

Comparative Study of Using Different Alkali Metal Alkylcarboxylates as Electron Injection Materials in OLEDs

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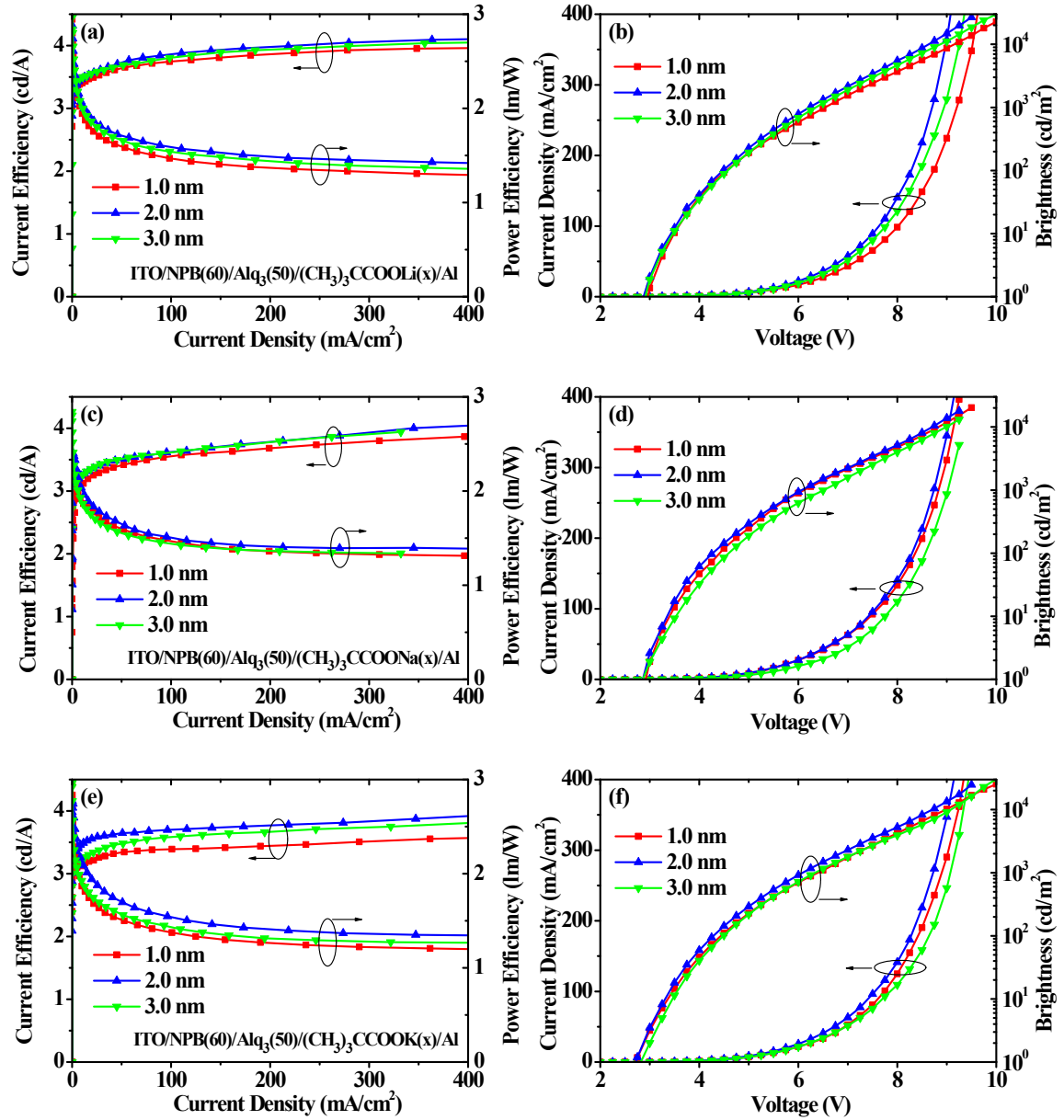
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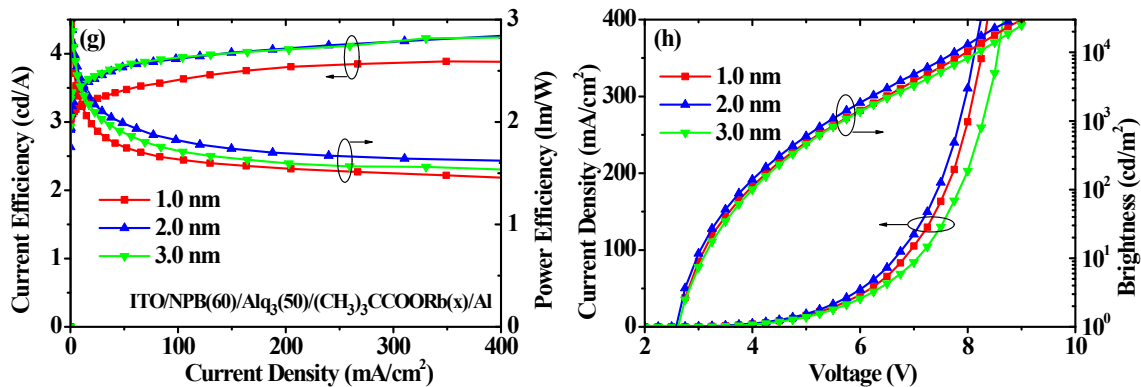
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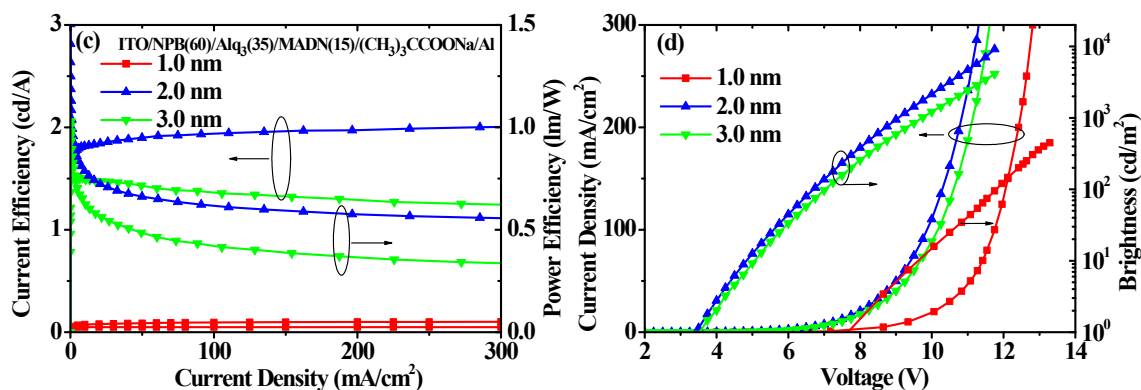
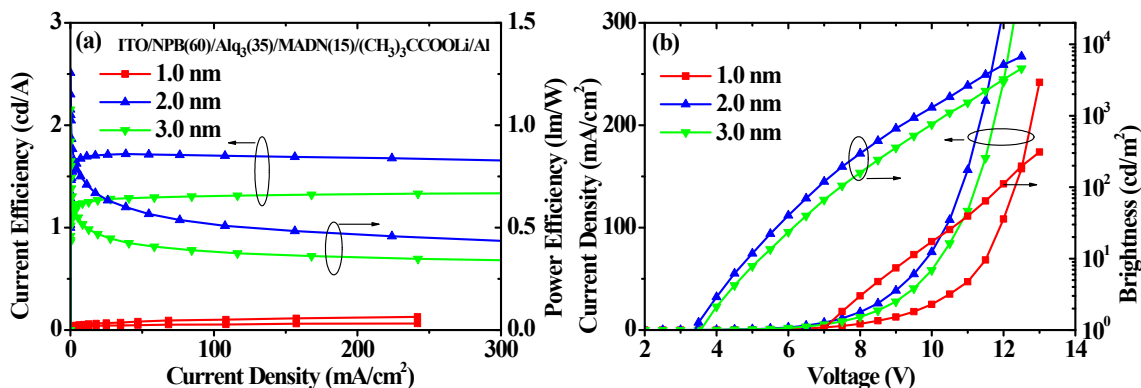
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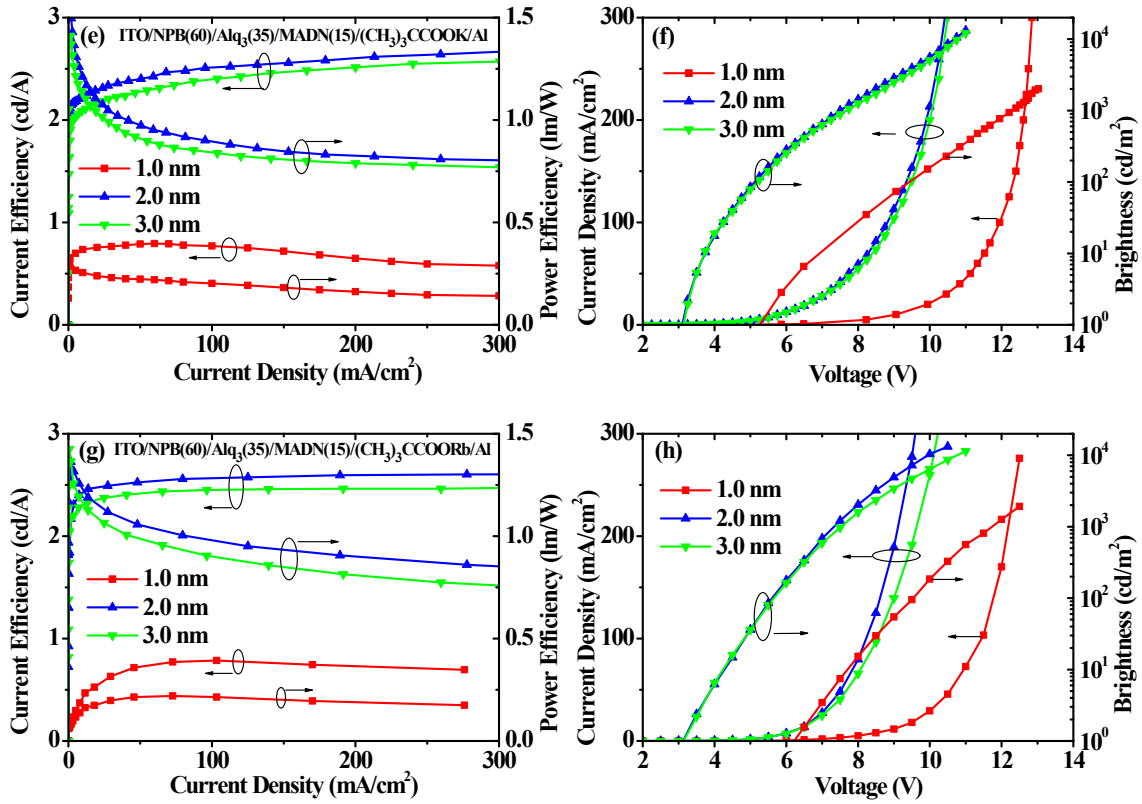
1. The affect of the EIL thickness on the electroluminescent characteristics of devices.



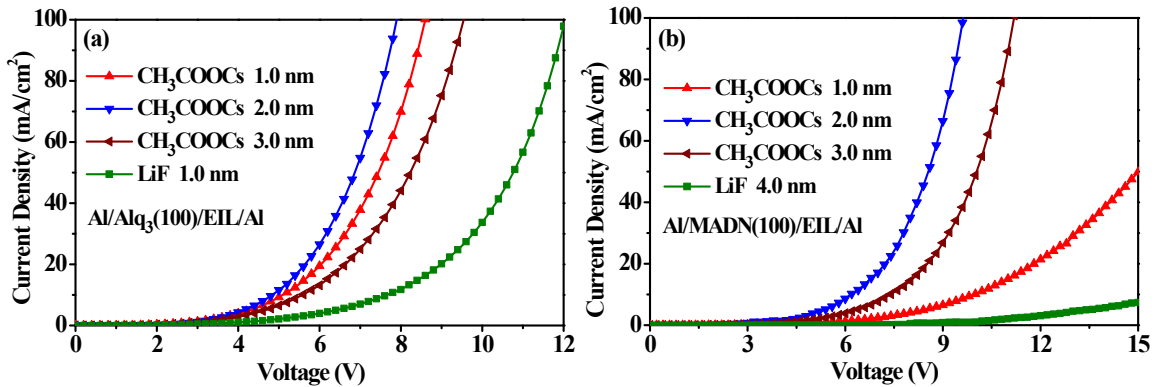


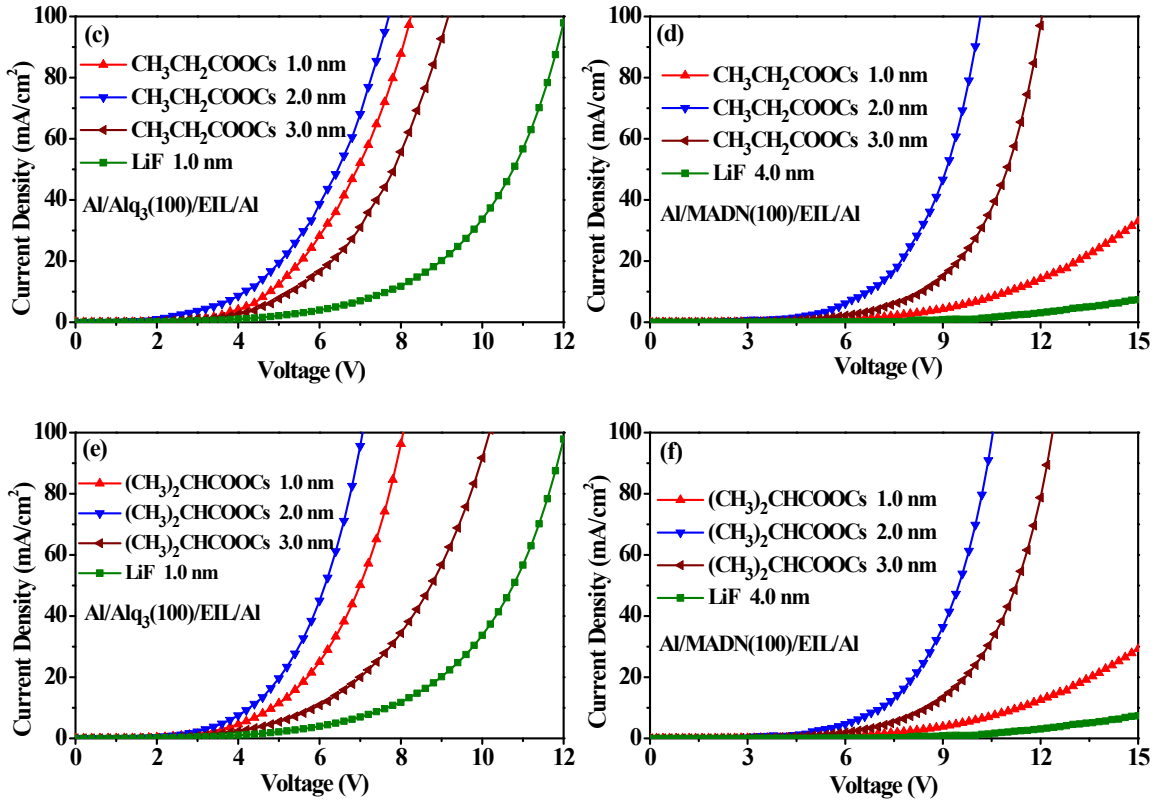
SFig.1 (a) Dependence of efficiency on the thickness of $(\text{CH}_3)_3\text{CCOOLi}$ in the device ITO/NPB (60 nm)/Alq₃ (50 nm)/ $(\text{CH}_3)_3\text{CCOOLi}$ /Al; (b) J-V-B curves of the devices; (c) Dependence of efficiency on the thickness of $(\text{CH}_3)_3\text{CCOONa}$ in the device ITO/NPB (60 nm)/Alq₃ (50 nm)/ $(\text{CH}_3)_3\text{CCOONa}$ /Al; (d) J-V-B curves of the devices; (e) Dependence of efficiency on the thickness of $(\text{CH}_3)_3\text{CCOOK}$ in the device ITO/NPB (60 nm)/Alq₃ (50 nm)/ $(\text{CH}_3)_3\text{CCOOK}$ /Al; (f) J-V-B curves of the devices; (g) Dependence of efficiency on the thickness of $(\text{CH}_3)_3\text{CCOORb}$ in the device ITO/NPB (60 nm)/Alq₃ (50 nm)/ $(\text{CH}_3)_3\text{CCOORb}$ /Al; (h) J-V-B curves of the devices.



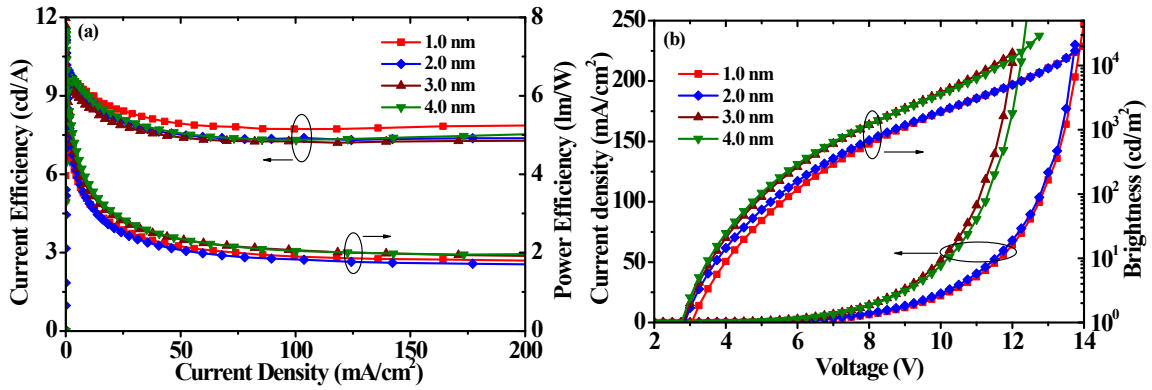


SFig.2 (a) Dependence of efficiency on the thickness of $(\text{CH}_3)_3\text{CCOOLi}$ in the device ITO/NPB (60 nm)/Alq₃ (35 nm) / m-ADN (15 nm)/ $(\text{CH}_3)_3\text{CCOOLi}$ /Al; (b) J-V-B curves of the devices; (c) Dependence of efficiency on the thickness of $(\text{CH}_3)_3\text{CCOONa}$ in the device ITO/NPB (60 nm)/Alq₃ (35 nm) / m-ADN (15 nm)/ $(\text{CH}_3)_3\text{CCOONa}$ /Al; (d) J-V-B curves of the devices; (e) Dependence of efficiency on the thickness of $(\text{CH}_3)_3\text{CCOOK}$ in the device ITO/NPB (60 nm)/Alq₃ (35 nm) / m-ADN (15 nm)/ $(\text{CH}_3)_3\text{CCOOK}$ /Al; (f) J-V-B curves of the devices; (g) Dependence of efficiency on the thickness of $(\text{CH}_3)_3\text{CCOORb}$ in the device ITO/NPB (60 nm)/Alq₃ (35 nm) / m-ADN (15 nm)/ $(\text{CH}_3)_3\text{CCOORb}$ /Al; (h) J-V-B curves of the devices.

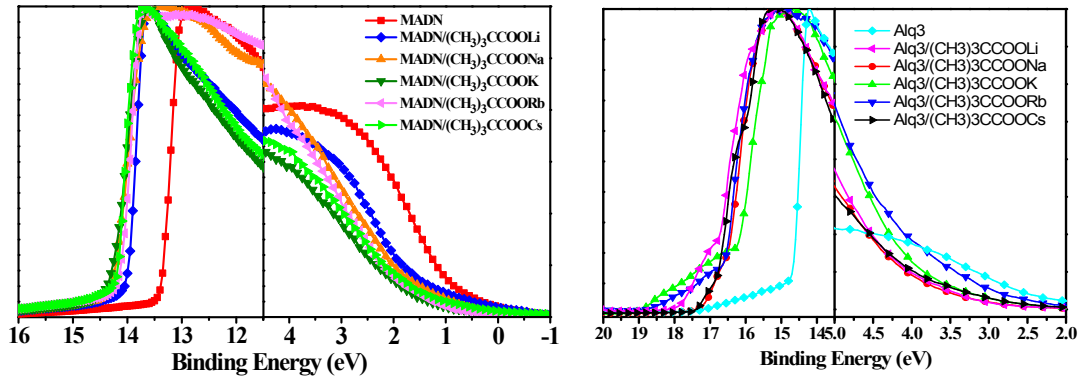




SFig.3 (a) The affect of CH₃COOCs thickness on J-V curves for the electron-only device Al/Alq₃ (100 nm)/CH₃COOCs/Al; (b) The affect of CH₃COOCs thickness on J-V curves for the electron-only device Al/m-ADN (100 nm)/CH₃COOCs/Al; (c) The affect of CH₃CH₂COOCs thickness on J-V curves for the electron-only device Al/Alq₃ (100 nm)/ CH₃CH₂COOCs /Al; (d) The affect of CH₃CH₂COOCs thickness on J-V curves for the electron-only device Al/m-ADN (100 nm)/ CH₃CH₂COOCs /Al; (e) The affect of (CH₃)₂CHCOOCs thickness on J-V curves for the electron-only device Al/Alq₃ (100 nm)/ (CH₃)₂CHCOOCs /Al; (f) The affect of (CH₃)₂CHCOOCs thickness on J-V curves for the electron-only device Al/m-ADN (100 nm)/ (CH₃)₂CHCOOCs /Al.



SFig.4 (a) Dependence of efficiency on the thickness of CsF in the device ITO/2-TNATA (60 nm)/NPB (10 nm)/Alq3:2%C545T (40 nm)/m-ADN(15 nm)/CsF/Al; (b) J-V-B curves of the devices.



sFig. 5 UPS spectrums of the m-ADN film before and after the deposition of the five alkali metal pivalate complexes.