

Table S2. Selected interatomic distances and bond valence values for BaBi_{1.90}Eu_{0.10}B₄O₁₀, BaBi_{1.70}Eu_{0.30}B₄O₁₀ and BaBi_{1.60}Eu_{0.40}B₄O₁₀.

BaBi_{1.94}Eu_{0.06}B₄O₁₀					
Bond	Distance, Å	BV	Bond	Distance, Å	BV
Bi1—O3	2.138 (5)	0.89	Bi2—O8	2.143 (6)	0.88
Bi1—O6	2.189 (6)	0.77	Bi2—O9	2.263 (6)	0.63
Bi1—O8	2.367 (5)	0.48	Bi2—O5	2.280 (5)	0.60
Bi1—O5 ⁱⁱⁱ	2.392 (5)	0.45	Bi2—O6	2.403 (5)	0.43
Bi1—O3 ⁱⁱ	2.600 (6)	0.25	Bi2—O2	2.586 (5)	0.26
Bi1—O2 ⁱ	2.708 (7)	0.19	Bi2—O7 ⁱ	2.893 (6)	0.12
Bi1—O6 ⁱ	2.866 (5)	0.12	<Bi2—O> ₆	2.43	2.93
<Bi1—O> ₇	2.47	3.15	B1—O4	1.443 (12)	0.82
Ba1—O10	2.752 (6)	0.28	B1—O10 ^{vii}	1.462 (10)	0.78
Ba1—O7	2.758 (5)	0.28	B1—O5 ^{iv}	1.484 (12)	0.73
Ba1—O9 ^{iv}	2.763 (5)	0.27	B1—O2 ^{vi}	1.515 (10)	0.68
Ba1—O4	2.777 (5)	0.26	<B1—O> ₄	1.48	3.01
Ba1—O5 ⁱⁱⁱ	2.857 (5)	0.21	B2—O9 ⁱ	1.360 (10)	1.03
Ba1—O2 ⁱⁱ	2.859 (7)	0.21	B2—O7 ^{vii}	1.375 (11)	0.99
Ba1—O1	2.867 (5)	0.21	B2—O10	1.407 (11)	0.90
Ba1—O8 ⁱⁱ	2.899 (6)	0.19	<B3—O> ₃	1.38	2.92
<Ba1—O> ₈	2.82	1.92	B3—O6	1.462 (13)	0.78
B4—O4 ^{ix}	1.444 (10)	0.82	B3—O3 ⁱ	1.468 (11)	0.77
B4—O1	1.460 (10)	0.78	B3—O1 ^{viii}	1.470 (13)	0.76
B4—O7 ^x	1.480 (12)	0.74	B3—O2 ⁱ	1.586 (11)	0.56
B4—O8 ^{xi}	1.509 (11)	0.69	<B3—O> ₄	1.50	2.87
<B4—O> ₄	1.47	3.03			
BaBi_{1.67}Eu_{0.33}B₄O₁₀					
Bond	Distance, Å	BV	Bond	Distance, Å	BV
Bi1—O3	2.147 (6)	0.86	Bi2—O8	2.137 (7)	0.89
Bi1—O6	2.200 (7)	0.75	Bi2—O5	2.275 (6)	0.61
Bi1—O8	2.364 (6)	0.48	Bi2—O9	2.277 (7)	0.61
Bi1—O5 ⁱⁱⁱ	2.394 (6)	0.44	Bi2—O6	2.411 (6)	0.42
Bi1—O3 ⁱⁱ	2.583 (7)	0.27	Bi2—O2	2.586 (7)	0.26
Bi1—O2 ⁱ	2.694 (8)	0.20	Bi2—O7 ⁱ	2.893 (6)	0.12
Bi1—O6 ⁱ	2.849 (7)	0.13	<Bi2—O> ₆	2.43	2.91
<Bi1—O> ₇	2.46	3.12	B1—O4	1.439 (13)	0.83
Ba1—O10	2.750 (7)	0.28	B1—O5 ^{iv}	1.459 (13)	0.79
Ba1—O7	2.751 (6)	0.28	B1—O10 ^{vii}	1.488 (11)	0.73
Ba1—O9 ^{iv}	2.768 (7)	0.27	B1—O2 ^{vi}	1.507 (12)	0.69
Ba1—O4	2.781 (6)	0.26	<B1—O> ₄	1.47	3.03
Ba1—O2 ⁱⁱ	2.865 (8)	0.21	B2—O9 ⁱ	1.345 (12)	1.07
Ba1—O5 ⁱⁱⁱ	2.866 (6)	0.21	B2—O7 ^{vii}	1.392 (13)	0.94
Ba1—O1	2.884 (6)	0.20	B2—O10	1.403 (13)	0.91
Ba1—O8 ⁱⁱ	2.910 (7)	0.18	<B2—O> ₃	1.38	2.93
<Ba1—O> ₈	2.82	1.90	B3—O3 ⁱ	1.454 (13)	0.80

B4—O4 ^{ix}	1.451 (11)	0.80	B3—O6	1.486 (15)	0.73
B4—O1	1.469 (11)	0.77	B3—O1 ^{viii}	1.512 (15)	0.68
B4—O8 ^{xi}	1.503 (13)	0.70	B3—O2 ⁱ	1.563 (13)	0.59
B4—O7 ^x	1.505 (14)	0.69	<B3—O> ₄	1.50	2.80
<B4—O> ₄	1.48	2.96			
BaBi_{1.57}Eu_{0.43}B₄O₁₀					
Bond	Distance, Å	<i>BV</i>	Bond	Distance, Å	<i>BV</i>
Bi1—O3	2.174 (5)	0.80	Bi2—O2 ⁱⁱ	2.596 (5)	0.26
Bi1—O6	2.236 (5)	0.68	Bi2—O5	2.280 (5)	0.60
Bi1—O8	2.384 (4)	0.45	Bi2—O6	2.414 (5)	0.42
Bi1—O5 ⁱⁱ	2.387 (5)	0.45	Bi2—O7 ⁱⁱⁱ	2.877 (5)	0.12
Bi1—O3 ⁱ	2.559 (5)	0.28	Bi2—O8	2.147 (5)	0.86
Bi1—O2	2.660 (6)	0.21	Bi2—O9	2.278 (5)	0.61
Bi1—O6 ⁱⁱⁱ	2.800 (5)	0.15	<Bi2—O> ₆	2.43	2.87
<Bi1—O> ₇	2.46	3.02	B1—O4	1.442 (10)	0.82
Ba1—O10	2.739 (5)	0.29	B1—O10 ^{vii}	1.485 (9)	0.73
Ba1—O7	2.746 (4)	0.29	B1—O5 ^v	1.495 (10)	0.71
Ba1—O9 ^v	2.775 (5)	0.27	B1—O2 ^{vii}	1.503 (9)	0.70
Ba1—O4	2.812 (4)	0.24	<B1—O> ₄	1.48	2.97
Ba1—O5 ⁱⁱ	2.851 (5)	0.22	B2—O9 ⁱⁱⁱ	1.341 (8)	1.08
Ba1—O2 ^{iv}	2.872 (6)	0.20	B2—O7 ^{vii}	1.397 (9)	0.93
Ba1—O8 ⁱ	2.890 (5)	0.19	B2—O10	1.401 (9)	0.92
Ba1—O1	2.894 (4)	0.19	<B2—O> ₃	1.38	2.93
<Ba1—O> ₈	2.82	1.90	B3—O3 ⁱⁱⁱ	1.442 (10)	0.82
B4—O4 ^{ix}	1.438 (8)	0.83	B3—O6	1.482 (11)	0.74
B4—O1	1.478 (8)	0.75	B3—O1 ^{viii}	1.505 (11)	0.69
B4—O7 ^x	1.498 (10)	0.71	B3—O2	1.623 (10)	0.50
B4—O8 ^{xi}	1.500 (9)	0.70	<B3—O> ₄	1.51	2.76
<B4—O> ₄	1.48	2.99			