

Supporting Information

Copolymers of ϵ -caprolactone and ϵ -caprolactam via polyesterification: Towards sequence-controlled poly(ester amide)s

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Fig. S23 ¹H NMR spectra of **P5** with TBD (5 equiv.) monitored during the degradation process in

DMSO- d_6 :CD₃OD = 7:1 at 37 °C.

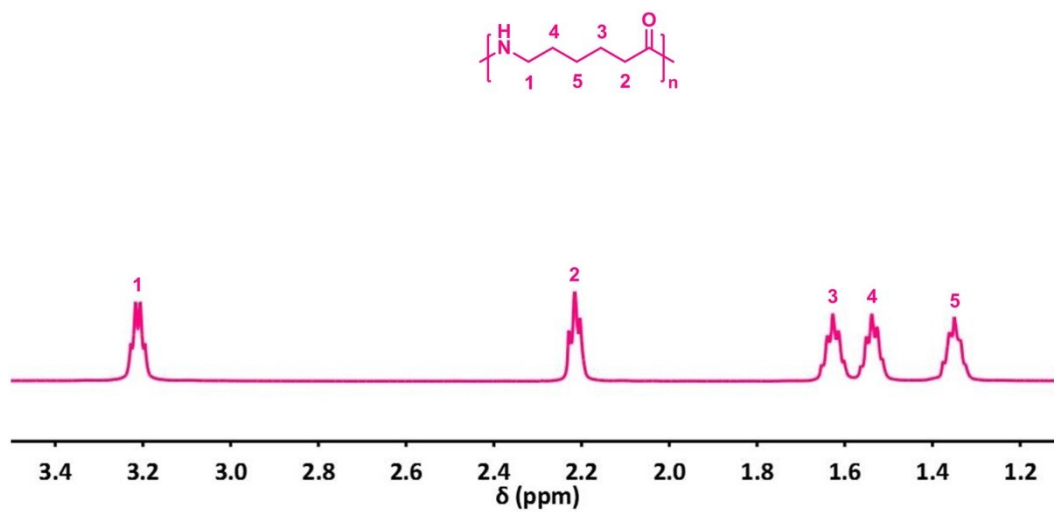


Fig. S1 ^1H NMR spectrum of P6 in TFEA/ $\text{CDCl}_3 = 4/1$.

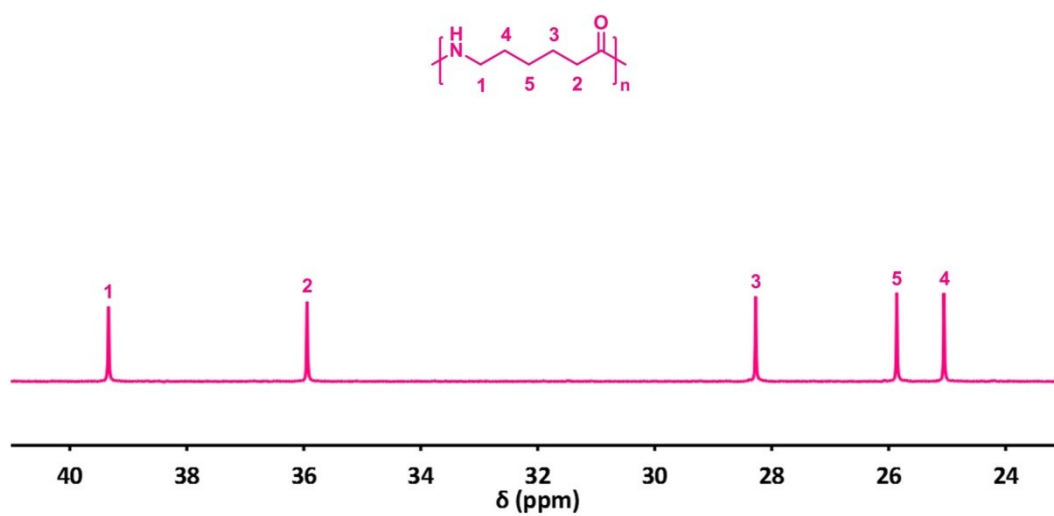


Fig. S2 ^{13}C NMR spectrum of P6 in TFEA/ $\text{CDCl}_3 = 4/1$.

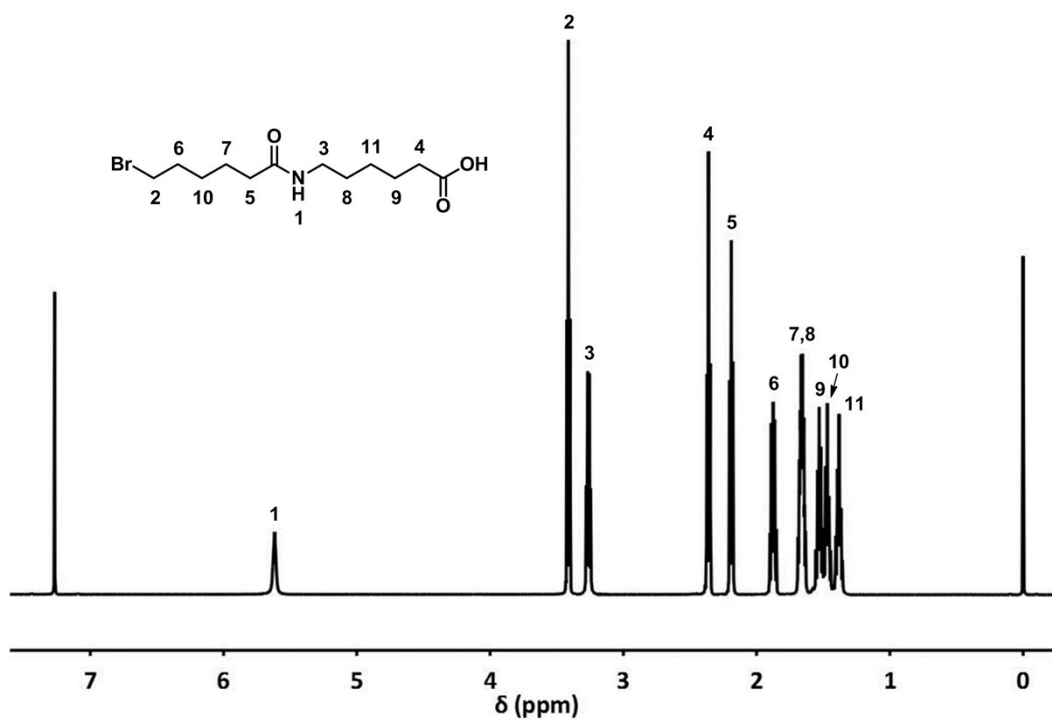


Fig. S3 ^1H NMR spectrum of monomer 2 in CDCl_3 .

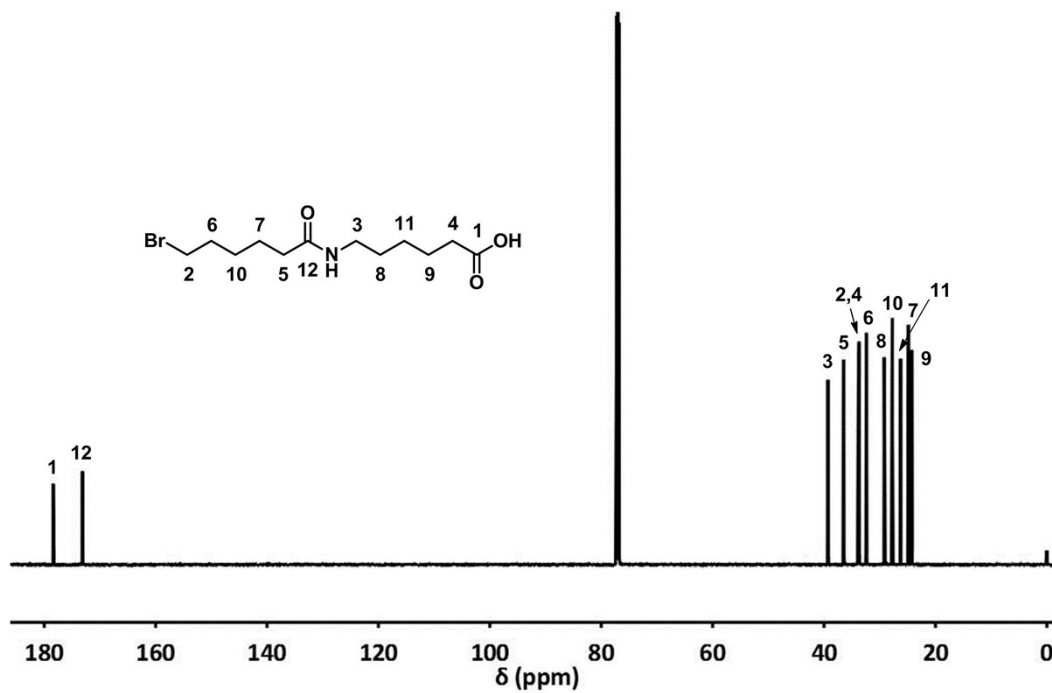


Fig. S4 ^{13}C NMR spectrum of monomer 2 in CDCl_3 .

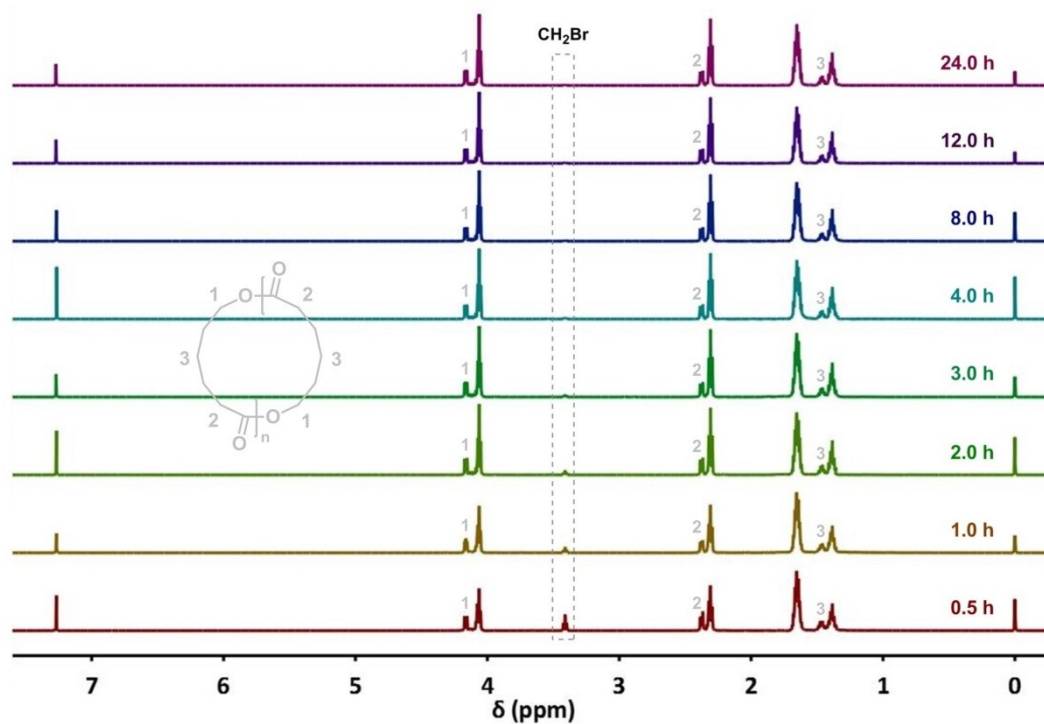


Fig. S5 Kinetic analysis for the synthesis of **P0** in CDCl_3 based on ^1H NMR spectra. Proton signals corresponding to end groups and cyclic oligomers are designated.

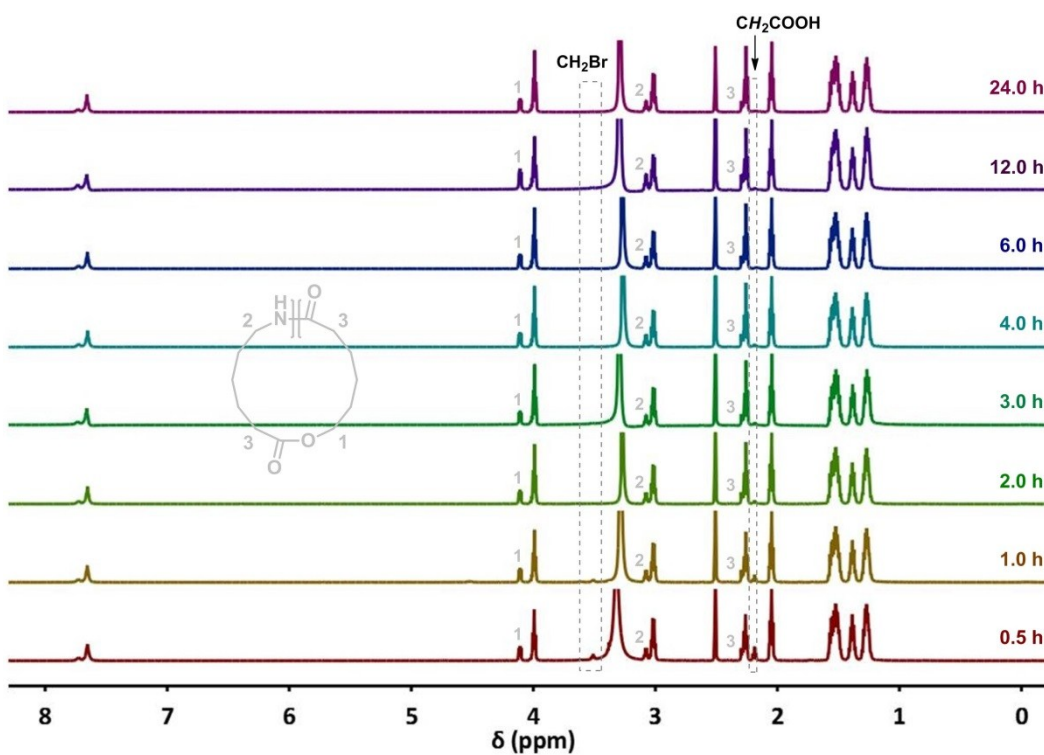


Fig. S6 Kinetic analysis for the synthesis of **P5** in $\text{DMSO}-d_6$ based on ^1H NMR spectra. Proton signals corresponding to end groups and cyclic oligomers are designated.

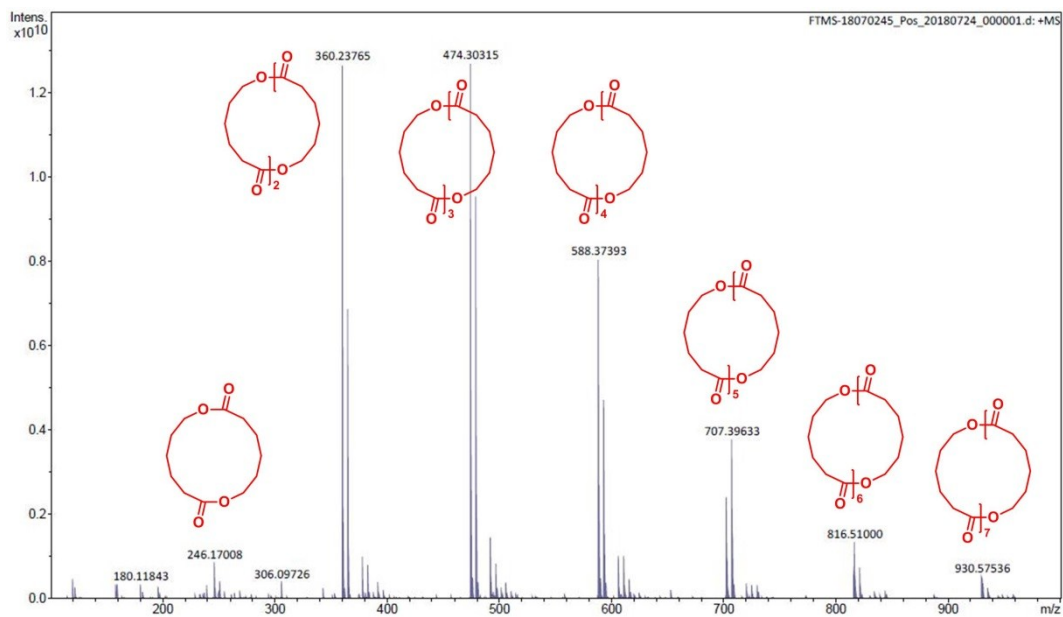


Fig. S7 ESI-MS spectrum of **P0** supernatant.

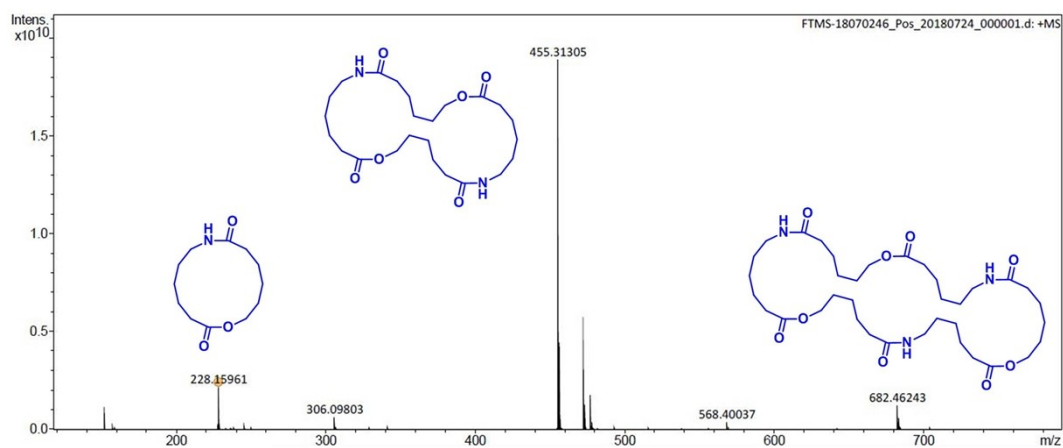


Fig. S8 ESI-MS spectrum of **P5** supernatant.

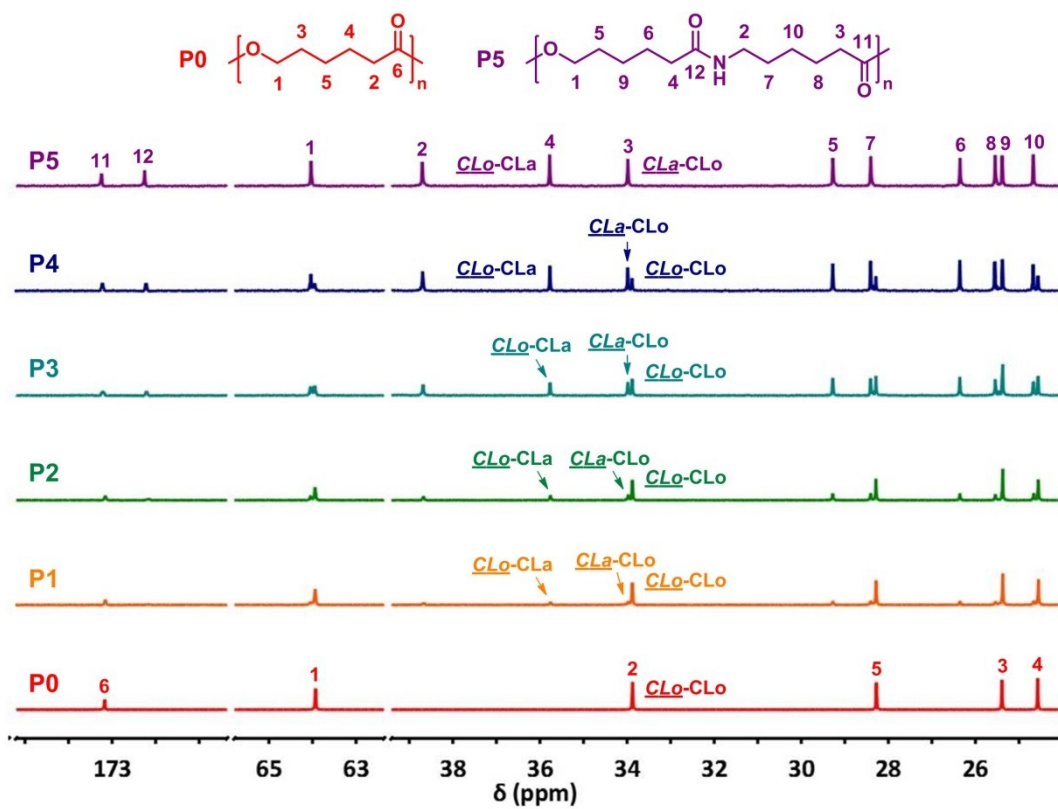


Fig. S9 ^{13}C NMR spectra of P0-P5 in $\text{DMSO-}d_6$ (characteristic peaks shown only).

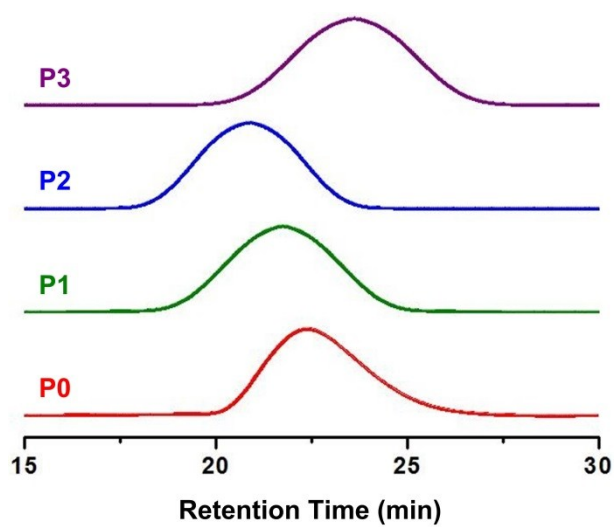


Fig. S10 GPC traces of P0-P3.

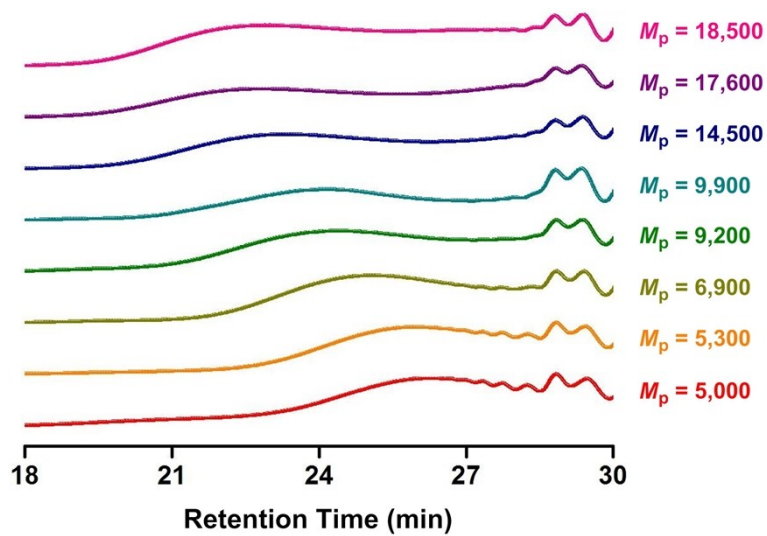


Fig. S11 GPC traces of kinetic analysis for the synthesis of P0.

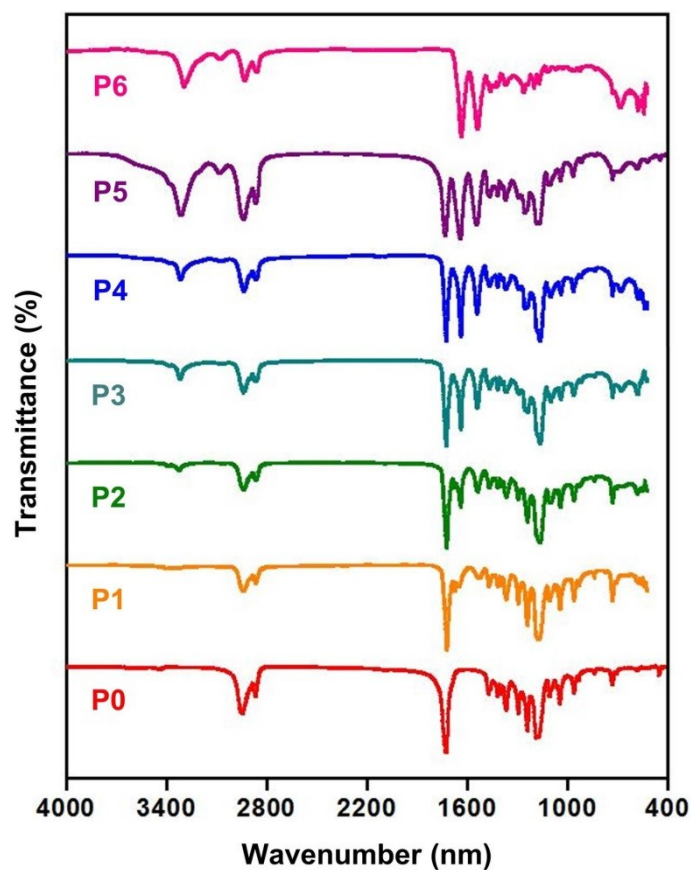


Fig. S12 IR spectra of P0-P6.

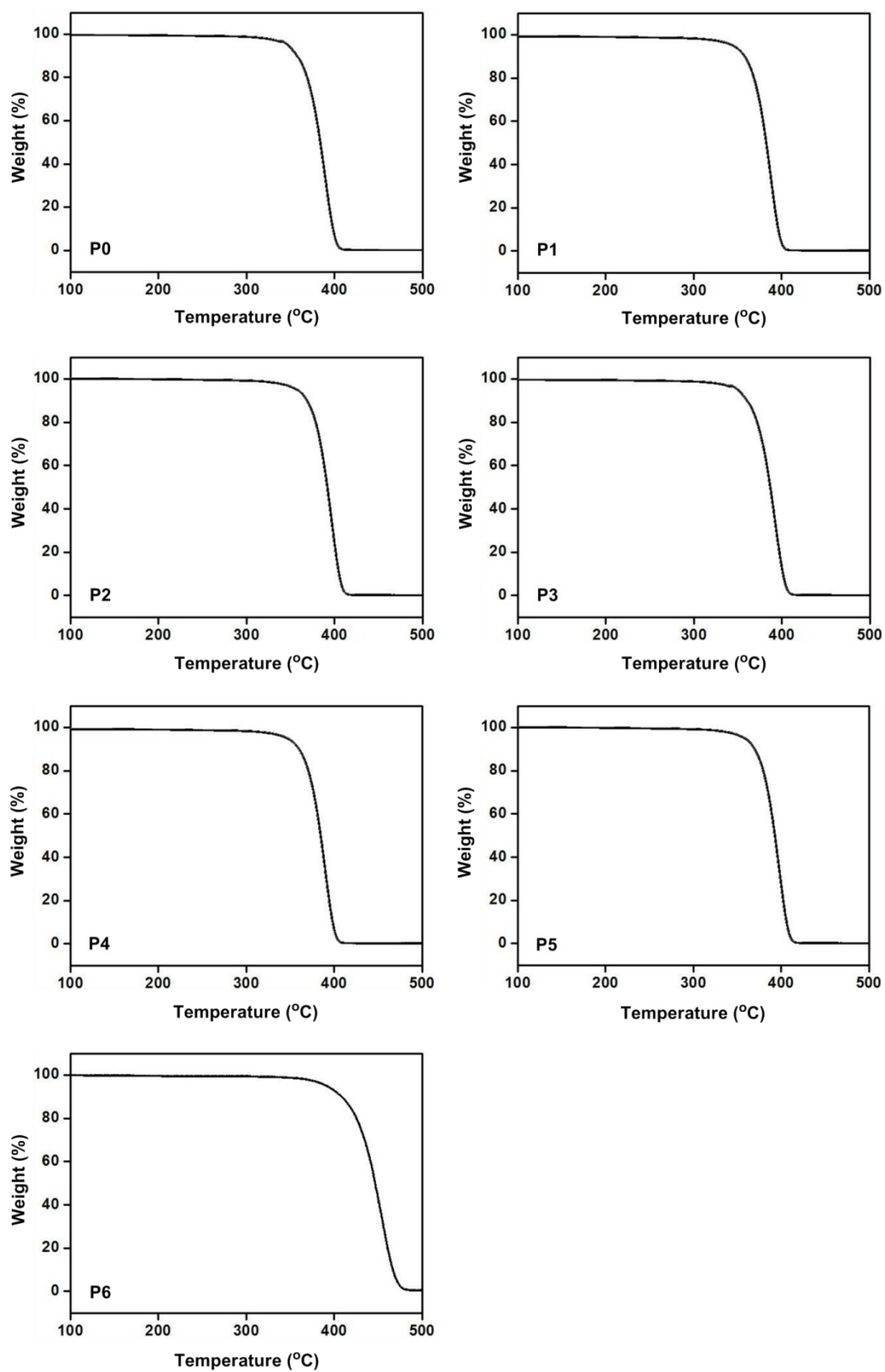


Fig. S13 TGA curves of P0-P6.

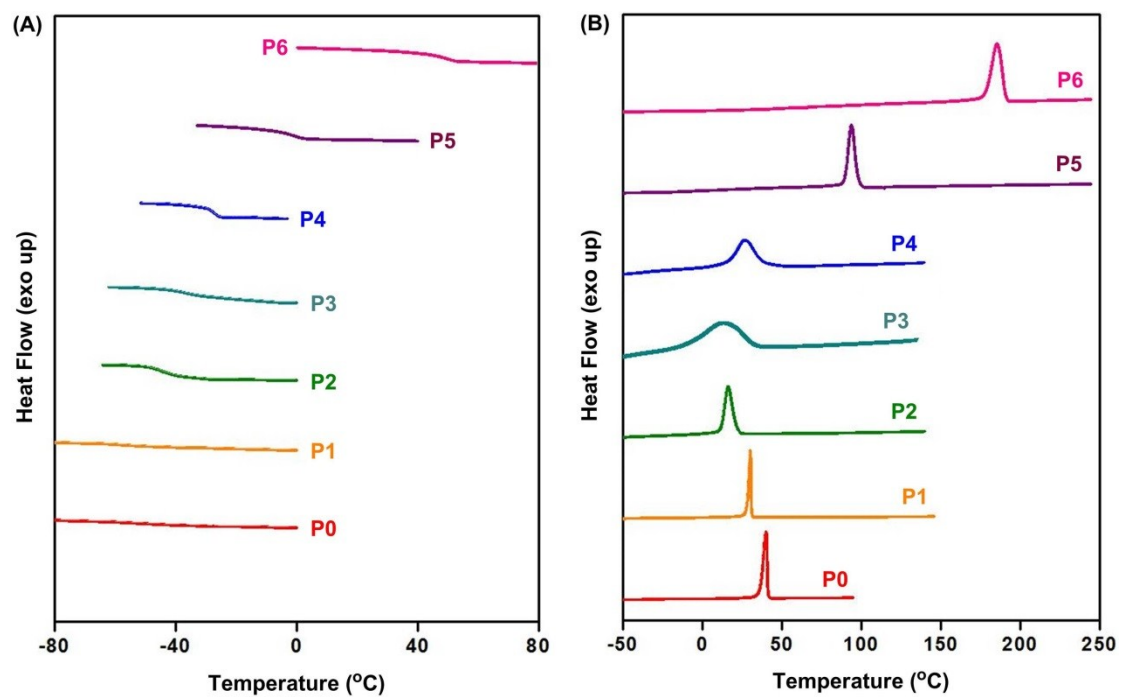


Fig. S14 DSC thermograms of P0-P6.

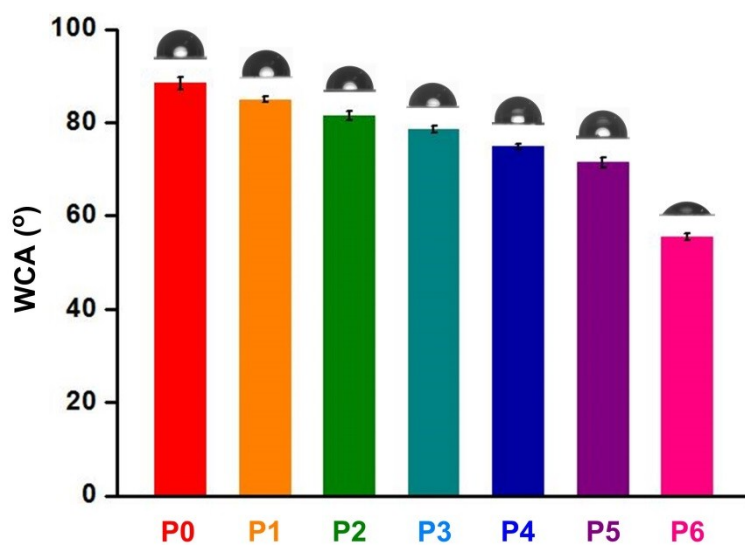


Fig. S15 Contact angle images for droplets of water on P0-P6 surfaces.

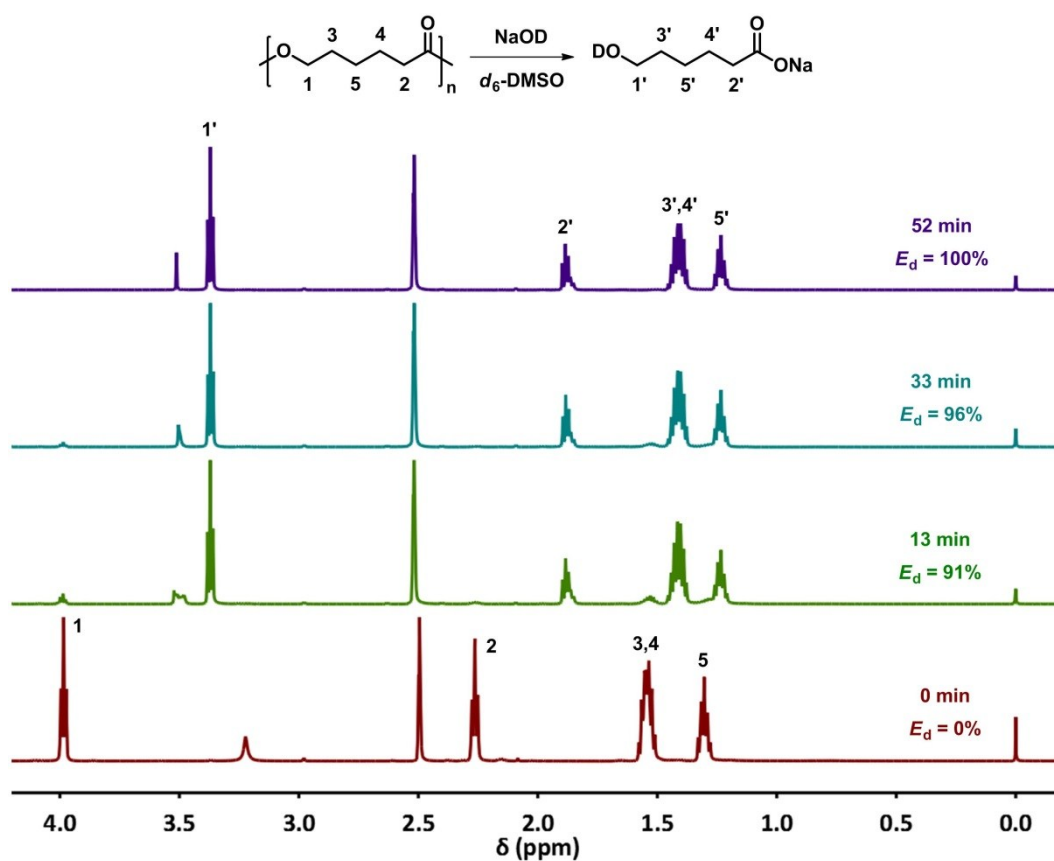


Fig. S16 ^1H NMR spectra of **PO** with NaOD (3 equiv.) monitored during the degradation process in

DMSO- d_6 :D $_2$ O = 20:1 at 37 °C.

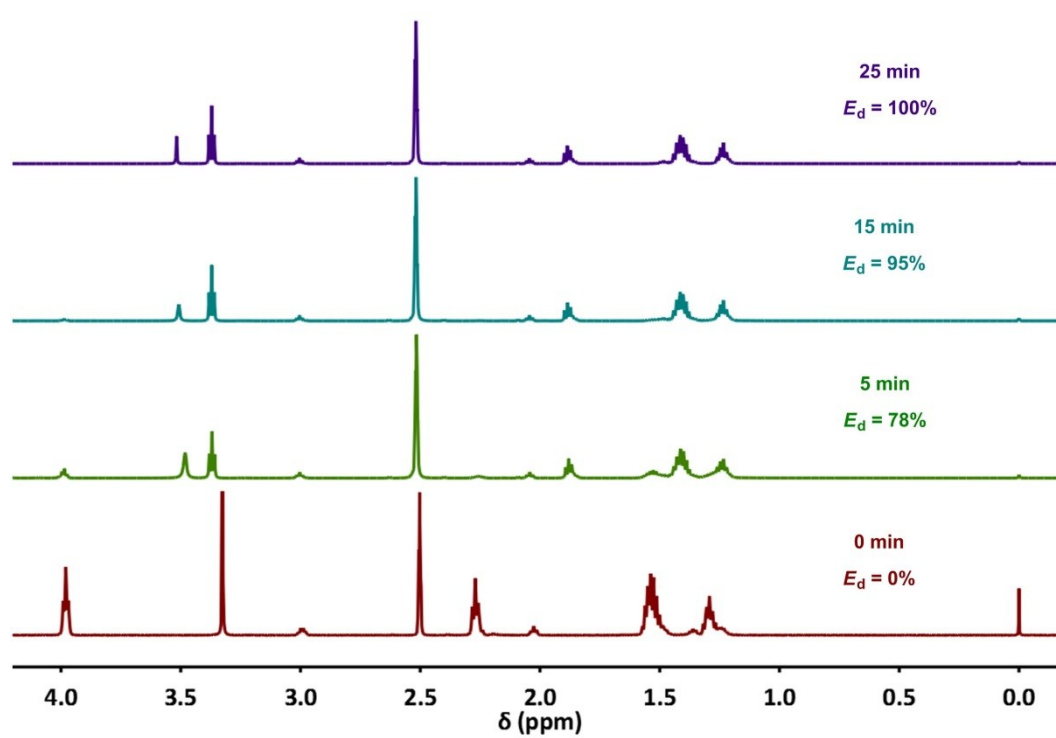


Fig. S17 ^1H NMR spectra of P1 with NaOD (3 equiv.) monitored during the degradation process in

$\text{DMSO-}d_6\text{:D}_2\text{O} = 20:1$ at 37°C .

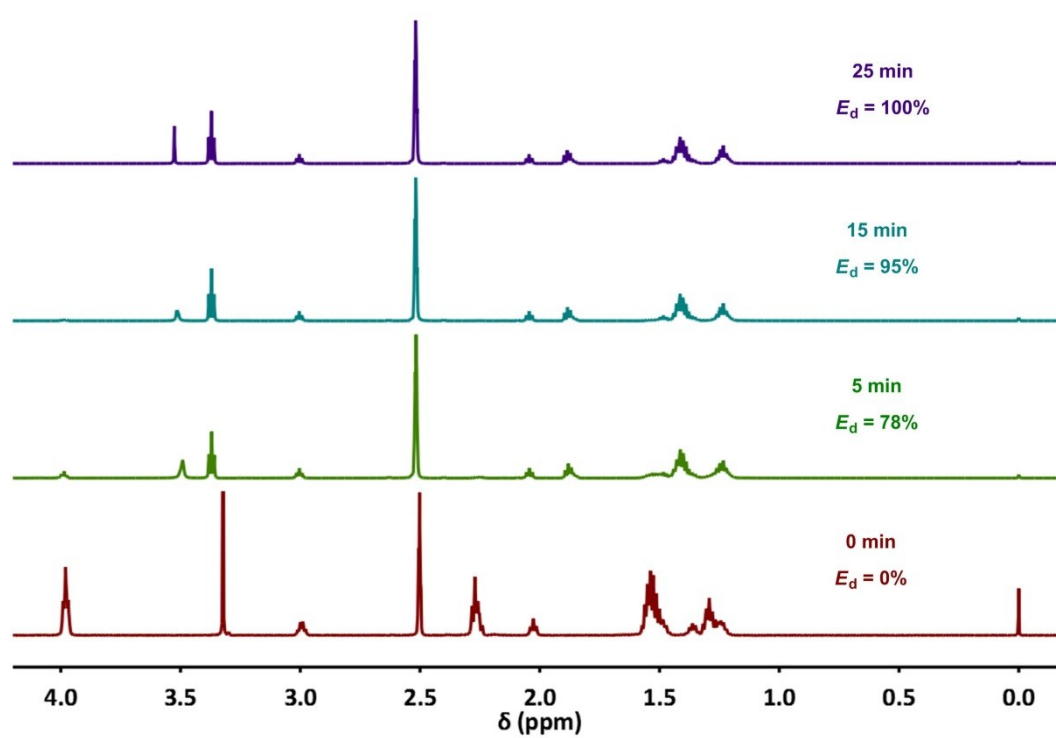


Fig. S18 ¹H NMR spectra of P2 with NaOD (3 equiv.) monitored during the degradation process in DMSO-*d*₆:D₂O = 20:1 at 37 °C.

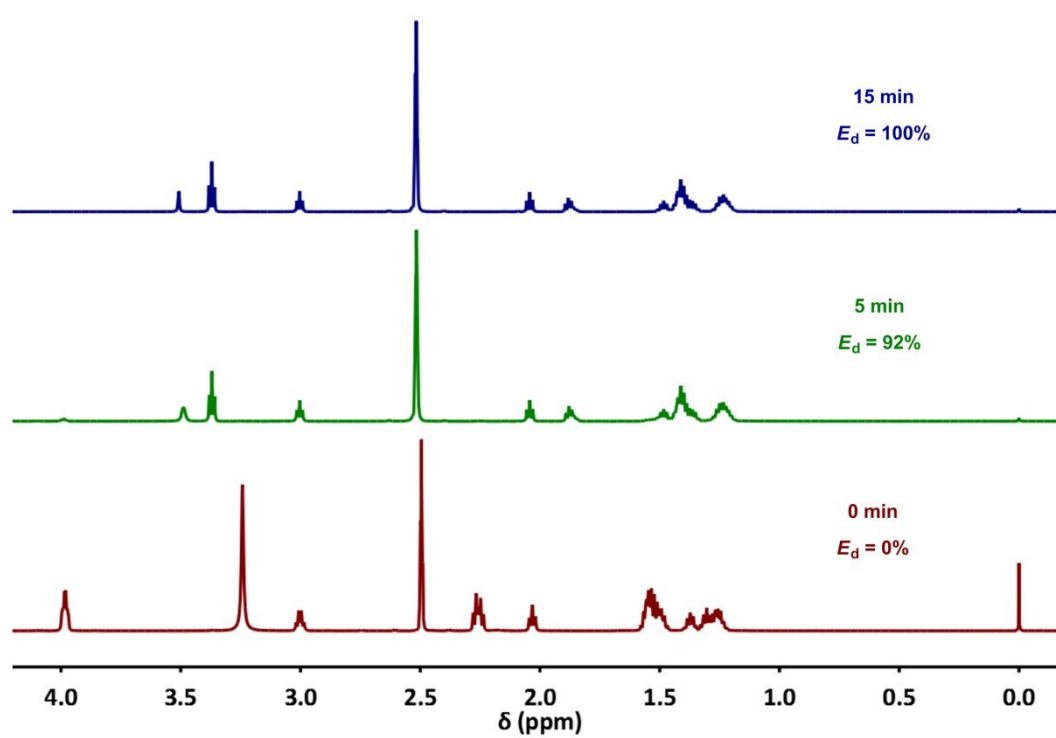


Fig. S19 ¹H NMR spectra of P3 with NaOD (3 equiv.) monitored during the degradation process in DMSO-*d*₆:D₂O = 20:1 at 37 °C.

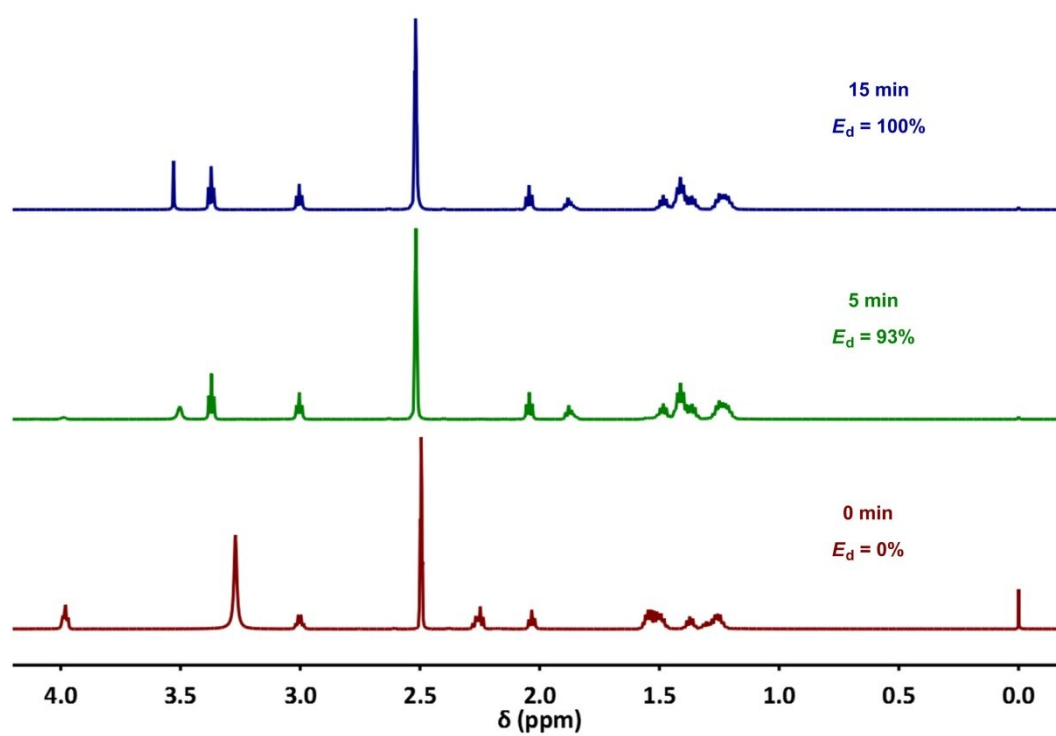


Fig. S20 ¹H NMR spectra of P4 with NaOD (3 equiv.) monitored during the degradation process in DMSO-*d*₆:D₂O = 20:1 at 37 °C.

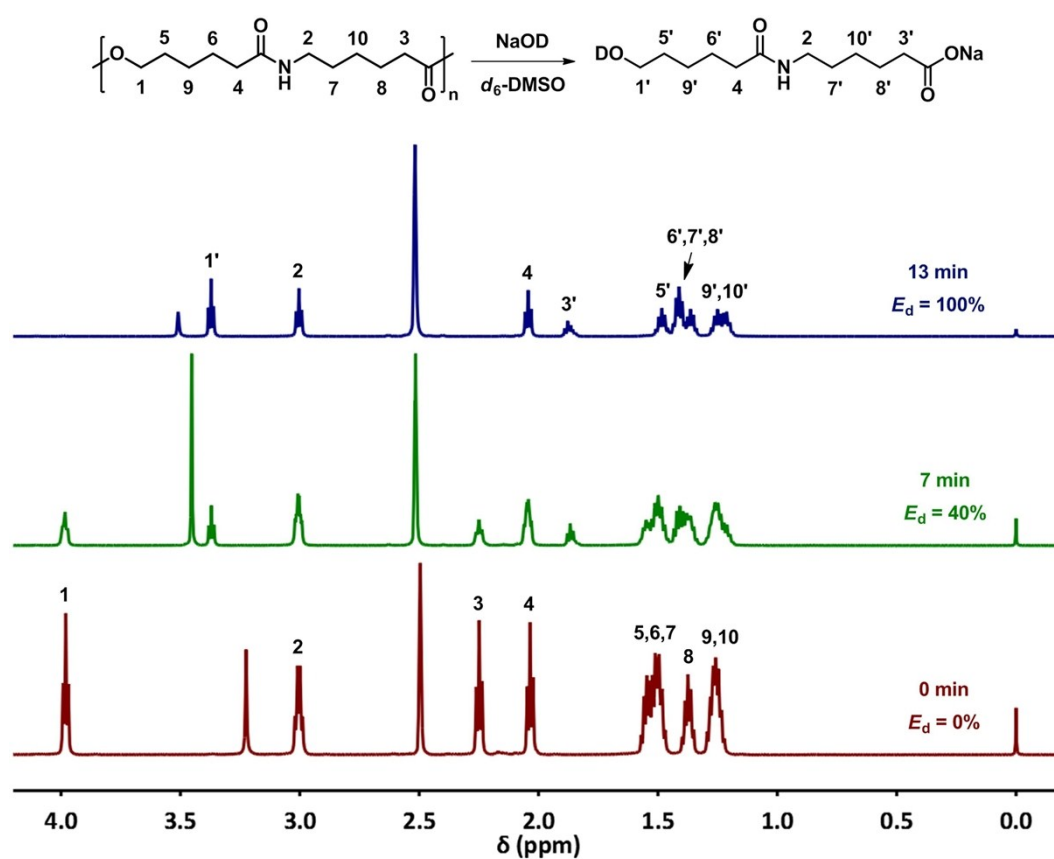


Fig. S21 ^1H NMR spectra of **P5** with NaOD (3 equiv.) monitored during the degradation process in

DMSO- d_6 :D $_2$ O = 20:1 at 37 °C.

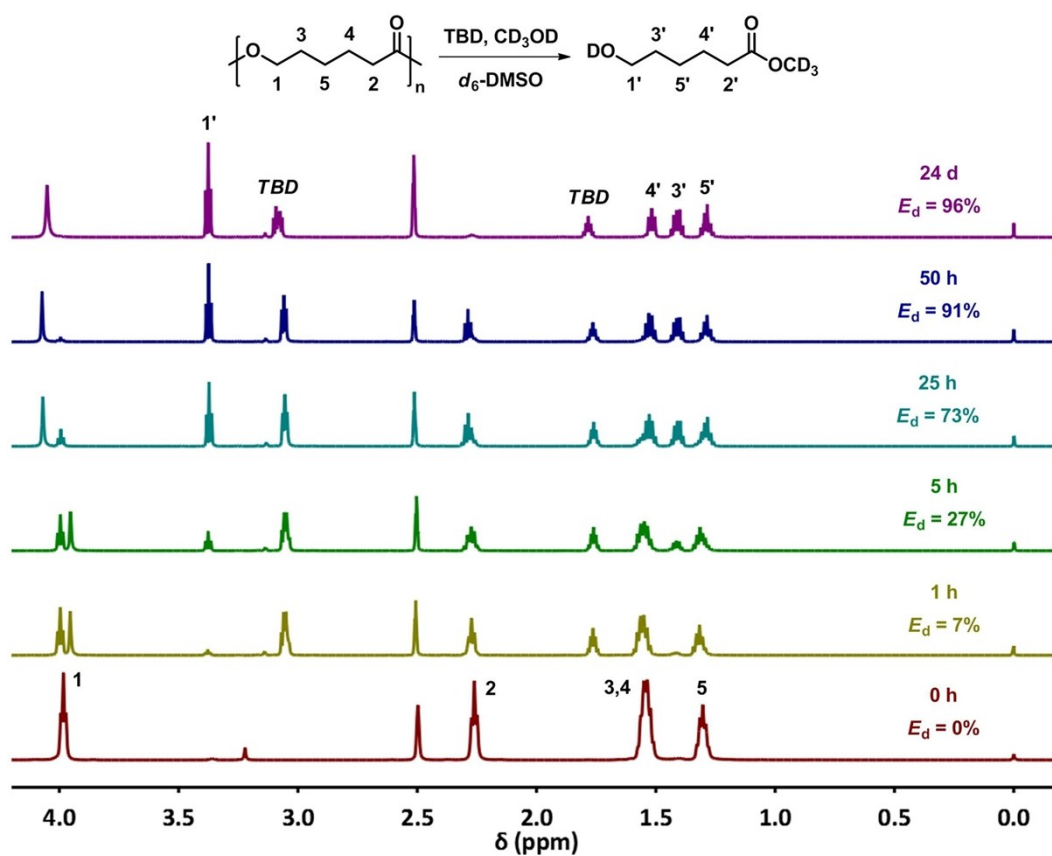


Fig. S22 ^1H NMR spectra of **P0** with TBD (5 equiv.) monitored during the degradation process in

$\text{DMSO-}d_6\text{:CD}_3\text{OD} = 7:1$ at 37°C .

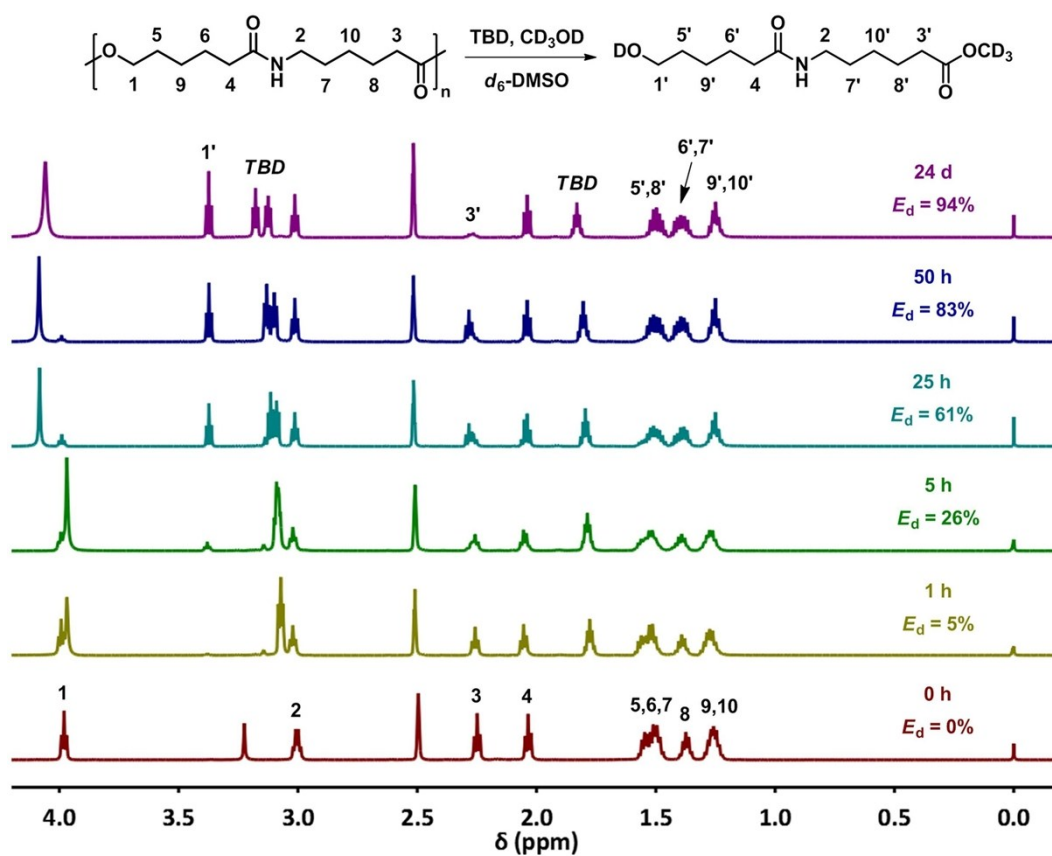


Fig. S23 ^1H NMR spectra of **P5** with TBD (5 equiv.) monitored during the degradation process in

$\text{DMSO-}d_6\text{:CD}_3\text{OD} = 7:1$ at 37°C .