Supporting Information

Photoresponsive Two-Component Organogelators based on Trisphenylisoxazolylbenzene

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Analysis of self-association by ^{1}H NMR experiments: Hyperbolic curves were obtained by plotting of compound concentrations vs ^{1}H NMR chemical shifts (δ) of the aromatic protons. The curve-fitting analysis of the plots was carried out on the basis of an isodesmic association model, which is a type of unlimited self-association where the addition of each successive monomer to polymer involves an equal association constant ($K_2 = K_3 = ... = K_i = K_E$). The fitting functions are given by equations 1 for NMR experiments. δ denotes apparent chemical shifts obtained from spectra; δ_m and δ_a are chemical shifts for a monomer and self-assembled species, respectively. K_E is the association constant; and c is the total concentration of a compound. The complexation-induced shift $\Delta\delta$ displays the difference between δ_m and δ_a.

$$d(c) = d_m + (d_a - d_m)\left(1 + \frac{1 - \sqrt{4K_E c + 1}}{2K_E c}\right) \qquad (1)$$

Table S1. Gelation properties of **1**, **2a–e**, and the mixtures of **1** and **2a–e**.

	1[a]	**2a**[b]	**2b**[b]	**2c**[b]	**2d**[b]	**2e**[b]	**1+2a**[c,d,e]	**1+2b**[c,d,e]	**1+2c**[c,d,e]	**1+2d**[c,d,e]	**1+2e**[c,d,e]
acetone	I	P	P	P	P	P	I	I	I	I	I
THF	P	P	P	P	P	P	P	P	P	P	P
acetonitrile	I	P	P	P	P	P	I	I	I	I	I
methanol	I	I	I	I	I	I	I	I	I	I	I
ethanol	I	I	I	I	I	I	I	I	I	I	I
decanol	P	P	P	P	P	P	P	P	P	P	P
dichloromethane	I	P	P	P	P	P	I	I	I	I	I
chloroform	I	P	P	P	P	P	I	I	I	I	I
benzene	I	P	P	P	P	P	I	I	I	I	I
toluene	I	P	P	P	P	P	I	I	I	I	I
benzyl alcohol	P	P	P	P	S	P	G (3)	G (3)	G (2)	G (2)	G (2)
benzaldehyde	I	P	P	P	P	P	I	I	I	I	I
ethyl acetate	I	P	P	P	P	P	I	I	I	I	I
acetophenone	P	P	P	P	P	P	P	P	P	P	P
p-methoxybenzyl alcohol	P	P	P	S	S	P	G (5)	G (5)	G (3)	G (3)	G (3)
5-nonanone	I	P	P	P	P	P	I	I	I	I	I
cyclohexane	I	P	P	P	P	P	I	I	I	I	I
cyclohexene	I	P	P	P	P	P	I	I	I	I	I
cycloheptanone	P	P	P	P	P	P	P	P	P	P	P
chlorobenzene	I	P	P	P	P	P	I	I	I	I	I
bromobenzene	I	P	P	P	P	P	I	I	I	I	I
1,2,4-trichlorobenzene	I	P	P	P	P	P	I	I	I	I	I
1,1,2,2-tetrachloroethane	I	P	P	P	P	P	I	I	I	I	I
1,2,4-trimethylbenzene	I	P	P	P	P	P	I	I	I	I	I
tributylamine	P	P	P	P	P	P	P	P	P	P	P
2-aminoethanol	P	P	P	P	P	P	P	P	P	P	P
aniline	P	P	P	S	S	P	G (5)	G (5)	G (3)	G (3)	G (3)
N-methyl aniline	I	P	P	P	P	P	I	I	I	I	I
benzonitrile	I	P	P	P	S	P	I	I	I	I	I

G = gel, P = precipitation, S = solution, and I = insoluble. [a]P, I, and S are at [**1**] = 10 g L^{-1}. [b]P, I, and S are at [gelator] = 30 g L^{-1}. [c]The molar ratio of **1** and **2a–e** is 2:3. [d]P, I, and S are at [**1**] = 10 g L^{-1}. [e]The critical gelation concentrations of **1** (g L^{-1}) are shown in parentheses.

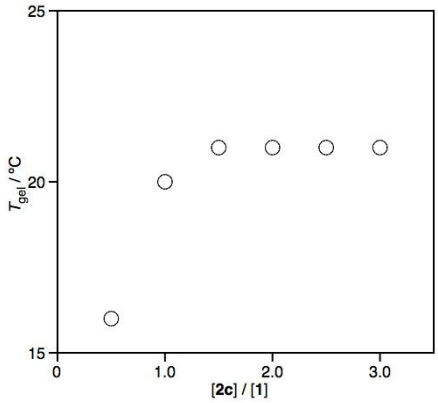


Figure S1. Gelation temperatures (T_{gel}) of a solution of **1** ([**1**] = 3 g L^{-1}) in benzyl alcohol in the presence of **2c**.

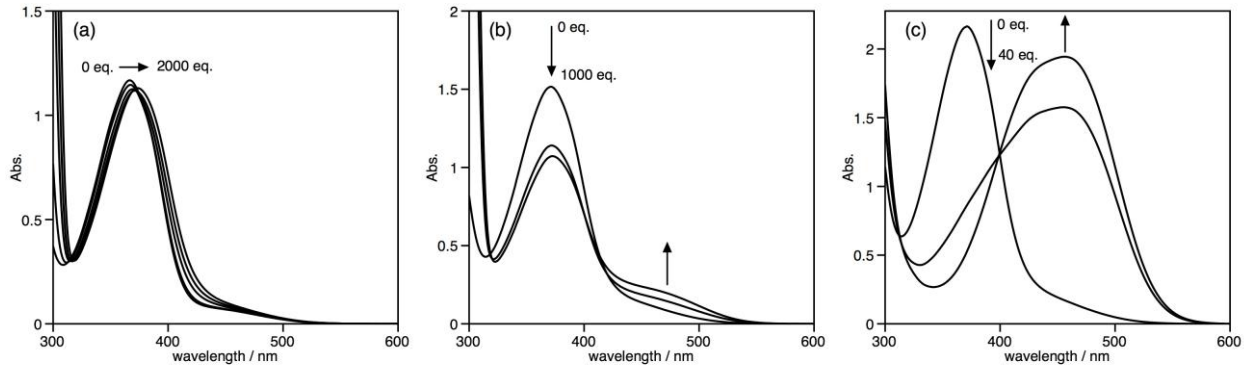


Figure S2. UV/vis absorption spectra of **1** (a) in THF in the presence of 0, 100, 500, 1000, and 2000 eq. of *N*,*N*-dimethylaniline (DMAP), (b) in benzyl alcohol in the presence of 0, 500, and 1000 eq. of DMAP, and (c) in benzyl alcohol in the presence of 0, 20, and 40 eq. of NaOH. [**1**] = 1.0 × 10^{-4} mol L^{-1}.

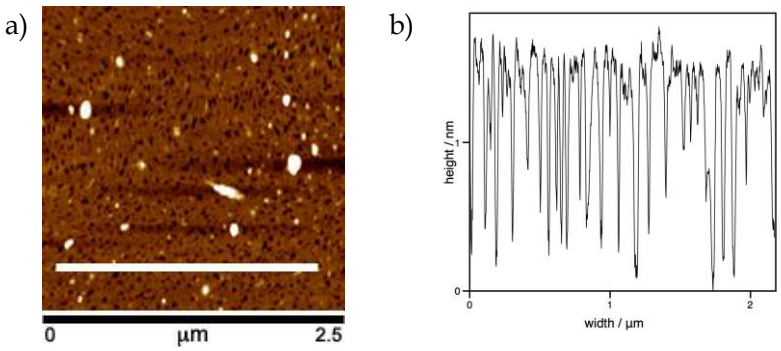
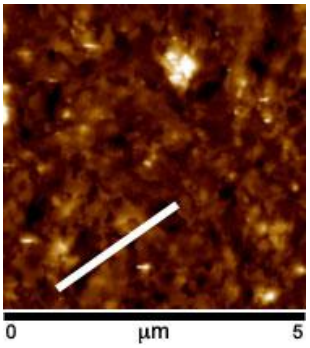


Figure S3. (a) AFM image of cast-films prepared from a solution of **1** in THF. (b) Height profile corresponding to the white line of image a.

a)



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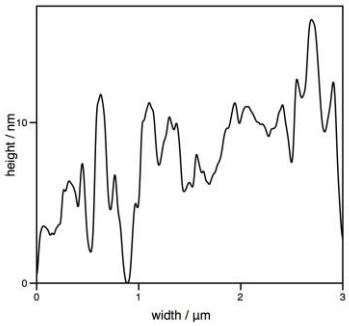

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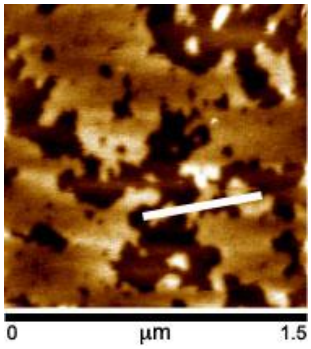

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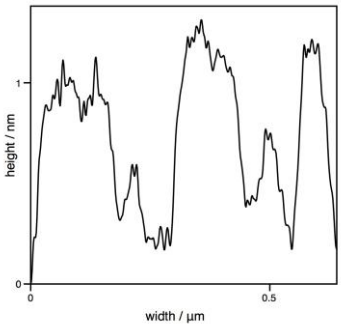

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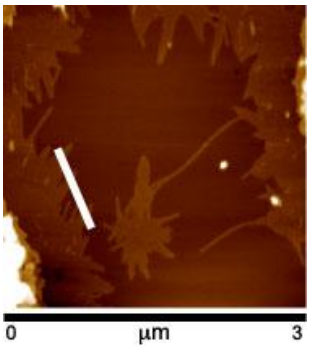

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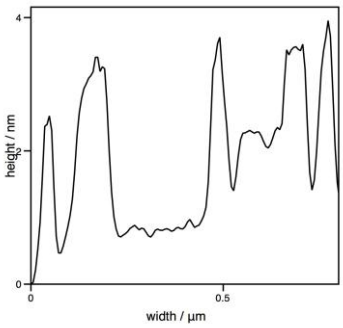

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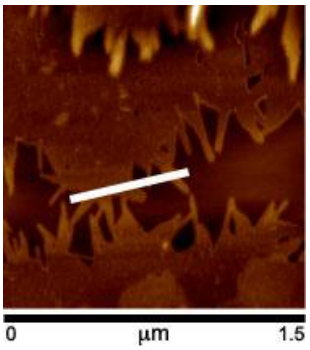

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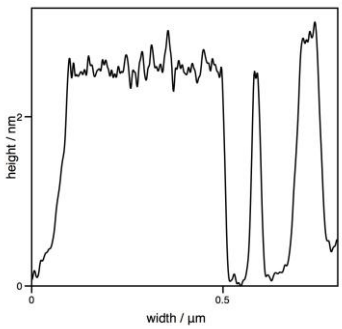

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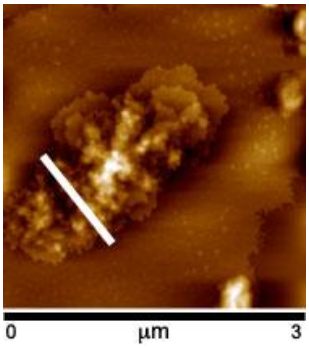

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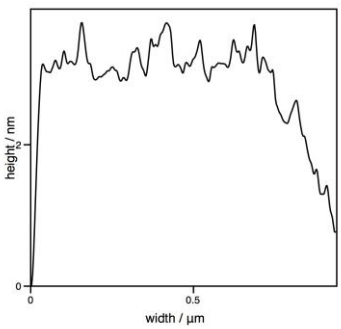
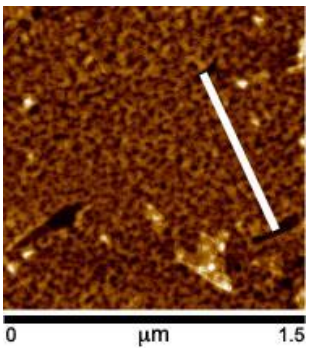


Figure S4. (a,c,e,g,i) AFM images of cast-films prepared from solutions of (a) **2a**, (c) **2b**, (e) **2c**, (g) **2d**, and (i) **2e** in THF. (b,d,f,h,j) Height profiles corresponding to the white lines of images a, c, e, g, and i.

a)



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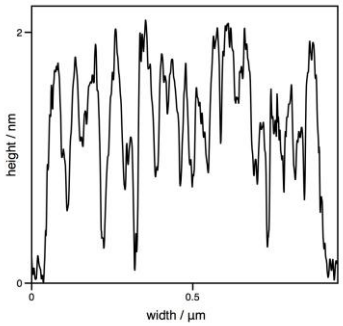

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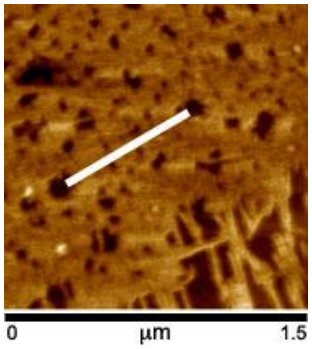

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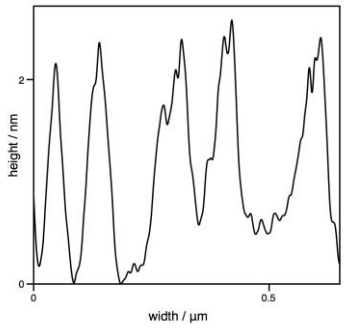

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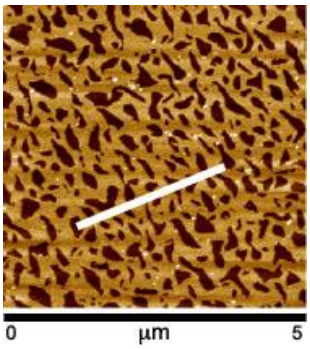

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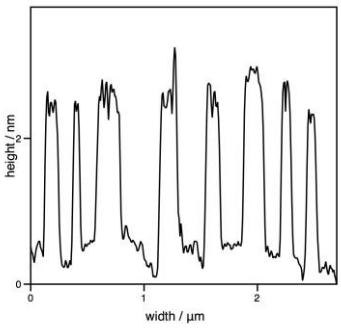

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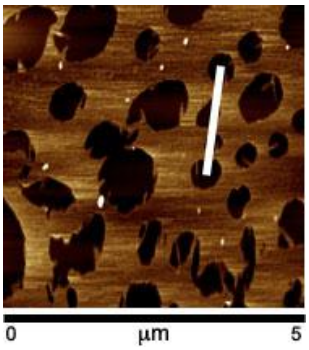

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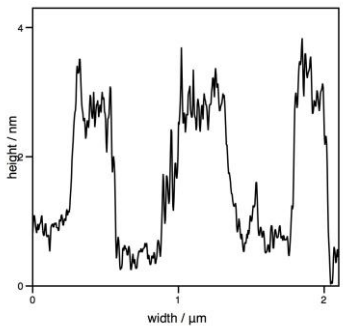
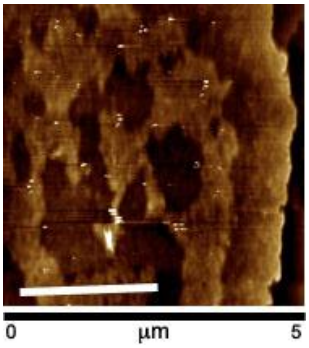


i)



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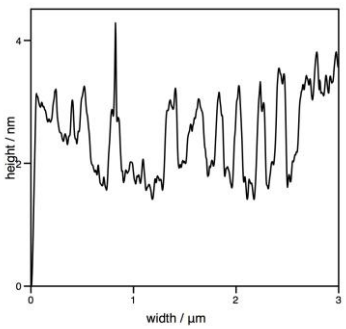


Figure S5. (a,c,e,g,i) AFM images of cast-films prepared from solutions of **1** and (a) **2a**, (c) **2b**, (e) **2c**, (g) **2d**, and (i) **2e** in THF. (b,d,f,h,j) Height profiles corresponding to the white lines of images a, c, e, g, and i.

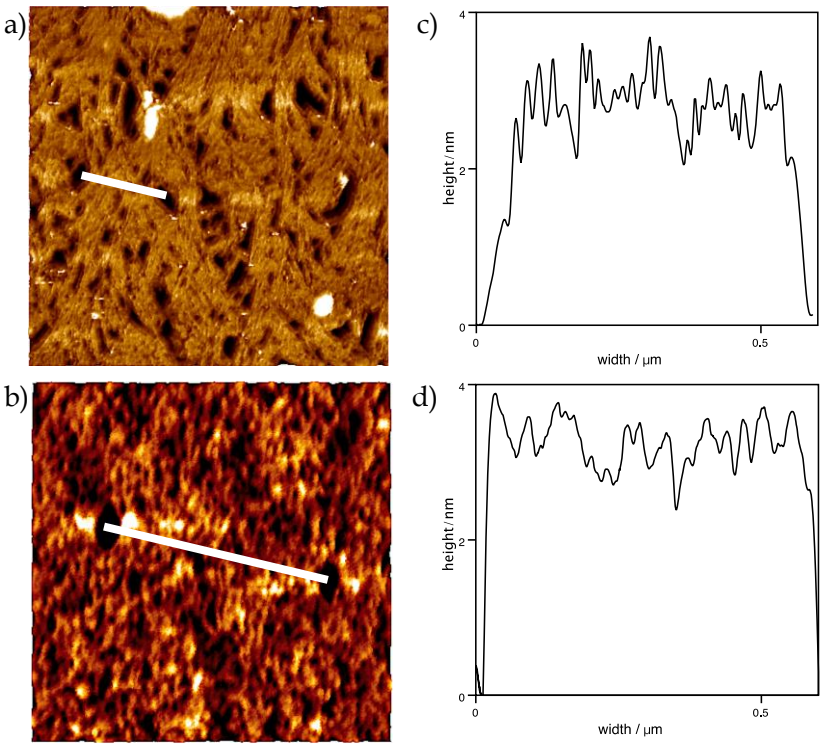
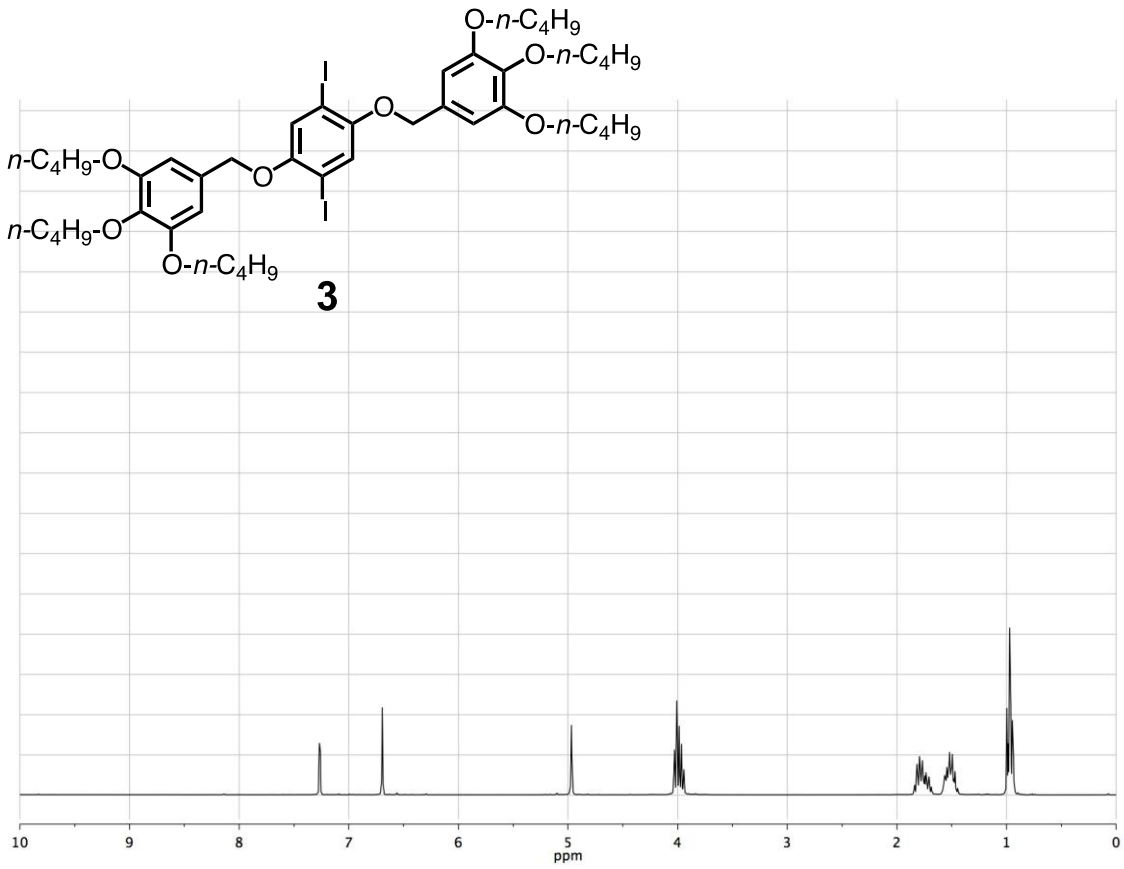
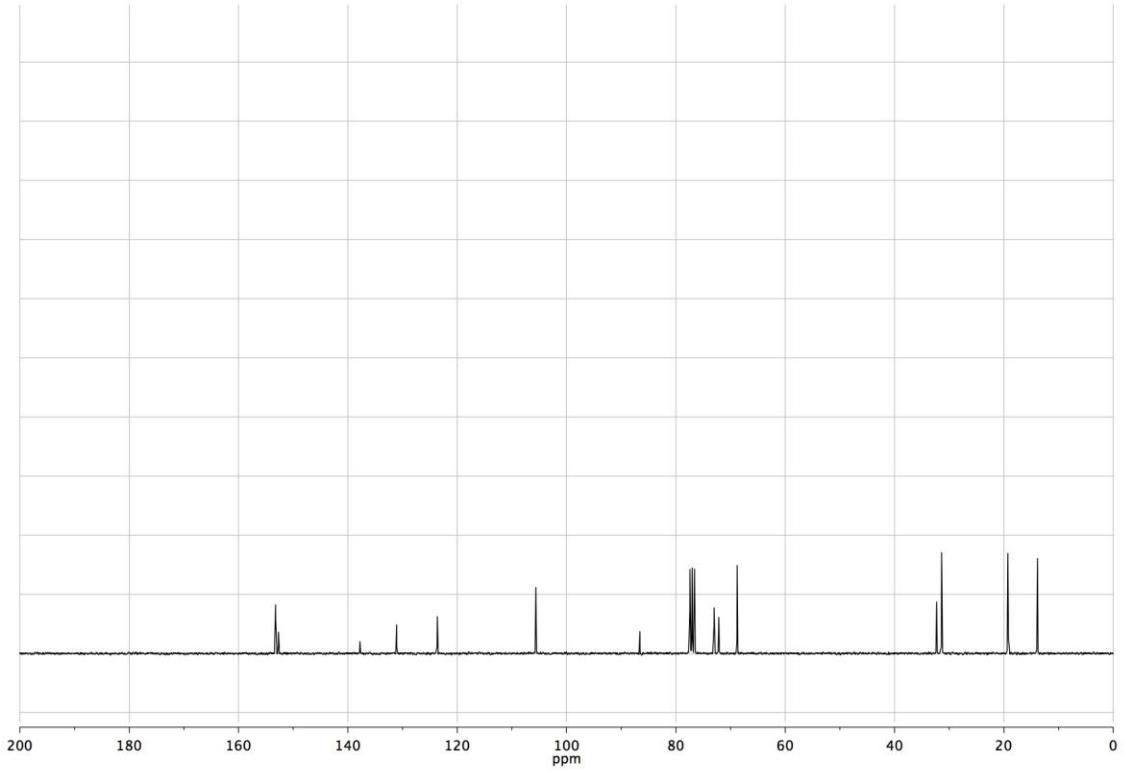
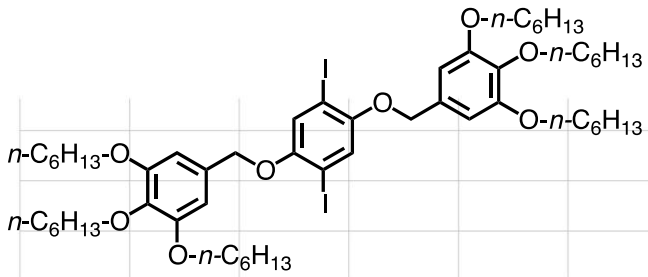


Figure S6. The AFM images (a, b) of Figure 5. Height profiles corresponding to the white lines of images a and b.







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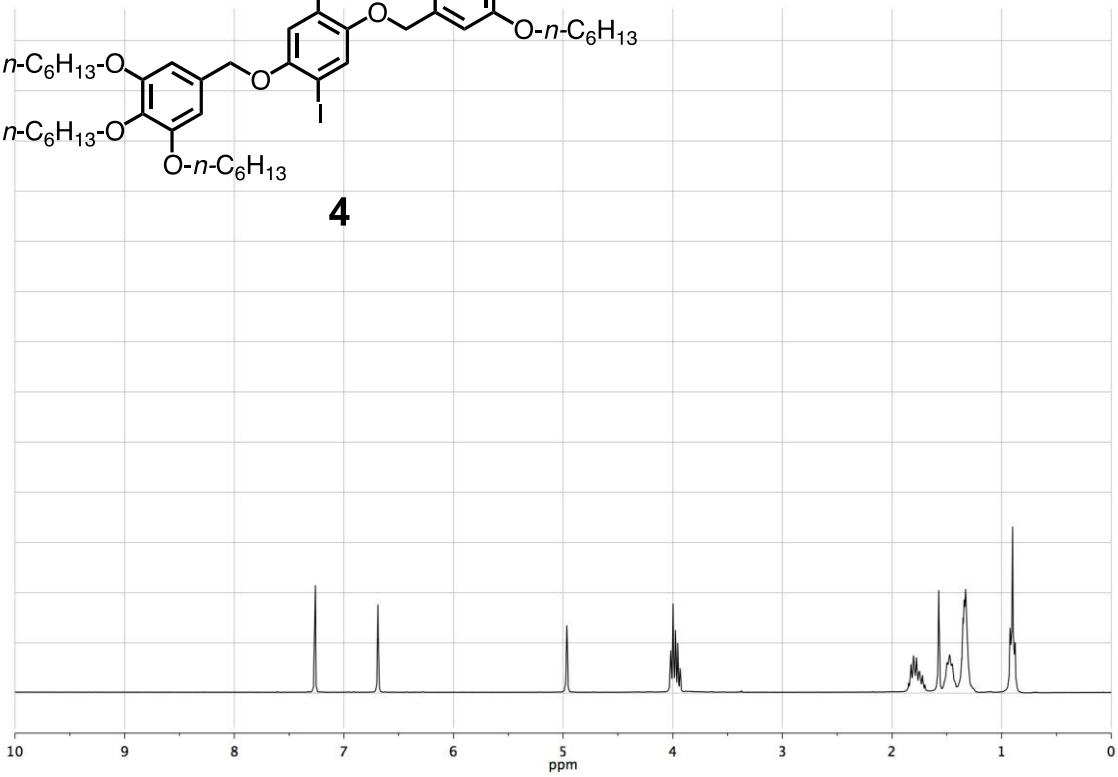

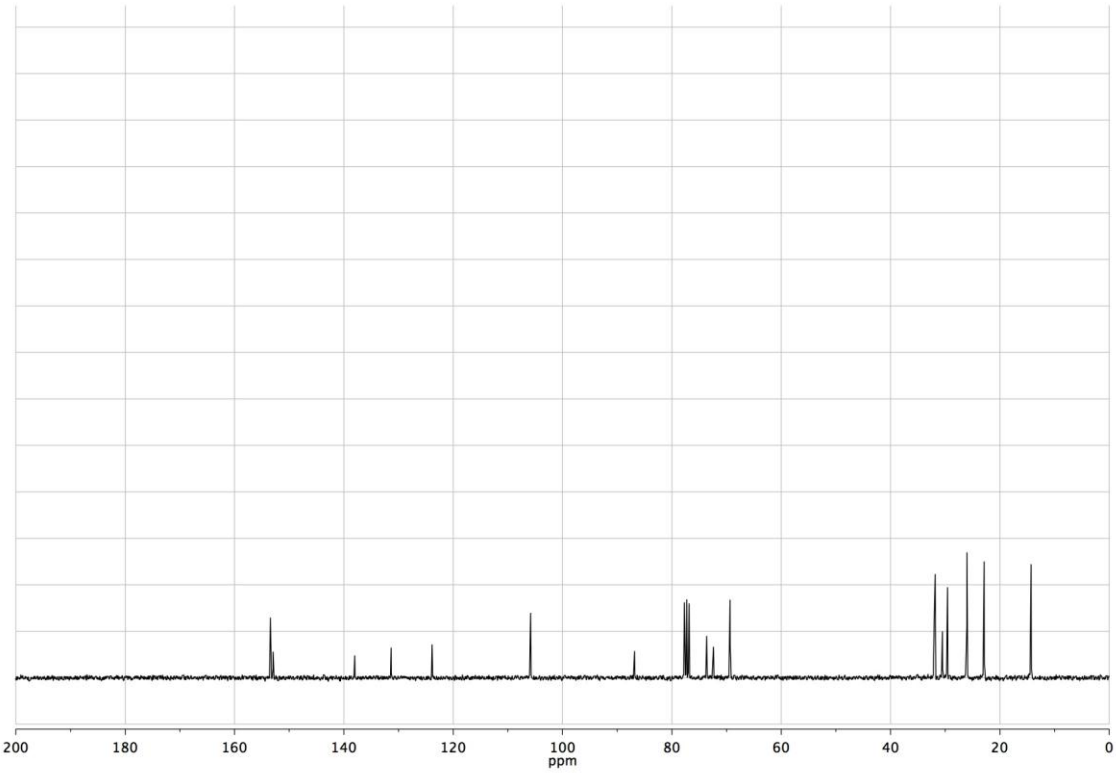

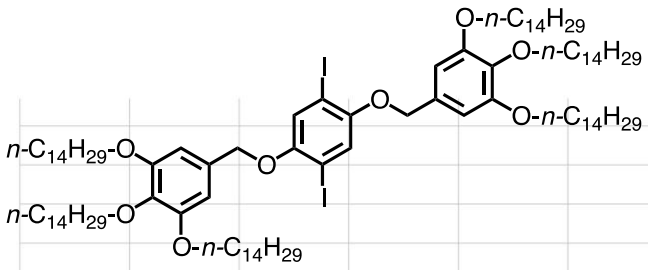

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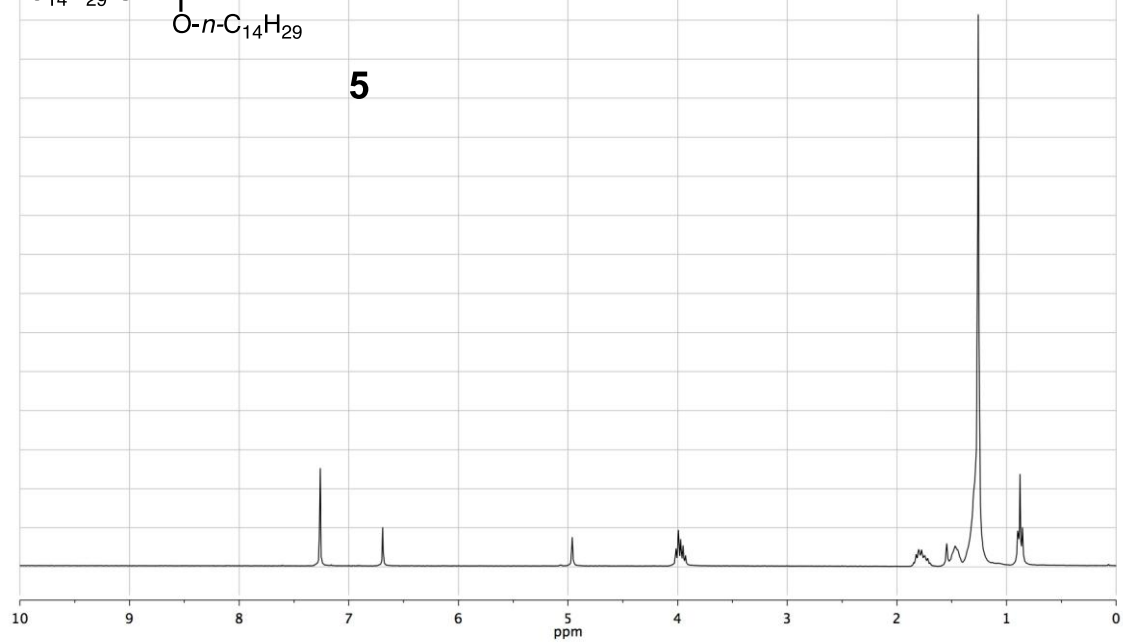

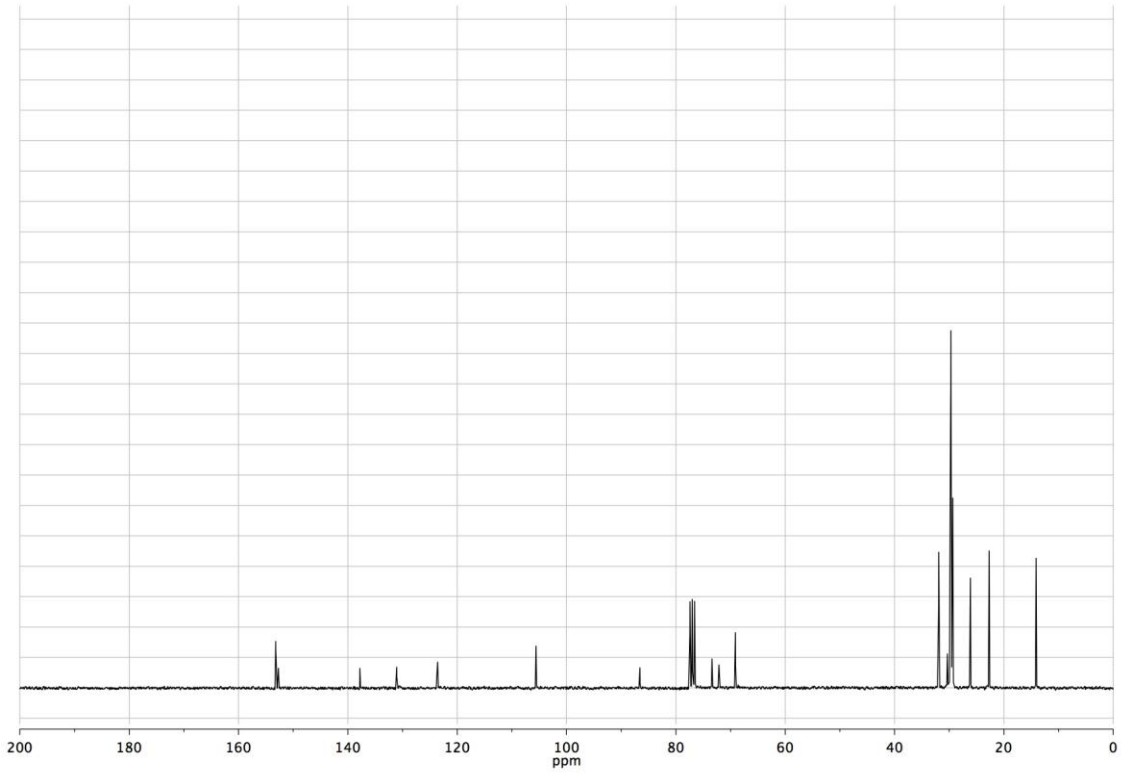

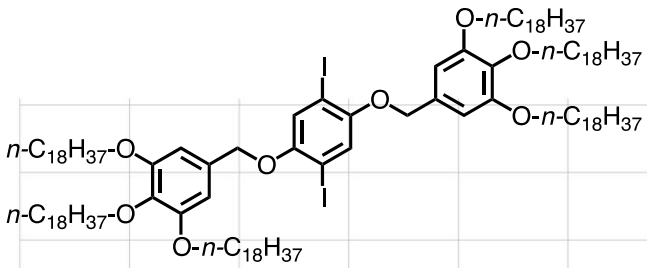

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