Electronic Supplementary Material (ESI) for Nanoscale.

Supporting Information

Enhanced Topical Delivery of Dexamethasone by β-Cyclodextrin Decorated Thermoresponsive Nanogels

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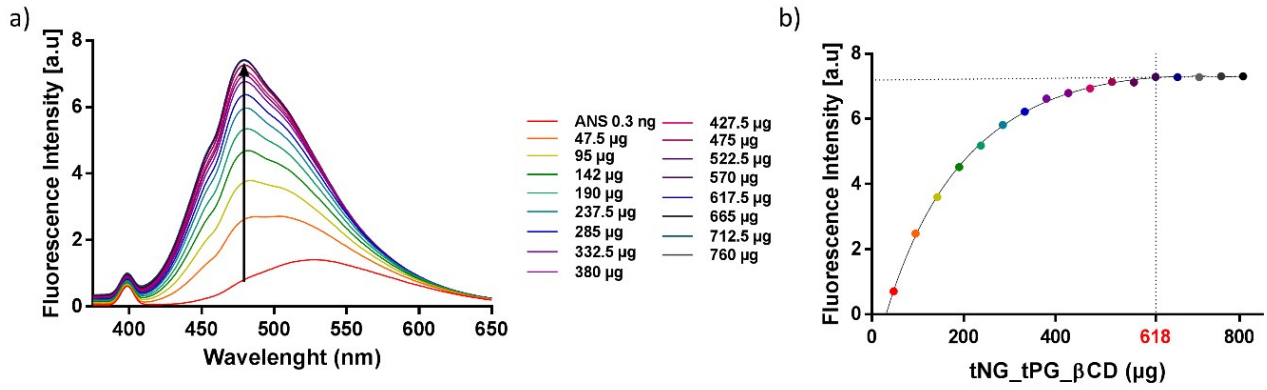


Figure S1. Fluorescence spectra of ANS alone (red) and upon the titration with tNG_tPG_βCD. Saturation of the dye read by fluorescence at 475 nm resulted in ~0.2 wt.% of βCD of a tNG weight unit.

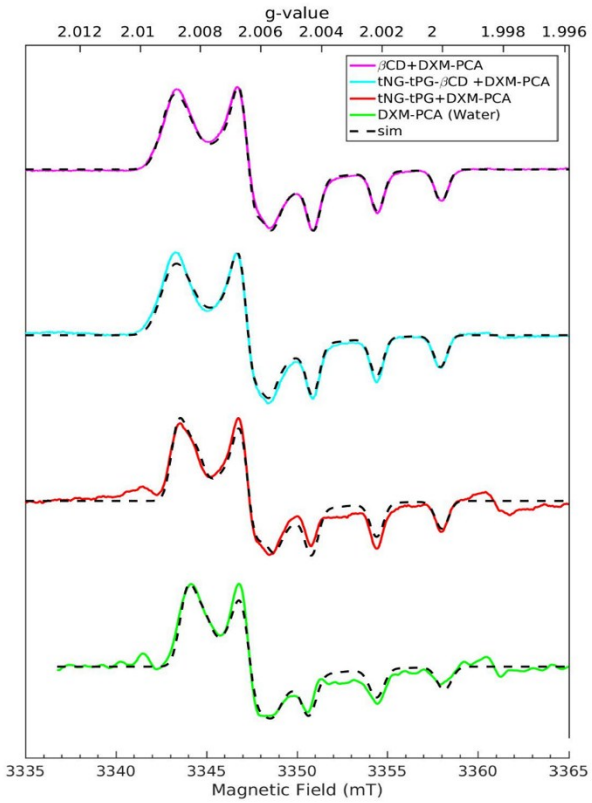
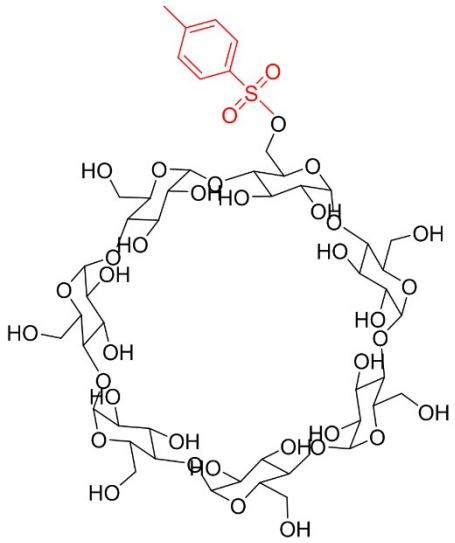
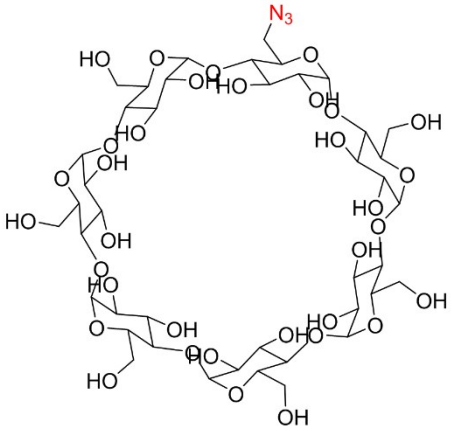


Figure S2. W-band EPR spectra of DXM-PCA loaded to different tNGs and dissolved in solvents at -193 °C. Experimental values and simulations are shown in solid and dashed lines respectively. All spectra were normalized to a frequency of 94 GHz (DXM-PCA (water) is recorded by pulsed EPR (field swept echo) and pseudo modulation by 5 G).

Table S1. Magnetic parameters (*g*- and *A*-matrix) of DXM-PCA obtained from simulations of the W-band EPR spectra (Fig. S2).

Sample	*g*-matrix	*A*-matrix (MHz)
tNG-tPG+DXM-PCA	2.00840(5), 2.00603(2), 2.00215(1)	15, 15, 101(1)
tNG-tPG-βCD+DXM-PCA	2.00870(3), 2.00615(2), 2.00217(2)	15, 13, 99(1)
βCD+DXM-PCA	2.00870(3), 2.00610(2), 2.00214(1)	15, 14, 99(1)
DXM-PCA (Water)	2.00810(2), 2.00602(2), 2.00215(1)	15, 15, 104(1)





Formula	C49H76O37S		Formula	C42H69N3O34	
%	Theoretical	Experimental	%	Theoretical	Experimental
N	-	-	N	3.62	3.696
H	5.94	6.09	H	6	6.002
C	45.65	41.95	C	43.49	38.18
S	2.49	2.522	S	-	-

Figure S3. Elemental analysis of βCD-Ts and βCD-N_3.

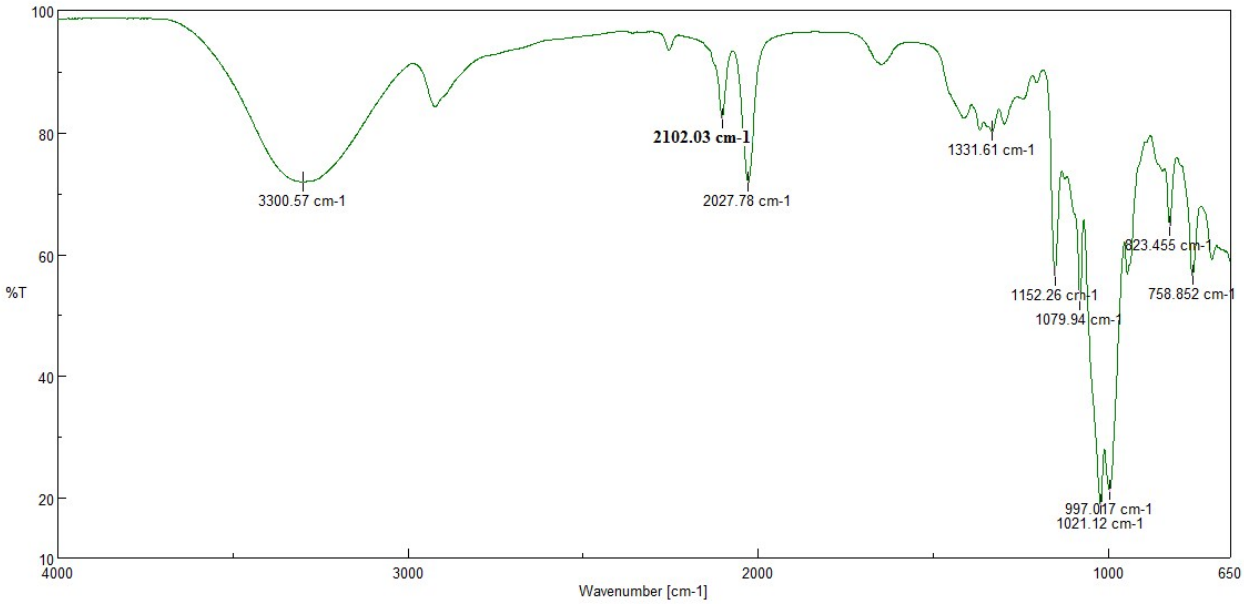


Figure S4. FT-IR spectrum of βCD-N_3.

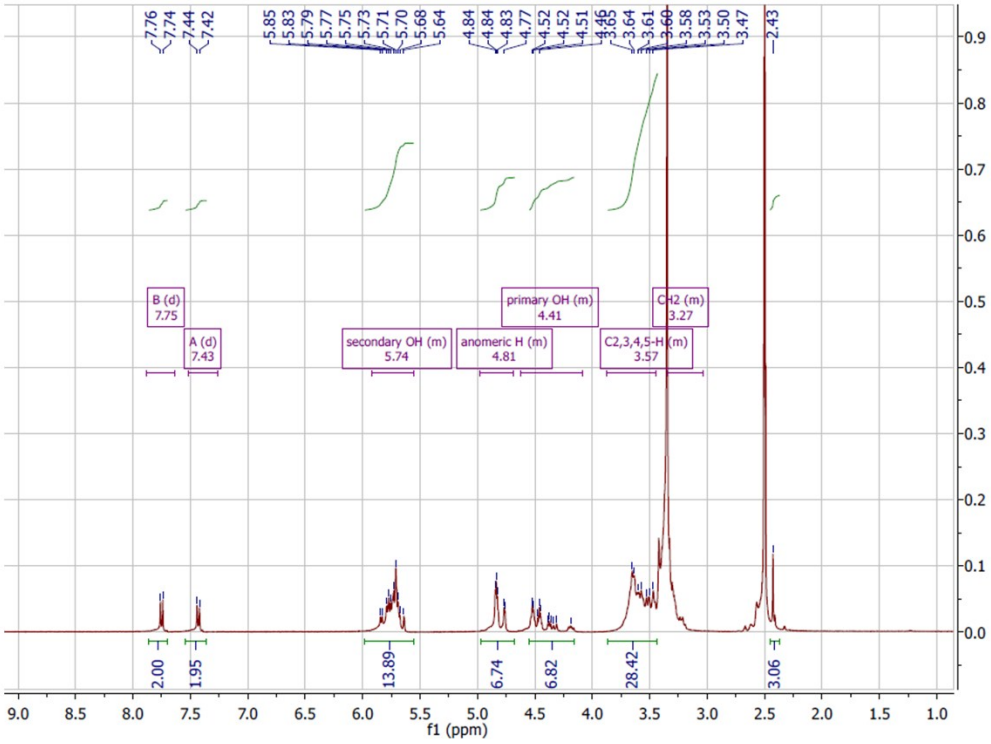


Figure S5. ^{1}H-NMR spectrum of βCD-Ts.

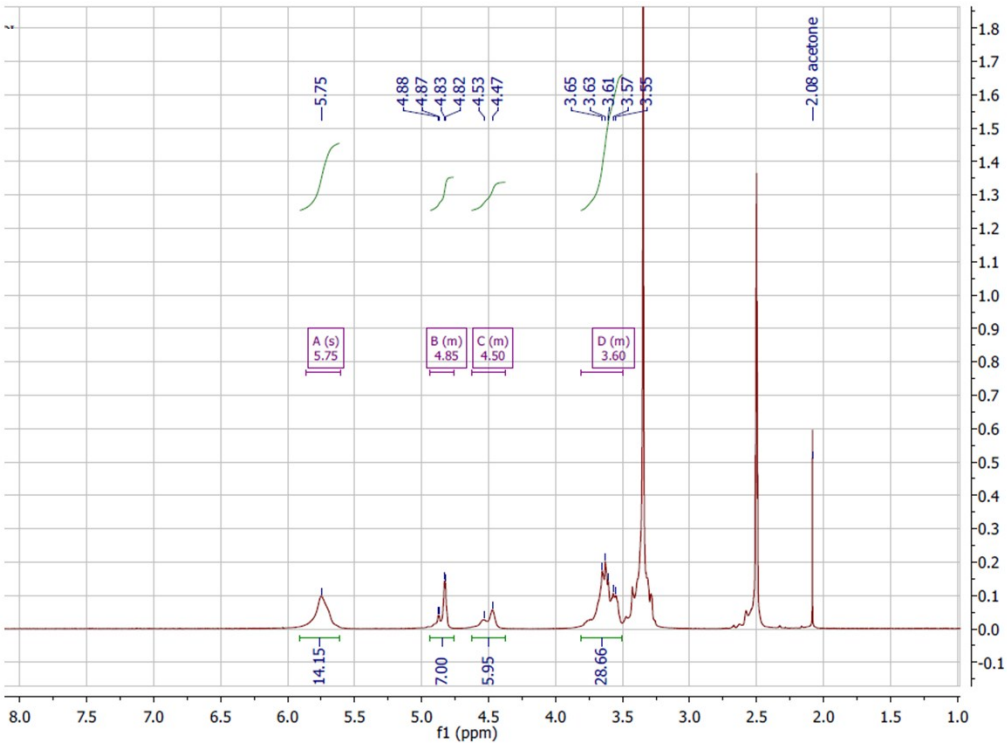


Figure S6. ^{1}H-NMR spectrum of βCD-N_3.

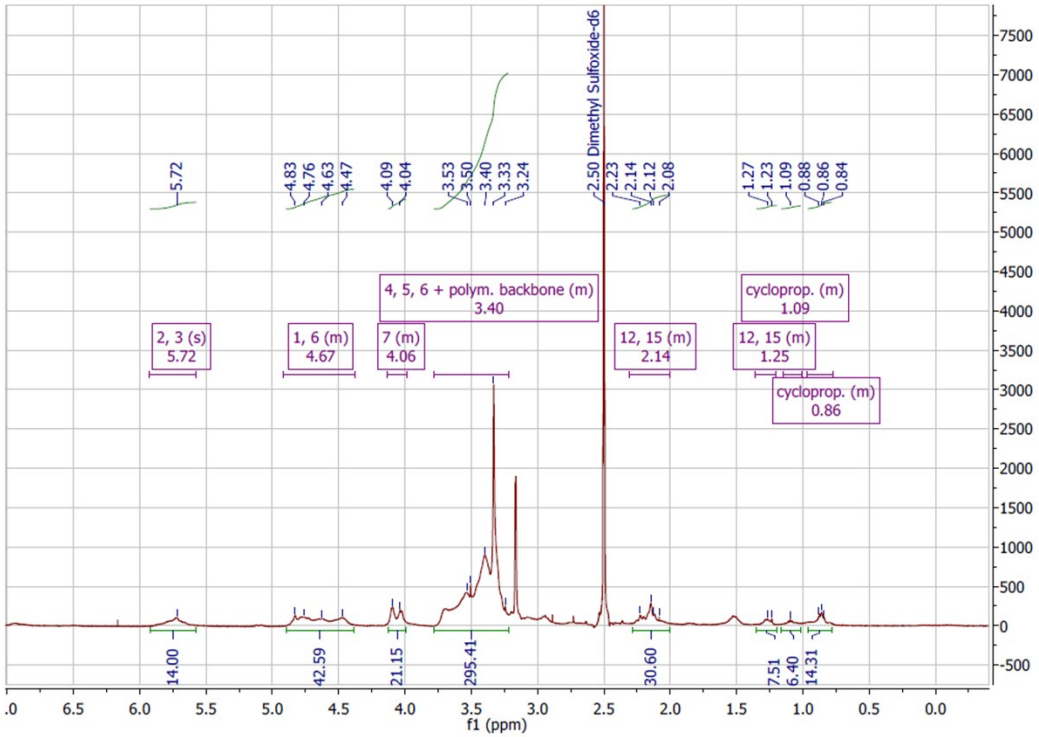


Figure S7. ^{1}H-NMR spectrum of dPG-BCN-βCD.