

## **Supporting information**

### **Mg<sub>1.5</sub>Lu<sub>1.5</sub>Al<sub>3.5</sub>Si<sub>1.5</sub>O<sub>12</sub>:Ce<sup>3+</sup>, Mn<sup>2+</sup>: A Novel Garnet Phosphor with Adjustable Emission Color for Blue Light-Emitting Diodes**

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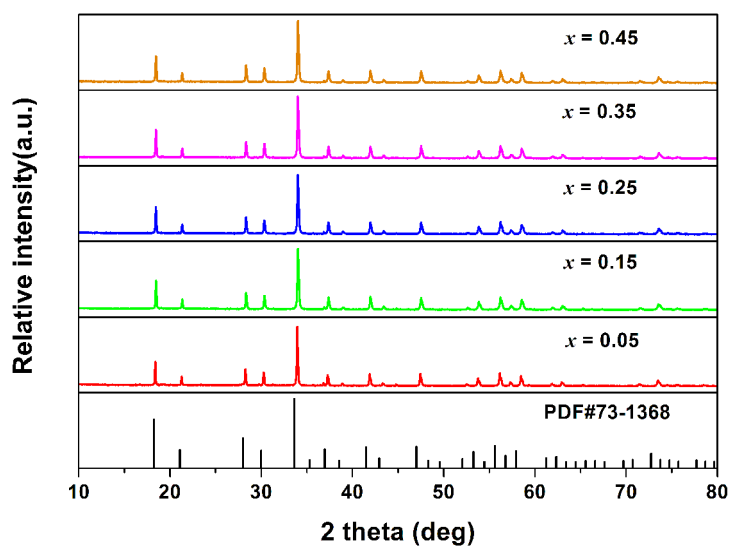


Figure S1. XRD profiles for MLASO:0.05Ce<sup>3+</sup>,<sub>x</sub>Mn<sup>2+</sup> phosphors on Mn<sup>2+</sup> doping content ( $x=0.05$ , 0.15, 0.25, 0.35 and 0.45). The standard data for Lu<sub>3</sub>Al<sub>5</sub>O<sub>12</sub> (JCPDS card No. 73-1368) is shown as reference.

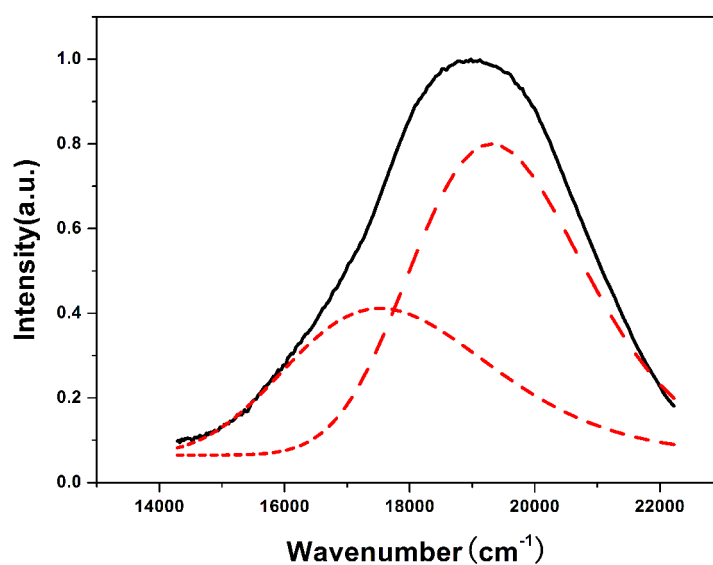


Figure S2. Emission spectrum of MLASO:Ce<sup>3+</sup> and two Gaussian component on an energy scale.

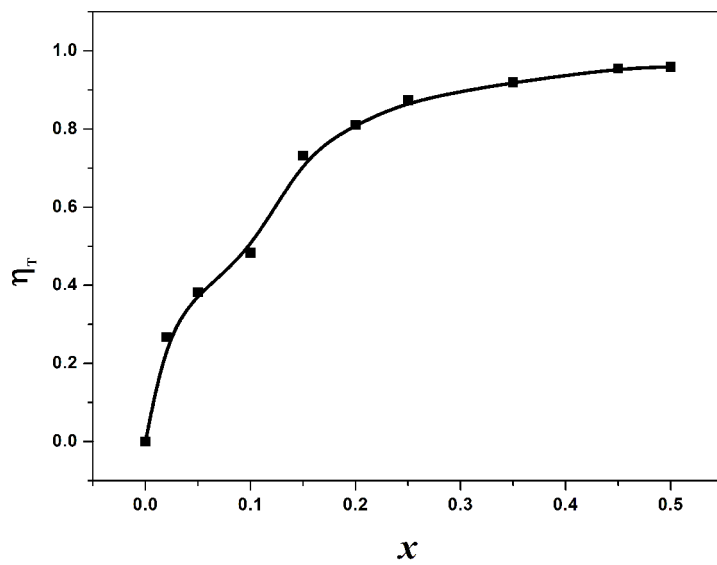


Figure S3. Dependence of the energy transfer efficiency  $\eta_T$  on  $Mn^{2+}$  content  $x$ .