## **Electronic Supplementary Information**

## Nanoparticulated Bimodal Contrast Agent for Ultra-High-Field Magnetic Resonance Imaging and Spectral X-ray Computed Tomography

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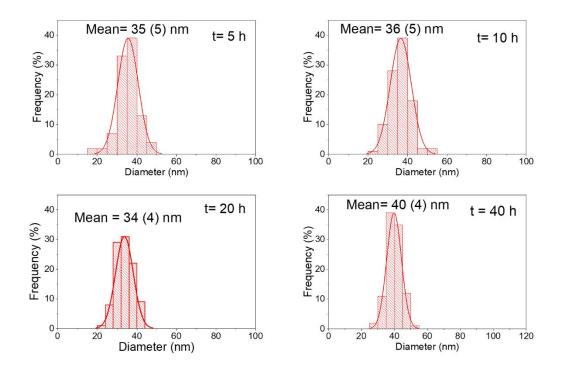
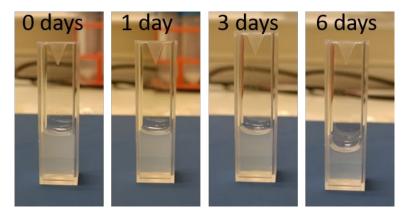
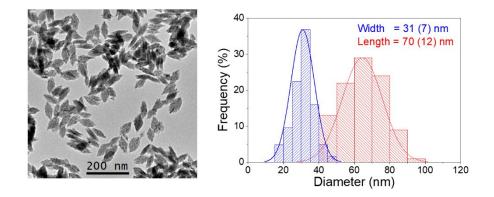


Figure S1: Size histograms obtained from TEM micrographs of the NPs synthesized at different reaction times using nominal Ba/(Ba+Dy) = 0.75.



**Figure S2:** Photographs of Ba51Dy49 NPs suspensions taken after different periods of time at rest.



**Figure S3:** TEM micrograph and size histograms of  $DyF_3$  NPs synthesised as follows:  $Dy(acac)_3$  (0.067 M) was dispersed in glycerol (6 mL) with magnetic stirring at 80 °C for 3 hours. After cooling down, 205.5 µL of [BMIM]BF<sub>4</sub> (0.55 M) were added with magnetic stirring for 3 minutes at room temperature to favor homogenization. The resulting dispersion was transferred to a tightly closed Teflon test tube and heated for 20 hours in an oven preheated at 120 °C. After cooling down, the dispersion was washed twice with ethanol and once with distilled water.