Electronic Supplementary Material (ESI) for New Journal of Chemistry

Supporting information for:

One-Pot Synthesis of Water-Stable Gadolinium-Doped $Yb(OH)CO_3$ Nanoprobes for In Vivo Dual MR and X-ray CT Imaging

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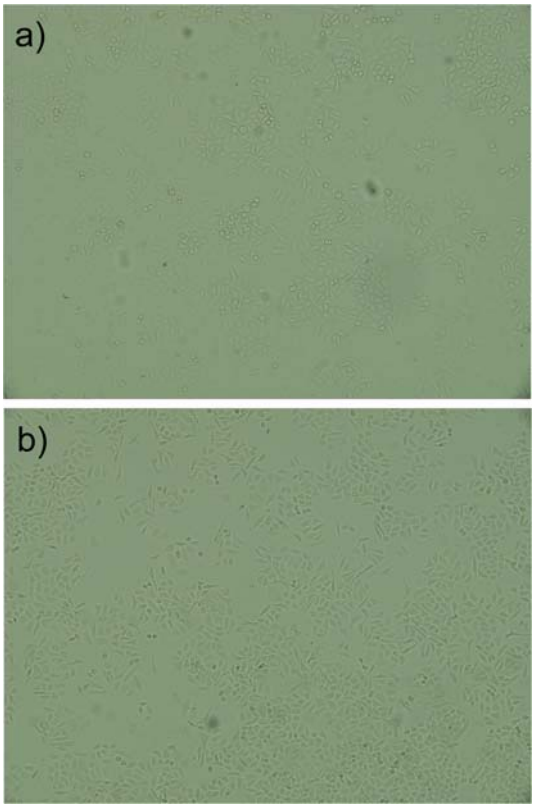

Figure S1. Microscopic images of HepG2 cells incubated without (a) and with (b) $Yb(OH)CO_3$:Gd nanoparticles.

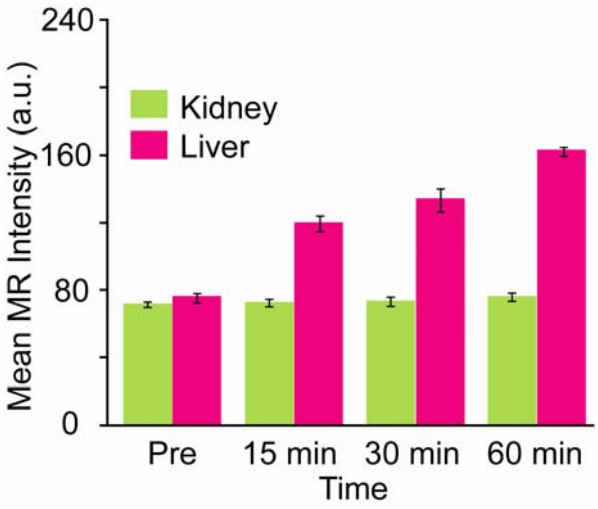

Figure S2. In vivo mean intensity of T_1-weighted MR signals of a rat before and after intravenous injection of $Yb(OH)CO_3$:Gd nanoparticles at different timed intervals.

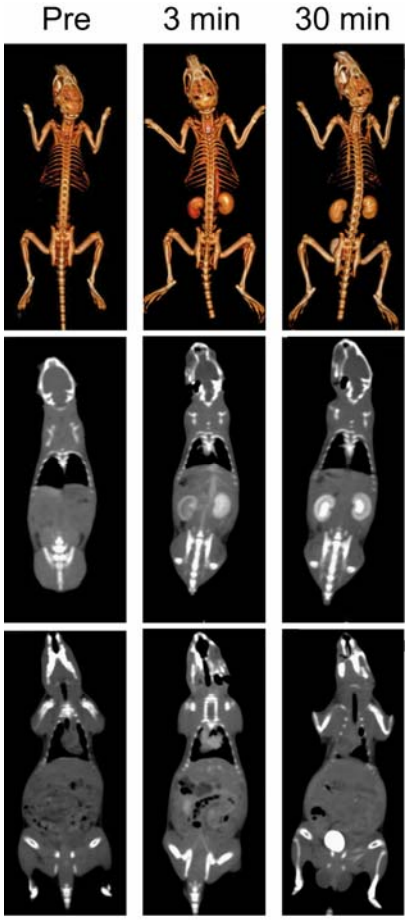

Figure S3. In vivo serial CT view images of rats after intravenous injection of Iobitridol solution at different timed intervals.

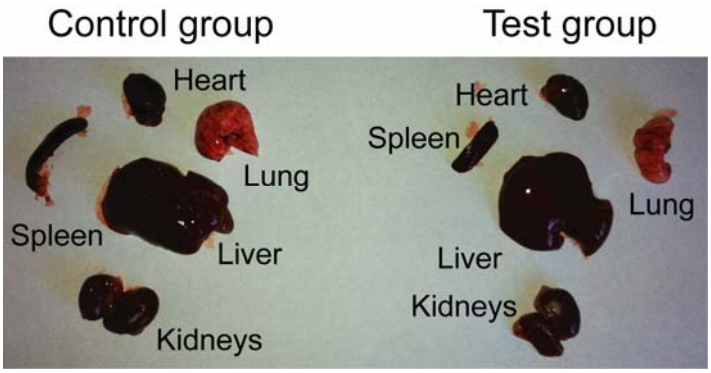

Figure S4. Organ changes of the mice after intravenous injection of 0.9 wt% NaCl as control group and Yb(OH)CO3:Gd nanoparticles as test group.

Table S1: Exact value of hemolysis percentage upon $Yb(OH)CO_3$:Gd nanoparticles with different concentrations (PBS denoted as 0 and water denoted as 100).

Concentrations (mg RE mL^{-1})	Value of hemolysis (%)
0.078125	-0.035
0.15625	0.002
0.3125	0.010
0.625	0.087
0.125	-0.108
0.25	0.225
0.50	0.394
1.00	0.589

Table S2: CT values of the heart, liver, spleen, kidneys, and renal pelvis of a rat before and after intravenous administration of 1 mL of $Yb(OH)CO_3$:Gd solution (50 mg RE mL^{-1}) at different timed intervals.

Time	Heart	Liver	Spleen	Kidneys	Bladder
Pre-injection	56.4	63.9	57.3	54.2/52.3	46.3
15 min	59.8	143.2	106.3	53.5/54.9	47.1
30 min	55.7	198.7	156.7	56.1/55.6	45.9
60 min	56.3	213.5	198.4	54.8/53.6	46.2

Table S3: CT values of the heart, liver, spleen, kidneys, and renal pelvis of a rat before and after intravenous administration of 0.3 mL of Iobitridol (350 mg I mL^{-1}) at different timed intervals.

Time	Heart	Liver	Spleen	Kidneys	Bladder
Pre-injection	59.3	68.5	65.3	55.6/57.3	51.2
3 min	62.7	70.3	63.6	172.5/176.9	49.7
30 min	61.5	69.4	63.2	368.2/359.6	708.2

Table S4: Hematology analysis and blood biochemical assay 30 days after intravenous administration.

Test	Unit	Control group (mean±sd)	Treatment group (mean±sd)
blood cell count (WBC)	$\times 10^9$/L	10.4±3.5	9.8±2.7
red cell count (RBC)	$\times 10^{12}$/L	9.6±2.3	9.2±2.7
hemoglobin (HGB)	g/L	172±30.2	164±42.3
mean corpuscular hemoglobin (MCH)	pg	18.1±3.2	17.2±2.6
mean corpuscular hemoglobin concentration (MCHC)	g/L	320±23.9	333±38.1
alanine aminotransferase (ALT)	U/L	45.3±5.5	46.1±8.8
aspartate aminotransferase (AST)	U/L	165.3±27.1	173.2±35.1
blood urea nitrogen (BUN)	$\times 10^6$/μL	9±1.6	8.7±3.2
plasma creatinine (CRE)	$\times 10^3$/μL	23.5±2.7	26.7±4.3