Electronic Supplementary Material (ESI) for Dalton Transactions.
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Electronic supplementary information

Ultrasensitive optical thermometry via Tb^{3+} doped $NaSrGd(MoO_4)_3$ based on single band ratiometric luminescence.

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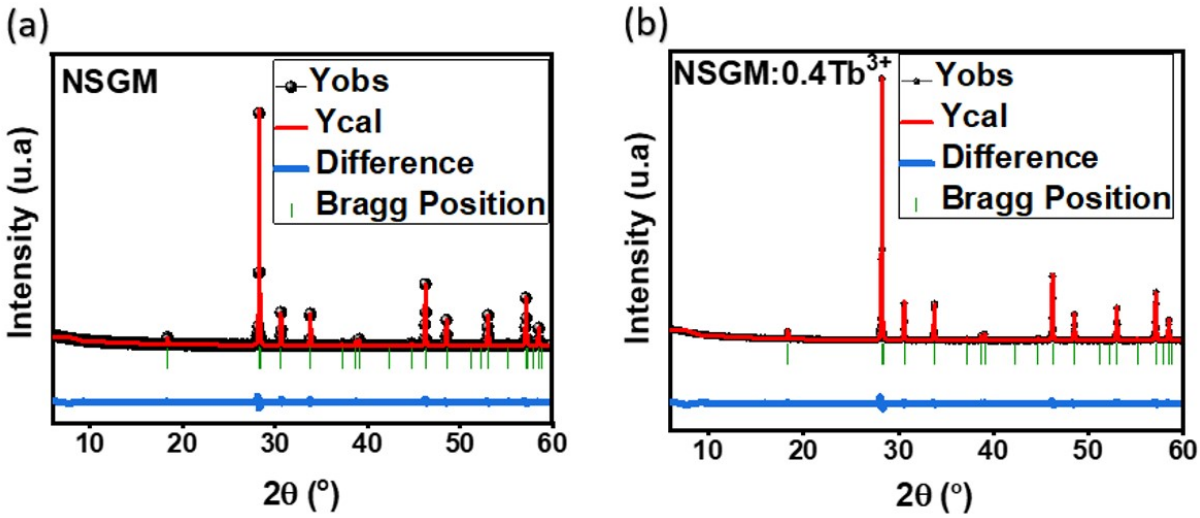

Fig.S_1 a and b. Rietveld refinement patterns of NSGM.

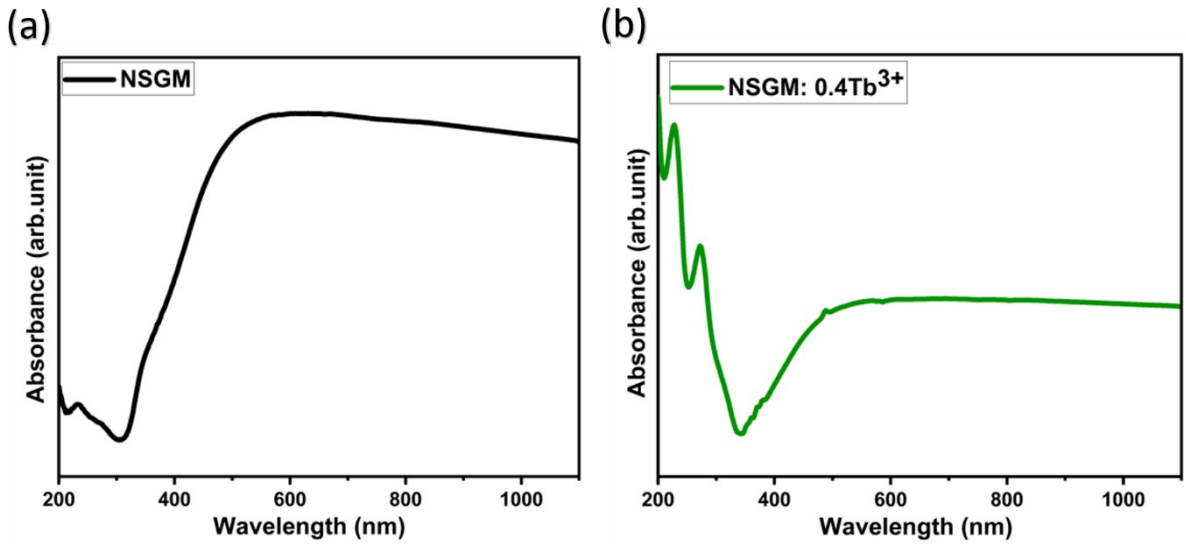

Fig.S_2 a and b. Diffuse reflectance spectra (a) of NSGM and (b) for NSGM: $0.4Tb^{3+}$.

Table S_1. Refinement parameters of NSGM and NSGM:0.4Tb^{3+} phosphors.

Compound	**NSGM**	**NSGM:0.4Tb^{3+}**
Crystal system	Tetragonal	Tetragonal
Space group	I41/a (88)	I41/a (88)
a & b (Å)	5.3024	5.3021
c (Å)	11.6693	11.6686
α = β = γ	90°	90°
V (Å ^{3})	328.09	328.06
Rwp, %	11.24	12.64
χ 2	1.78	2.04

Table S_2. Chromaticity coordinates, Purity of color and CCT color temperature for the NSGM: xTb^{3+}(x=0.1, 0.2, 0.3, 0.4, 0.5 and 0.6).

Doping rate	**X**	**Y**	**CCT (K)**	**Color purity**
10%	0.3230	0.6387	5655	92.3%
20%	0.3071	0.6295	5913	81.7%
30%	0.3212	0.6309	5517	86.3%
40%	0.3137	0.6309	5805	84.1%
50%	0.3137	0.6306	5808	84%
60%	0.3303	0.6142	5544	83.7%