

Supplementary Information

Synthesis of Gelator 1

Compound (Boc)₂Lys-NH(CH₂)₁₂NH-Lys(Boc)₂ (0.30 g, 0.35 mmol) was dissolved in dichloromethane (1.5 mL) and trifluoroacetic acid (1 mL) was added. The solution was stirred under nitrogen for a period of 30 min before the excess solvent and trifluoroacetic acid were removed by rotary evaporation. The sample was then subject to high vacuum for 10 minutes to dry. To dissolve the deprotected intermediate and therefore produce the free amine, ethyl acetate (15 mL) and triethylamine (0.74 mL, 0.51 g, 5.02 mmol) were added. To the reaction mixture the carboxylic acid of the building block previously reported by Wendland and Zimmerman (0.58 g, 2.21 mmol, 6.3 eq.) was added and the solution stirred under nitrogen for 2 min. The solution was cooled to 0°C before the addition of hydroxybenzotriazole (HOBt, 0.89 g, 4.25 mmol) and dicyclohexylcarbodiimide (DCC, 0.58 g, 4.25 mmol) as a mixture of solids. The reaction mixture was left to warm to room temperature and then stirred for a period of 90 h. The precipitate containing the product was filtered off and washed with ethyl acetate. The precipitate was dissolved in a minimum amount of dichloromethane and placed in the freezer for an hour. The insoluble material was then filtered off and purified by size-exclusion chromatography (Biobeads, DCM: MeOH 90:10) to give a yield of 0.870 g (0.61 mmol, 34.5 %).

R_f: 0.7 (CH₂Cl₂ : MeOH, 90:10); Melting range: 89.4–96.7 °C; α_D^{293} : -21.77 (c=0.5, CHCl₃);
m/z (ESI): C₈₄H₁₁₆N₆O₁₄Na: [M+Na]⁺ requires 1456.9; found 1455.8 (100 %), 1456.9 (85 %),
1457.8 (35 %), 1458.9 (12%); δ_H (400 MHz, CD₃Cl₃) 7.12 (2H, d, J=7.6 Hz, CHCONH),
6.88 (8H, d, J=12.2 Hz, ArH), 6.88 (2H, m, CONH), 6.54 (2H, t, J=5.5 Hz, CONH), 6.50 (4H,

d, $J=11.6$ Hz, ArH), 5.82 (8H, m, CH_2CHCH_2), 5.16-5.09 (16H, m, CH_2CHCH_2), 4.64 (2H, q, $CHCONH$), 3.94 (16H, q, CH_2O), 3.40 (4H, m, CH_2NH), 3.20 (4H, m, CH_2NH), 2.50 (16H, m, CH_2CHCH_2), 2.15-1.17 (36H, m, CH_2); δ_C (100 MHz, CD_3Cl_3) 171.7 ($CONHCH_2$ x 2), 167.8 ($CONH$ x 2), 167.5 ($CONH$ x 2), 160.3 (ArO x 2), 160.2 (ArO x 2), 136.8 ($ArCO$ x 2), 135.9 ($ArCO$ x 2), 134.4 (alkene x 2), 117.3 (alkene x 2), 105.8, 105.6 (Ar x 8) 105.0, 104.5 (Ar x 4), 67.6, 67.5 (OCH_2 x 8), 51.0 (chiral x 2), 39.8, 39.6 (CH_2NH x 2), 33.6 (CH_2CHCH_2), 32.3, 29.4, 29.2, 29.2, 29.0, 26.8, 22.9, 15.4 (all CH_2), ν_{max} (KBr disc) 3620(m), 3440 (w), 2977 (m), 1653 (m), 1593 (m), 1516 (m), 1386 (w), 1206 (s), 1047 (m), 757 (s), 664 (s)

Elemental Analysis Results

Polystyrene/DVB formed in the presence of gelator **1** was submitted to elemental analysis prior to washing with methanol

C, 85.25%, H 7.67%, N 1.10%

After washing with MeOH/THF, effectively all of the nitrogen content had been removed.

C, 86.03%, H 7.91%, N 0.13%.