

Supporting Information for

Facile Synthesis of Well-Defined Redox Responsive Diselenide-Labeled Polymers via Organoselenium-Mediated CRP and Aminolysis

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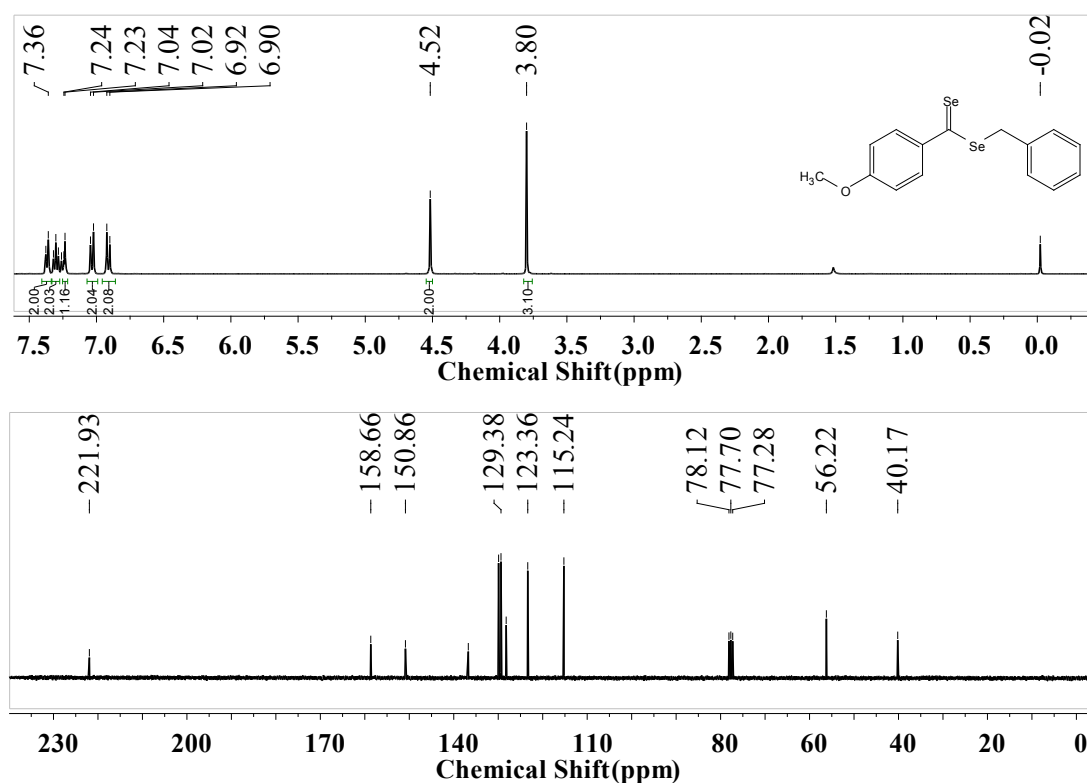


Fig. S1 ¹H and ¹³C NMR spectra of diselenocarbonate (Se-1) in CDCl₃ at room temperature.

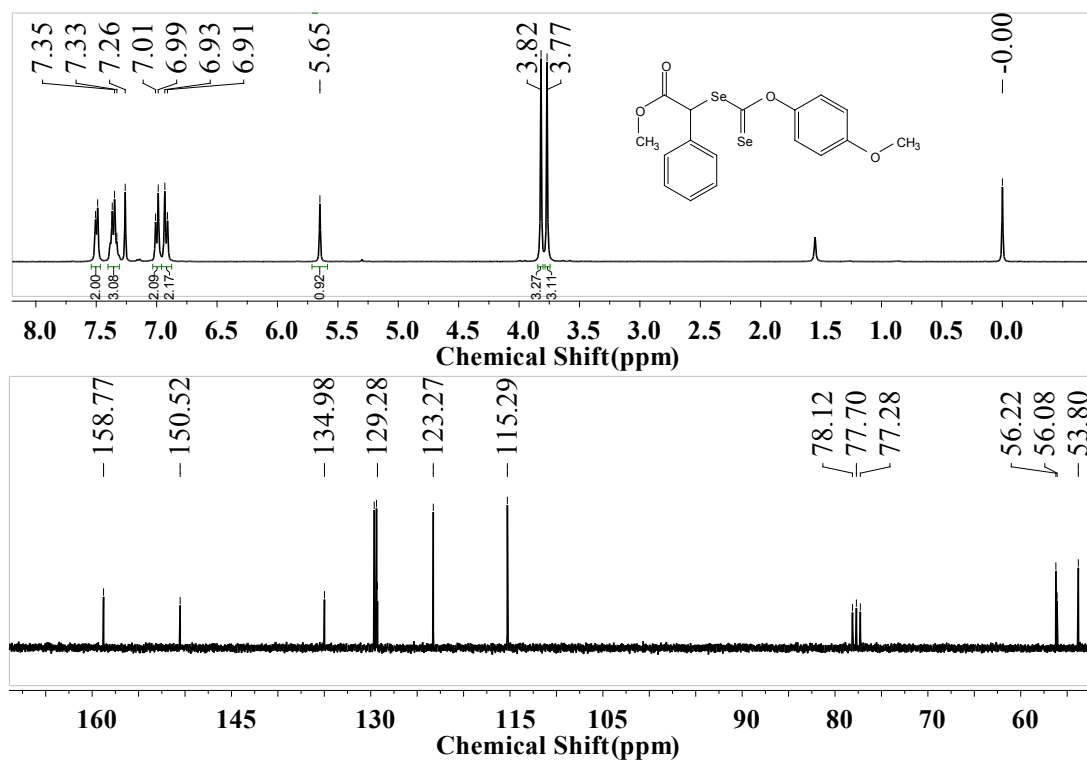


Fig. S2 ¹H and ¹³C NMR spectra for diselenocarbonate (Se-2) in CDCl₃ at room temperature.

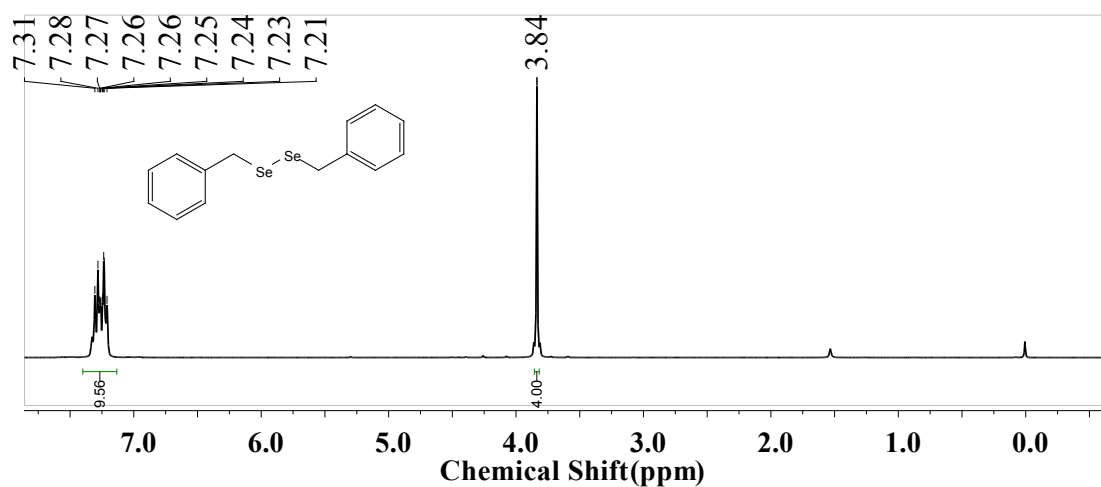


Fig. S3 ¹H NMR spectrum of dibenzyldiselenide in CDCl₃ at room temperature.

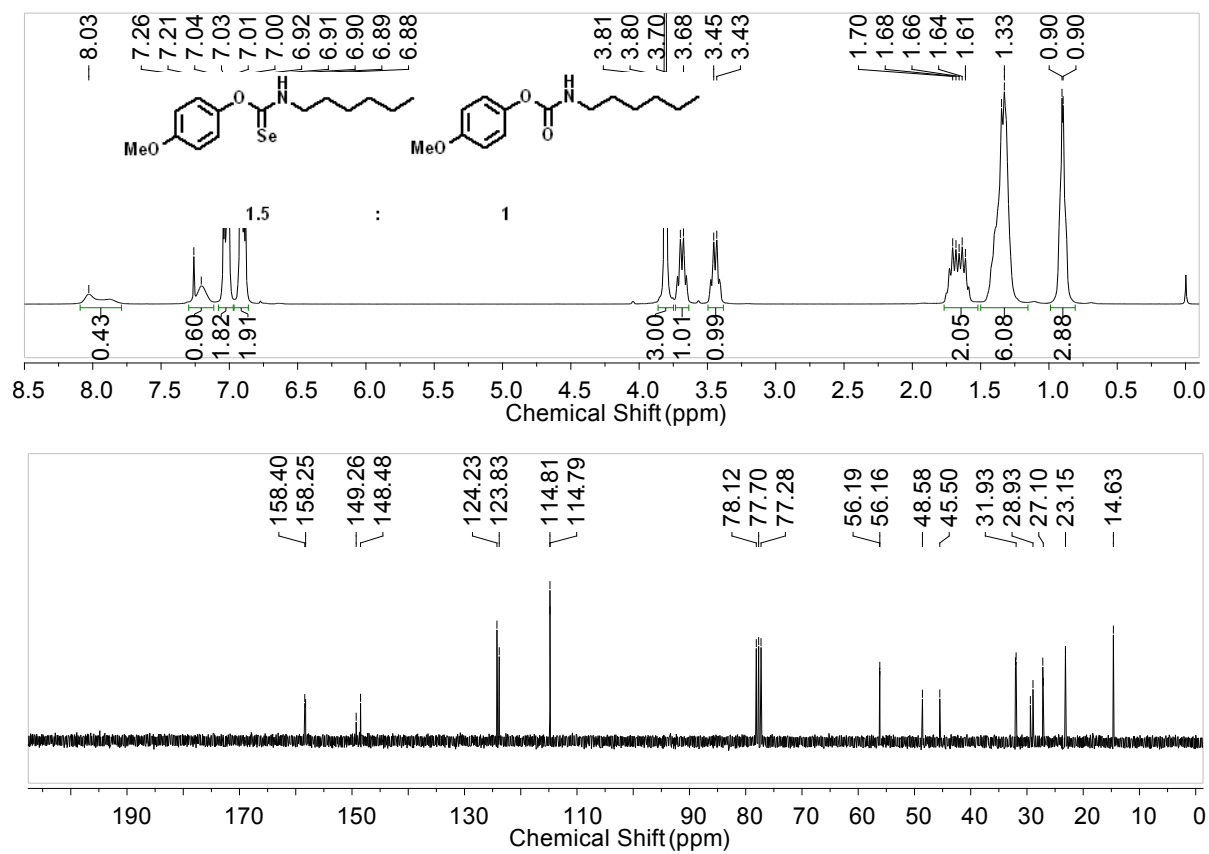


Fig. S4 ^1H and ^{13}C NMR spectra for O-(4-methoxyphenyl) hexylcarbamoseleenoate in CDCl_3 at room temperature.

Sample Name	pxq-gf-aminolysis	Position	Vial 1	Instrument Name	Instrument 1	User Name	
Inj Vol	0	InjPosition		SampleType	Sample	IRM Calibration Status	Success
Data Filename	pxq-gf-aminolysis-02	ACQ Method		Comment		Acquired Time	11/14/2014 9:53:09 AM

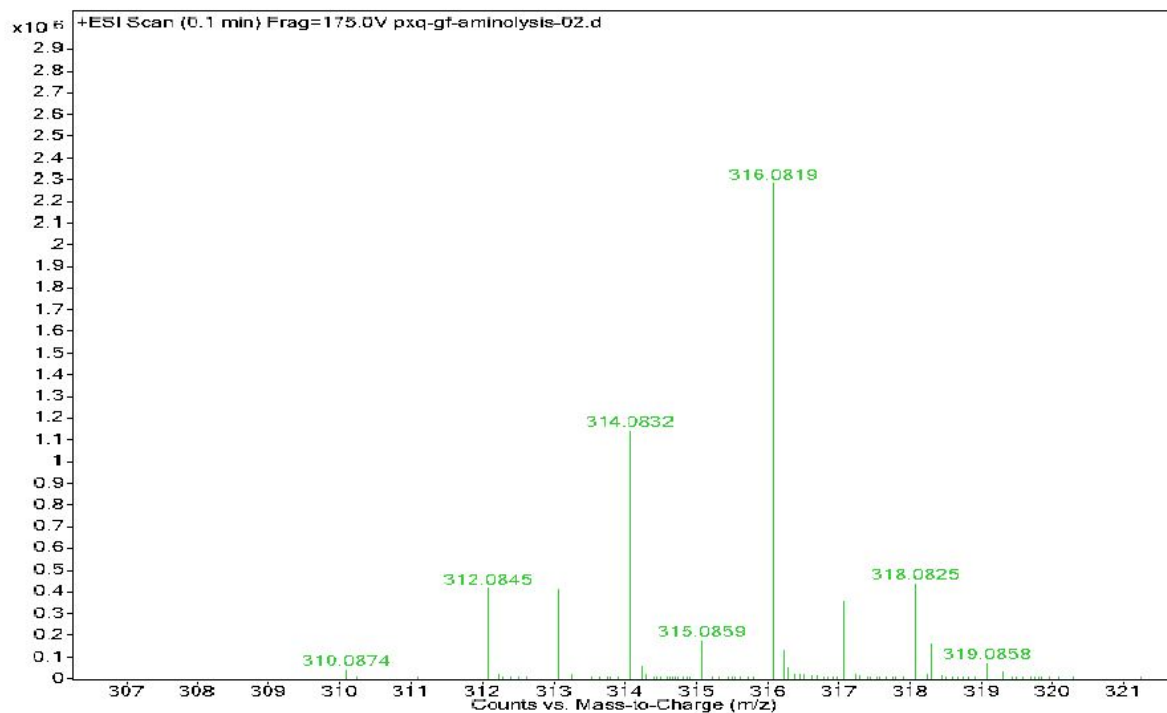


Fig. S5 mass spectra for O-(4-methoxyphenyl) hexylcarbamoseleolate, LCMS(ESI): calcd. for $C_{14}H_{21}NO_2Se$ 315.0738, found 316.0819 (+ H^+).

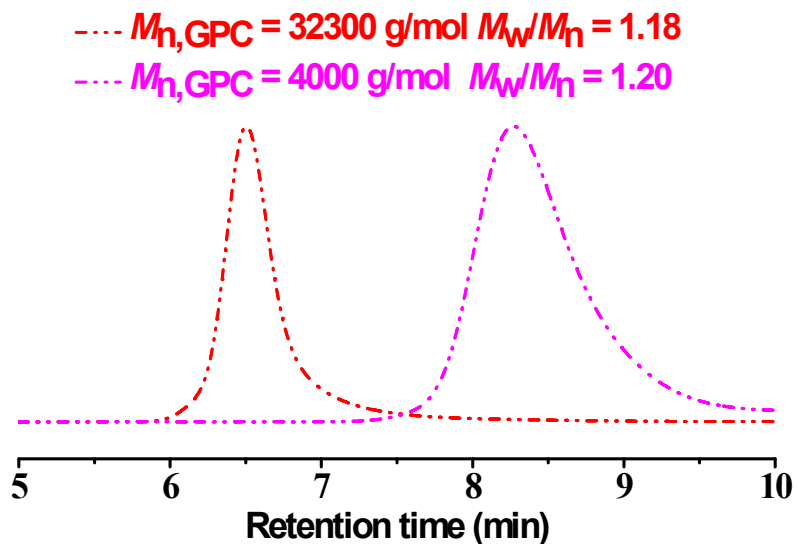


Fig. S6 GPC curves of PS-Se ($M_{n,GPC} = 4000$ g/mol, $M_w/M_n = 1.20$) before and after chain extension ($[St]_0:[PS-Se]_0:[AIBN]_0 = 500:1:0.5$, $T = 60$ °C, $t = 72$ h).

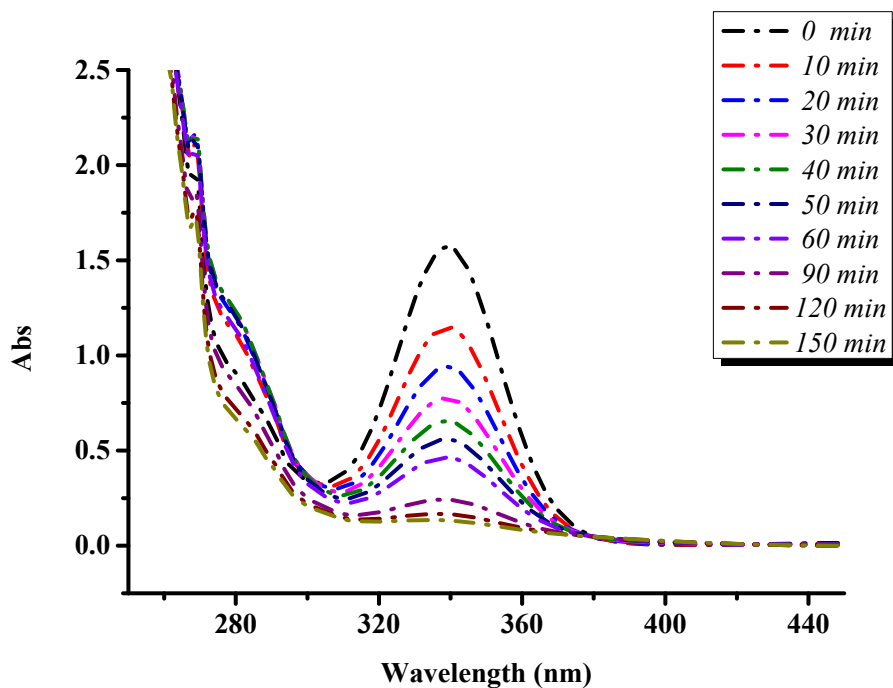


Fig. S7 UV-Vis spectra of PS-Se ($M_{n, \text{GPC}} = 4000$ g/mol, $M_w/M_n = 1.20$, 1×10^{-4} M) aminolysis with hexylamine (5 eq.) at room temperature for 10 min, 20 min, 30 min, 40 min, 50 min, 60 min, 90 min, 120 min and 150 min.

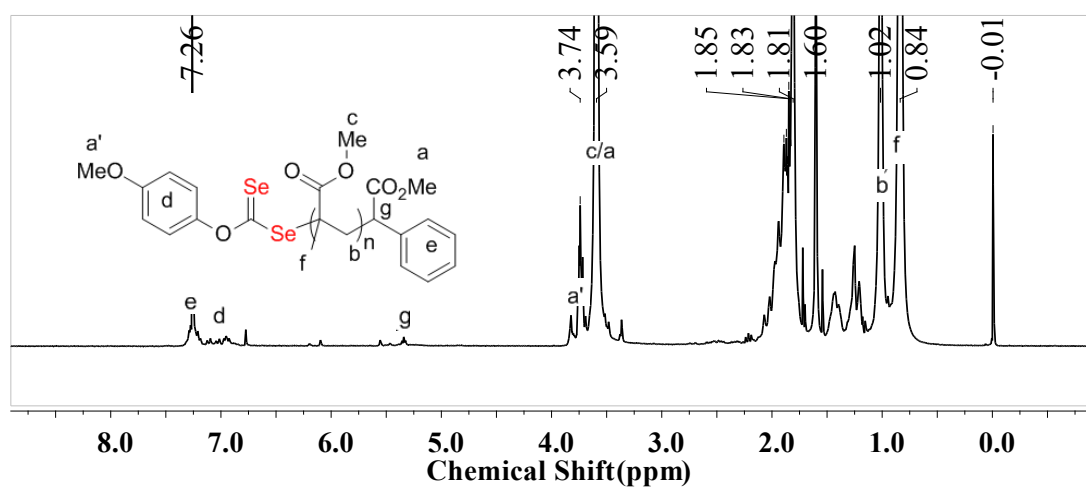


Fig. S8 ^1H NMR spectrum of PMMA-Se ($M_{n, \text{GPC}} = 8100$ g/mol, $M_w/M_n = 1.45$) in CDCl_3 at room temperature.

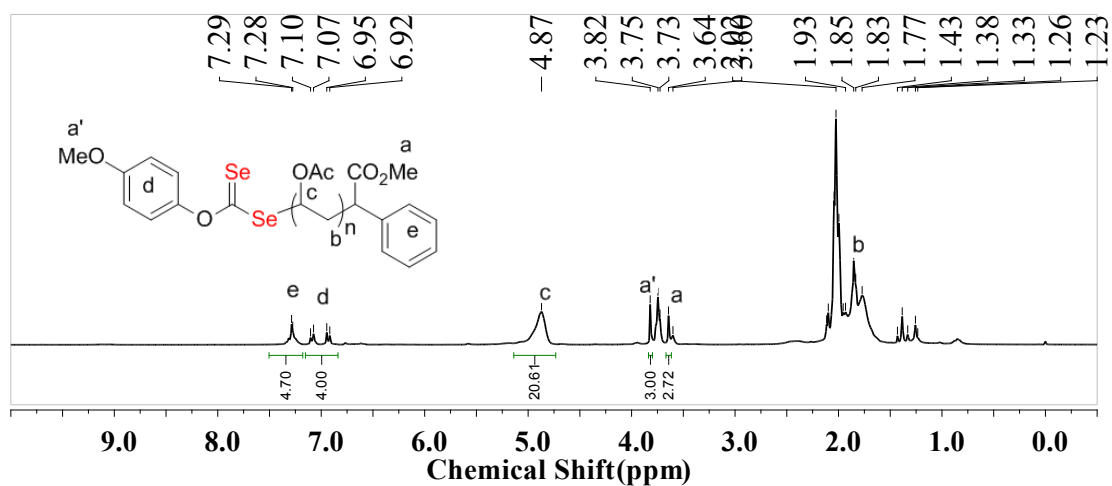


Fig. S9 ^1H NMR spectrum of PVAc-Se ($M_{n,\text{GPC}} = 2500$ g/mol, $M_w/M_n = 1.16$) in CDCl_3 at room temperature.

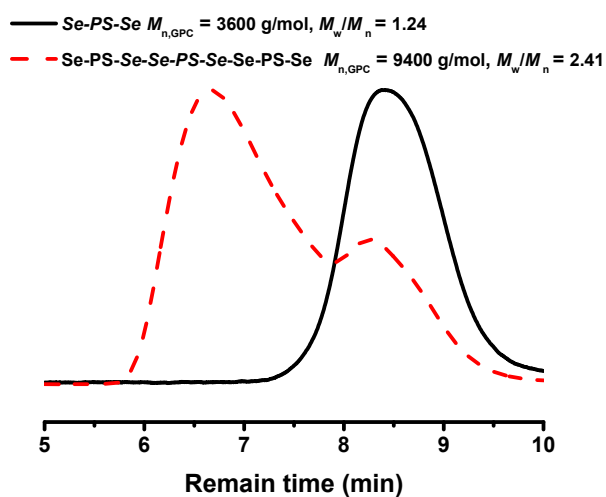


Fig. S10 GPC curves of Se-PS-Se ($M_{n,\text{GPC}} = 3600$ g/mol, $M_w/M_n = 1.24$) before and after aminolysis with *n*-hexylamine (10 eqivmolar) at room temperature for 24 h.