

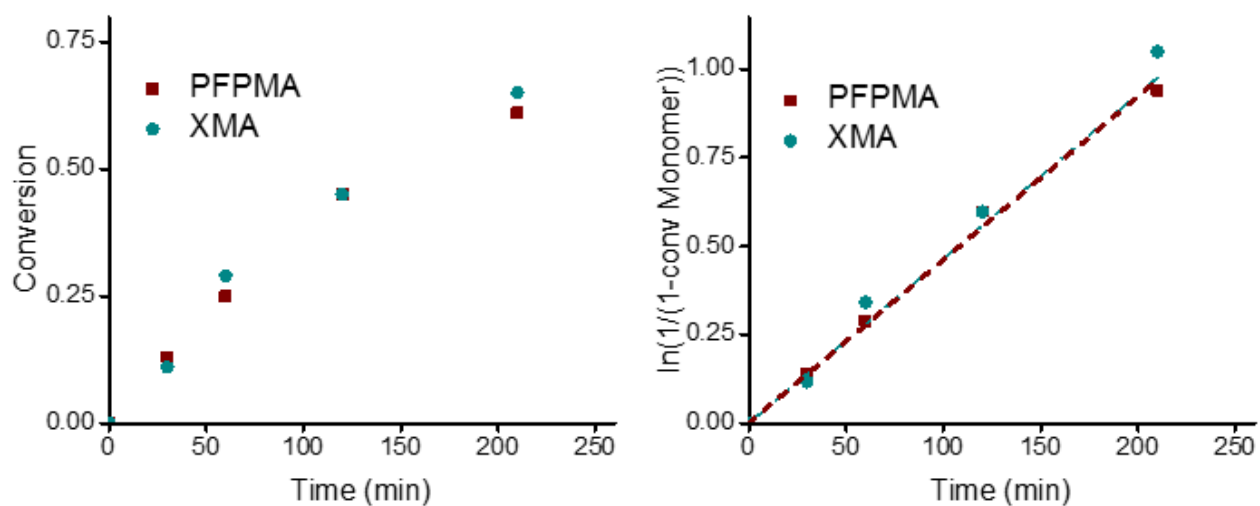
# Pentafluorophenyl-based Single-Chain Polymer Nanoparticles as a Versatile Platform towards Protein Mimicry

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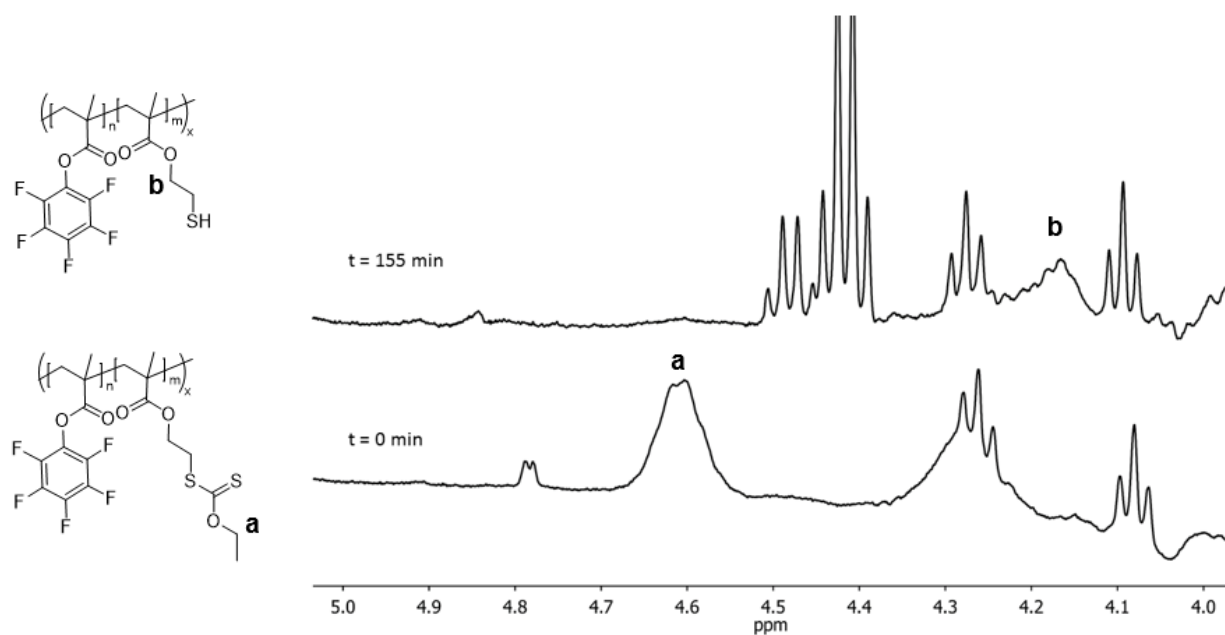
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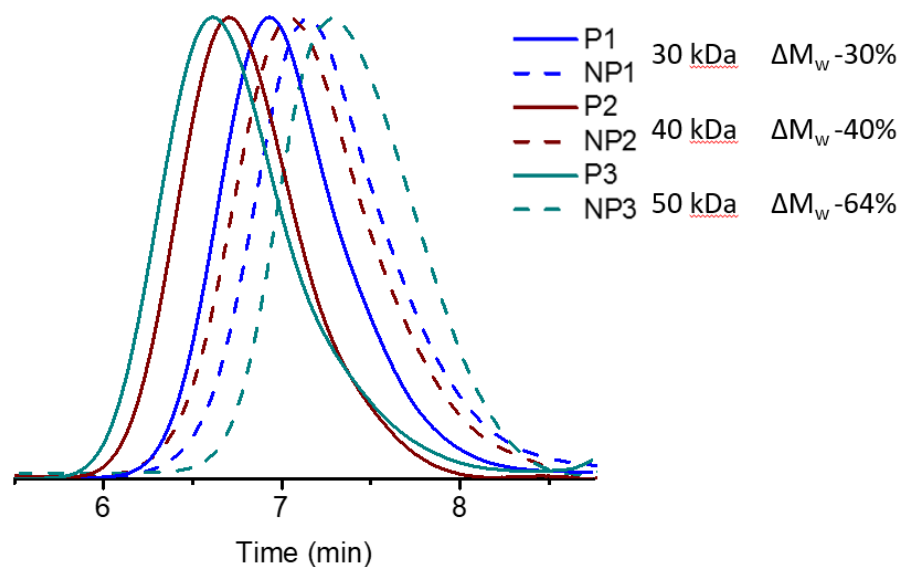
<sup>†</sup> These authors contributed equally.



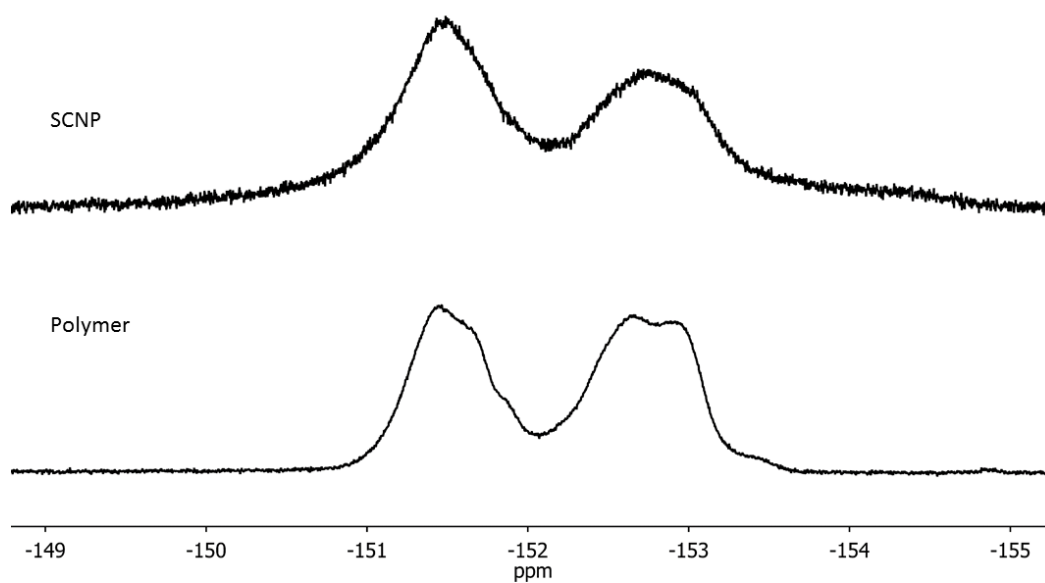
**Figure S1.** Conversion plots of p(PFPMA-XMA) polymerization.



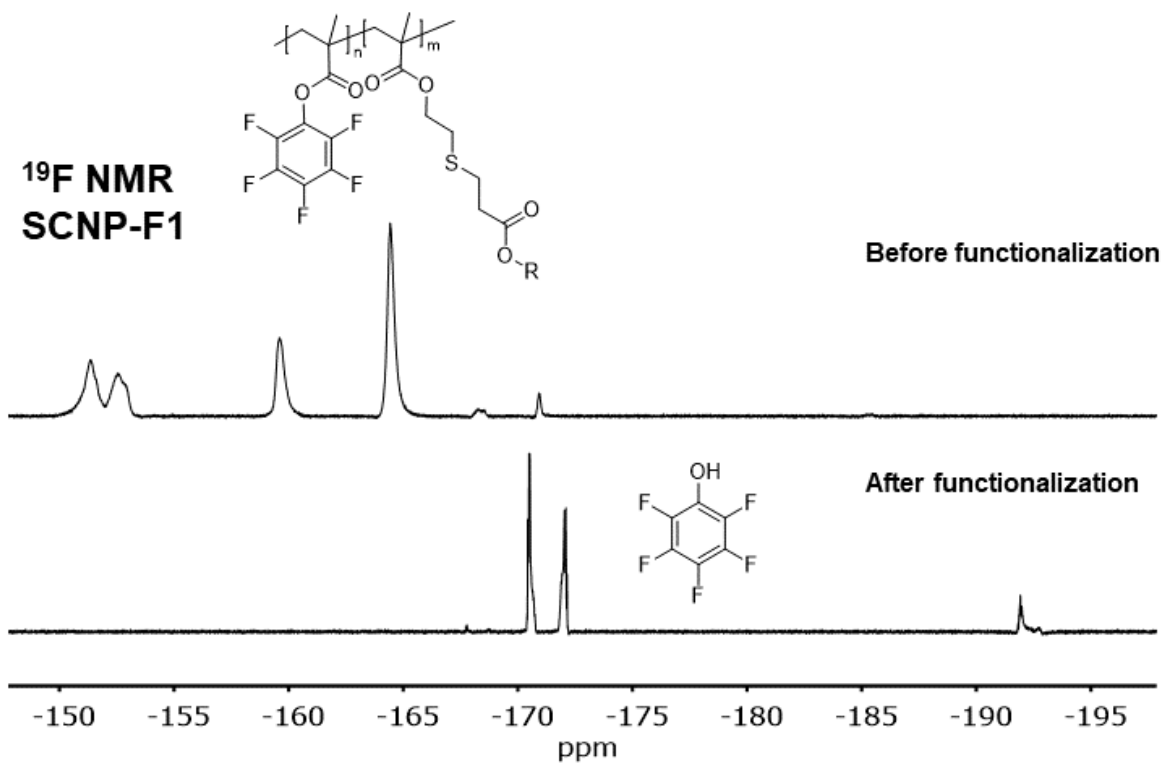
**Figure S2.**  $^1\text{H}$  NMR spectrum of the deprotection of XMA monomer in PFP-SCNP using ethanolamine. The signal at 4.6 ppm disappears, while a new signal appears at 4.2 ppm.



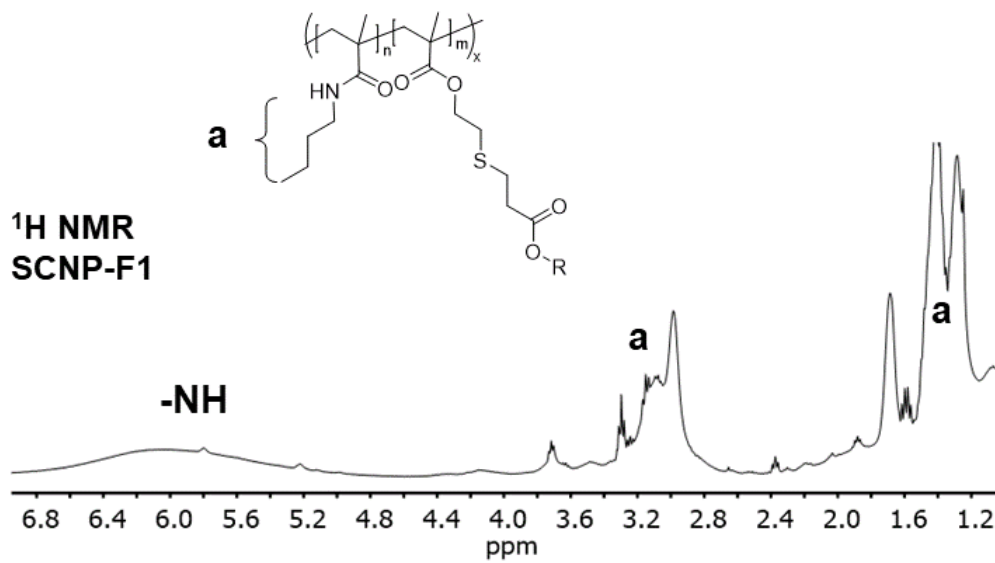
**Figure S3.** Overlay of GPC traces for the **PFP-polymer** precursors and the corresponding nanoparticles (**PFP-SCNPs**) for different precursor chain lengths.



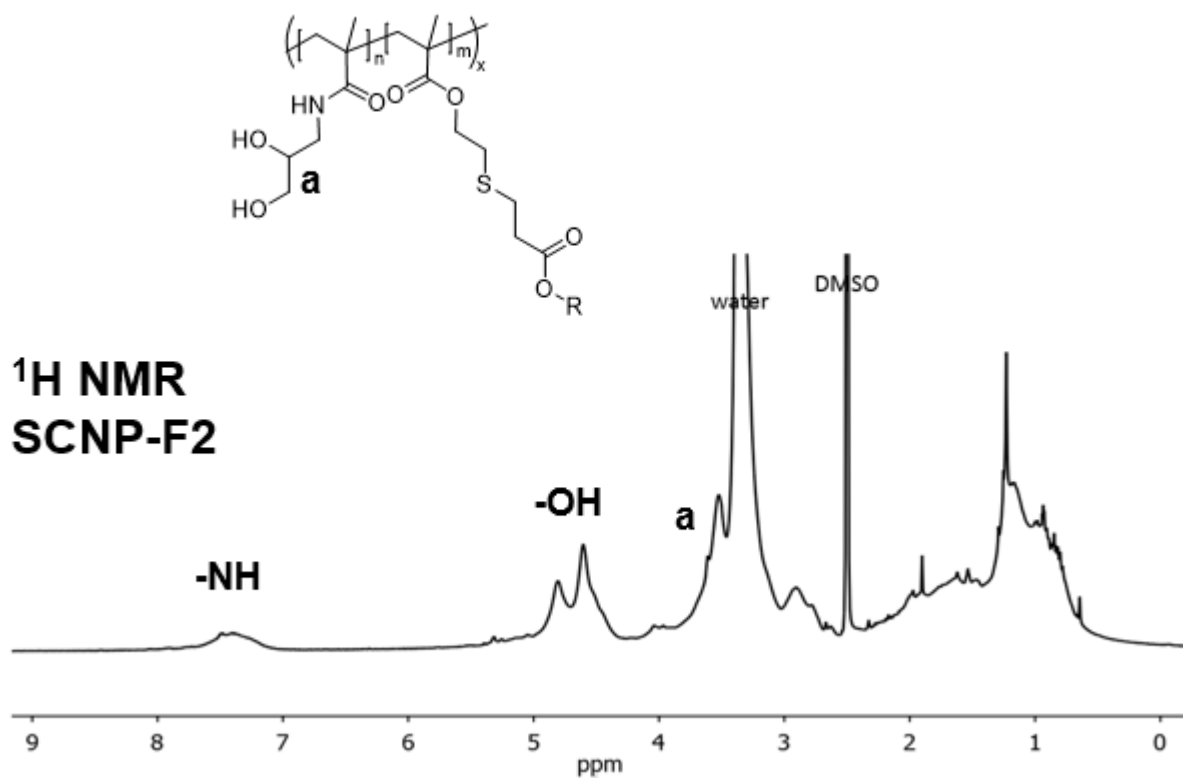
**Figure S4.** Comparison of  $^{19}\text{F}$  NMR spectra of precursor **PFP-polymer** and subsequent **PFP-SCNP**, showing the broadening of the *ortho*-fluoro signal.



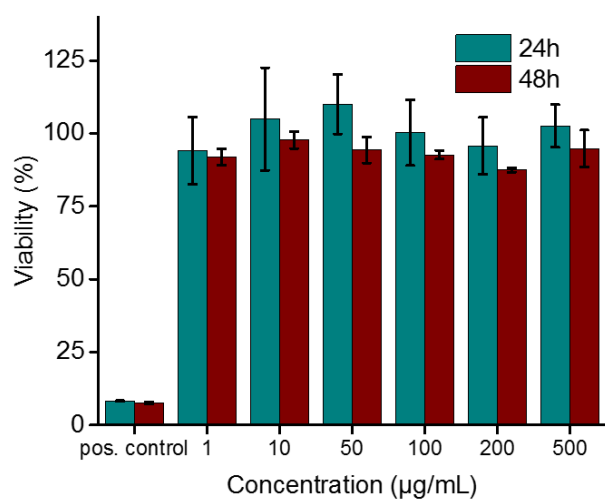
**Figure S5.** <sup>19</sup>F NMR spectrum of SCNP-F1 before and after functionalization with *n*-butylamine.



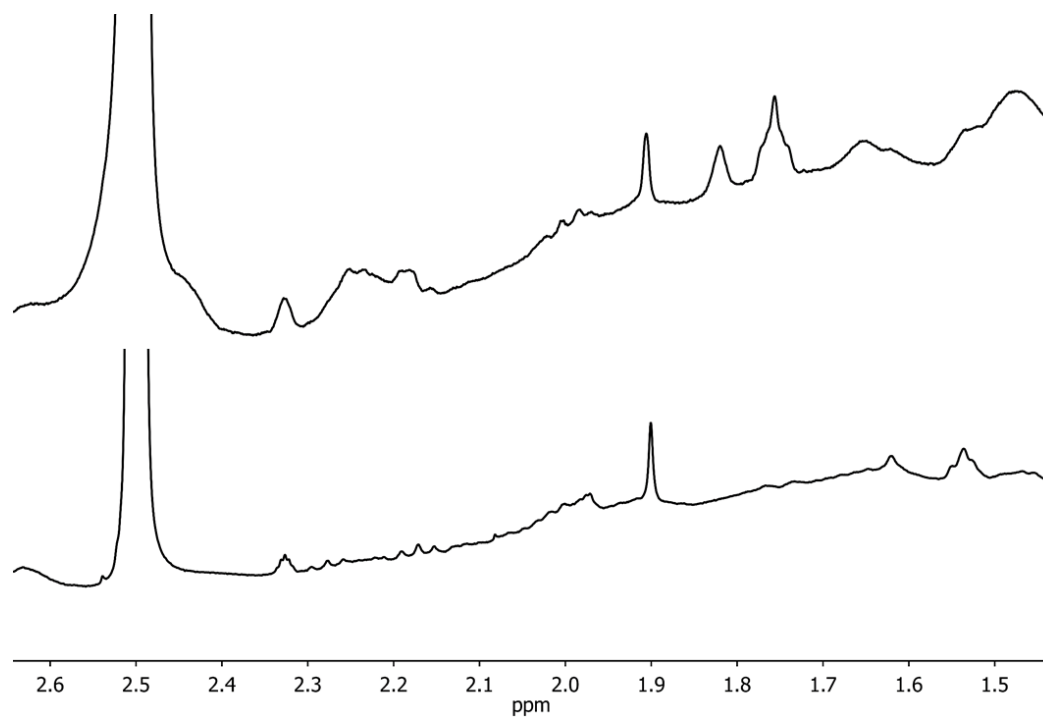
**Figure S6.** <sup>1</sup>H NMR spectrum of SCNP-F1, indicating the amide and butyl region.



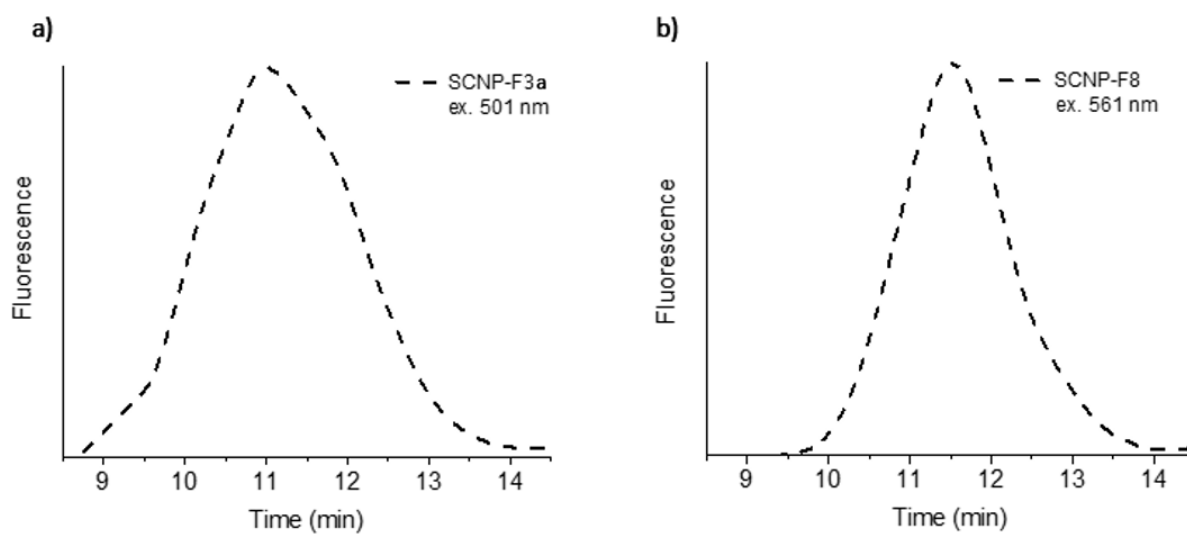
**Figure S7.** <sup>1</sup>H NMR spectrum of SCNP-F2.



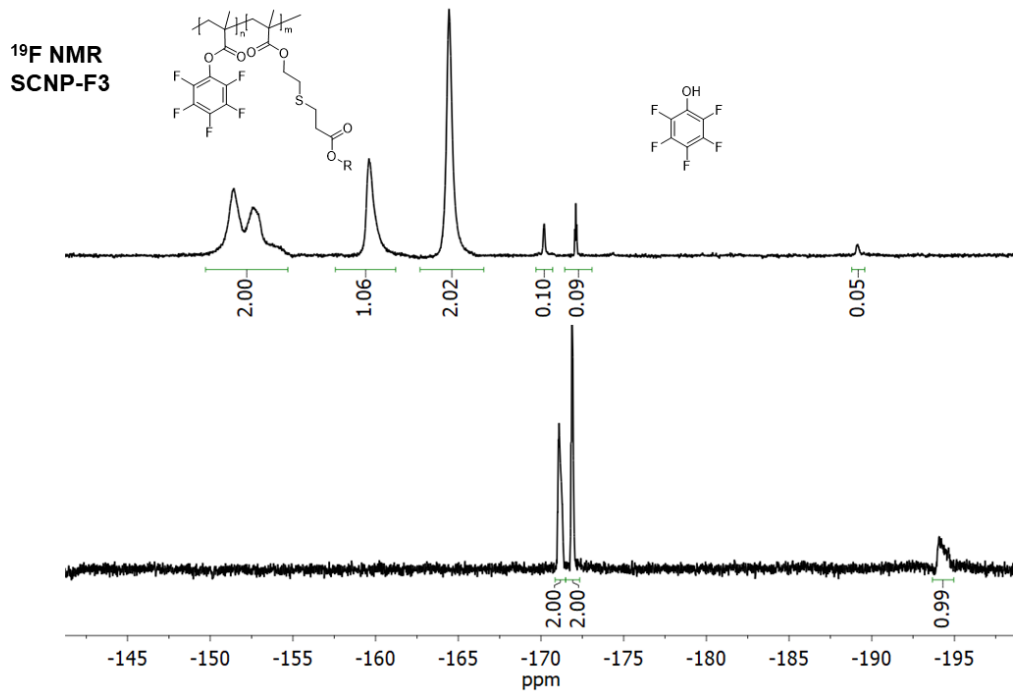
**Figure S8.** Cytotoxicity studies of SCNP-F2 on hCMEC/D3 cells.



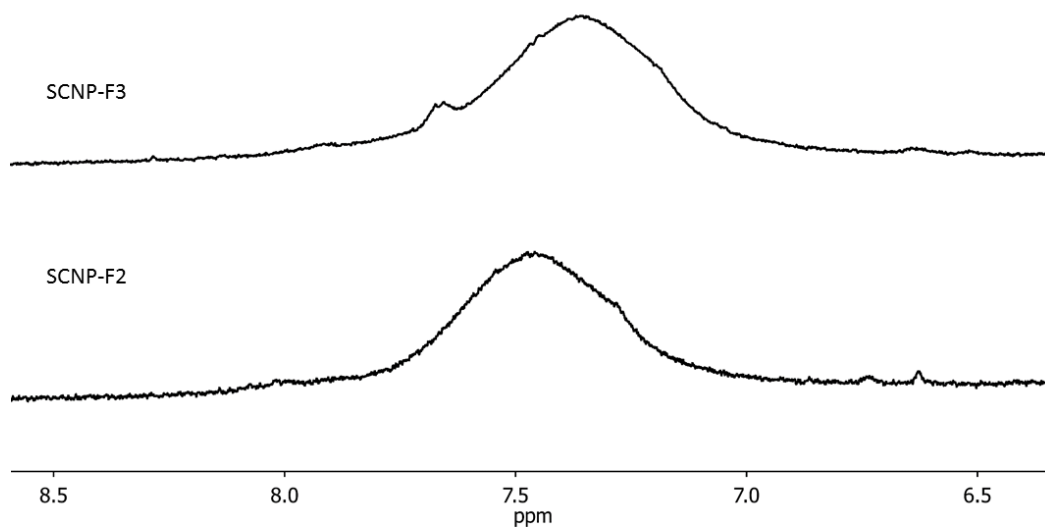
**Figure S9.** <sup>1</sup>H NMR spectra of SCNP-F2 (bottom) and SCNP-F3 (top).



**Figure S10.** GPC traces of SCNP-F3a (a) and SCNP-F8 (b).



**Figure S11.** <sup>19</sup>F NMR spectra indicating 5% inclusion of tyrosine methyl ester and subsequent endcapping by 1-aminoglycerol releasing the remaining pentafluoro phenol.



**Figure S12.** <sup>1</sup>H NMR spectra of SCNP-F2 (bottom) and SCNP-F3 (top), indicating the additional amide peak for the tyrosine methyl ester moiety.

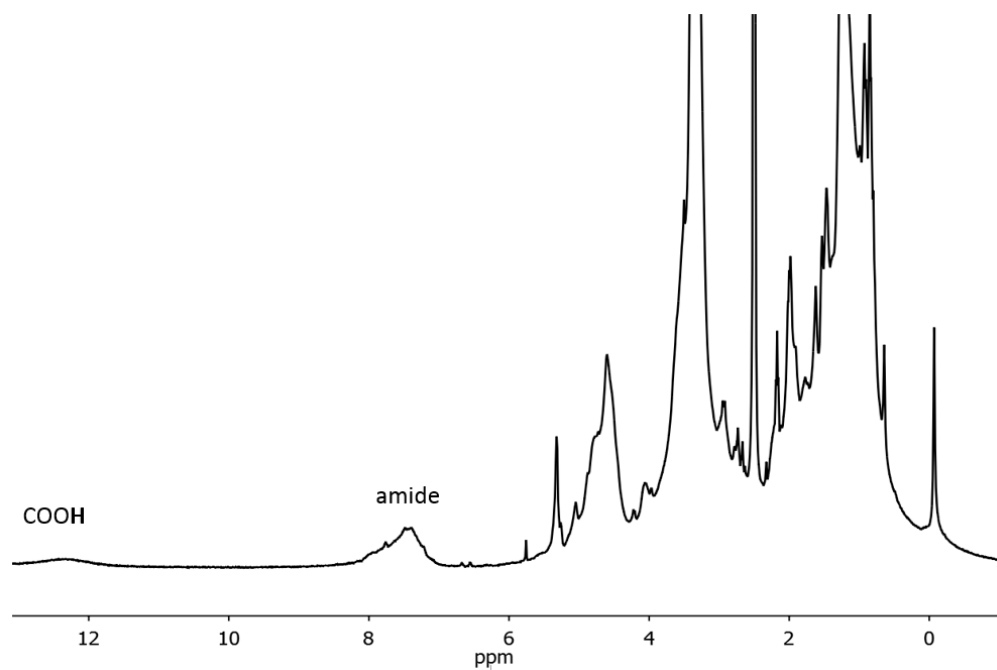


Figure S13.  $^1\text{H}$  NMR spectrum of SCNPF-F5.

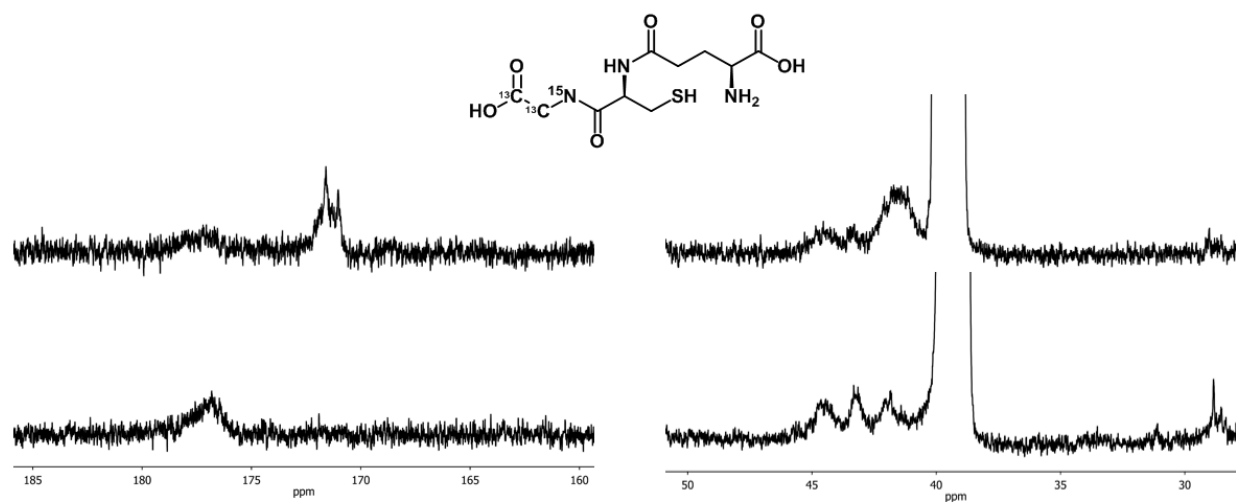


Figure S14.  $^{13}\text{C}$  NMR spectra of SCNPF-F2 (bottom) and SCNPF-F6 with 2% enriched GSH (top).