Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C.

Supporting information:

Vibrationally induced color shift tuning of photoluminescence in Ce^{3+}-doped garnet phosphors

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1 Supporting figures

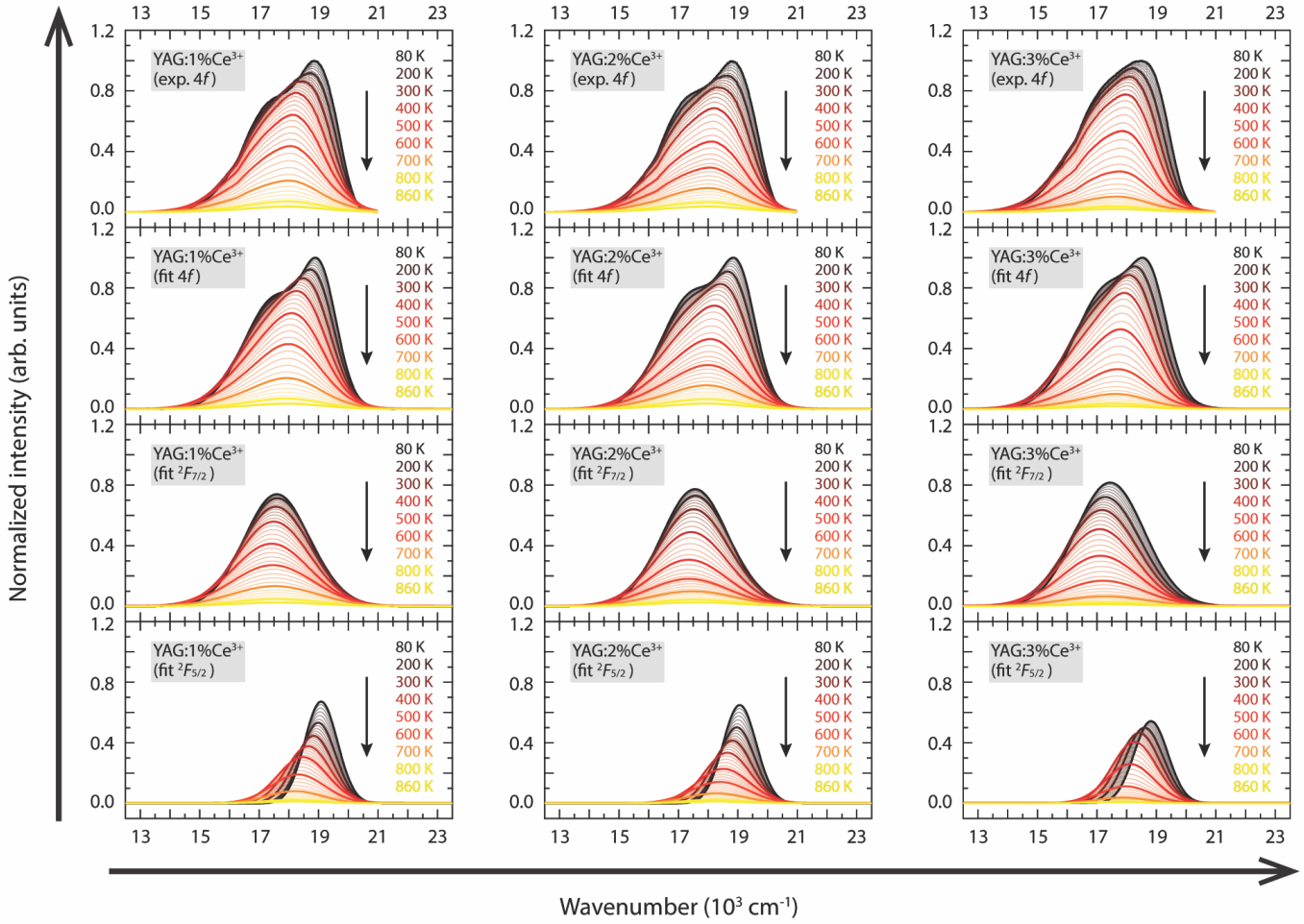

Fig. S1 Variable temperature emission spectra, corresponding to the experimental $4f$ bands and to the $4f$, $^2F_{7/2}$, and $^2F_{5/2}$ bands obtained from the fits, of YAG:1%Ce^{3+}, YAG:2%Ce^{3+} and YAG:3%Ce^{3+}.

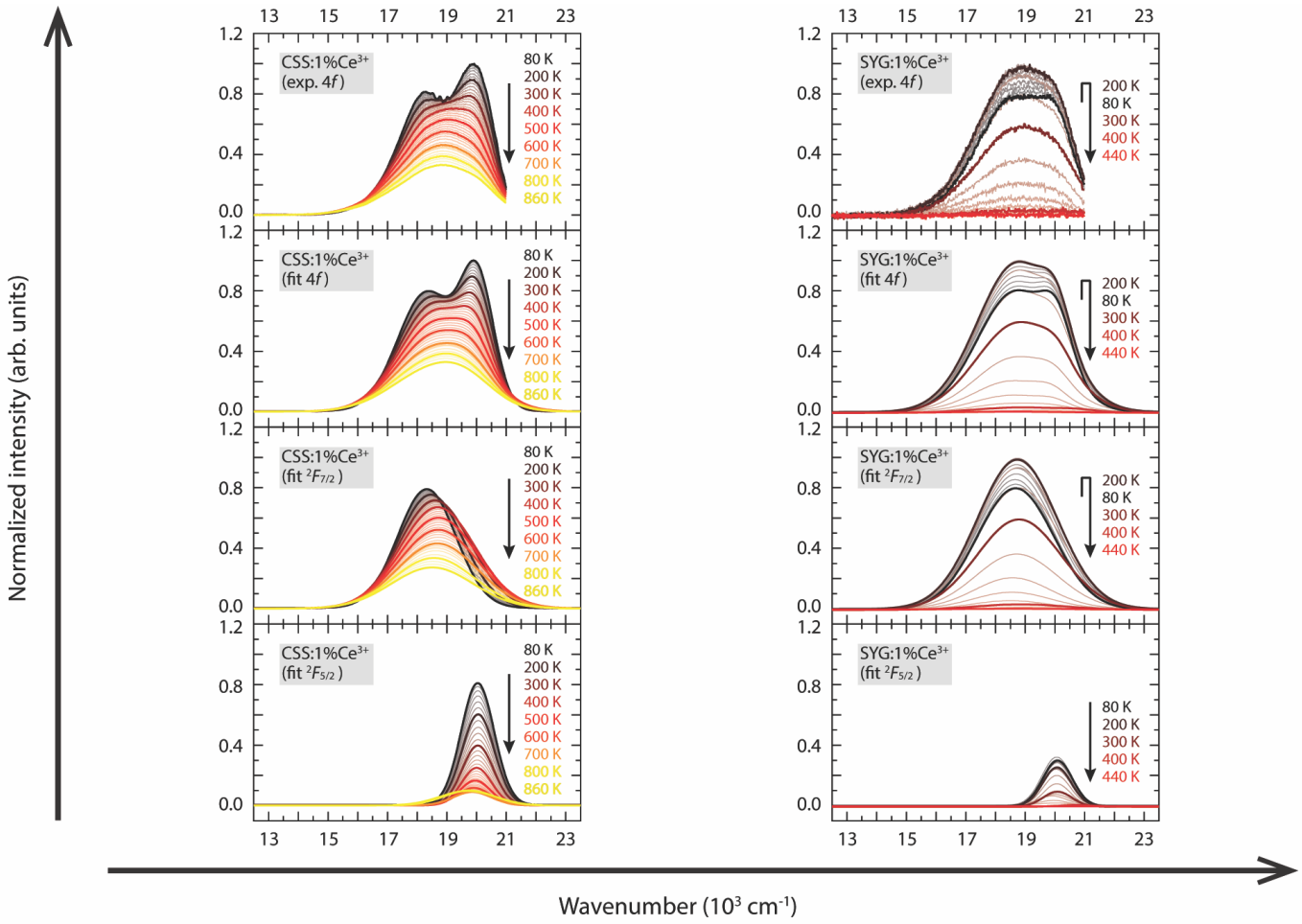

Fig. S1 (continued) Variable temperature emission spectra, corresponding to the experimental $4f$ bands and to the $4f$, $^2F_{7/2}$, and $^2F_{5/2}$ bands obtained from the fits, of CSS:1%Ce^{3+} and SYG:1%Ce^{3+}.

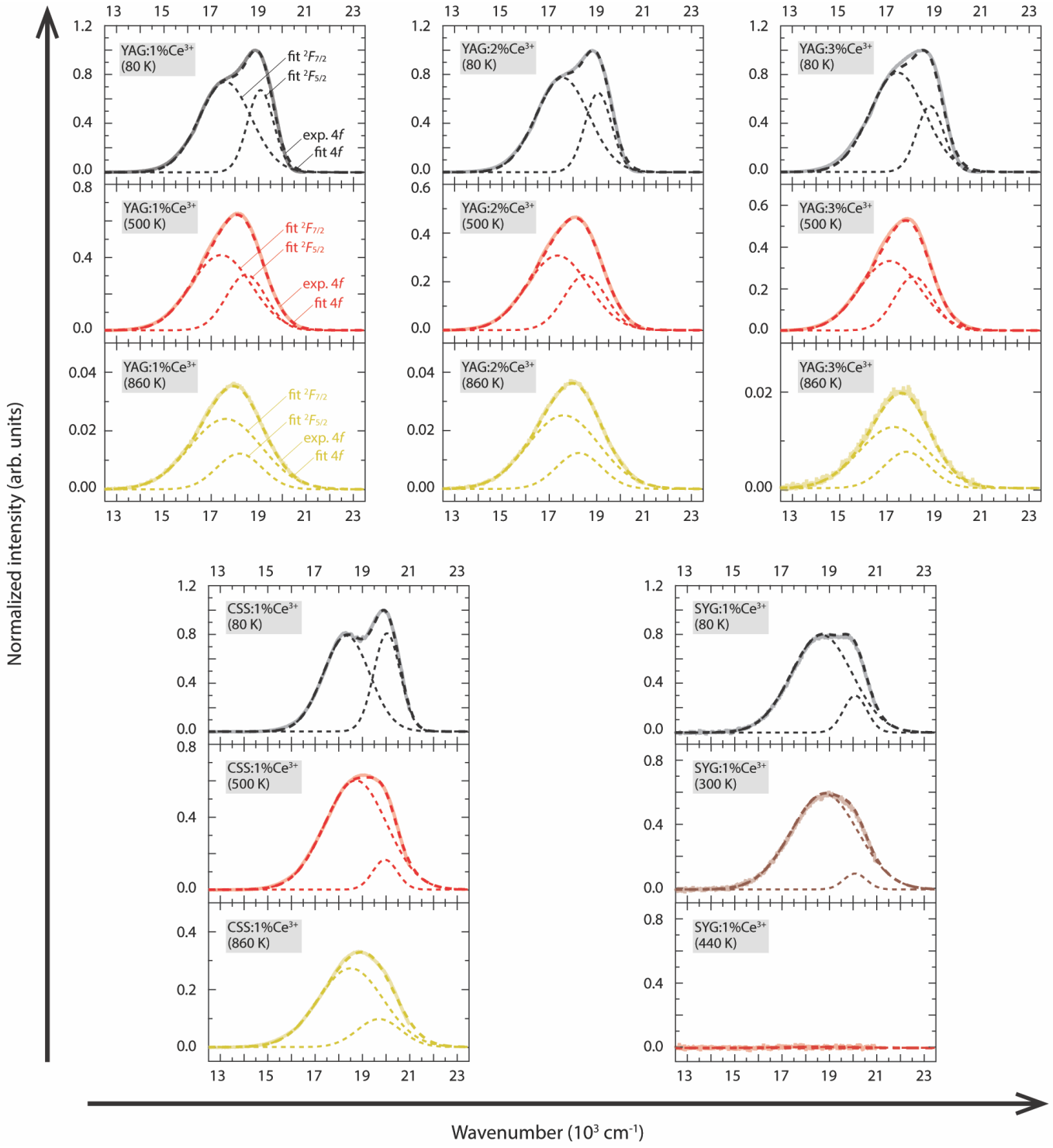

Fig. S2 Deconvolution of the emission spectra of YAG:1%Ce^{3+}, YAG:2%Ce^{3+}, YAG:3%Ce^{3+}, and CSS:1%Ce^{3+} at 80, 500, and 860 K, respectively, and SYG:1%Ce^{3+} at 80, 300, and 440 K, respectively. Solid curves and thicker dashed curves correspond to the $5d_1 \rightarrow 4f$ emission band ($4f$ band) obtained from the experimental (exp.) measurements and peak fits, respectively. The peak fits were performed using two Gaussian functions (*cf.* two thinner dashed curves) which correspond to the $5d_1 \rightarrow {}^2F_{7/2}$ and $5d_1 \rightarrow {}^2F_{5/2}$ emission bands ($^2F_{7/2}$ and $^2F_{5/2}$ bands, centered at lower and higher energies, respectively).