Supporting Information

Modular high power plant lighting sources based on phosphor-sapphire composite with high thermal conductivity

Jiayu Zhang^a, Xikun Zou^a, Lei Jin^a, Jiamin Sun^a, Bohua Zhang^a, Wei Li^a, Haoran Zhang^{a,b}, Mingtao Zheng^{a,b}, Yingliang Liu^a, Xiaotang Liu^{a,*}, Xuejie Zhang^{a,*}, and Bingfu Lei^{a,b,*}

^aKey Laboratory for Biobased Materials and Energy of Ministry of Education, College of Materials and Energy, South China Agricultural University, Guangzhou 510642, China

^bMaoming Branch, Guangdong Laboratory for Lingnan Modern Agriculture, Guangdong Maoming 525100, China

*Corresponding Author:

- *Xuejie Zhang, zhangxuejie@scau.edu.cn;
- *Xiaotang Liu, xtliu@scau.edu.cn;
- *Bingfu Lei, tleibf@scau.edu.cn;

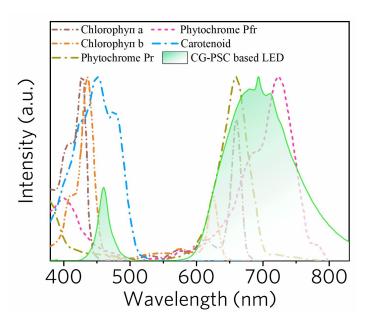
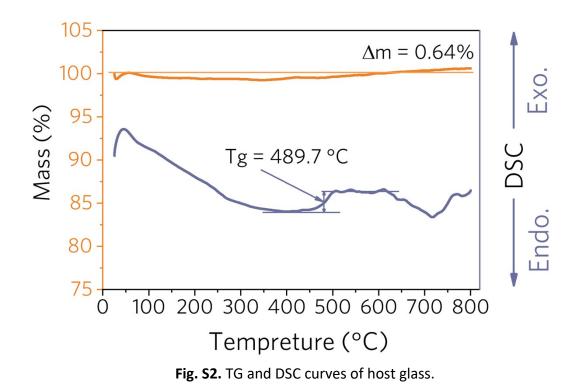


Fig. S1. Absorption curves of different pigments in plants and the emission spectrum of CG-PSC based plant growth LED.



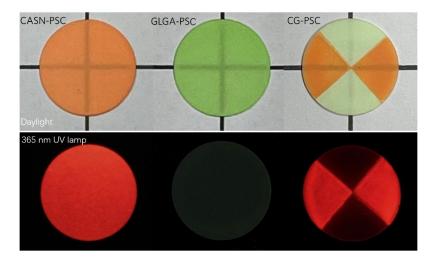


Fig. S3. Photos of CASN-PSC, GLGA-PSC, and CG-PSC samples under daylight and 365 nm UV lamp.

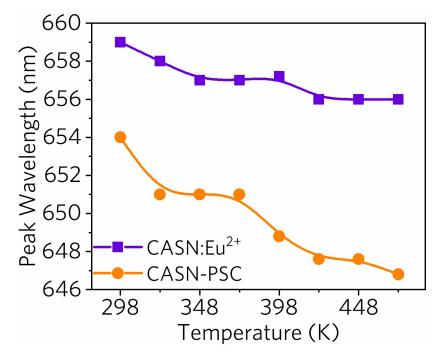


Fig. S4. Temperature-dependent peak emission wavelengths of CASN:Eu²⁺ and CASN-PSC.

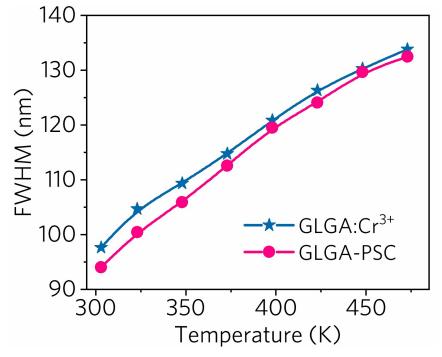


Fig. S5. Temperature-dependent FWHMs of GLGA:Cr³⁺ and GLGA-PSC.

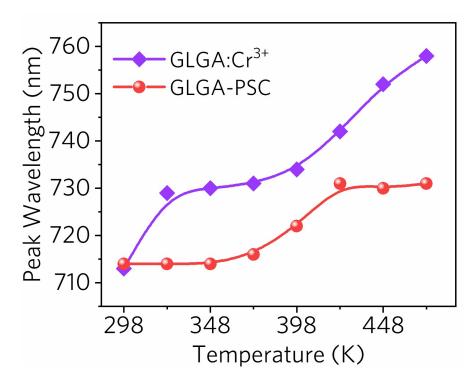


Fig. S6. Temperature-dependent peak emission wavelengths of GLGA:Cr³⁺ and GLGA-PSC.

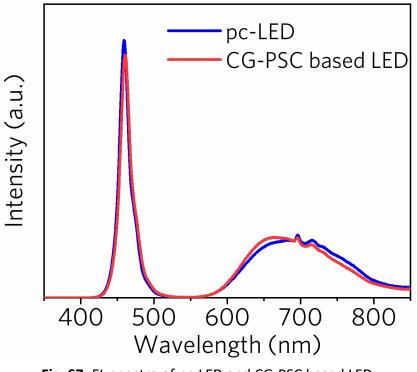


Fig. S7. EL spectra of pc-LED and CG-PSC based LED.