

## Supporting Information

### Splendid four-mode optical thermometry design based on the thermochromic $\text{Cs}_3\text{GdGe}_3\text{O}_9:\text{Er}^{3+}$ phosphors

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Table S1 Rietveld XRD refinement data of CGGO:0.9Er<sup>3+</sup>.

Sample	Standard data	CCGO:0.9Er <sup>3+</sup>
Space group	Pna21(33) - orthorhombic	Pna21(33) - orthorhombic
$\alpha=\beta=\gamma$	90°	90°
$a$	13.8827 Å	13.7902 Å
$b$	7.1594 Å	7.1018 Å
$c$	12.7676 Å	12.7181 Å
$V$	1268.99 Å <sup>3</sup>	1245.57 Å <sup>3</sup>
$\chi^2$	/	0.56
$R_{wp}$	/	8.74%
$R_p$	/	5.68%

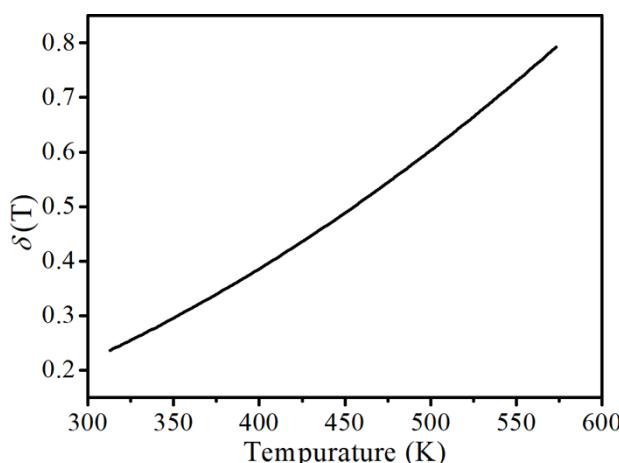


Fig. S1 Temperature resolution of CGGO:0.9Er<sup>3+</sup>.