Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information

of

pH-Sensitive Drug Release of Star-shaped Micelles with OEG Brush Corona

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1. Table S1-S3

2. Figure S1-S4

Table S1. The amount of each reagent used for the synthesis of 3s- and 6s-PCL-OH.

Polymer	Initiator (3/6s-OH)	Monomer (ε-CL)	Catalyst ($Sn(Oct)_2$)
3s-PCL-OH	1 mmol (0.1094 g)	30 mmol (3.4588 g)	0.06 mmol (24.3 mg)
6s-PCL-OH	1 mmol (0.2825 g)	60 mmol (6.9176 g)	0.12 mmol (48.6 mg)

Table S2. The amount of each reagent used for the synthesis of 3s- and 6s-PCL-iBuBr.

Polymer	3/6s-PCL-OH	2-Bromoisobutyryl bromide	TEA	Solvent (DCM)
3s-PCL-iBuBr	0.39 mmol (1.000 g)	3.53 mmol (0.8290 g)	4.59 mmol (0.4696 mg)	8 ml
6s-PCL-iBuBr	0.17 mmol (1.000 g)	3.13 mmol (0.7339 g)	4.07 mmol (0.4157 mg)	12 ml

Table S3. The amount of each reagent used for the synthesis of 3s- and 6s-PCL-POEGMA.

Polymer	Initiator (3/6s-PCL-iBuBr)	Monomer (OEGMA)	Catalyst (CuBr)	Ligand (bpy)	Solvent (anisole)
3s-PCL-POEGMA	0.0118 mmol (30 mg)	3.53 mmol (1.0602 g)	35μmol (5.1 mg)	71μmol (11.3 mg)	3.534 ml
6s-PCL-POEGMA	0.0053 mmol (30 mg)	3.20 mmol (0.9594 g)	32μmol (4.6 mg)	64μmol (10.2 mg)	3.198 ml

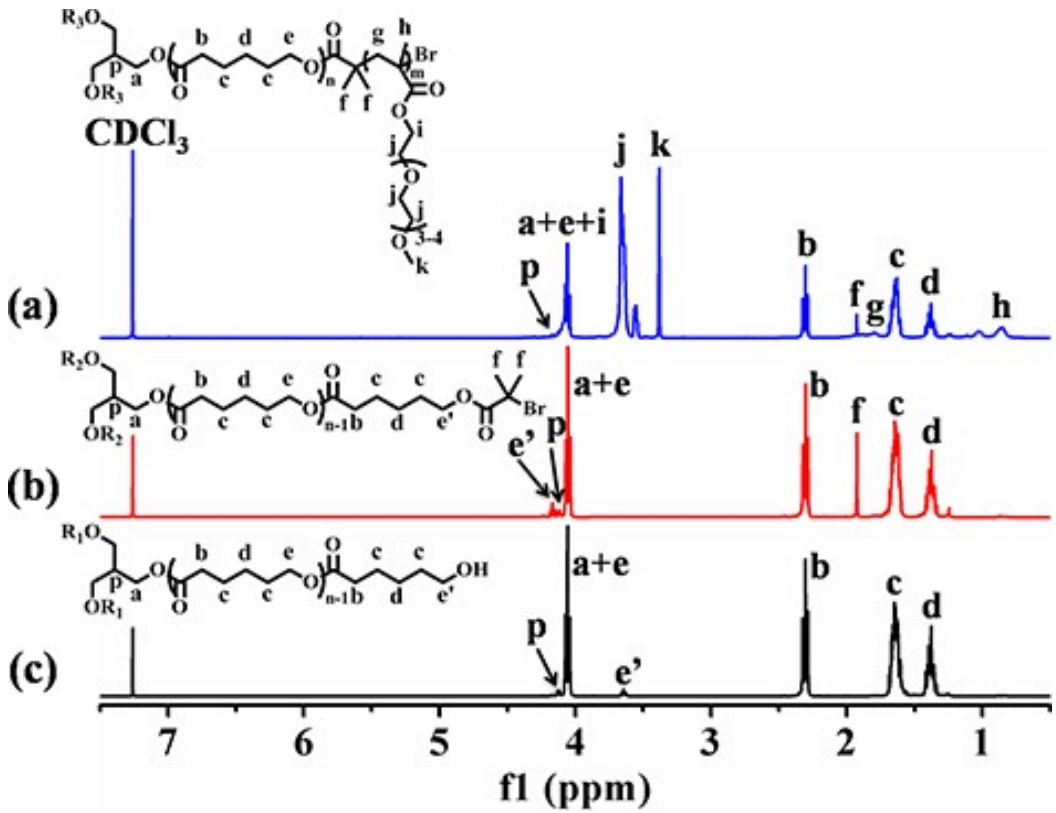

Figure S1.The ^{1}H NMR spectra of (a) 3s-PCL-OH,(b) 3s-PCL-Br and (c) 3s-PCL-POEGMA.

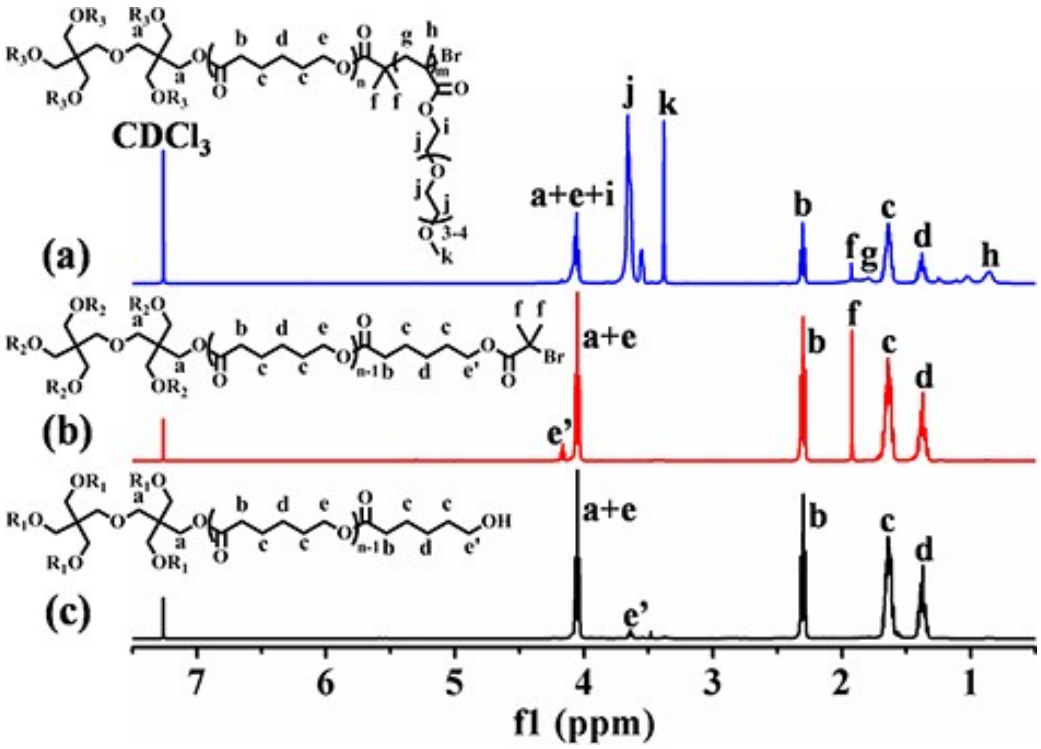

Figure S2.The ^{1}H NMR spectra of (a) 6s-PCL-OH,(b) 6s-PCL-Br and (c) 6s-PCL-POEGMA.

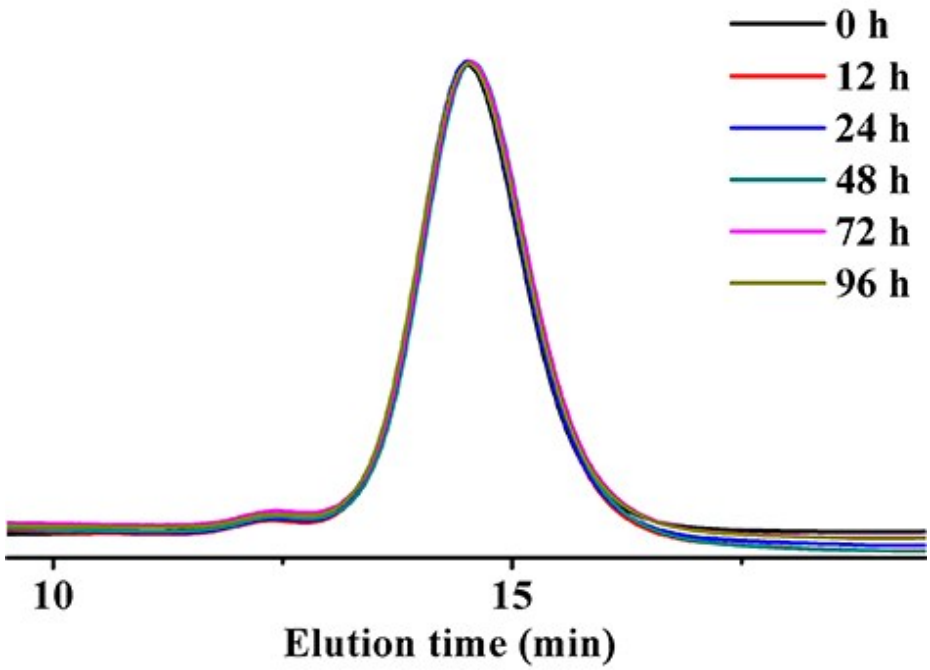

Figure S3. GPC elution traces of 4s-PCL-POEGMA recorded at different time points in an acid-triggered degradation study.

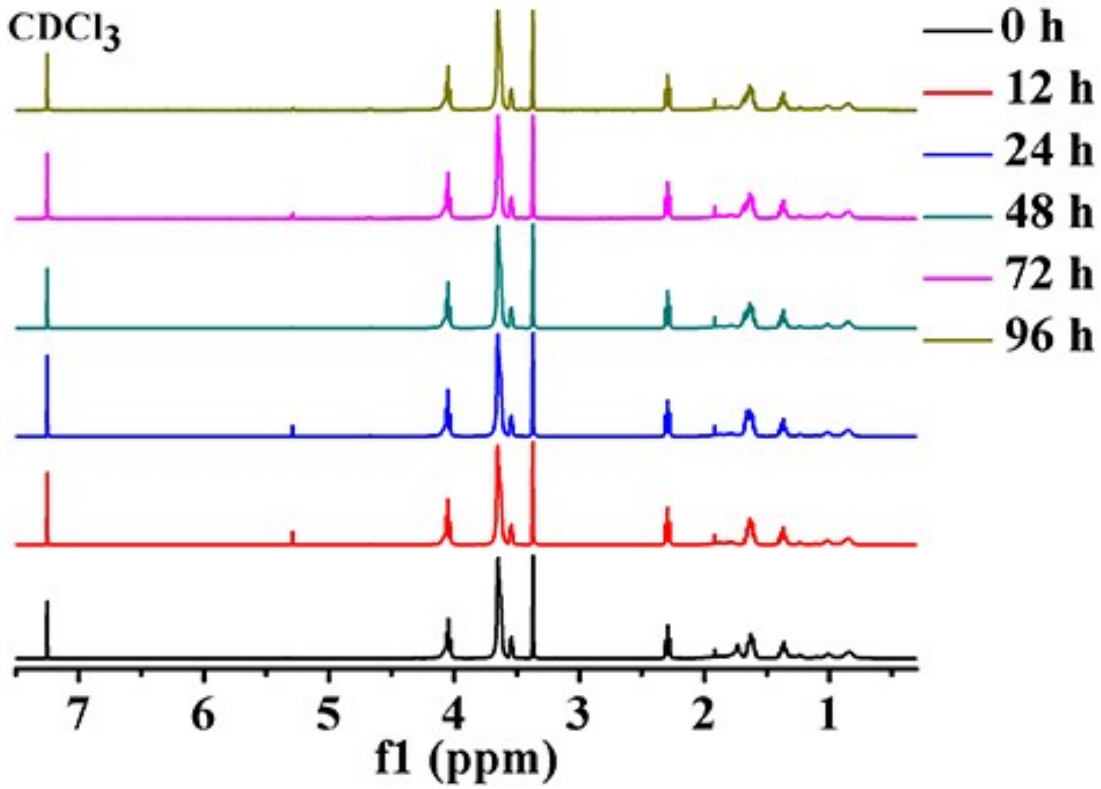

Figure S4. ^{1}H NMR spectra of 4s-PCL-POEGMA recorded at different time points in an acid-triggered degradation study.