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## Electronic Supplementary Information

## Rare Earth-Free High Color Rendering White Light-Emitting Diodes Using CsVO<sub>3</sub> with Highest Quantum Efficiency for Vanadate Phosphors

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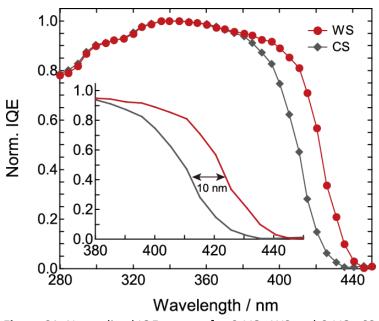
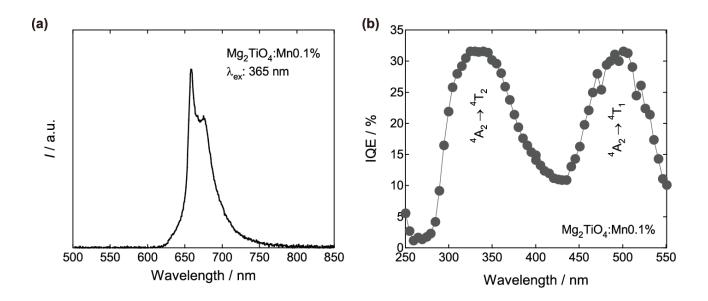


Figure S1: Normalized IQE spectra for CsVO<sub>3</sub>-WS and CsVO<sub>3</sub>-CS.



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Figure S2: (a) PL and (b) IQE spectra for  $Mg_2TiO_4$ :Mn0.1%. 1.0 Mn<sup>4+</sup> Pr<sup>3+</sup> Norm. spectral irradiance Eu<sup>3+</sup> 8.0 0.6 0.4 0.2 R9: 4.5R4/13 0<u>.0</u>⊏ 500 600 550 650 700

Wavelength / nm

Figure S3: Normalized spectral irradiance for CRI of R9.