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Supplementary Information

Efficient Functionalisation of Dextran-Aldehyde with Catechin: Potential Applications in the treatment of Cancer

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Additional Figures:

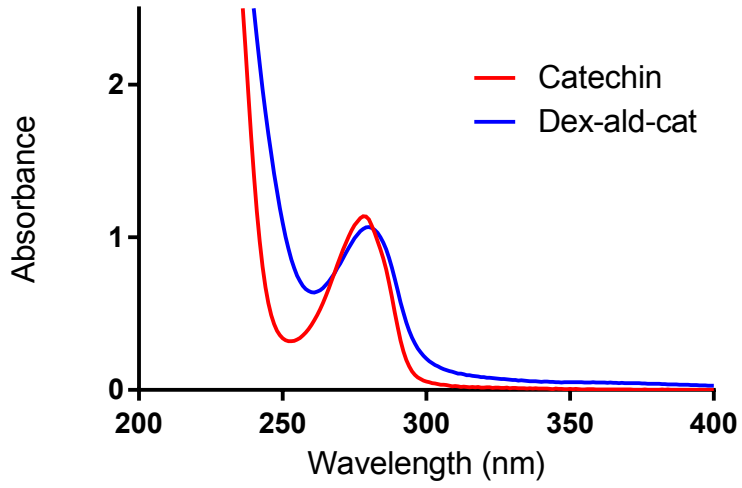


Figure S1: UV-Vis spectra of catechin and dex-ald-cat

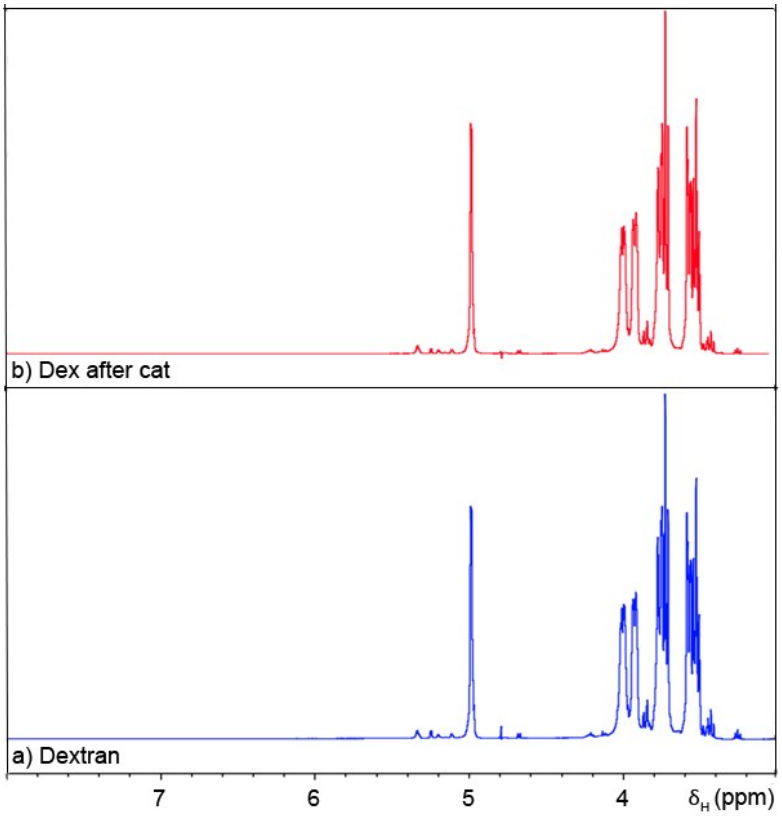


Figure S2: Overlay of ^{1}H NMR spectra in 15% DMSO-d_6 / 85% D_2O of dextran (a), dextran after stirring with catechin in reaction mixture for 48 h then dialysing (b).

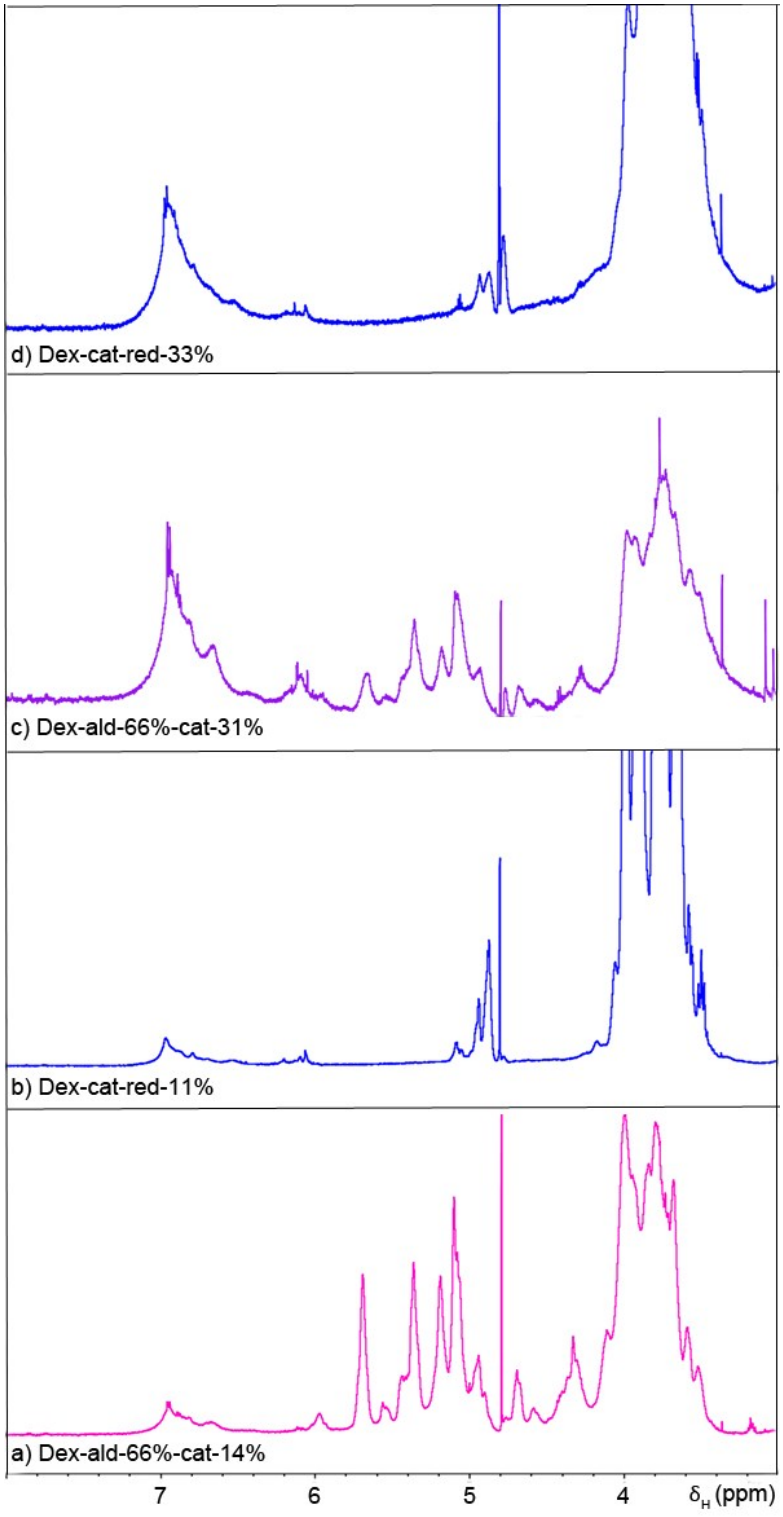
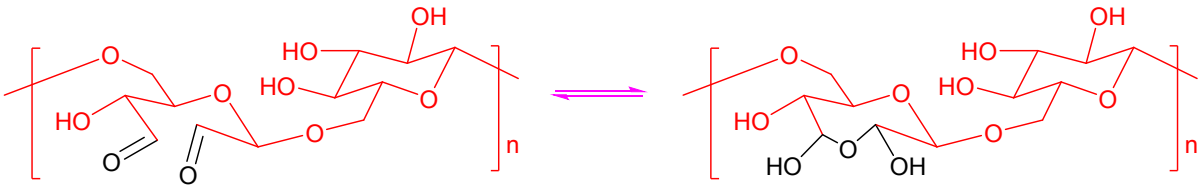


Figure S3: Overlay of ^{1}H NMR spectra in 15% DMSO-d6 / 85% D_2O of dex-ald-cat conjugate with 66% oxidation and with 14 wt% (a) and 31 wt% (c) catechin, respectively and conjugates after reduction with sodium borohydride containing 11 wt% (b) and 33 wt% (d) catechin, respectively. Note: (a) was conjugated at 25 ^{0}C and (c) was conjugated at 55 ^{0}C.



Scheme S1: Formation of hemiacetal structure from dextran polyaldehyde according to Aziz *et al.*[1]

Table S1: Molecular weight (Mn) and dispersity for dextran, dex-ald, and dex-ald-cat reacted at various temperatures			
Polymer	**Reaction temperature**	**Mn (g/mol)**	**Dispersity**
Dextran	-	9960	1.25
Dex-ald-66%	25^{0}C	12900	1.49
Dex-ald-66%-cat-14%	25^{0}C	20200	1.65
Dex-ald-66%-cat-22%	40^{0}C	18100	1.68
Dex-ald-66%-cat-31%	55^{0}C	15100	1.39
Dex-ald-66%-cat-38%	70^{0}C	6860	1.45

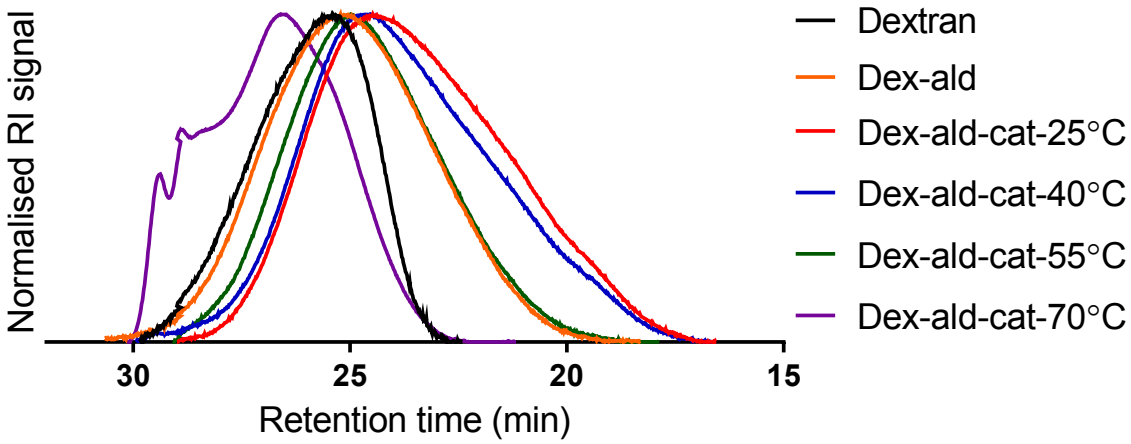


Figure S4: SEC traces of dextran, dex-ald, and dex-ald-cat reacted at various temperatures

Reference:

1. Aziz, M. A.; Cabral, J. D.; Brooks, H. J. L.; Moratti, S. C.; Hanton, L. R. Antimicrobial Properties of a Chitosan Dextran-Based Hydrogel for Surgical Use. *Antimicrobial Agents and Chemotherapy* 2012, 56, 280-287.