

Nano-assemblies of cationic mPEG brush block copolymers with gadolinium polytungstate $[\text{Gd}(\text{W}_5\text{O}_{18})_2]^{9-}$ form stable, high relaxivity MRI contrast agents

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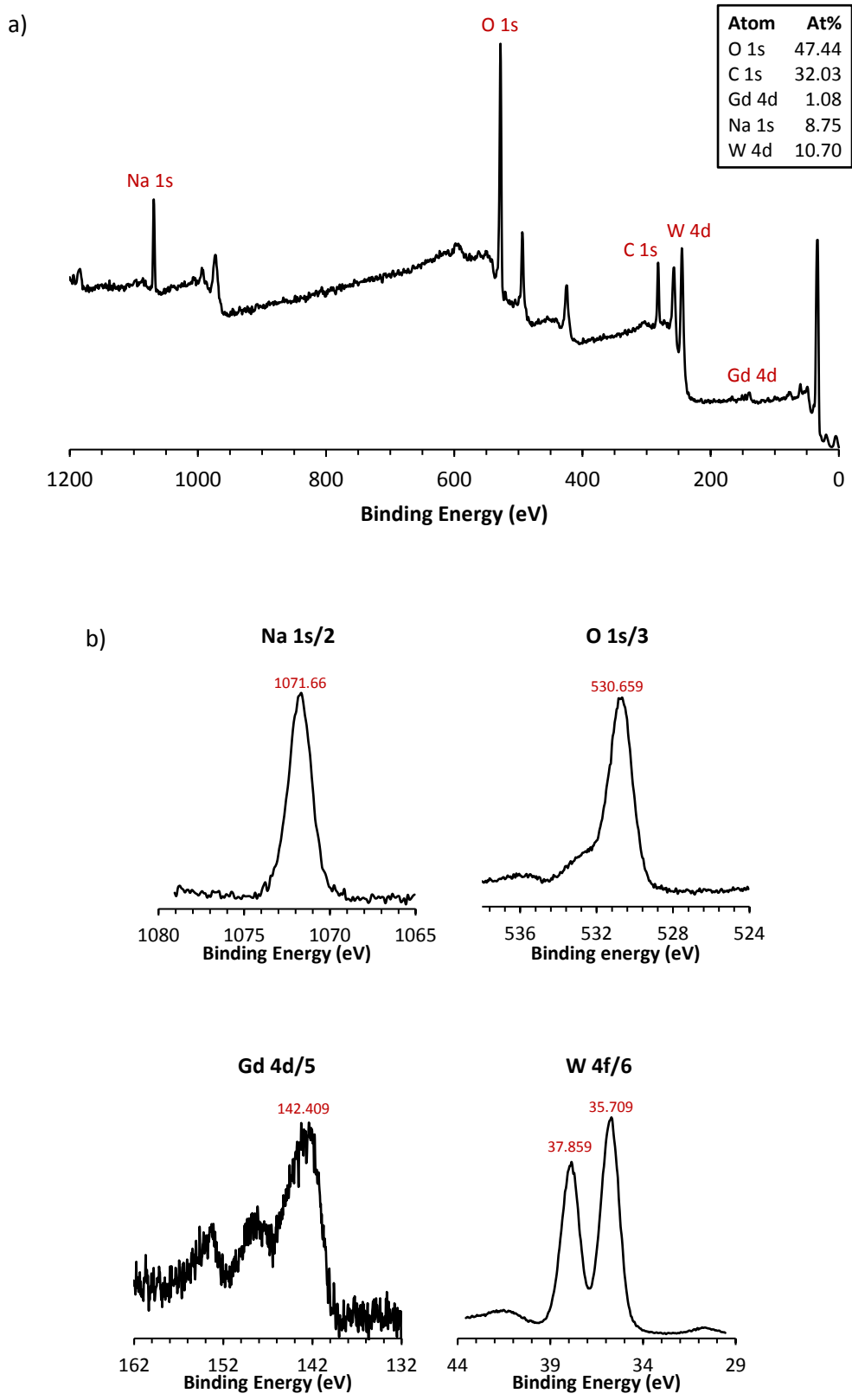


Figure S1. XPS measurements of GdWO with survey scan (a) and high resolution scan of Na, O, Gd and W ions (b). There is a higher amount of oxygen atoms than the theoretical amount due to the Auger effect of the sodium atom.

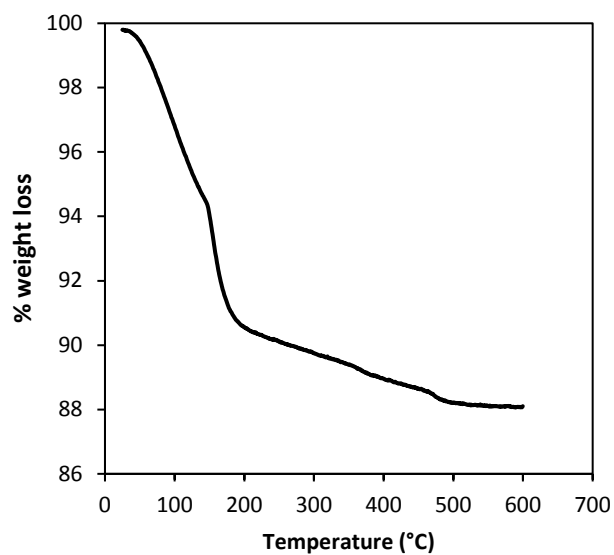


Figure S2. Thermogravimetric analysis of GdWO

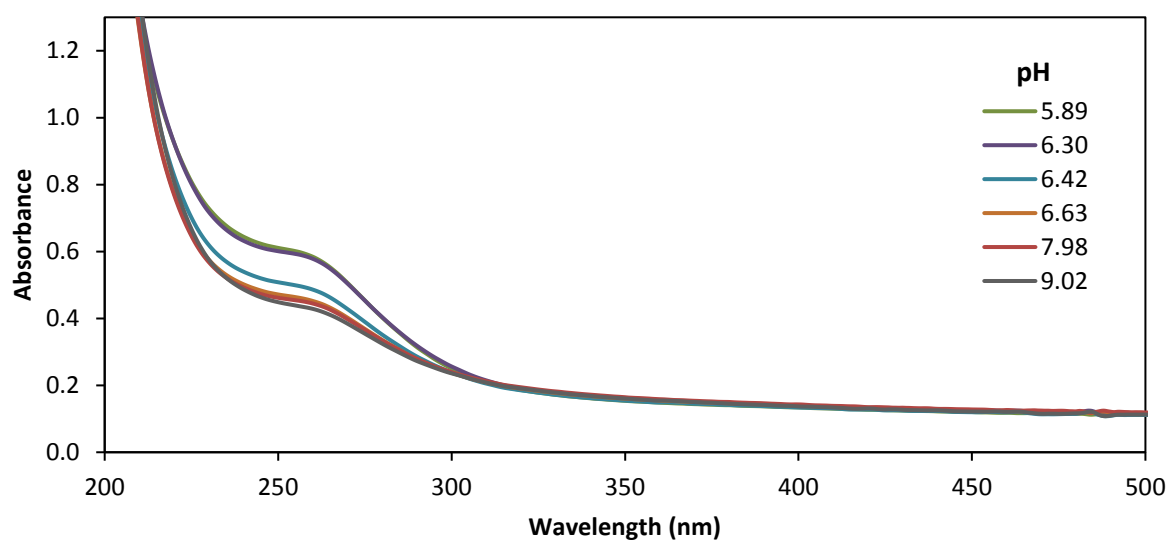
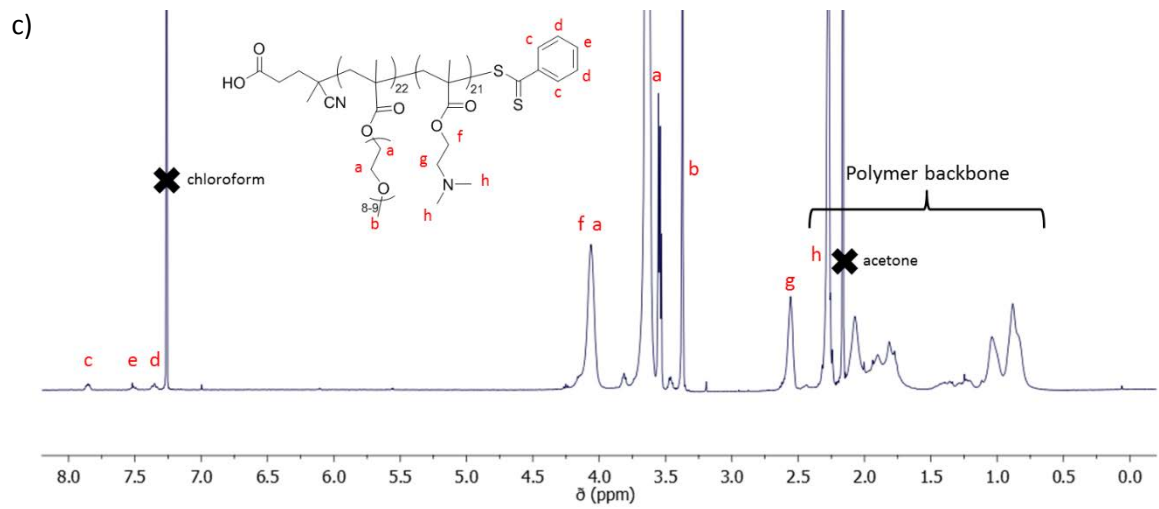
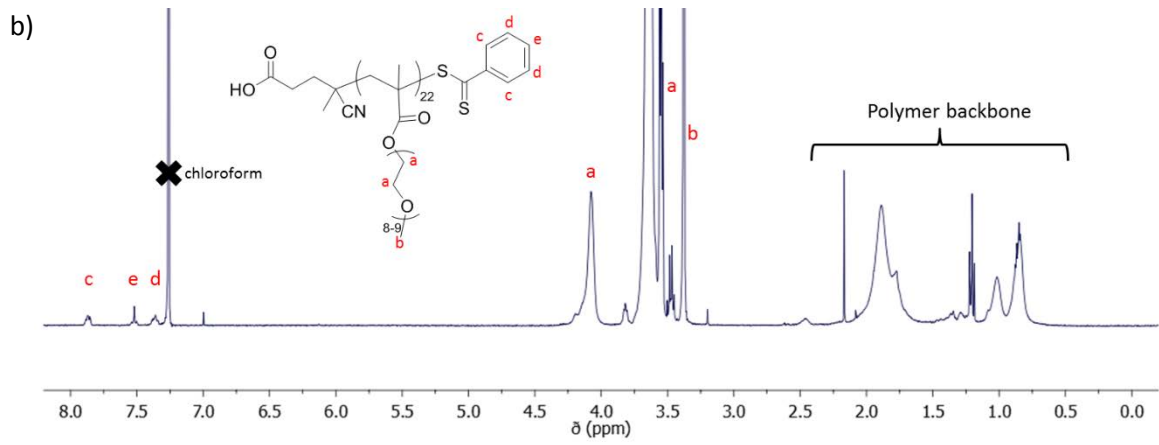
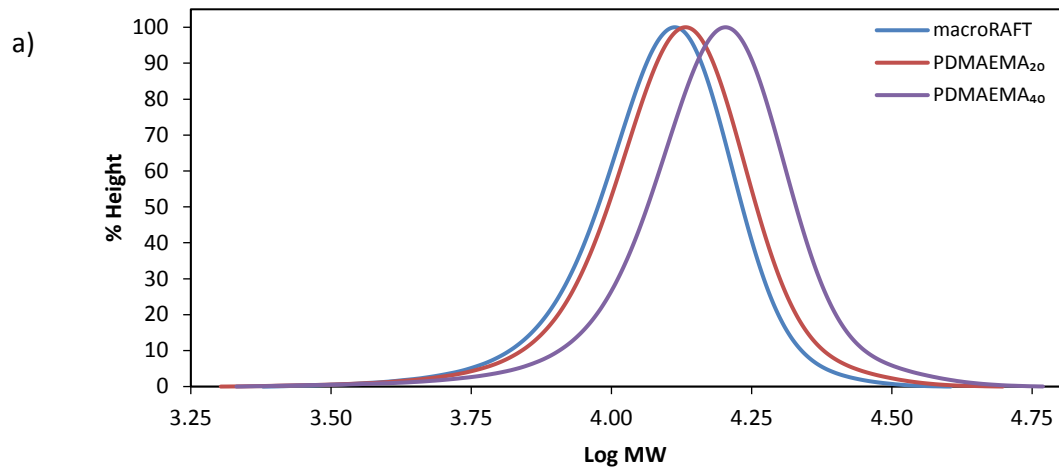


Figure S3. UV-Vis spectra of GdWO from pH 5.9 – pH 9.0



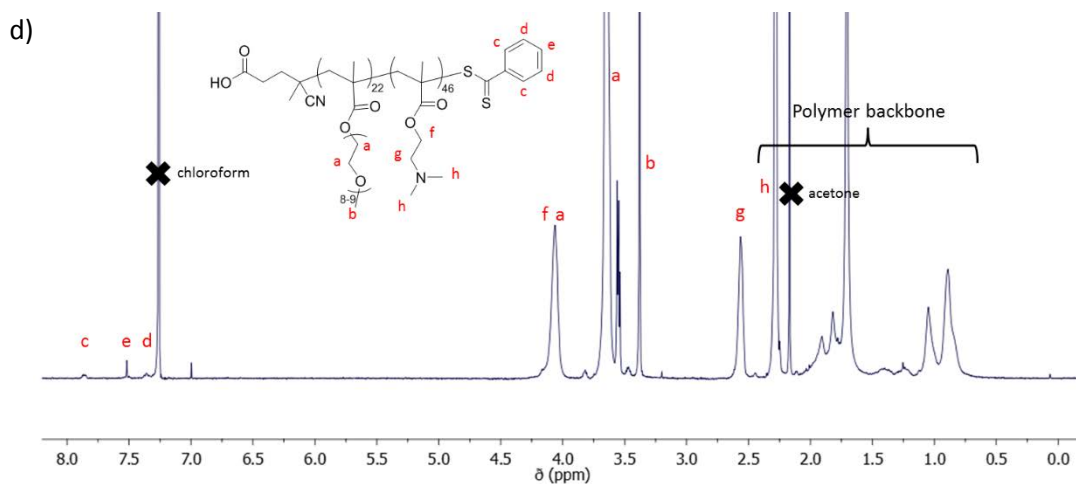


Figure S4. GPC molecular weight distribution of PEG macroRAFT agent and PDMAEMA₂₀ and PDMAEMA₄₀ (a). After chain extension of the macroRAFT, PDMAEMA₂₀ and PDMAEMA₄₀ shift to the right (towards higher molecular weight) indicating successful addition of the DMAEMA block. The ¹H NMR spectra of PEG macroRAFT (b), PDMAEMA₂₀ (c) and PDMAEMA₄₀ (d).

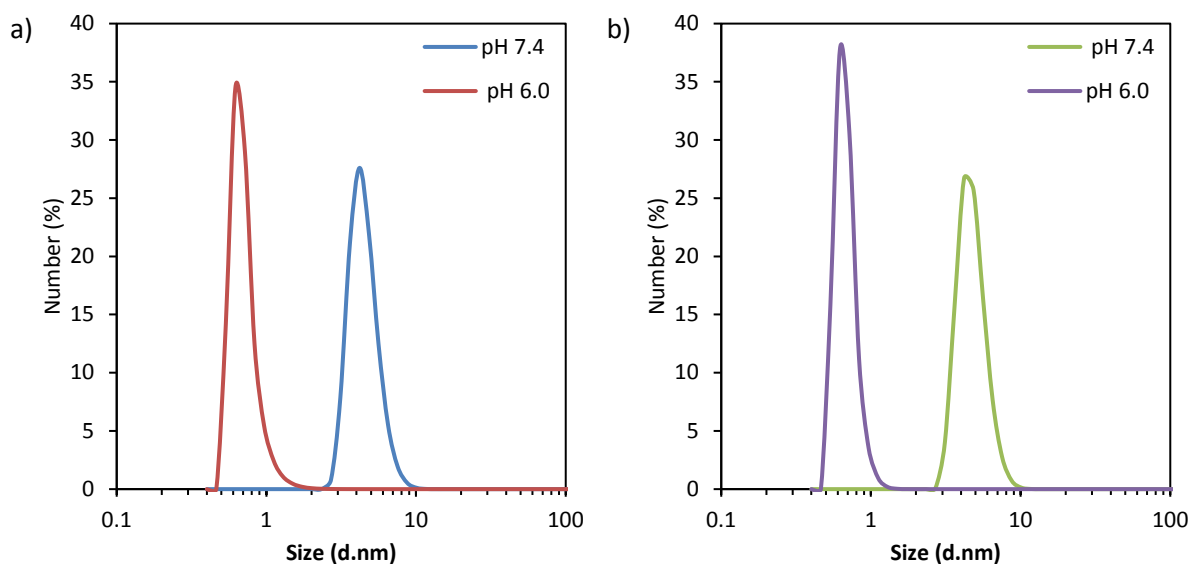


Figure S5. DLS determined number average particle size of polymer PDMAEMA₂₀ (a) and PDMAEMA₄₀ (b) in aqueous solution at pH 7.4 and pH 6.0.

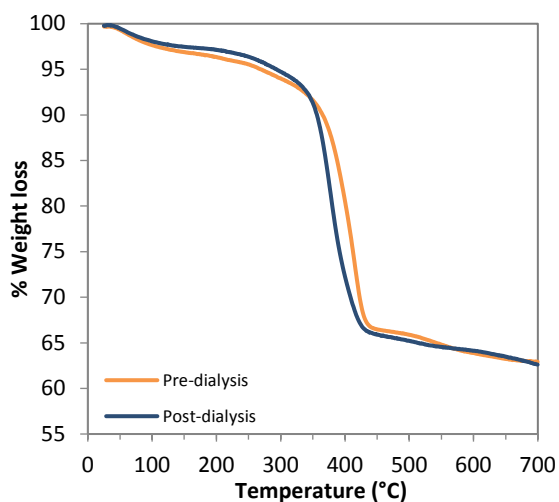


Figure S6. Thermogravimetric analysis of nano-assembly $^{0.2}\text{P}_{20}@GdWO$ before and after dialysis.

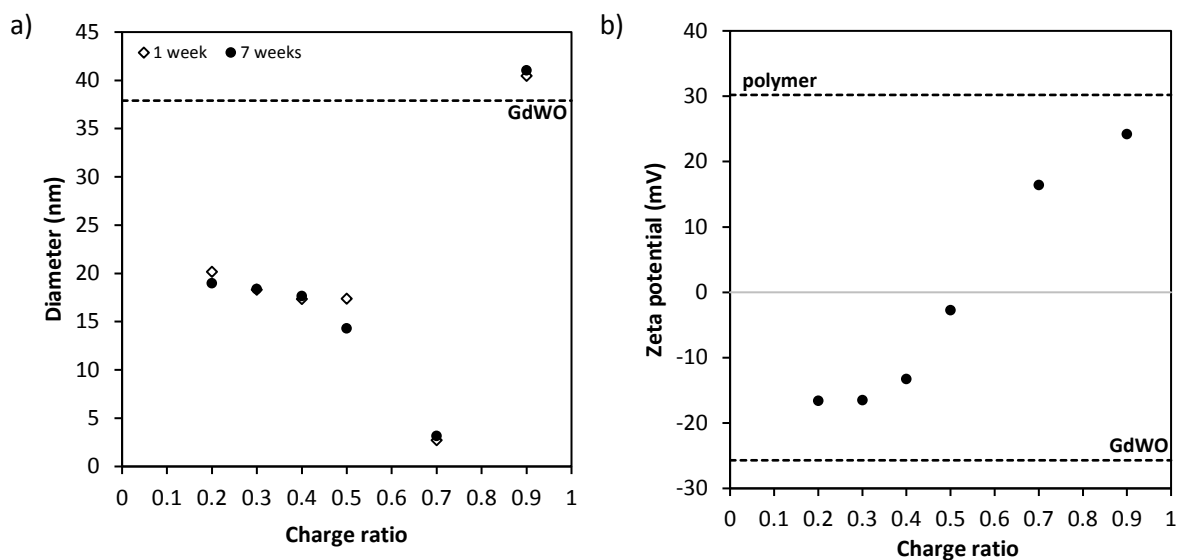


Figure S7. DLS determined the number average particle size of the $\text{P}_{40}@GdWO$ nano-assemblies at week 1 and week 7 (a) and ζ -potential of the nano-assemblies (b).

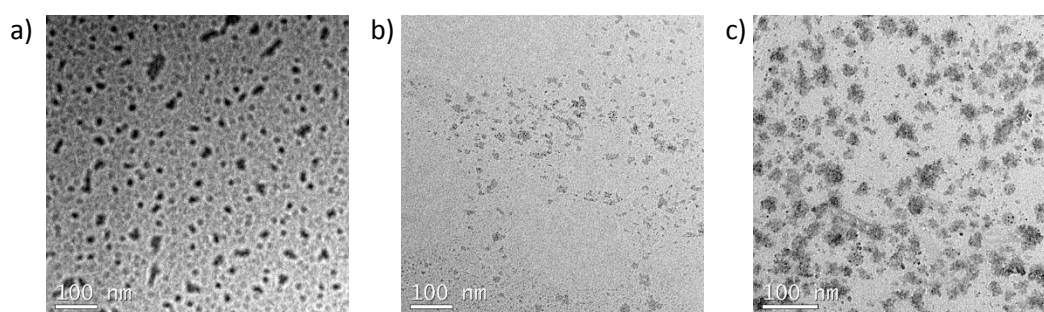


Figure S8. TEM images of the $^{0.3}\text{P}_{20}@GdWO$ (a), $^{0.7}\text{P}_{20}@GdWO$ (b) and $^{0.9}\text{P}_{20}@GdWO$ (c).

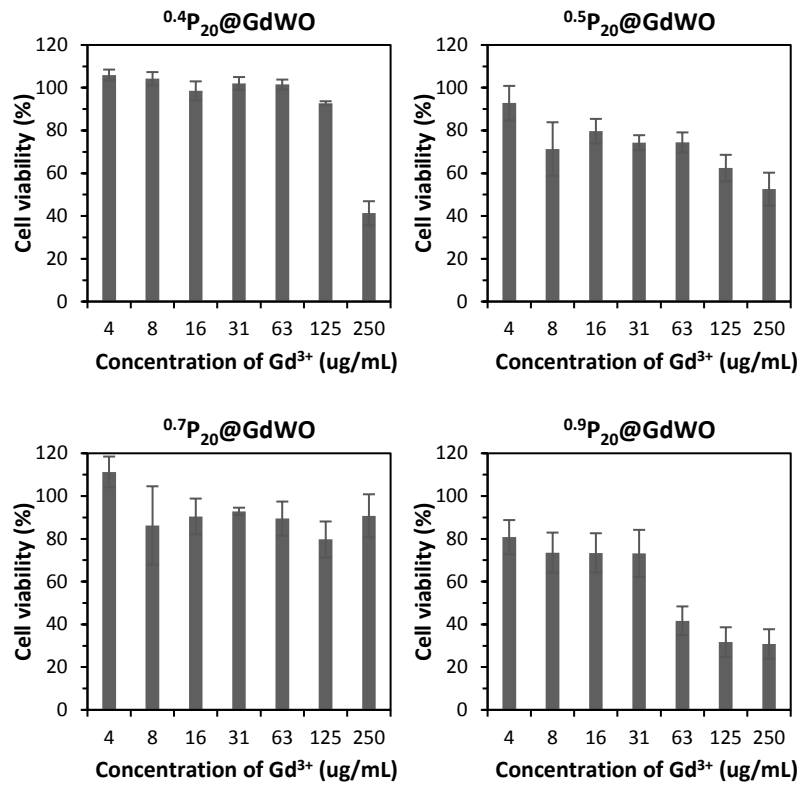


Figure S9. Cytotoxicity study of the $P_{20}@GdWO$ nano-assemblies with AlamarBlue assay