Supplementary Materials: Chemo-Enzymatic Synthesis of Perfluoroalkyl-Functionalized Dendronized Polymers as Cyto-Compatible Nanocarriers for Drug Delivery Applications

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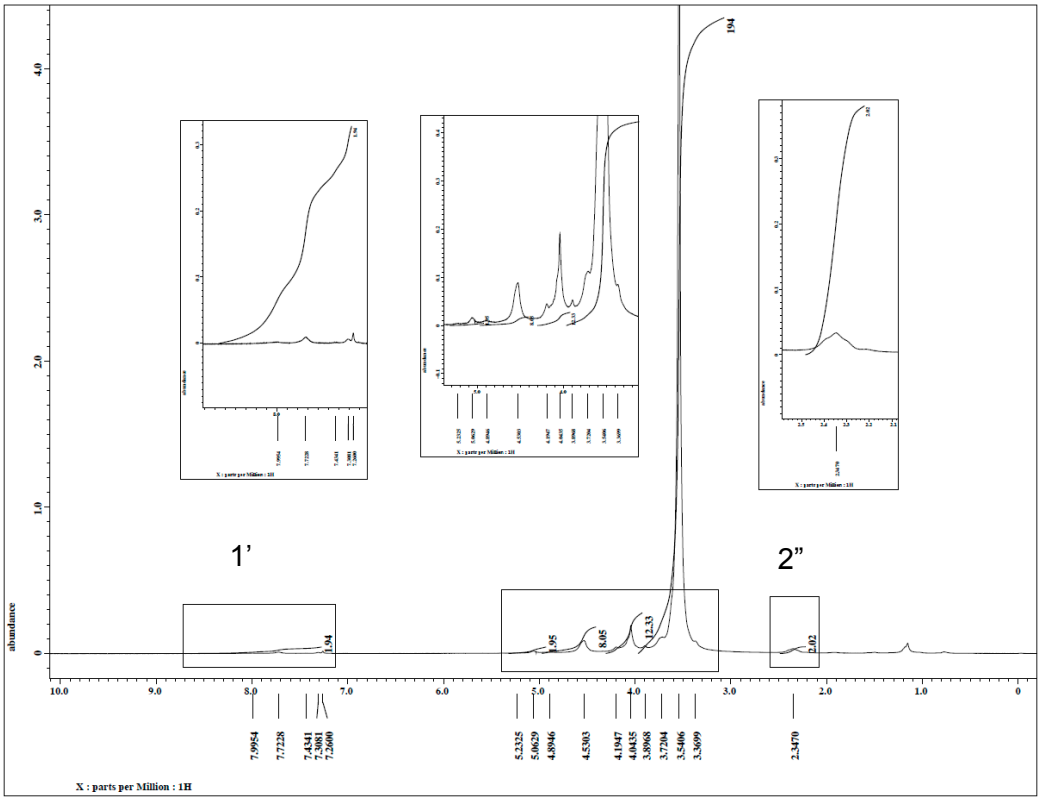
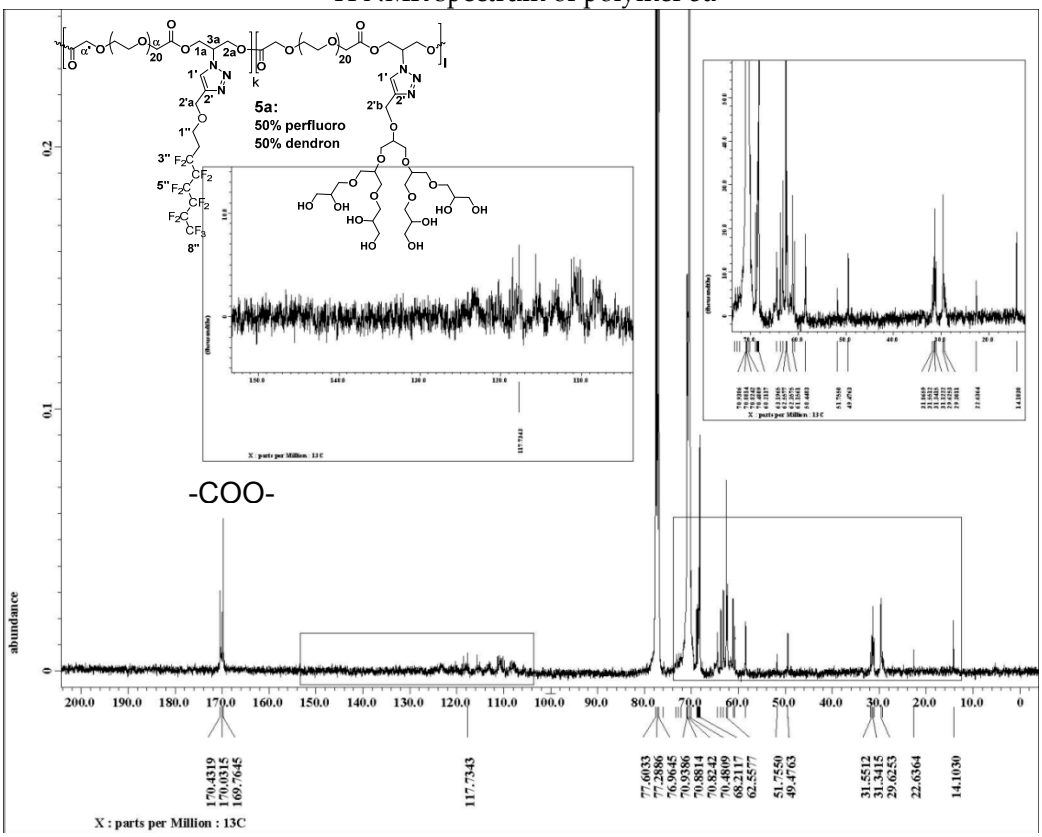
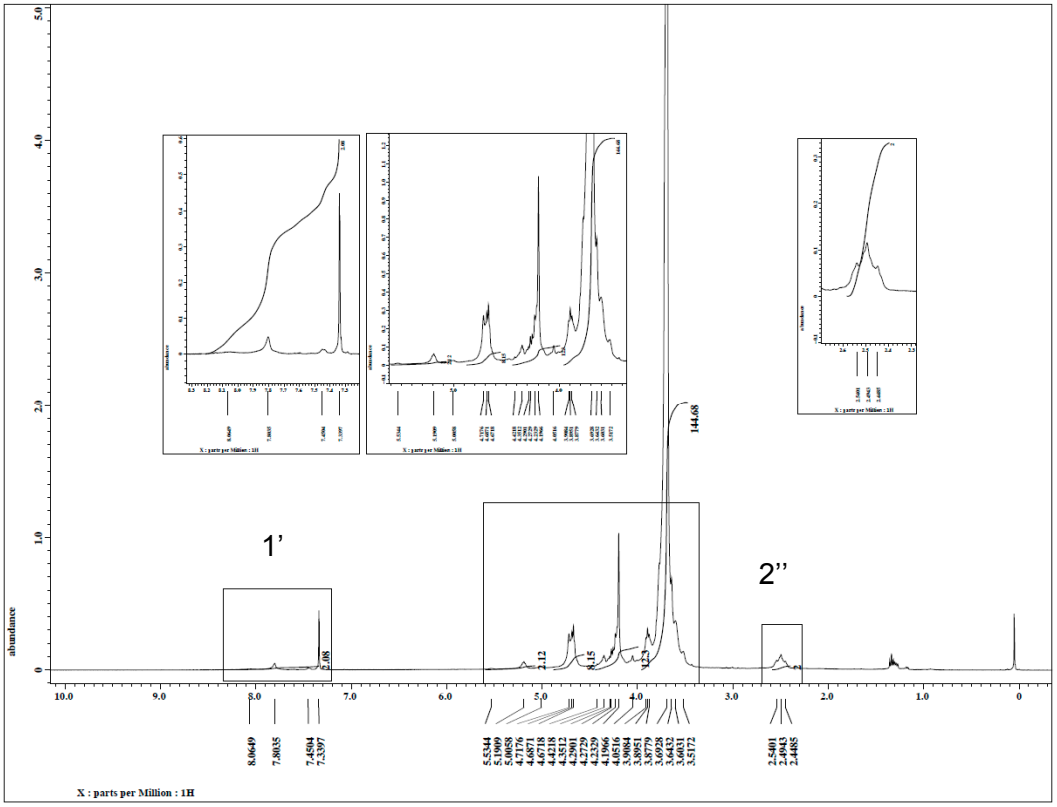


^{1}H NMR spectrum of polymer 5a

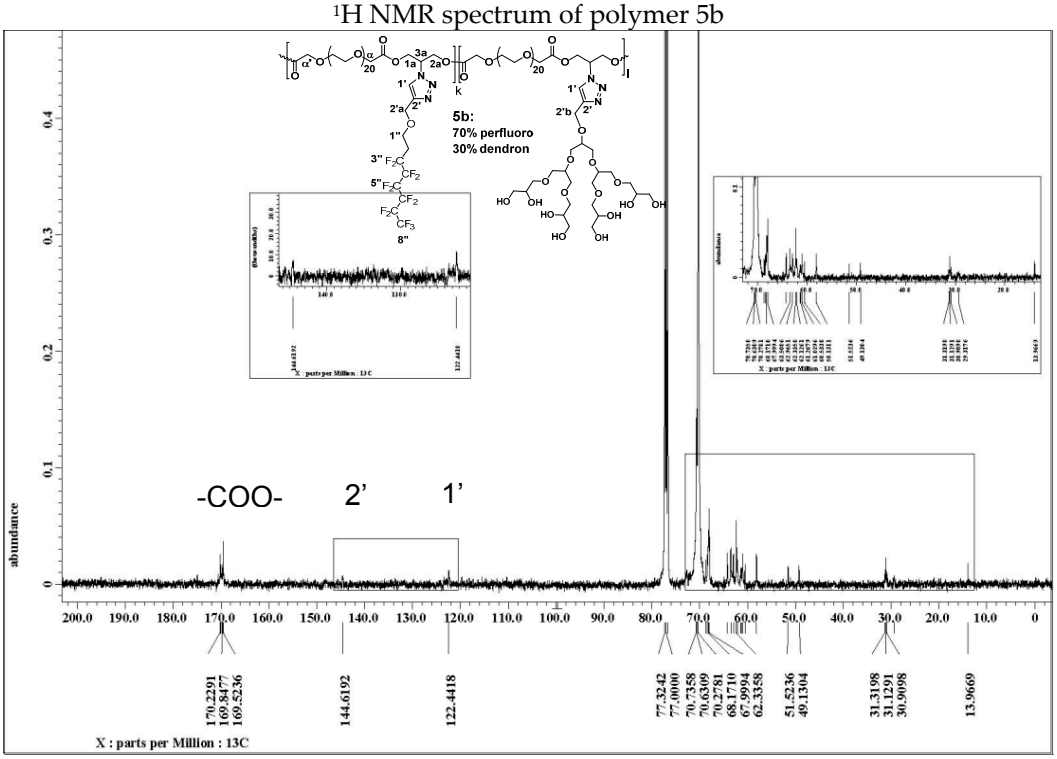


^{13}C NMR spectrum of polymer 5a

Figure S1. ^{1}H and ^{13}C NMR spectra of polymer **5a**.

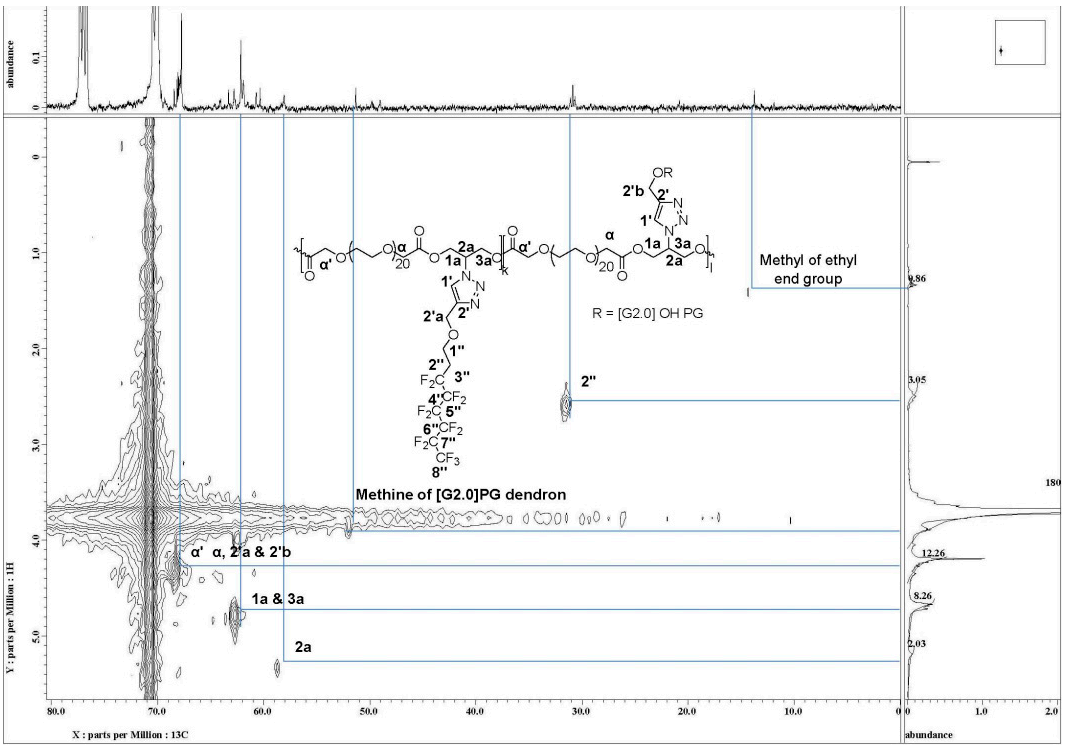


^{1}H NMR spectrum of polymer 5b

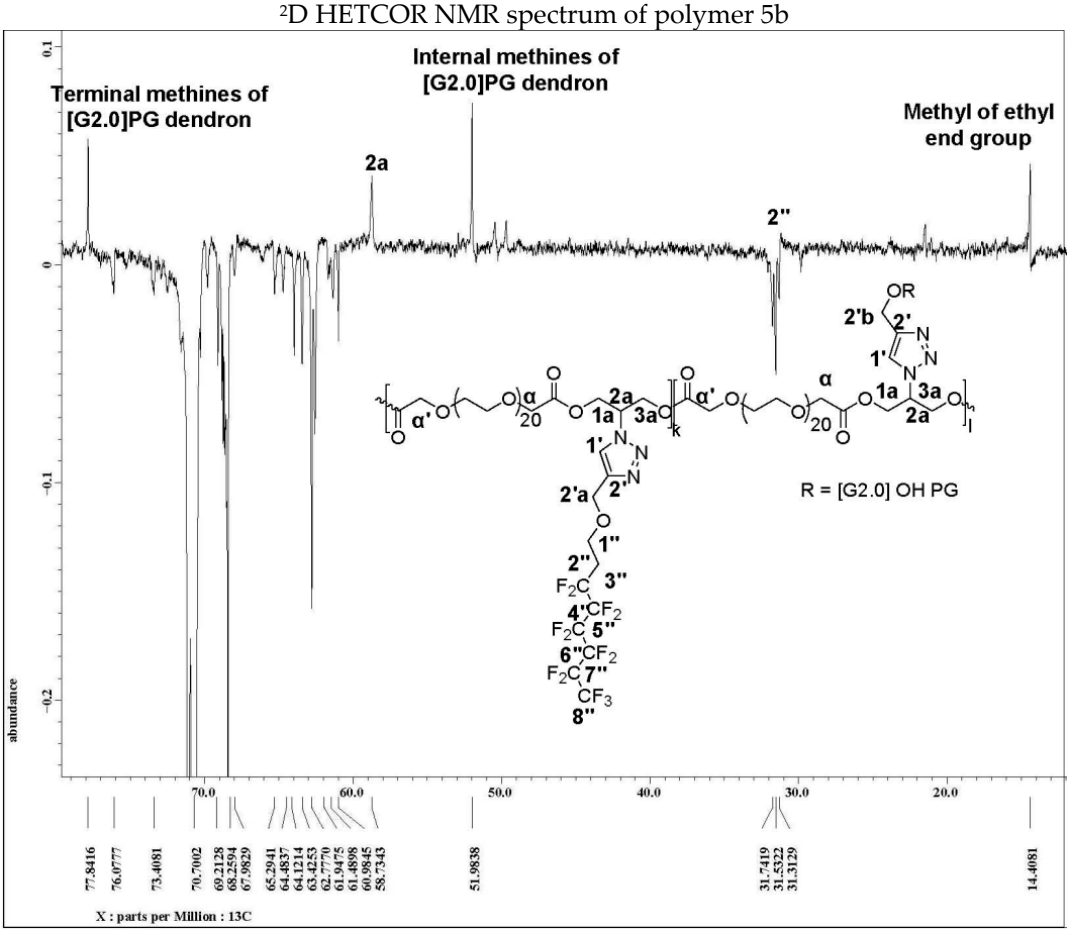


^{13}C NMR spectrum of polymer 5b

Figure S2. ^{1}H and ^{13}C NMR spectra of polymer **5b**.

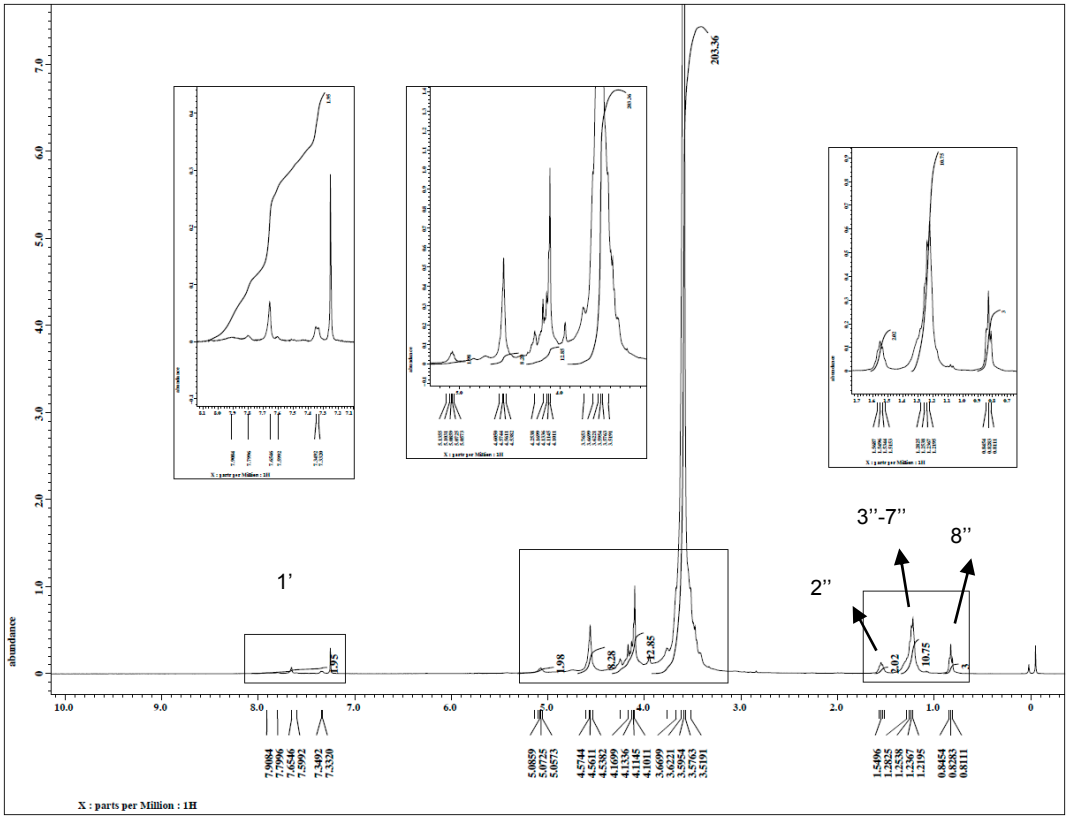


^{2}D HETCOR NMR spectrum of polymer 5b

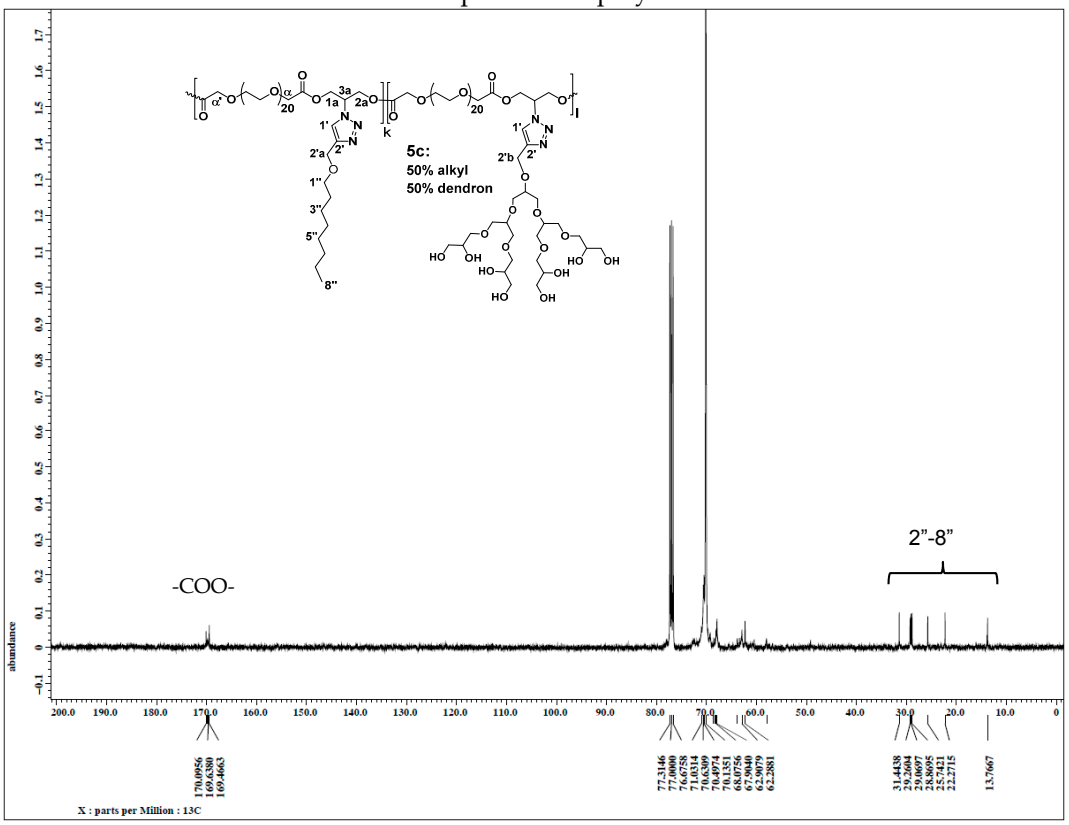


DEPT-135 NMR spectrum of polymer 5b

Figure S3. ^{2}D HETCOR and DEPT-135 NMR spectra of polymer **5b**.

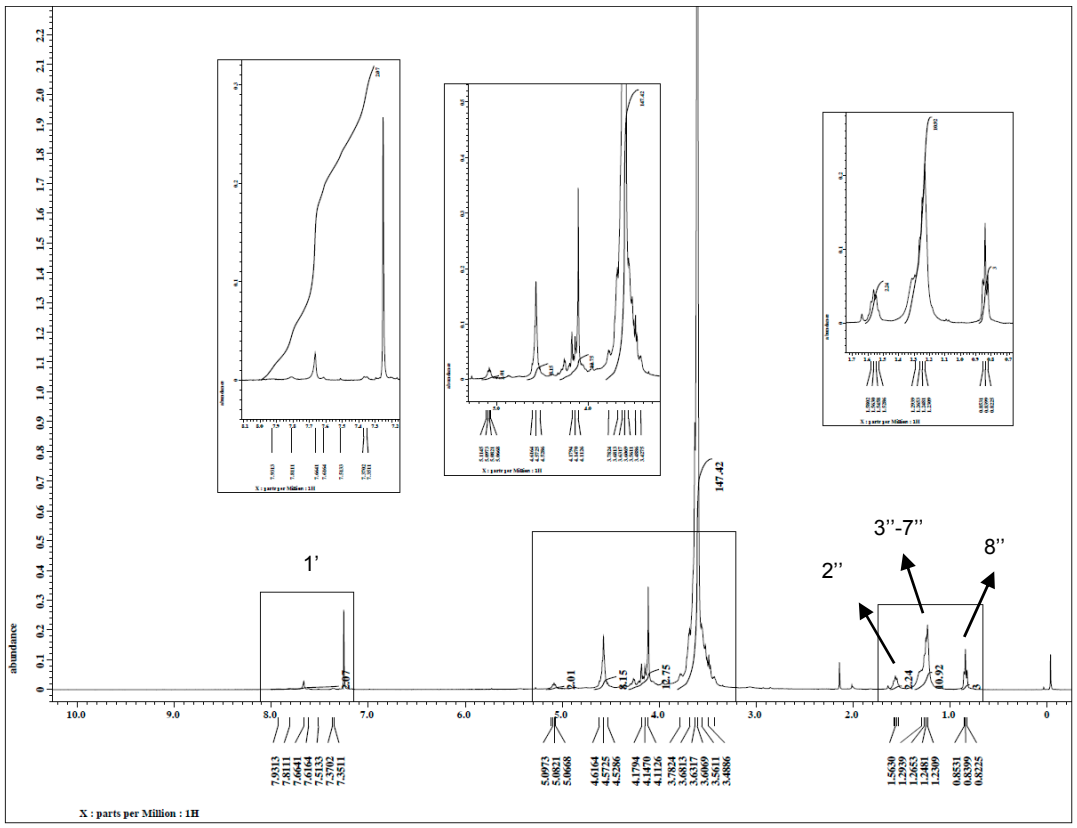


^{1}H NMR spectrum of polymer 5c

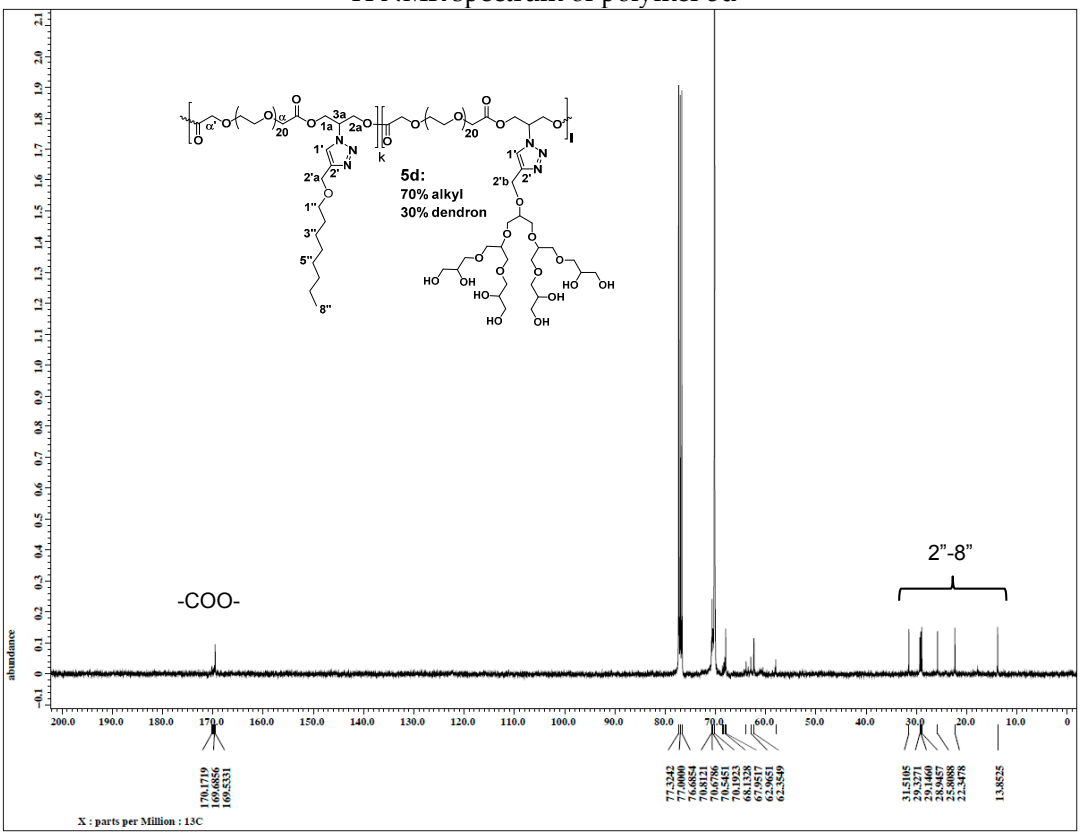


^{13}C NMR spectrum of polymer 5c

Figure S4. ^{1}H and ^{13}C NMR spectra of polymer **5c**.



^{1}H NMR spectrum of polymer 5d



^{13}C NMR spectrum of polymer 5d

Figure S5. ^{1}H and ^{13}C NMR spectra of polymer **5d**.

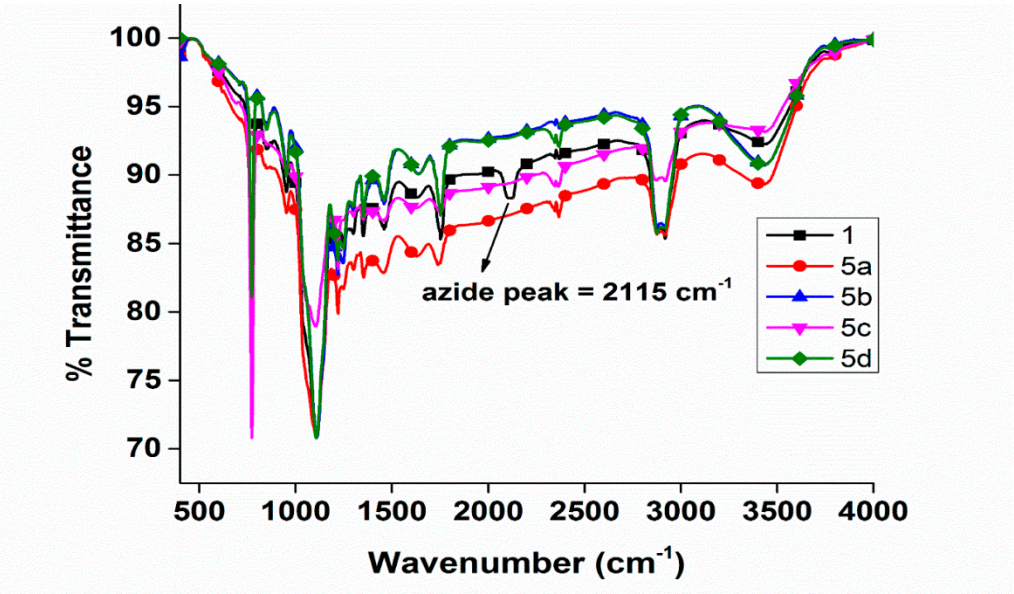
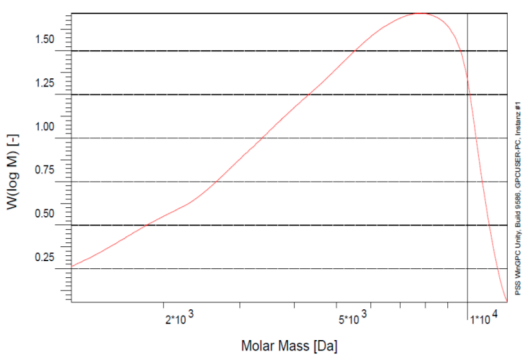


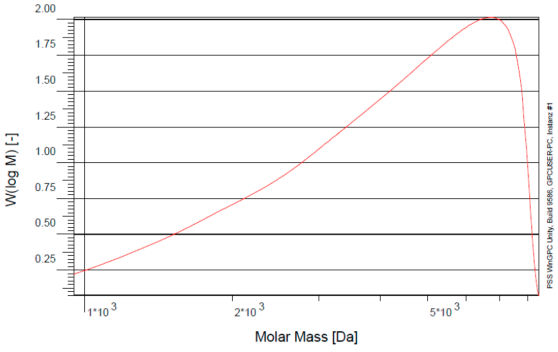
Figure S6. IR spectra of polymers (**1** and **5a–5d**).

Gel permeation chromatogram; Detector: RI, Eluent: THF, Flow rate: 1 mL/min, Standard: Pullulan



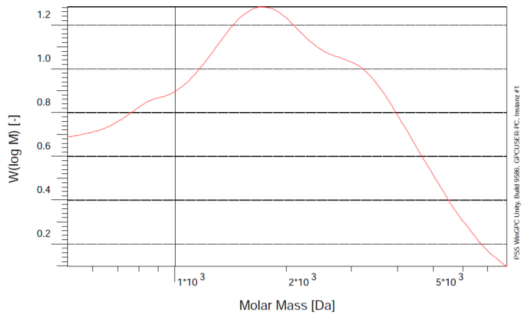
(A) Polymer 5a

$\overline{M}_w$ = 5552 g/mol, $\overline{M}_n$ = 4127 g/mol, $\overline{M}_z$ = 6811 g/mol, D = 1.3



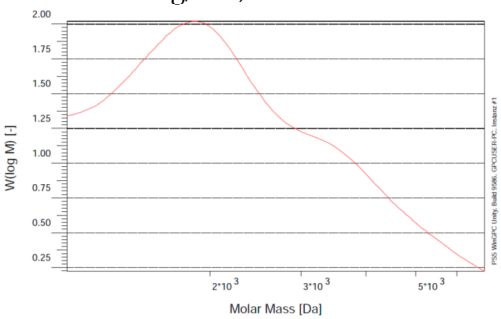
(B) Polymer 5b

$\overline{M}_w$ = 4336 g/mol, $\overline{M}_n$ = 3284 g/mol, $\overline{M}_z$ = 5210 g/mol, D = 1.3



(C) Polymer 5c

$\overline{M}_w$ = 2162 g/mol, $\overline{M}_n$ = 1431 g/mol, $\overline{M}_z$ = 3109 g/mol, D = 1.5



(D) Polymer 5d

$\overline{M}_w$ = 2454 g/mol, $\overline{M}_n$ = 2011 g/mol, $\overline{M}_z$ = 3046 g/mol, D = 1.2

Figure S7. GPC chromatogram of polymers **5a–5d**.

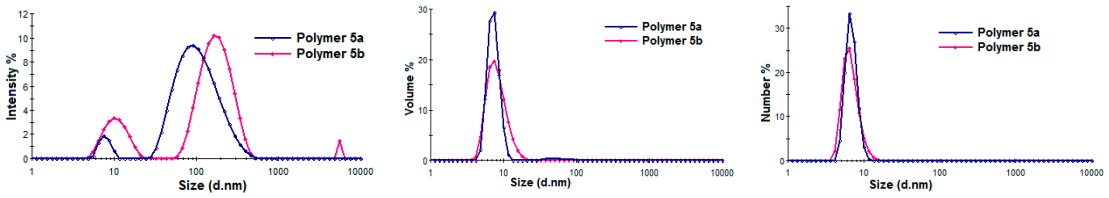


Figure S8. DLS size distribution graphs of polymers**5a** and **5b**.

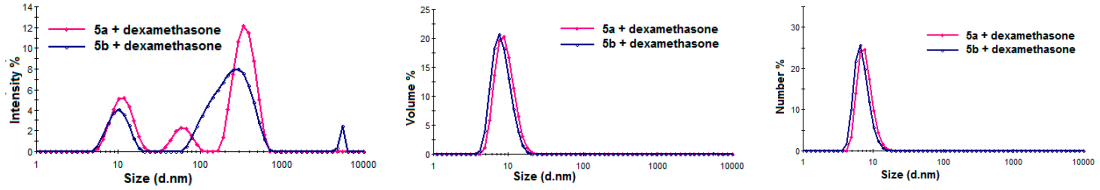


Figure S9. DLS size distribution graphs of dexamethasone encapsulated polymers **5a** and **5b**.

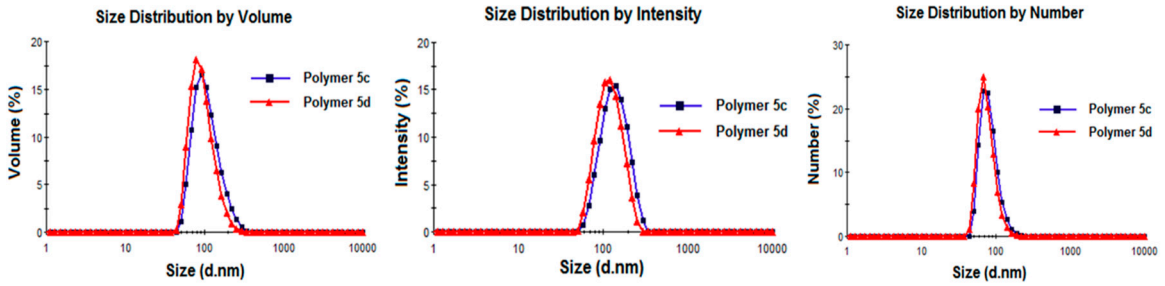


Figure S10. DLS size distribution graphs of polymers**5c** and **5d**.

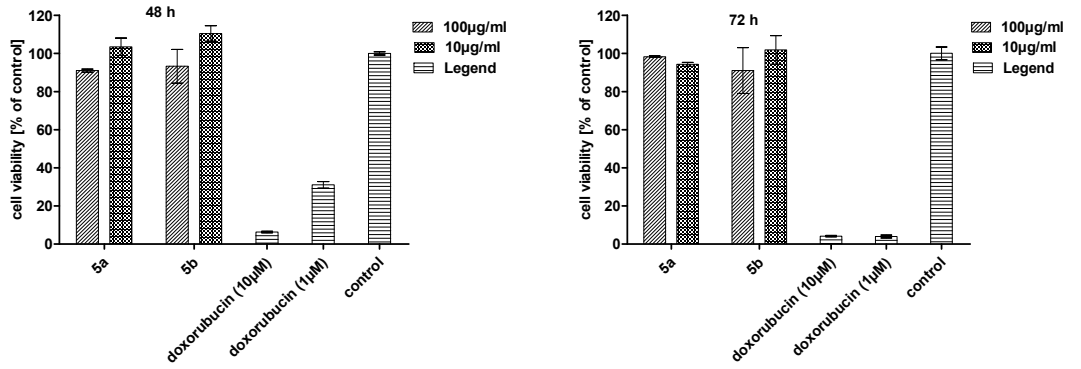
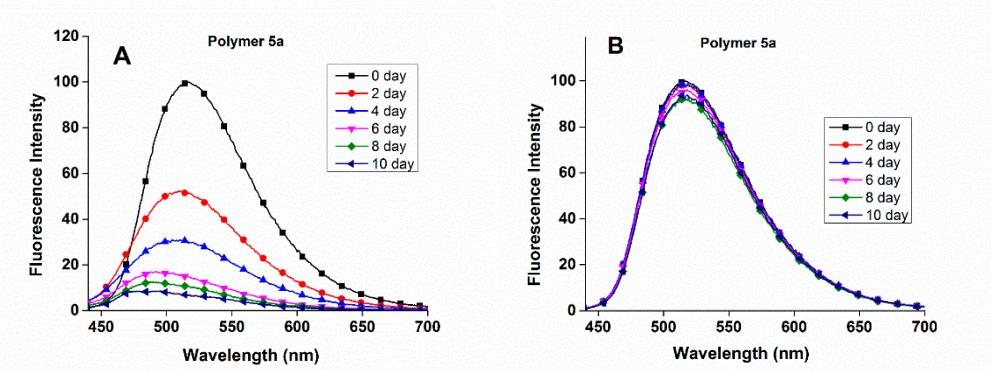
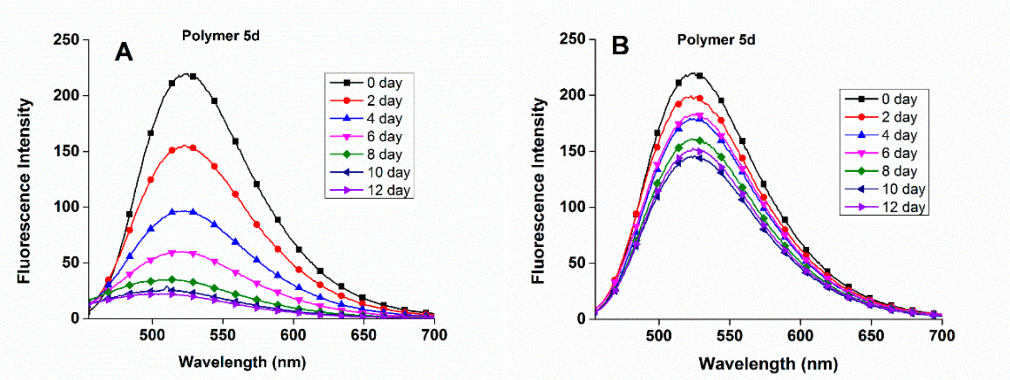


Figure S11. Cytotoxicity study of the polymers **5a** and **5b** at concentration of 10 and 100 µg/mL for 48 and 72 h using HeLa cells.



Curcumin release from polymer **5a**, (A) In presence of enzyme; (B) In absence of enzyme



Curcumin release from polymer **5d**, (**A**) In presence of enzyme; (**B**) In absence of enzyme

Figure S12. Fluorescence measurement of curcumin's release from polymers **5a** and **5d**, with and without presence of enzyme.

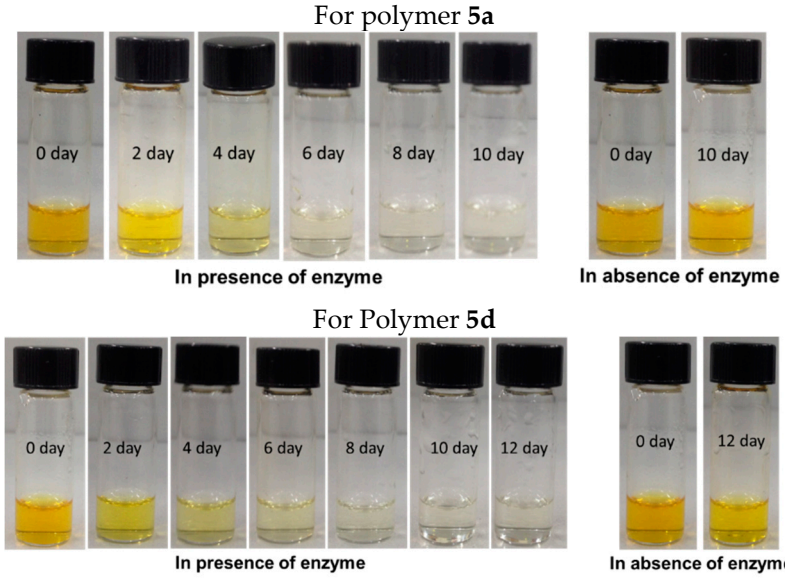


Figure S13. Time dependent release of curcumin from polymers **5a** and **5d**, with/without incubation of enzyme.

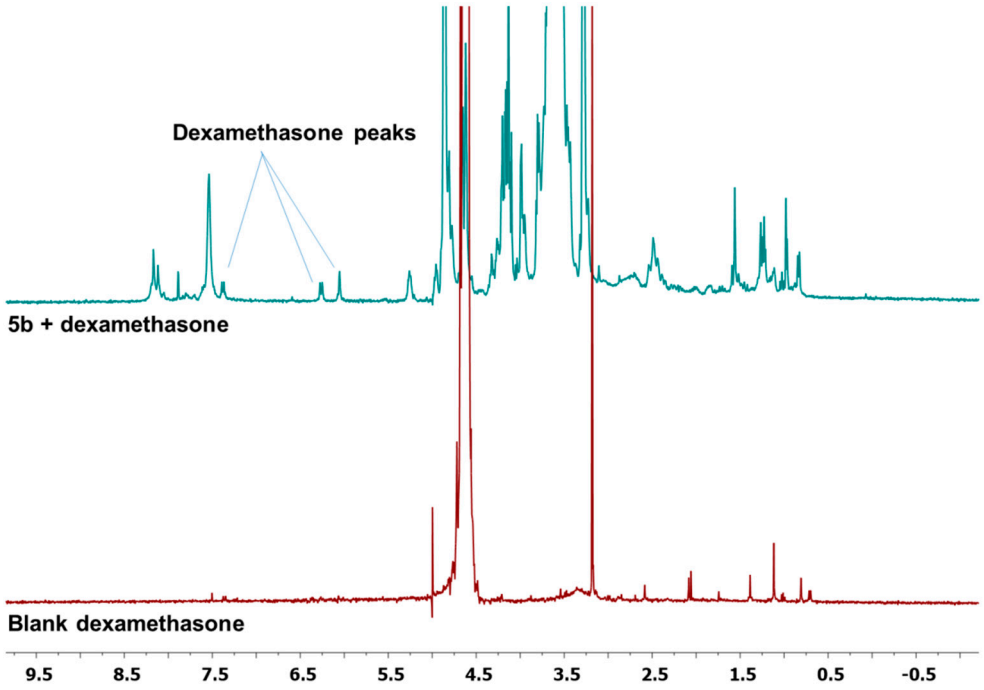


Figure S14. ^{1}H NMR spectra of dexamethasone (Blank), and **5b** + dexamethasone in D_2O.

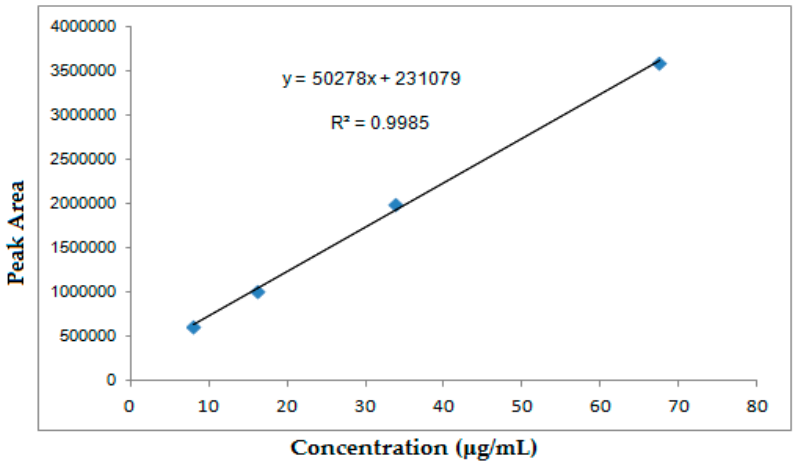


Figure S15. Calibration graph of dexamethasone; Peak Area: Y-axis and Concentration of dexamethasone: X-axis (in µg/mL).

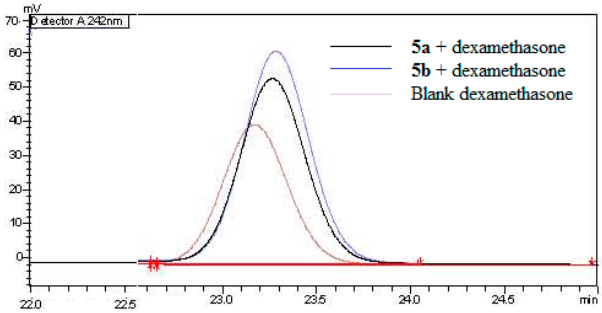


Figure S16. HPLC chromatogram of dexamethasone encapsulated in fluorinated polymeric samples using acetonitrile:water:phosphoric acid (30:70:0.5, *v*/*v*/*v*) as an eluent.

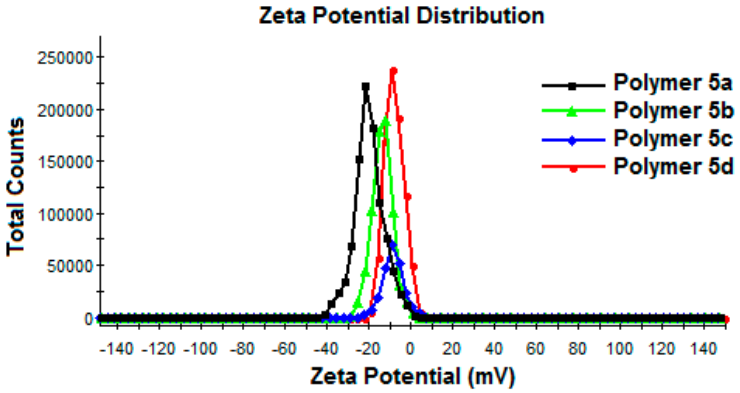


Figure S17. Mean Zeta Potential of Polymers **5a–5d**.

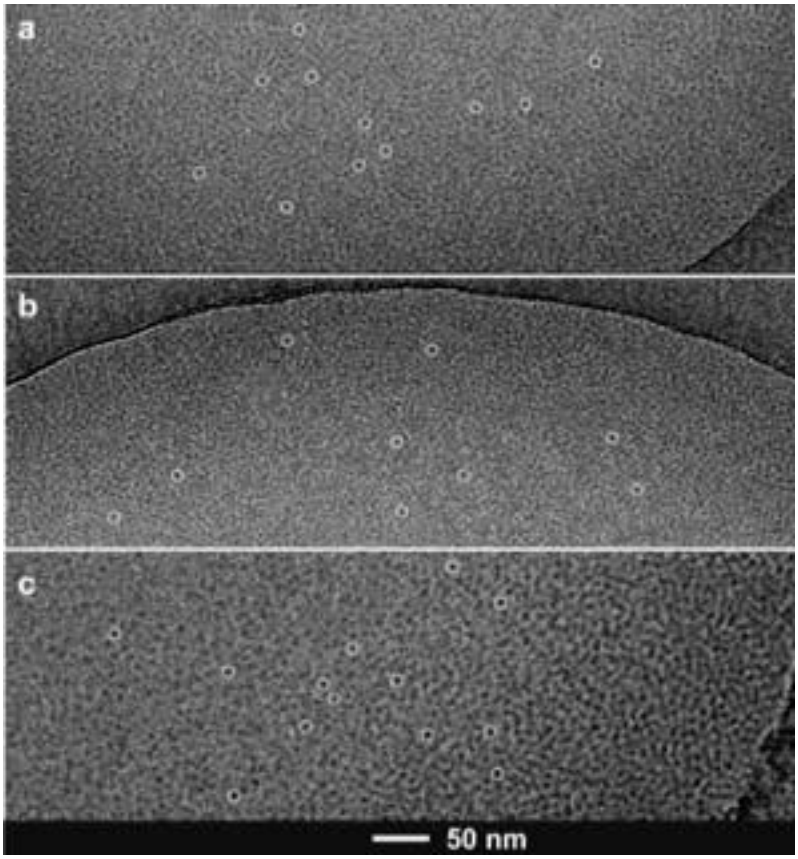


Figure S18. Cryo-TEM images of polymers, (a) **5a**; (b) **5b** (c) curcumin encapsulated polymer **5a**.

Table S1. Transport behaviour, Encapsulation efficiency and Zeta Potential of Polymers **5a–5d**.

Polymer	Transport behavior (Curcumin/Polymer)		Curcumin Encapsulation efficiency (%)	Dexamethasone Encapsulation efficiency (%)	Zeta Potential (mV)
	mg/g	mmol/mol			
5a	5.34	213.17	1.6	2.12	−19.7
5b	4.52	176.75	1.4	2.48	−14.0
5c	2.67	98.95	0.8	-	−8.9
5d	3.86	135.41	1.2	-	−7.9