

Figures

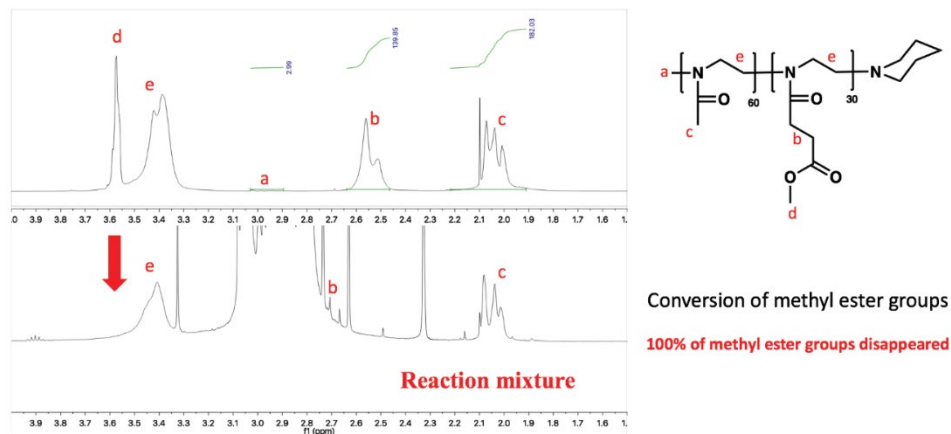


Figure S1. ^1H NMR spectra of PMeOx-PMestOx (upper) and reaction mixture (PMeOx-PMestOx and *N,N*-dimethylbiguanide free base in DMF) (lower) (CDCl_3 , 298K).

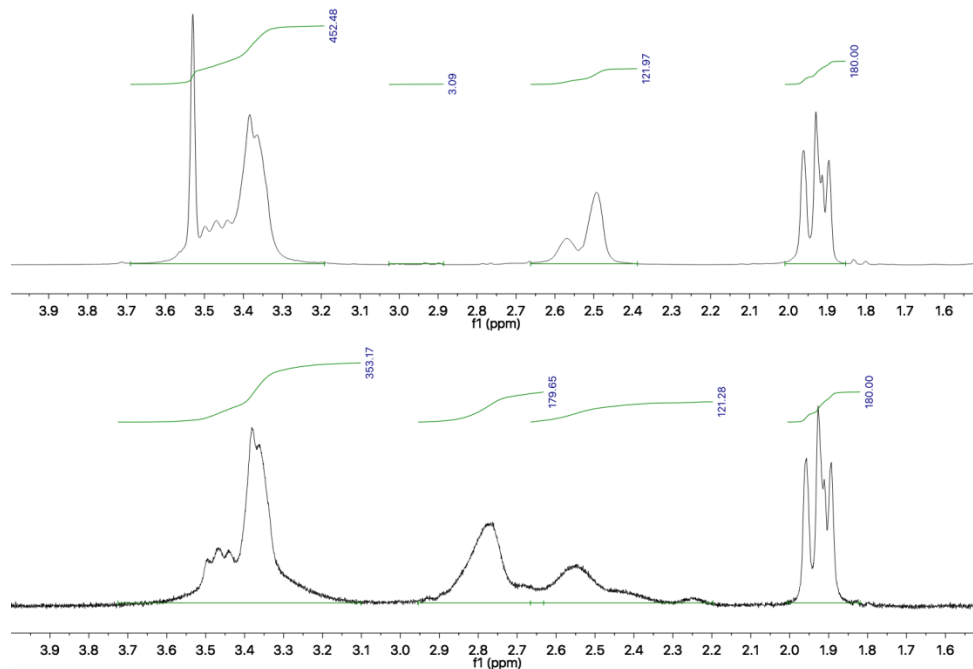


Figure S2. ^1H NMR spectra of PMeOx-PMestOx (upper) and PMeOx-PcBOx (lower) (D_2O , 298K). From ^1H NMR data the molecular mass (M_n) of the polymers was 9.9 kDa for PMeOx-PMestOx and 12.2 kDa for PMeOx-PcBOx.

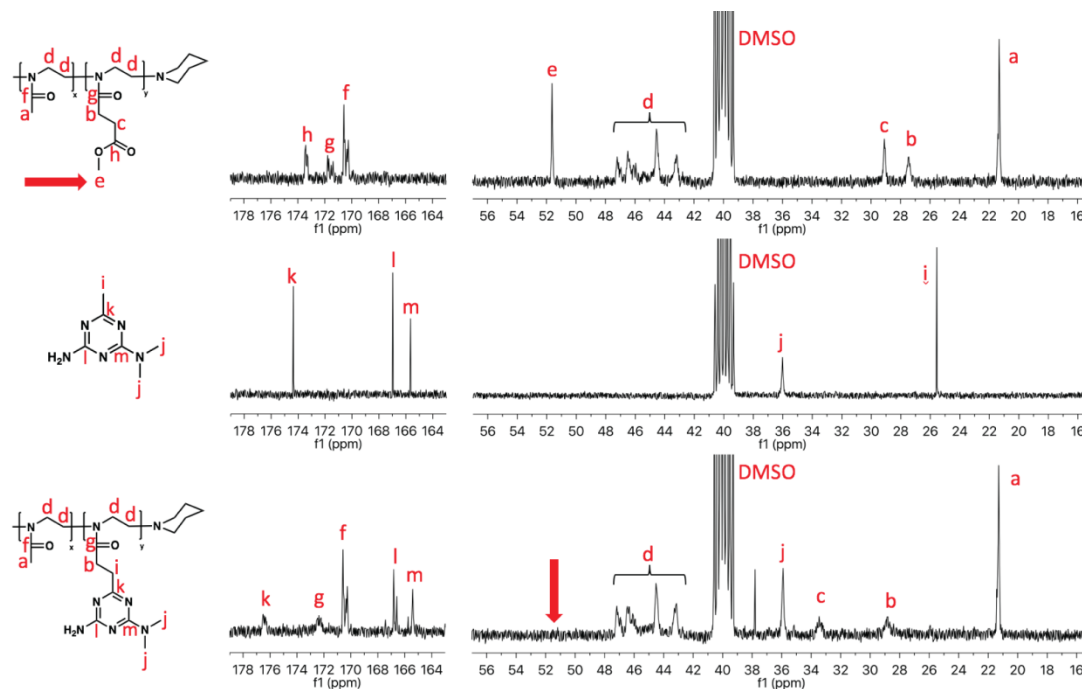


Figure S3. Overlay of the ^{13}C NMR spectra of PMeOx-PMestOx, cBG and PMeOx-PcBOx (^{13}C NMR $(\text{CD}_3)_2\text{SO}$, 298 K).

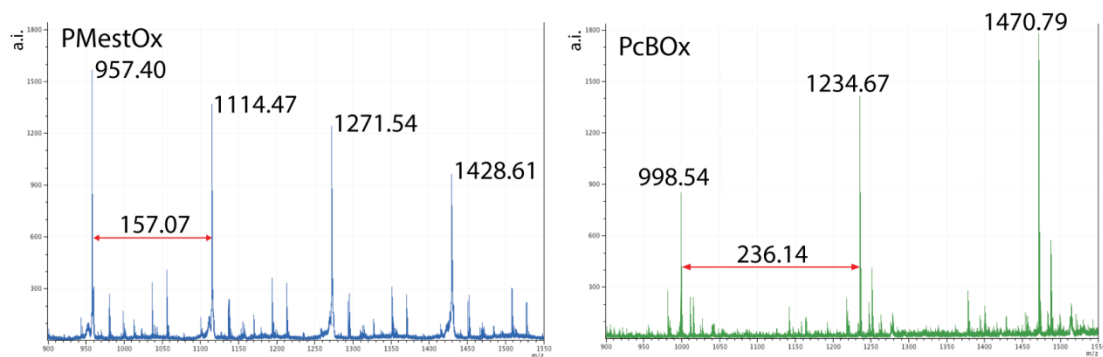
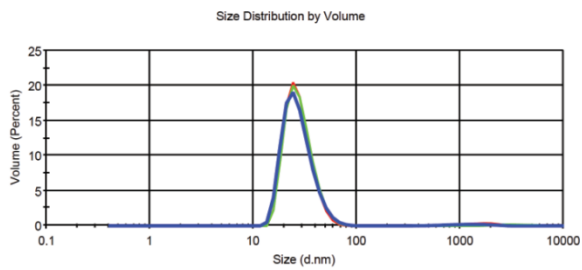


Figure S4. MALDI-TOF MS analysis of PMestOx and PcBOx homopolymers.

(A)

	Size (d.nm):	% Volume:	St Dev (d.nm):
Z-Average (d.nm): 36.88	Peak 1: 27.93	97.5	8.404
PdI: 0.277	Peak 2: 1578	2.5	603.8
Intercept: 0.932	Peak 3: 0.000	0.0	0.000

Result quality : Good



(B)

	Size (d.nm):	% Volume:	St Dev (d.nm):
Z-Average (d.nm): 88.99	Peak 1: 411.9	4.7	243.3
PdI: 0.486	Peak 2: 34.77	94.9	20.32
Intercept: 0.925	Peak 3: 4744	0.4	1031

Result quality : Good

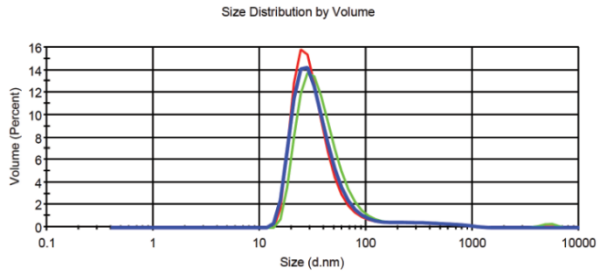


Figure S5. Volume based size distribution of (A) PMeOx-PcBOx (upper) and (B) DachPt-PMeOx-PcBOx (lower) measured by DLS with 1 mg/mL polymer solution in DI water.

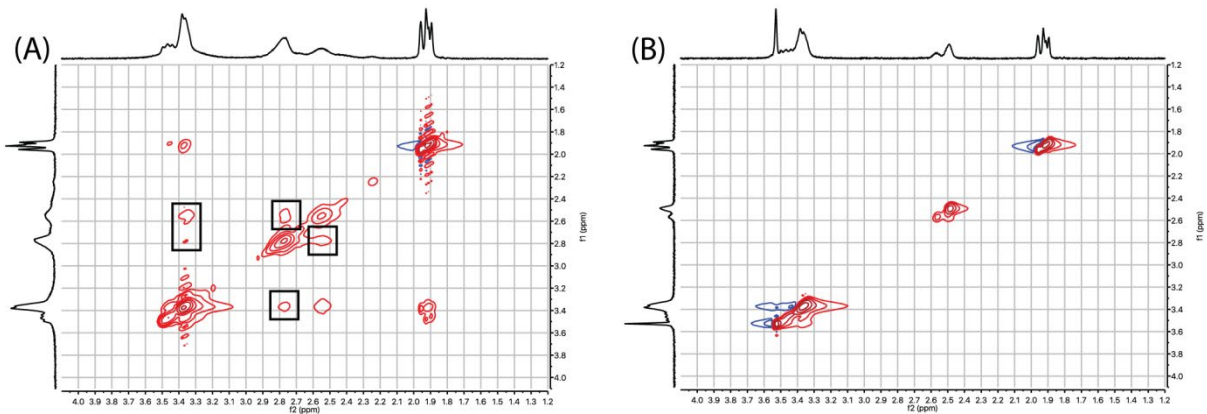


Figure S6. 2D NOESY NMR spectra of (a) PMeOx-PcBOx (1 mg/mL) and (b) PMeOx-PMestOx (1 mg/mL) in D₂O.

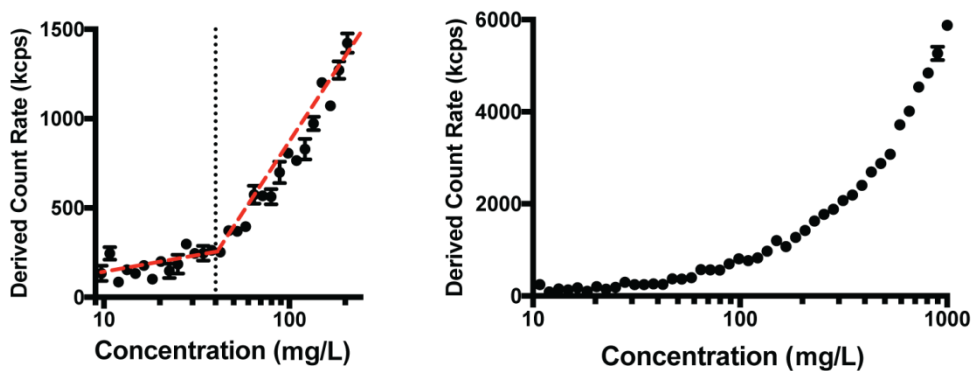


Figure S7. Measurement of the CMC of PMeOx-PcBOx in DI water by light scattering measurement.

Tables

Drug	P2											PMeOx-PcBOx									
	10:1		10:2		10:4		10:8		10:10		SD	10:1		10:2		10:3		10:4		SD	
	LE%	LC%	LE%	LC%	LE%	LC%	LE%	LC%	LE%	LC%	LC%	LE%	LC%	LE%	LC%	LE%	LC%	LE%	LC%	LC%	
Imiquimod	6.1	0.6	-	-	-	-	-	-	-	-	0.1	0.0	0.0	-	-	-	-	-	-	0.0	
LY2109761	100.0	9.1	81.7	14.0	-	-	-	-	-	-	0.4	91.5	8.4	92.0	15.5	95.9	22.4	82.1	24.7	0.2	
Bruceantin	100.0	9.1	100.0	16.7	100.0	28.6	100.0	44.4	99.8	49.9	0.3	-	-	65.2	11.5	-	-	-	-	0.7	
SN-38	0.0	0.0	-	-	-	-	-	-	-	-	0.0	0.1	0.0	-	-	-	-	-	-	0.0	
LY364947	12.2	1.2	6.1	1.2	-	-	-	-	-	-	0.4	3.2	0.3	-	-	-	-	-	-	-	
GDC-0941	9.8	1.0	-	-	-	-	-	-	-	-	0.5	44.5	4.3	-	-	-	-	-	-	-	
Aclacinomycin A	40.3	3.9	16.5	3.2	12.0	4.6	-	-	-	-	1.6	36.6	6.8	-	-	-	-	-	-	0.8	
Paclitaxel	100.0	9.1	100.0	16.7	100.0	28.6	86.1	40.8	-	-	1.6	66.9	6.3	-	-	-	-	-	-	1.9	
Wortmannin	16.2	1.6	-	-	-	-	-	-	-	-	0.2	46.6	3.8	-	-	-	-	-	-	1.1	
GW788388	13.1	1.3	-	-	-	-	-	-	-	-	0.1	2.3	0.2	-	-	-	-	-	-	-	

Table S1. Loading efficiency (LE%) and capacity (LC%) in P2 or PMeOx-PcBOx for each drug in each feeding ratio. Maximum LE% and LC% were highlighted and SD were calculated only for them.

Drug	Solubility in PMeOx-PcBOx (mg/mL)	Solubility in P2 (mg/mL)	Aqueous Solubility (mg/mL)
Paclitaxel	0.66	6.86	0.0085
Bruceantin	1.86	10.00	0.00804
Imiquimod	0.00	0.06	0.00625
LY2109761	2.87	1.63	<0.1
SN-38	0.00	0.00	<0.1
LY364947	0.03	0.12	<0.1
GDC-0941	0.45	0.10	0.00513
Aclacinomycin A	0.73	0.48	0.21
GW788388	0.02	0.13	<0.1
Wortmannin	0.40	0.10	0.00428

Table S2. Maximal absolute loading achieved in the polymer system and the innate water solubility of the drug (mg/mL).