

Method for enhancing the magnetic resonance contrast of a substance involves adding superparamagnetic nanoparticles of oxygen-deficient hafnium-zirconium oxide $\text{Hf}_x\text{Zr}_{1-x}\text{O}_{2-y}$, where $x=0.4-0.6$, with sizes ranging from 4 to 10 nm, which have an orthorhombic crystal structure, are chemically inert and are non-conductive in liquid media.