

Electronic Supplementary Information (ESI)

On the Selection of a Host Compound for Efficient Host-Guest Light-Emitting Electrochemical Cells

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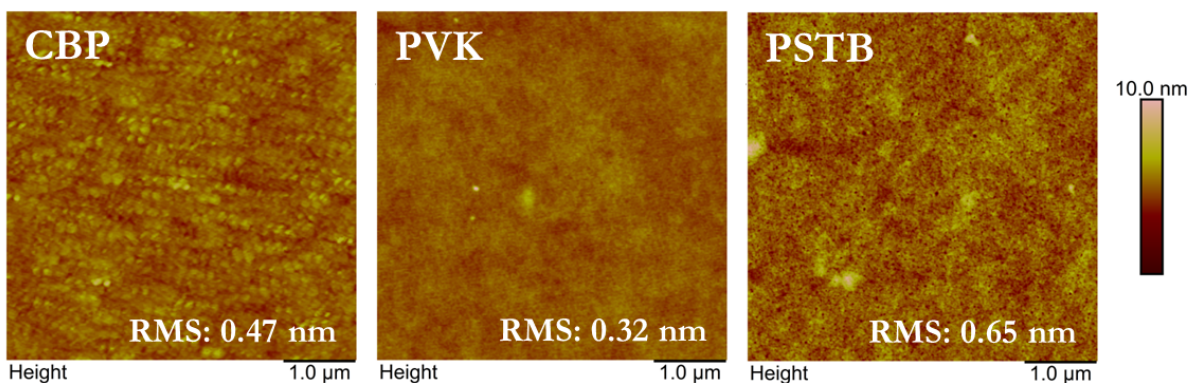


Figure S1. (5 μm × 5 μm) micrographs of the smooth surface morphology of the {Host:Ir(R-piq)₃:TMPE-OH:LiCF₃SO₃} active layers, as recorded with an AFM operating in tapping mode.

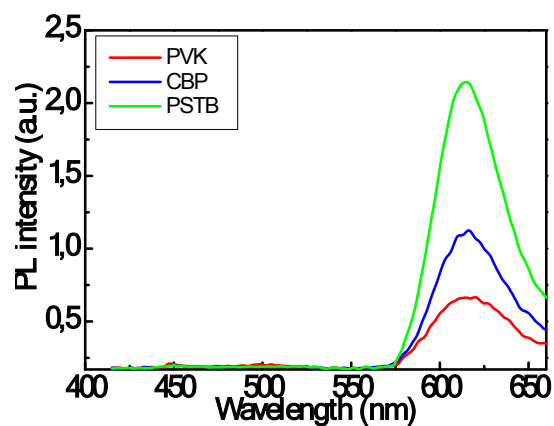


Figure S2. The photoluminescence spectrum of the three $\{Host:Ir(R-piq)_3\}$ blend films, with the host being PSTB (upper green trace), CBP (middle blue trace), and PVK (lower red trace). The spectra were measured in a well-controlled setup, using identical settings for all films.

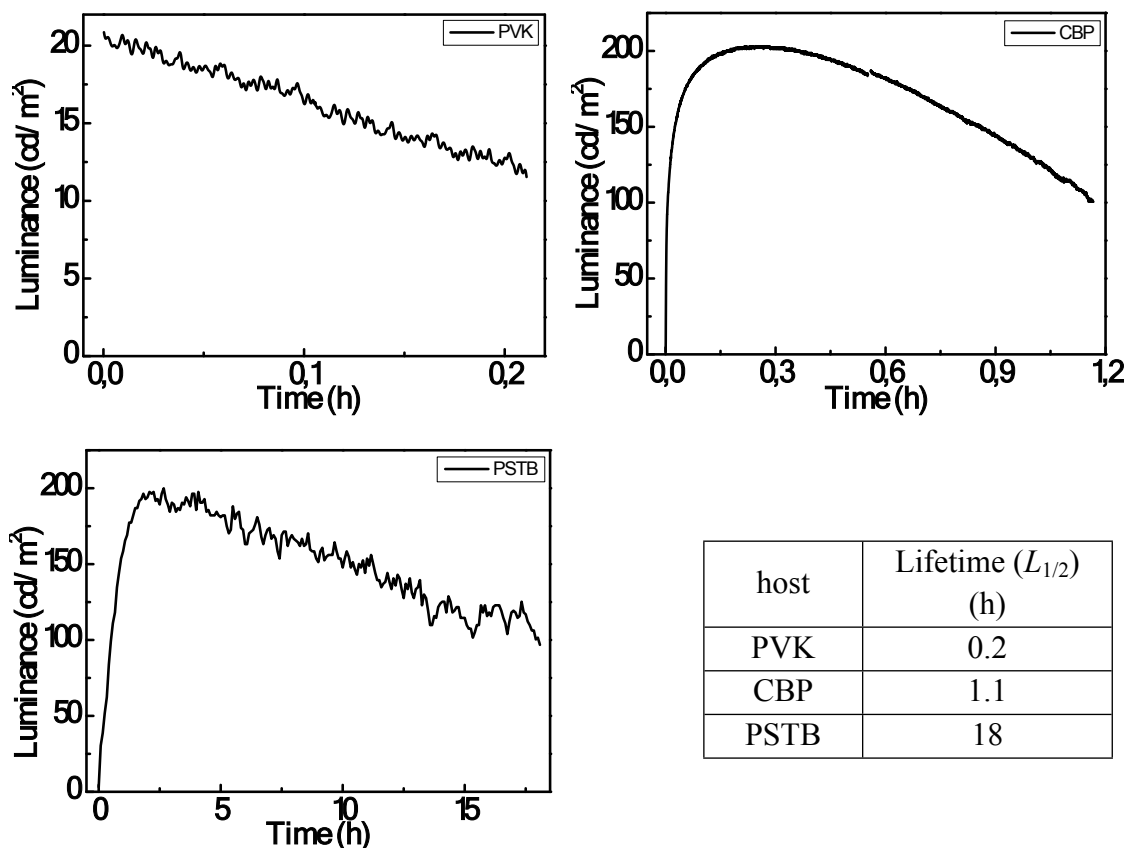


Figure S3. Long-term measurement of sandwich-cell LECs with the following configuration: ITO/PEDOT-PSS/Host:Ir(R-piq)₃:TMPE-OH:LiCF₃SO₃/Al, with the respective host being identified in the inset. The devices were driven at $j = 77 \text{ mA/cm}^2$ for PVK and CBP, and $j = 5.8 \text{ mA/cm}^2$ for PSTB. The table summarizes the lifetimes to half maximum luminance.

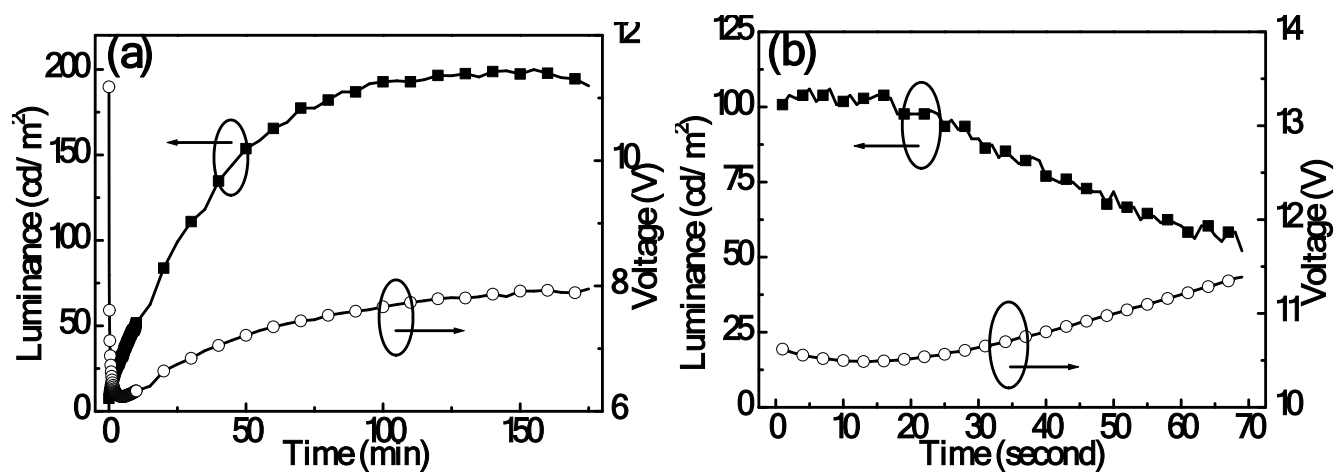


Figure S4. (a) The temporal response of a ITO/PEDOT-PSS/PSTB:Ir(R-piq)₃:TMPE-OH:LiCF₃SO₃/Al sandwich cell driven at $j = 5.8 \text{ mA/cm}^2$. (b) The temporal response of a ITO/PEDOT-PSS/PVK:Ir(ppy)₃:TMPE-OH:LiCF₃SO₃/Al sandwich cell driven at $j = 77 \text{ mA/cm}^2$.

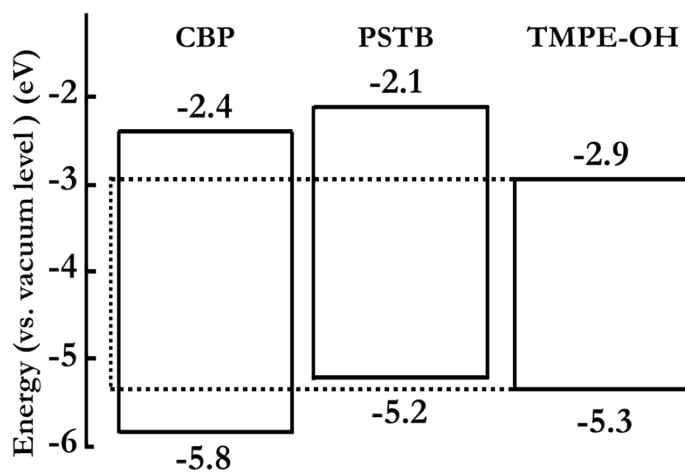


Figure S5. The energy structure of the host materials CBP and PSTB, and the electrolyte TMPE-OH.