

Supporting information for

**Flexible multi-color electroluminescent devices
with high transmission conducting hydrogel and
organic dielectric**

Yongjie Yu,¹ Kun He,² Haibo Xu,¹ Zhen Xiao,^{1*} Liang Chen,¹ Shiqing
Xu,¹ Gongxun Bai^{1*}

¹ Key Laboratory of Rare Earth Optoelectronic Materials and Devices of
Zhejiang Province, College of Optical and Electronic Technology, China
Jiliang University, Hangzhou 310018, China

² National Laboratory of Solid State Microstructures, School of Electronic
Science and Engineering and Collaborative Innovation Center of
Advanced Microstructures, Nanjing University, Nanjing 210093, China.

*Corresponding author: baigx@cjlu.edu.cn (G Bai),

13a0505077@cjlu.edu.cn (Z Xiao)

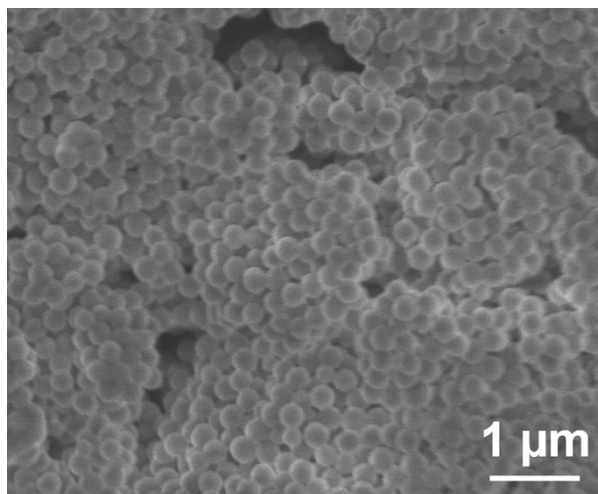


Figure S1. SEM images of the used PVDF nanopowders.

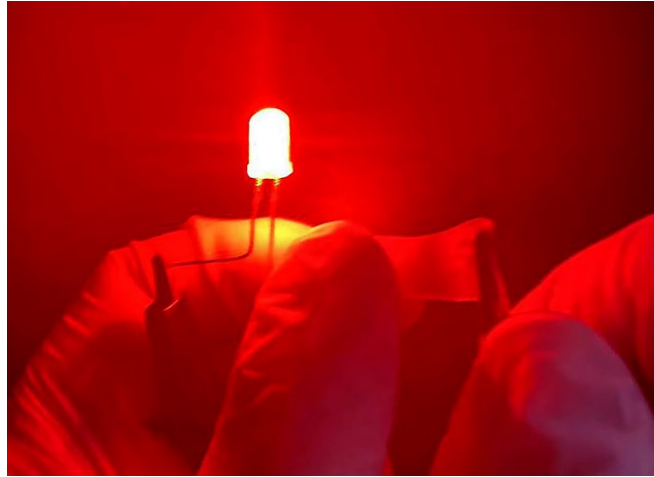


Figure S2. Hydrogel acts as a conductor to make the led circuit work properly.

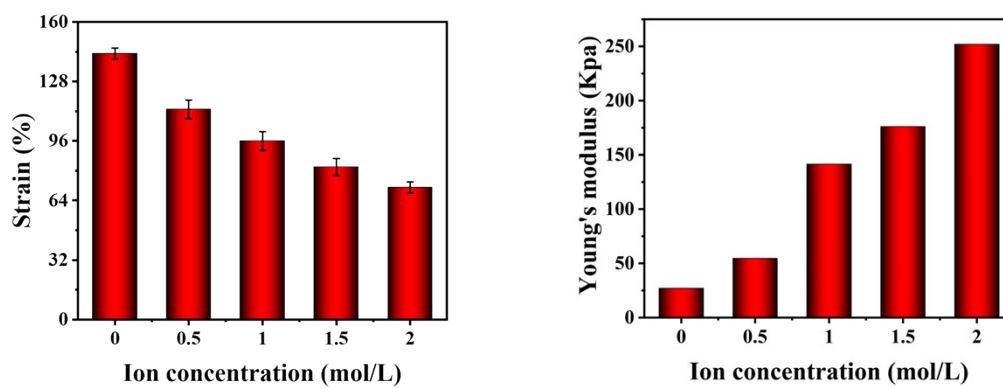


Figure S3. Tensile strain and Young's modulus of hydrogels treated with ionic solutions of different concentrations.

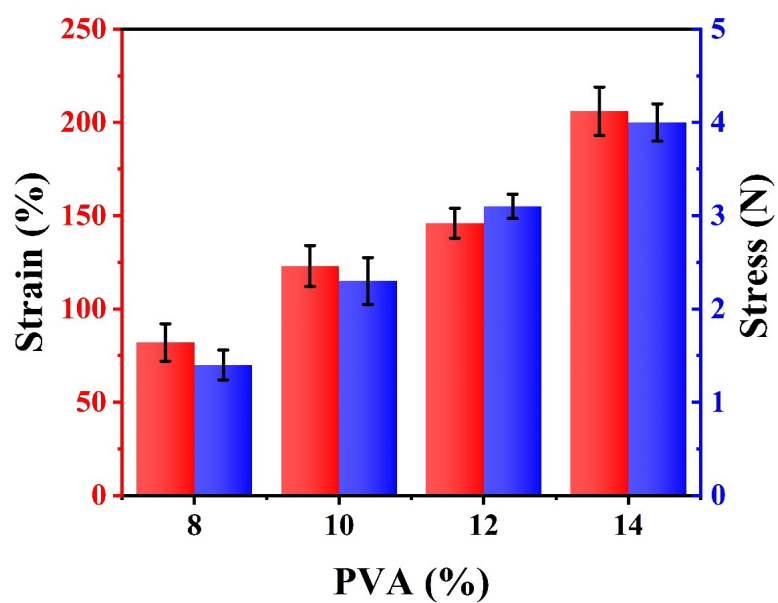


Figure S4. The effect of PVA concentration on the mechanical properties of hydrogels.

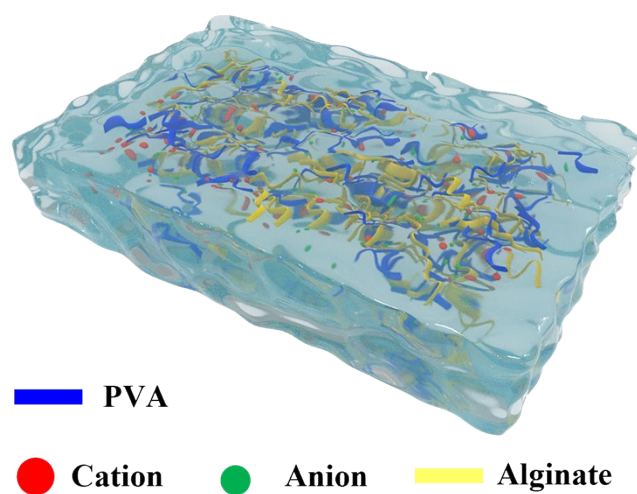


Figure S5. Hydrogel structure perspective diagram.

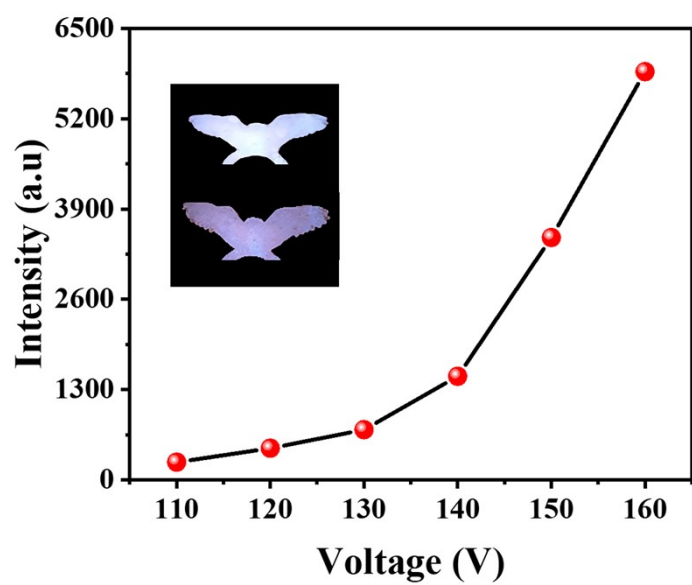


Figure S6. The luminescence intensity changes of ACEL devices and the luminance changes of real objects under different voltages.

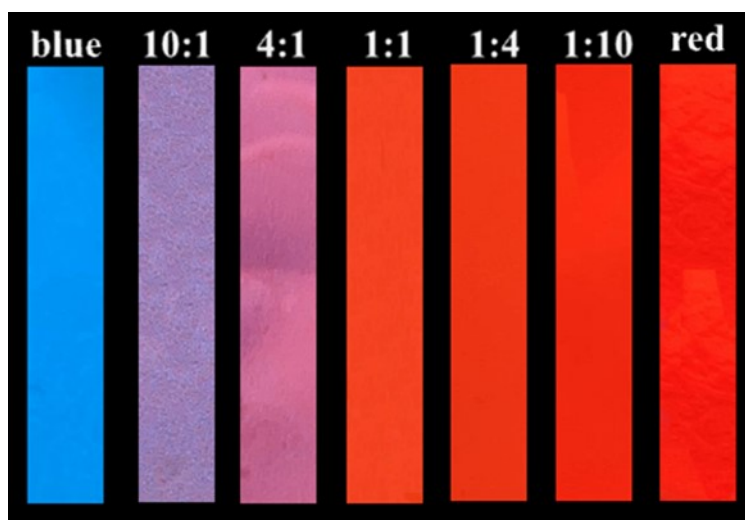


Figure S7. Color of phosphor emission layers in different proportions under 365 nm excitation.

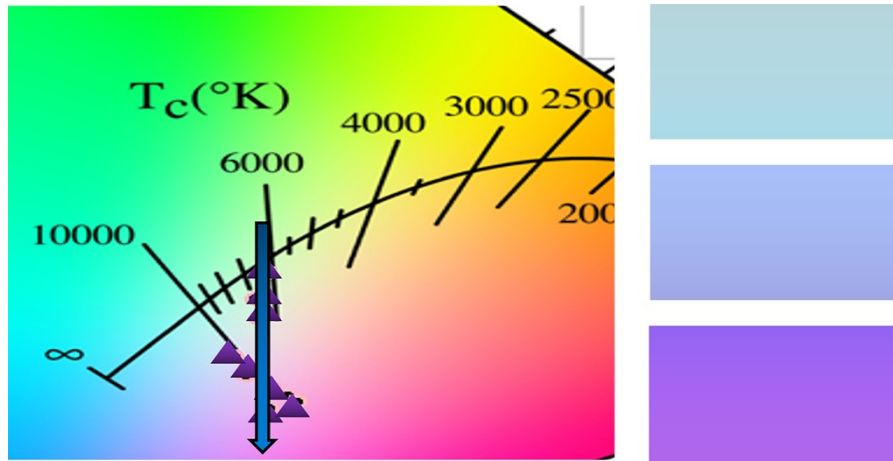


Figure S8. The color changes of ACCEL devices and real objects under the action of different voltage frequencies.