

Electronic Supplementary Information for:

Squaric Acid Mediated Bioconjugation

Expanded to Polymers Prepared by ATRP

*Tobias Steinbach, Frederik Wurm and Harm-Anton Klok**

Ecole Polytechnique Fédérale de Lausanne (EPFL), Institut des Matériaux and Institut des Sciences et Ingénierie Chimiques, Laboratoire des Polymères, Bâtiment MXD, Station 12, CH-1015 Lausanne, Switzerland.

* Corresponding author: Fax: + 41 21 693 5650; Tel: + 41 21 693 4866; E-mail: harm-anton.klok@epfl.ch

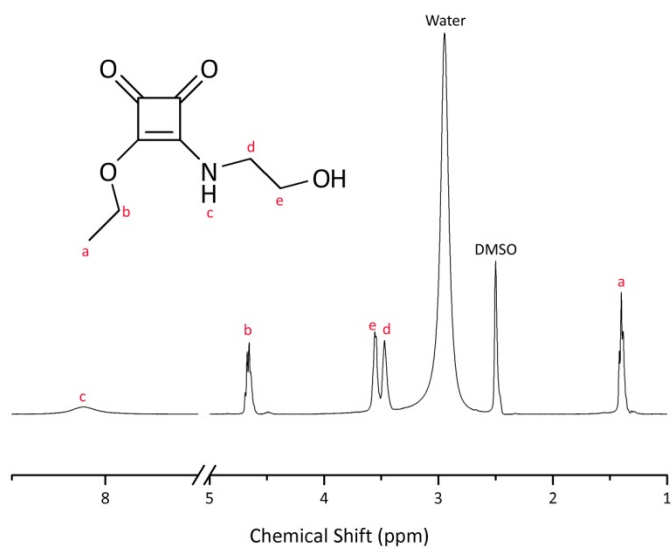


Figure S1: ^1H NMR spectrum of 3-ethoxy-4-(2-hydroxyethylamino)cyclobut-3-ene-1,2-dione (**1**) in $\text{DMSO-}d_6$.

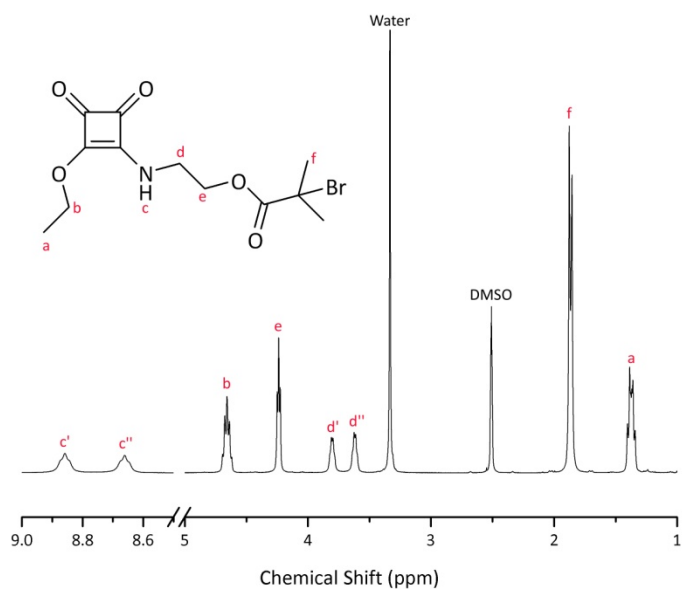


Figure S2: ^1H NMR spectrum of 2-(2-ethoxy-3,4-dioxocyclobut-1-enylamino)ethyl 2-bromo-2-methylpropanoate (**2**) in $\text{DMSO-}d_6$.

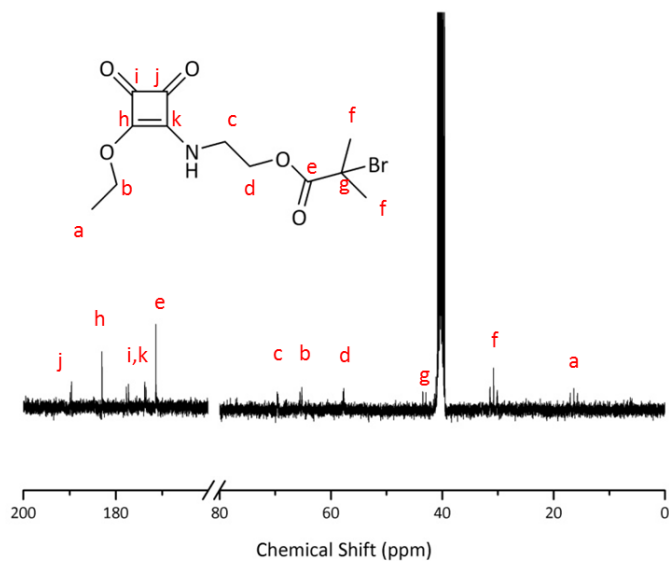


Figure S3: ^{13}C NMR spectrum of 2-(2-ethoxy-3,4-dioxocyclobut-1-enylamino)ethyl 2-bromo-2-methylpropanoate (**2**) in $\text{DMSO-}d_6$.

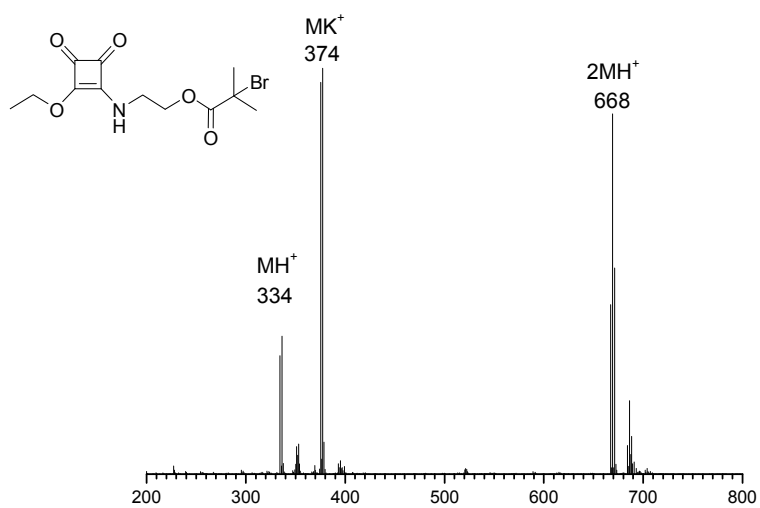


Figure S4: ESI mass spectrum of 2-(2-ethoxy-3,4-dioxocyclobut-1-enylamino)ethyl 2-bromo-2-methylpropanoate (**2**).

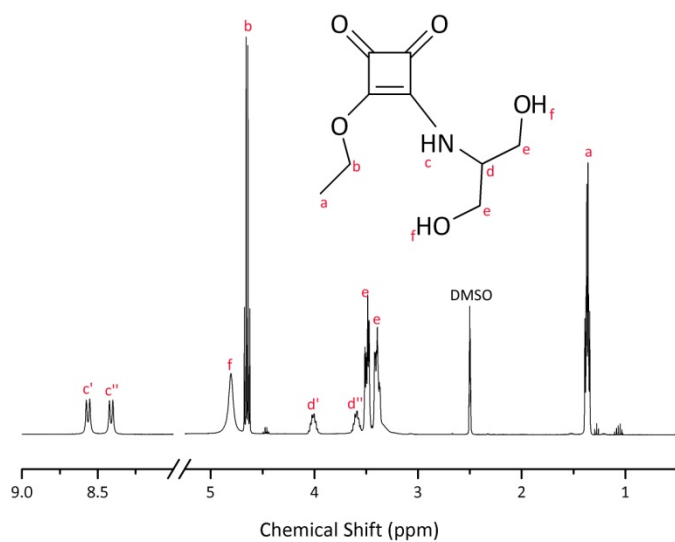


Figure S5: ^1H NMR spectrum of 3-(1,3-dihydroxypropan-2-ylamino)-4-ethoxycyclobut-3-ene-1,2-dione (**3**) in DMSO- d_6 .

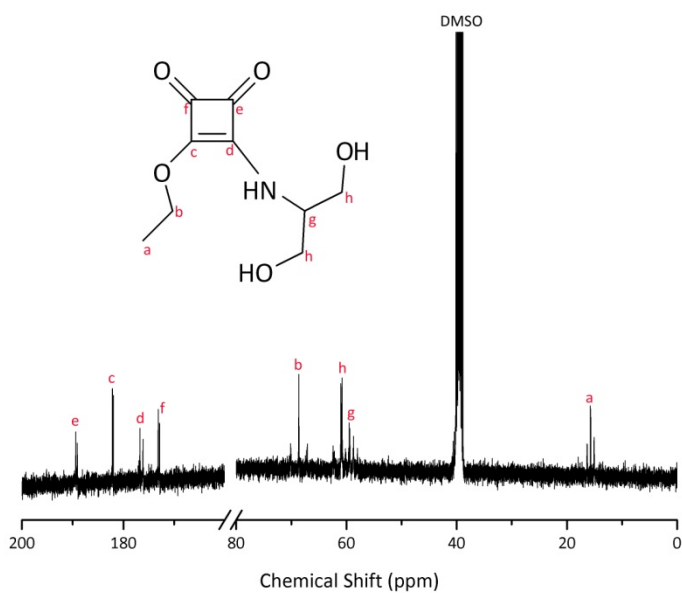


Figure S6: ^{13}C NMR of 3-(1,3-dihydroxypropan-2-ylamino)-4-ethoxycyclobut-3-ene-1,2-dione (**3**) in DMSO- d_6 .

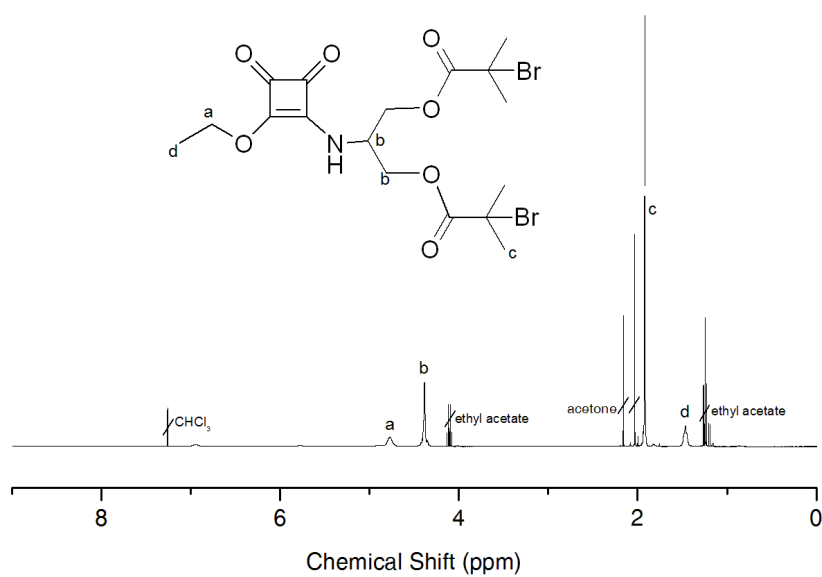


Figure S7: ^1H NMR spectrum of 2-(2-ethoxy-3,4-dioxocyclobut-1-enylamino)propane-1,3-diyl bis(2-bromo-2-methylpropanoate) (**4**) in CDCl_3 .

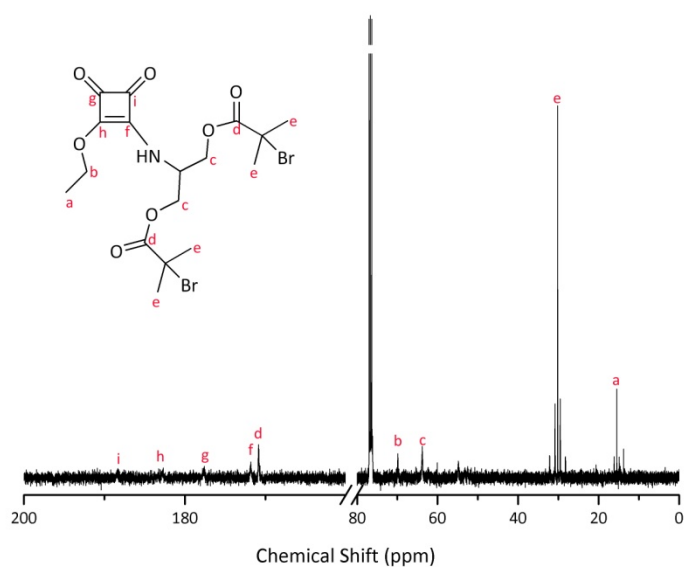


Figure S8: ^{13}C NMR spectrum of 2-(2-ethoxy-3,4-dioxocyclobut-1-enylamino)propane-1,3-diyl bis(2-bromo-2-methylpropanoate) (**4**) in CDCl_3 .

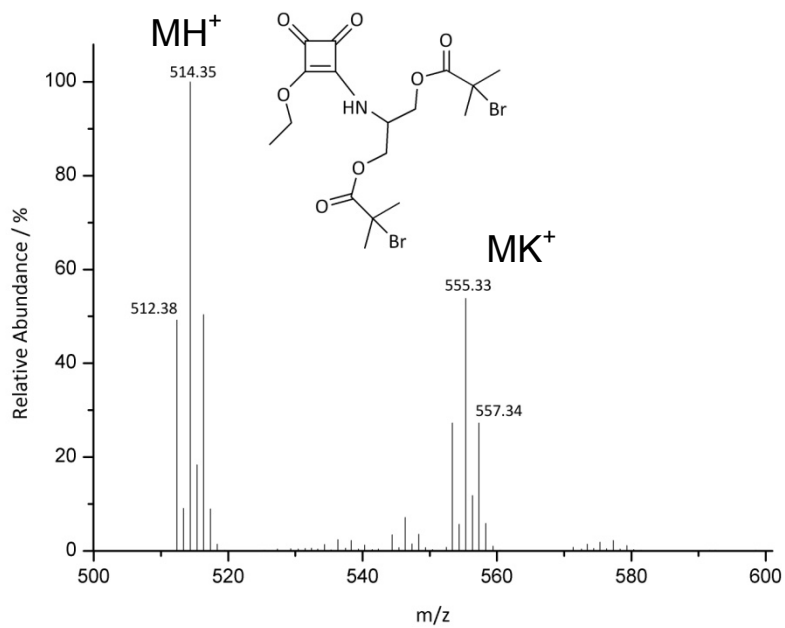


Figure S9: ESI mass spectrum of 2-(2-ethoxy-3,4-dioxocyclobut-1-enylamino)propane-1,3-diyl bis(2-bromo-2-methylpropanoate) (**4**).

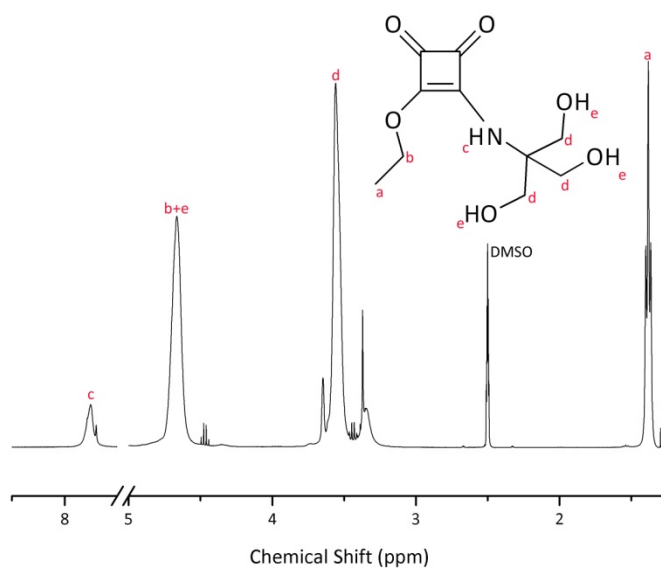


Figure S10: 1H NMR spectrum of 3-(1,3-dihydroxy-2-(hydroxymethyl)propan-2-ylamino)-4-ethoxycyclobut-3-ene-1,2-dione (**5**) in $DMSO-d_6$.

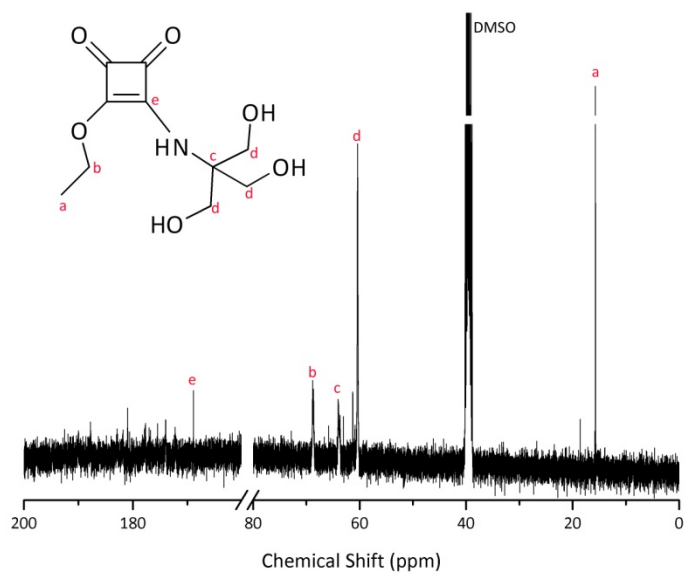


Figure S11: ^{13}C NMR spectrum of 3-(1,3-dihydroxy-2-(hydroxymethyl)propan-2-ylamino)-4-ethoxycyclobut-3-ene-1,2-dione (**5**) in DMSO-d_6 .

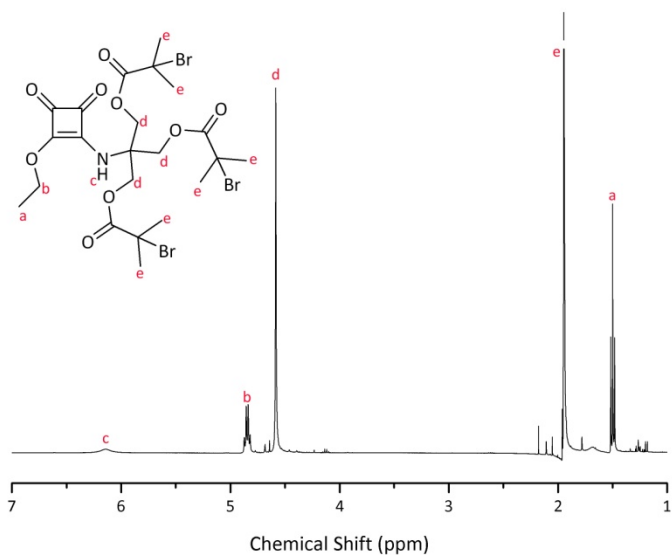


Figure S12: ^1H NMR spectrum of 2-((2-bromo-2-methylpropanoyloxy)methyl)-2-(2-ethoxy-3,4-dioxocyclobut-1-enylamino)propane-1,3-diyl bis(2-bromo-2-methylpropanoate) (**6**) in CDCl_3 .

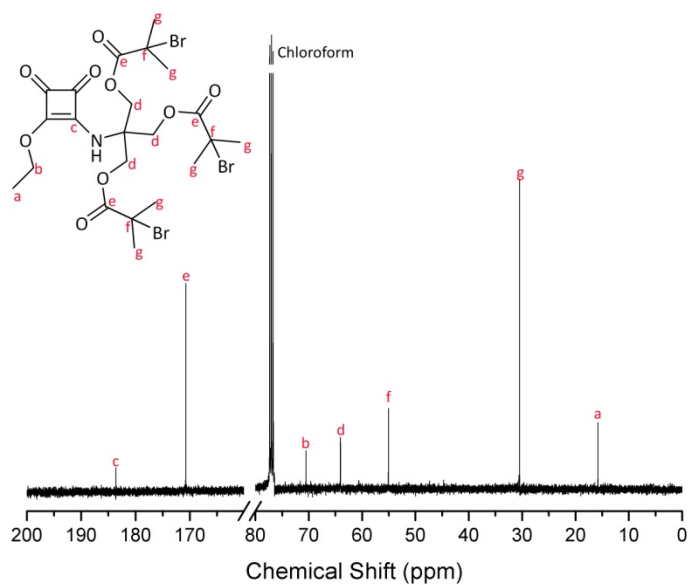


Figure S13: ^{13}C NMR spectrum of 2-((2-bromo-2-methylpropanoyloxy)methyl)-2-(2-ethoxy-3,4-dioxocyclobut-1-enylamino)propane-1,3-diyl bis(2-bromo-2-methylpropanoate) (**6**) in CDCl_3 .

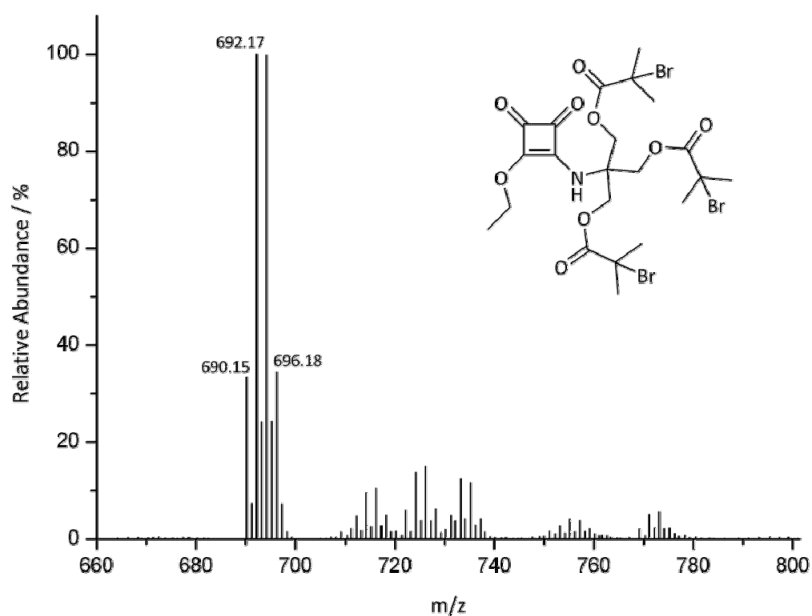


Figure S14: ESI mass spectrum of 2-((2-bromo-2-methylpropanoyloxy)methyl)-2-(2-ethoxy-3,4-dioxocyclobut-1-enylamino)propane-1,3-diyl bis(2-bromo-2-methylpropanoate) (**6**).

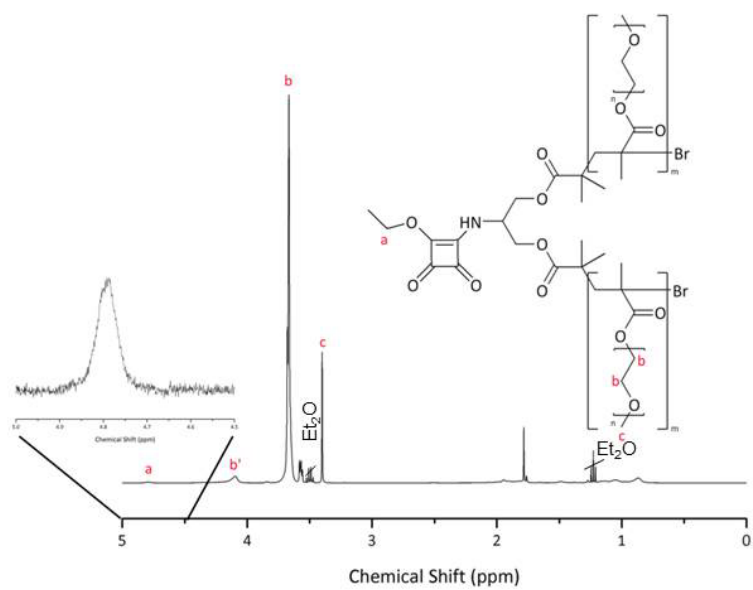


Figure S15: ^1H NMR spectrum of mid-functionalized **PPEGMA # 2** in CDCl_3 .

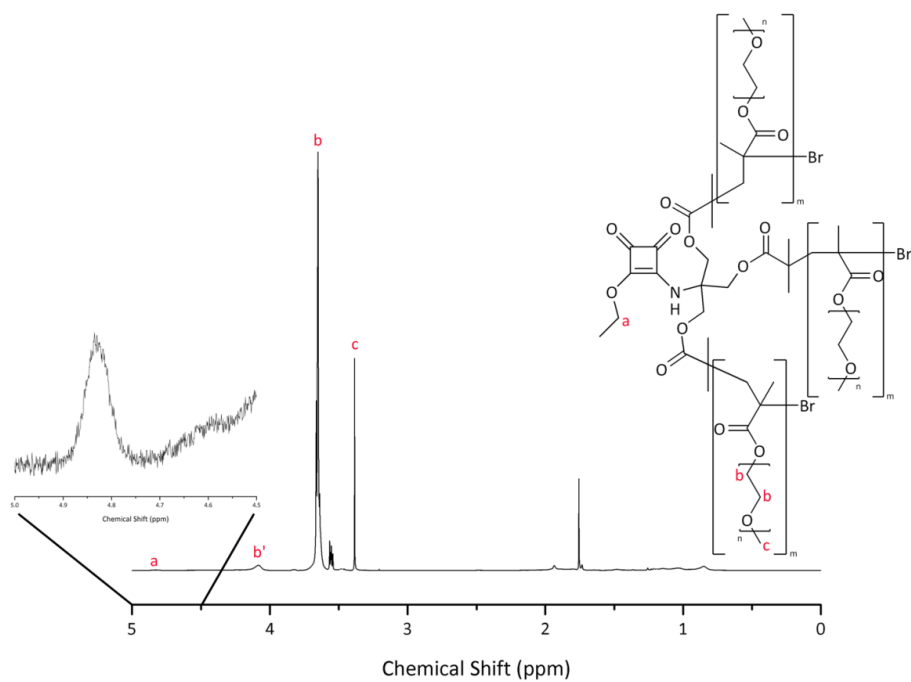


Figure S16: ^1H NMR spectrum of three-arm **PPEGMA #6** in CDCl_3 .