Supporting Information

Magnetic and electron spin relaxation properties of $(Gd_xY_{1-x})_2O_3$ ($0 \leq x \leq 1$) nanoparticles synthesized by the combustion method. Increased electron spin relaxation times with increasing yttrium content.

Table S1. Selected angles and atomic distances of Gd_2O_3 (PDF 43-1014).

Selected angles (°)		Atomic distances (Å)	
O1(i) - Gd1 - O1(ii)	79.2	Gd1–O1	2.300
O1(i) - Gd1 - O1(iii)	100.8	Gd2–O1(vii)	2.284
O1(i) - Gd1 - O1(vi)	180.0	Gd2–O1(viii)	2.408
		Gd2–O1(ix)	2.322
O1(vii) - Gd2 - O1(viii)	77.3		
O1(vii) - Gd2 - O1(ix)	99.9		
O1(vii) - Gd2 - O1(x)	111.0		
O1(vii) - Gd2 - O1(xi)	80.3		
O1(vii) - Gd2 - O1(xii)	137.5		
O1(viii) - Gd2 - O1(ix)	79.5		
O1(viii) - Gd2 - O1(x)	164.6		
O1(viii) - Gd2 - O1(xi)	115.2		
O1(ix) - Gd2 - O1(xi)	164.6		

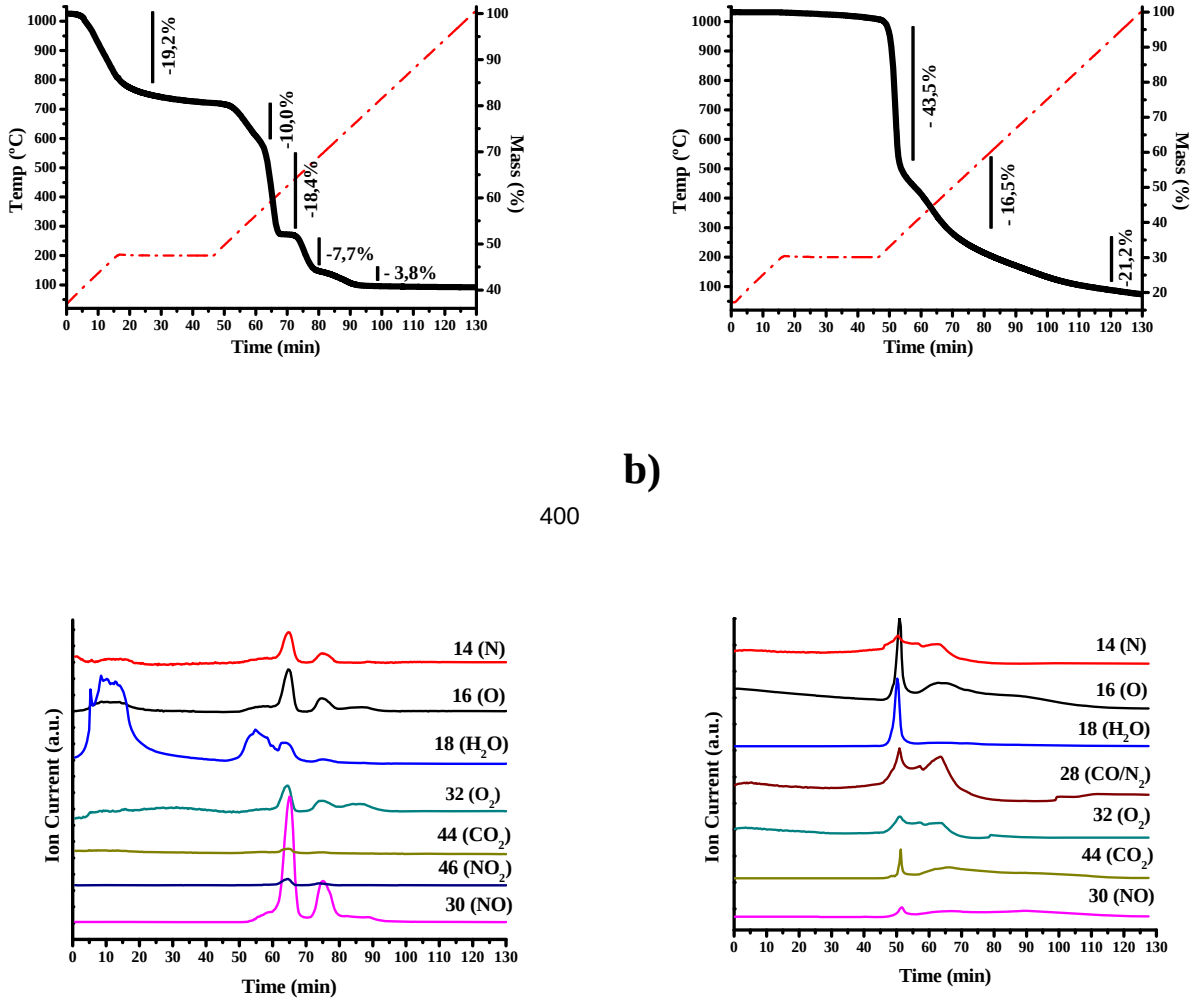

Figure S1. Measured TG curves and gas analysis evolution profiles for the decomposition of $Gd(NO_3)_3 \cdot 6H_2O$ (a), and glycine (H_2NCH_2COOH) (b).

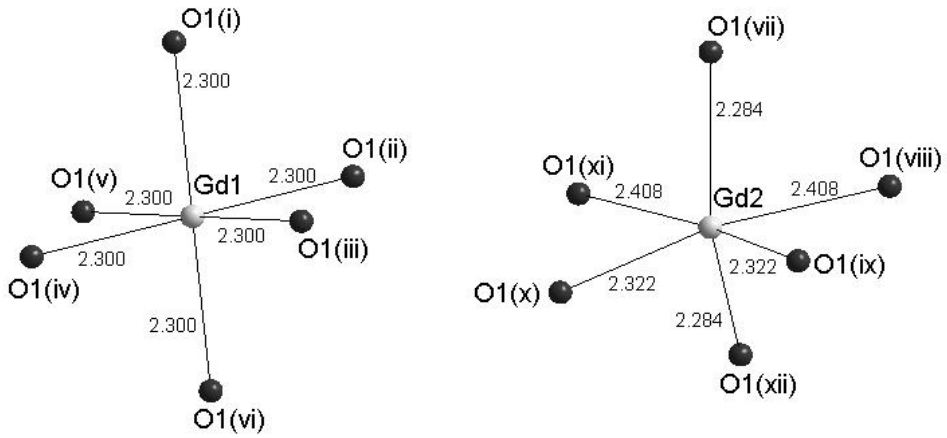

Figure S2. The coordination around the Gd1 and Gd2 atoms in cubic Gd_2O_3. See Table S1 for atomic distances and bond angles.