Electronic Supplementary Material (ESI) for Polymer Chemistry.

SUPPORTING INFORMATION

Poly(2-ethyl-2-oxazoline-co-*N*-propylethylene imine)s by controlled partial reduction of poly(2-ethyl-2-oxazoline): Synthesis, characterization and cytotoxicity

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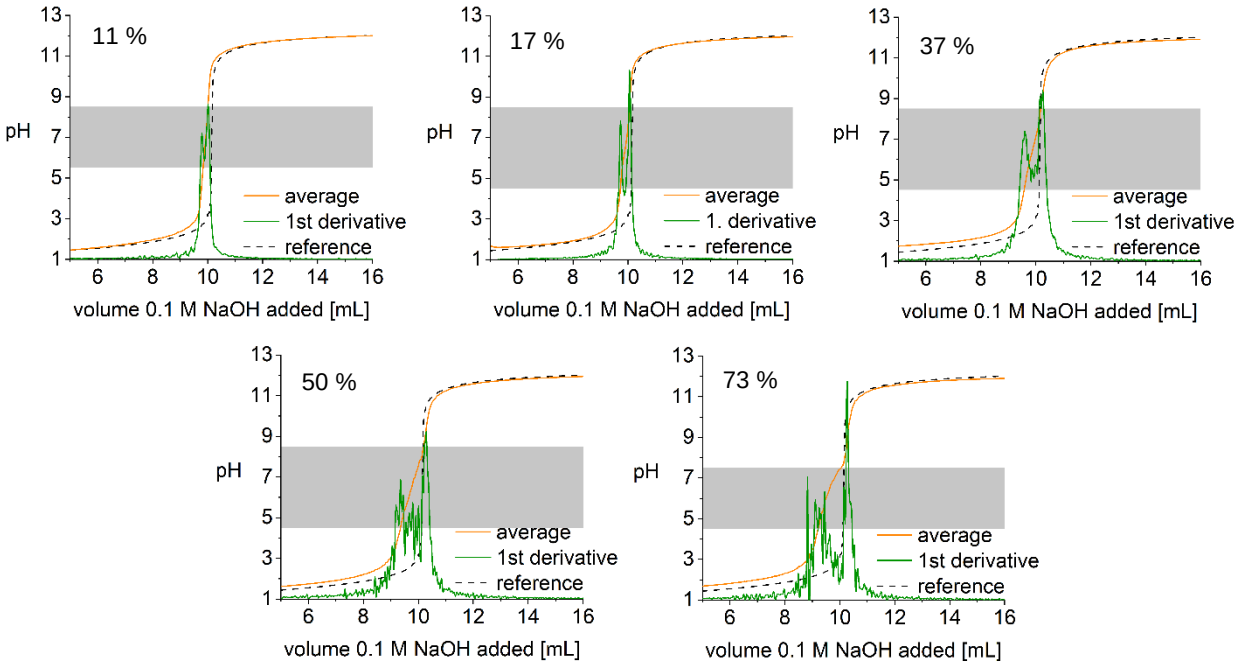

Figure S1: Titration curves at different degrees of reduction. The weight concentration of the polymers used in the titration was 2 mg/mL. The polymers were dissolved in 0.1 M HCl and were titrated with 0.1 M NaOH. The titrations were carried out in duplicate or triplicate and the averages of the titrations are shown in brown solid lines. The reference curve is in dotted lines. The first derivative with green solid lines tells the gradient of the titration curves and indicates the buffering area. Please note, at 10 mL titration volume, the syringe in the automated titrator had to be changed, which leads to an experimental artefact in the titration curves seen as a sudden increase in the pH values and corresponding large spike in the 1st derivative.

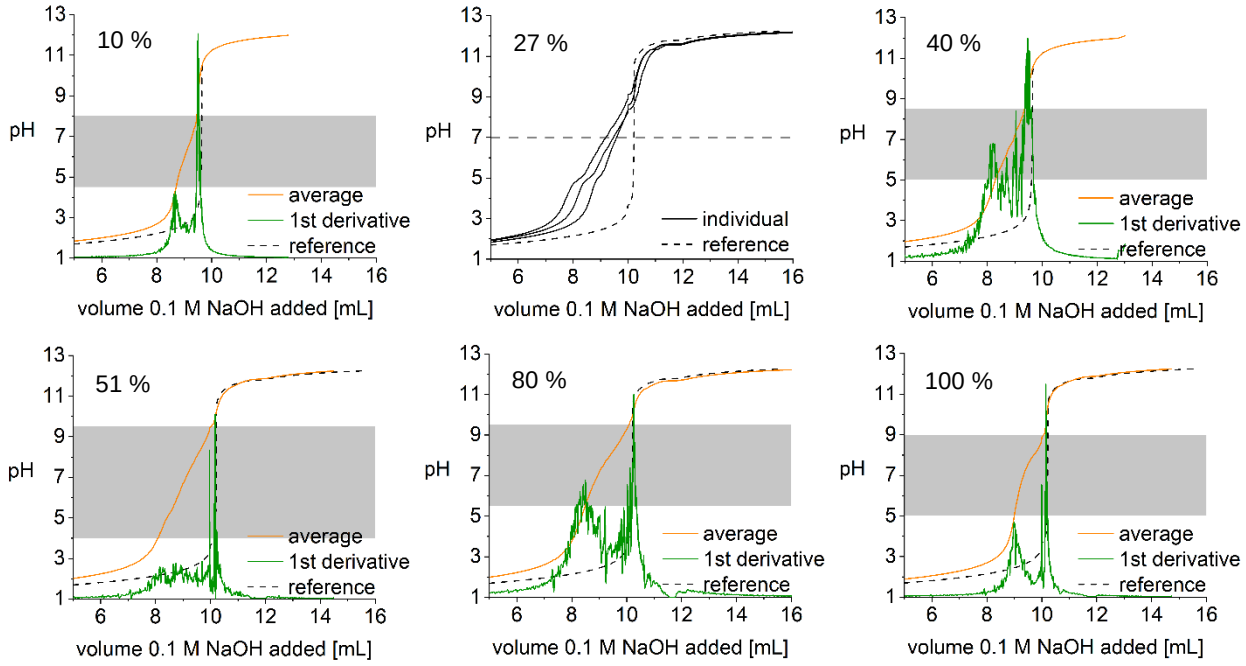

Figure S2: Titration curves at different degrees of reduction. The polymers were dissolved in 0.1 M HCl and were titrated with 0.1 M NaOH. The titrations were carried out in duplicate or triplicate and the averages of the titrations are shown in orange solid lines. The reference curve is in dotted lines. The first derivative with green solid lines tells the direction of the titration curves and the grey area indicates the pH buffer range. In the case of the copolymers with a degree of reduction of 27%, the polymer concentration was not consistent between the three titrations, therefore calculation of the average was not performed. Please note, at 10 mL titration volume, the syringe in the automated titrator had to be changed, which leads to an experimental artefact in the titration curves seen as a sudden increase in the pH values and corresponding large spike in the 1st derivative.

Table S1: Weight concentration of the titrations in Figure S2.

		m (polymer) [mg]	n (polymer) [nmol]	n (amine groups) [µmol]
HCl 1	1			
	2			
	3			
0% (=PEtOx) 49596 g mol^{-1}	1	42.9	865	0
	2	41.2	831	0
	3	41.5	837	0
27% (47708)	1	30.3	635	86
	2	40.7	853	115
	3	41.6	872	118
51% (46031)	1	30.0	652	166
	2	30.4	661	169
	3			
80%+ (44003)	1	30.8	700	280
	2	30.6	696	278
	3	30.5	694	277
100% (42605)	1	20.2	474	237
	2	20.2	474	237
	3	20.2	474	237
HCl 2	1			
	2			
	3			
10%** (48897)	1	110.5	$2.26 \cdot 10^{-6}$	113
	2	110.1	$2.25 \cdot 10^{-6}$	113
	3	110.7	$2.27 \cdot 10^{-6}$	113
40%** (46800)	1	40.0	$8.55 \cdot 10^{-7}$	171
	2	40.0	$8.55 \cdot 10^{-7}$	171
	3	40.0	$8.55 \cdot 10^{-7}$	171

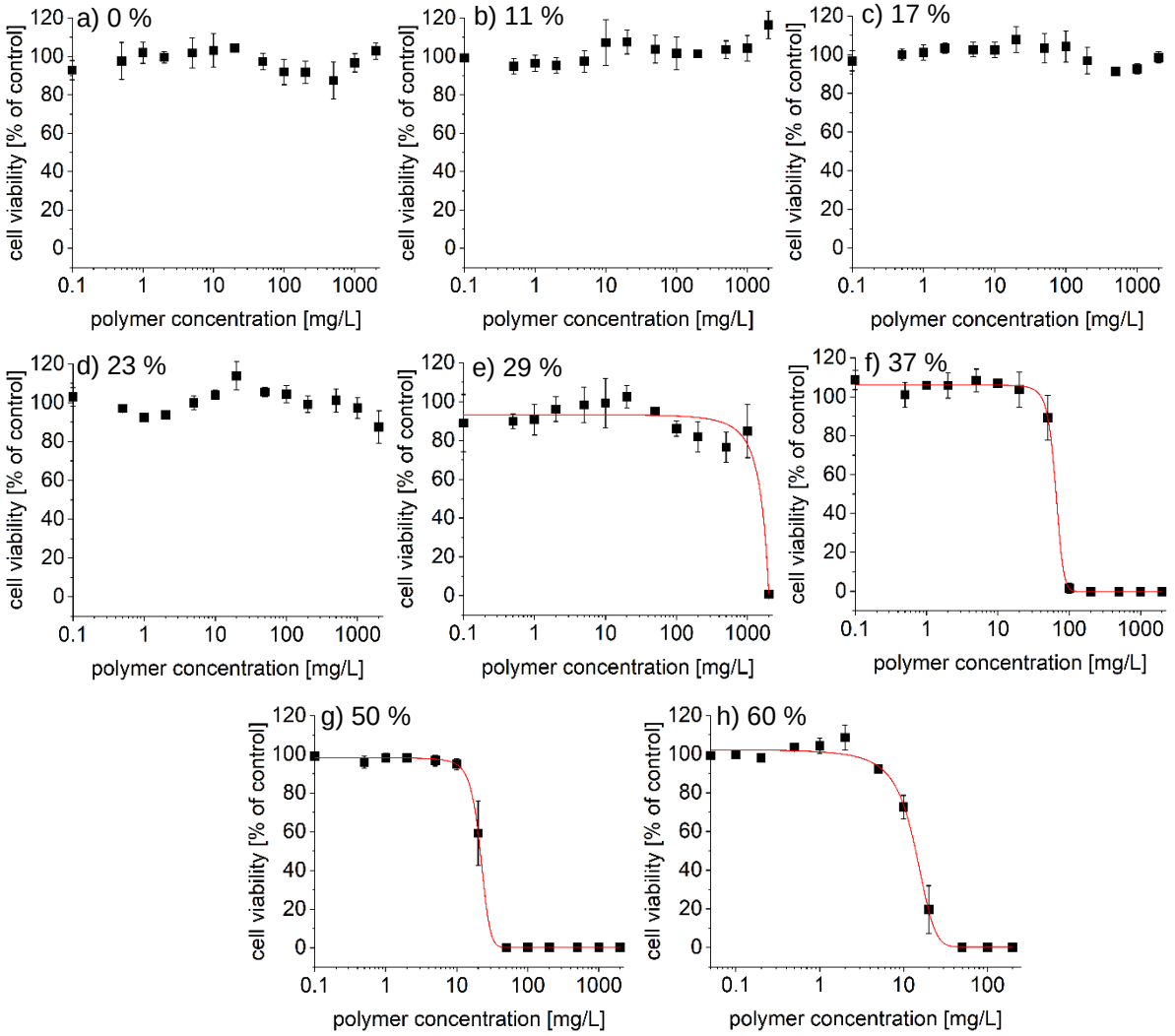

Figure S3: Cell viability tests of human dermal fibroblasts (hDF) exposed for 48 h to non-reduced PEtOx (a) and reduced PEtOx (b – h). Cytotoxicity was determined by CellTiter-Glo® Luminescent Cell Viability Assay. The data points are referred to the average of the tests carried out in triplicate with 3 independent biological assays. The sigmoidal red lines visualize the dose-response curves based on the resulting data points. The test substances were added covering a wide range of concentrations from 0.05 to 2000 µg/mL