

Electronic Supplementary Information for

Ambient pressure synthesis of  $\text{Eu}^{3+}$  doped  $\delta\text{-BiB}_3\text{O}_6$  by seed-  
assisted high temperature solid state reactions

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Table S1. Atomic coordinate, occupancy factors, and isotropic thermal displacement factors obtained from the Rietveld refinements for  $\delta\text{-Bi}_{0.8}\text{La}_{0.2}\text{B}_3\text{O}_6$

Atom	<i>x</i>	<i>y</i>	<i>z</i>	Occupancy	$U_{\text{iso}}(\text{\AA}^2)$
Bi/La	0.83843(3)	0.1624(1)	0.700(3)	0.80(3)/0.20(3)	0.0224(3)
B1	0.793(1)	0.650(6)	1.15(1)	1	0.047(5)
B2	0.9303(10)	0.651(8)	1.127(9)	1	0.047(5)
B3	0.9970(12)	0.182(6)	1.111(8)	1	0.047(5)
O1	0.8002(4)	0.319(4)	1.143(5)	1	0.024(3)
O2	0.9421(5)	0.352(4)	1.065(4)	1	0.024(3)
O3	0.8533(5)	-0.247(2)	1.023(4)	1	0.024(3)
O4	0.7197(5)	0.738(2)	0.991(4)	1	0.024(3)
O5	1.0668(6)	0.273(3)	0.981(4)	1	0.024(3)
O6	0.9852(6)	-0.130(3)	0.973(3)	1	0.024(3)

Table S2. Selected bond lengths from Rietveld refinements for  $\delta\text{-Bi}_{0.8}\text{La}_{0.2}\text{B}_3\text{O}_6$

Bond	Length (Å)	Bond	Length (Å)	Bond	Length (Å)
Bi-O1	2.14(2)	B1-O3	1.34(3)	B2-O6	1.56(3)
Bi-O3	2.31(2)	B1-O1	1.48(3)	B2-O3	1.56(3)
Bi-O4	2.35(1)	B1-O4	1.51(5)		
Bi-O1	2.58(2)	B1-O4	1.56(3)	B3-O2	1.28(3)
Bi-O2	2.61(2)			B3-O5	1.46(3)
Bi-O1	2.662(9)	B2-O2	1.37(4)	B3-O6	1.52(3)
Bi-O5	2.77(1)	B2-O5	1.56(4)	B3-O6	1.60(4)

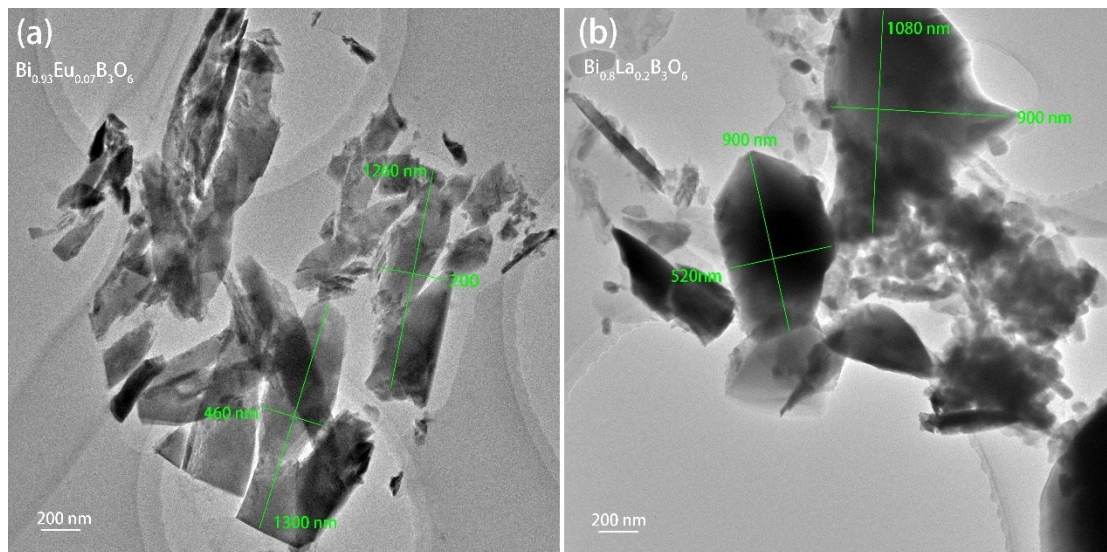


Figure S1. TEM images for (a)  $\delta\text{-Bi}_{0.93}\text{Eu}_{0.07}\text{B}_3\text{O}_6$  and (b)  $\delta\text{-Bi}_{0.8}\text{La}_{0.2}\text{B}_3\text{O}_6$ .

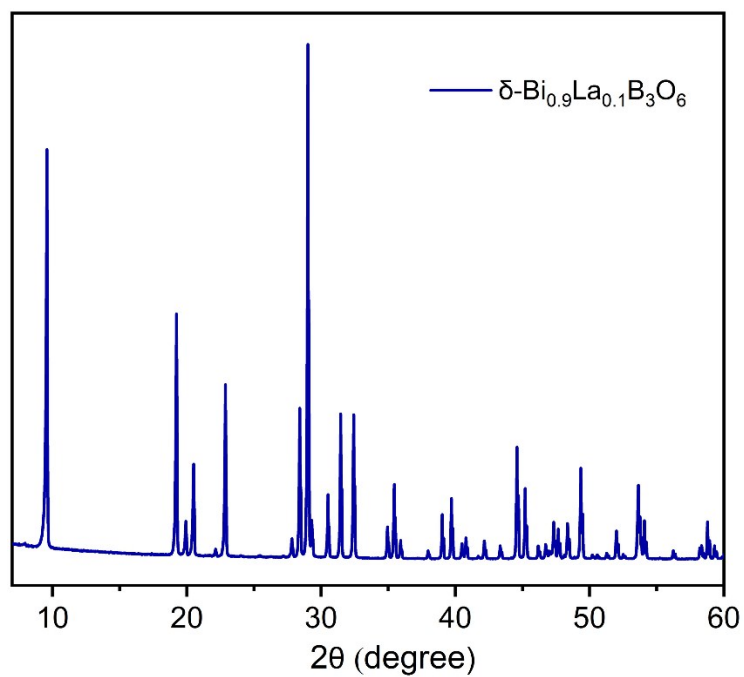


Figure S2. Powder XRD pattern of  $\delta\text{-Bi}_{0.9}\text{La}_{0.1}\text{B}_3\text{O}_6$ .

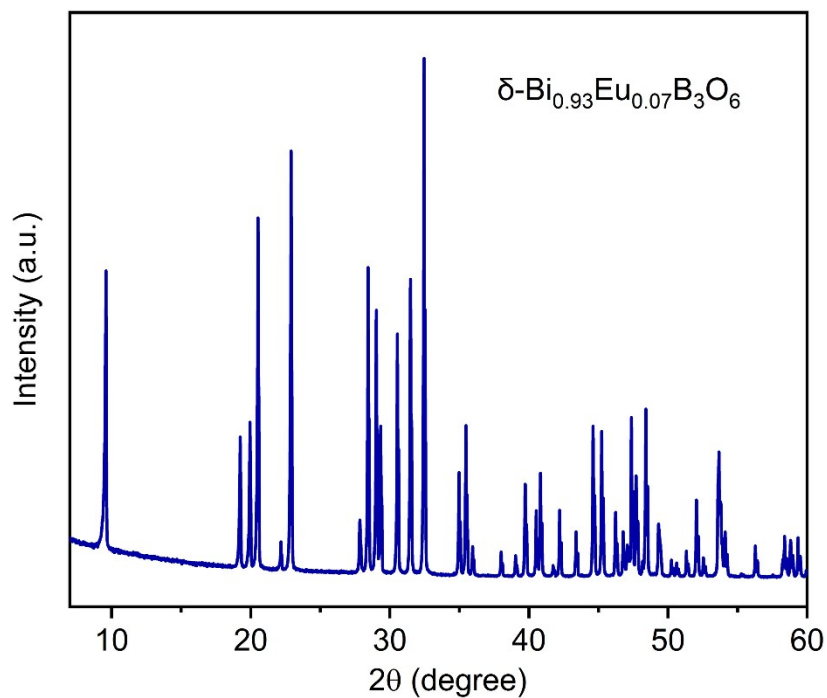


Figure S3. Powder XRD pattern of  $\delta\text{-Bi}_{0.93}\text{Eu}_{0.07}\text{B}_3\text{O}_6$ .

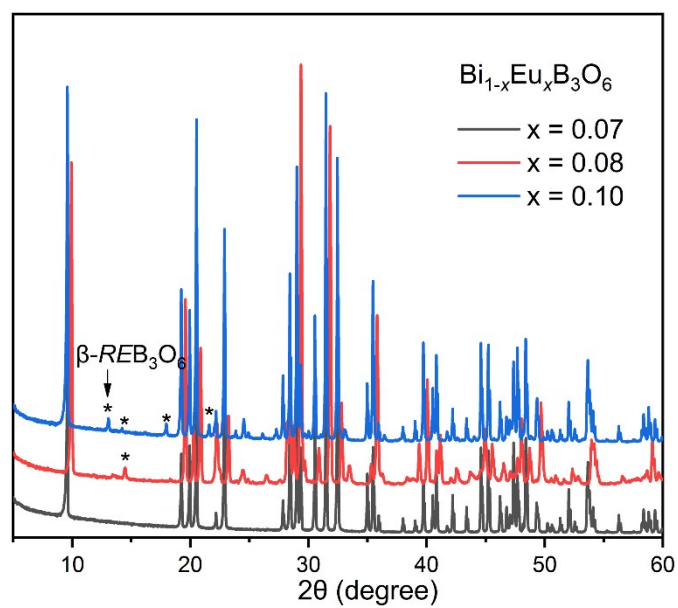


Figure S4. Powder XRD for the synthesis of  $\delta\text{-Bi}_{1-x}\text{Eu}_x\text{B}_3\text{O}_6$  with different  $x$  values.

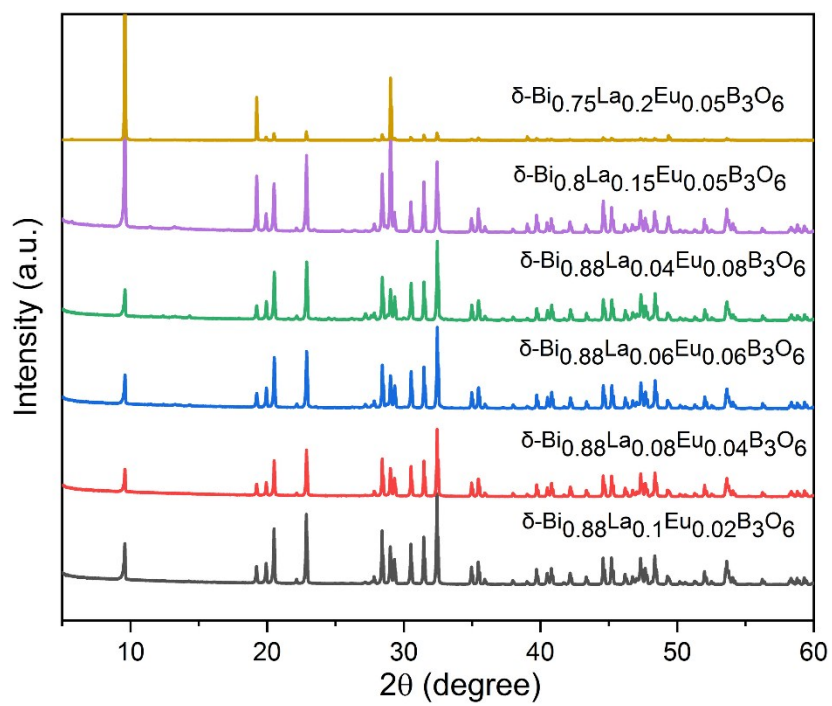


Figure S5. Powder XRD patterns of  $\delta\text{-Bi}_{1-x-y}\text{La}_x\text{Eu}_y\text{B}_3\text{O}_6$ .