Electronic Supplementary Material (ESI) for Polymer Chemistry.

A Library of Heptyl Mannose-Functionalized Copolymers with Distinct Compositions, Microstructures and Neighboring Non-Sugar Motifs as Potent Antiadhesives of Type 1 Piliated *E. coli*

Xibo Yan,[1] Adeline Sivignon,[2,3] Nicolas Barnich,[2,3] Sébastien G. Gouin,[4] Julie Bouckaert,[5] Etienne Fleury,[1] Julien Bernard[1,*]

[1] Université de Lyon, Lyon, F-69003, France ; INSA-Lyon, IMP, Villeurbanne, F-69621, France; CNRS, UMR 5223, Ingénierie des Matériaux Polymères, Villeurbanne, F-69621, France.

[2] Clermont Université, UMR 1071, Inserm/Université d'Auvergne, 63000 Clermont-Ferrand, France.

[3] INRA, Unité Sous Contrat 2018, 63000, Clermont-Ferrand, France.

[4] LUNAM Université, CEISAM, Chimie Et Interdisciplinarité, Synthèse, Analyse, Modélisation, UMR CNRS 6230, UFR des Sciences et des Techniques, 2, rue de la Houssinière, BP 92208, 44322 Nantes Cedex 3, France.

[5] Unité de Glycobiologie Structurale et Fonctionnelle (UGSF), UMR 8576, Université Lille 1, F-59655 Villeneuve d'Ascq Cedex, France.

Table S1. Library of PGMA macroRAFT agents

Entry	Polymers	Conv. (%)	$M_{n_{th}}$ [a] (g.mol^{-1})	$M_{n_{NMR}}$ [b] (g.mol^{-1})	$M_{n_{SEC}}$ [c] (g.mol^{-1})	$Đ$ [d]
1	$PGMA_{65}$	61	8900	9500	11500	1.31
2	$PGMA_{100}$	61	13300	14500	20900	1.25
3	$PGMA_{136}$	64	18500	19600	28900	1.15

[a]: Calculated from monomer conversion; [b]: Determined from relative integration of the aromatic chain end group and polymer backbone peaks; [c]: Determined from SEC analysis in THF and PS calibration (after acetylation); [d]: $Đ$ from SEC analysis in THF and PS calibration.

Table S2. DLS studies of post-modified copolymers.

Entries	Copolymers	Diameter (nm)[a]		
		Ethanolamine (EA)	(2-aminoethyl) trimethylammonium (A)	Taurine (T)
1	$PGMA_{65}$-*b*-$PHMM_{133}$	15	21	25
2	$P(GMA_{66}$-*co*-$HMM_{130})^{B}$	18	13	15
3	$P(GMA_{63}$-*co*-$HMM_{134})^{SB}$	20	17	17
4	$PGMA_{100}$-*b*-$PHMM_{107}$	15	25	n.d[b]
5	$P(GMA_{103}$-*co*-$HMM_{108})^{B}$	10	14	n.d[b]
6	$P(GMA_{95}$-*co*-$HMM_{107})^{SB}$	8	9	n.d[b]
7	$PGMA_{136}$-*b*-$PHMM_{65}$	9	16	n.d[b]
8	$P(GMA_{134}$-*co*-$HMM_{66})^{B}$	8	n.d[b]	n.d[b]
9	$P(GMA_{134}$-*co*-$HMM_{66})^{SB}$	16	n.d[b]	n.d[b]

[a]: determined from DLS analysis in pure water (1mg/mL); [b]:not determined due to aggregation.

Figure S1. Pseudo first-order kinetic plots of synthesis of $PGMA_{65}$-*b*-$PHMM_{133}$ (Condition of polymerization given in experimental section)

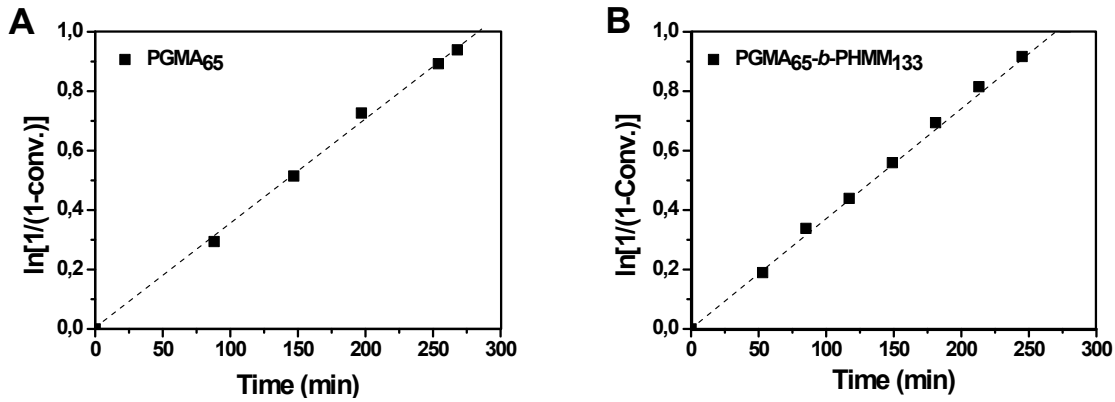
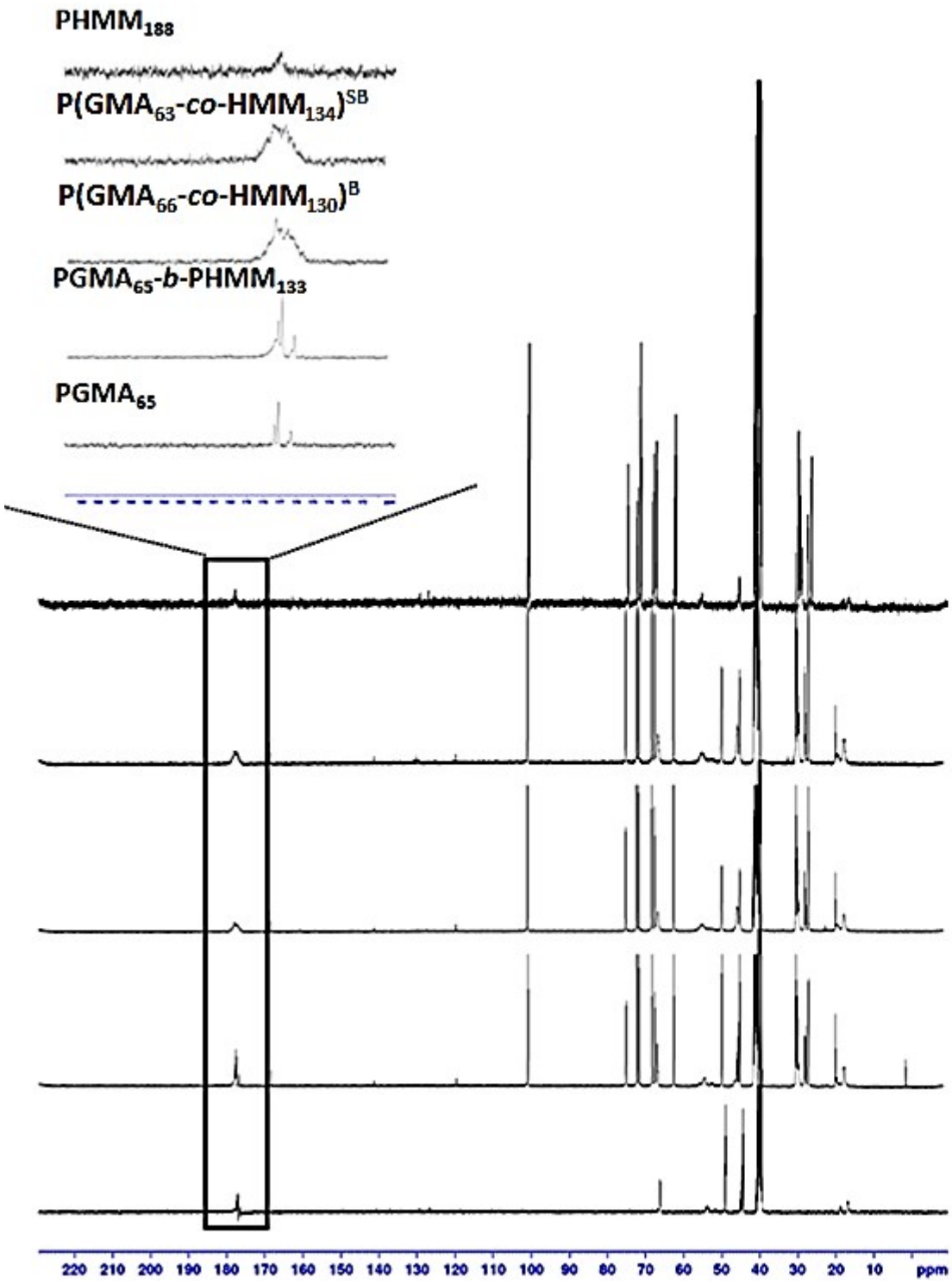
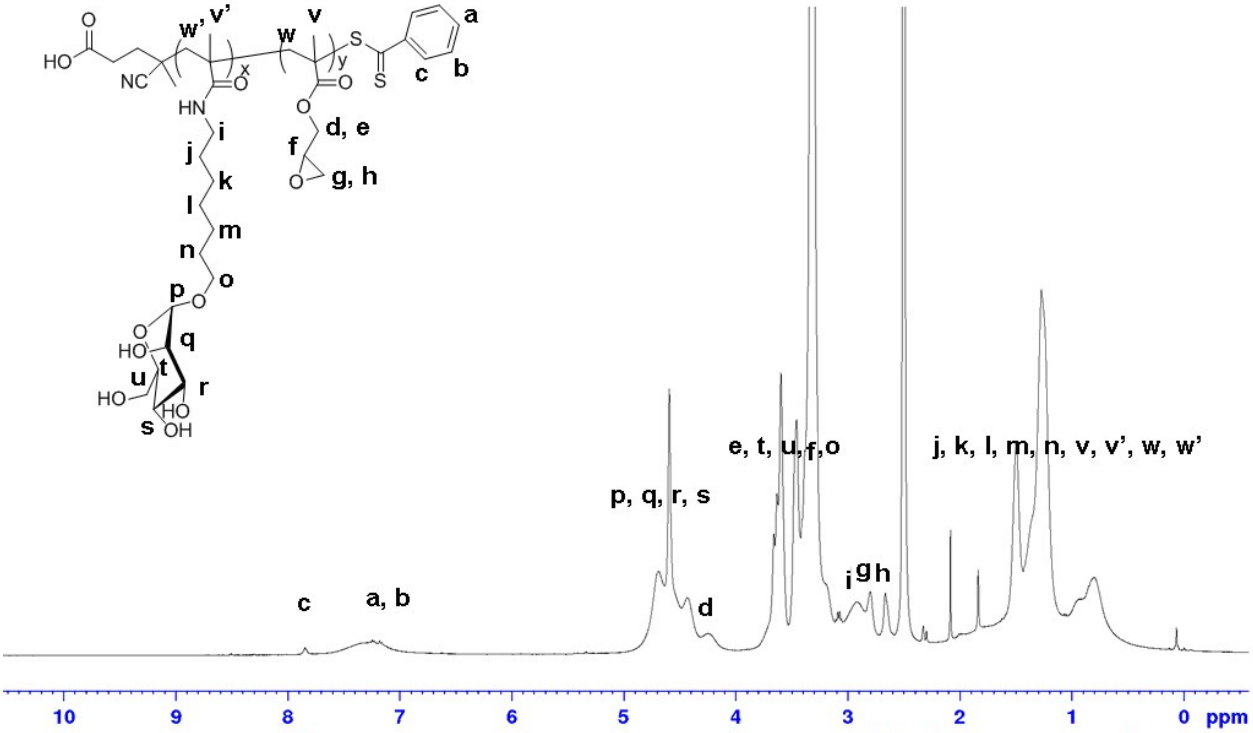


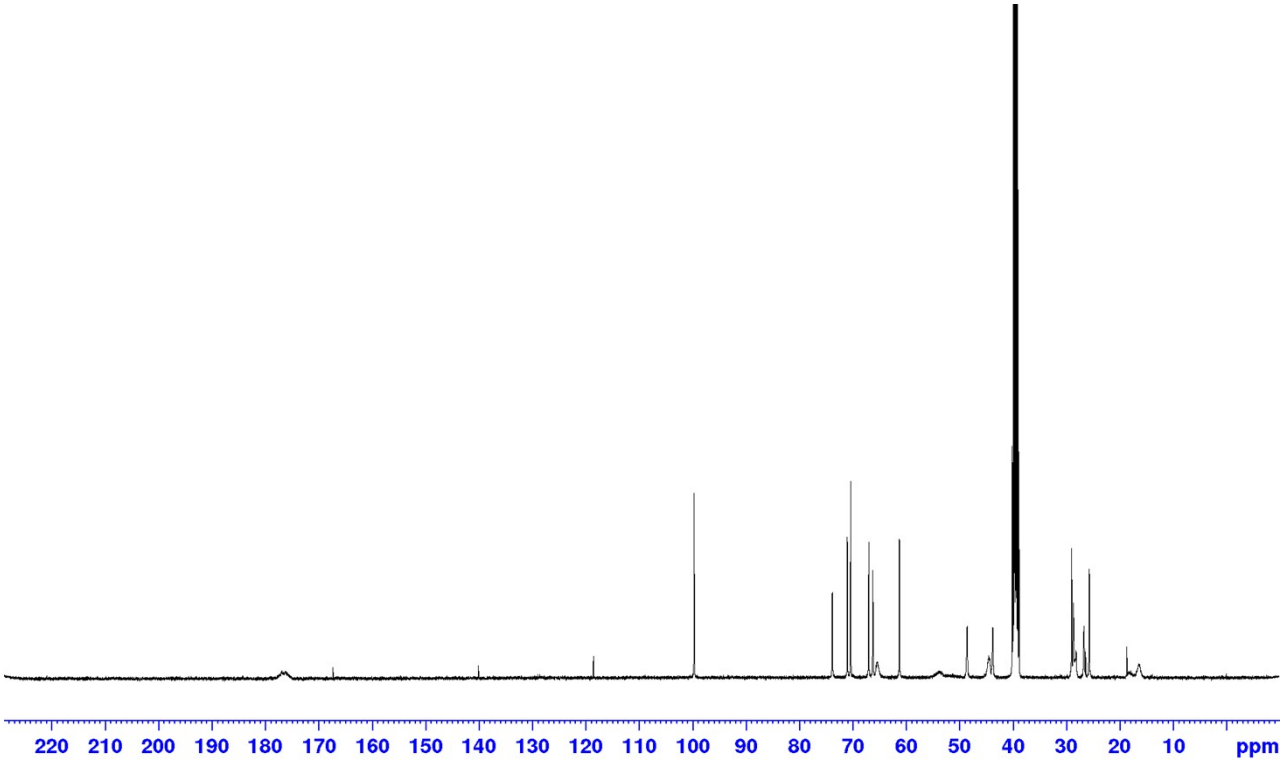
Figure S2. NMR spectra

^{13}C NMR spectra of $PGMA_{65}$, $PHMM_{188}$, $P(GMA_{66}$-*co*-$HMM_{130})^{B}$ synthesized by batch copolymerization, $P(GMA_{63}$-*co*-$HMM_{134})^{SB}$ synthesized by semi-batch copolymerization and $PGMA_{65}$-*b*-$PHMM_{133}$ in DMSO-*d6*.

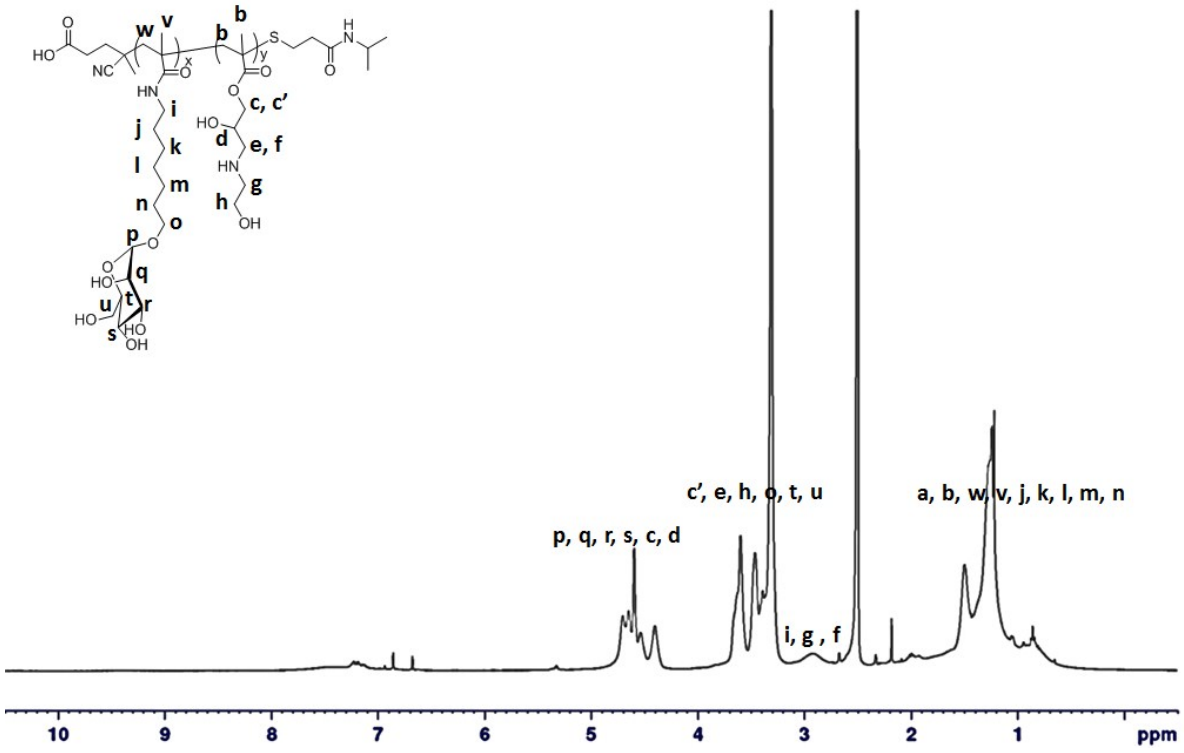


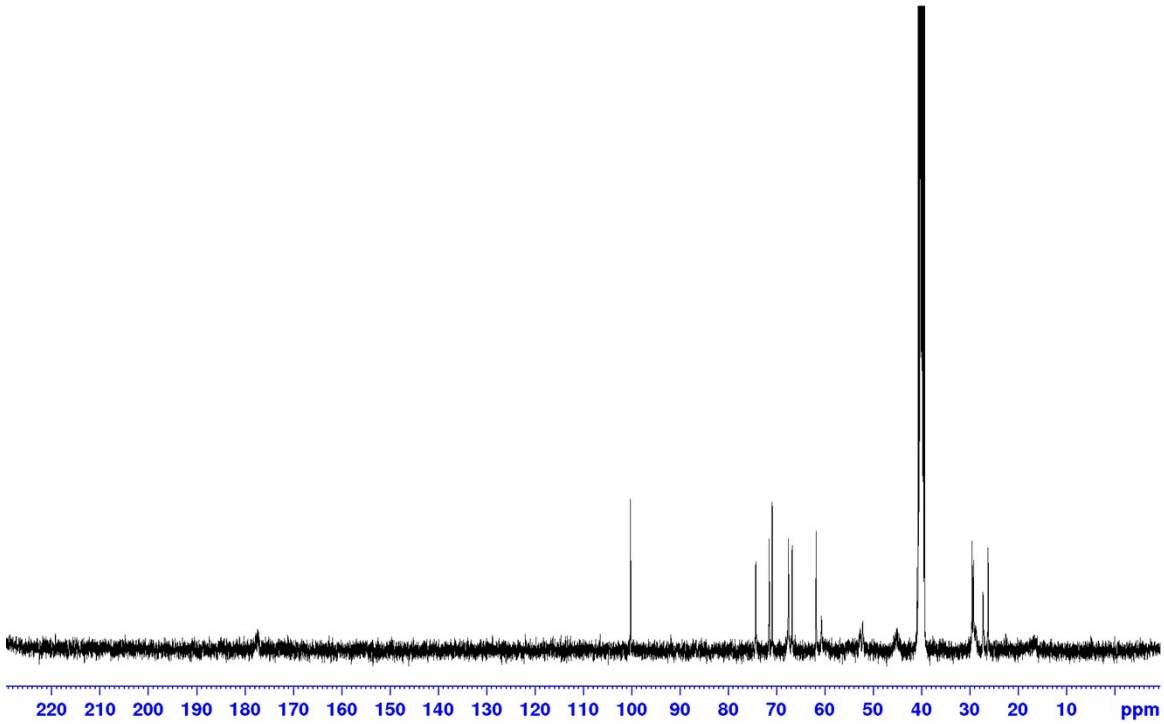
1H and ^{13}C NMR spectra of P(GMA63-*co*-PHMM134)^{SB} in DMSO-*d6*



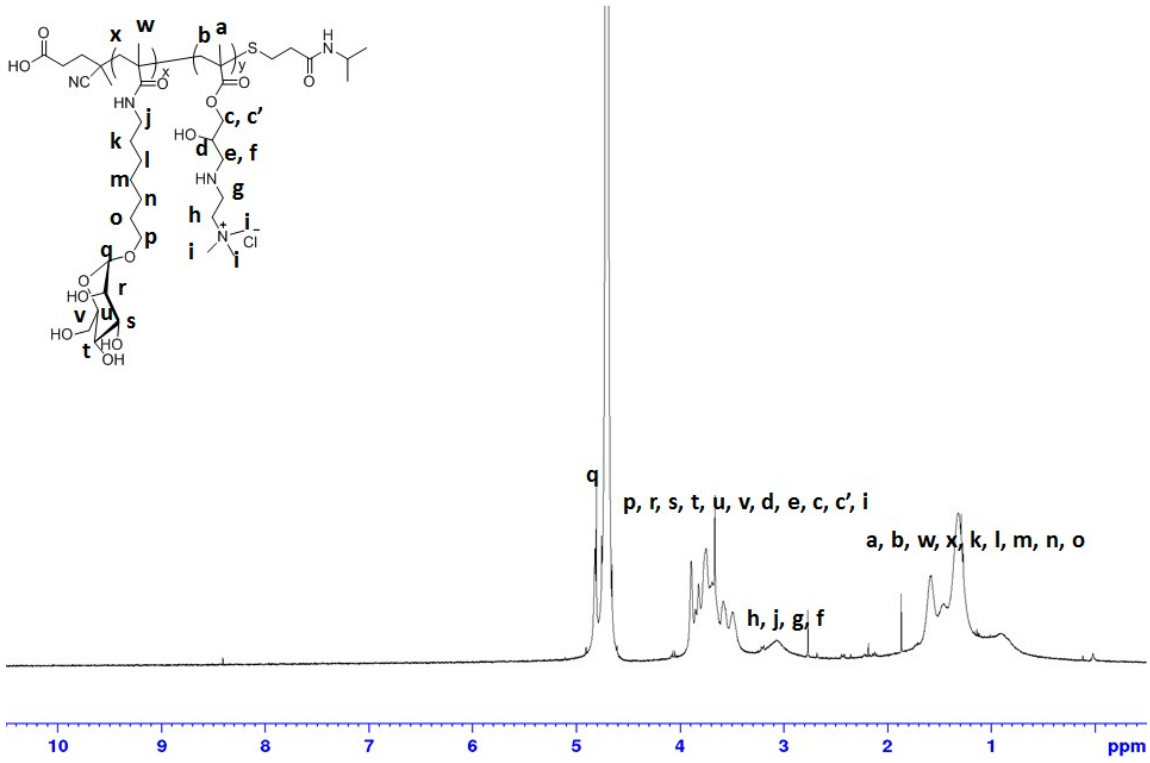


1H and ^{13}C NMR spectra of 3EA in DMSO-*d6*





^{1}H NMR spectra of 3A in D_2O



^{1}H NMR spectra of 3T in DMSO-*d6*

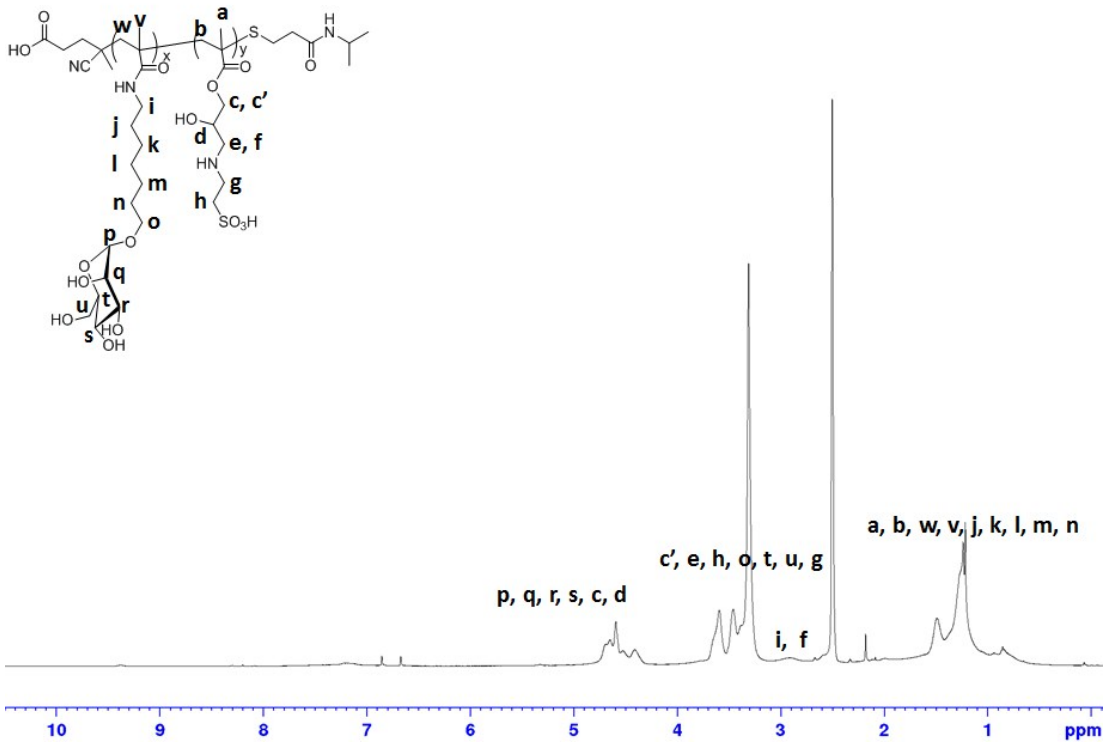


Figure S3: Viability of AIEC LF82 after incubation with glycopolymers for 3h at 37°C

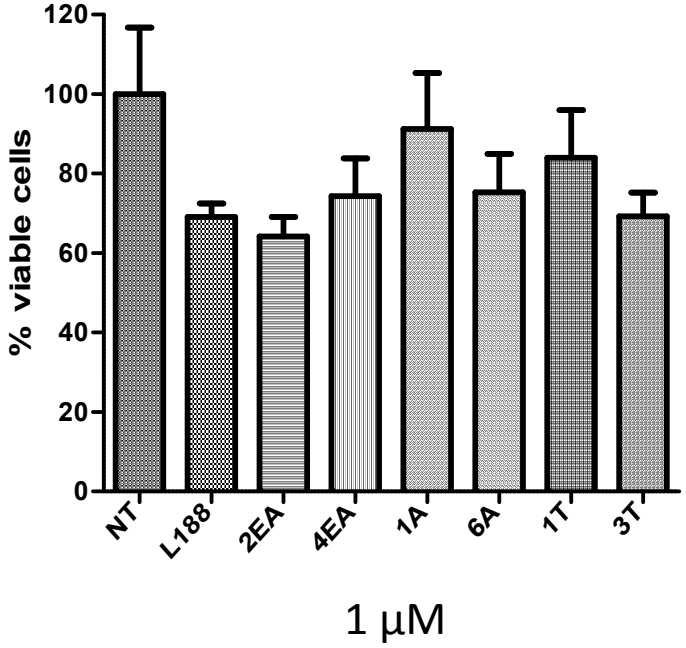


Table S3: Viability of T84 cells exposed to glycopolymers for 3h at 37°C

	%
NT	100
DMSO	86,479
L188	84,892
1EA	77,439
2EA	96,257
3EA	105,24
4EA	112,18
5EA	107,98
6EA	87,109
8EA	88,791
9EA	93,837
1A	101,19
2A	96,64
3A	88,485
6A	89,393
1T	92,642
2T	93,932
3T	89,919
H202 10mM	75,91
H202 50mM	26,565