# Supporting Information for:

*$H_2O_2$ enables convenient removal of RAFT end-groups from block copolymer nano-objects prepared via polymerization-induced self-assembly in water*

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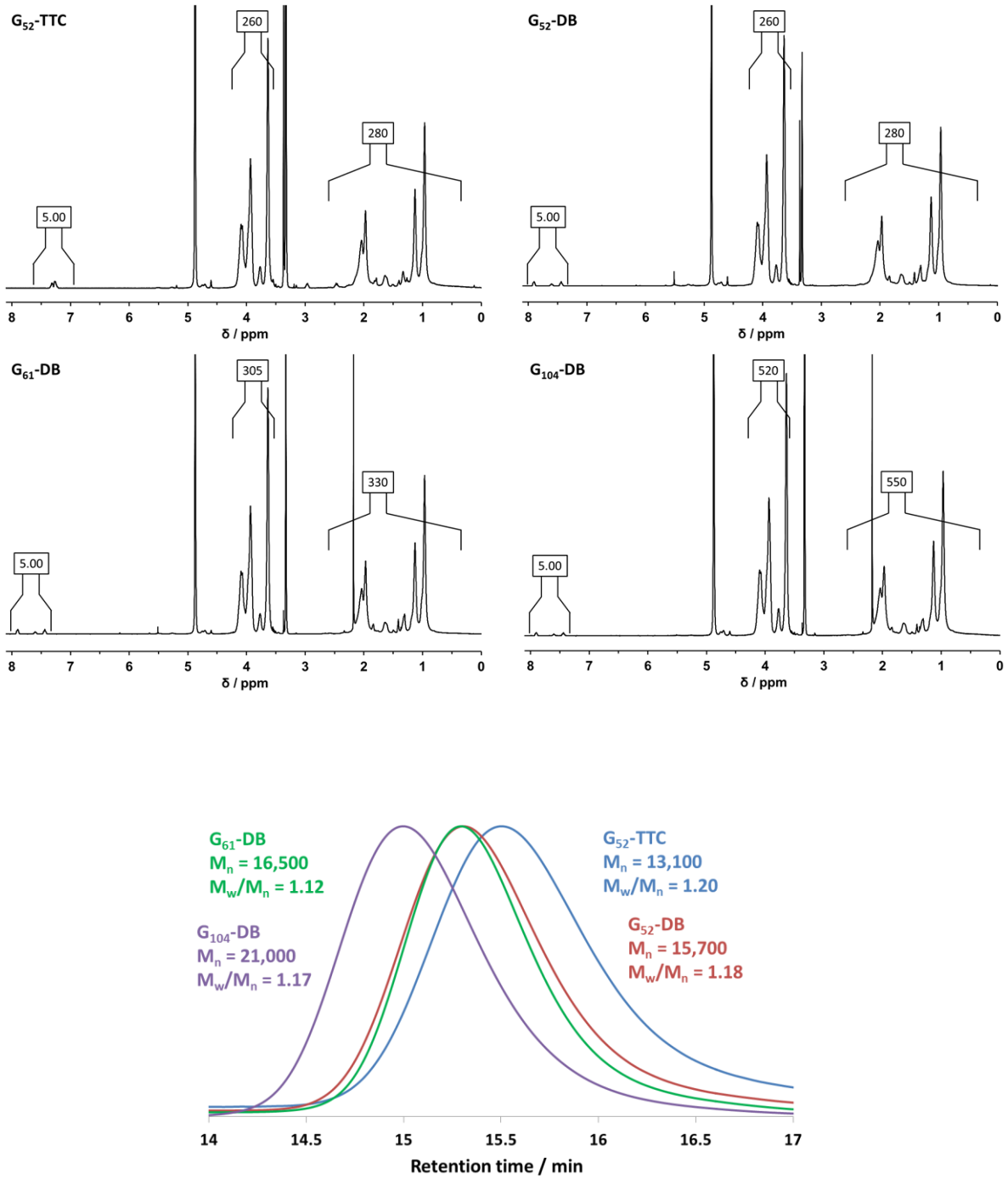


**Figure S1.** (a) Integrated $^{1}$H NMR spectra and (b) DMF GPC chromatograms for $G_{52}$-TTC, $G_{52}$-DB, $G_{61}$-DB and $G_{104}$-DB macro-CTAs

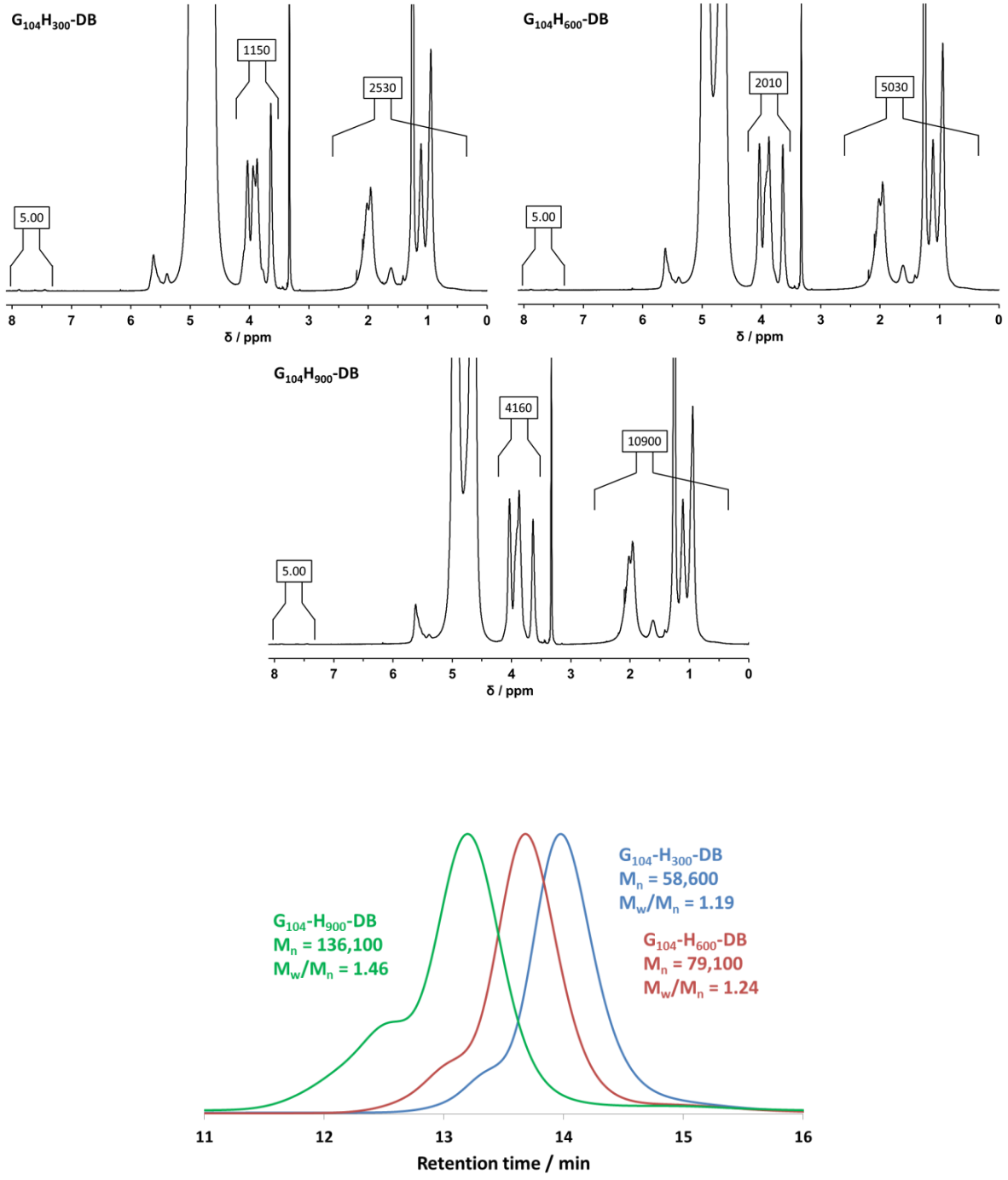


**Figure S2.** (a) Integrated $^{1}$H NMR spectra and (b) DMF GPC chromatograms for $G_{104}$-$H_X$ (X = 300, 600, 900) diblock copolymer spheres

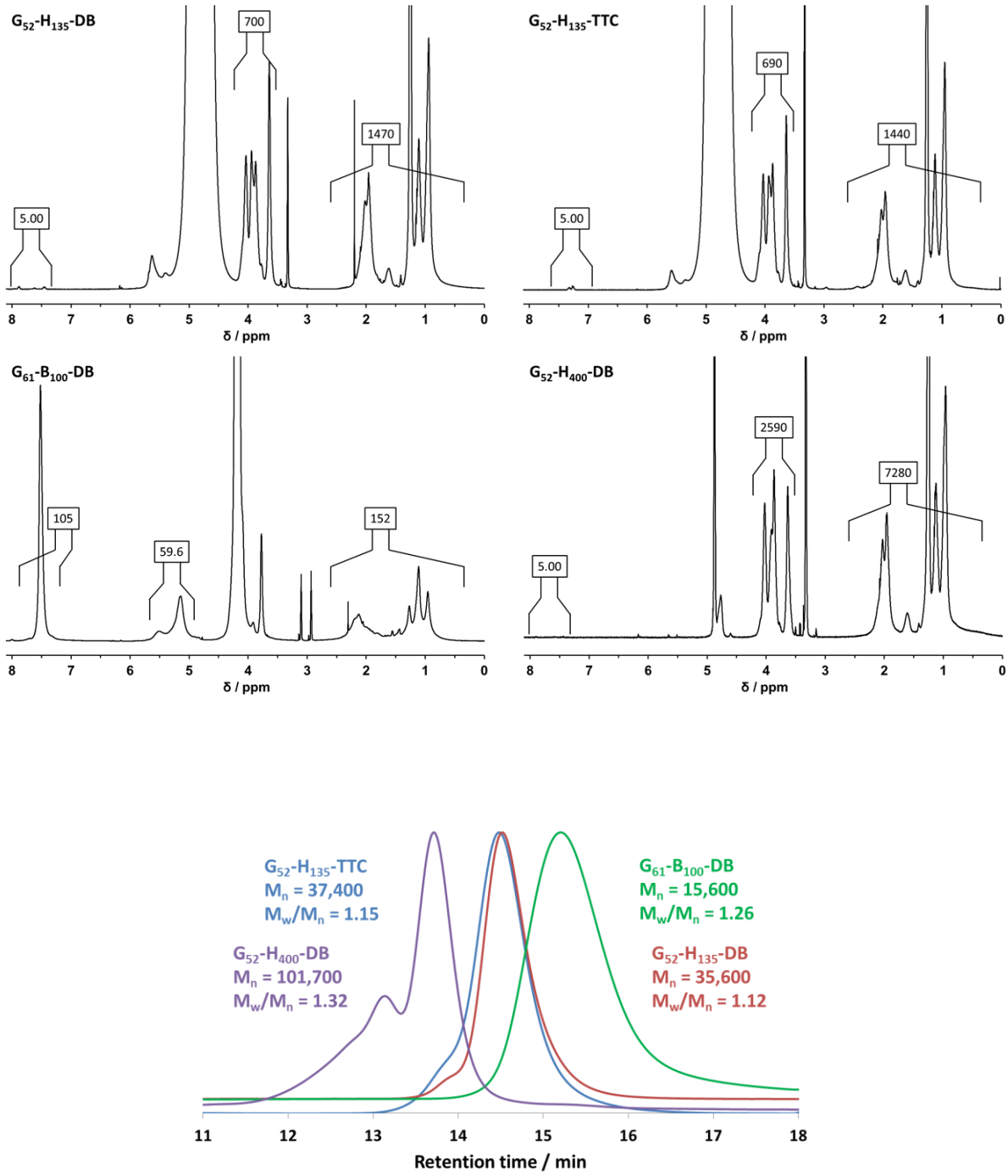


**Figure S3.** (a) Integrated $^{1}$H NMR spectra and (b) DMF GPC chromatograms for $G_{52}$-$H_{135}$-TTC and $G_{52}$-$H_{135}$-DB worms, $G_{61}$-$B_{100}$ spheres and $G_{52}$-$H_{400}$ vesicles

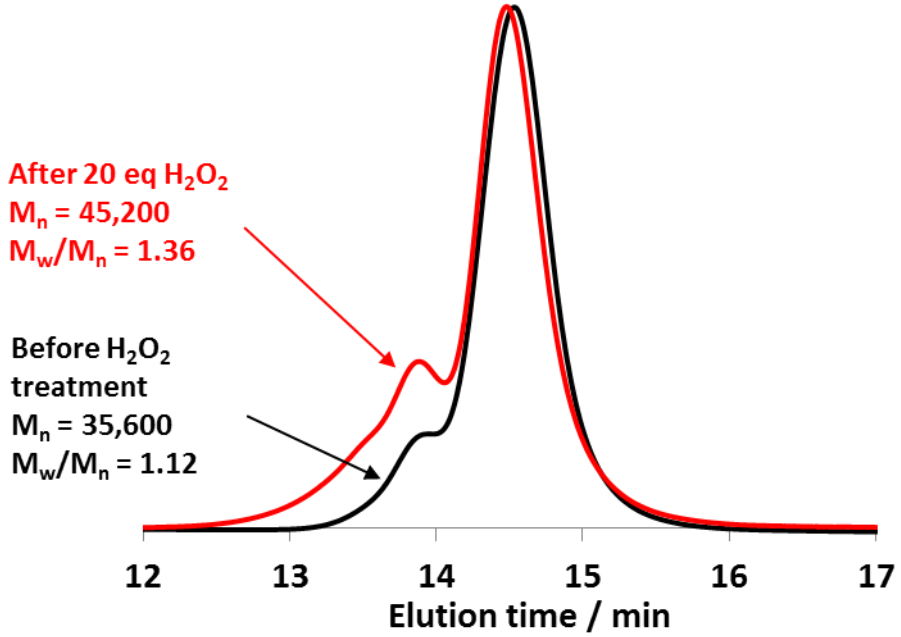


**Figure S4.** DMF GPC traces recorded for $G_{52}$-$H_{135}$-DB before (black) and after (red) $H_2O_2$ treatment. Conditions: $H_2O_2$/dithiobenzoate molar ratio = 20 for 3 h at 70 °C.

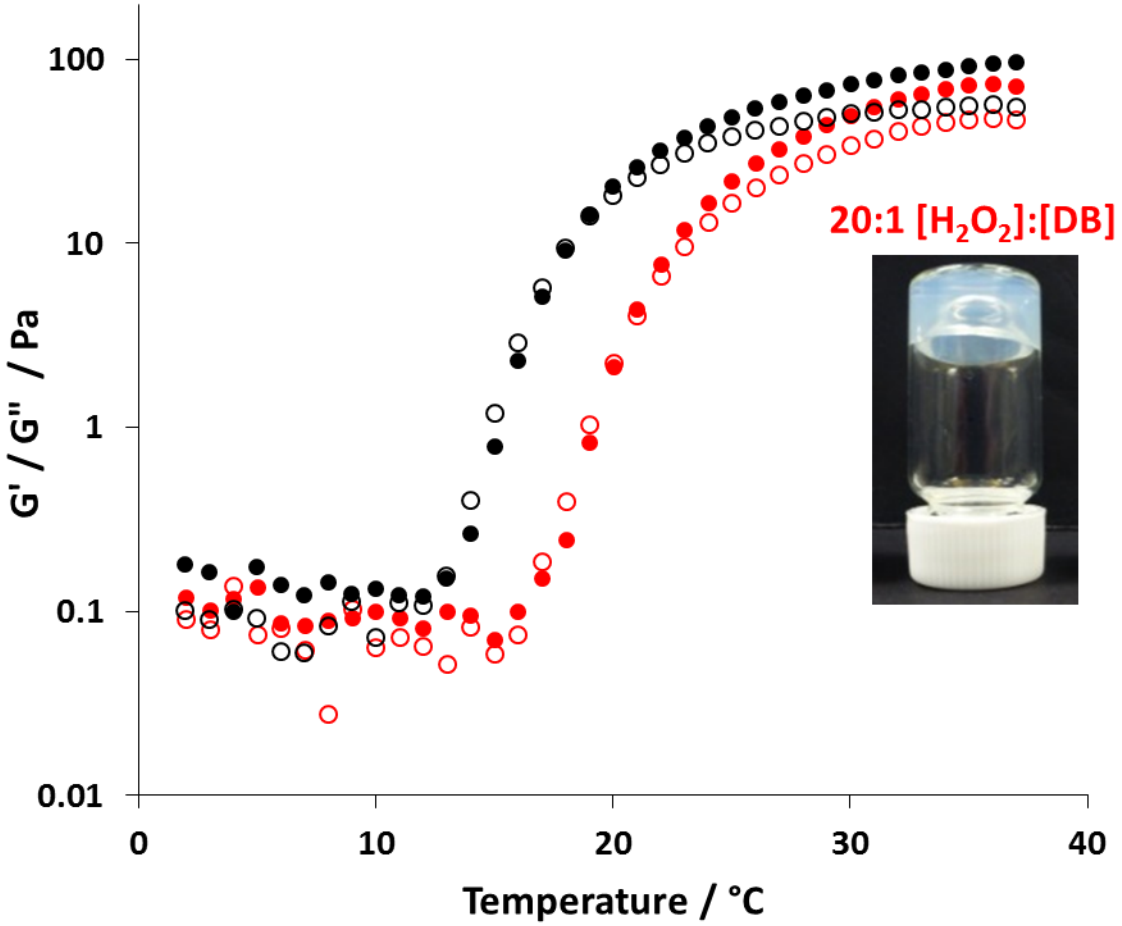


**Figure S5.** Gel storage modulus (G', closed symbols) and loss modulus (G", open symbols) vs. temperature plots obtained for a $G_{52}$-$H_{135}$-DB worm gel before (black) and after (red) treatment with $H_2O_2$. Conditions: $[H_2O_2]/[DB]$ = 20 for 3 h at 70 °C. Note that a weaker worm gel is obtained after $H_2O_2$ treatment (G' = 71 Pa, vs. G' = 96 Pa originally) and the critical gelation temperature (CGT) is raised from 19 °C to 21 °C.

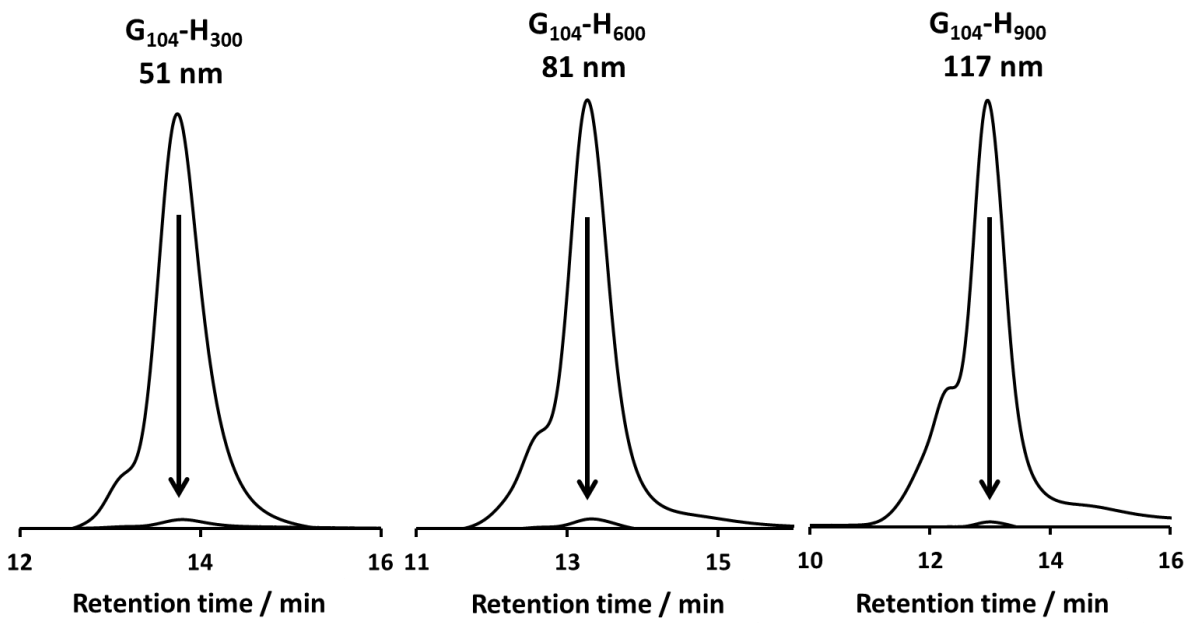


**Figure S6.** DMF GPC chromatograms (UV detector) of $G_{104}$-$H_X$-DB spheres before end-group removal and after $H_2O_2$ treatment for 24 h (see arrows) using a $H_2O_2$/dithiobenzoate molar ratio of 5.0 at 70 °C. In each case at least 98 % of the original end-groups are removed.

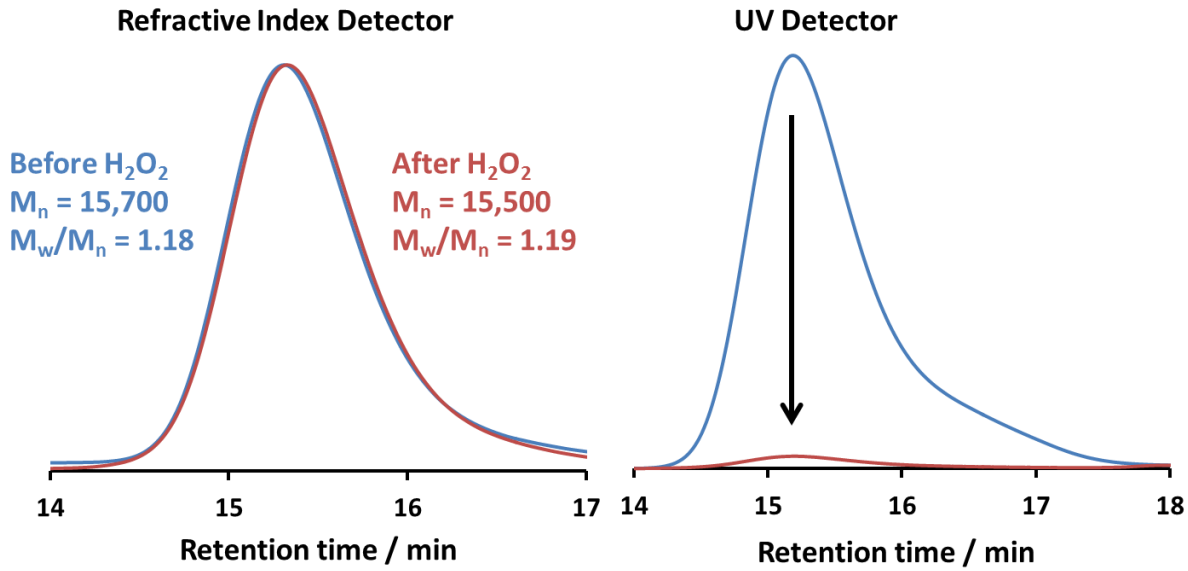


**Figure S7.** GPC chromatograms recorded for the $G_{52}$-DB macro-CTA before (blue traces) and after (red traces) end-group removal via $H_2O_2$ treatment using a $H_2O_2$/dithiobenzoate molar ratio of 5.0 at 70 °C: (a) minimal change in the molecular weight distribution as judged using a refractive index detector and (b) 97 % disappearance in the 309 nm signal associated with the RAFT end-group using the UV detector.

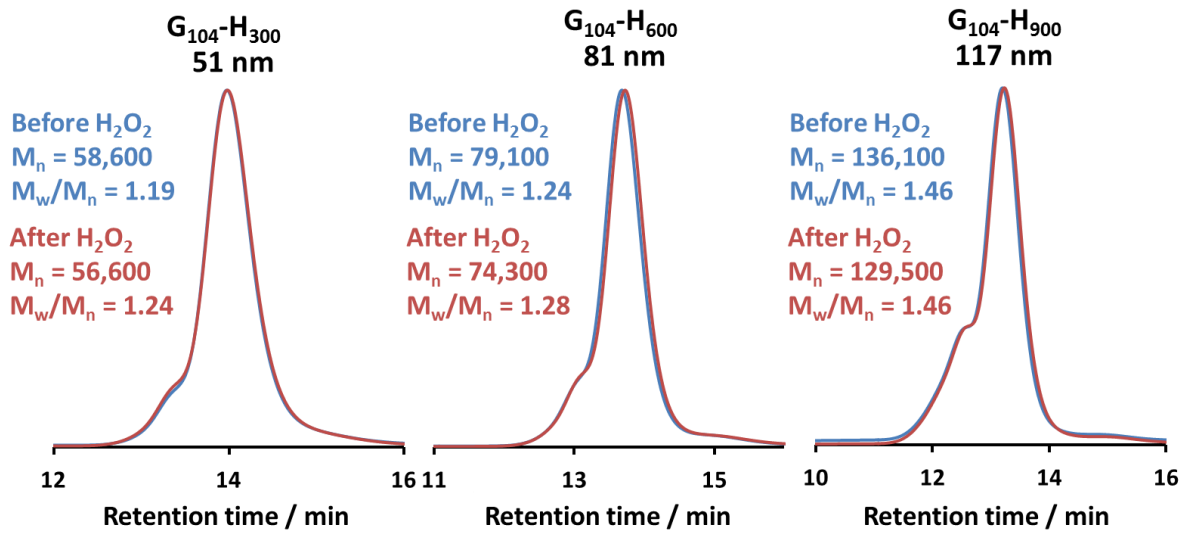


**Figure S8.** DMF GPC chromatograms (refractive index detector) of $G_{104}$-$H_X$-DB spheres before end-group removal and after $H_2O_2$ treatment for 7 h using a $H_2O_2$/dithiobenzoate molar ratio of 5.0 at 70 °C. Note that there is minimal change in the molecular weight distributions under these optimized end-group removal conditions.