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TITLE: THYMINE BASED COPOLYMERS: FEASIBLE SENSORS FOR THE DETECTION OF PERSISTENT ORGANIC POLLUTANTS IN WATER

Supporting Information

Section 2.2. Random Copolymer Synthesis and Characterization

VBT:VPS 1:1, 1:4, 1:8 and 1:16 copolymers were synthesized as described in the manuscript.

Molecular weight analysis were performed by size exclusion chromatography coupled to multi-angle laser light scattering (SEC/MALLS), with the following conditions: TKS PW 2500&4000 columns calibrated with poly(styrene sulfonate) sodium salt (PSS) standards (Jordi Labs LLC, USA); mobile phase: 70/30 mixture of water (containing 0.05M Na₂SO₄ + 0.01M Na₂HPO₄, pH 8-9) and methanol; flow rate: 0.6 mL/min; dn/dc: 0.16. Results are presented in Table S1.

NMR spectra were taken on a Bruker 300 MHz spectrometer. ¹H NMR results for the copolymers are presented in Fig. S1 a-d. The absence of the vinyl protons from VBT and VPS monomers, typically between 5 and 6 ppm, confirm that the polymerization was complete in each case.

Table S1 Molecular weight analysis by SEC/MALLS

Copolymer	Mn (kDa)	Mw (kDa)	D ^a
VBT:VPS 1:1	14.9	84.0	5.64
VBT:VPS 1:4	17.5	107.1	6.12
VBT:VPS 1:8	34.8	139.8	4.02
VBT:VPS 1:16	38.6	181.0	4.69

^a Polydispersion D = Mw/Mn

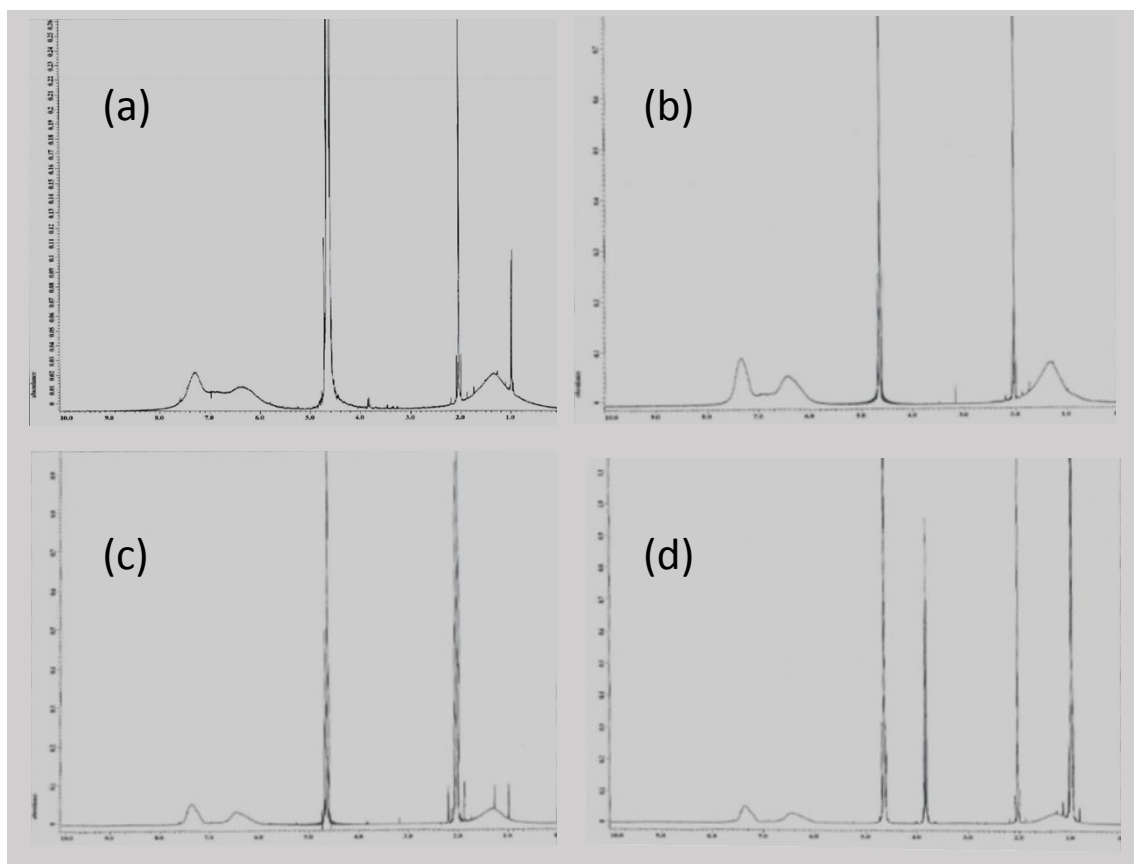


Fig. S1 ¹H NMR spectra for copolymers. (a) VBT:VPS 1:1. (b) VBT:VPS 1:4. (c) VBT:VPS 1:8. (d) VBT:VPS 1:16.