Supporting Information

for

Water-Soluble and Redox-Responsive Hyperbranched Polyether Copolymers Based on Ferrocenyl Glycidyl Ether

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Additional characterization data.

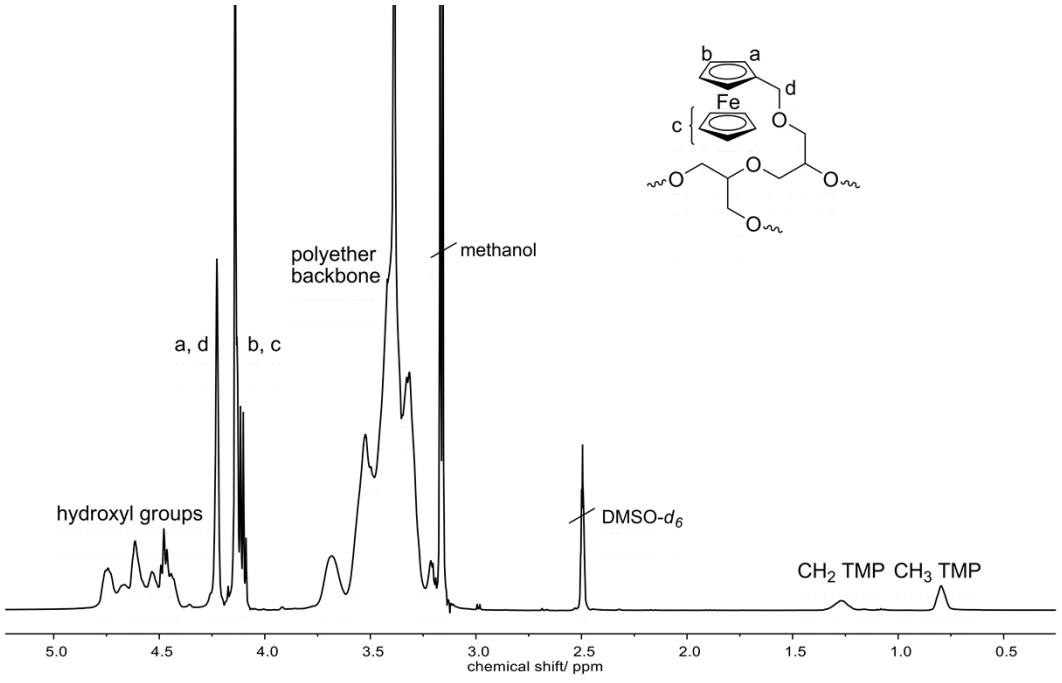

Figure S1: ^{1}H NMR (400 MHz, 298K, DMSO-d_6) of *hb*P[G_{36}-*co*-fcGE_5] (P2) with signal assignments.

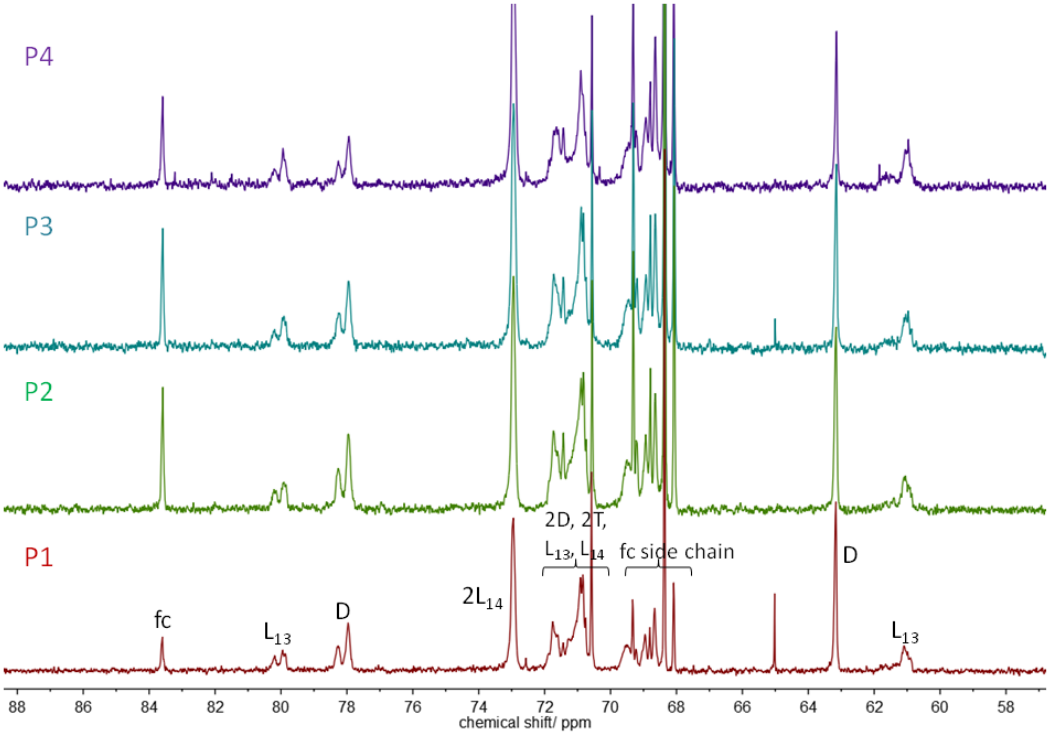

Figure S2: ^{13}C NMR (100 MHz, 298K, DMSO-d_6) of *hb*P[G-*co*-fcGE] copolymers with signal assignments.

Table S1: Relative integrals of the different repeating units determined by inverse gated (IG) ^{13}C NMR spectroscopy and used for the calculation of the degree of branching.

no.	sample	L_{13}	L_{14}	L_{fcGE}	D	T	DB
P1	*hb*P[G_{37}-*co*-fcG$E_{2.4}$]	0.12	0.26	0.06	0.25	0.31	0.54
P2	*hb*P[G_{36}-*co*-fcGE_5]	0.11	0.24	0.13	0.27	0.25	0.53
P3	*hb*P[G_{67}-*co*-fcG$E_{8.2}$]	0.12	0.28	0.13	0.25	0.22	0.49
P4	*hb*P[G_{46}-*co*-fcG$E_{6.3}$]	0.14	0.33	0.12	0.20	0.21	0.40
P5	*hb*P[G_{140}-*co*-fcGE_7]	0.12	0.23	0.06	0.33	0.26	0.62

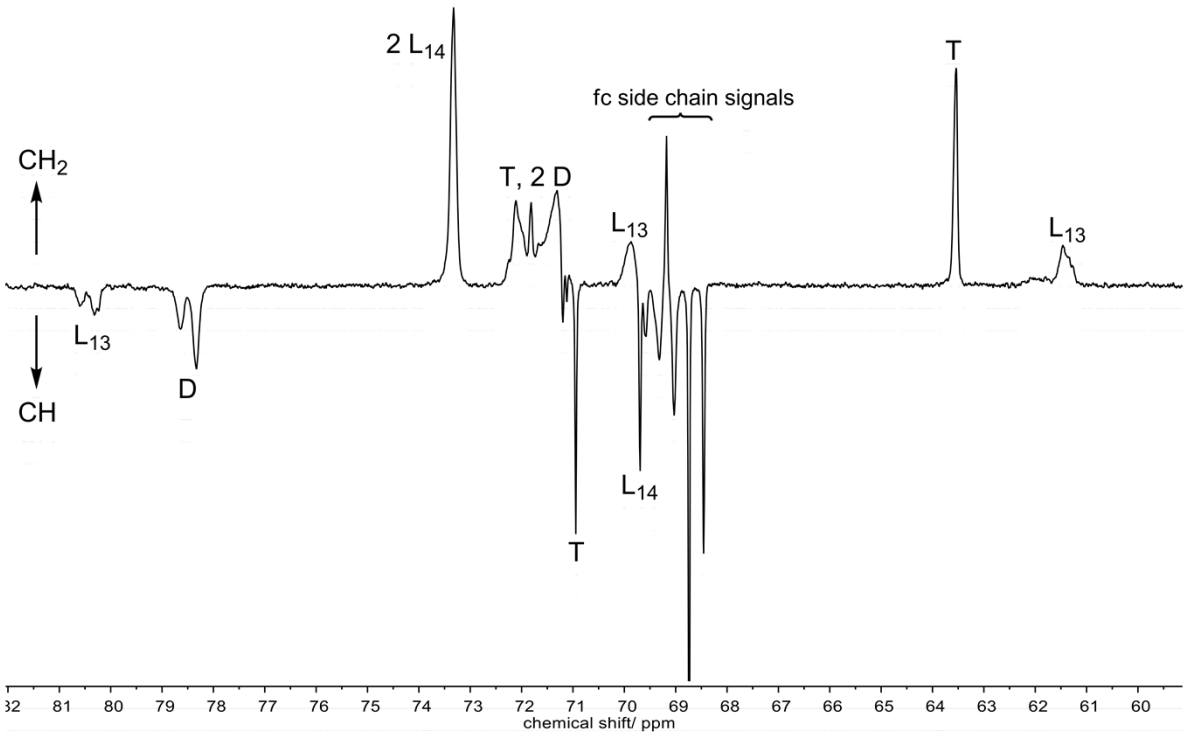

Figure S3: ^{13}C DEPT NMR (100 MHz, 298 K, DMSO-d_6) of *hb*P[G_{36}-*co*-fcGE_5] with signal assignments.

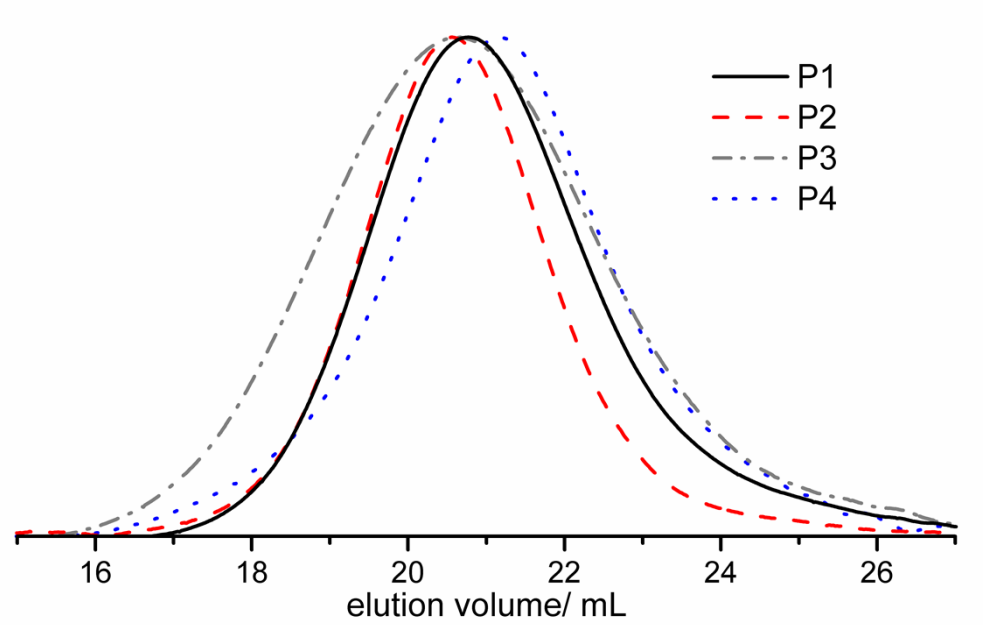

Figure S4: SEC traces (DMF, PEG standard) of *hb*P[G-*co*-fcGE] copolymers (P1, P2, P3, P4).

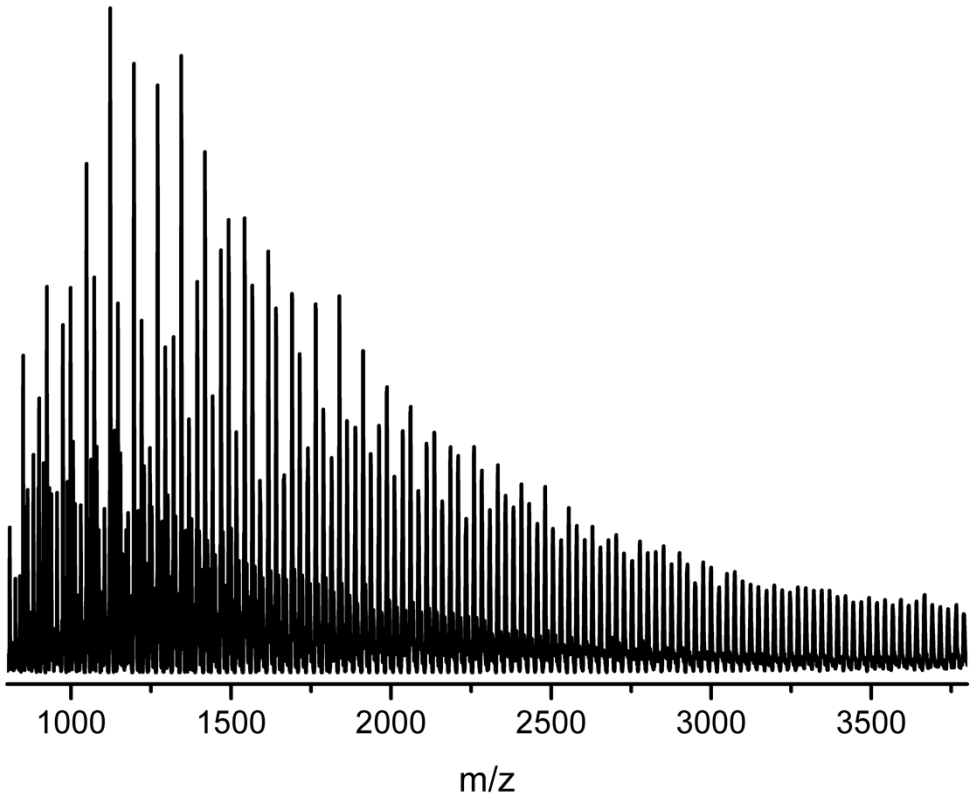

Figure S5: MALDI ToF MS of *hb*P[G_{36}-*co*-fcG$E_{5.0}$] (P2).

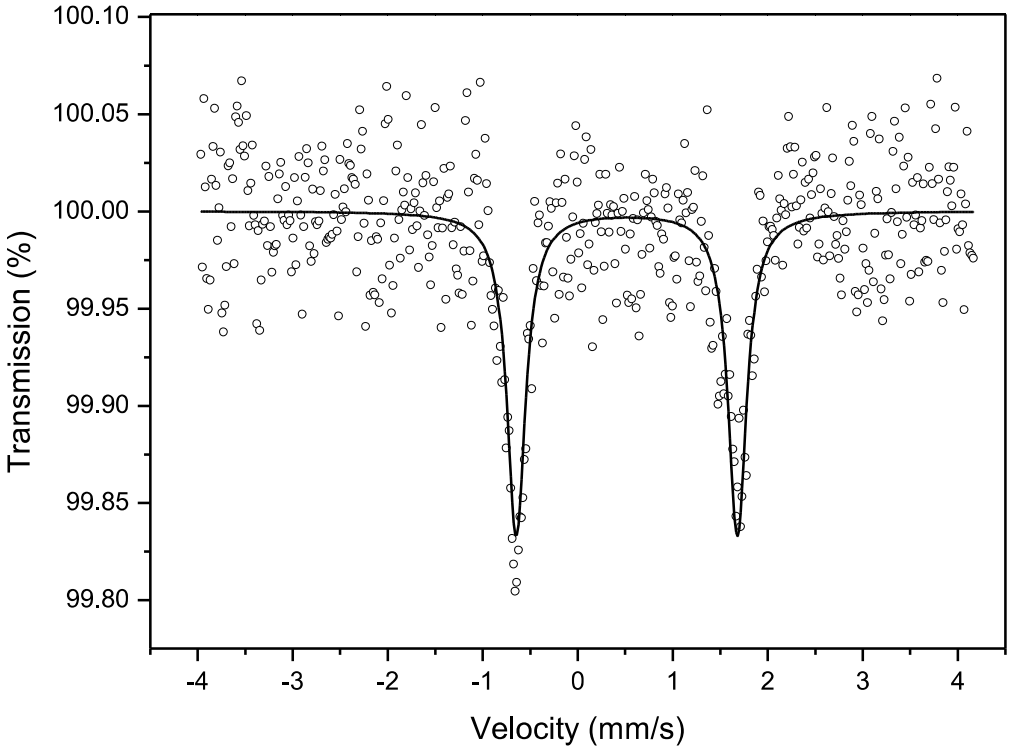

Figure S6: Mößbauer spectrum of the original (i.e. not oxidized) copolymer P3.

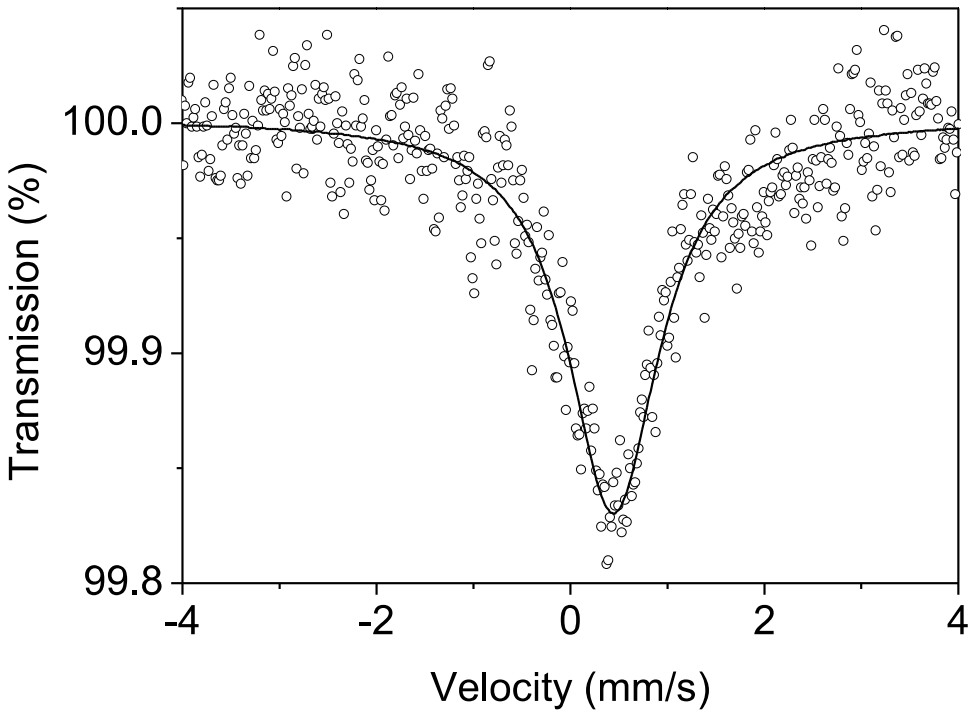

Figure S7: Mößbauer spectrum of the fully oxidized copolymer P3.

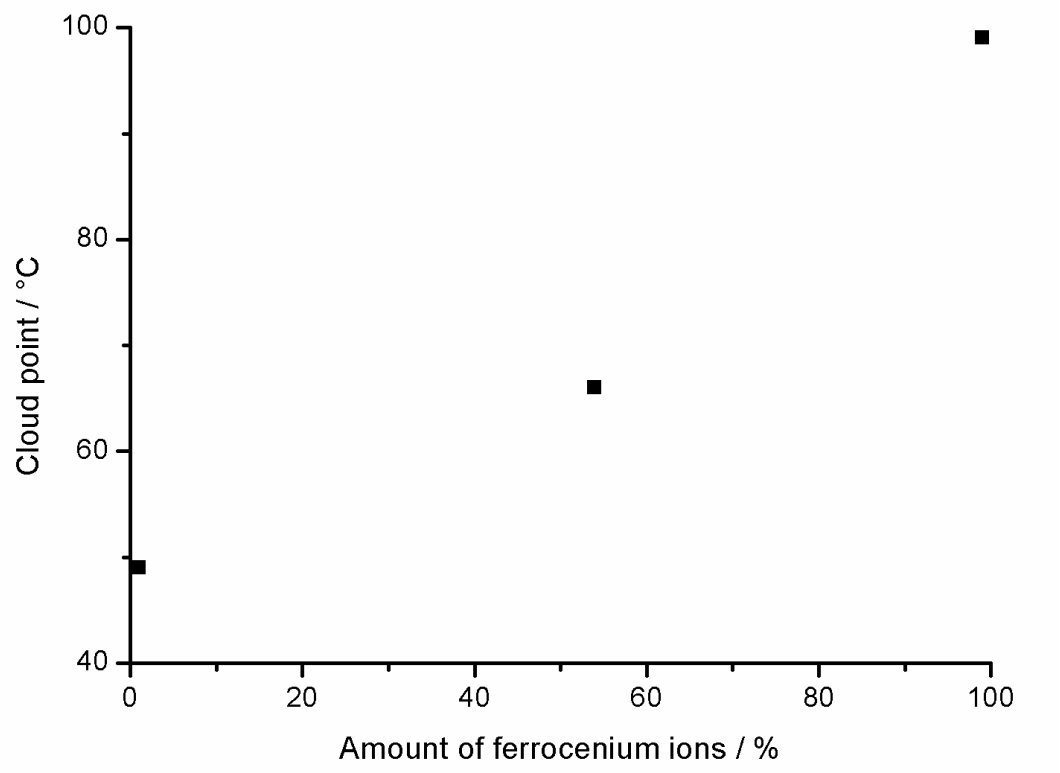

Figure S8: Cloud point temperature (T_c in °C) plotted against the degree of oxidation (amounts of ferrocenium ions in %).

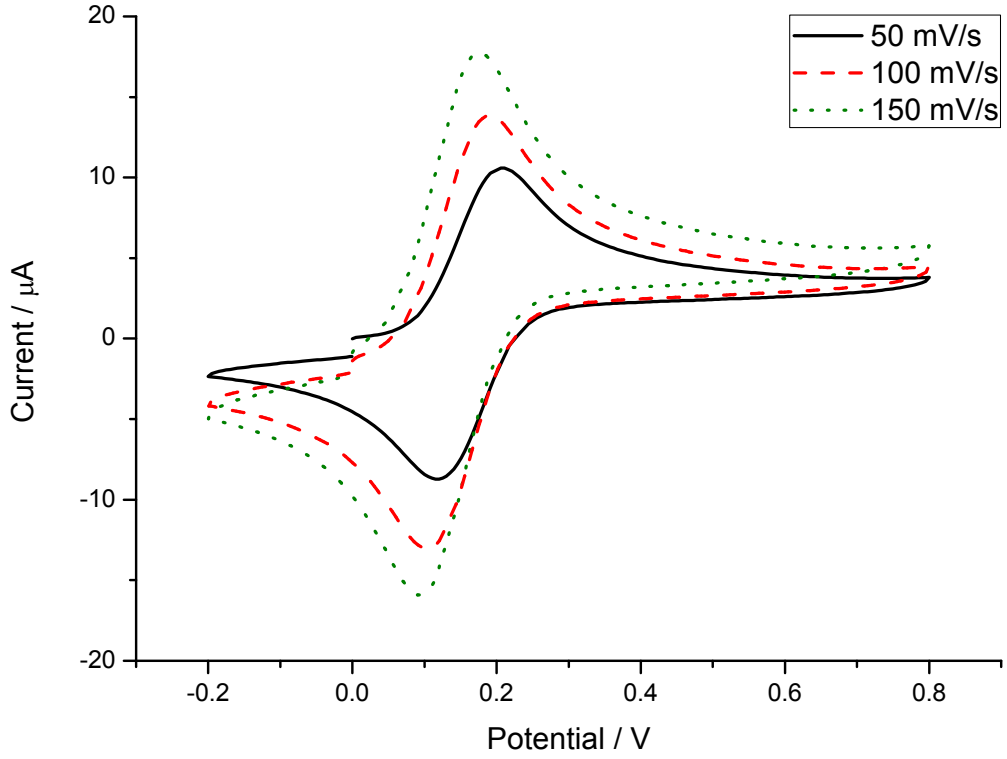

Figure S9: Cyclic voltammograms of *hb*P[G_{37}-*co*-fcG$E_{2.4}$] (P1) at different scan rates (H_2O, 5 g/L P1, 0.1 M KCl).

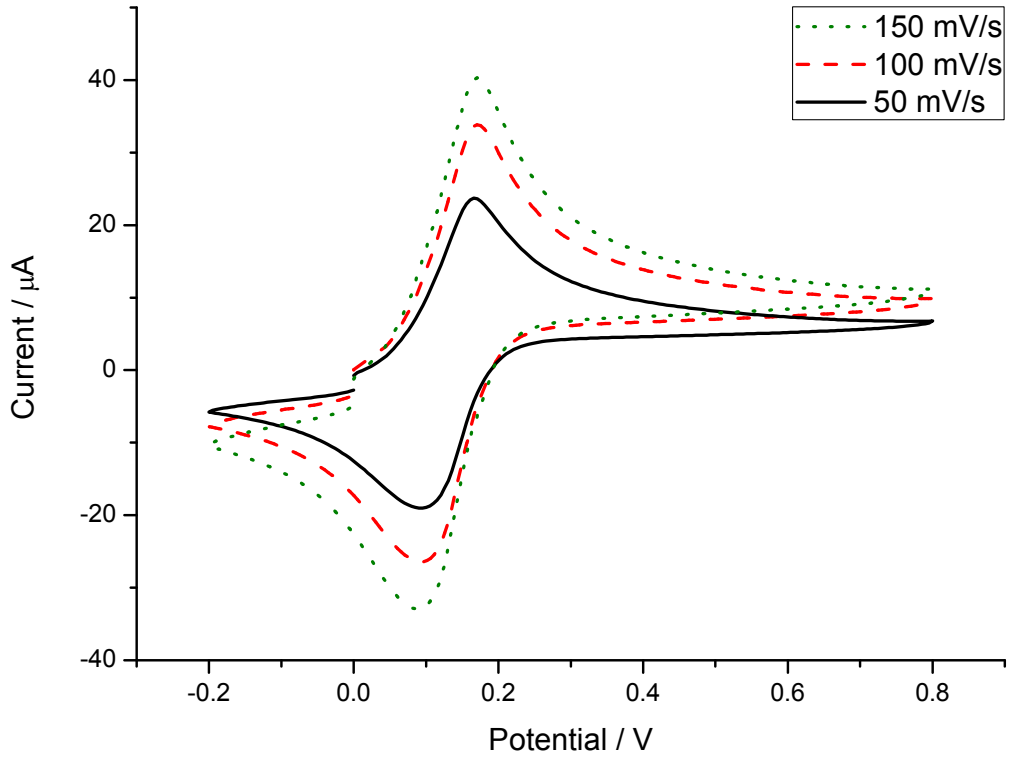

Figure S10: Cyclic voltammograms of *hb*P[G_{36}-*co*-fcGE_5] (P2) at different scan rates (H_2O, 5 g/L P1, 0.1 M KCl).

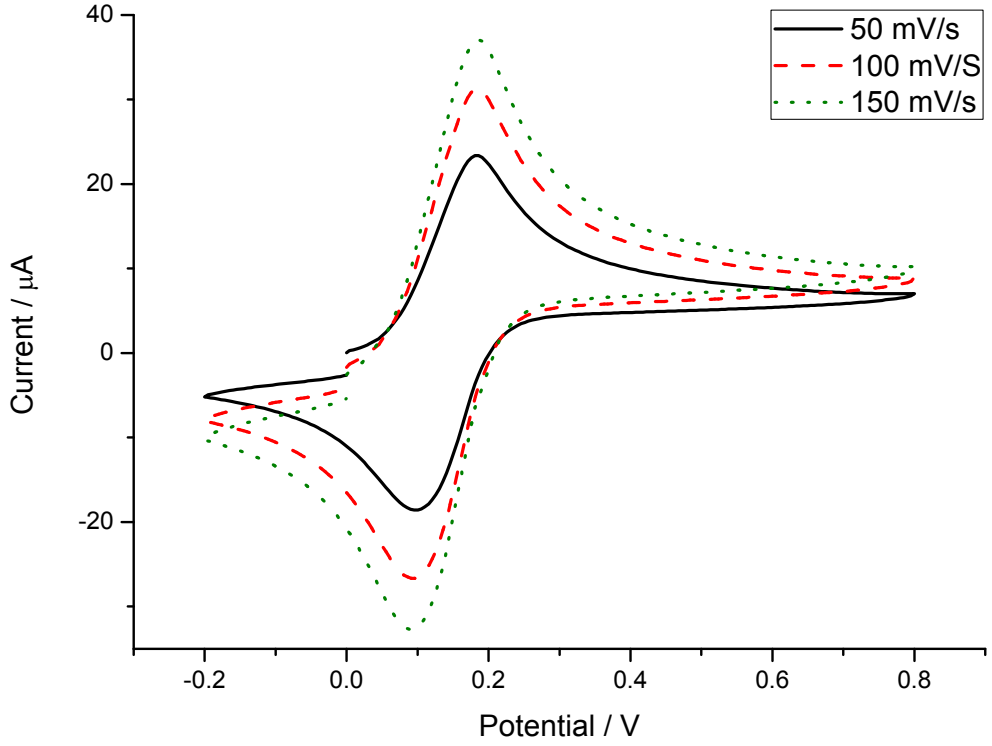

Figure S11: Cyclic voltammograms of *hb*P[G_{46}-*co*-fcG$E_{6.3}$] (P4) at different scan rates (H_2O, 5 g/L P1, 0.1 M KCl).