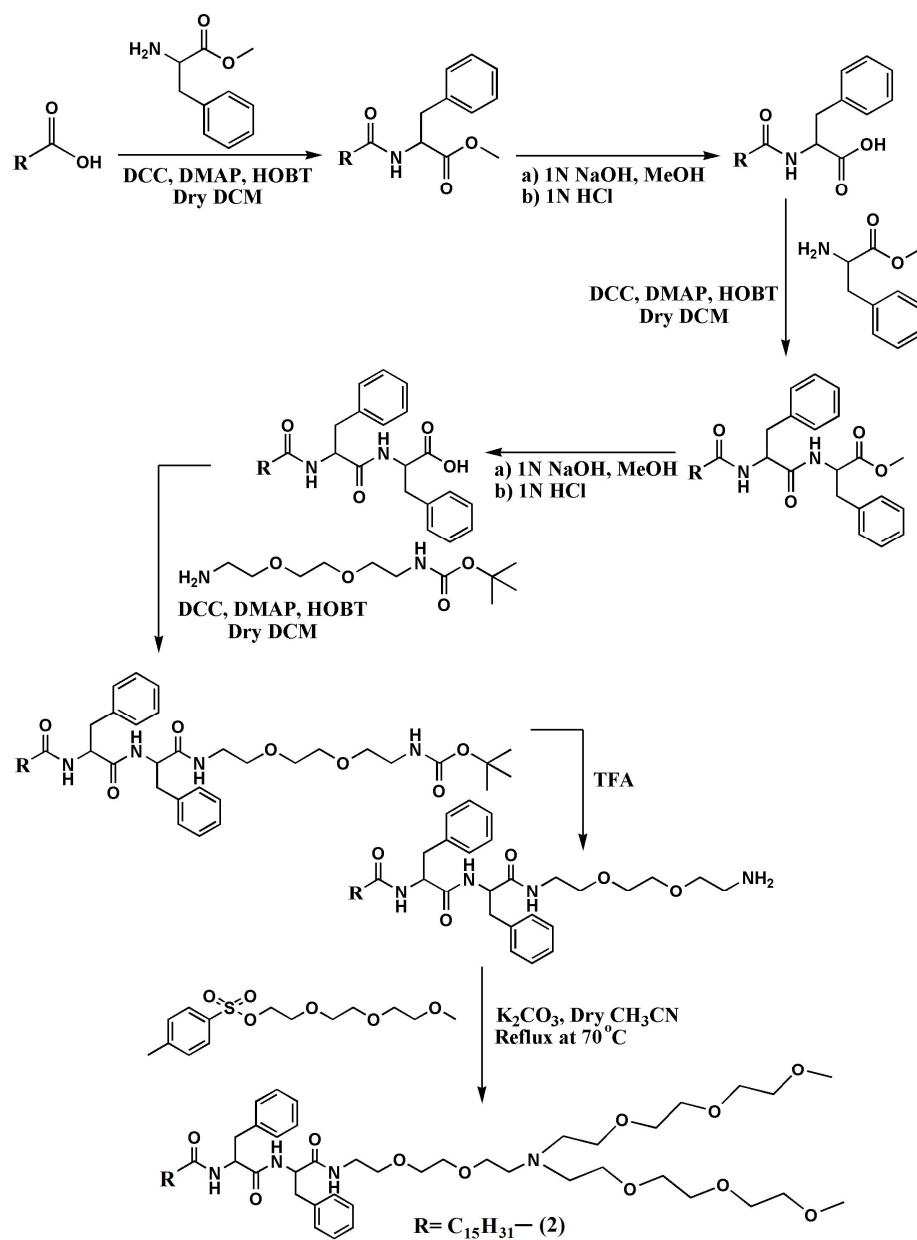
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Supporting Information (SI)



Scheme S1. Synthetic scheme of **1**, **3** and **4**.



Scheme S2. Synthetic scheme of **2**.

Characterization of gelator 1-4

Gelator-1: ^1H NMR (500 MHz, CDCl_3 , 25°C , TMS) : δ/ppm = 7.80 [br, 2H], 7.10-7.30 [m, 5H], 4.8 [m, 1H], 3.44-3.54 [m, 28H], 3.33-3.38 [m, 2H], 3.20-3.30 [m, 6H], 2.9-3.1 [m, 2H], 2.21-2.33 [m, 6H], 2.10-2.18 [m, 2H], 1.10-1.14 [m, 26H], 0.91 [t, 3H]; ESI-MS: m/z: 825.61; found: 826.62 [$\text{M}^+ + 1$]; elemental analysis calculated (%) for $\text{C}_{45}\text{H}_{83}\text{N}_3\text{O}_{10}$: C 65.42; H 10.13; N 5.09; Found: C 65.49; H 10.18; N 5.14.

Gelator-2: ^1H NMR (500 MHz, CDCl_3 , 25°C , TMS) : δ/ppm = 7.80 [br, 3H], 7.10-7.20 [m, 10H], 4.91 [m, 2H], 3.50-3.53 [m, 28H], 3.33-3.38 [m, 2H], 3.20-3.26 [m, 6H], 2.90-3.00 [m, 4H], 2.49-2.51 [m, 6H], 2.11-2.20 [m, 2H], 1.10-1.14 [m, 26H], 0.91 [t, 3H]; ESI-MS: m/z: 972.68; found: 972.70 [$\text{M}^+ + 1$]; elemental analysis calculated (%) for $\text{C}_{54}\text{H}_{92}\text{N}_4\text{O}_{10}$: C 66.64; H 9.53; N 5.76; Found: C 66.63; H 9.58; N 5.74.

Gelator-3: ^1H NMR (500 MHz, CDCl_3 , 25°C , TMS) : δ/ppm = 8.10 [br, 2H], 6.91-7.90 [m, 12H], 4.85 [m, 1H], 3.90-4.00 [m, 2H], 3.33-3.38 [m, 2H], 3.30-3.70 [m, 28H], 3.20-3.30 [m, 6H], 2.90-3.00 [m, 2H], 2.49-2.51 [m, 6H]; ESI-MS: m/z: 755.44; found: 756.45 [$\text{M}^+ + 1$]; elemental analysis calculated (%) for $\text{C}_{41}\text{H}_{61}\text{N}_3\text{O}_{10}$: C 65.14; H 8.13; N 5.56; Found: C 65.18; H 8.18; N 5.61.

Gelator-4: ^1H NMR (500 MHz, CDCl_3 , 25°C , TMS) : δ/ppm = 7.90-8.25 [m, 11H], 7.79-7.82 [br, 2H], 7.10-7.30 [m, 5H], 4.90-5.00 [m, 1H], 3.45-3.60 [m, 28H], 3.20-3.26 [m, 6H], 2.90-3.10 [m, 4H] 2.50-2.60 [m, 6H], 2.18-2.20 [m, 4H]; ESI-MS: m/z: 857.48; found: 858.47 [$\text{M}^+ + 1$]; elemental analysis calculated (%) for $\text{C}_{49}\text{H}_{67}\text{N}_3\text{O}_{10}$: C 68.59; H 7.87; N 4.90; Found: C 68.63; H 7.90; N 4.93.

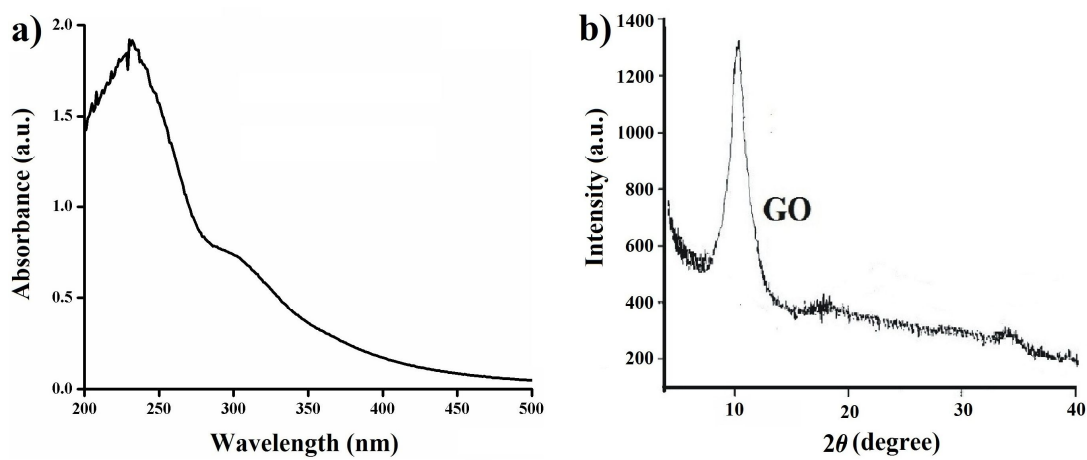


Figure S1. UV-vis absorbance spectra of (a) GO and (b) XRD spectra of GO.

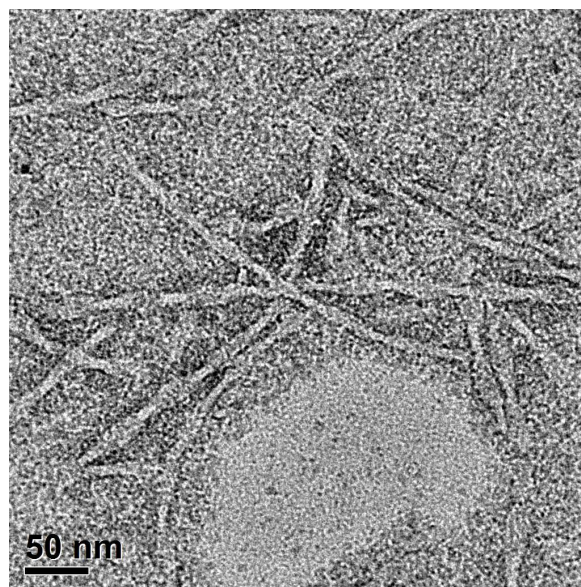


Figure S2. Magnified TEM image of the dried hydrogel-1.

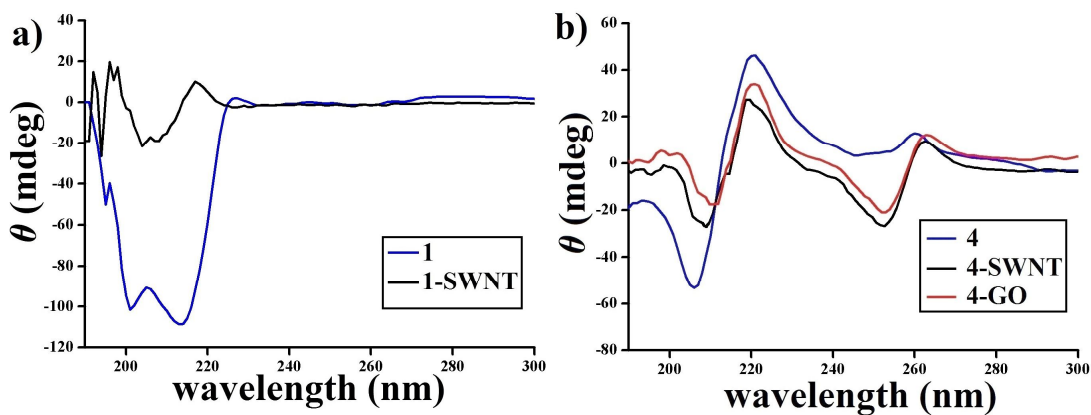


Figure S3. CD spectra of (a) gelator **1**, 1-SWNT composite and (b) **4**, 4-SWNT and 4-GO composites.

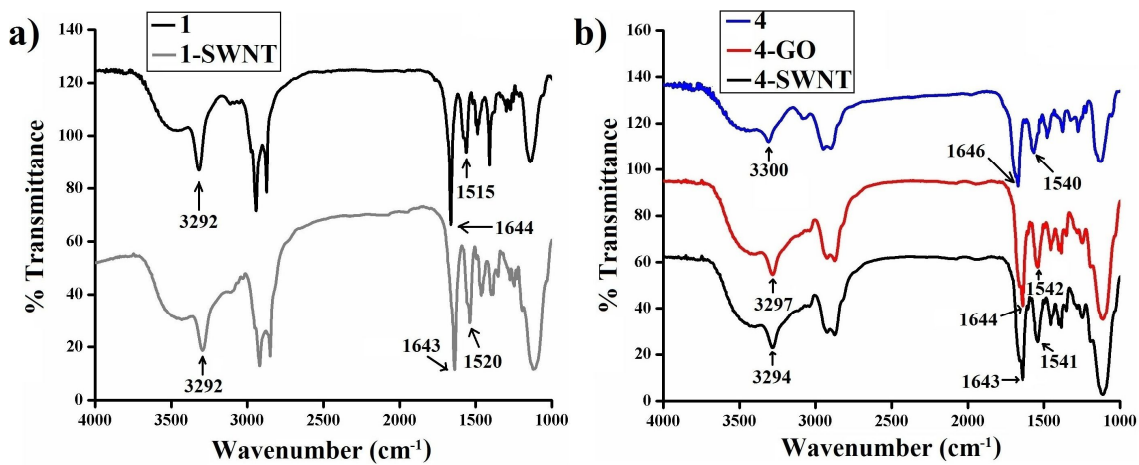


Figure S4. FTIR spectra of (a) xerogel of **1**, 1-SWNT composite and (b) **4**, 4-SWNT and 4-GO composites.