Electronic Supplementary Information

Luminescence properties and site occupancy of Ce\(^{3+}\) in \(\text{Ba}_2\text{SiO}_4\): a combined experimental and ab initio study

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**Fig. S1** (a) The UV-vis emission ($\lambda_{\text{ex}} = 315, 325, 335, 345, \text{ and } 350 \text{ nm}$) and (b) UV excitation spectra ($\lambda_{\text{em}} = 360, 376, 405, \text{ and } 430 \text{ nm}$) of $\text{Ba}_{1.9995}\text{Ce}_{0.0005}\text{SiO}_4$ at 4 K.

**Fig. S2** Luminescence decay curves ($\lambda_{\text{ex}} = 325 \text{ nm}; \lambda_{\text{em}} = 360, 375, 405, 420, \text{ and } 450 \text{ nm}$) of $\text{Ba}_{1.9995}\text{Ce}_{0.0005}\text{SiO}_4$ at 4 K.