

Influence of host materials on degradation of phosphorescent organic light-emitting diodes under electrical stress

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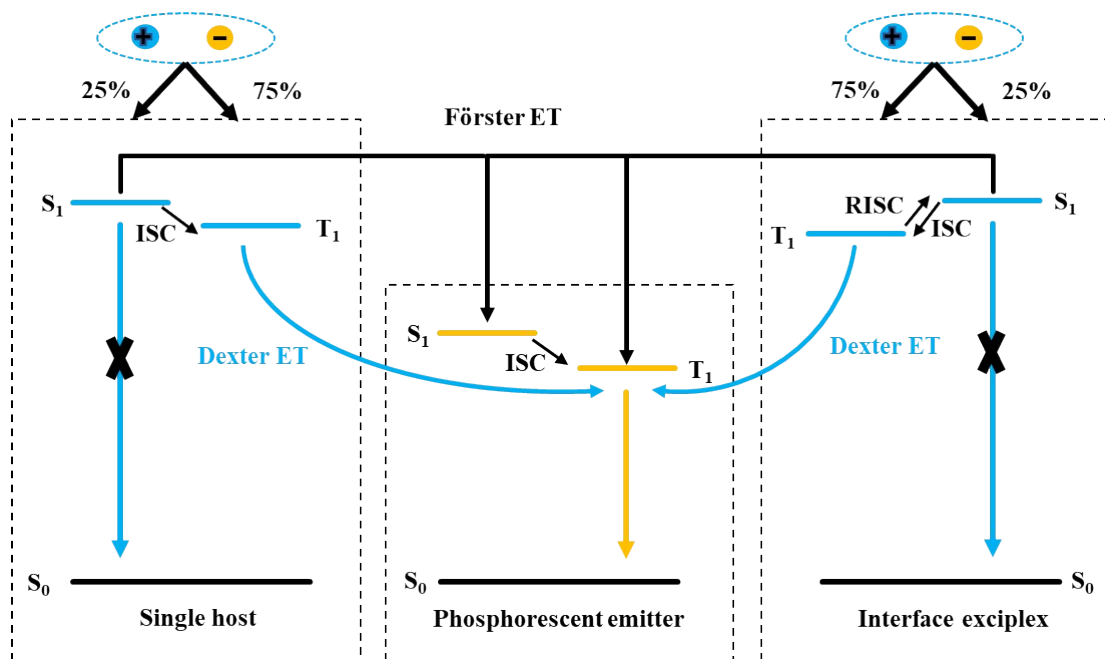


Fig. S1 Energy transfer and emission processes of the resulting yellow PHOLEDs for the case of single host and interface exciplex.

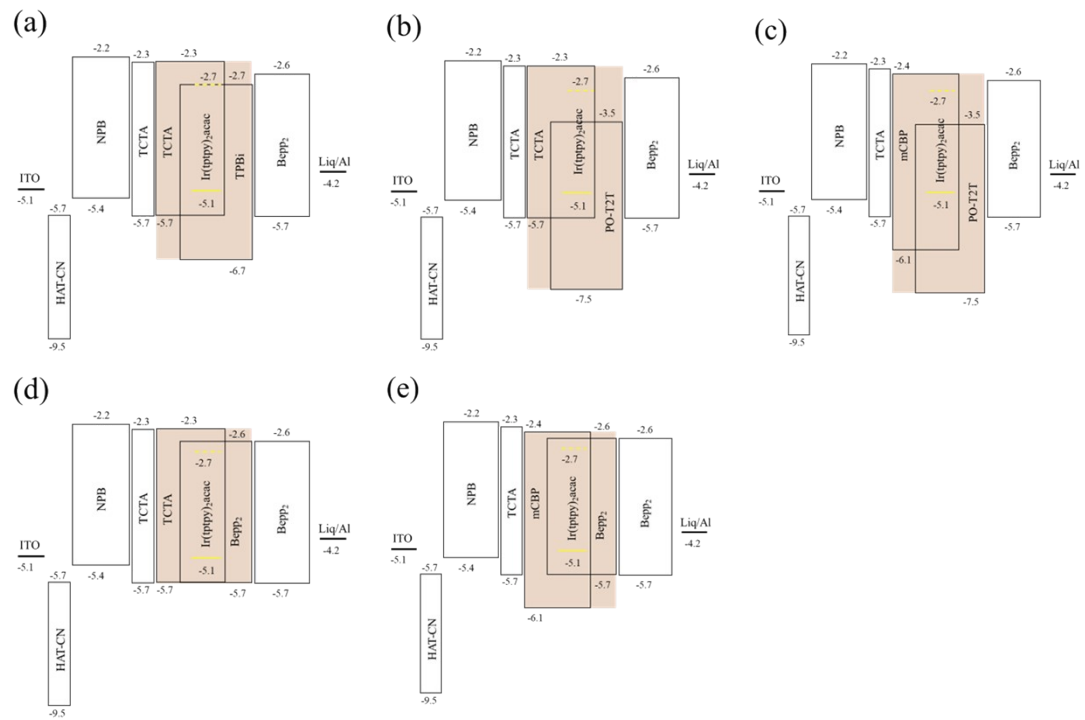


Fig. S2 Energy level diagrams of the resulting yellow PhOLEDs based on co-host. (a) TCTA:TPBi, (b) TCTA:PO-T2T, (c) mCBP:PO-T2T, (d) TCTA:Bepp₂, and (e) mCBP:Bepp₂.

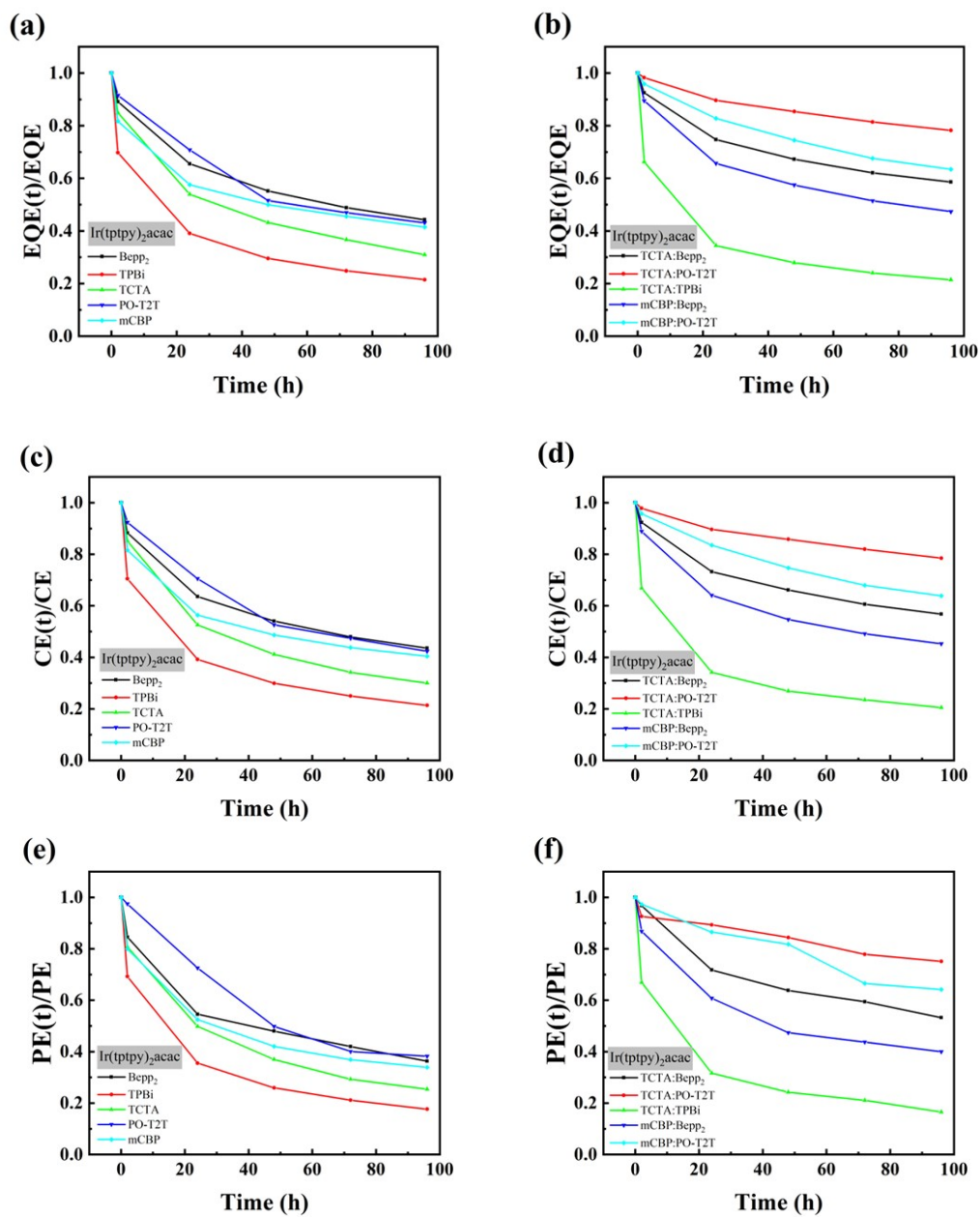
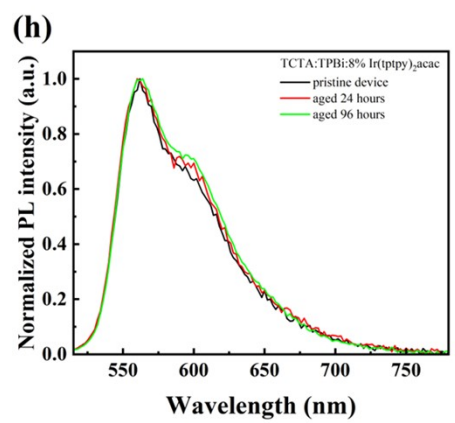
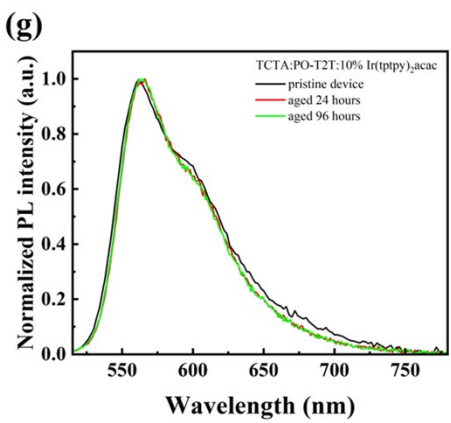
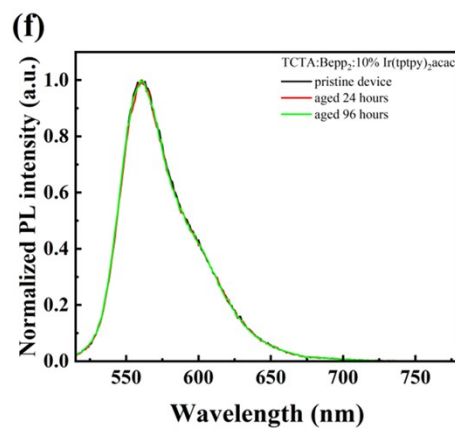
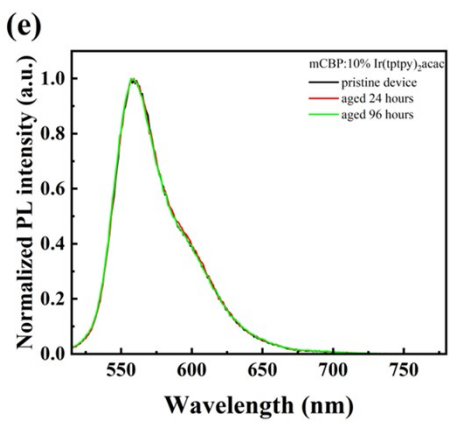
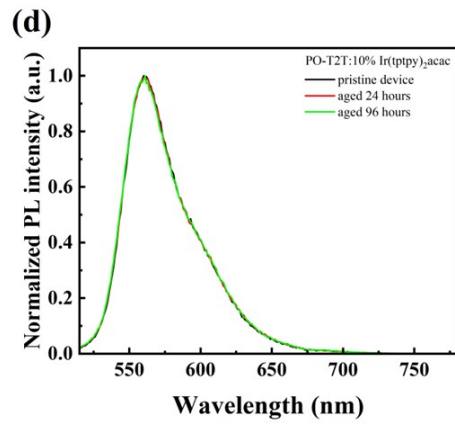
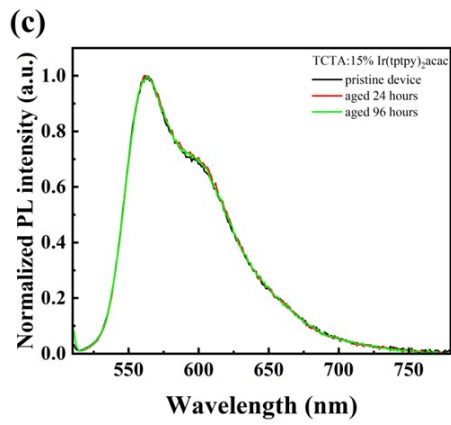
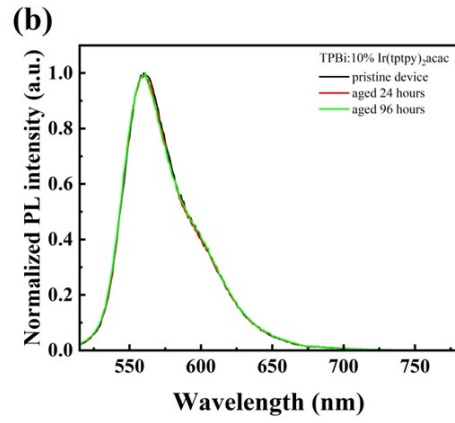
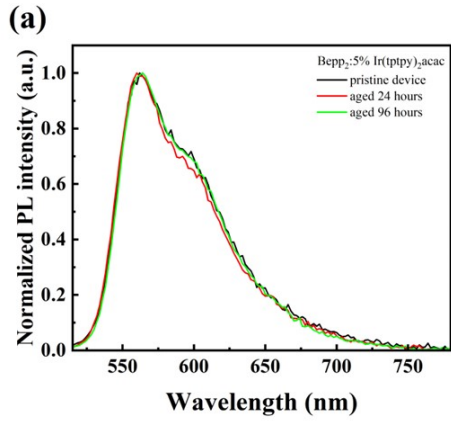


Fig. S3 Change of EQE(t)/EQE, CE(t)/CE and PE(t)/PE versus aging time in the resulting yellow PhOLEDs with different hosts at 5 mA/cm². (a), (c) and (e) single host devices, (b), (d) and (f) co-host devices. (EQE, CE and PE are those of the pristine devices)



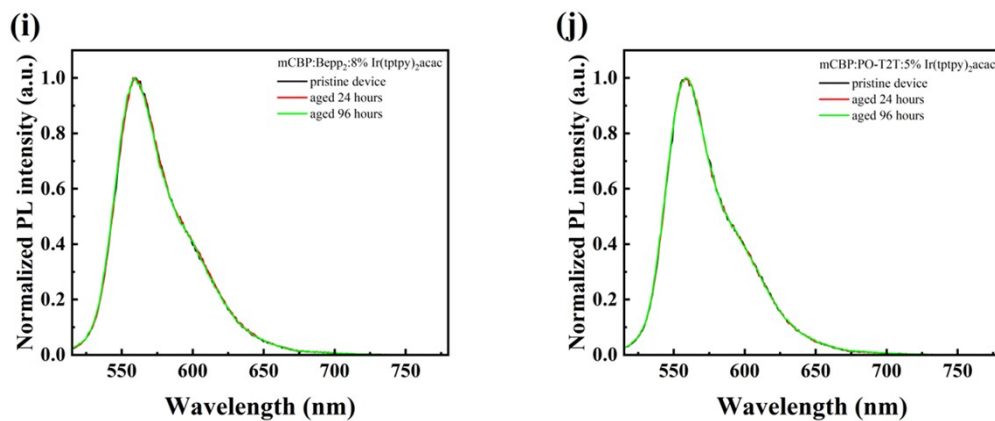


Fig. S4 Normalized PL spectrum characteristics of the resulting yellow PhOLEDs with different hosts at pristine, aging 24 hours and aging 96 hours. (a) Bepp₂, (b) TPBi, (c) TCTA, (d) PO-T2T, (e) mCBP, (f) TCTA:Bepp₂, (g) TCTA:PO-T2T, (h) TCTA:TPBi, (i) mCBP:Bepp₂ and (j) mCBP:PO-T2T.

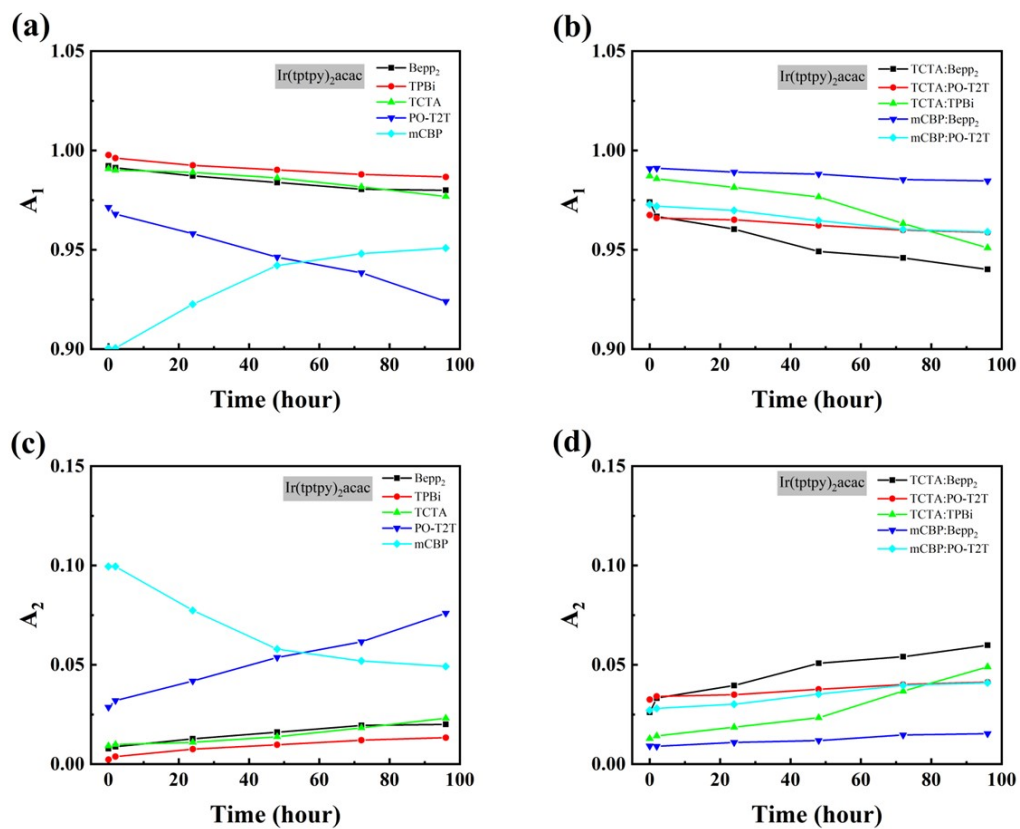
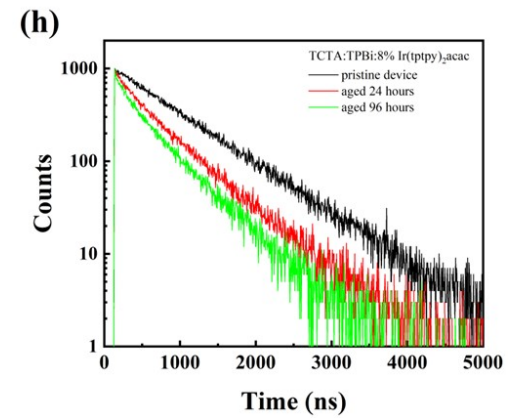
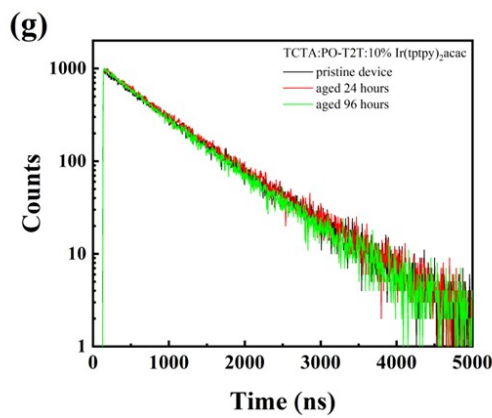
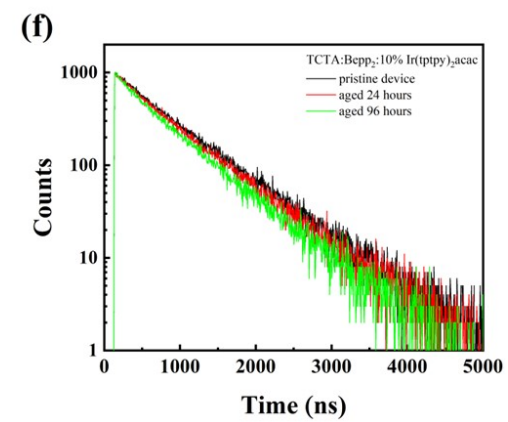
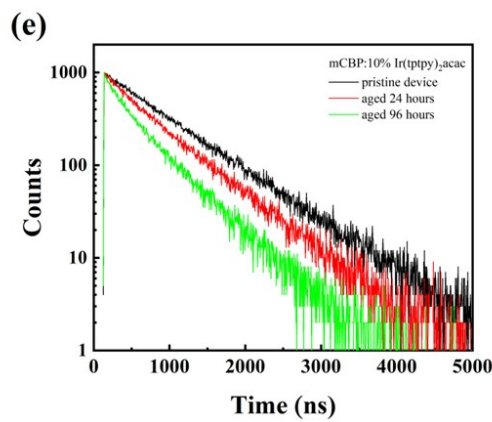
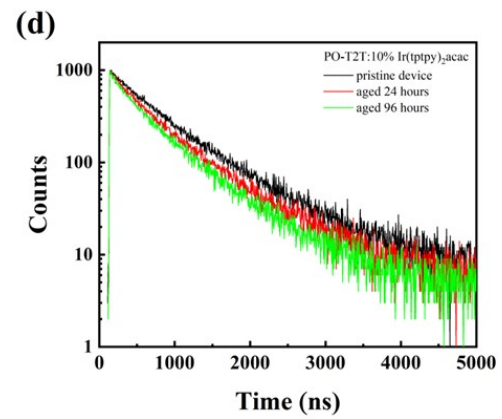
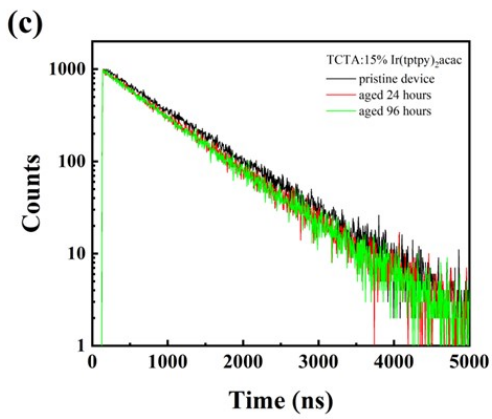
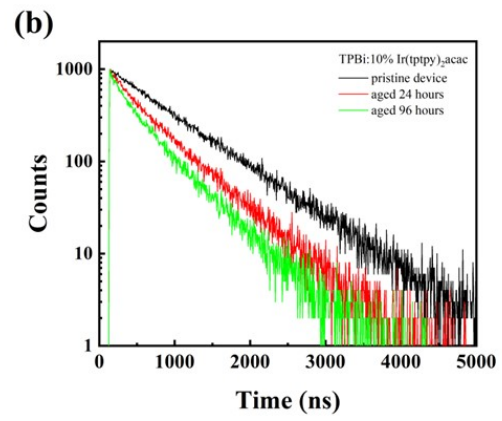
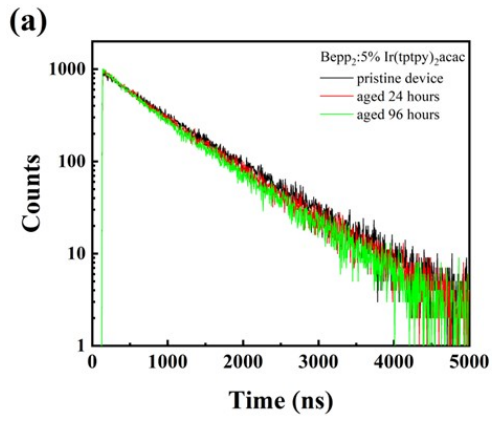


Fig. S5. Fitting parameter A_1 of (a) the single host and (b) co-host devices, and Fitting parameter A_2 of (c) the single host and (d) co-host devices by double exponential function against aging time.



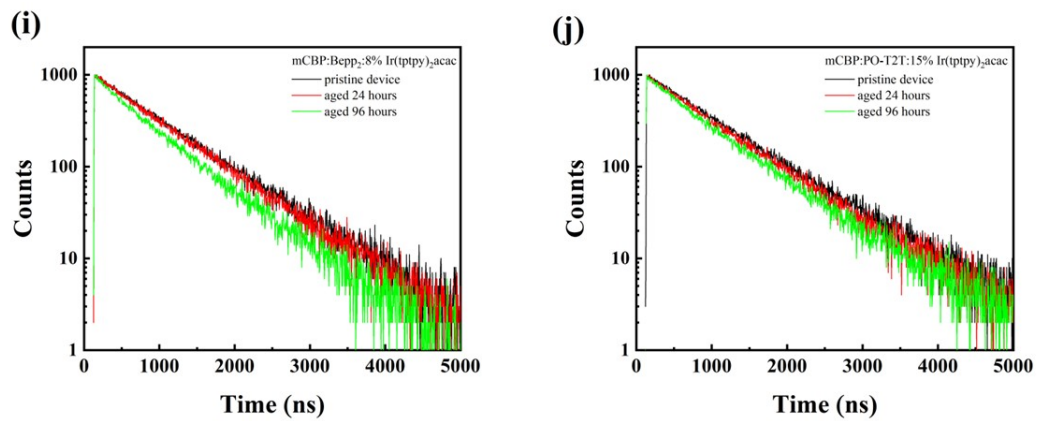


Fig. S6. TRPL spectrum characteristics of the resulting yellow PhOLEDs with different hosts at pristine, aging 24 hours and aging 96 hours. (a) Bepp₂, (b) TPBi, (c) TCTA, (d) PO-T2T, (e) mCBP, (f) TCTA:Bepp₂, (g) TCTA:PO-T2T, (h) TCTA:TPBi, (i) mCBP:Bepp₂ and (j) mCBP:PO-T2T.