

**Electronic Supplementary Information for PCCP
To**

**“EPR and optical studies of erbium-doped β -PbF₂ single-crystals and
nanocrystals in transparent glass-ceramics”**

Géraldine Dantelle, Michel Mortier, Daniel Vivien

Laboratoire de Chimie de la Matière Condensée de Paris – ENSCP – UMR 7574 –
11 rue Curie – F- 75231 PARIS Cedex 05 – France.

Figure caption

Figure S1: Absorption spectrum of PbF₂:2%ErF₃ at 10K.

Figure S2: Absorption spectra corresponding to the transition $^4I_{15/2} \rightarrow ^4G_{11/2}$ for the different single-crystals. The absorption spectra of PbF₂:0.2%Er and PbF₂:0.02%Er have been multiplied by respectively 10 and 100.

Figure S3: Emission spectra of PbF₂:0.2%Er under different excitation wavelengths using some particular lines of the Ar⁺ ion laser: (a) $\lambda_{\text{exc}} = 476$ nm, (b) $\lambda_{\text{exc}} = 488$ nm, (c) $\lambda_{\text{exc}} = 514$ nm. $T = 15$ K.

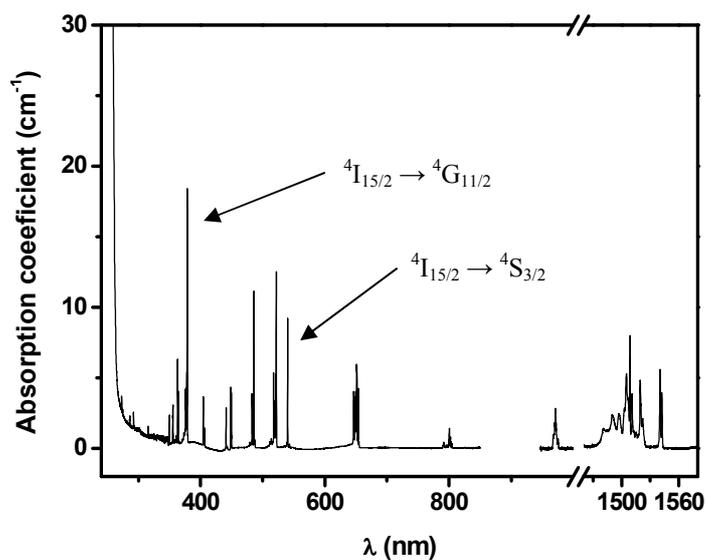


Figure S1: Absorption spectrum of $\text{PbF}_2:2\%\text{ErF}_3$ at 10K.

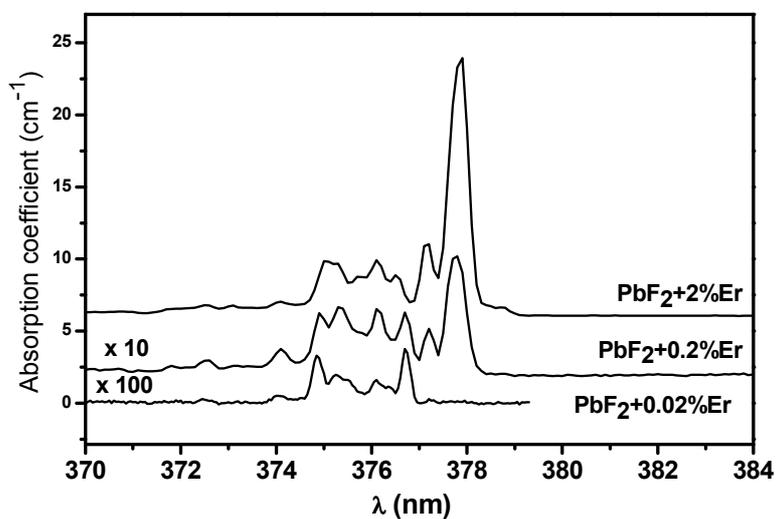


Figure S2: Absorption spectra corresponding to the transition ${}^4I_{15/2} \rightarrow {}^4G_{11/2}$ for the different single-crystals. The absorption spectra of $\text{PbF}_2:0.2\%\text{Er}$ and $\text{PbF}_2:0.02\%\text{Er}$ have been multiplied by respectively 10 and 100.

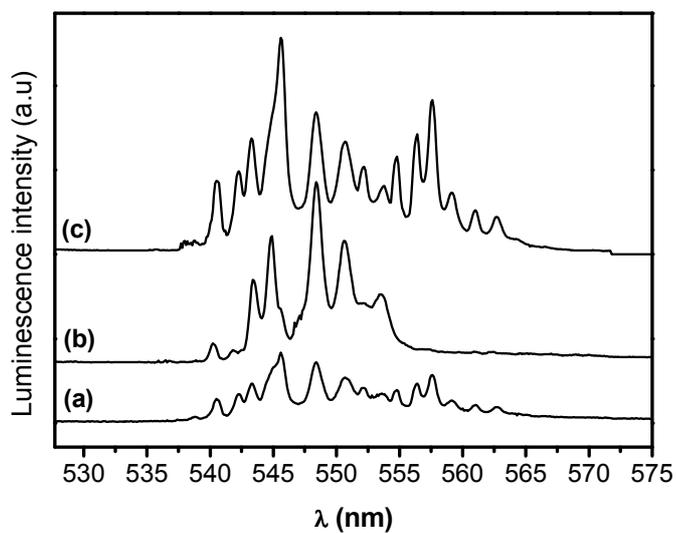


Figure S3: Emission spectra of PbF₂:0.2%Er under different excitation wavelengths using some particular lines of the Ar⁺ ion laser: (a) $\lambda_{\text{exc}}=476$ nm, (b) $\lambda_{\text{exc}}=488$ nm, (c) $\lambda_{\text{exc}}=514$ nm. $T=15$ K.