Electronic Supplementary Material (ESI) for Polymer Chemistry.

Squaric ester amides as hydrolysis-resistant functional groups for protein-conjugation of RAFT polymers

– SUPPLEMENTARY INFORMATION –

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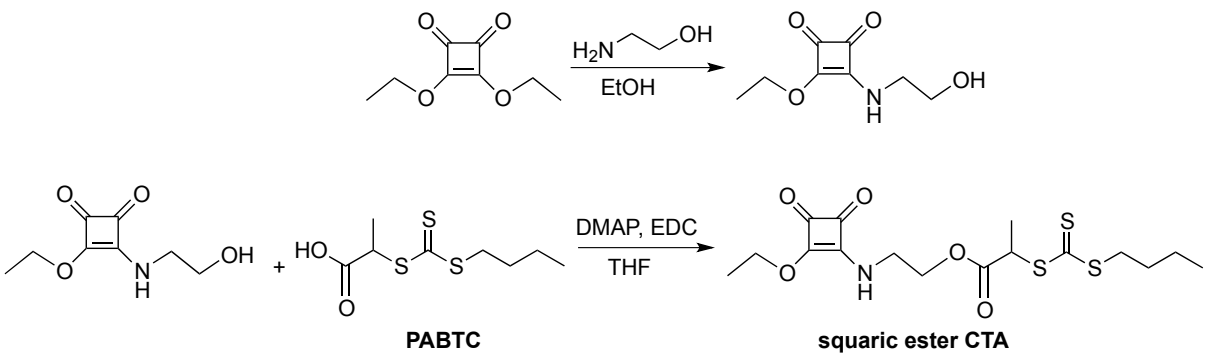


Scheme S1: Synthesis of **squaric ester CTA**.

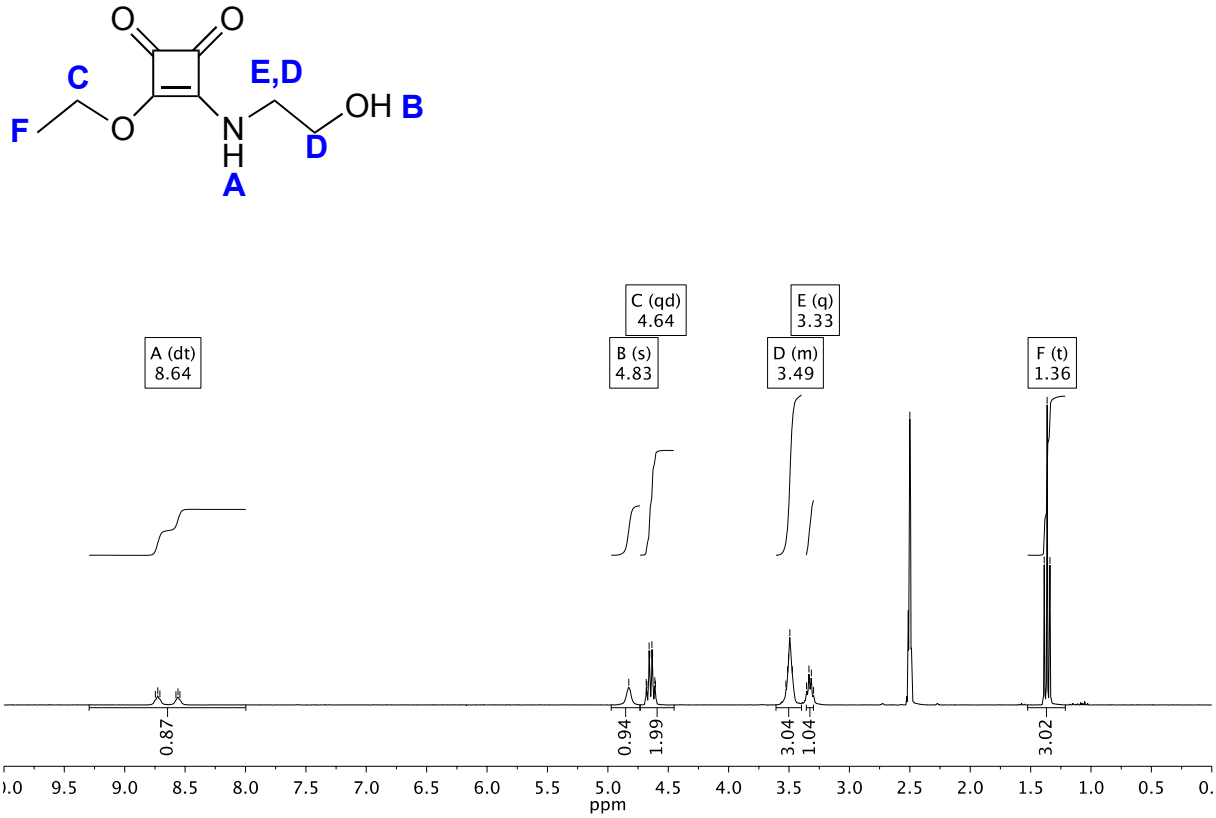


Figure S1: ^{1}H-NMR (300 MHz, DMSO-d_6) of 3-ethoxy-4-((2-hydroxyethyl)amino)cyclobut-3-ene-1,2-dione.

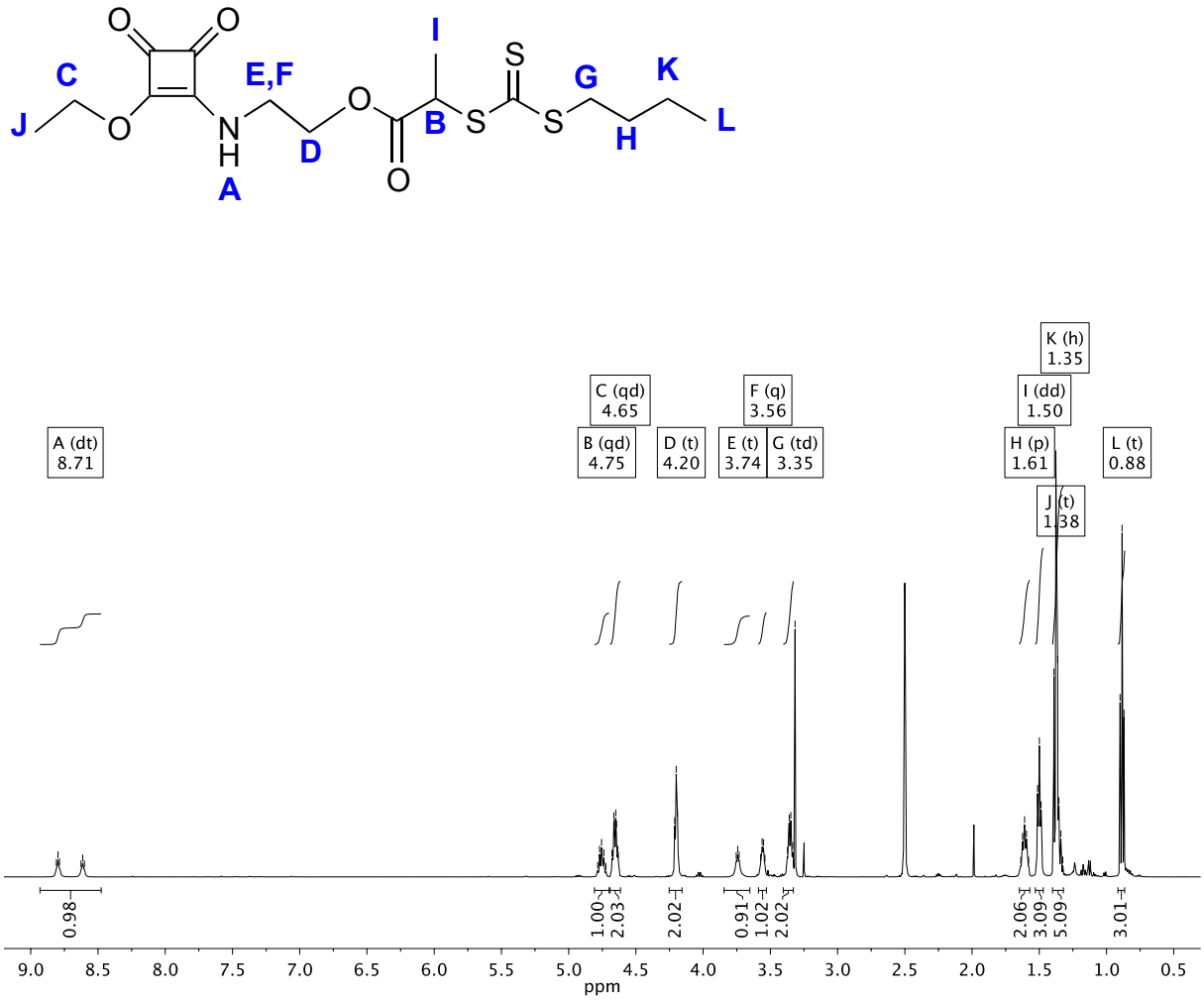


Figure S2: ^{1}H-NMR (300 MHz, DMSO-d_6) of **squaric ester CTA**.

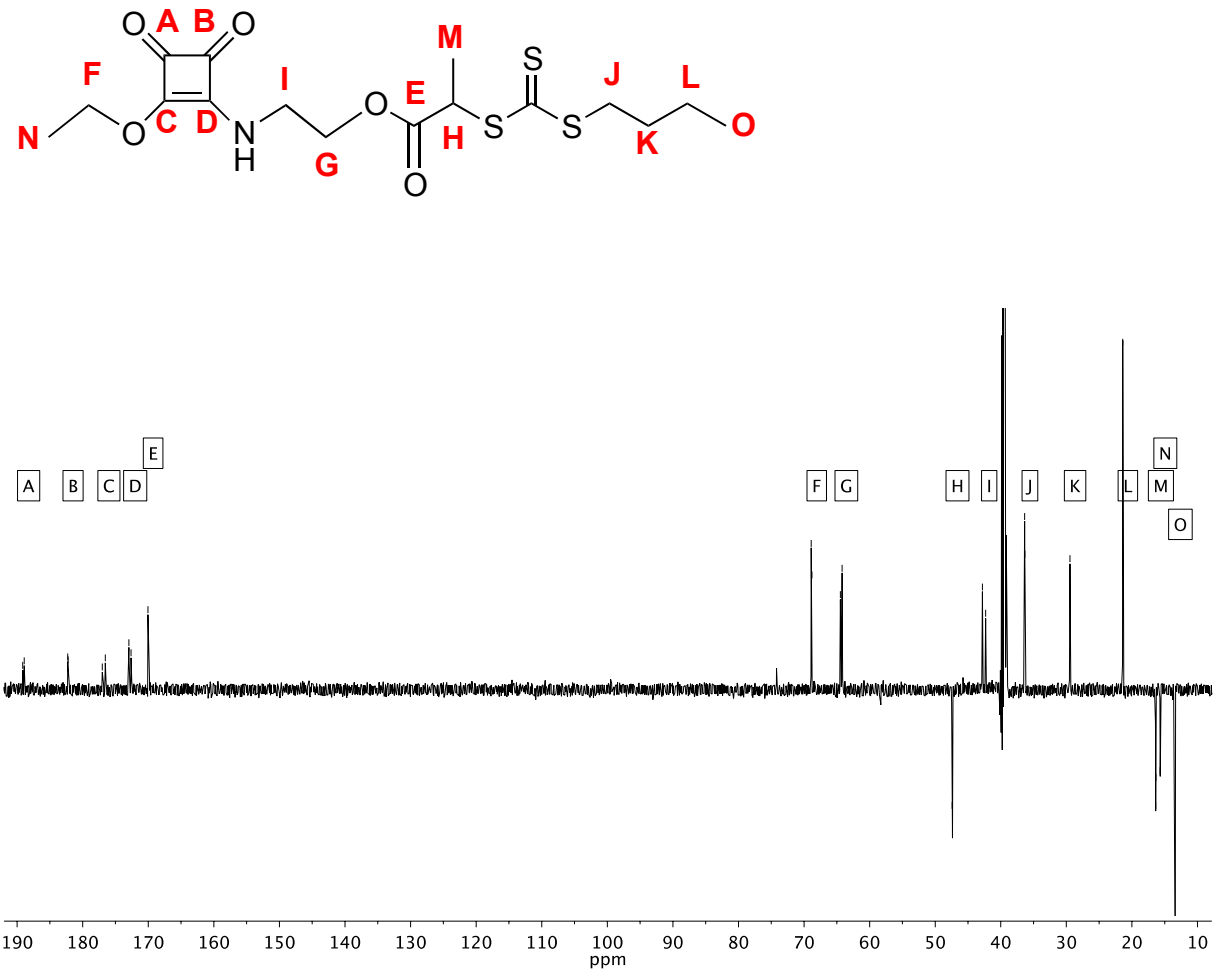


Figure S3: ^{13}C-APT-NMR (75 MHz, DMSO-d_6) of **squaric ester CTA**.

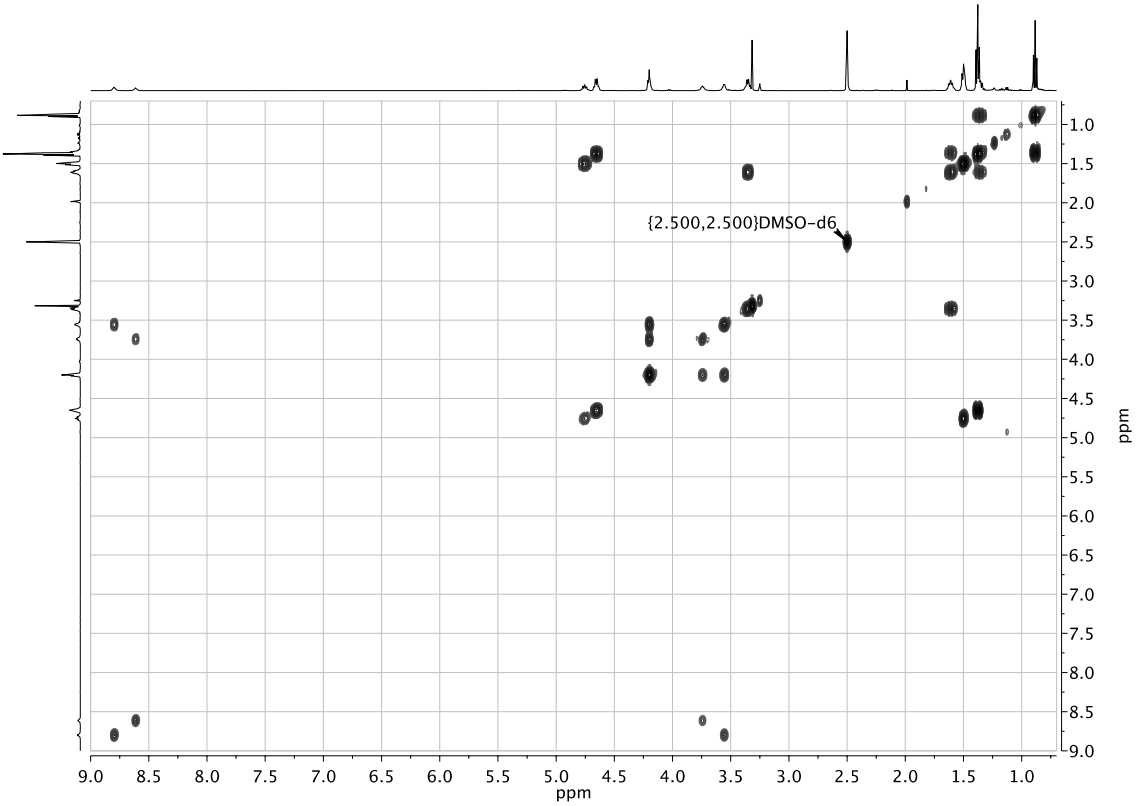


Figure S4: ^{1}H,^{1}H-COSY-NMR of **squaric ester CTA**.

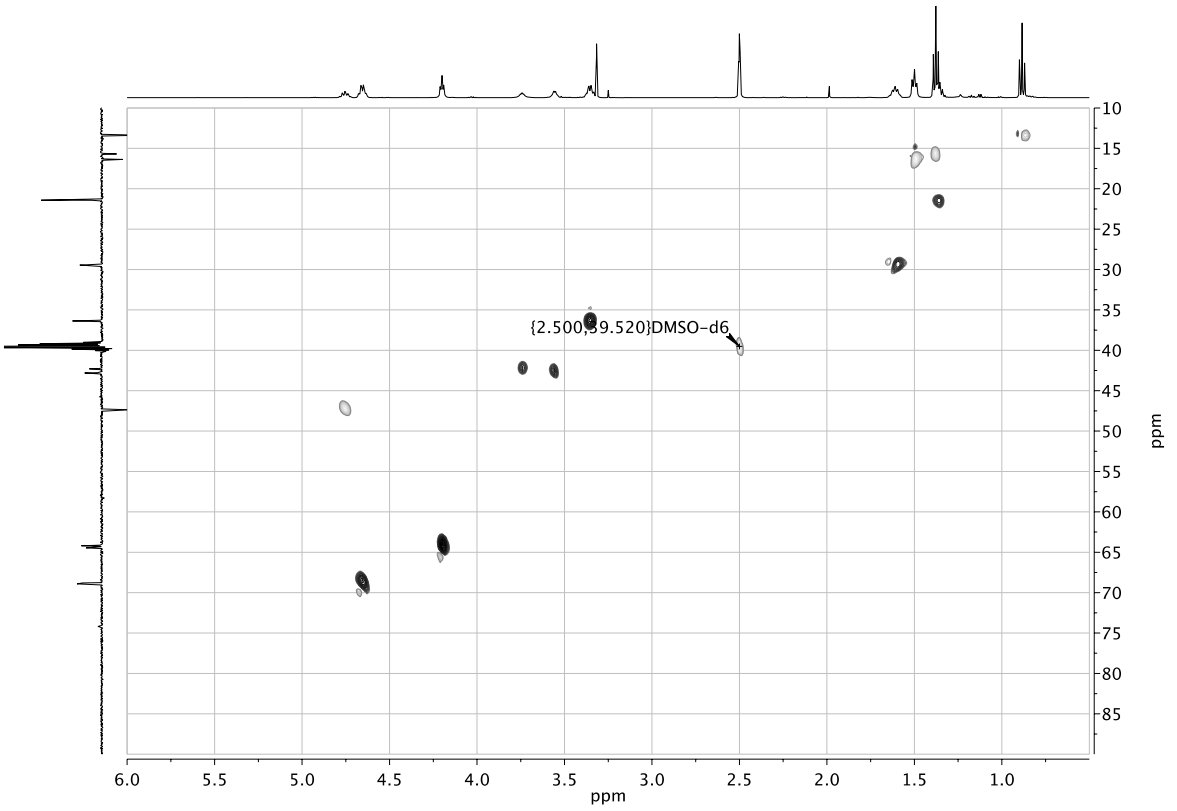


Figure S5: ^{1}H,^{13}C-HSQY-NMR of **squaric ester CTA**.

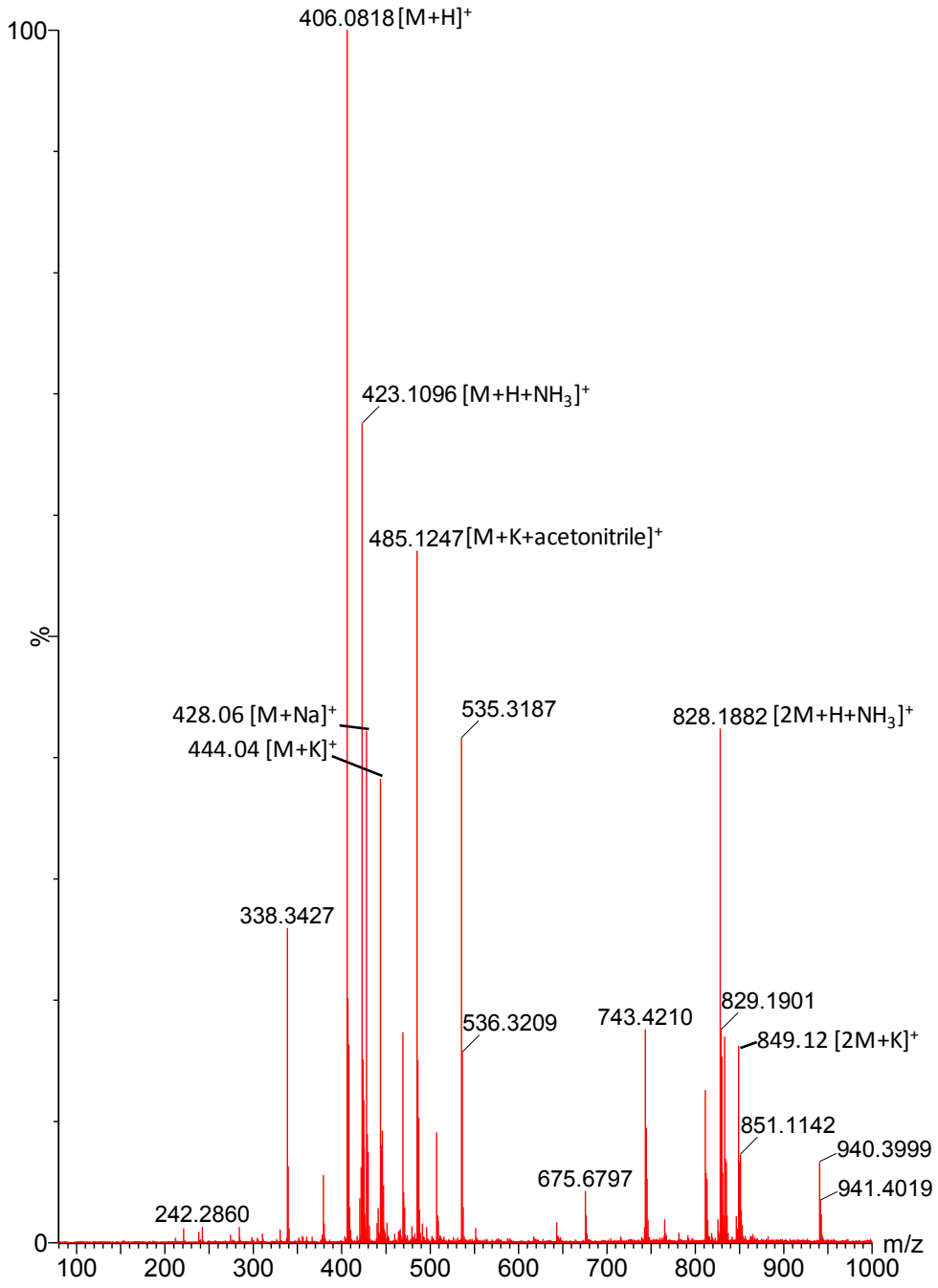


Figure S6: ESI-MS (acetonitrile) of **squaric ester CTA**.

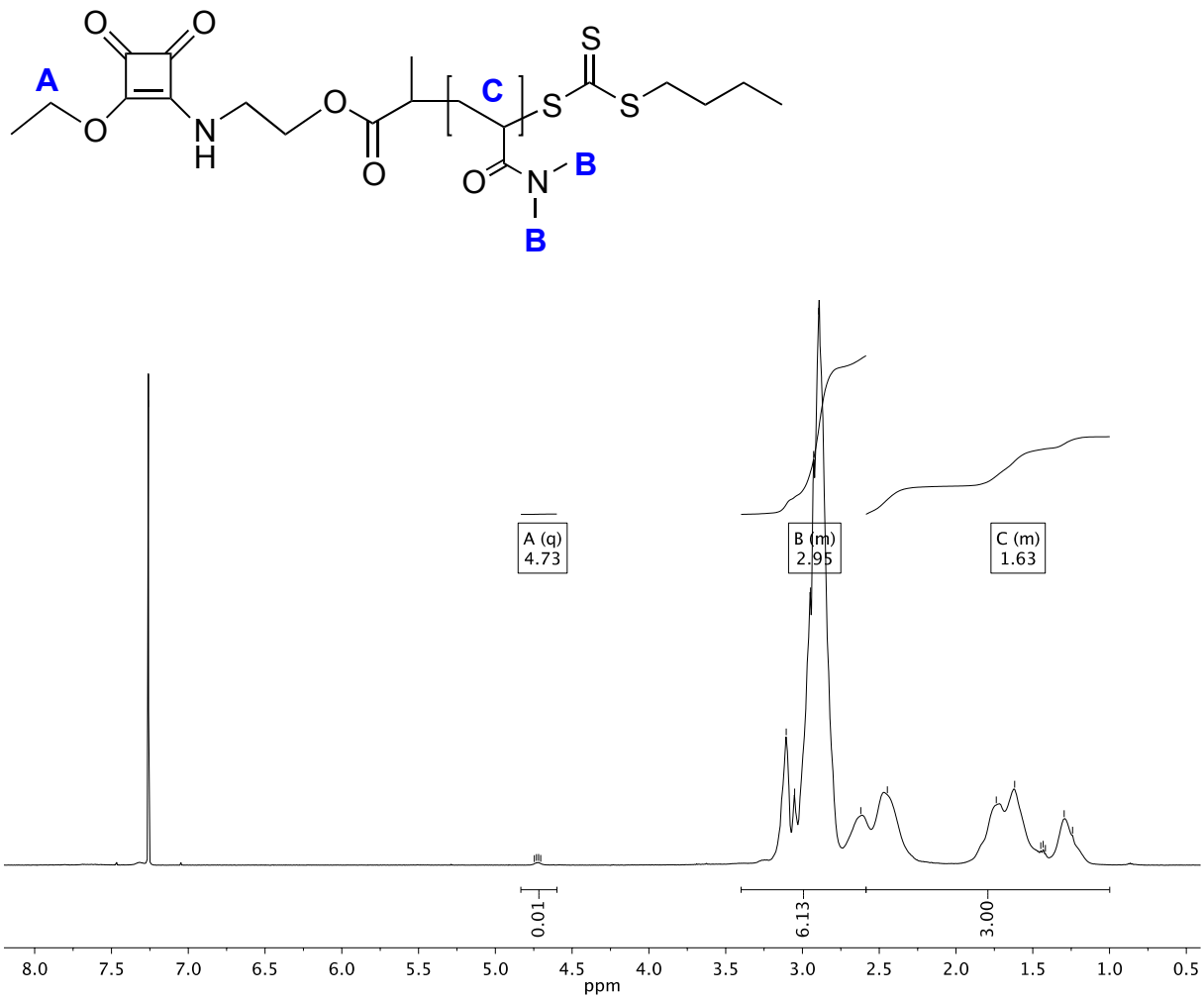


Figure S7: ^{1}H-NMR ($CDCl_3$, 500 MHz) of **pDMA$^{SQA}_{50}$**.

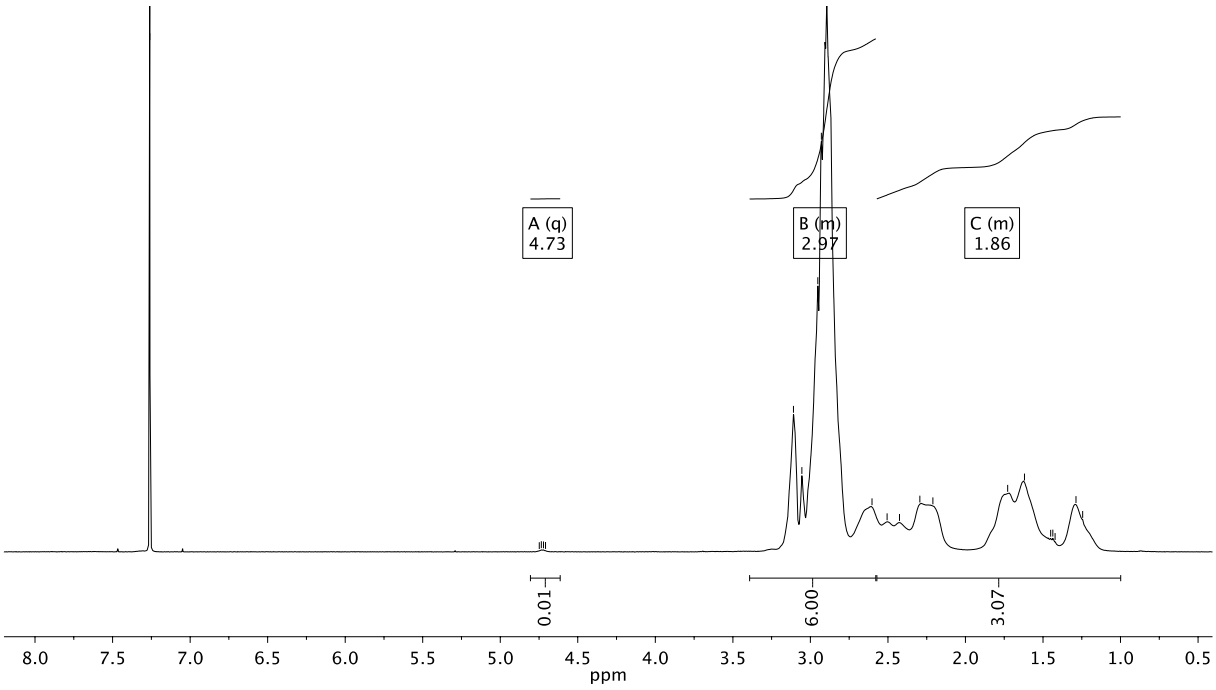


Figure S8: ^{1}H-NMR ($CDCl_3$, 500 MHz) of **pDMA$^{SQA}_{100}$**.

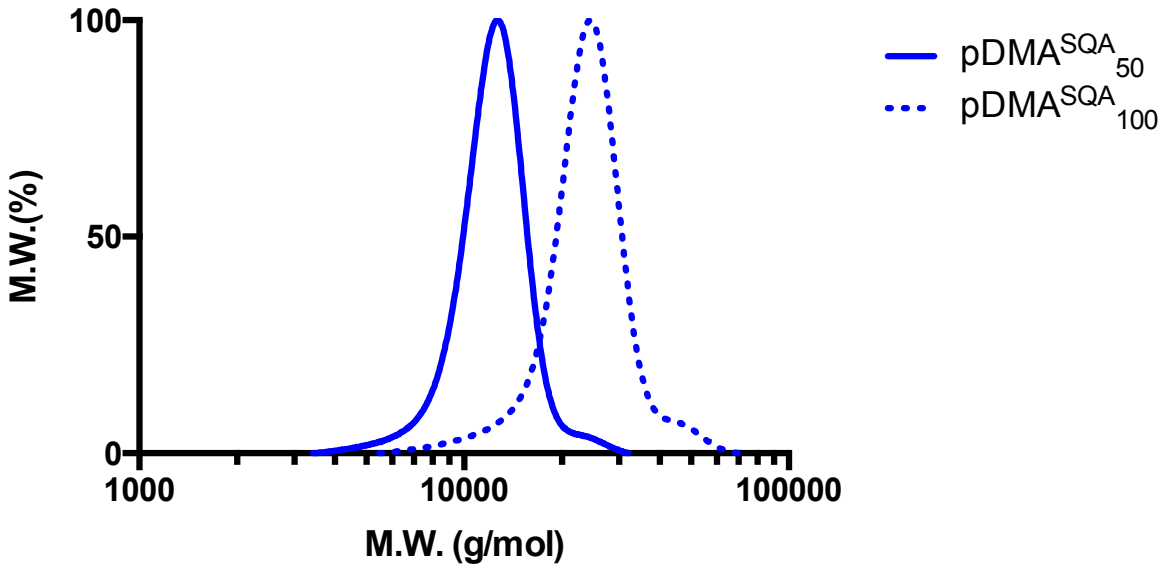


Figure S9: SEC (DMAc) of **pDMA$^{SQA}_{50/100}$**.

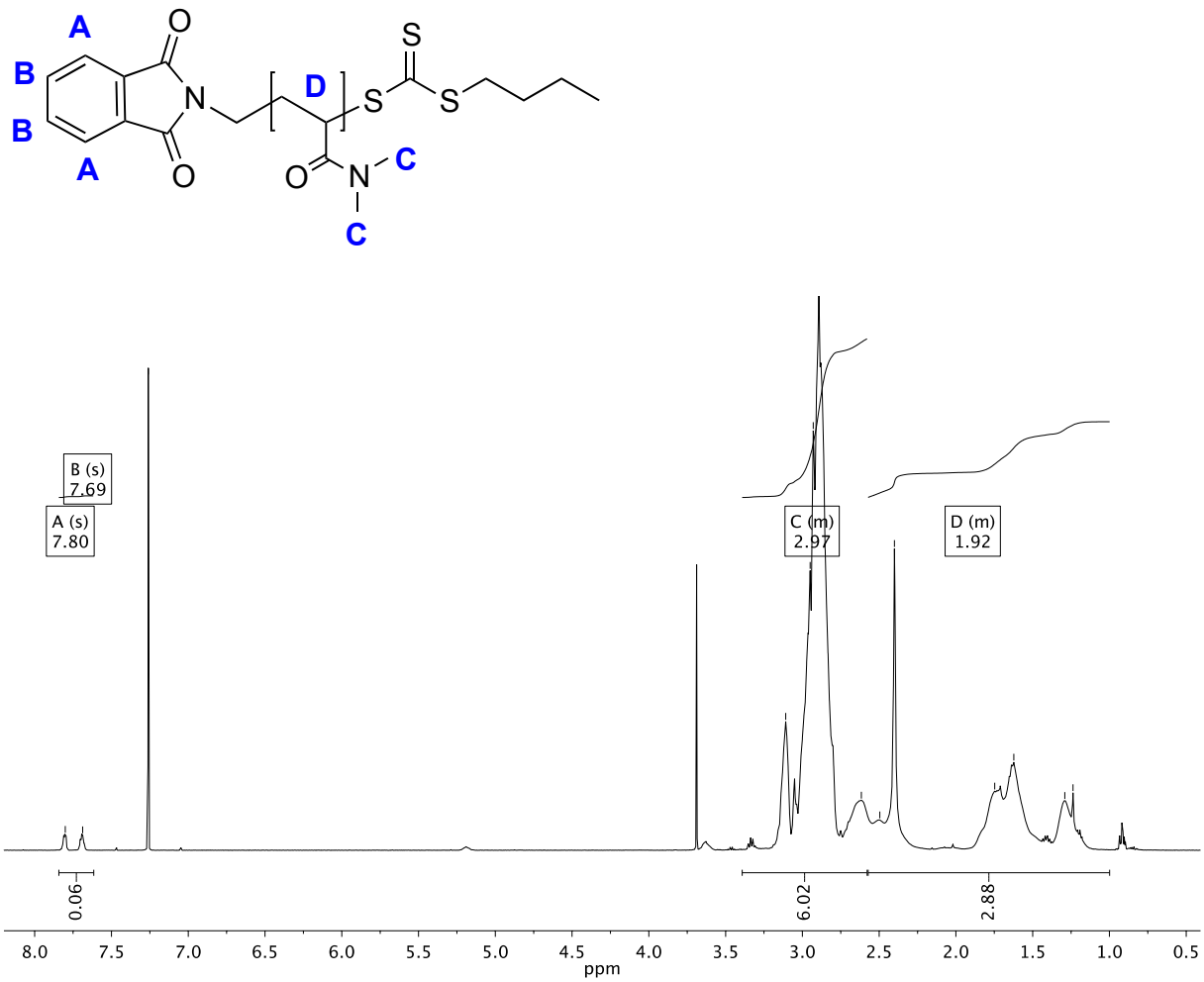


Figure S10: ^{1}H-NMR ($CDCl_3$, 500 MHz) of **pDMA$^{phtalimide}_{50}$**.

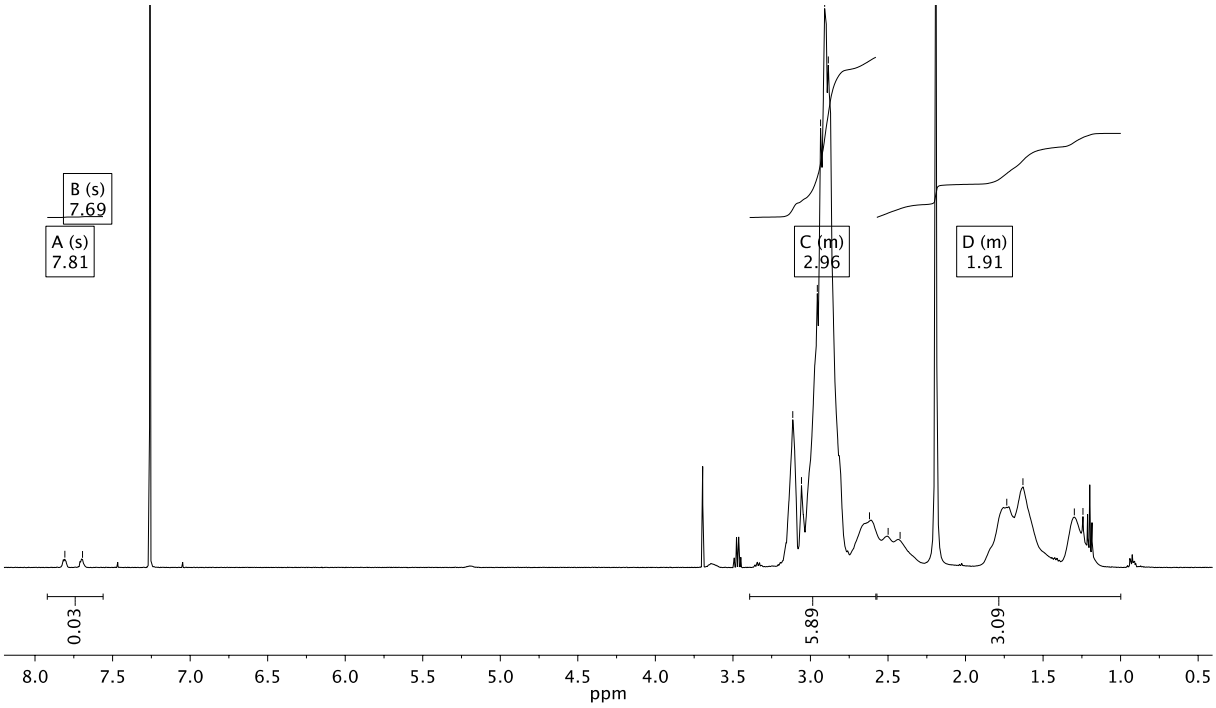


Figure S11: ^{1}H-NMR ($CDCl_3$, 500 MHz) of **pDMA$^{phtalimide}_{100}$**.

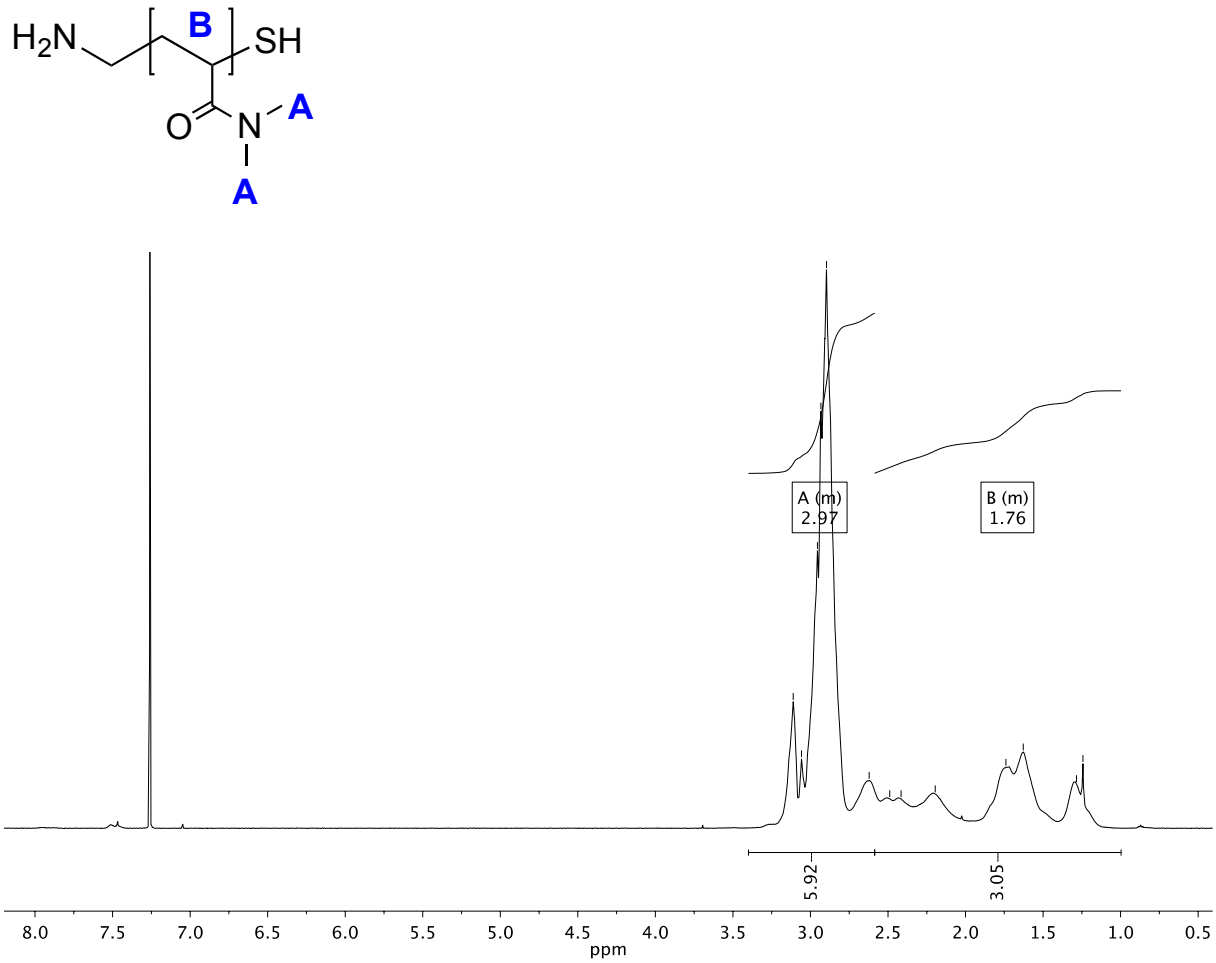


Figure S12: ^{1}H-NMR ($CDCl_3$, 500 MHz) of **pDMA$^{NH2}_{50}$**.

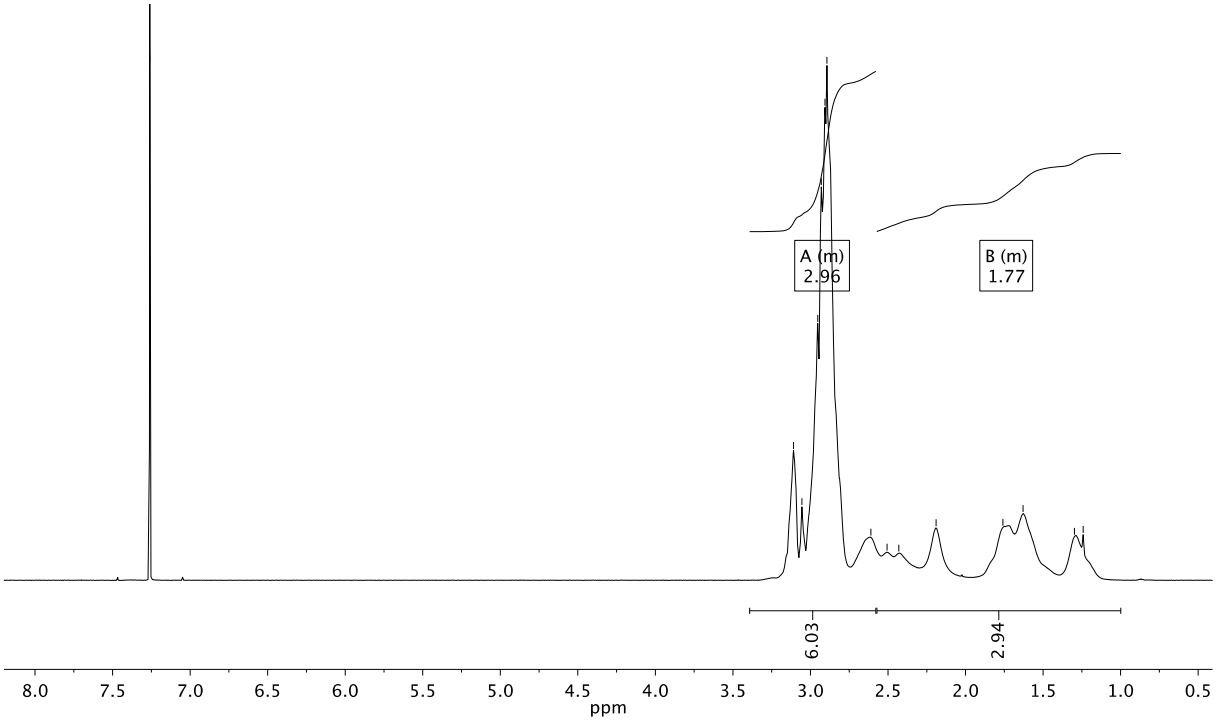


Figure S13: ^{1}H-NMR ($CDCl_3$, 500 MHz) of **pDMA$^{NH2}_{100}$**.

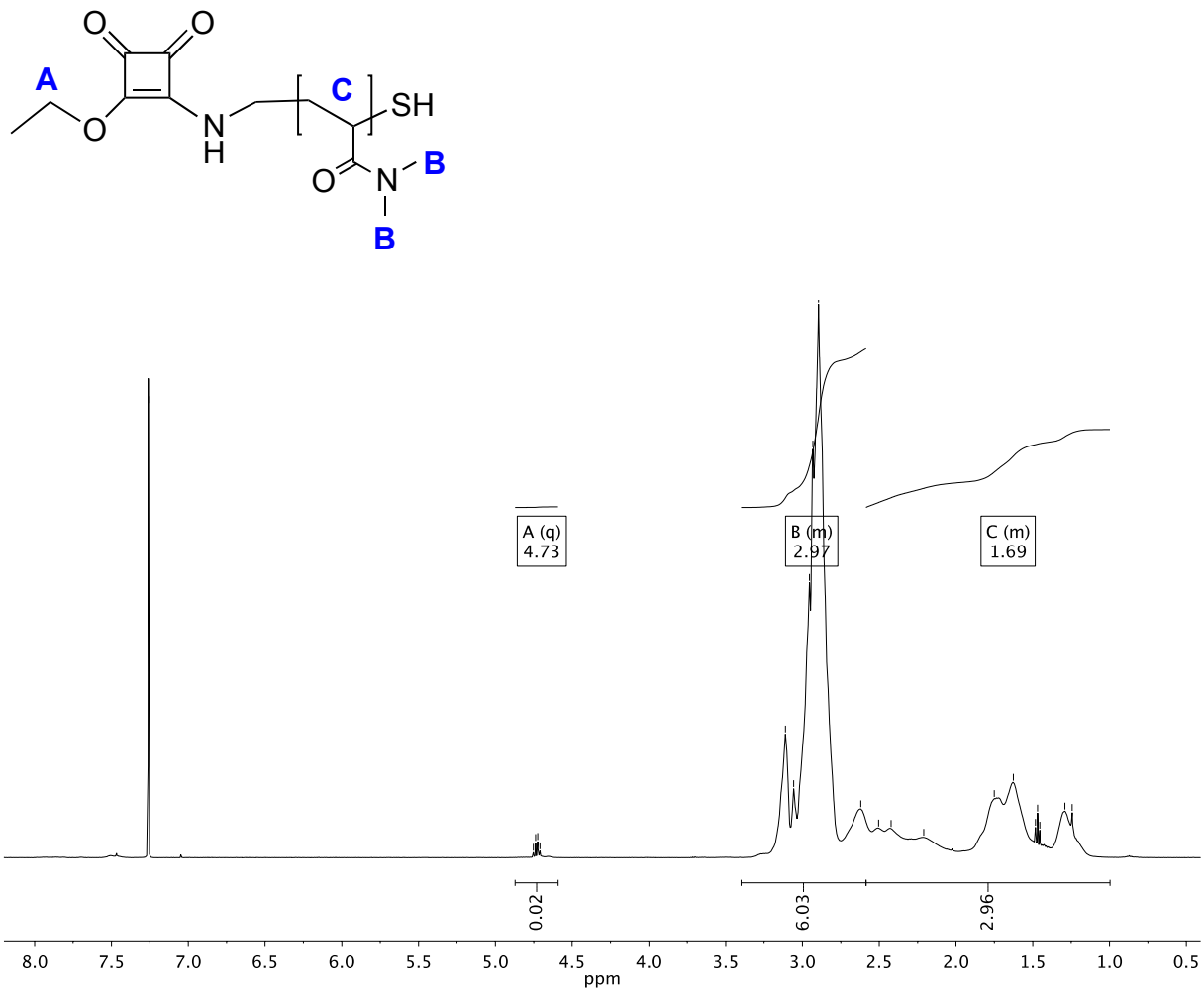


Figure S14: ^{1}H-NMR ($CDCl_3$, 500 MHz) of **pDMA$^{NH2/SQA}_{50}$**.

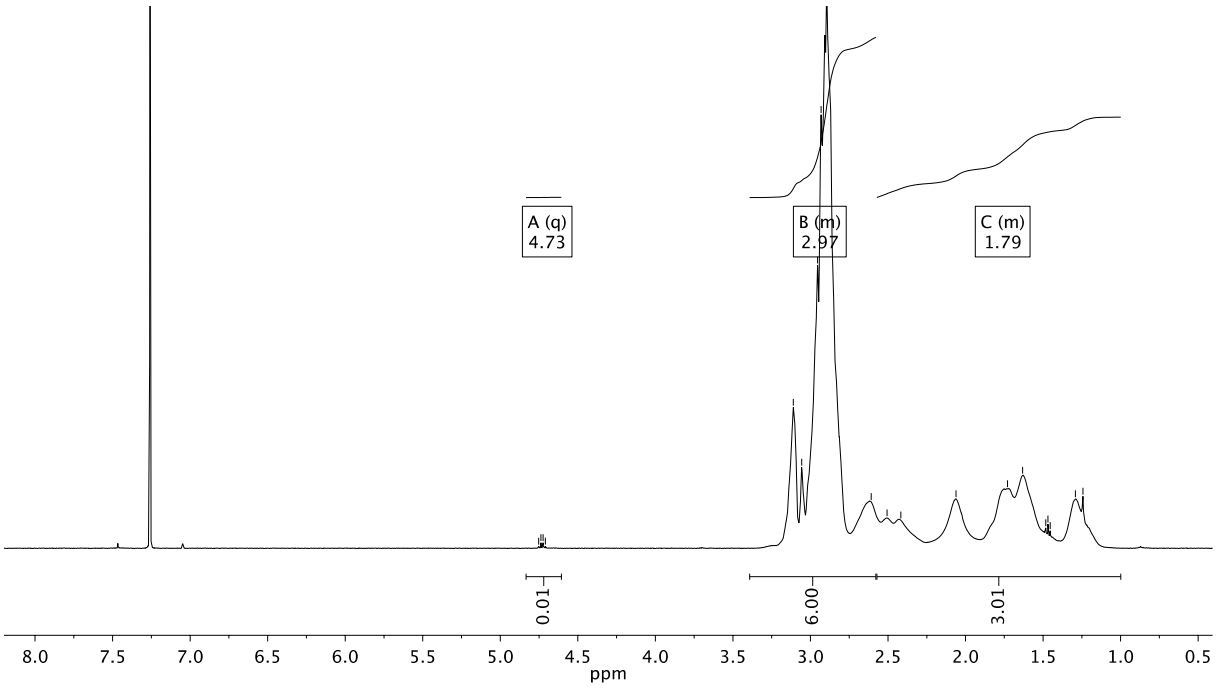


Figure S15: ^{1}H-NMR ($CDCl_3$, 500 MHz) of **pDMA$^{NH2/SQA}_{100}$**.

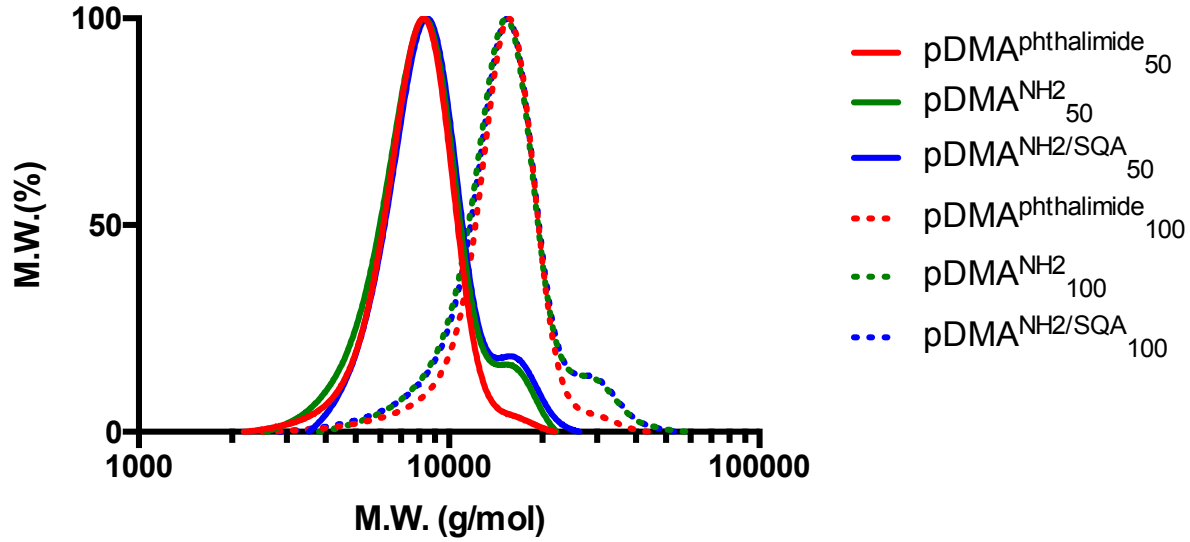
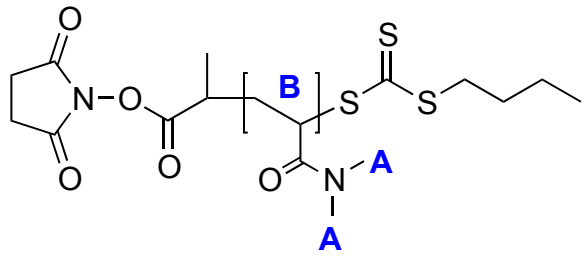


Figure S16: SEC (DMAc) of **pDMA$^{phtalimide}_{50/100}$**, **pDMA$^{NH2}_{50/100}$** and **pDMA$^{NH2/SQA}_{50/100}$**.



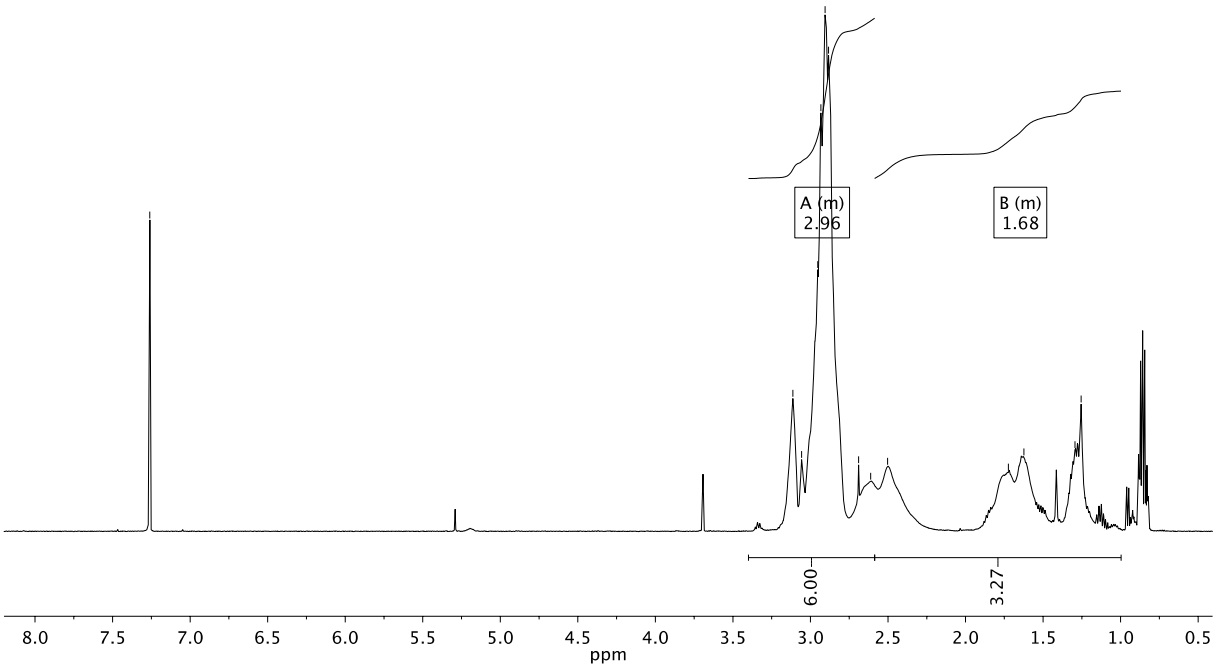


Figure S17: ^{1}H-NMR ($CDCl_3$, 500 MHz) of **pDMA$^{NHS}_{50}$**.

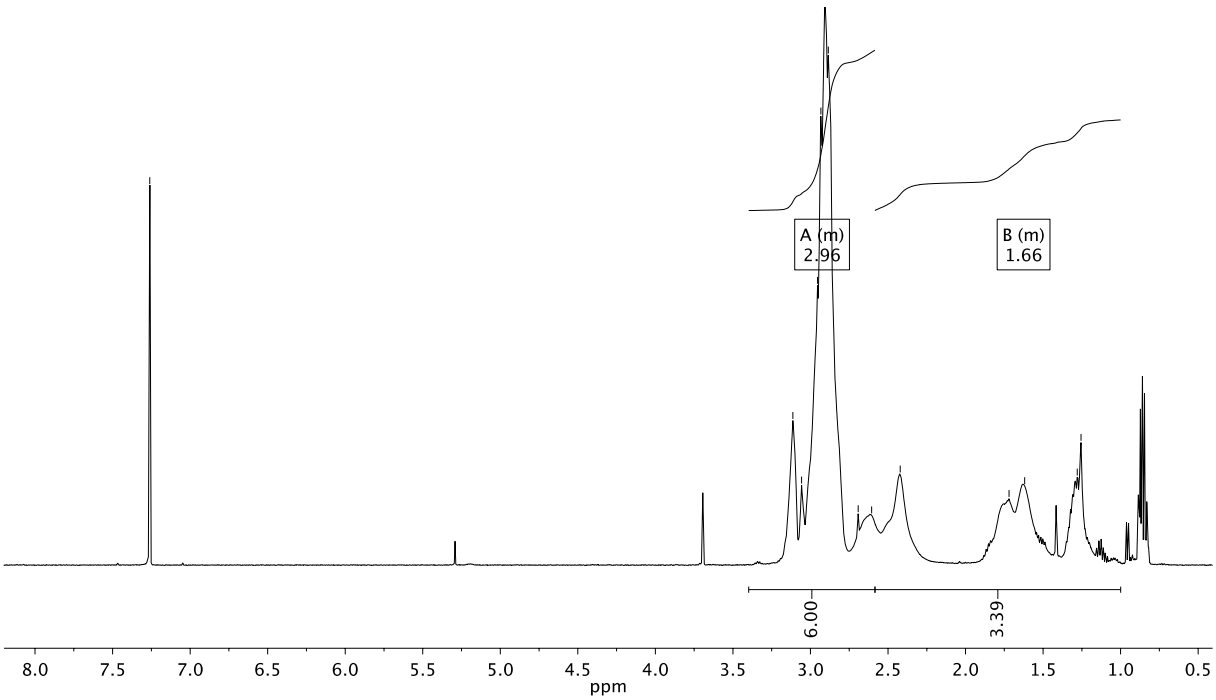


Figure S18: ^{1}H-NMR ($CDCl_3$, 500 MHz) of **pDMA$^{NHS}_{100}$**.

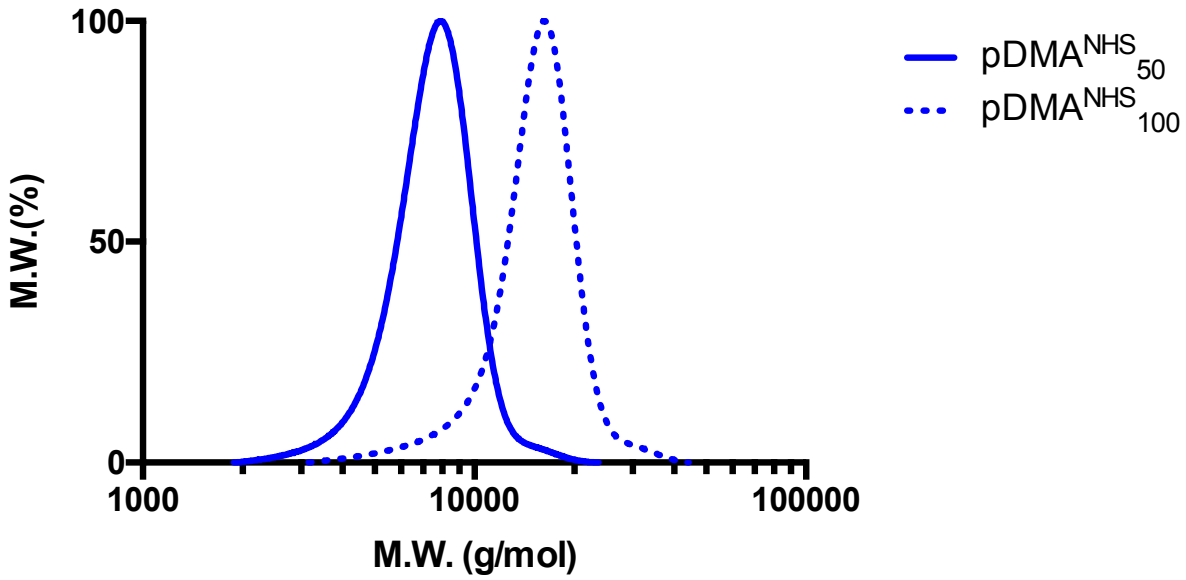


Figure S19: SEC (DMAc) of **pDMA$^{NHS}_{50/100}$**.

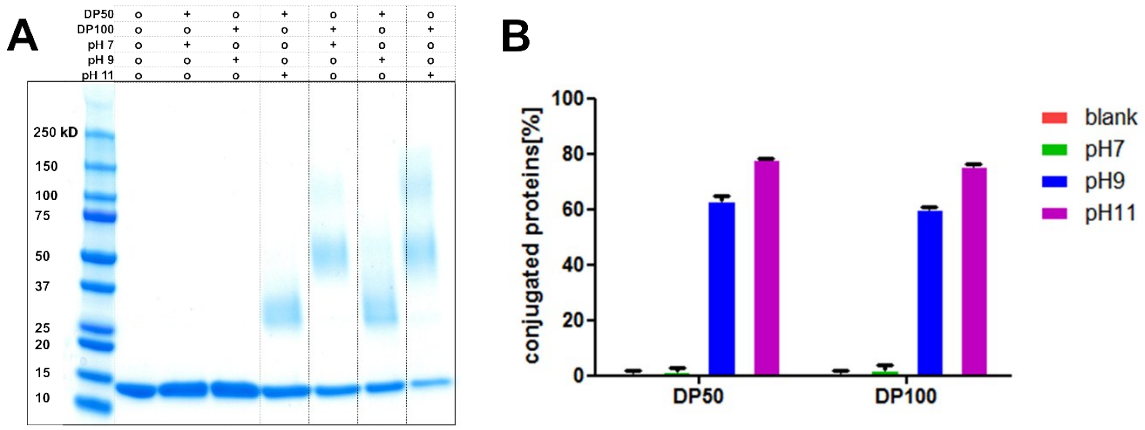


Figure S20: (A) SDS-PAGE of pDMA^{SQA}-lysosyme conjugates at different pH values and (B) corresponding quantification by ImageJ-based integration of the optical density.

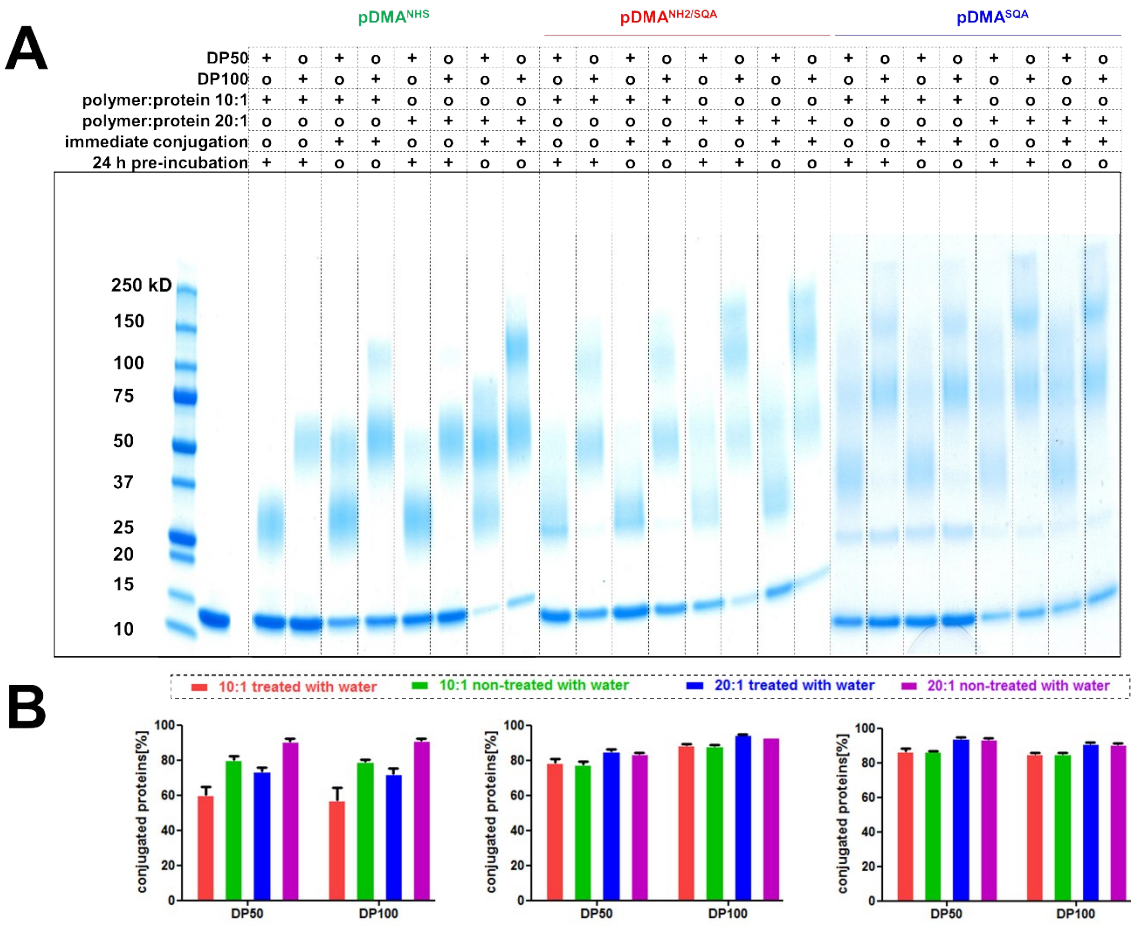


Figure S21: (A) SDS-PAGE of various polymer-lysosyme conjugates and (B) corresponding quantification by ImageJ-based integration of the optical density.