Electronic Supplementary Material (ESI) for Polymer Chemistry.

Supplementary Information

Structural control and functionalization of thermoresponsive nanogels: turning cross-linking points into anchoring groups

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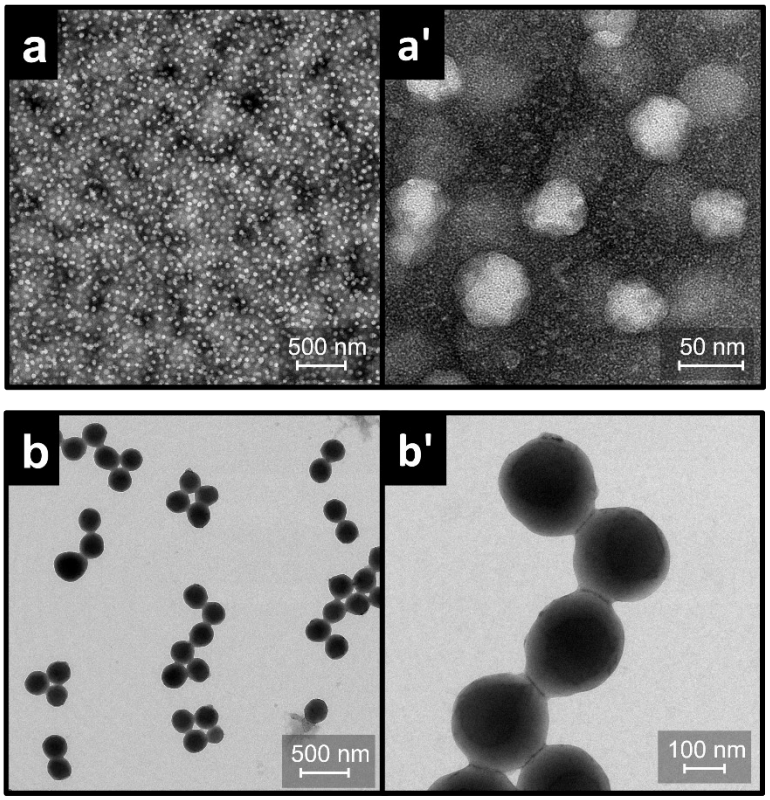
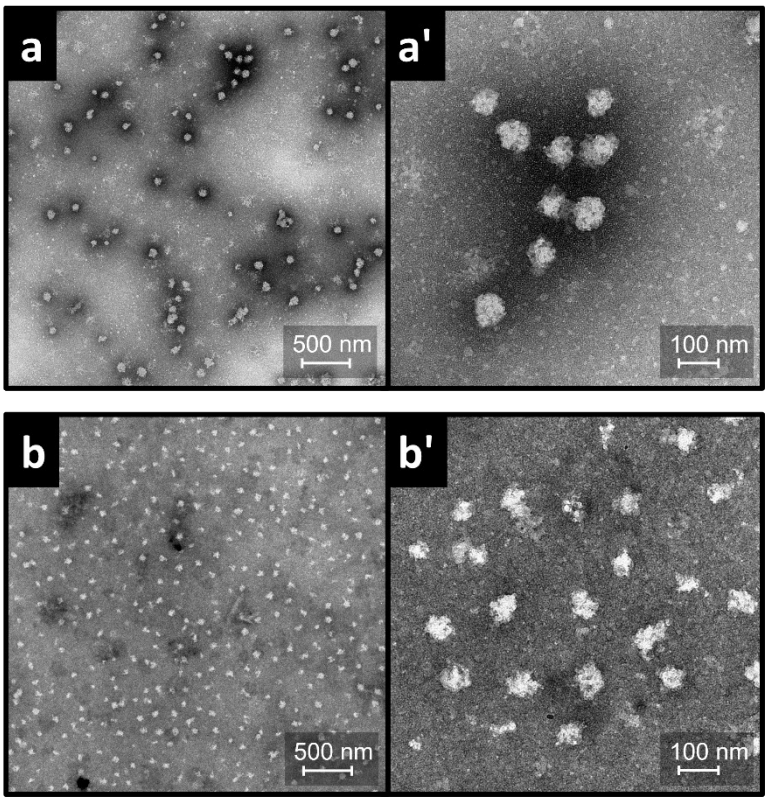
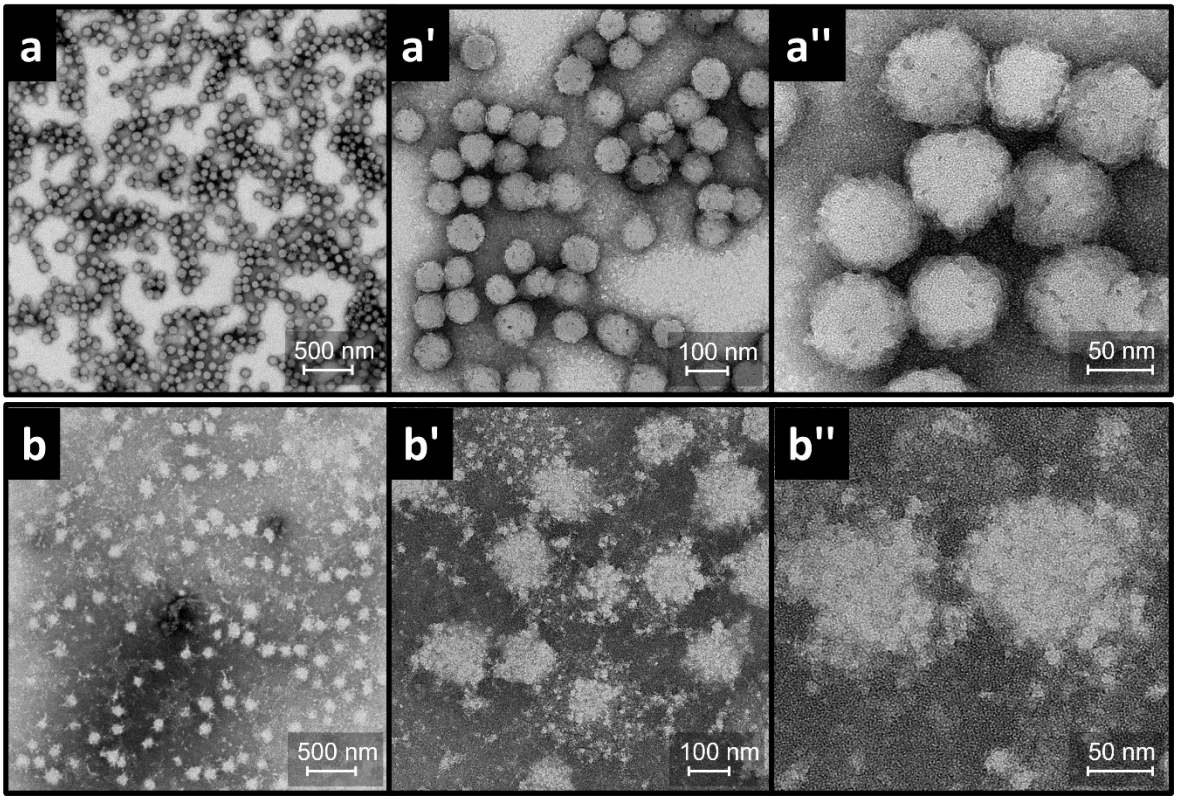


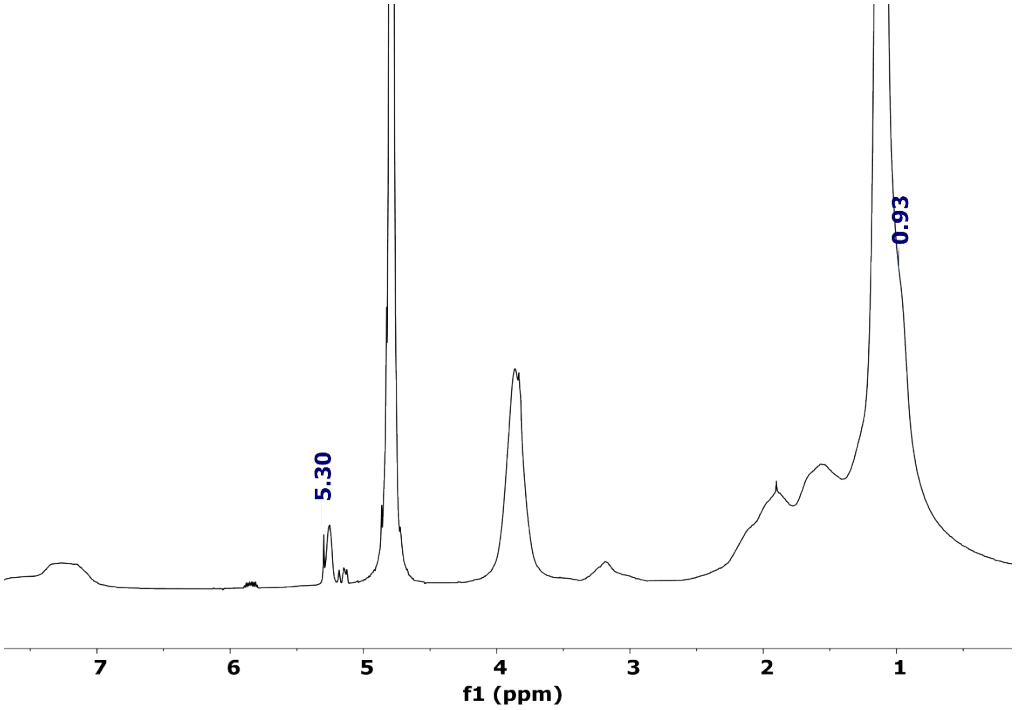
S1 - TEM micrographs of p-NIPAm-BIS-DAT10$_{APS}$ before (a) and after periodate treatment (b).



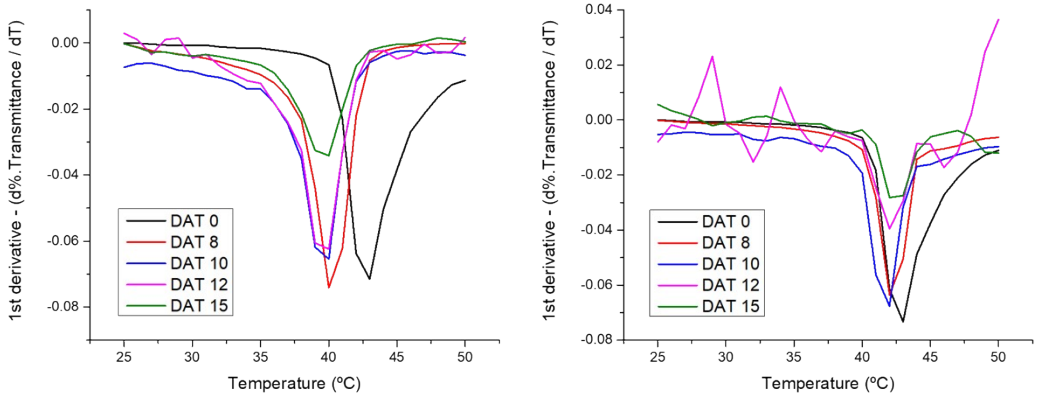
S2 - TEM micrographs of p-NIPMAm-BIS-DAT10$_{APS}$ before (top) and after (bottom) the modification with periodate.



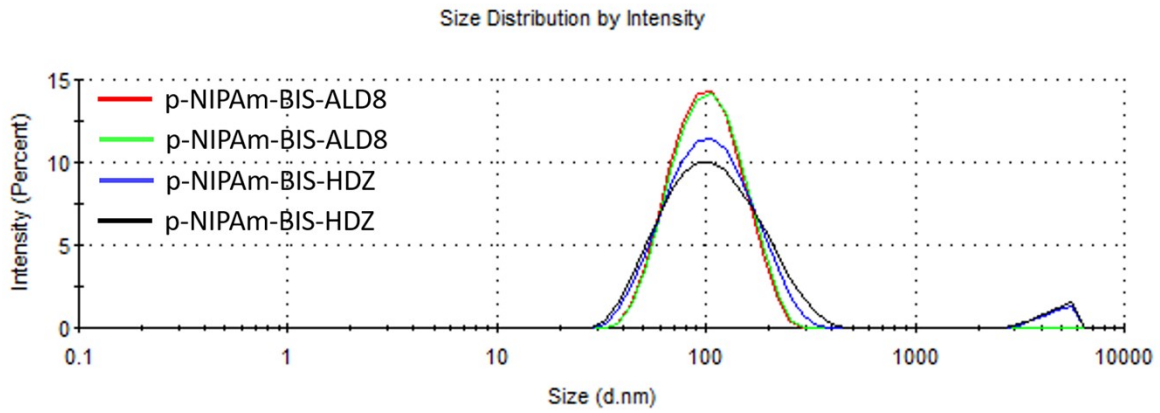
S3 – TEM micrographs of p-NIPAm-BIS-DAT(10)$_{APS/TEMED}$ before (top, a, a' and a'') and after (bottom, b, b' and b'') periodate treatment.



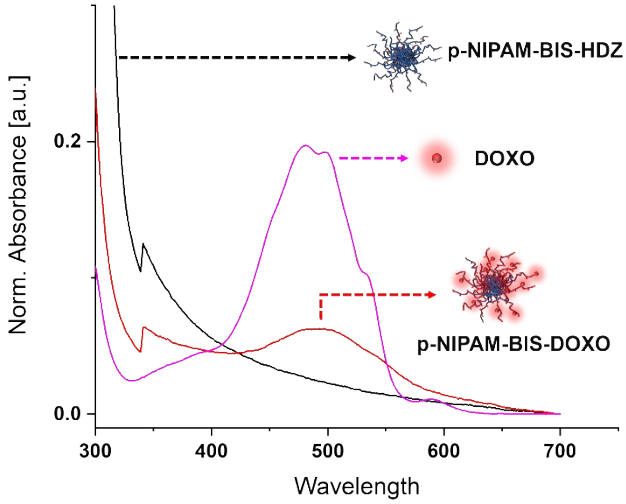
S4 – ^{1}H-NMR spectrum of p-NIPAm-co-NIPMAm NGs after periodate treatment. The signal at 5.30 ppm indicates the presence of α-oxoaldehydes in hydrated state (C(O)-C**H**$(OH)_2$). Other peaks: 7.2 ppm (C(O)-N**H**-; p-NIPAm, p-NIPMAm and BIS); 3.8 ppm (-NH-C**H**$(CH_3)_2$; p-NIPAm and p-NIPMAm); 1.9 ppm (-CH-; backbone p-NIPAm); 1.5 ppm (-CH_2-; backbone p-NIPAm and p-NIPMAm); 1.1 ppm -NH-CH(C**H$_3$**$)_2$; p-NIPAm and p-NIPMAm); 0.9 ppm (-CH_3; backbone p-NIPMAm).



S5 – Temperature clouding point: 1rst derivative of the %Transmittance vs Temperature of p-NIPAm-co-NIPMAm-BIS-DAT_{APS} NGs before (left) and after (right) periodate treatment.



S6– DLS measurements for p-NIPAm-BIS-ALD (NGs after treatment with periodate) and p-NIPAm-BIS-HDZ NGs (after modification with AADH).



S7 – Modification of the p-NIPAm-BIS-HDZ NGs with DOXO. UV-Vis spectrum for DOXO (pink), p-NIPAm-BIS-HDZ (black) and p-NIPAm-BIS-DOXO (red).

Sample	NBD (Control)	NBD-HDZ
µg DOXO/mg NGs	11.27	3.25

S8 – Loading capacity of DOXO in NGs.