Electronic Supplementary Material (ESI) for RSC Advances.

Supplementary information

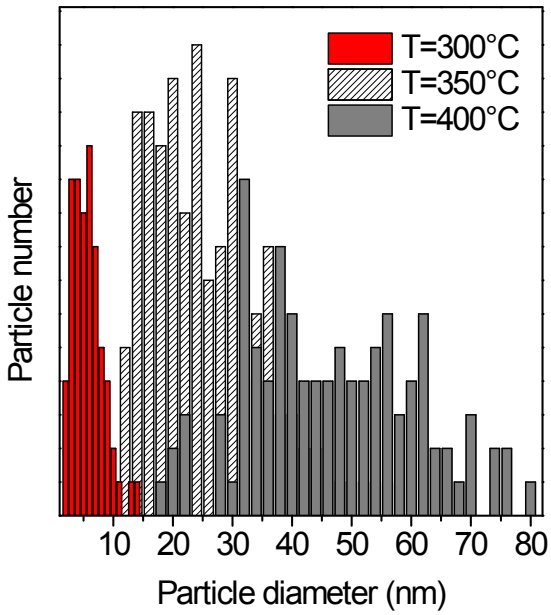

Figure S1: Size distribution of YAG:Ce nanocrystals obtained under different synthesis temperatures. Other parameters are kept constant: P = 200 bar, [Al] = 0.09 mol/L and t = 150 min.

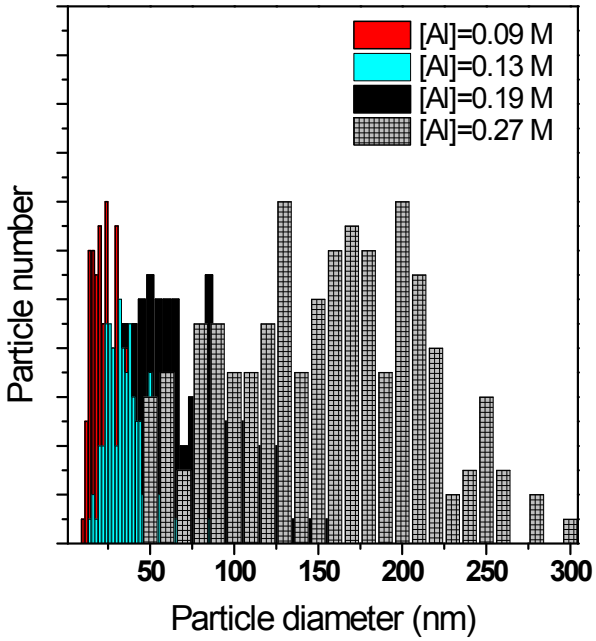

Figure S2: Size distribution of YAG:Ce nanocrystals obtained with different precursor concentration. P = 200 bar, T = 350°C and t = 150 min.

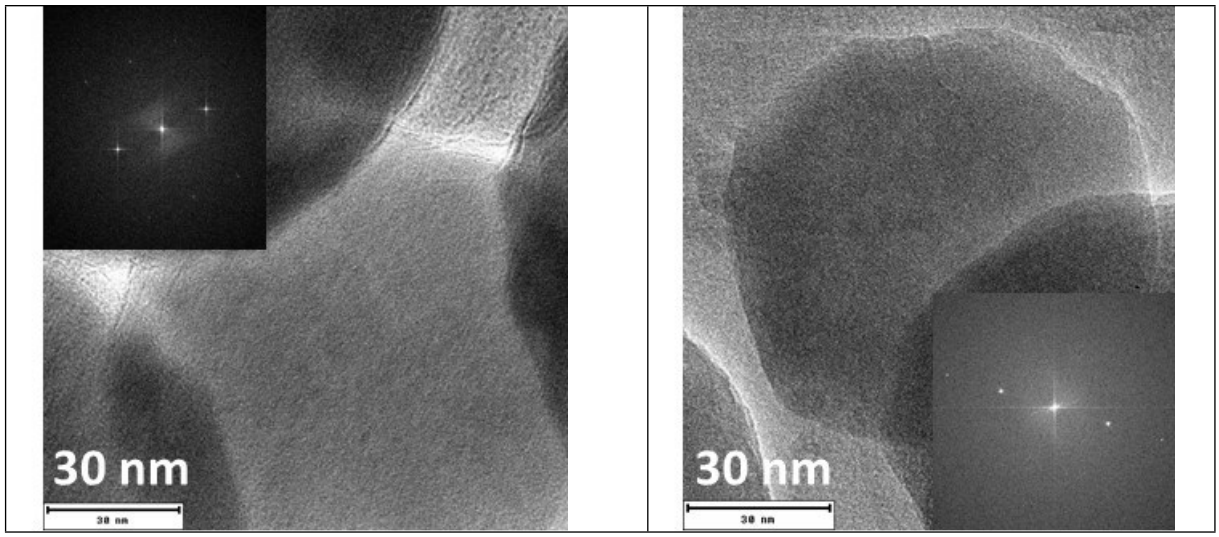

Figure S3: High resolution TEM images of YAG:Ce nanocrystals obtained un the following conditions : [Al] = 0.27 mol.L^{-1}, P = 200 bar, T = 350°C and t = 150 min. The Fourier Transforms have been added to underline the single-crystal character of these particles.

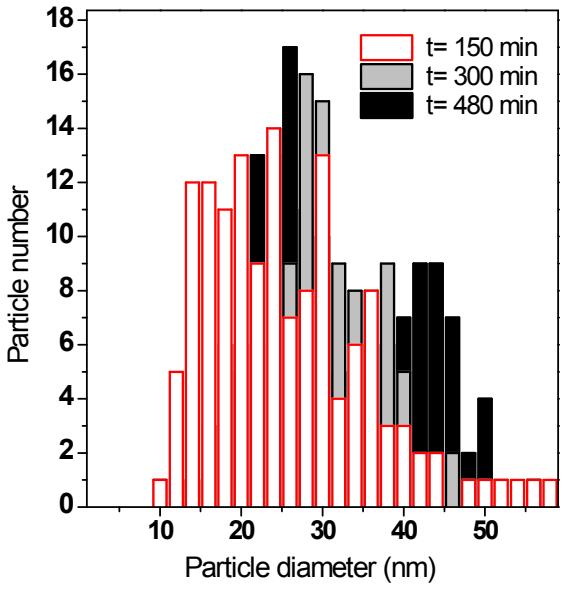

Figure S4: Size distribution of YAG:Ce nanocrystals obtained at P = 200 bar, T = 350°C and [Al] = 0.09 mol.L^{-1} for different reaction time.

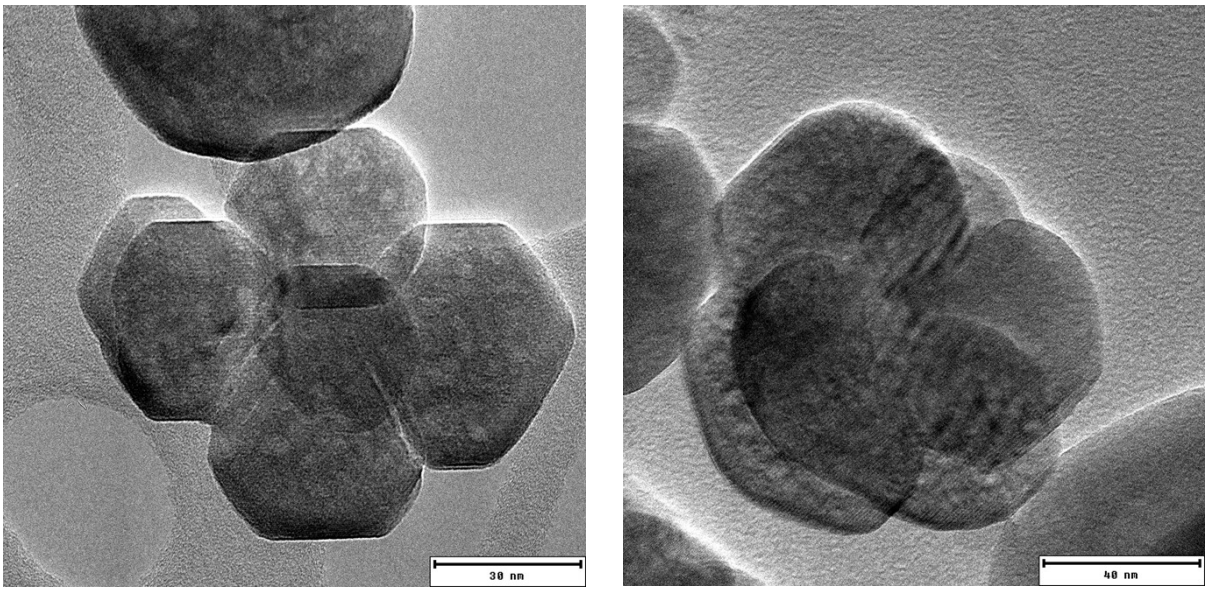

Figure S5: *TEM images of some YAG:Ce nanocrystals obtained under P = 200 bar, T = 400°C, [Al] = 0.18 mol.L-1 and t = 300 min.*

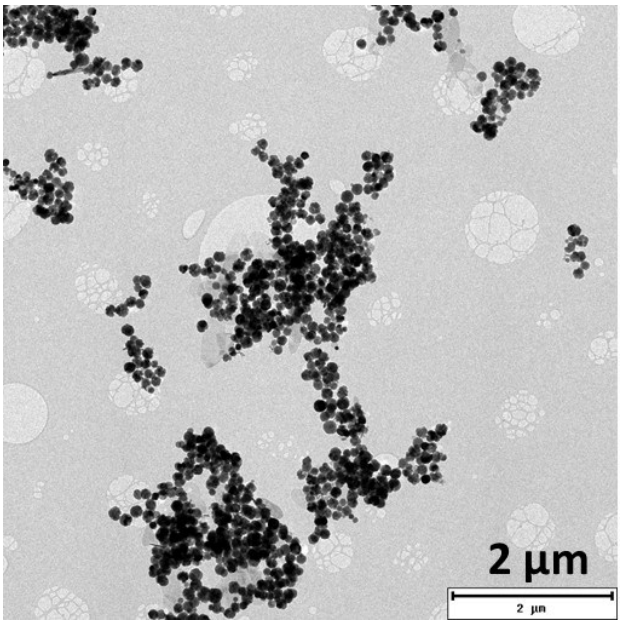

Figure S6: *TEM image of YAG:Ce nanocrystals with an average size of 100 nm*

Temperature (°C)	[Al] concentration (M)	Time (min)	Nanocrystal size (nm) determined by TEM imaging
300	0.09	150	6 , mainly gathered in aggregates
350	0.09	150	23 and a few aggregates
400	0.09	150	47 nm
350	0.02	150	6, mainly gathered in aggregates
350	0.13	150	35
350	0.18	150	65
350	0.27	150	180
350	0.09	70	15, mainly gathered in aggregates
350	0.09	300	29
350	0.09	480	34
350	0.18	300	50
350	0.18	480	110

Table S1: Summary of the synthesis conditions and the size of the resulting nanocrystals