Supporting Information

<u>Title:</u>

Dual-emissive Ln³⁺/Mn⁴⁺ Co-doped Double Perovskite Phosphor Via Site-Beneficial

Occupation

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Figure S1. SEM image of (A) LLSO host; (B)LLSO:Mn⁴⁺; (C)LLSO:Tb³⁺,Mn⁴⁺; (D) LLSO:Dy³⁺,Mn⁴⁺.



Figure S2. Decay curves of 714 nm emission in (A) LLSO:xTb³⁺,0.005Mn⁴⁺ (λ_{ex} = 276 nm) and (B) LLSO:yDy³⁺,0.005Mn⁴⁺ (λ_{ex} = 274 nm).



Figure S3. The CIE colorimetric diagrams at different temperature of (A) LLSO:Tb³⁺,Mn⁴⁺; (B) LLSO:Dy³⁺,Mn⁴⁺.