## **Electronic Supplementary Information**

Host-sensitized luminescence of Dy<sup>3+</sup> in LuNbO<sub>4</sub> under Ultraviolet Light and Low-voltage Electron Beam Excitation: Energy Transfer and White Emission

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atom	site	х	у	Z	Occ.	B <sub>iso</sub> (Ų)
Lu1	4e	1/4	0.1211(2)	0.0	0.985	1.29(3)
Dy1	4e	1/4	0.1211(2)	0.0	0.015	1.29(3)
Nb1	4e	1/4	0.6422(3)	0.0	1.0	1.21(5)
01	8f	0.010(2)	0.714 (1)	0.208(2)	1.0	1.8(1)
02	8f	0.900(2)	0.444(1)	0.238(2)	1.0	1.8(1)

Table S1. Final refined structural parameters for Lu<sub>0.985</sub>Dy<sub>0.015</sub>NbO<sub>4</sub>.<sup>a</sup>

<sup>a</sup>symmetry, monoclinic; space group, I2/a; Z = 4; a = 5.22900(3) Å, b = 10.82504(7) Å, c = 5.04129(3) Å,  $\beta$  = 94.4151(4) and V = 284.511(3) Å<sup>3</sup>;  $\rho$  = 7.745 g/cm<sup>-3</sup>; R<sub>wp</sub> = 4.29 %, R<sub>p</sub> = 2.84 %, R<sub>B</sub> = 1.39 %. The occupancy factors for Lu/Dy were fixed as 0.985/0.015 according to the nominal composition in the refinement.



**Figure S1.** Temperature-dependent excitation spectra of Lu<sub>0.985</sub>Dy<sub>0.015</sub>NbO<sub>4</sub> monitored at 576 nm.



**Figure S2.** CIE chromaticity diagram of  $Lu_{0.985}Dy_{0.015}NbO_4$  at different temperatures from 100 to 450 K upon 261 nm excitation.