Electronic Supplementary Material (ESI) for RSC Advances.

Electronic Supplementary Information

Impact of Linker in Polypyrrole/Quinone Conducting Redox Polymers

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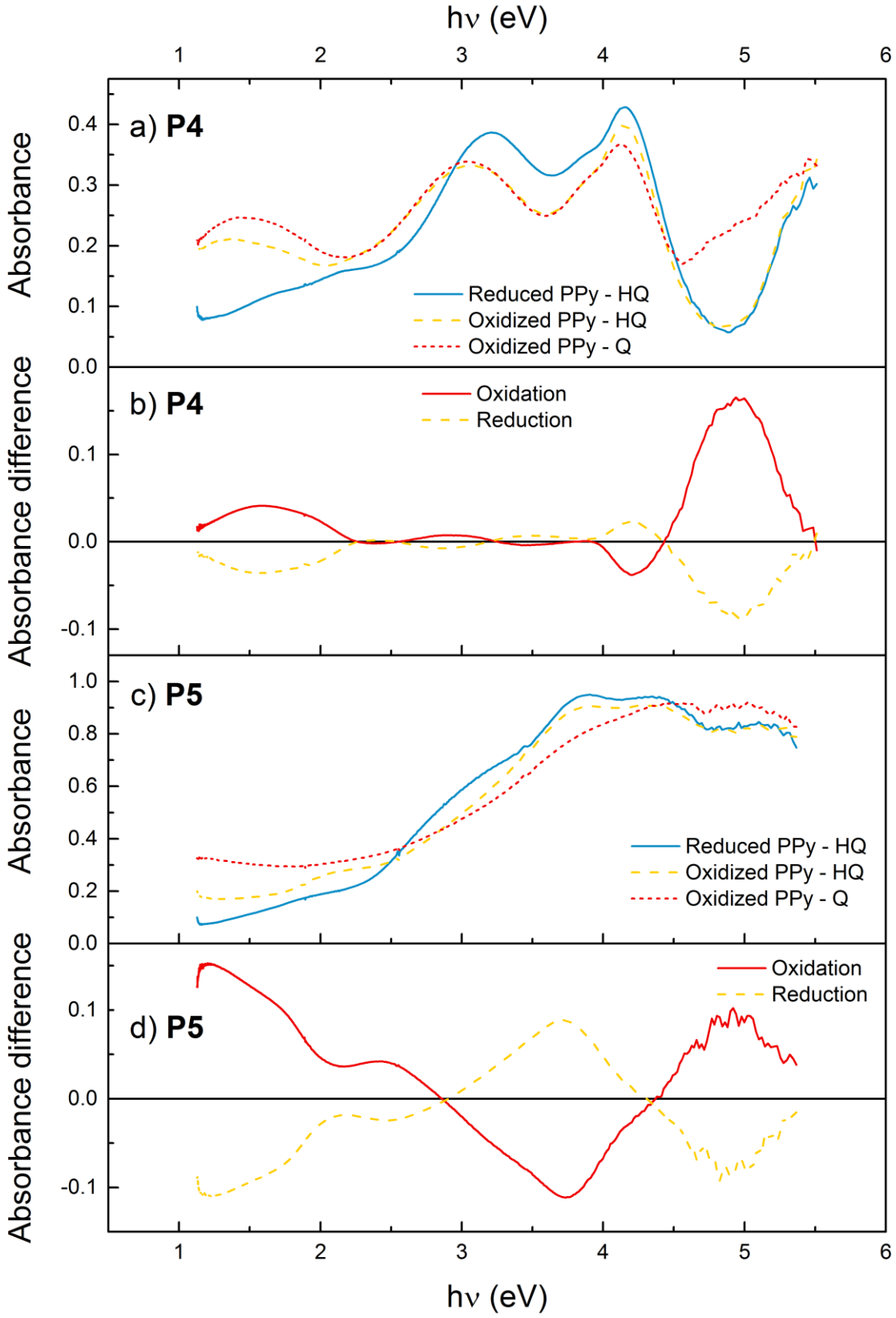

Figure S1. UV/vis/NIR spectra during an in situ oxidation sweep of a) **P4** and c) **P5**. Difference spectra over the pendant group redox processes for b) **P4** and d) **P5**. The energy scale is the same in all plots.

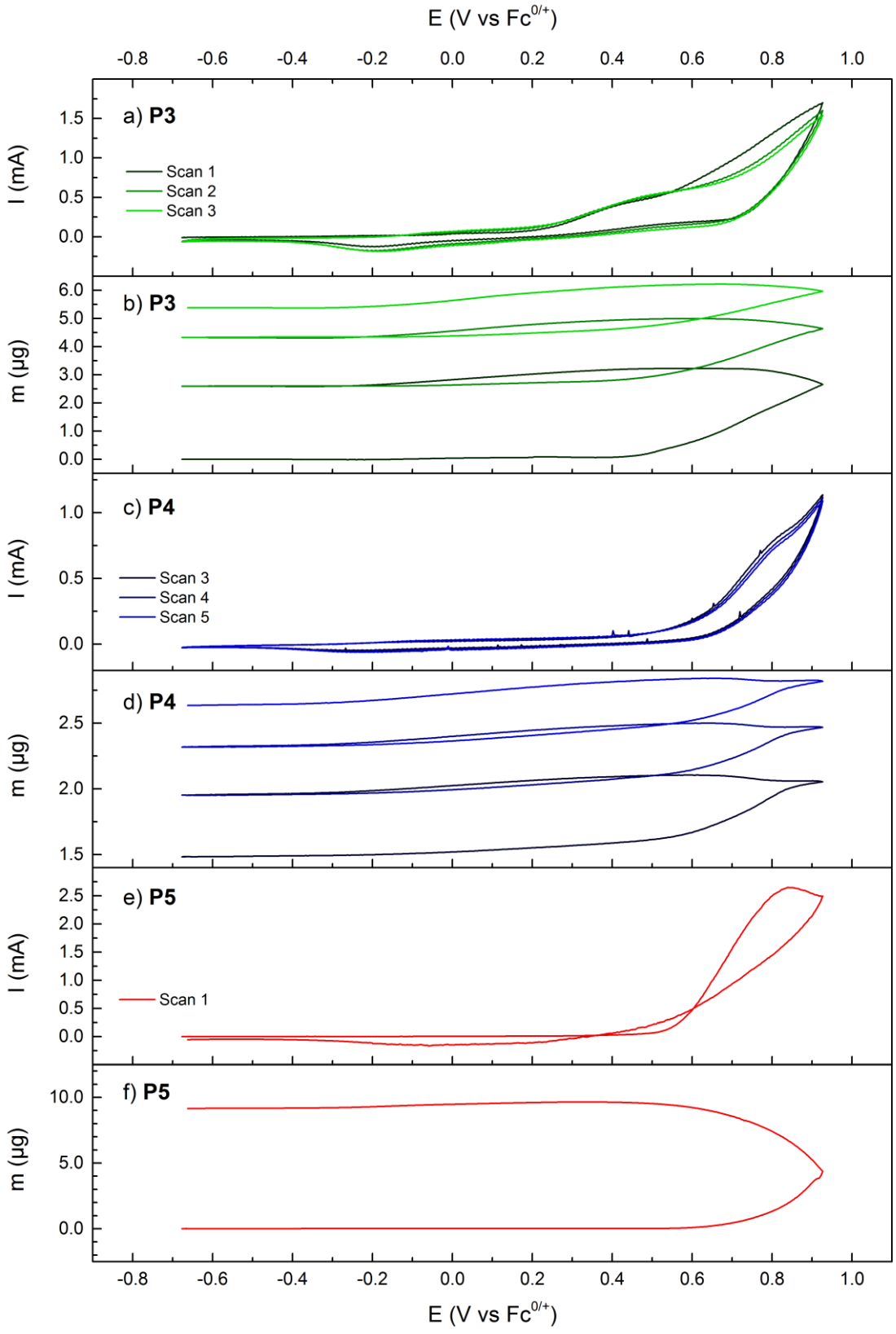

Figure S2. Electropolymerization CVs of **P3** – **P5** on EQCM Au electrodes, and the concurrent mass. The potential scale is the same in all plots.

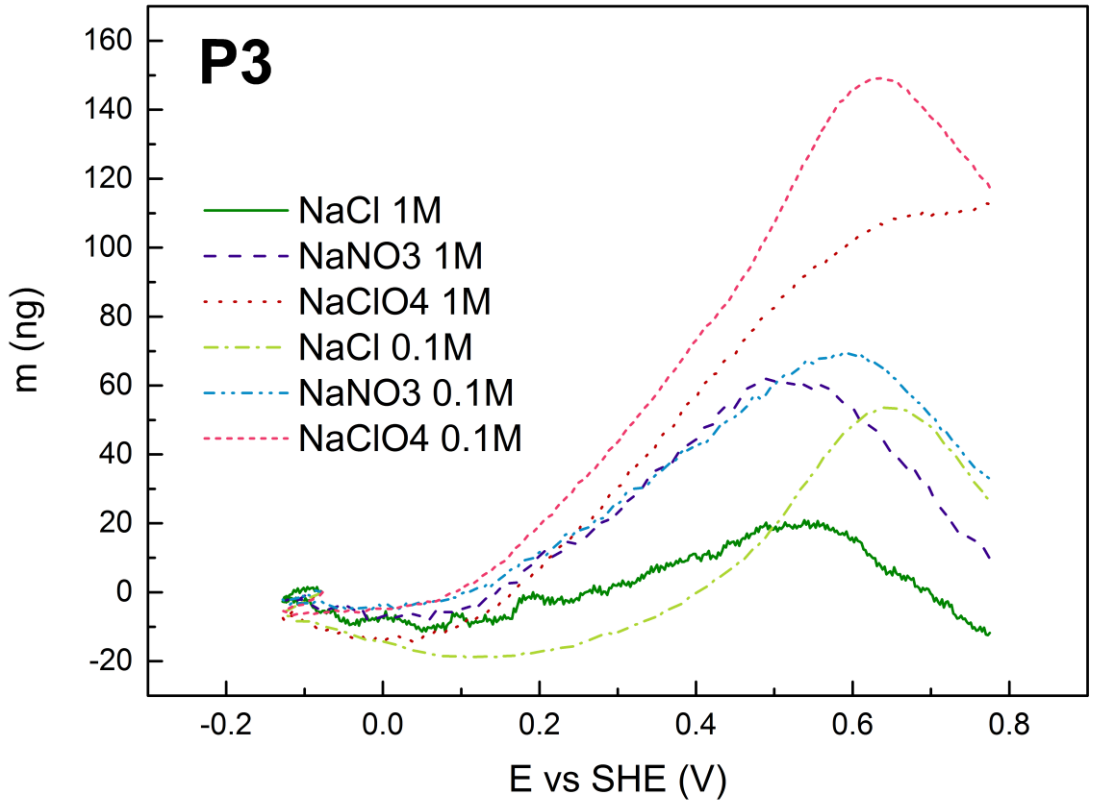

Figure S3. Mass changes during EQCM CV oxidation sweeps of **P3** in various electrolytes.

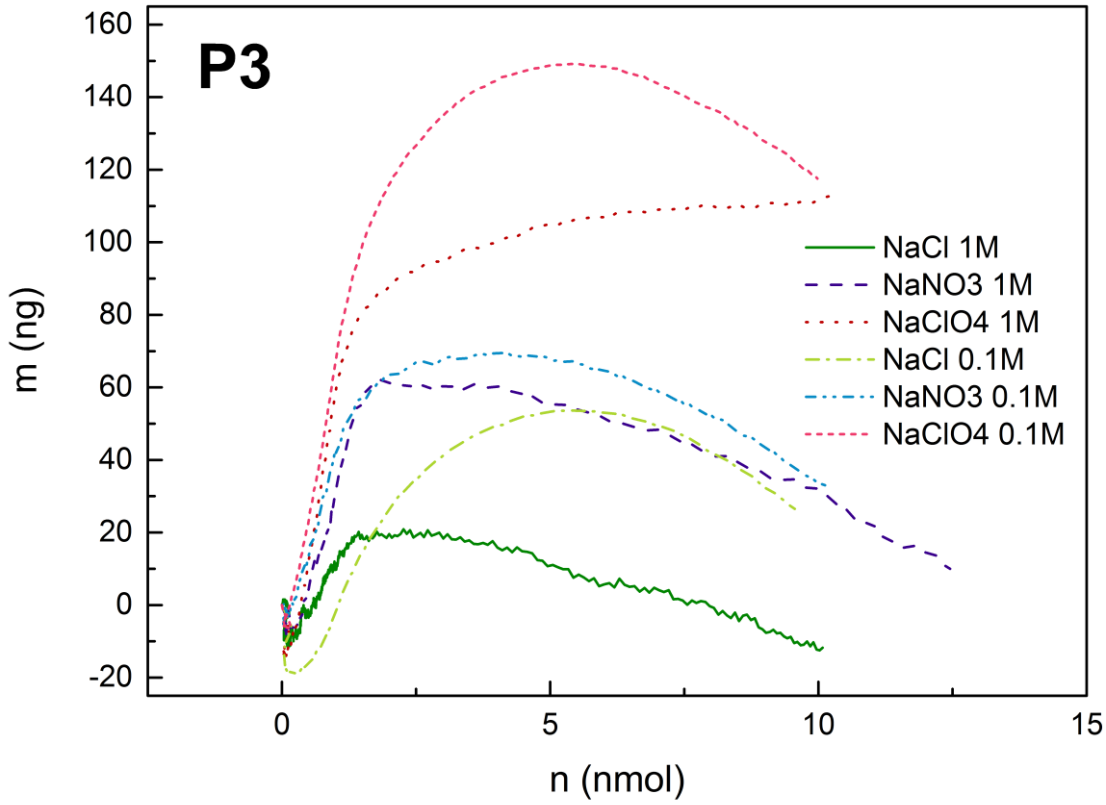

Figure S4. Mass change vs number of charges in CV of **P3** in various electrolytes.

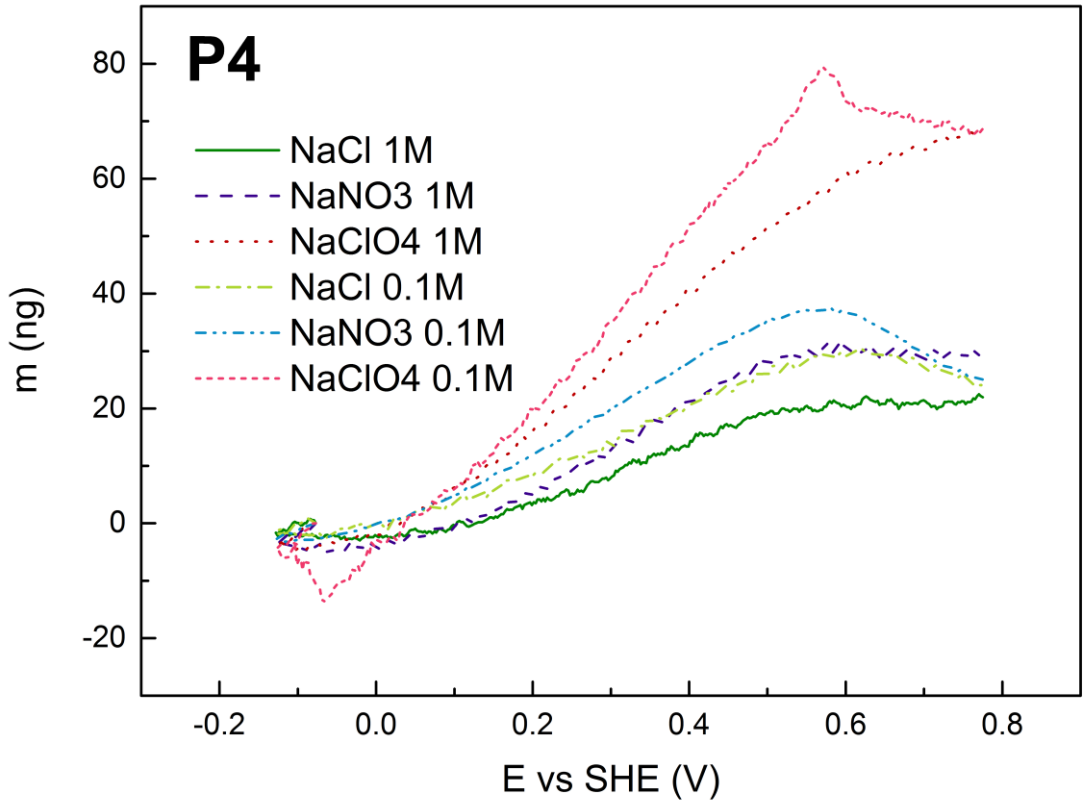

Figure S5. Mass changes during EQCM CV oxidation sweeps of **P4** in various electrolytes.

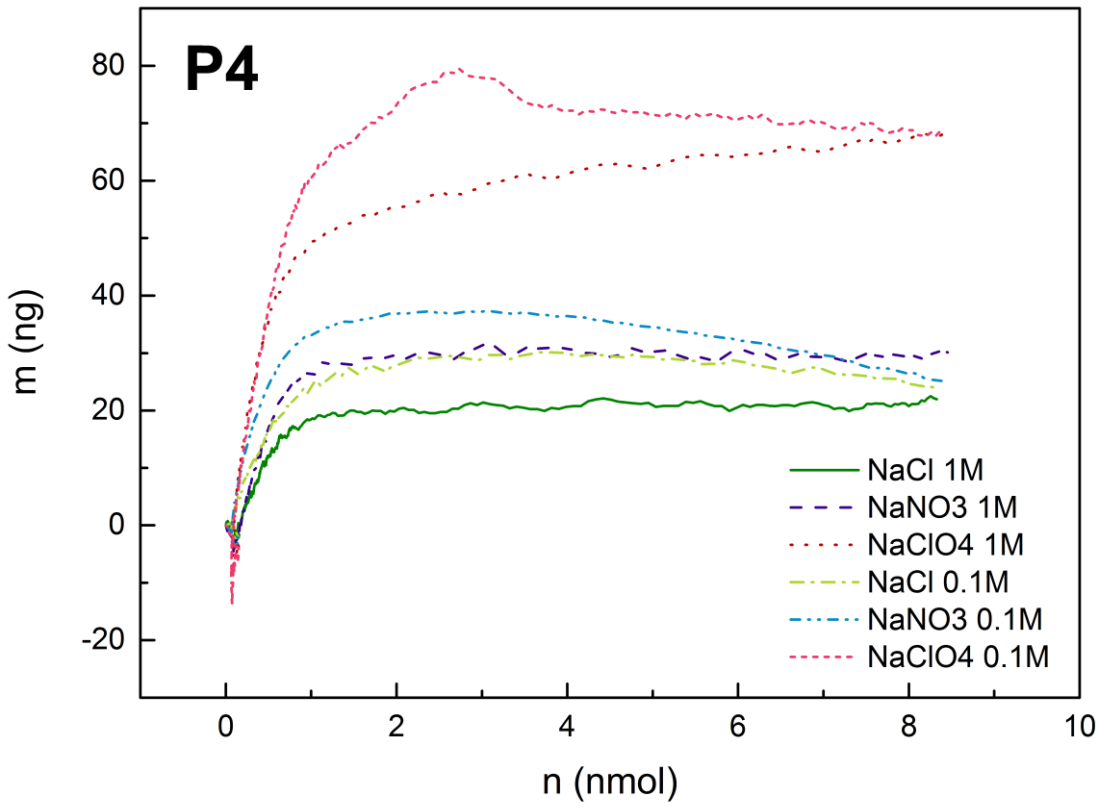

Figure S6. Mass change vs number of charges in CV of **P4** in various electrolytes.

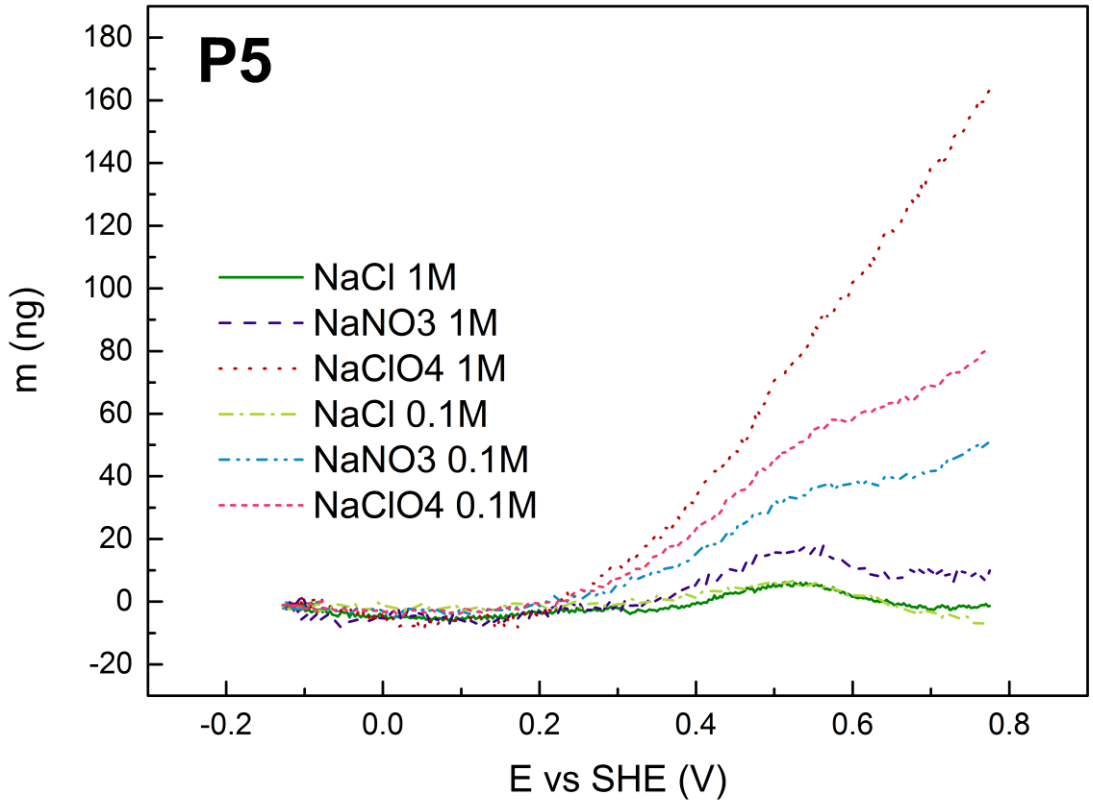

Figure S7. Mass changes during EQCM CV oxidation sweeps of **P5** in various electrolytes.

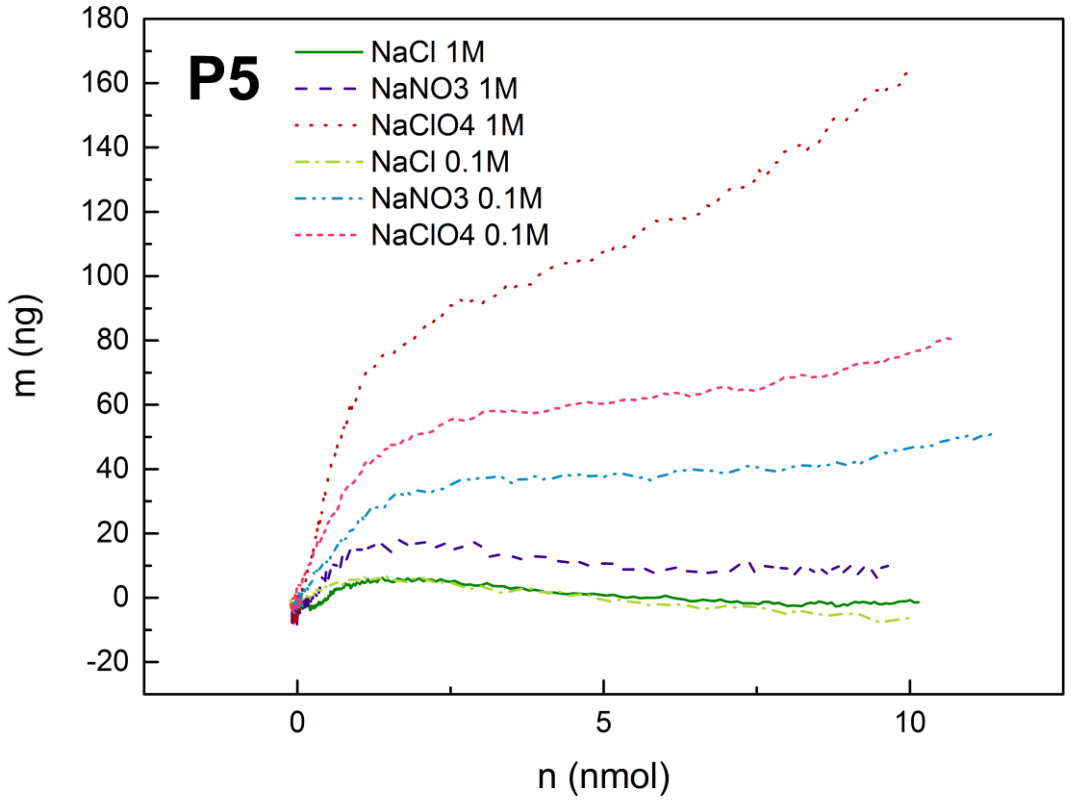

Figure S8. Mass change vs number of charges in CV of **P5** in various electrolytes.

Table S1. UV/vis/NIR absorbance maxima (nm) of the polymers in the reduced (red) and oxidized (ox) states and with reduced (HQ) and oxidized (Q) pendant groups.

		Q **n-π***	**Q** **π-π***	**PPy** **4**	**PPy** **3**	**PPy** **2**	**PPy** **1**
PPy	ox			325	430		>700
PPy	red			328	412	590	
	ox Q	250[a]	396[a]	300[b]	415		>700
P1	ox HQ	312[a]	503[a]	306	400	550[b]	>700
	red			307	398	598	
	ox Q	250[a]	417[a]	306[b]	400	622	(>700)
P2	ox HQ	315[a]	~500[a,b]	310	394	622	(>700)
	red			311	394	622	
	ox Q	250	323[a]	293[b]	420		645
P3	ox HQ	296[a]	511[a]	293	430	560[b]	690
	red			293	390	560[b]	
	ox Q	250[a]	433[a]	301	407		870
P4	ox HQ	356[a] (295[a])	518[a]	299	407		900
	red			299	387	570[b]	
	ox Q	250[a]	514[a]				>700
P5	ox HQ	333[a]	318	285		590[b]	>700
	red			285	425[b]	650[b]	

[a] From difference spectra, [b] Shoulder