Supporting Information

Dual imaging agent for magnetic particle imaging and computed tomography

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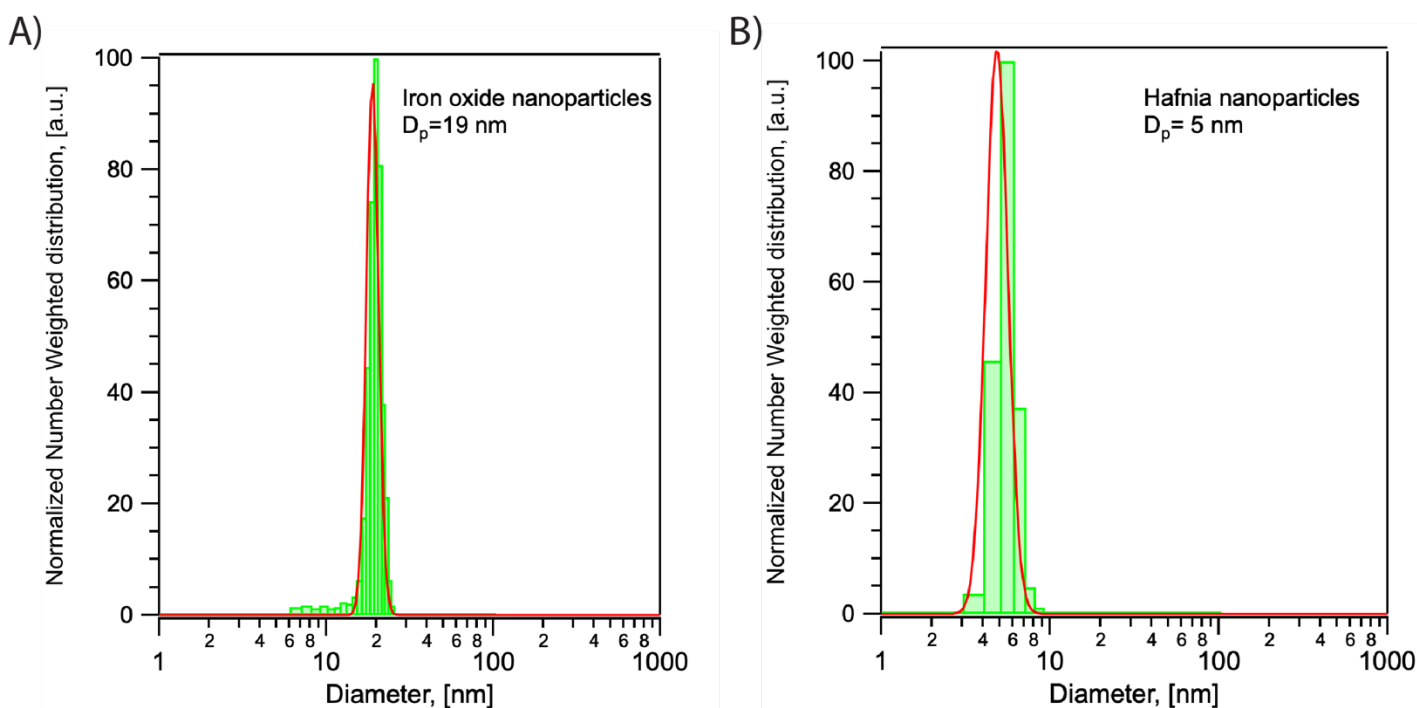
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Figure S1. Physical size and size distribution for the nanoparticles. A) SPIONs. B) hafnia nanoparticles.
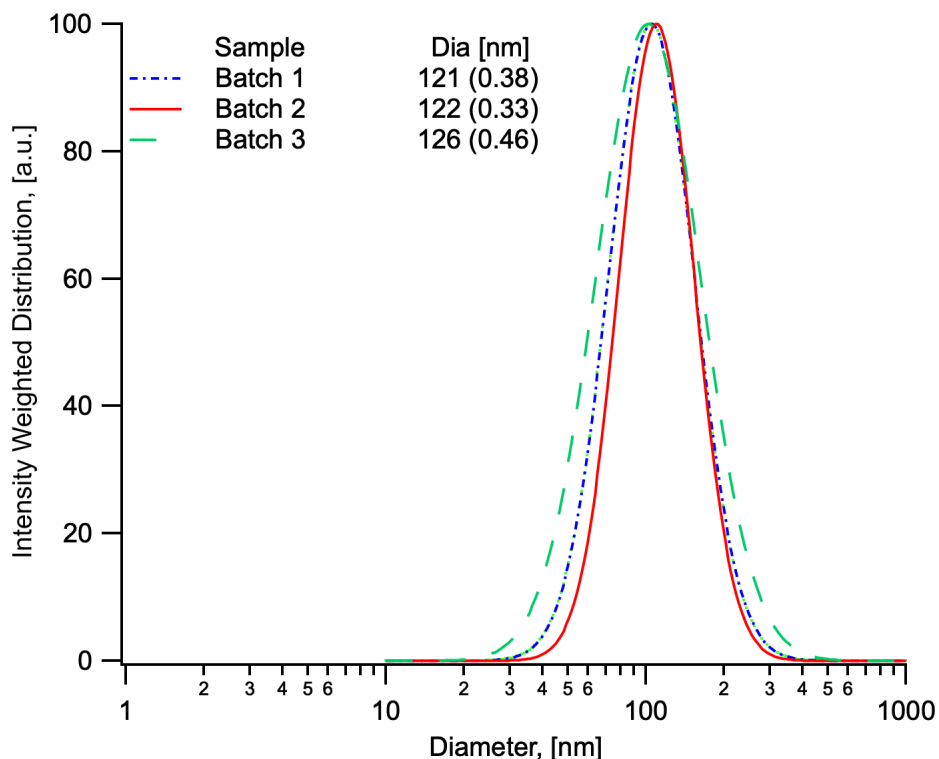
Figure S2. Hydrodynamic diameter and its distribution of three batches of the dual imaging agents obtained from DLS suggest formulation reproducibility.
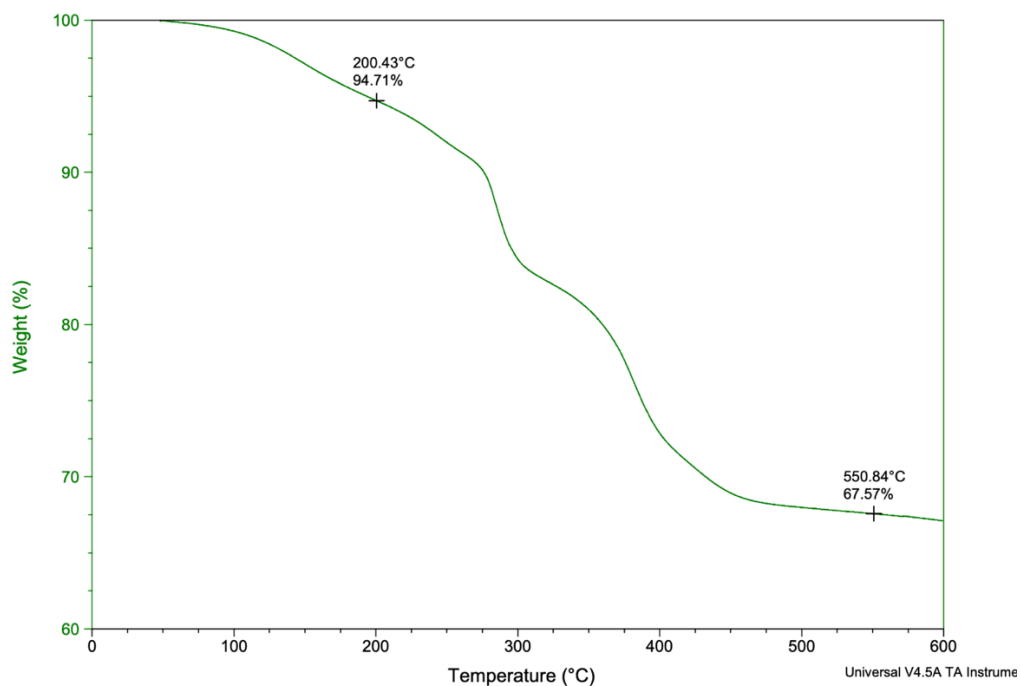

Figure S3. TGA scan for the dual imaging agents. The mass loss below 200 °C is considered moisture and solvent and not considered while performing calculations. The organic mass percentage was 28.6% determined by the weight loss percentage between 200 °C and 550 °C. The inorganic mass was 71.4% containing iron oxide and hafnium oxide.
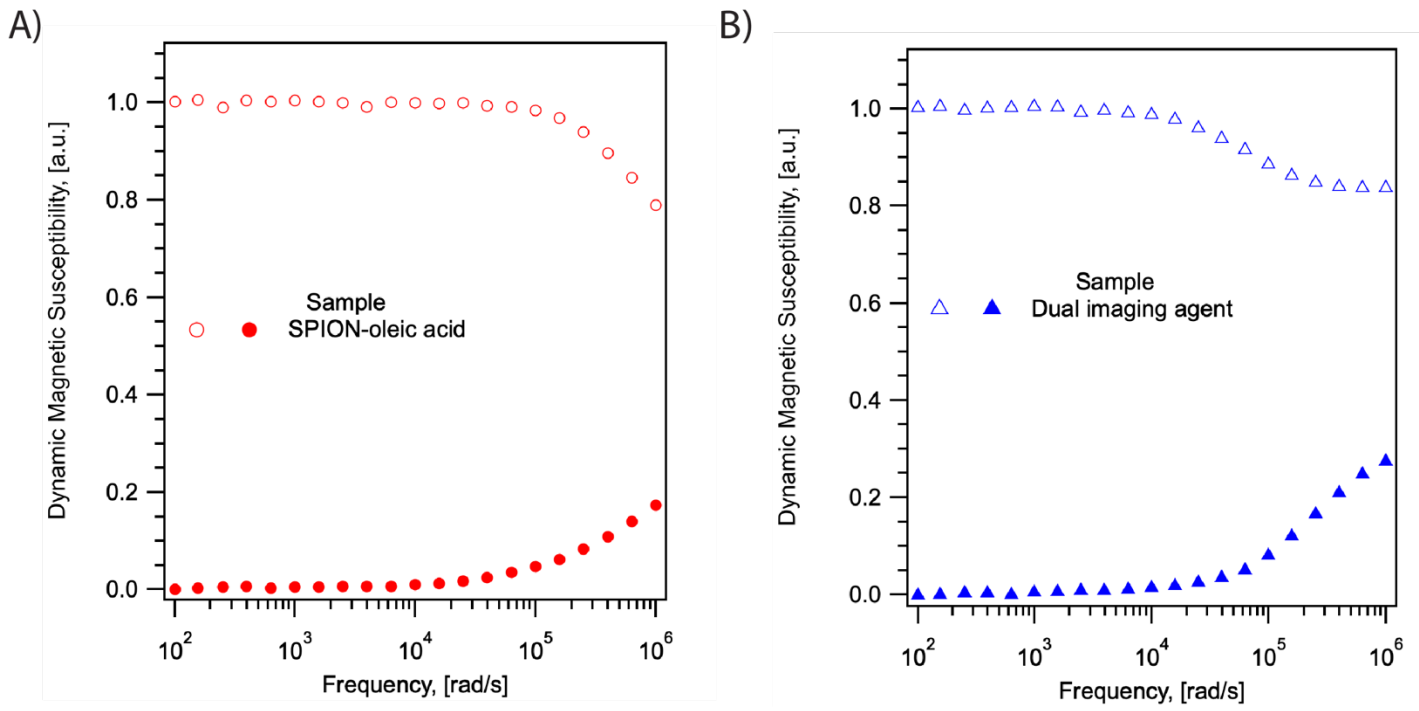
Figure S4. Dynamic magnetic susceptibility characterization. A) SPIONs with oleic acid coating. B) the dual imaging agents.
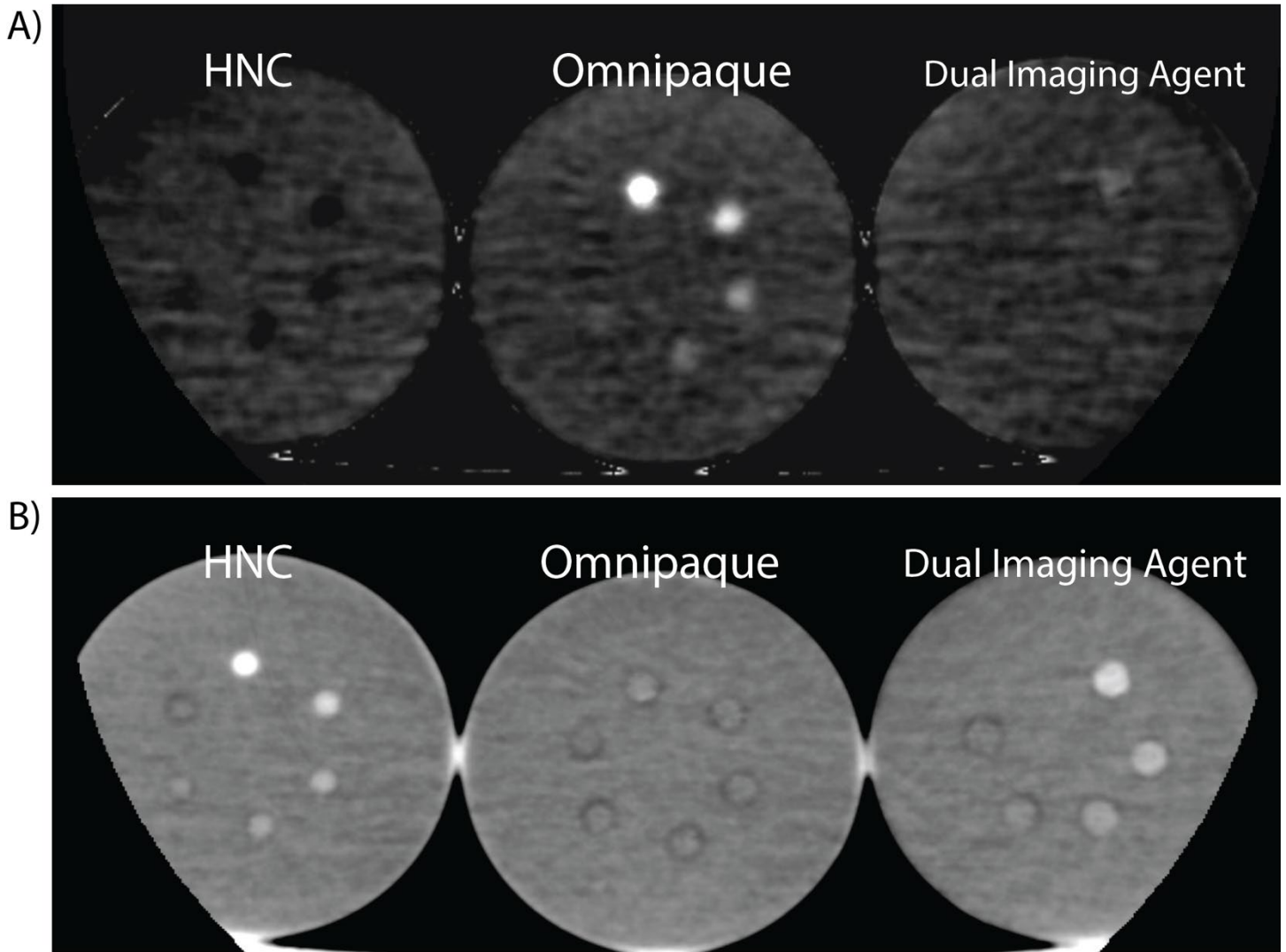
Figure S5. A) Iodine map for the contrast agents obtained from clinical CT dual-energy protocol. B) Virtual non-contrast image for the contrast agents obtained from clinical CT dual-energy protocol.
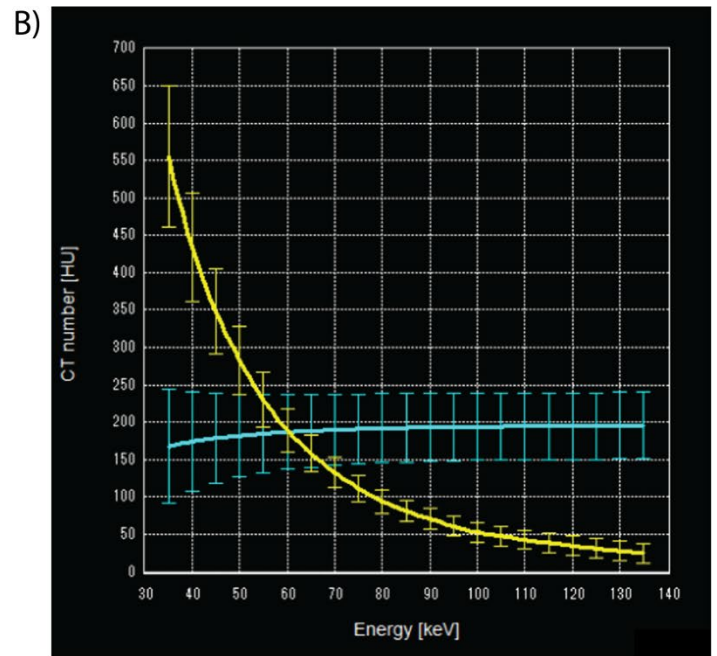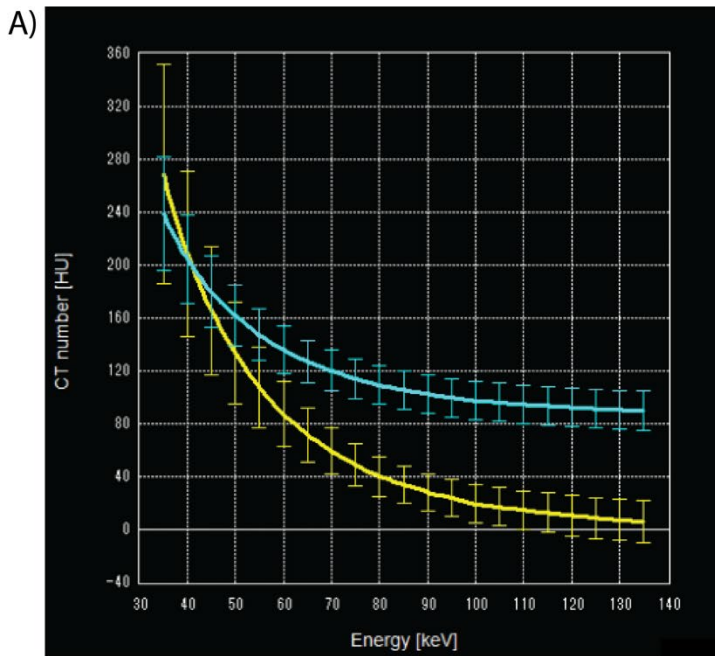
Figure S6. Curves of CT numbers for various virtual monoenergetic images for the contrast agents obtained from clinical CT dual-energy protocol. Yellow curves represent Omnipaque in both figures. The blue curves represent the dual imaging agents (A) and the HNCs (B).