Supplementary Information

Injectable, *in-situ* gelling, cyclodextrin-dextran hydrogels for the partitioning-driven release of hydrophobic drugs

Rabia Mateen[1] and Todd Hoare[1,2]

[1]School of Biomedical Engineering, McMaster University

[2]Department of Chemical Engineering, McMaster University

Correspondence:

Todd Hoare

Department of Chemical Engineering, McMaster University, 1280 Main Street West, Hamilton, Ontario, Canada L8S 4L7

email: **hoaretr@mcmaster.ca**

phone: (905) 525-9140 ext. 24701

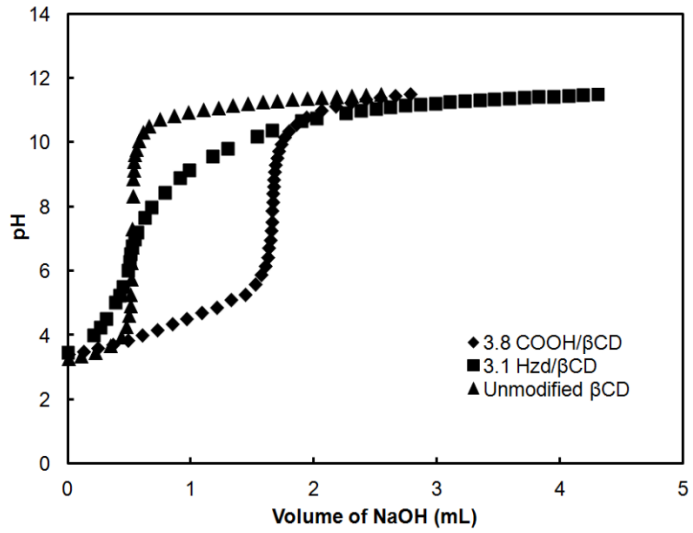

Figure S1 Titration curve of the hydrazide functionalized βCD (3.1 hydrazides/βCD). The titration curves of the carboxymethylated βCD intermediate and unmodified βCD are also shown for comparison purposes.

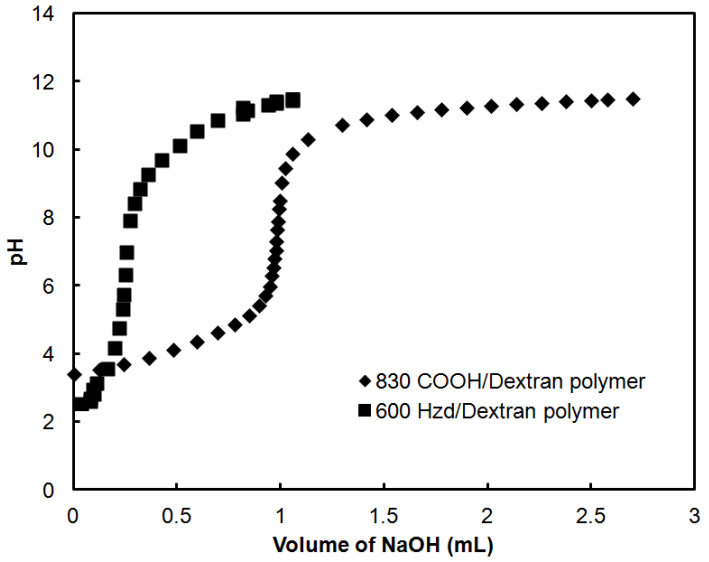

Figure S2 Titration curve of the hydrazide functionalized dextran used in the synthesis of Dex-βCD hydrogels. The titration curve of the carboxymethylated dextran intermediate is also shown for comparison purposes.

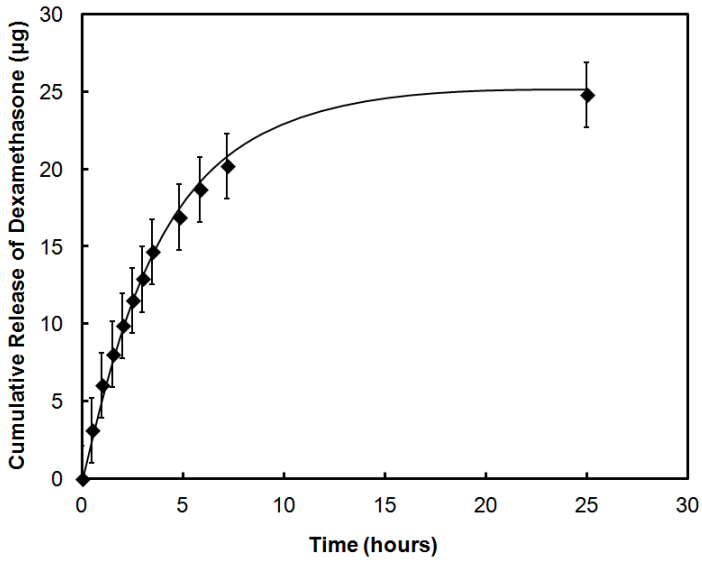

Figure S3 Cumulative release of dexamethasone from Dex-βCD hydrogels formed in the absence of the hydrazide modified dextran polymer. Gels were prepared using the highest injectable concentration of aldehyde functionalized dextran (8 wt%), but they degrade after one day when soaked in PBS at 37°C.

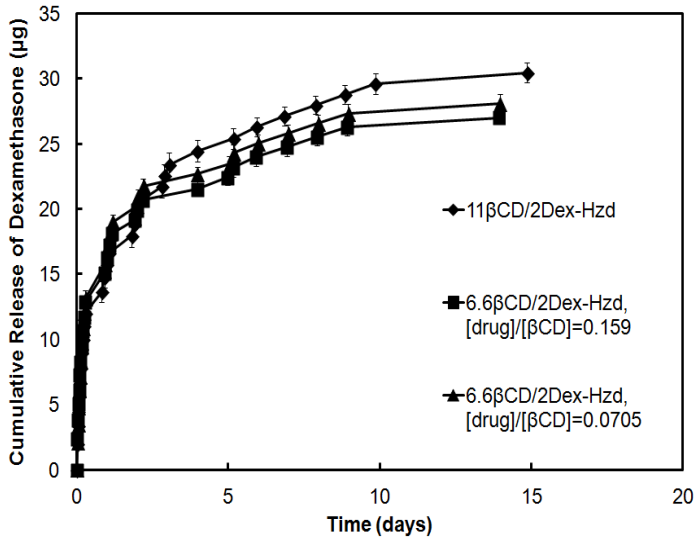

Figure S4 Comparison of cumulative dexamethasone release from 11βCD/2Dex-Hzd and 6.6βCD/2Dex-Hzd hydrogels in PBS at 37°C.

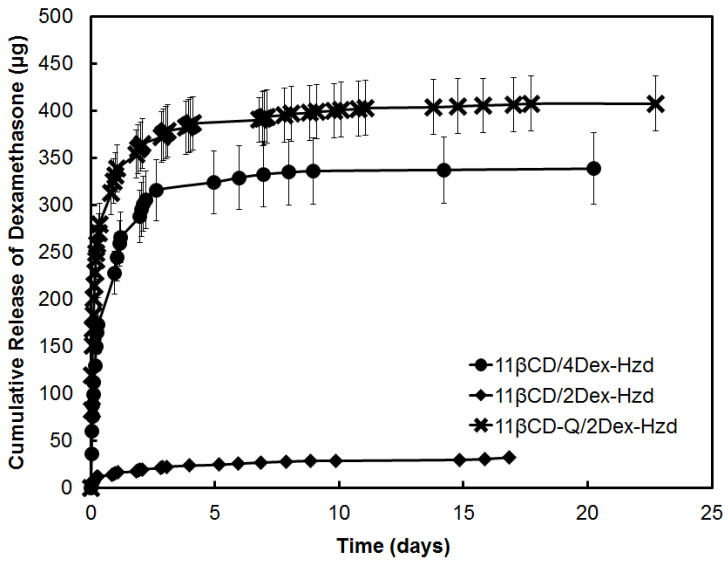

Figure S5 Comparison of cumulative dexamethasone release from 11βCD/2Dex-Hzd and 11βCD/4Dex-Hzd hydrogels in PBS at 37°C.

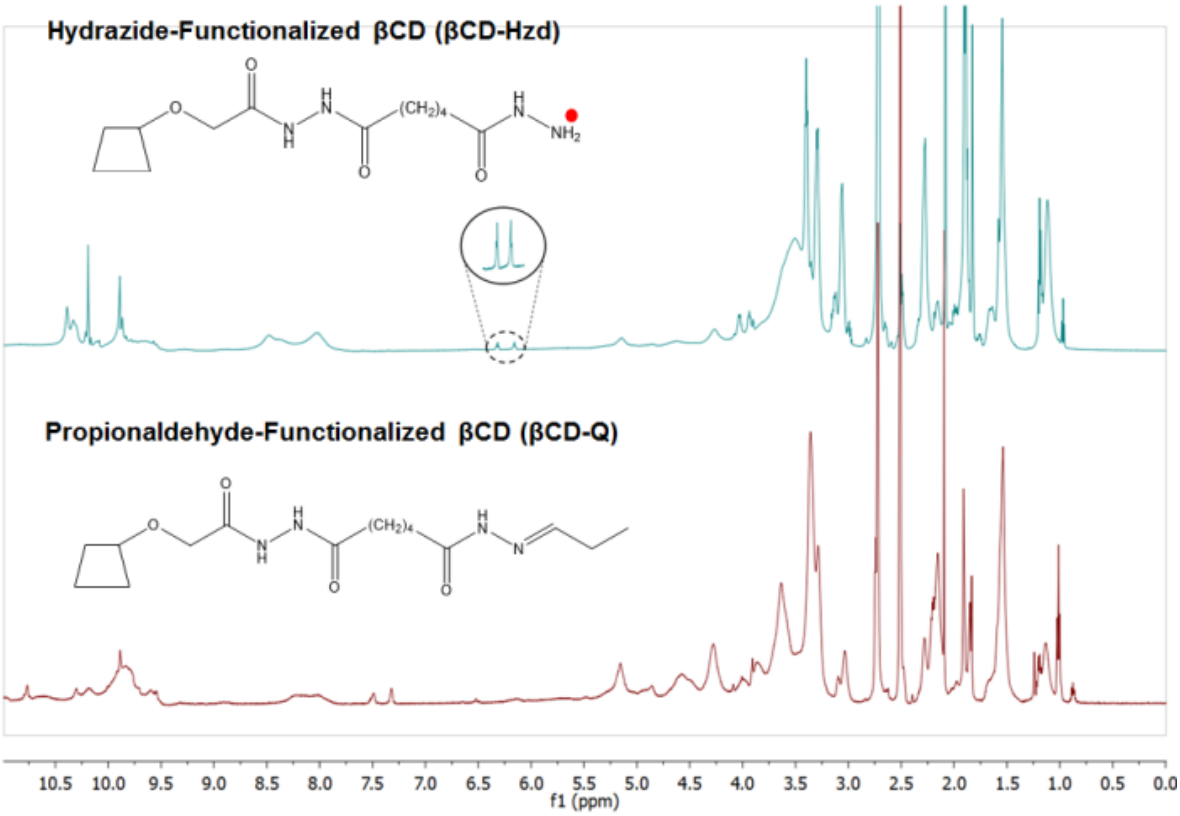

Figure S6 ^{1}H-NMR (600 MHz, Bruker) of the hydrazide-functionalized βCD precursor (βCD-Hzd) and the propionaldehyde-functionalized βCD product (βCD-Q). The disappearance of the terminal hydrazide proton doublet peak at d = 6.1-6.4 following propionaldehyde functionalization, indicates at least near-quantitative conversion of the reactive hydrazide groups to the capped, unreactive propyl end groups**.**