

Electronic Supplementary Information for

$\text{Ba}_6(\text{Bi}_{1-x}\text{Eu}_x)_9\text{B}_{79}\text{O}_{138}$ ($0 \leq x \leq 1$): synergetic changing of the
wavelength of Bi^{3+} absorption and the red-to-orange emission ratio
of Eu^{3+}

Qiaoqi Li,^a Rihong Cong,^{a} Xianju Zhou,^b Wenliang Gao,^a Tao Yang^{a*}*

^a College of Chemistry and Chemical Engineering, Chongqing University, Chongqing
400044, People's Republic of China

^b School of Science, Chongqing University of Posts and Telecommunications,
Chongqing 400065, People's Republic of China.

*Email: congrihong@cqu.edu.cn, taoyang@cqu.edu.cn; Tel: (86 23)65105065.

Table S1 Unit Cell parameters of $\text{Ba}_6(\text{La}_{0.3-y}\text{Bi}_y\text{Eu}_{0.7})_9\text{B}_7\text{O}_{138}$ ($0 \leq y \leq 0.3$) obtained from Le Bail fitting of the whole powder XRD patterns.

y	a (Å)	c (Å)	V (Å ³)
0	7.817	46.613	2466.9
0.10	7.818	46.582	2465.9
0.20	7.819	46.547	2464.7
0.30	7.821	46.507	2463.5

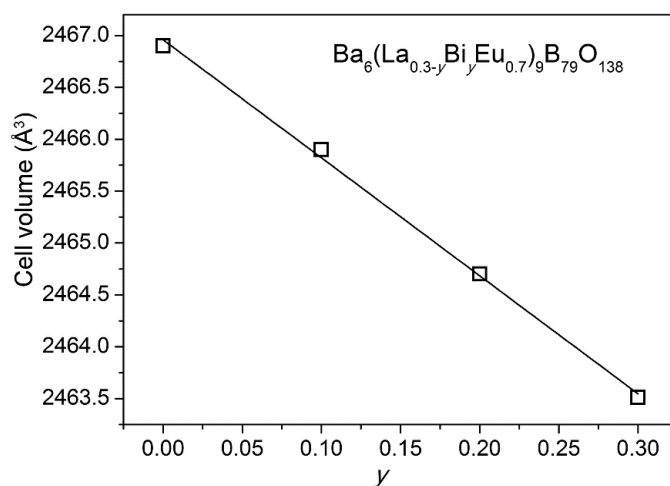


Fig. S1 Unit cell volume for $\text{Ba}_6(\text{La}_{0.3-y}\text{Bi}_y\text{Eu}_{0.7})_9\text{B}_7\text{O}_{138}$ ($0 \leq y \leq 0.3$).

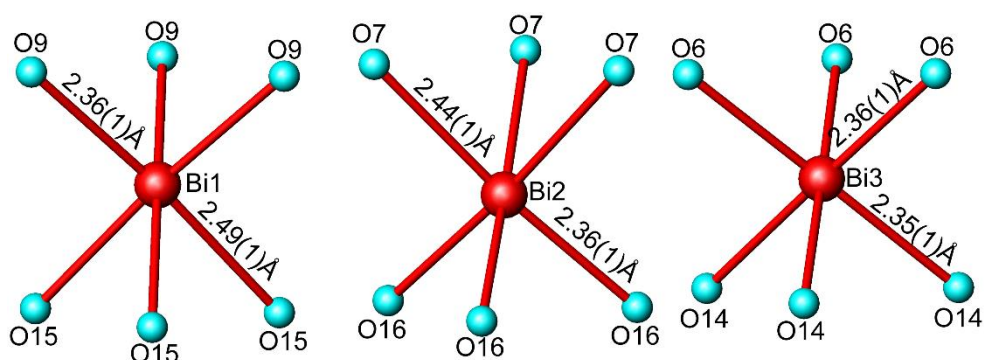


Fig. S2 Coordination environments for three different Bi^{3+} in the structure of $\text{Ba}_6\text{Bi}_9\text{B}_7\text{O}_{138}$ (**BBBO**). The structural parameters were obtained from the reference (R. H. Cong, Z. Y. Zhou, Q. Q. Li, J. L. Sun, J. H. Lin, T. Yang, *J. Mater. Chem. C*, 2015, **3**, 4434-4437).