

**Table S1. Details of Final Rietveld Refinement Result of Sr<sub>3</sub>Eu<sub>2</sub>B<sub>4</sub>O<sub>12</sub>.**

Formula	Sr <sub>3</sub> Eu <sub>2</sub> B <sub>4</sub> O <sub>12</sub>
Radiation type	Cu K $\alpha$
2 $\theta$ range (°)	10.00-130.0
Step (°)	0.017
Scan time per step (s)	2
Refinement	Rietveld method
No. of refined parameters	68
$R_B$	6.76%
$R_P$	2.36%
$R_{WP}$	3.27%
$S$	2.40
Symmetry	orthorhombic
Space group	<i>Pnma</i> (No.62)
$a$ (Å)	7.2991(2)
$b$ (Å)	15.8333(3)
$c$ (Å)	8.6450(2)
Volume (Å <sup>3</sup> )	999.10(4)
$Z$	4

**Table S2. Crystallographic Parameters for the Final Refinement Results of As-prepared Sr<sub>3</sub>Eu<sub>2</sub>B<sub>4</sub>O<sub>12</sub> Phosphor.**

Atom	Ox.	Wyck.	Site	S.O.F.	x/a	y/b	z/c	U [Å <sup>2</sup> ]
O1		8d	1	1	0.448(2)	0.3234(7)	0.0740(18)	0.0063
Sr1		4c	.m.	0.365	0.1798(6)	0.25	0.9670(4)	0.006(2)
Eu2		8d	1	0.343	-0.1947(4)	0.37329(2)	0.1571(4)	0.0094(2)
Sr2		8d	1	0.658	-0.1947(4)	0.37329(2)	0.1571(4)	0.0094(2)
Eu3		8d	1	0.34	-0.0209(4)	0.41868(2)	0.6788(4)	0.0054(2)
Sr3		8d	1	0.66	-0.0209(4)	0.41868(2)	0.6788(4)	0.0054(2)
Eu1		4c	.m.	0.635	0.1798(6)	0.25	0.9670(4)	0.006(2)
O2		4c	.m.	1	0.125(2)	0.25	0.2475(2)	0.0063
O3		8d	1	1	-0.311(2)	0.3144(7)	0.7879(2)	0.0063
O4		4c	.m.	1	0.381(3)	0.25	0.5196(2)	0.0063
O5		8d	1	1	0.108(2)	0.4046(9)	0.9322(2)	0.0063
O6		8d	1	1	-0.403(2)	0.4469(1)	0.3210(1)	0.0063
O7		8d	1	1	0.2030(2)	0.4866(8)	0.5099(2)	0.0063
B1		4c	.m.	1	0.50700	0.25	0.13400	0.0063
B2		4c	.m.	1	0.26800	0.25	0.63900	0.0063
B3		8d	1	1	0.16600	0.45760	0.04070	0.0063

