Supporting Information

Highly Uniform Hollow GdF_3 Spheres: Controllable Synthesis, Tuned Luminescence and Drug Release Properties

Ruichan Lv, Shili Gai,* Yunlu Dai, Na Niu, Fei He, and Piaoping Yang*

Key Laboratory of Superlight Materials and Surface Technology, Ministry of Education, Harbin Engineering University, Harbin 150001, P. R. China

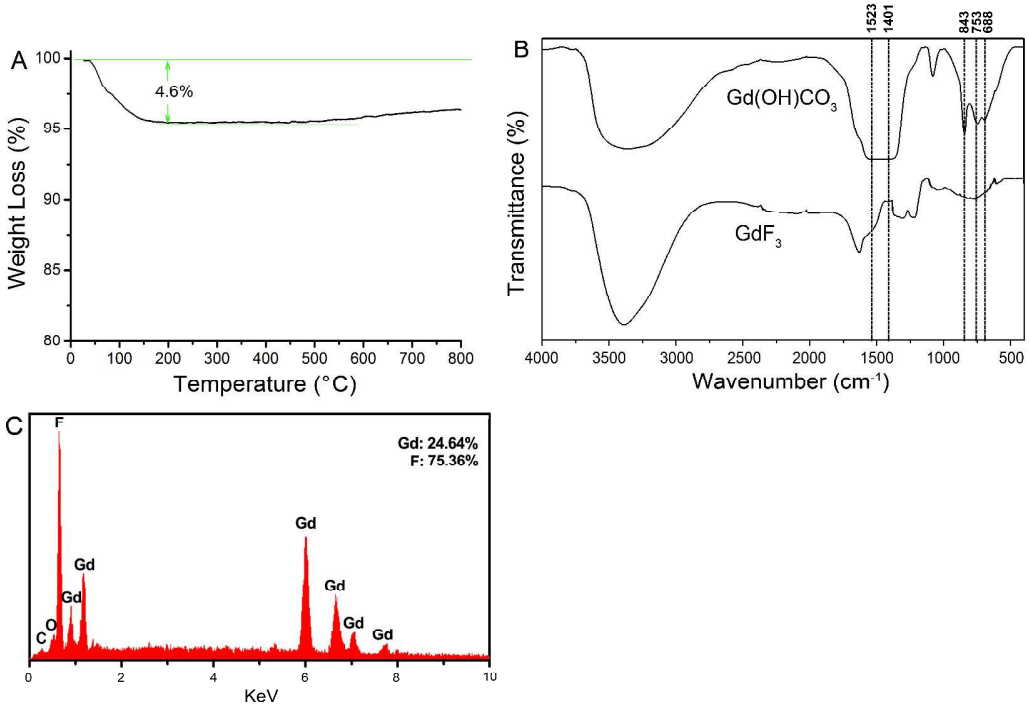


Figure S1. TG curve (A), FT-IR (B) and EDS (C) of the GdF_3 hollow spheres.

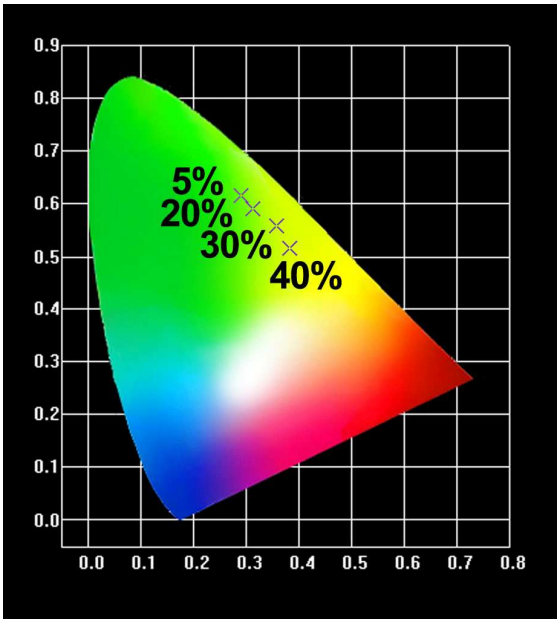


Figure S2. CIE chromaticity diagram of GdF_3:x%Yb^{3+},1Er^{3+} (x = 5, 20, 30 and 40).

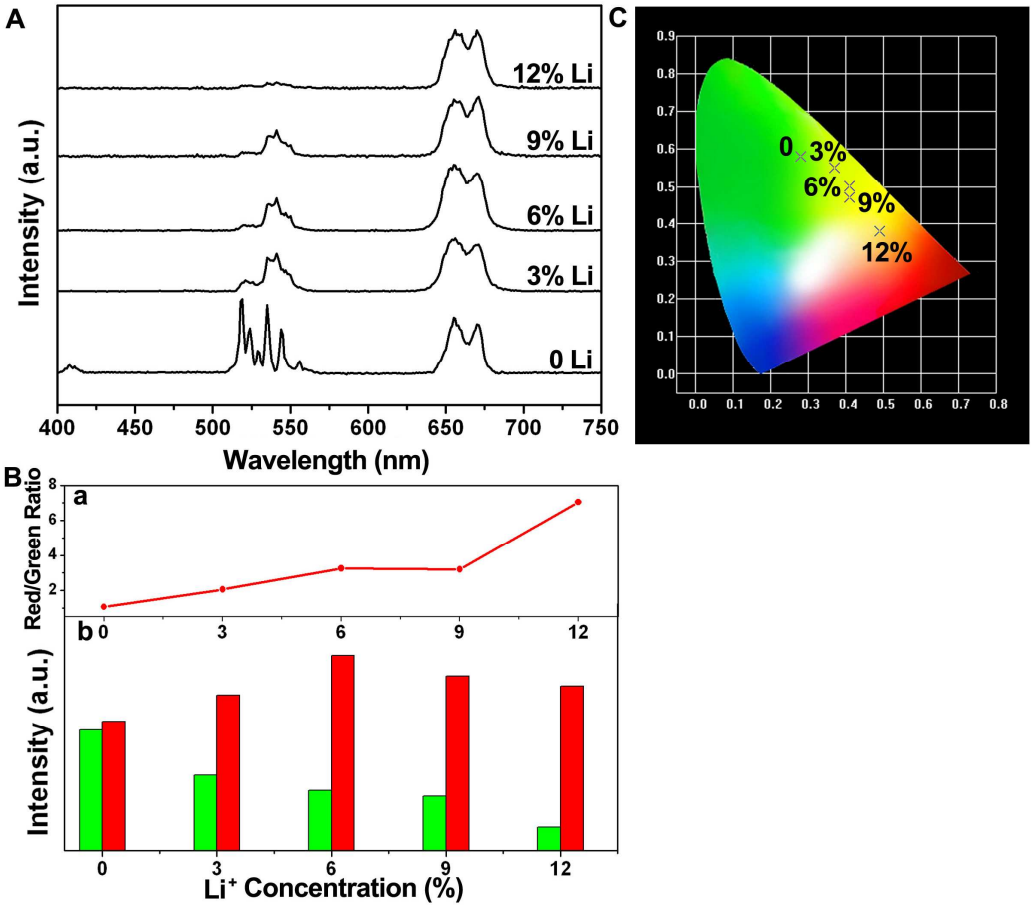


Figure S3. UC luminescence spectra of GdF_3:15%Yb^{3+},1%Er^{3+},y%Li^+ (y = 0, 3, 6, 9 and 12) under 980 nm excitation (A); the red/green ratio (a) and integral intensity (b) of the green and red colors with different Yb^{3+}-doped concentration (B). CIE chromaticity diagram of GdF_3:15%Yb^{3+},1%Er^{3+},y%Li^+ (y = 0, 3, 6, 9 and 12) under 980 nm excitation (C).

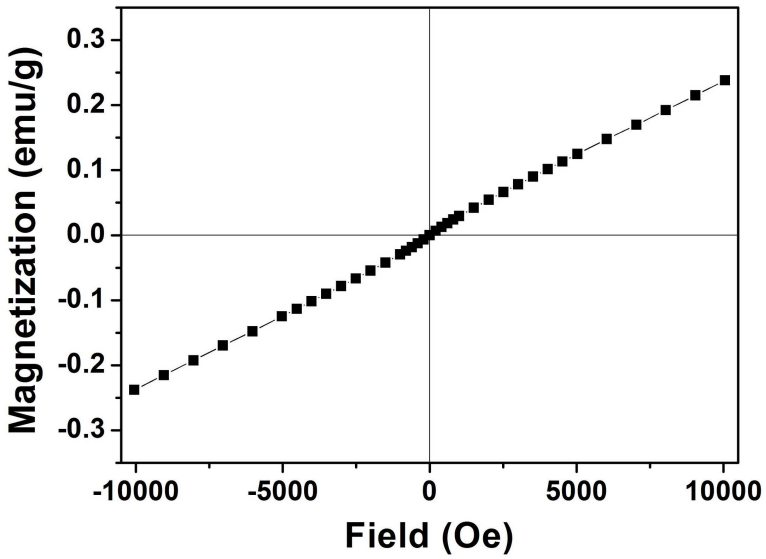
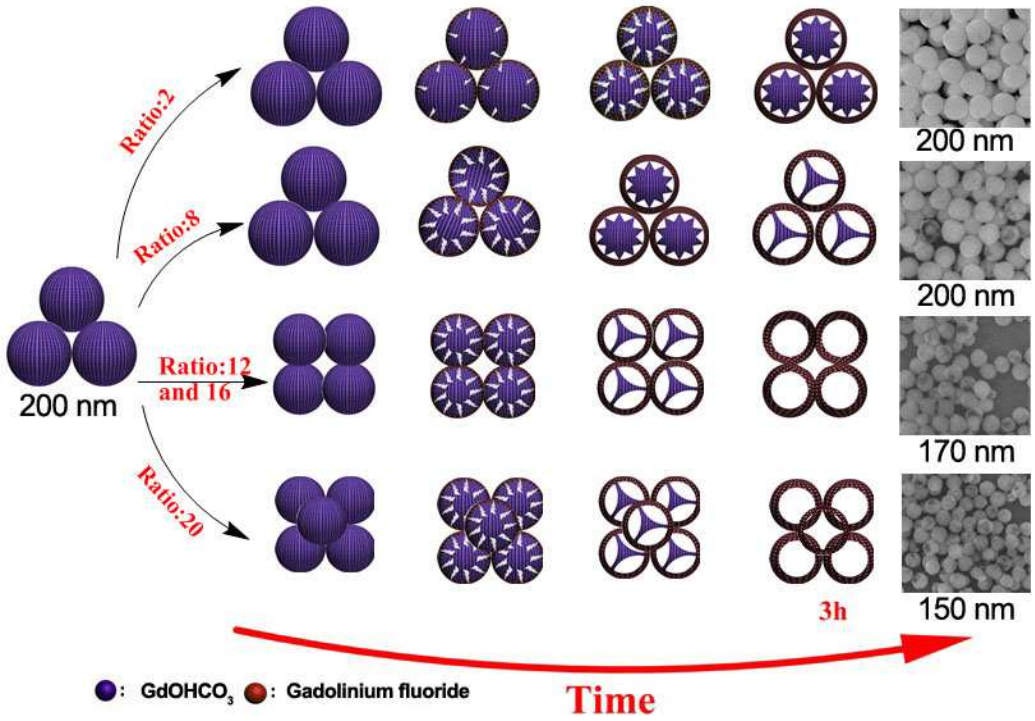


Figure S4. Magnetization as a function of the applied field for GdF_3 hollow spheres.



Scheme S1. Illustration of phase and morphology for gadolinium fluorides with altered $NaBF_4/Gd^{3+}$ molar ratios.