Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C.

Table S1 Crystallographic data of $Ba_{0.81}Eu_{0.19}(Si_{6.66}Al_{0.34})(N_{9.66}O_{0.34})_{10}$ synthesized with addition of Li_3N.

Formula mass / g·mol^{-1}	477.19
Crystal system	Monoclinic
Space group	*Pc* (No.7)
Cell parameters / Å, °	a=6.8915(2), b=6.7059(2), c=9.6825(2), β =106.2221(4)
V / Å^3	429.65 (2)
Density /g·cm^{-3}	3.688
Z	2
Crystal size / mm^3	0.12 x 0.05 x 0.02
Temperature / K	295
Diffractometer	Bruker APEXII CCD area detector
Radiation type	Mo Kα (λ = 0.71073 Å)
Scan mode	ω scan
Abs correction	Multiscan (SADABS)
μ / mm^{-1}	6.09
θ_{max} / deg	35.6
Measured reflections	8699
Independent reflections	3810
Observed reflections	3768
T_{min}, T_{max}	0.536, 0.779
R[$F^2 > 2\sigma(F^2)$], wR(F^2)	0.017, 0.044
ρ_{max}, ρ_{min} / e Å^{-3}	0.57, -1.53
S	1.10

Table S2 Atomic coordinates, occupancies, and isotropic atomic displacement parameters of $Ba_{0.81}Eu_{0.19}(Si_{6.66}Al_{0.34})(N_{9.66}O_{0.34})_{10}$ synthesized with addition of Li_3N.

Atom	x	y	Z	Ueq / Å2	Occpancy
Ba1	-0.01965(10)	1.09982(11)	0.83844(7)	0.01840(10)	0.592(4)
Eu1	-0.01965(10)	1.09982(11)	0.83844(7)	0.01840(10)	0.139(4)
Ba2	0.0043(7)	1.1264(8)	0.8747(6)	0.0313(8)	0.114(4)
Eu2	0.0043(7)	1.1264(8)	0.8747(6)	0.0313(8)	0.027(4)
Ba3	-0.0332(7)	1.0929(7)	0.8060(5)	0.0299(13)	0.104(4)
Eu3	-0.0332(7)	1.0929(7)	0.8060(5)	0.0299(13)	0.024(4)
Si1	0.37941(8)	0.97375(9)	0.68305(6)	0.00402(10)	0.951
Si2	-0.44106(8)	0.97396(9)	0.99436(6)	0.00394(10)	0.951
Si3	0.13025(9)	0.60482(8)	0.74035(7)	0.00413(10)	0.951
Si4	-0.12893(9)	0.62467(9)	0.97397(7)	0.00384(10)	0.951
Si5	0.31693(9)	0.61818(8)	1.05100(7)	0.00315(10)	0.951
Si6	-0.31261(9)	0.36645(9)	1.15945(7)	0.00312(9)	0.951
Si7	0.50478(9)	0.37173(8)	0.85482(7)	0.00317(9)	0.951
Al1	0.37941(8)	0.97375(9)	0.68305(6)	0.00402(10)	0.049
Al2	-0.44106(8)	0.97396(9)	0.99436(6)	0.00394(10)	0.049
Al3	0.13025(9)	0.60482(8)	0.74035(7)	0.00413(10)	0.049
Al4	-0.12893(9)	0.62467(9)	0.97397(7)	0.00384(10)	0.049
Al5	0.31693(9)	0.61818(8)	1.05100(7)	0.00315(10)	0.049
Al6	-0.31261(9)	0.36645(9)	1.15945(7)	0.00312(9)	0.049
Al7	0.50478(9)	0.37173(8)	0.85482(7)	0.00317(9)	0.049
N1	-0.2345(3)	0.8421(3)	0.9976(2)	0.0092(3)	0.966
N2	0.5889(3)	0.8673(3)	0.64241(19)	0.0055(3)	0.966
N3	-0.6581(3)	0.8697(3)	1.03157(19)	0.0052(3)	0.966
N4	0.4667(4)	1.1168(2)	0.8388(2)	0.0065(3)	0.966
N5	0.1819(3)	0.8338(3)	0.6845(2)	0.0081(3)	0.966
N6	-0.2746(3)	0.4151(2)	0.99134(18)	0.0050(3)	0.966
N7	0.1002(3)	0.5803(3)	1.10447(19)	0.0060(3)	0.966
N8	-0.0920(3)	0.3867(3)	1.29849(19)	0.0062(3)	0.966
N9	0.3068(2)	0.4985(3)	0.89264(17)	0.0058(2)	0.966
N10	-0.4812(2)	0.5370(3)	1.19138(17)	0.0048(2)	0.966
O1	-0.2345(3)	0.8421(3)	0.9976(2)	0.0092(3)	0.034
O2	0.5889(3)	0.8673(3)	0.64241(19)	0.0055(3)	0.034
O3	-0.6581(3)	0.8697(3)	1.03157(19)	0.0052(3)	0.034
O4	0.4667(4)	1.1168(2)	0.8388(2)	0.0065(3)	0.034
O5	0.1819(3)	0.8338(3)	0.6845(2)	0.0081(3)	0.034
O6	-0.2746(3)	0.4151(2)	0.99134(18)	0.0050(3)	0.034
O7	0.1002(3)	0.5803(3)	1.10447(19)	0.0060(3)	0.034
O8	-0.0920(3)	0.3867(3)	1.29849(19)	0.0062(3)	0.034
O9	0.3068(2)	0.4985(3)	0.89264(17)	0.0058(2)	0.034
O10	-0.4812(2)	0.5370(3)	1.19138(17)	0.0048(2)	0.034

Table S3 Anisotropic atomic displacement parameters (Å²) of $Ba_{0.81}Eu_{0.19}(Si_{6.66}Al_{0.34})(N_{9.66}O_{0.34})_{10}$ synthesized with addition of Li_3N.

Atom	U^{11}	U^{22}	U^{33}	U^{12}	U^{13}	U^{23}
Ba1	0.0180(2)	0.0127(2)	0.0274(4)	0.0028(2)	0.0112(3)	0.00343(15)
Eu1	0.0180(2)	0.0127(2)	0.0274(4)	0.0028(2)	0.0112(3)	0.00343(15)
Ba2	0.0228(12)	0.0206(14)	0.052(2)	0.0070(12)	0.0122(14)	0.0064(9)
Eu2	0.0228(12)	0.0206(14)	0.052(2)	0.0070(12)	0.0122(14)	0.0064(9)
Si1	0.0051(2)	0.0031(2)	0.0042(2)	0.00002(15)	0.00185(17)	0.00017(16)
Si2	0.0054(2)	0.0027(2)	0.0041(2)	0.00016(15)	0.00209(17)	0.00021(16)
Si3	0.0037(2)	0.0039(2)	0.0048(2)	-0.00068(15)	0.00129(17)	-0.00010(15)
Si4	0.0034(2)	0.0041(2)	0.0041(2)	0.00062(16)	0.00119(17)	-0.00002(16)
Si5	0.0033(2)	0.0030(2)	0.0032(2)	-0.00009(15)	0.00098(16)	-0.00007(15)
Si6	0.0032(2)	0.0030(2)	0.00323(19)	-0.00011(16)	0.00088(15)	-0.00027(16)
Si7	0.0033(2)	0.00272(18)	0.0035(2)	-0.00013(15)	0.00103(15)	-0.00015(15)
Al1	0.0051(2)	0.0031(2)	0.0042(2)	0.00002(15)	0.00185(17)	0.00017(16)
Al2	0.0054(2)	0.0027(2)	0.0041(2)	0.00016(15)	0.00209(17)	0.00021(16)
Al3	0.0037(2)	0.0039(2)	0.0048(2)	-0.00068(15)	0.00129(17)	-0.00010(15)
Al4	0.0034(2)	0.0041(2)	0.0041(2)	0.00062(16)	0.00119(17)	-0.00002(16)
Al5	0.0033(2)	0.0030(2)	0.0032(2)	-0.00009(15)	0.00098(16)	-0.00007(15)
Al6	0.0032(2)	0.0030(2)	0.00323(19)	-0.00011(16)	0.00088(15)	-0.00027(16)
Al7	0.0033(2)	0.00272(18)	0.0035(2)	-0.00013(15)	0.00103(15)	-0.00015(15)
N1	0.0092(7)	0.0059(8)	0.0138(8)	-0.0005(6)	0.0053(6)	0.0011(6)
N2	0.0084(7)	0.0037(6)	0.0052(6)	0.0011(5)	0.0033(5)	0.0020(5)
N3	0.0070(7)	0.0038(6)	0.0052(6)	0.0001(5)	0.0022(5)	-0.0005(5)
N4	0.0116(8)	0.0032(5)	0.0041(5)	-0.0001(5)	0.0011(5)	-0.0012(6)
N5	0.0085(7)	0.0049(8)	0.0113(7)	0.0007(6)	0.0034(6)	0.0000(6)
N6	0.0043(6)	0.0059(6)	0.0046(6)	0.0008(5)	0.0008(4)	-0.0016(5)
N7	0.0036(6)	0.0072(7)	0.0074(6)	0.0015(5)	0.0014(5)	0.0005(5)
N8	0.0037(6)	0.0091(7)	0.0055(6)	-0.0001(5)	0.0004(5)	-0.0006(5)
N9	0.0056(6)	0.0064(6)	0.0050(6)	-0.0014(5)	0.0012(4)	0.0014(5)
N10	0.0051(6)	0.0049(6)	0.0039(6)	-0.0001(4)	0.0006(4)	0.0019(5)
O1	0.0092(7)	0.0059(8)	0.0138(8)	-0.0005(6)	0.0053(6)	0.0011(6)
O2	0.0084(7)	0.0037(6)	0.0052(6)	0.0011(5)	0.0033(5)	0.0020(5)
O3	0.0070(7)	0.0038(6)	0.0052(6)	0.0001(5)	0.0022(5)	-0.0005(5)
O4	0.0116(8)	0.0032(5)	0.0041(5)	-0.0001(5)	0.0011(5)	-0.0012(6)
O5	0.0085(7)	0.0049(8)	0.0113(7)	0.0007(6)	0.0034(6)	0.0000(6)
O6	0.0043(6)	0.0059(6)	0.0046(6)	0.0008(5)	0.0008(4)	-0.0016(5)
O7	0.0036(6)	0.0072(7)	0.0074(6)	0.0015(5)	0.0014(5)	0.0005(5)
O8	0.0037(6)	0.0091(7)	0.0055(6)	-0.0001(5)	0.0004(5)	-0.0006(5)
O9	0.0056(6)	0.0064(6)	0.0050(6)	-0.0014(5)	0.0012(4)	0.0014(5)
O10	0.0051(6)	0.0049(6)	0.0039(6)	-0.0001(4)	0.0006(4)	0.0019(5)

Table S4 Crystallographic data of $Ba_{0.81}Eu_{0.19}(Si_{6.66}Al_{0.34})(N_{9.66}O_{0.34})_{10}$ synthesized without Li_3N.

Formula mass / g·mol^{-1}	477.19
Crystal system	Monoclinic
Space group	*Pc* (No.7)
Cell parameters / Å, °	a=6.8838(5), b=6.7141(5), c=9.6707(7), β =106.2669(14)
V / Å^3	429.07(5)
Density /g·cm^{-3}	3.693
Z	2
Crystal size / mm^3	0.019 x 0.009 x 0.007
Temperature / K	295
Diffractometer	Bruker APEXII CCD area detector
Radiation type	Mo Kα (λ = 0.71073 Å)
Scan mode	ω scan
Abs correction	Multiscan (SADABS)
μ / mm^{-1}	6.10
θ_{max} / deg	28.3
Measured reflections	6350
Independent reflections	2112
Observed reflections	1945
T_{min}, T_{max}	0.946, 0.972
R[$F^2 > 2\sigma(F^2)$], wR(F^2)	0.033, 0.084
ρ_{max}, ρ_{min} / e Å^{-3}	1.53, -0.78
S	1.12

Table S5 Atomic coordinates, occupancies, and isotropic atomic displacement parameters of $Ba_{0.81}Eu_{0.19}(Si_{6.66}Al_{0.34})(N_{9.66}O_{0.34})_{10}$ synthesized without Li_3N.

Atom	x	y	Z	Ueq / Å2	Occpancy
Ba1	−0.02025(18)	1.09863(8)	0.83980(14)	0.02567(19)	0.81
Eu1	−0.02025(18)	1.09863(8)	0.83980(14)	0.02567(19)	0.19
Si1	0.3814(4)	0.9736(6)	0.6834(3)	0.0043(7)	0.951
Si2	-0.4378(4)	0.9744(7)	0.9951(3)	0.0055(7)	0.951
Si3	0.1303(6)	0.6068(5)	0.7386(4)	0.0115(8)	0.951
Si4	-0.1295(6)	0.6219(5)	0.9722(4)	0.0107(8)	0.951
Si5	0.3150(6)	0.6193(5)	1.0488(4)	0.0121(8)	0.951
Si6	-0.3149(7)	0.3670(6)	1.1566(4)	0.0114(7)	0.951
Si7	0.5026(8)	0.3721(3)	0.8529(5)	0.0113(7)	0.951
Al1	0.3814(4)	0.9736(6)	0.6834(3)	0.0043(7)	0.049
Al2	-0.4378(4)	0.9744(7)	0.9951(3)	0.0055(7)	0.049
Al3	0.1303(6)	0.6068(5)	0.7386(4)	0.0115(8)	0.049
Al4	-0.1295(6)	0.6219(5)	0.9722(4)	0.0107(8)	0.049
Al5	0.3150(6)	0.6193(5)	1.0488(4)	0.0121(8)	0.049
Al6	-0.3149(7)	0.3670(6)	1.1566(4)	0.0114(7)	0.049
Al7	0.5026(8)	0.3721(3)	0.8529(5)	0.0113(7)	0.049
N1	-0.2284(18)	0.8357(19)	0.9969(13)	0.011(2)	0.966
N2	0.5935(15)	0.8698(16)	0.6459(10)	0.0021(18)	0.966
N3	-0.6560(16)	0.8681(17)	1.0341(12)	0.010(2)	0.966
N4	0.472(2)	1.1171(9)	0.8396(15)	0.0073(12)	0.966
N5	0.1864(18)	0.8387(19)	0.6838(12)	0.010(2)	0.966
N6	-0.2711(13)	0.4139(12)	0.9913(9)	0.0112(16)	0.966
N7	0.1054(12)	0.5807(12)	1.1045(9)	0.0099(15)	0.966
N8	-0.0873(13)	0.3873(12)	1.2989(9)	0.0132(16)	0.966
N9	0.3114(11)	0.4987(13)	0.8918(9)	0.0092(15)	0.966
N10	-0.4772(12)	0.5361(12)	1.1913(9)	0.0095(15)	0.966
O1	-0.2284(18)	0.8357(19)	0.9969(13)	0.011(2)	0.034
O2	0.5935(15)	0.8698(16)	0.6459(10)	0.0021(18)	0.034
O3	-0.6560(16)	0.8681(17)	1.0341(12)	0.010(2)	0.034
O4	0.472(2)	1.1171(9)	0.8396(15)	0.0073(12)	0.034
O5	0.1864(18)	0.8387(19)	0.6838(12)	0.010(2)	0.034
O6	-0.2711(13)	0.4139(12)	0.9913(9)	0.0112(16)	0.034
O7	0.1054(12)	0.5807(12)	1.1045(9)	0.0099(15)	0.034
O8	-0.0873(13)	0.3873(12)	1.2989(9)	0.0132(16)	0.034
O9	0.3114(11)	0.4987(13)	0.8918(9)	0.0092(15)	0.034
O10	-0.4772(12)	0.5361(12)	1.1913(9)	0.0095(15)	0.034

Table S6 Anisotropic atomic displacement parameters (Å²) of $Ba_{0.81}Eu_{0.19}(Si_{6.66}Al_{0.34})(N_{9.66}O_{0.34})_{10}$ synthesized without Li_3N.

Atom	U^{11}	U^{22}	U^{33}	U^{12}	U^{13}	U^{23}
Ba1	0.0259(3)	0.0201(3)	0.0355(4)	0.0037(5)	0.0161(2)	0.0032(4)
Eu1	0.0259(3)	0.0201(3)	0.0355(4)	0.0037(5)	0.0161(2)	0.0032(4)
Si1	0.0043(15)	0.0034(18)	0.0049(17)	0.0002(10)	0.0006(13)	-0.0012(10)
Si2	0.0066(15)	0.006(2)	0.0042(17)	0.0004(10)	0.0025(13)	-0.0018(10)
Si3	0.0163(16)	0.0084(16)	0.0140(16)	-0.0062(11)	0.0110(13)	-0.0070(12)
Si4	0.0162(17)	0.0075(15)	0.0129(17)	0.0047(12)	0.0115(13)	0.0041(12)
Si5	0.0230(19)	0.0060(16)	0.0127(17)	-0.0040(12)	0.0137(14)	-0.0059(12)
Si6	0.0212(18)	0.0081(14)	0.0095(15)	-0.0031(11)	0.0119(13)	-0.0051(12)
Si7	0.023(2)	0.0045(9)	0.0102(16)	0.0000(12)	0.0110(14)	0.0004(13)
Al1	0.0043(15)	0.0034(18)	0.0049(17)	0.0002(10)	0.0006(13)	-0.0012(10)
Al2	0.0066(15)	0.006(2)	0.0042(17)	0.0004(10)	0.0025(13)	-0.0018(10)
Al3	0.0163(16)	0.0084(16)	0.0140(16)	-0.0062(11)	0.0110(13)	-0.0070(12)
Al4	0.0162(17)	0.0075(15)	0.0129(17)	0.0047(12)	0.0115(13)	0.0041(12)
Al5	0.0230(19)	0.0060(16)	0.0127(17)	-0.0040(12)	0.0137(14)	-0.0059(12)
Al6	0.0212(18)	0.0081(14)	0.0095(15)	-0.0031(11)	0.0119(13)	-0.0051(12)
Al7	0.023(2)	0.0045(9)	0.0102(16)	0.0000(12)	0.0110(14)	0.0004(13)
N3	0.010(4)	0.012(4)	0.011(4)	0.001(3)	0.007(3)	-0.001(3)
N5	0.013(4)	0.006(4)	0.010(4)	-0.006(3)	0.005(3)	-0.005(3)
N6	0.013(4)	0.012(4)	0.007(4)	0.001(3)	0.001(3)	-0.003(3)
N7	0.009(4)	0.011(4)	0.010(4)	-0.001(3)	0.003(3)	0.000(3)
N8	0.012(4)	0.017(4)	0.010(4)	-0.006(3)	0.003(3)	-0.005(3)
N9	0.003(3)	0.013(4)	0.010(4)	0.003(3)	0.001(3)	0.000(3)
N10	0.010(4)	0.007(3)	0.012(4)	-0.001(3)	0.003(3)	-0.004(3)
O3	0.010(4)	0.012(4)	0.011(4)	0.001(3)	0.007(3)	-0.001(3)
O5	0.013(4)	0.006(4)	0.010(4)	-0.006(3)	0.005(3)	-0.005(3)
O6	0.013(4)	0.012(4)	0.007(4)	0.001(3)	0.001(3)	-0.003(3)
O7	0.009(4)	0.011(4)	0.010(4)	-0.001(3)	0.003(3)	0.000(3)
O8	0.012(4)	0.017(4)	0.010(4)	-0.006(3)	0.003(3)	-0.005(3)
O9	0.003(3)	0.013(4)	0.010(4)	0.003(3)	0.001(3)	0.000(3)
O10	0.010(4)	0.007(3)	0.012(4)	-0.001(3)	0.003(3)	-0.004(3)

Table S7 Crystallographic data of refired $Ba_{0.81}Eu_{0.19}(Si_{6.66}Al_{0.34})(N_{9.66}O_{0.34})_{10}$ synthesized with addition of Li_3N.

Formula mass / g·mol^{-1}	477.19
Crystal system	Monoclinic
Space group	*Pc* (No.7)
Cell parameters / Å, °	a=6.8951(2), b=6.7070(2), c=9.6773(2), β=106.2416(3)
V / Å^3	429.67 (2)
Density /g·cm^{-3}	3.689
Z	2
Crystal size / mm^3	0.16 x 0.08 x 0.02
Temperature / K	295
Diffractometer	Bruker APEXII CCD area detector
Radiation type	Mo Kα (λ = 0.71073 Å)
Scan mode	ω scan
Abs correction	Multiscan (SADABS)
μ / mm^{-1}	6.09
θ_{max} / deg	35.6
Measured reflections	10060
Independent reflections	3925
Observed reflections	3896
T_{min}, T_{max}	0.511, 0.753
R[$F^2 > 2\sigma(F^2)$], wR(F^2)	0.025, 0.070
ρ_{max}, ρ_{min} / e Å^{-3}	1.54, -1.57
S	1.06

Table S8 Atomic coordinates, occupancies, and isotropic atomic displacement parameters of refired $Ba_{0.81}Eu_{0.19}(Si_{6.66}Al_{0.34})(N_{9.66}O_{0.34})_{10}$ synthesized with addition of Li_3N.

Atom	x	y	Z	Ueq / Å2	Occpancy
Ba1	-0.01992(6)	1.10034(3)	0.83853(5)	0.02343(7)	0.81
Eu1	-0.01992(6)	1.10034(3)	0.83853(5)	0.02343(7)	0.19
Si1	0.37978(12)	0.97418(14)	0.68285(8)	0.00344(14)	0.951
Si2	-0.44005(12)	0.97425(14)	0.99450(8)	0.00325(15)	0.951
Si3	0.13036(15)	0.60498(13)	0.73994(11)	0.00493(15)	0.951
Si4	-0.12872(13)	0.62427(14)	0.97377(10)	0.00456(15)	0.951
Si5	0.31718(14)	0.61795(13)	1.05051(10)	0.00397(15)	0.951
Si6	-0.31247(14)	0.36629(15)	1.15913(10)	0.00391(13)	0.951
Si7	0.50492(14)	0.37203(12)	0.85450(10)	0.00387(13)	0.951
Al1	0.37978(12)	0.97418(14)	0.68285(8)	0.00344(14)	0.049
Al2	-0.44005(12)	0.97425(14)	0.99450(8)	0.00325(15)	0.049
Al3	0.13036(15)	0.60498(13)	0.73994(11)	0.00493(15)	0.049
Al4	-0.12872(13)	0.62427(14)	0.97377(10)	0.00456(15)	0.049
Al5	0.31718(14)	0.61795(13)	1.05051(10)	0.00397(15)	0.049
Al6	-0.31247(14)	0.36629(15)	1.15913(10)	0.00391(13)	0.049
Al7	0.50492(14)	0.37203(12)	0.85450(10)	0.00387(13)	0.049
N1	-0.2332(5)	0.8418(5)	0.9979(4)	0.0087(5)	0.966
N2	0.5888(4)	0.8673(5)	0.6425(3)	0.0052(4)	0.966
N3	-0.6574(4)	0.8690(5)	1.0319(3)	0.0049(4)	0.966
N4	0.4683(6)	1.1171(3)	0.8386(4)	0.0062(4)	0.966
N5	0.1820(5)	0.8342(5)	0.6843(3)	0.0081(5)	0.966
N6	-0.2740(4)	0.4150(4)	0.9909(3)	0.0052(4)	0.966
N7	0.1015(4)	0.5800(4)	1.1037(3)	0.0064(4)	0.966
N8	-0.0919(4)	0.3866(4)	1.2984(3)	0.0067(4)	0.966
N9	0.3074(4)	0.4988(4)	0.8923(3)	0.0064(4)	0.966
N10	-0.4805(4)	0.5370(4)	1.1912(3)	0.0054(4)	0.966
O1	-0.2332(5)	0.8418(5)	0.9979(4)	0.0087(5)	0.034
O2	0.5888(4)	0.8673(5)	0.6425(3)	0.0052(4)	0.034
O3	-0.6574(4)	0.8690(5)	1.0319(3)	0.0049(4)	0.034
O4	0.4683(6)	1.1171(3)	0.8386(4)	0.0062(4)	0.034
O5	0.1820(5)	0.8342(5)	0.6843(3)	0.0081(5)	0.034
O6	-0.2740(4)	0.4150(4)	0.9909(3)	0.0052(4)	0.034
O7	0.1015(4)	0.5800(4)	1.1037(3)	0.0064(4)	0.034
O8	-0.0919(4)	0.3866(4)	1.2984(3)	0.0067(4)	0.034
O9	0.3074(4)	0.4988(4)	0.8923(3)	0.0064(4)	0.034
O10	-0.4805(4)	0.5370(4)	1.1912(3)	0.0054(4)	0.034

Table S9 Anisotropic atomic displacement parameters (Å^2) of refired $Ba_{0.81}Eu_{0.19}(Si_{6.66}Al_{0.34})(N_{9.66}O_{0.34})_{10}$ synthesized with addition of Li_3N.

Atom	U^{11}	U^{22}	U^{33}	U^{12}	U^{13}	U^{23}
Ba1	0.02277(11)	0.01677(10)	0.03482(14)	0.00514(10)	0.01478(9)	0.00458(9)
Eu1	0.02277(11)	0.01677(10)	0.03482(14)	0.00514(10)	0.01478(9)	0.00458(9)
Si1	0.0045(3)	0.0030(3)	0.0028(3)	0.0002(2)	0.0009(3)	0.0000(2)
Si2	0.0044(3)	0.0024(4)	0.0030(3)	0.0002(2)	0.0012(2)	0.0000(2)
Si3	0.0055(3)	0.0049(4)	0.0048(3)	-0.0012(2)	0.0022(3)	-0.0010(2)
Si4	0.0055(3)	0.0042(3)	0.0045(3)	0.0008(3)	0.0023(3)	0.0005(3)
Si5	0.0059(3)	0.0032(3)	0.0032(3)	-0.0009(2)	0.0019(3)	-0.0009(2)
Si6	0.0050(3)	0.0035(3)	0.0036(3)	-0.0004(3)	0.0019(2)	-0.0009(3)
Si7	0.0057(3)	0.0029(3)	0.0033(3)	0.0002(2)	0.0019(2)	0.0001(2)
Al1	0.0045(3)	0.0030(3)	0.0028(3)	0.0002(2)	0.0009(3)	0.0000(2)
Al2	0.0044(3)	0.0024(4)	0.0030(3)	0.0002(2)	0.0012(2)	0.0000(2)
Al3	0.0055(3)	0.0049(4)	0.0048(3)	-0.0012(2)	0.0022(3)	-0.0010(2)
Al4	0.0055(3)	0.0042(3)	0.0045(3)	0.0008(3)	0.0023(3)	0.0005(3)
Al5	0.0059(3)	0.0032(3)	0.0032(3)	-0.0009(2)	0.0019(3)	-0.0009(2)
Al6	0.0050(3)	0.0035(3)	0.0036(3)	-0.0004(3)	0.0019(2)	-0.0009(3)
Al7	0.0057(3)	0.0029(3)	0.0033(3)	0.0002(2)	0.0019(2)	0.0001(2)
N1	0.0099(11)	0.0055(12)	0.0129(11)	-0.0005(9)	0.0068(9)	0.0024(9)
N2	0.0068(10)	0.0042(9)	0.0053(9)	0.0015(8)	0.0029(8)	0.0022(8)
N3	0.0059(10)	0.0042(9)	0.0048(9)	-0.0002(7)	0.0018(7)	-0.0009(8)
N4	0.0111(11)	0.0037(7)	0.0032(8)	0.0004(8)	0.0009(7)	-0.0020(9)
N5	0.0079(10)	0.0062(12)	0.0105(11)	-0.0010(8)	0.0028(9)	-0.0012(8)
N6	0.0049(9)	0.0057(9)	0.0049(9)	0.0006(7)	0.0012(7)	-0.0013(7)
N7	0.0038(9)	0.0081(9)	0.0074(9)	0.0013(8)	0.0020(7)	-0.0001(7)
N8	0.0045(9)	0.0092(10)	0.0061(9)	0.0002(7)	0.0009(7)	0.0003(7)
N9	0.0052(8)	0.0081(9)	0.0055(8)	-0.0018(7)	0.0008(7)	0.0012(7)
N10	0.0067(9)	0.0048(9)	0.0044(8)	0.0000(7)	0.0010(7)	0.0025(7)
O1	0.0099(11)	0.0055(12)	0.0129(11)	-0.0005(9)	0.0068(9)	0.0024(9)
O2	0.0068(10)	0.0042(9)	0.0053(9)	0.0015(8)	0.0029(8)	0.0022(8)
O3	0.0059(10)	0.0042(9)	0.0048(9)	-0.0002(7)	0.0018(7)	-0.0009(8)
O4	0.0111(11)	0.0037(7)	0.0032(8)	0.0004(8)	0.0009(7)	-0.0020(9)
O5	0.0079(10)	0.0062(12)	0.0105(11)	-0.0010(8)	0.0028(9)	-0.0012(8)
O6	0.0049(9)	0.0057(9)	0.0049(9)	0.0006(7)	0.0012(7)	-0.0013(7)
O7	0.0038(9)	0.0081(9)	0.0074(9)	0.0013(8)	0.0020(7)	-0.0001(7)
O8	0.0045(9)	0.0092(10)	0.0061(9)	0.0002(7)	0.0009(7)	0.0003(7)
O9	0.0052(8)	0.0081(9)	0.0055(8)	-0.0018(7)	0.0008(7)	0.0012(7)
O10	0.0067(9)	0.0048(9)	0.0044(8)	0.0000(7)	0.0010(7)	0.0025(7)

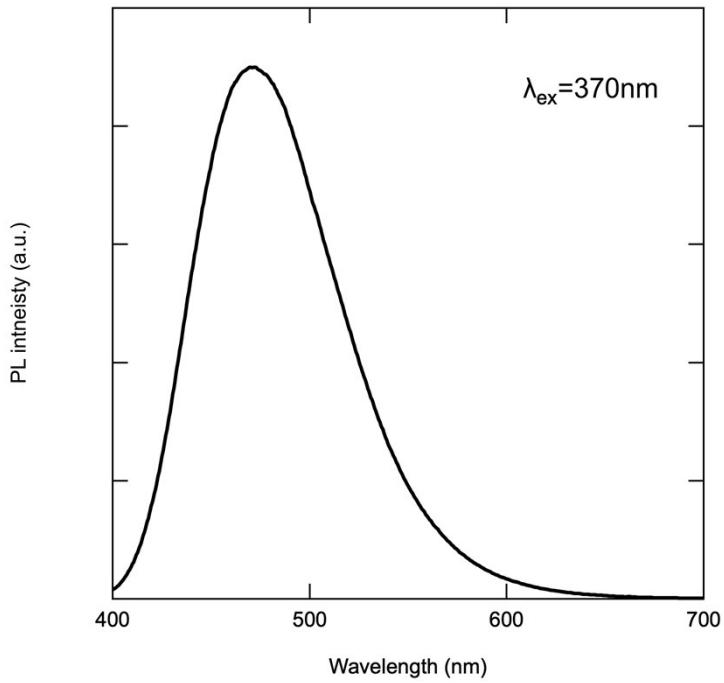

Figure S1 Emission spectrum of $Ba_{0.81}Eu_{0.19}(Si_{6.66}Al_{0.34})(N_{9.66}O_{0.34})_{10}$ particle synthesized without Li_3N.