

# Accessing new materials through polymerization and modification of a polycarbonate with a pendant activated ester

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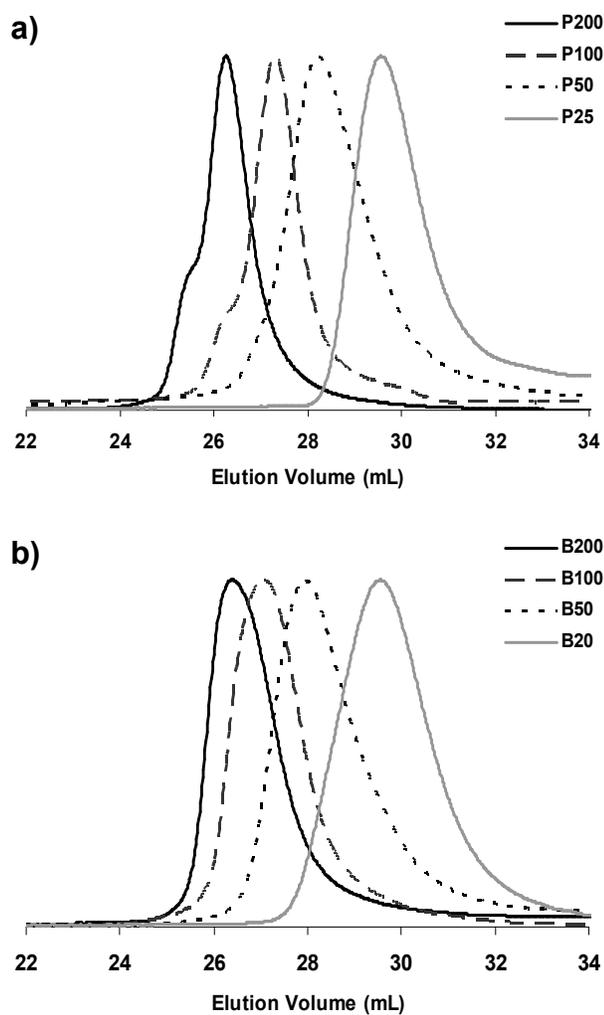


Figure S-1. THF-GPC traces of poly(MTC-OC<sub>6</sub>F<sub>5</sub>) initiated with a) 1-pyrenebutanol and b) benzyl alcohol.

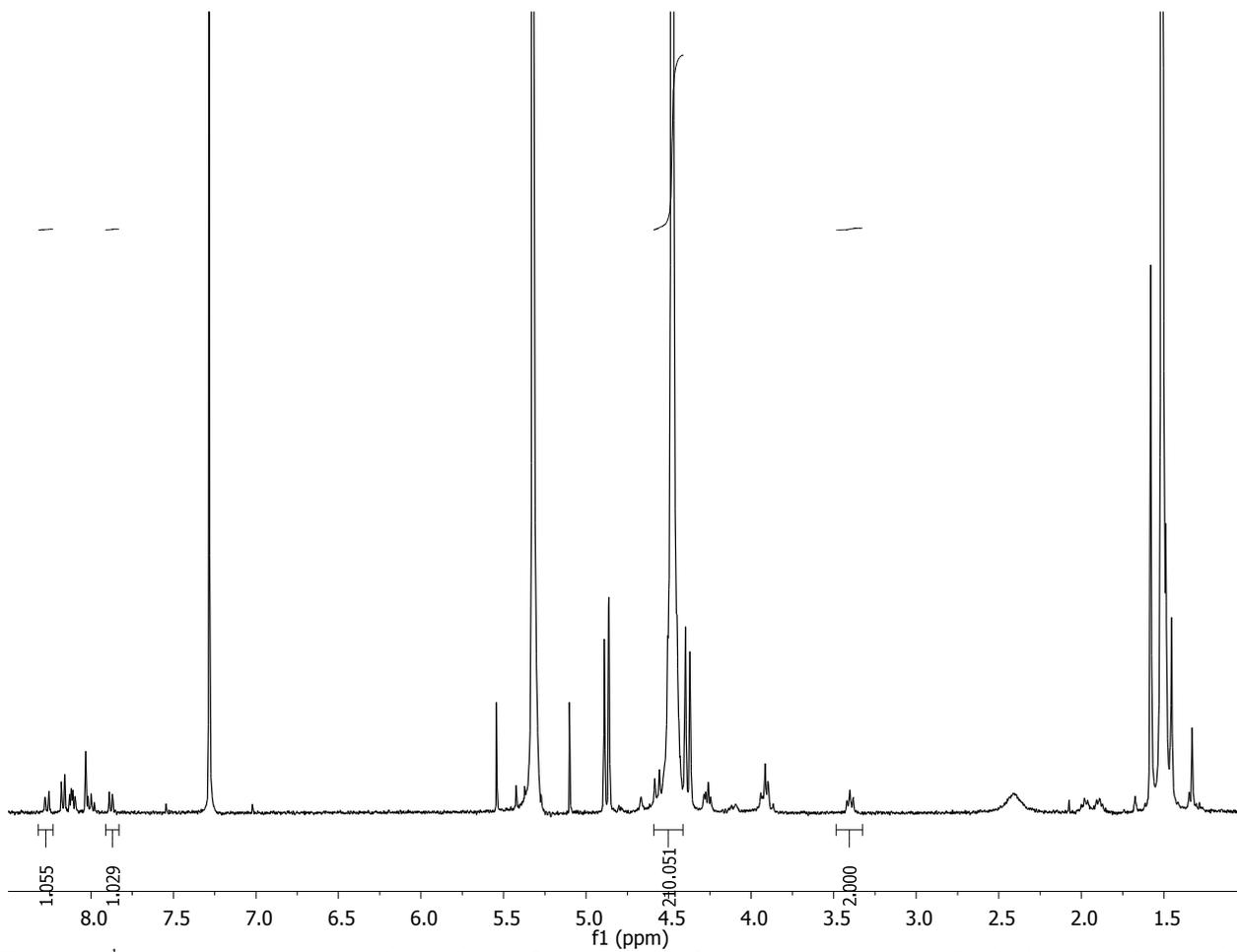


Figure S-2. <sup>1</sup>H NMR spectroscopy was also used to confirm the degree of polymerization by comparing the integration between the cyclic carbonate peaks at 4.48 ppm and the 1-pyrenebutanol peaks at 7.87 ppm (d, 1H) and 3.4 ppm (t, 2H). Solvent: CDCl<sub>3</sub>

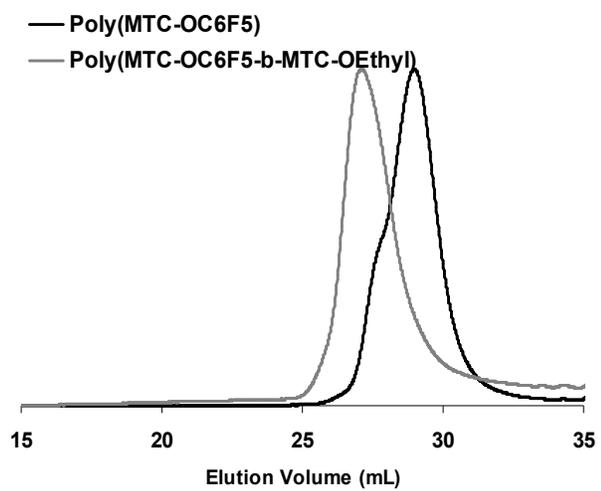


Figure S-3. GPC traces of diblock copolymer formed via sequential addition of monomers MTC-OC<sub>6</sub>F<sub>5</sub> and MTC-OEthyl.

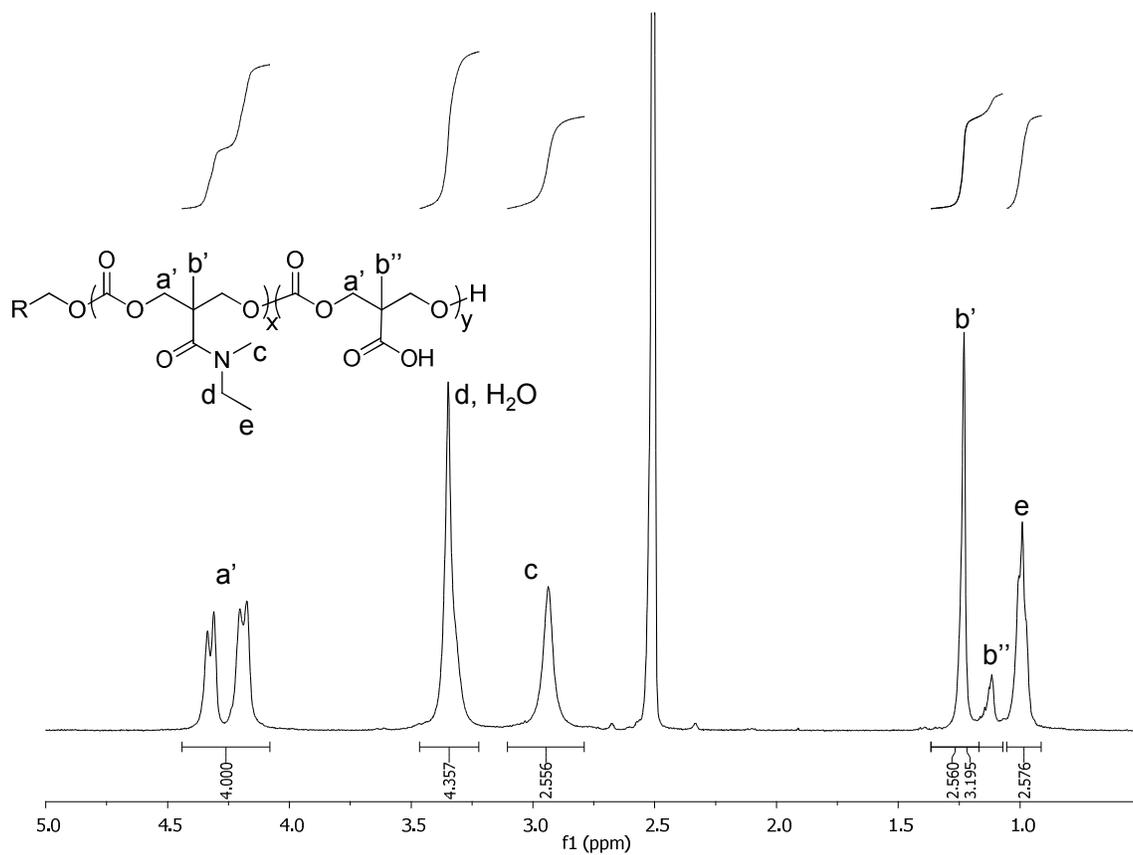


Figure S-4. <sup>1</sup>H NMR spectra of poly(MTC-OC<sub>6</sub>F<sub>5</sub>) substitute with *N*-ethylmethylamine in CDCl<sub>3</sub>. Percent functionalization was determined by comparing the peak a to peak c.

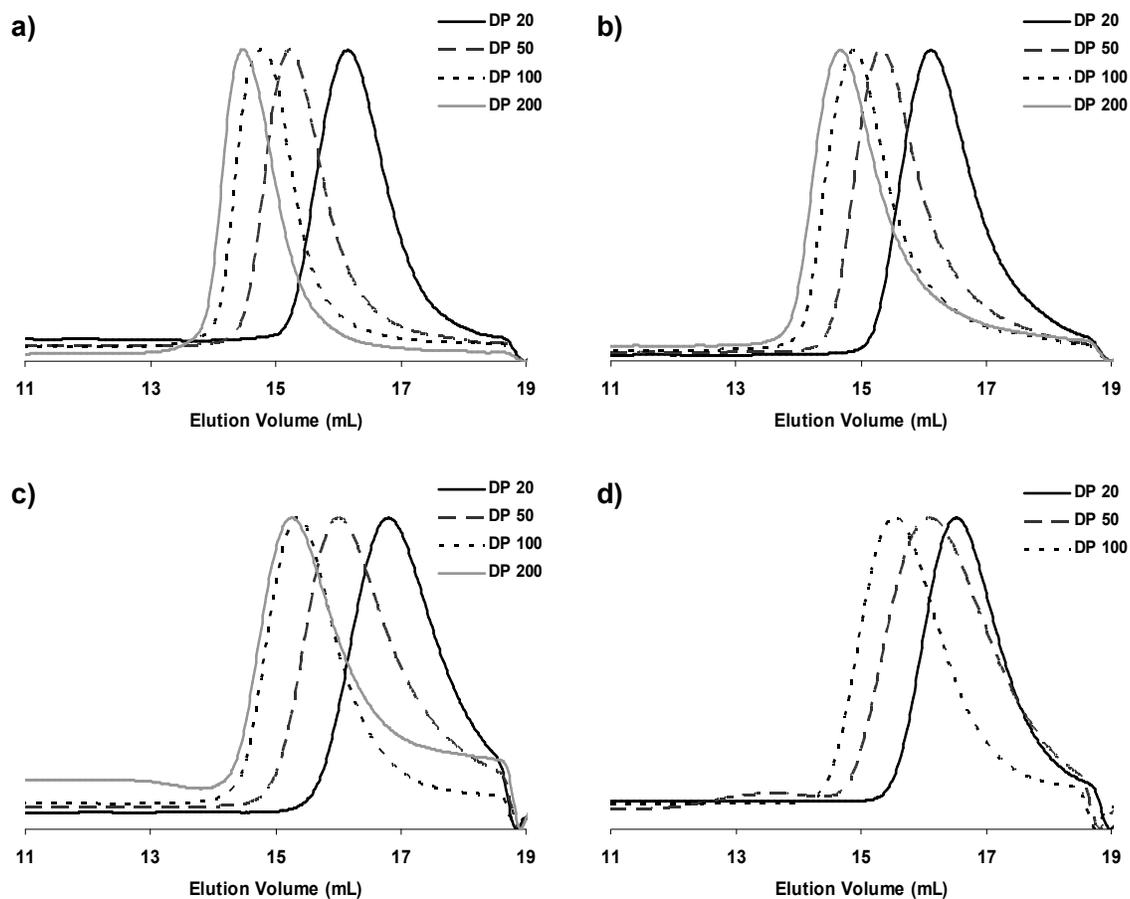


Figure S-5. The same molecular weight trends were observed for the substituted polymers as poly(MTC-OC<sub>6</sub>F<sub>5</sub>) when looking at the degree of polymerization versus molecular weight, characterized by GPC. DMF GPC traces of polymers with pendant side groups of a) *N*-hexylamide, b) benzylamide, c) *N*-ethylmethylamide, and d) amide.

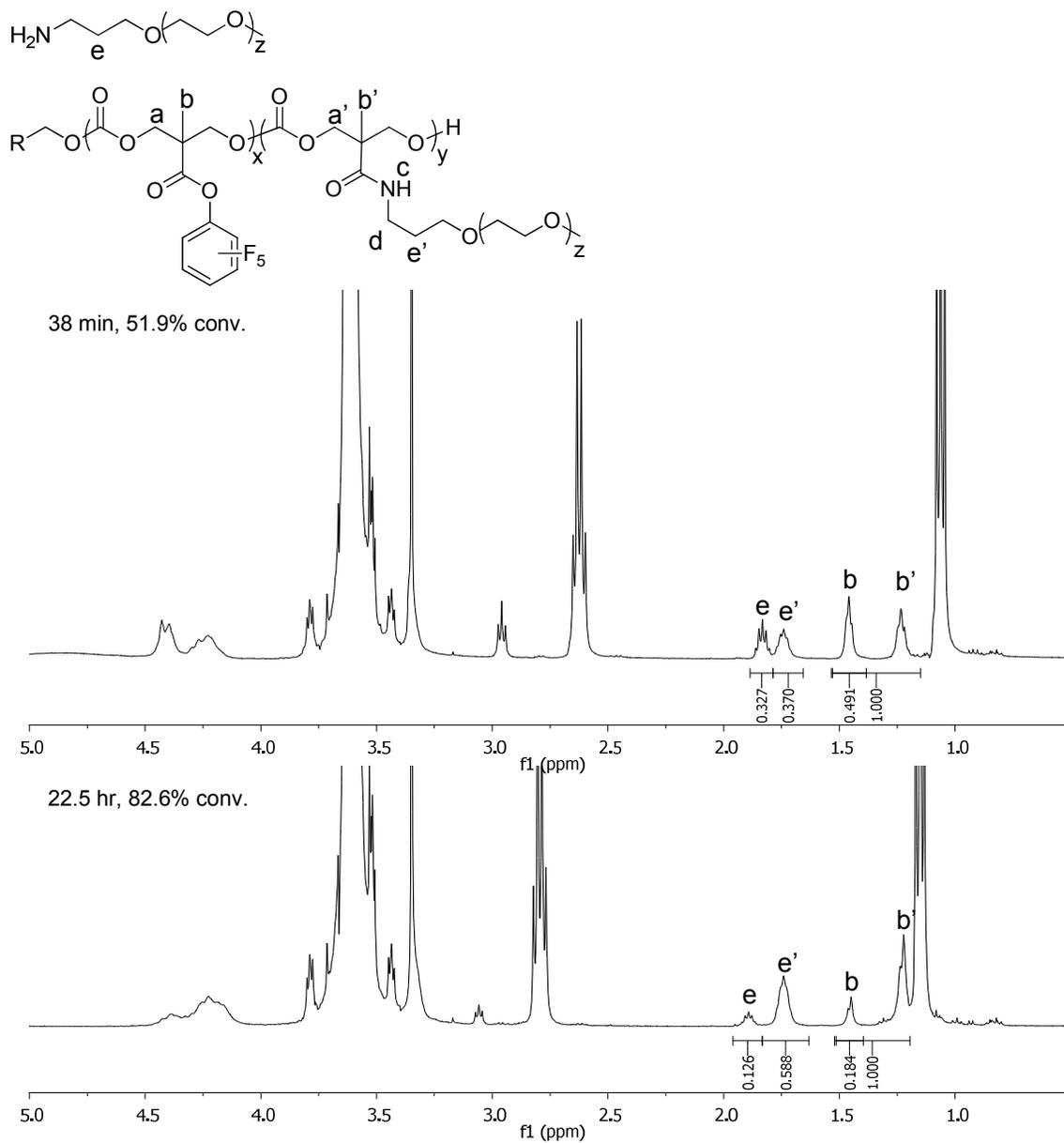


Figure S-6.  $^1\text{H}$  NMR spectra were taken at various timepoints over a 24-hour period and the conversion of activated ester into amide was monitored by comparing the methyl peak on the polycarbonate backbone for unsubstituted (peak b) and substituted (peak b') repeat units. Unreacted PEG-amine has a peak at 1.83 ppm (peak e) that shifts to 1.74 ppm (peak e') after amide formation.