

Supplementary Information

**Design and Research of a Self-activated Orange Magnesium Boron Nitride
Phosphor with its Application in W-LEDs**

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Table S1 The biexponential fitting parameters and the calculated average lifetimes(τ)

Monitored peak/nm	τ_1 /ns	τ_2 /ns	A_1	A_2	τ /ns
600	780	95	130.91	1614.267	368.80
617	1000	105	104.723	1472.835	466.36
692	1127	101	117.308	1320.153	611.81

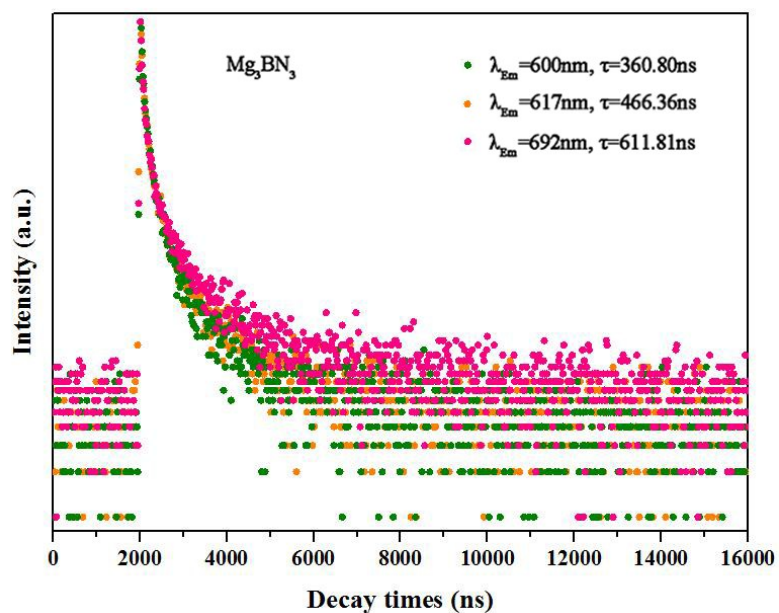


Fig. S1 The combined decay curves of Mg_3BN_3 at different emission peaks.

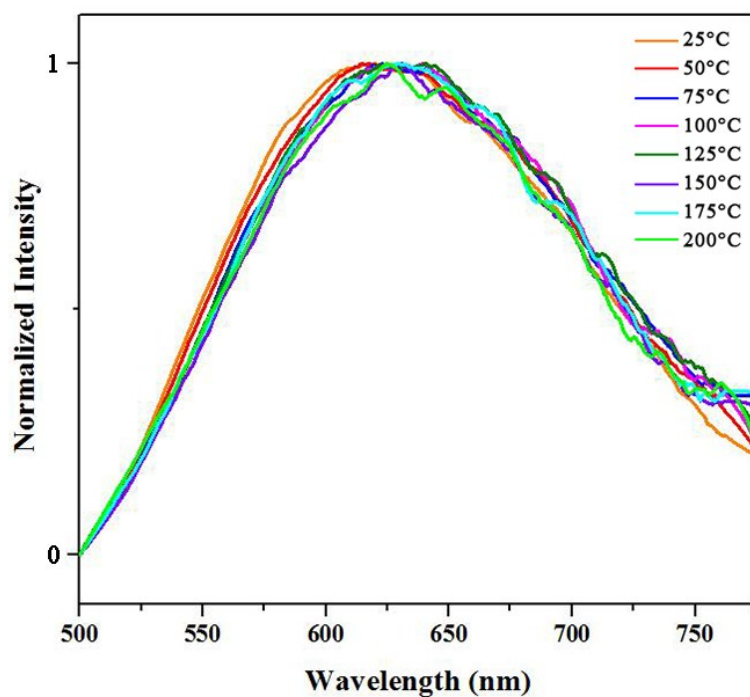


Fig. S2 The normalized temperature dependence of the emission spectra of Mg_3BN_3