

Status and Challenges of Blue OLEDs: A Review

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Table S1. A comprehensive list of dry-processed blue fluorescent OLED devices, including the publication year, device composition, key dopant, doping concentration, employed host, HOMO, LUMO, EQE, PE, CE, CIE (X), CIE (Y), and reference. The years span from 2006 to 2020

| Device Structure | Host | Emitter | | | | EQE (%) | | | PE (lm/W) | | | CE (cd/A) | | | CIE | | Year | Ref. |
|--|------|---------------------|----------------|----------|----------|---------|----------------------|------|-----------|----------------------|------|-----------|----------------------|------|------|------|------|------|
| | | Name | Conc. (wt%) | HO MO | LU MO | Max | 100 | 1000 | Max | 100 | 1000 | Max | 100 | 1000 | (X) | (Y) | | |
| | | | | | | | (cdm ⁻²) | | | (cdm ⁻²) | | | (cdm ⁻²) | | | | | |
| ITO/NPB/Ph3Si(PhT PAOXD)/Alq3/Mg: Ag | - | Ph3Si(PhT PAOXD) | - | - | 2.7 | 1.7 | - | - | 0.9 | - | - | 2 | - | - | 0.17 | 0.17 | 2001 | [1] |

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|---|-----|--|---|-----|------|-----|---|---|-----|-----|---|-----|---------|---|------|------|------|-----|
| | - | Ph ₃ Si(PhT PAOXD) | - | - | 2.7 | 1.1 | - | - | 0.2 | - | - | 0.8 | - | - | 0.17 | 0.08 | | |
| ITO/NPB/Ph3Si:PhT PAOXD/Alq3/Mg:Ag | - | Ph3Si(PhT PAOXD) | - | 5.4 | - | 1.8 | - | - | 1.1 | - | - | 3.4 | - | - | 0.18 | 0.28 | 2002 | [2] |
| ITO/Ph2Si(Ph(NPA) 2)2/Ph3Si(PhTPAO XD)/ Alq3/Mg:Ag | - | Ph ₂ Si(Ph(NPA) ₂) ₂ | - | 5.2 | - | 3 | - | - | 3.1 | - | - | 6.1 | - | - | 0.21 | 0.33 | | |
| ITO/Ph2Si(Ph(NPA) 2)2/NPB/Ph3Si(PhT PAOXD)/Alq3/Mg: Ag | - | Ph ₂ Si(Ph(NPA) ₂) ₂ | - | 5.2 | 2.65 | 2.4 | - | - | 1.1 | - | - | 3.1 | - | - | 0.16 | 0.18 | | |
| ITO/CuPc/α- NPD/EML/SAIq/Alq 3/LiF/Al | - | BA1 | - | - | - | - | - | - | - | 0.2 | - | - | 0. 7 | - | 0.18 | 0.21 | 2003 | [3] |
| ITO/CuPc/α- NPD/EML/SAIq/Alq 3/LiF/Al | - | BA2 | - | - | 2.9 | - | - | - | - | 0.6 | - | - | 1. 5 | - | 0.22 | 0.33 | | |
| ITO/CuPc/α- NPD/EML/SAIq/Alq 3/LiF/Al | CBP | BA2 | - | - | 2.9 | - | - | - | - | 0.9 | - | - | 2. 2 | - | 0.19 | 0.21 | | |

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|--|-----|-----------|-----|------|------|-----|---|---|------|---|---|------|-----|---|------|------|------|-----|
| ITO/NPB/MeC1/TPBI/Mg9:Ag1 | - | MeC1 | - | - | 2.93 | 2.7 | - | - | 1.1 | - | - | 3.2 | - | - | 458 | - | 2003 | [4] |
| ITO/XTPS/TPBI/Mg9:Ag1 | - | XTPS | - | - | - | 4.1 | - | - | 2.9 | - | - | 5.5 | - | - | 462 | - | | |
| ITO/CuPc/NPB/spiro-FPA/Alq3/LiF/Al. | - | Spiro-FPA | - | 5.47 | - | - | - | - | 1.15 | - | - | 2.76 | - | - | 0.16 | 0.14 | 2004 | [5] |
| ITO/CuPc/NPB/spiro-FPA:TBP/Alq3/LiF/Al. | TBP | | 1 | 5.47 | - | - | - | - | 2.07 | - | - | 4.88 | - | - | 0.14 | 0.2 | | |
| ITO/CuPc/ α -NPD/BDSA/Alq3/LiF/Al | - | BDSA | 100 | 5.91 | 2.53 | - | - | - | - | - | - | 2.6 | 2.6 | - | 0.14 | 0.1 | 2005 | [6] |
| ITO/CuPc/ α -NPD/BTSA/Alq3/LiF/Al | - | BTSA | 100 | 6.17 | - | - | - | - | - | - | - | 1.4 | 0.8 | - | 0.15 | 0.09 | | |
| ITO/CuPc/NPB/DPF/Alq3/ Mg:Ag | - | DPF | 100 | 5.7 | - | - | - | - | - | - | - | 4.8 | - | - | 0.17 | 0.24 | 2005 | [7] |
| ITO/CuPc/NPB/DPF/TPBi/ Mg:Ag | - | DPF | 100 | 5.7 | - | - | - | - | 3 | - | - | 5.3 | - | - | 0.16 | 0.22 | | |

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|---|-------|----------|-----|-----|------|-----|---|---|-----|---|---|------|---|---|-----------|-----------|------|-----|
| ITO/CFx/NPB/blue host/ Alq/LiF/Al | DPVPA | DSA-Ph | 3% | 5.4 | - | - | - | - | 4.8 | - | - | 10.2 | - | - | 0.16 | 0.35 | 2005 | [8] |
| ITO/CFx/NPB/blue host/ Alq/LiF/Al | MADN | DSA-Ph | 3% | 5.4 | - | 1.5 | - | - | 5.5 | - | - | 9.7 | - | - | 0.16 | 0.32 | | |
| ITO/CFx/NPB/blue host/Alq/LiF/Al | MADN | BD-3 | | - | - | 4.2 | - | - | - | - | - | 5.6 | - | - | 0.14 | 0.17 | | |
| ITO/CFx/NPB/blue host/Alq/LiF/Al | DPVPA | nondoped | | - | - | 3 | - | - | 1.7 | - | - | 4 | - | - | 0.14 | 0.17 | | |
| ITO/CuPc/NPB/DPh DPF/Alq3/Mg:Ag | - | DPhDPF | 100 | 5.7 | - | - | - | - | - | - | - | 5 | - | - | 0.17 | 0.26 | 2005 | [7] |
| ITO/CuPc/NPB/SDP F/Alq3/Mg:Ag | - | SDPF | 100 | 5.8 | - | - | - | - | - | - | - | 4.9 | - | - | 0.17 | 0.27 | | |
| ITO/CuPc/NPB/PM C/BCP/Alq3/LiF/Al | - | PMC | 100 | 5.9 | 2.88 | 0.6 | - | - | 0.2 | - | - | 0.4 | - | - | 0.15 3 | 0.1 | 2006 | [9] |
| ITO/CuPc/NPB/DP VBi :PMC/ Alq3/LiF/Al | DPVBi | | 5 | 5.9 | 5.42 | 2.8 | - | - | 1.2 | - | - | 4.1 | - | - | 0.16 | 0.17 6 | | |
| ITO/CuPc/NPB/DE C/BCP/Alq3/LiF/Al | - | DEC | 100 | 5.6 | - | 1.5 | - | - | - | - | - | - | - | - | 0.19 2 | 0.20 9 | | |

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|---|-------|-----------------|-----|------|------|------|-----|---|-------|---|---|------|----------|---|-----------|-----------|------|------|
| ITO/CuPc/NPB/DP VBi: DEC/Alq3/LiF/Al | DPVBi | | 2 | 5.6 | - | 3.3 | - | - | 1.3 | - | - | 4.7 | - | - | 0.15 8 | 0.16 9 | | |
| ITO/CuPc/NPB/DP VBi/Alq3/LiF/Al | - | DPVBi | 100 | 5.9 | 2.93 | 2.7 | - | - | 1.2 | - | - | 2.4 | - | - | 0.14 9 | 0.11 2 | | |
| ITO/PEDOT/NPB/C BP/blue-emitting layer/BCP/Ca/Al | - | TPF | 100 | 6.3 | 2.3 | 1.75 | - | - | - | - | - | 2.89 | - | - | 0.17 7 | 0.24 | 2006 | [10] |
| ITO/PEDOT/NPB/C BP/blue-emitting layer /BCP/Ca/Al | DPF | | 6 | - | 2.7 | 2.48 | - | - | - | - | - | 3.33 | - | - | 0.16 4 | 0.18 8 | | |
| ITO/PEDOT/NPB/C BP/blue-emitting layer/BCP/Ca/Al | - | DPF | 100 | - | 2.57 | 0.72 | - | - | - | - | - | 0.84 | - | - | 0.16 8 | 0.15 7 | | |
| ITO/NPB/TCTA/EM L/BPhen/LiF/Al | CBP | OF(3)-NPh | 4 | 5.15 | - | 4.1 | 3.1 | - | 1.01a | - | - | 2.9 | 2. 24 | - | 0.15 2 | 0.08 3 | 2007 | [11] |
| ITO/NPB/TCTA/EM L/BPhen/LiF/Al | CBP | SOF(3)- NPh | 4 | 5.2 | 3 | 3.2 | - | - | 1.24a | - | - | 2.7 | - | - | 0.15 1 | 0.09 9 | | |
| ITO/NPB/TCTA/EM L/BPhen/LiF/Al | CBP | OF(2)- PhNPh | 4 | 5.2 | - | 2.9 | - | - | 0.8a | - | - | 1.75 | - | - | 0.15 3 | 0.07 2 | | |

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|--|-----------------|-----------------|-----|------|------|------|------|---------|------|------|---|------|----------|---------|-----------|-----------|------|------|
| ITO/PEDOT/TFTPA /TPVAn/TPBi/ Mg:Ag | - | TPVAn | - | 5.7 | 2.66 | 5.3 | 5 | 4. 2 | 2.8 | - | - | 5.3 | 5 | 4. 2 | 0.14 | 0.12 | 2007 | [12] |
| ITO/blue emissive layer/TPBi/LiF/Al | - | BNE | 100 | 5.2 | - | - | 6 | - | - | 12.5 | - | - | - | - | 0.18 | 0.33 | 2007 | [13] |
| ITO/blue emissive layer/TPBi/LiF/Al | - | DPASN | 100 | 5.2 | 1.1 | - | 3.9 | - | - | 6.7 | - | - | - | - | 0.15 | 0.2 | | |
| ITO/NPB/CzPhB/TP BI/LiF/Al | - | CzPhB | 100 | 5.92 | - | 4.3 | 4.1 | - | 1.3 | 1.1 | - | 3.3 | 3. 2 | - | 0.15 | 0.09 | 2008 | [14] |
| ITO/NPB/ CzThB/TPBI/LiF/Al | - | CzThB | 100 | 5.8 | - | 6.9 | 5.6 | - | 4.9 | 3.3 | - | 10.1 | 8. 2 | - | 0.13 | 0.21 | | |
| ITO/2TNATA/NPB/ EML/Bphen/LiF/Al | - | PhQ-CVz | 100 | 5.84 | - | 2.45 | 2.31 | - | 1.77 | 0.85 | - | 2.06 | 1. 9 | - | 0.15 6 | 0.09 3 | 2008 | [15] |
| ITO/2TNATA/NPB/ EML/Bphen/LiF/Al | - | MeO-PhQ- CVz | 100 | 5.84 | - | 1.95 | 1.93 | - | 1.09 | 0.82 | - | 1.69 | 1. 67 | - | 0.15 8 | 0.10 2 | | |
| ITO/2TNATA/NPB/ EML/Bphen/Li/A | PhQ-CVz | BCzVBi | 5 | - | - | 5.22 | 4.19 | - | 5.98 | 2.44 | - | 6.9 | 5. 44 | - | 0.15 5 | 0.15 7 | | |
| ITO/2TNATA/NPB/ EML/Bphen/LiF/Al | MeO-PhQ- CVz | BCzVBi | 5 | - | 1.37 | 3.53 | 2.91 | - | 4 | 2.17 | - | 5.2 | 4. 22 | - | 0.15 8 | 0.18 1 | | |

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|---|--------------------|--------------------|-----|-----|------|------|-----|---|------|-----|---|------|---|---|------|------|------|------|
| ITO/PEDOT/CBP:M DP3FL/TPBi/LiF/Al | CBP | MDP3FL | 4 | 5.4 | 1.37 | - | 4.6 | - | - | 1.4 | - | - | - | - | 0.14 | 0.06 | 2008 | [16] |
| ITO/PEDOT/CBP:M DP3FL/TPBi/LiF/Al | | | 10 | 5.4 | - | - | 5.1 | - | - | 1.9 | - | - | - | - | 0.14 | 0.08 | | |
| ITO/NPB/CBP/Alm ND3:Dopant/AlmN D3/LiF/Al | AlmND ₃ | DPA | 0.5 | - | 2.87 | 2.8 | - | - | 0.89 | - | - | 1.39 | - | - | 0.15 | 0.06 | 2008 | [17] |
| ITO/NPB/CBP/Alm ND3:Dopant/AlmN D3/LiF/Al | | Perylene | 0.5 | - | - | 3.56 | - | - | 3.06 | - | - | 4.67 | - | - | 0.14 | 0.17 | | |
| ITO/NPB/CBP/Alm mND3/AIND3/LiF/ Al | - | AIND ₃ | 100 | - | 2.53 | 3.67 | - | - | 1.04 | - | - | 2 | - | - | 0.15 | 0.07 | | |
| ITO/NPB/CBP/AlN D3/AlmND3/LiF/Al | - | AIND ₃ | 100 | - | 2.65 | 0.76 | - | - | 0.45 | - | - | 1.09 | - | - | 0.15 | 0.19 | | |
| ITO/NPB/CBP/Alm ND3/AlmND3/LiF/ Al | - | AlmND ₃ | 100 | 6.4 | 2.48 | 1.91 | - | - | 0.77 | - | - | 1.43 | - | - | 0.15 | 0.09 | | |
| ITO/NPB/CBP/Alm ND3/Bebq2/LiF/Al | - | AlmND ₃ | 100 | 6.4 | 2.68 | 1.81 | - | - | 0.98 | - | - | 1.84 | - | - | 0.15 | 0.13 | | |

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| ITO/NPB/CBP/Alm mND3/AlmND3/LiF/ /Al | - | AlmmND ₃ | 100 | - | 2.66 | 4.18 | - | - | 0.86 | - | - | 2.27 | - | - | 0.15 | 0.07 | | |
| ITO/NPB/CBP/Alm pND3/AlmND3/LiF/ Al | - | AlmpND ₃ | 100 | - | - | 1.62 | - | - | 0.71 | - | - | 1.58 | - | - | 0.15 | 0.12 | | |
| ITO/2- TNATA/NPB/MAM /Alq ₃ /LiF/Al | - | MAM | 100 | - | - | 3.9 | - | - | 1.28 | - | - | 2.94 | - | - | 0.16 3 | 0.12 4 | 2008 | [18] |
| ITO/2- TNATA/NPB/MAT/ Alq ₃ /LiF/Al | - | MAT | 100 | - | - | 6.14 | - | - | 1.52 | - | - | 2.97 | - | - | 0.15 6 | 0.08 5 | | |
| ITO/2- TNATA/NPB/TAT/ Alq ₃ /LiF/Al | - | TAT | 100 | - | - | 7.18 | - | - | 1.87 | - | - | 3.64 | - | - | 0.15 6 | 0.08 8 | | |
| ITO/2- TNATA/NPB/MAD N/Alq ₃ /LiF/Al | - | MADN | 100 | - | - | 3.18 | - | - | 1.48 | - | - | 2.86 | - | - | 0.17 1 | 0.13 8 | | |
| ITO/NPB/cis- TSDTB/TPBI/LiF/A 1 | - | Cis- TSDTB | 100 | 5.7 | - | - | - | - | 1.9 | - | - | 3.4 | - | - | 0.15 | 0.1 | 2008 | [19] |

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|--|------|--------------|-----|------|------|------|-----|---|------|-----|---|------|---|---|-----------|-----------|------|------|
| ITO/BPAF/POAn/T PBI/LiF/Al | - | POAn | 100 | 5.6 | 2.77 | 4.7 | 4.5 | - | 3.3 | 2.3 | - | 3.2 | 3 | - | 0.15 | 0.07 | 2009 | [20] |
| ITO/NPB/DPF/TPBI/ MgAg | - | DPF | 100 | 5.7 | 2.37 | - | - | - | 3.6 | - | - | 6 | - | - | 0.15 | 0.19 | 2010 | [21] |
| ITO/NPB/DCDPF/T PBi/LiF/MgAg | - | DCDPF | 100 | 5.9 | - | - | - | - | 3.1 | - | - | 4.4 | - | - | 0.15 | 0.15 | 2010 | [22] |
| ITO/DNTPD/ α - NPB/MADN: dopant/Alq3/LiF/Al | MADN | BD-6DPA | 5 | 5.48 | - | 6.54 | - | - | 4.43 | - | - | 7.79 | - | - | 0.13 5 | 0.17 5 | 2010 | [23] |
| ITO/DNTPD/ α - NPB/MADN: dopant/Alq3/LiF/Al | MADN | BD-6NPA | 5 | 5.44 | - | 7.32 | - | - | 4.61 | - | - | 8.56 | - | - | 0.13 4 | 0.16 8 | | |
| ITO/DNTPD/ α - NPB/MADN: dopant/Alq3/LiF/Al | MADN | BD- 6MDPA | 5 | 5.42 | - | 8.16 | - | - | 6.13 | - | - | 9.11 | - | - | 0.13 5 | 0.15 6 | | |

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|--|------|----------|-----|------|-----|------|---|---|------|---|---|------|---|---|-----------|-----------|------|------|
| ITO/DNTPD/ α -NPB/MADN: dopant/Alq3/LiF/Al | MADN | BD-6TMSA | 5 | 5.45 | - | 7.45 | - | - | 5.12 | - | - | 8.11 | - | - | 0.13 5 | 0.15 1 | | |
| ITO/NPB/BN1/BN1: BN2/Alq3/LiF/Al | BN2 | BN1 | 5 | 5.67 | - | 8.6 | - | - | | - | - | 4.9 | - | - | 0.16 | 0.11 | 2010 | [24] |
| ITO/PEDO T:PSS/NPB /EML/Alq3/ CsF/Mg:Ag | - | TBMFA | 100 | 5.79 | - | 3.58 | - | - | 1.41 | - | - | 1.79 | - | - | 0.15 1 | 0.08 5 | 2010 | [25] |
| ITO/PEDO T:PSS/NPB /EML/Alq3/ CsF/Mg:Ag | - | TBDNPA | 100 | 5.83 | 2.4 | 5.17 | - | - | 1.96 | - | - | 2.63 | - | - | 0.14 9 | 0.08 6 | | |
| ITO/PEDO T:PSS/NPB /EML/Alq3/ CsF/Mg:Ag | - | TBMFPA | 100 | 5.82 | - | 4.76 | - | - | 1.92 | - | - | 2.67 | - | - | 0.14 7 | 0.09 6 | | |

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|---|------|--------|-----|-----|-----|---|---|--|---|---|--|---|---|---|------|------|------|------|
| ITO/NPB/ PCVtPh/BAIq/Liq/A 1 | - | PCVtPh | 100 | 5.6 | - | 2.17(At a curre nt densit y of 1 mA/c m2) | - | | 1.77(At a curre nt densit y of 1 mA/c m2) | - | | 2.43(At a current density of 1 mA/cm 2) | - | - | 0.15 | 0.13 | 2010 | [26] |
| ITO/NPB/ MADN:PCVtPh/BAI q/Liq/Al | MADN | PCVtPh | 8 | 5.6 | 2.4 | 2.97(At a curre nt densit y of 1 mA/c m2) | - | | 1.9(A t a curre nt densit y of 1 mA/c m2) | - | | 2.81(At a current density of 1 mA/cm 2) | - | - | 0.15 | 0.09 | | |
| ITO/NPB/ DNBN:PCVtPh/BAI q/Liq/Al | DNBN | PCVtPh | 8 | 5.6 | 2.4 | 3.36 (At a curre nt densit y of 1 mA/c m2) | - | | 1.74(At a curre nt densit y of 1 mA/c m2) | - | | 3.02(At a current density of 1 mA/cm 2) | - | - | 0.15 | 0.09 | | |

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|---|---------------|---|-----|------|------|------|-----|---|------|------|---|------|----------|---|------|------|------|------|
| ITO/NPB/ MADN:PCVtPh/DN BN:PCVtPh/BAIq/Li q/Al | MADN/D NBN | PCVtPh | 8 | - | 2.7 | 4.68 | 3.4 | - | | 2.02 | - | 5.22 | 3. 23 | - | 0.15 | 0.09 | | |
| ITO/NPB/MADN:D PAFS- 2/Bphen/Liq/Al | MADN | DPAFS-2 | 15 | 5.43 | 2.6 | 5.9 | 5.8 | - | 11.6 | 7 | - | 12.1 | 11 .8 | - | 0.17 | 0.3 | 2010 | [27] |
| ITO/NPB/MADN:D PAFS- 3/Bphen/Liq/Al | MADN | DPAFS-3 | 15 | 5.79 | 2.61 | 5.6 | 4.8 | - | 6.2 | 2.9 | - | 6 | 5. 3 | - | 0.15 | 0.13 | | |
| ITO/NPB/MADN:D PAFS- 4/Bphen/Liq/Al | MADN | DPAFS-4 | 10 | 5.67 | 2.71 | 5.3 | 5.1 | - | 8.7 | 5.3 | - | 9.5 | 9. 1 | - | 0.17 | 0.24 | | |
| ITO/NPB/MADN:D PAFS- 5/Bphen/Liq/Al | MADN | DPAFS-5 | 15 | 5.69 | 2.7 | 5.5 | 5.2 | - | 8.7 | 4.9 | - | 9.1 | 8. 7 | - | 0.16 | 0.22 | | |
| ITO/NPB/MADN:bl ue dopants/Bphen/Liq/ Al. | MADN | 1,4-Bis(2- diphenyla mino-9,9- diethylfluo ren-7- | 15% | 5.6 | 2.4 | 6.3 | - | - | 15.8 | - | - | 16 | - | - | 0.2 | 0.43 | 2010 | [27] |

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| ITO/NPB/MADN:blue dopants/Bphen/Liq/ Al. | MADN | 9-[4-(2-Diphenylamino-9,9-diethylfluorenyl)-9-phenylfluorene] | 15% | 5.8 | 2.4 | 5.6 | - | - | 6.2 | - | - | 6 | - | - | 0.15 | 0.13 | | |
| ITO/BCP/Alq3/LiF/ Al | - | AC | 100 | 5.4 | 2.4 | 2.84 | 2.07 | - | 1.39 | 0.69 | - | 3.45 | 2.32 | - | 0.162 | 0.134 | | |
| ITO/2-TNATA/NPB/EML/ BCP/Alq3/LiF/Al | - | DAC | 100 | 5.41 | - | 1.38 | 1.33 | - | 0.87 | 0.52 | - | 2.09 | 1.82 | - | 0.179 | 0.171 | | |
| ITO/2-TNATA/NPB/EML/ BCP/Alq3/LiF/Al | - | P-AC | 100 | 5.47 | - | 2.53 | 2.35 | - | 1.19 | 0.72 | - | 3.11 | 2.56 | - | 0.163 | 0.132 | | |
| ITO/2-TNATA/NPB/EML/ BCP/Alq3/LiF/Al | - | P-DAC | 100 | 5.5 | - | 2.5 | 2.75 | - | 1.28 | 0.92 | - | 3.09 | 3.14 | - | 0.162 | 0.136 | | |

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|---|---|------------------------|-----|------|---|------|------|------|------|------|------|------|------|---|-------|-------|------|------|
| ITO/NPB/Be(4-mmp)2/LiF/Al | - | Be(4-mmp) ₂ | 100 | 5.7 | - | 5.4 | 5.22 | 5.15 | 4.2 | 4.1 | 3 | - | - | - | 0.14 | 0.09 | 2011 | [29] |
| ITO/NPB/Bepp2/LiF/Al | - | Bepp ₂ | 100 | 5.7 | - | 3.9 | 3.9 | 3.75 | 4.1 | 3.95 | 2.85 | - | - | - | 0.16 | 0.18 | | |
| - | - | - | - | - | - | 5.8 | - | 4.39 | 2.86 | - | - | 3.82 | - | - | 0.15 | 0.08 | 2011 | [30] |
| ITO/2-TNATA/NPB/EML/TPBi/(CH ₃) ₃ CCOO Cs/Al | - | ACPI | 100 | 5.62 | - | 3.52 | 3.27 | - | 3.03 | 2.55 | - | 4.36 | 4.17 | - | 0.156 | 0.155 | 2012 | [31] |
| ITO/2-TNATA/NPB/EML/TPBi/(CH ₃) ₃ CCOO Cs/Al | - | 1-NaCPI | 100 | 5.58 | - | 3.23 | 3.13 | - | 2.46 | 2.12 | - | 4.22 | 4.13 | - | 0.15 | 0.167 | | |
| ITO/2-TNATA/NPB/EML/TPBi/(CH ₃) ₃ CCOO Cs/Al | - | 2-NaCPI | 100 | 5.55 | - | 3.68 | 3.65 | - | 3.6 | 2.95 | - | 4.68 | 4.67 | - | 0.151 | 0.157 | | |

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|---|---------|----------|-----|------|---|------|------|----------|------|-----|---|------|----------|---------|------|-----------|------|------|
| ITO/DNTPD/NPB/F P- SBFF:dopant/Alq3/ LiF/Al | DN-SBFF | TPA-SBFF | 7 | 5.44 | - | 4.69 | - | - | 3.35 | - | - | 7.14 | - | - | 0.14 | 0.16 9 | 2012 | [32] |
| ITO/DNTPD/NPB/F P- SBFF:dopant/Alq3A lq3/LiF | BP-SBFF | TPA-SBFF | 7 | 5.92 | - | 2.53 | - | - | 1.51 | - | - | 4.1 | - | - | 0.14 | 0.16 6 | | |
| ITO/DNTPD/NPB/F P- SBFF:dopant/Alq3A lq3/LiF | FP-SBFF | TPA-SBFF | 7 | 5.97 | - | 4.13 | - | - | 3.26 | - | - | 6.61 | - | - | 0.14 | 0.17 2 | | |
| ITO/MoO3/NPB/TC TA/TPA- PPI/TPBi/LiF/Al | - | TPA-PPI | 100 | 5.22 | - | 5.02 | 3.76 | 3. 13 | 6.13 | 2.7 | - | 5.66 | 4. 25 | 3. 5 | 0.15 | 0.11 | 2012 | [33] |
| ITO/NPNPB/NPB/D MPPP:Dopant/BAIq/ LiF/Al | DMPPP | PPIE | 5 | 5.35 | - | 8.1 | - | - | 4.8 | - | - | 10 | - | - | 0.14 | 0.14 | 2012 | [34] |

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|--|-------|--------|-----|------|-----|------|---|----------|------|---|---|------|---|---|-----------|-----------|------|------|
| ITO/NPNPB/NPB/D MPPP:Dopant/BAIq/ LiF/Al | DMPPP | | 5 | 5.35 | 2.6 | 7.8 | - | - | 6.4 | - | - | 10.4 | - | - | 0.14 | 0.15 | | |
| ITO/NPNPB/NPB/D MPPP:Dopant/BAIq/ LiF/Al | DMPPP | TPIE | 5 | 5.47 | - | 7.7 | - | - | 3.1 | - | - | 7.9 | - | - | 0.15 | 0.11 | | |
| ITO/TAPC/BDNA/B phen/LiF/Al | BDNA | - | 100 | 5.59 | - | 5.26 | - | 1. 9 | - | - | - | - | - | - | 0.15 9 | 0.07 2 | 2012 | [35] |
| ITO/NPB/TcTa/ BDNA:BCzVBi/Bph en/LiF/Al | | BCzVBi | 5 | 5.5 | 2.5 | 6.78 | - | 6. 6 | - | - | - | - | - | - | 0.14 7 | 0.13 1 | | |
| ITO/NPB/BDPA /Bphen/LiF/Al | BDPA | - | 100 | 5.58 | 2.1 | 3.55 | - | 1. 51 | - | - | - | - | - | - | 0.15 3 | 0.06 | | |
| ITO/NPB/TcTa/BDP A:BCzVBi/Bphen/Li F/Al | | BCzVBi | 5 | 5.5 | 2.1 | 6.55 | - | 5. 48 | - | - | - | - | - | - | 0.14 7 | 0.14 1 | | |
| ITO/PEDOT:PSS/N PB/TPA- AN/TPBI/LiF/Al | - | TPA-AN | 100 | 5.18 | - | 3.59 | - | - | 4.02 | - | - | 4.54 | - | - | 0.15 2 | 0.18 9 | 2012 | [36] |

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|---|-------|--------|-----|------|------|------|-----|---------|------|-----|---------|------|---------|---------|-----------|-----------|------|------|
| ITO/PEDOT:PSS/N PB/TPA- PA/TPBi/LiF/Al | - | TPA-PA | 100 | 5.18 | - | 7.23 | - | - | 3.36 | - | - | 4.07 | - | - | 0.15 7 | 0.07 3 | | |
| ITO/MoO3/CBP/EM L/TPBi/LiF/Al | CBP | Pht-1 | 4 | 6.14 | - | 2.12 | - | - | - | - | - | - | - | - | 0.16 | 0.09 | 2012 | [37] |
| ITO/MoO3/CBP/EM L/TPBi/Li/Al | CBP | Pht-2 | 4 | 6.11 | - | 1.9 | - | - | - | - | - | - | - | - | 0.16 | 0.12 | | |
| ITO/PEDOT:PSS/C RL-1/EML-1/CRL- 2/EML- 2/TPBi/LiF/Al | - | MDP3FL | 100 | - | - | - | 5.7 | 4. 5 | - | 3.6 | 1. 9 | - | 3. 8 | 3 | 0.14 3 | 0.08 5 | 2012 | [38] |
| ITO/PEDOT:PSS/C RL-1/EML-1/CRL- 2/EML- 2/TPBi/LiF/Al | - | | 100 | - | 2.45 | - | 5.8 | 4. 6 | - | 3.9 | 2. 2 | - | 3. 9 | 3. 1 | 0.14 3 | 0.09 | | |
| ITO/NPNPB/NPB/D MPPP:Dopant/BAIq/ LiF/Al | DMPPP | PPIE | 5% | 5.35 | 2.45 | 8.1 | - | - | 4.8 | - | - | 10 | - | - | 0.14 | 0.14 | 2012 | [34] |
| ITO/MoO3/CBP/hos t:BCzVBi/Bepp2/Li F/Al | CBP | BCzVBi | 6 | 5.4 | 3.05 | 4 | - | - | - | - | - | - | - | - | 0.16 | 0.17 | 2013 | [39] |

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|---|----------|-------------|-----|------|------|------|------|------|------|------|------|------|------|------|-------|-------|------|------|
| ITO/MoO3/CBP/host:BCzVBi/Bepp2/LiF/Al | Bepp2 | BCzVBi | 50 | 5.4 | 3.09 | 6.1 | - | - | | - | - | - | - | - | 0.18 | 0.31 | | |
| ITO/MoO3/NPB/CTA/Be(PPI)2/TPBI/LiF/Al | - | Be(PPI)2 | 100 | 5.8 | 2.7 | 2.82 | 2.55 | 2.4 | 2.52 | 1.6 | 0.95 | 2.41 | 2.18 | 2.04 | 0.15 | 0.09 | 2013 | [40] |
| ITO/MoO3/NPB/CTA/Zn(PPI)2/TPBI/LiF/Al | - | Zn(PPI)2 | 100 | 5.8 | 2.7 | 2.08 | 1.32 | 0.75 | 2.02 | 0.75 | 0.26 | 2.06 | 1.31 | 0.74 | 0.15 | 0.09 | | |
| ITO/NPB/DPBF/Bphen/LiF/Al | - | DPBF | 100 | 5.7 | 2.7 | 1 | - | - | 1 | - | - | 1.1 | 1.1 | 1 | 0.17 | 0.16 | 2013 | [41] |
| ITO/NPB/TCTA/POTA/TPBI/LiF/Al | - | POTA | 100 | 5.41 | 2.7 | 4.2 | | 3.4 | 5 | | 2.6 | 5.9 | - | 4.8 | 0.15 | 0.26 | 2013 | [42] |
| ITO/MoO3/TcTa/EML/TPBi/LiF/Al | BCzVBi | Spiro-(3)-F | 10 | 6.04 | 2.9 | 4.92 | 4.17 | - | 5.4 | 2.87 | - | 6.66 | 5.64 | - | 0.149 | 0.187 | 2013 | [43] |
| ITO/m-MTDATA/ α -NPD/host:BDABVi/Alq3/LiF/Al | DPVBi | BDABVi | 3 | 5.3 | 3 | 5.4 | - | - | - | - | - | - | - | - | 0.15 | 0.22 | 2013 | [44] |
| ITO/m-MTDATA/ α -NPD/host:BDABVi/Alq3/LiF/Al | Spiro-FA | BDABVi | 3 | 5.3 | 2.8 | 5 | - | - | - | - | - | - | - | - | 0.17 | 0.29 | | |

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|---|-----------|---------------------------|-----|------|-----|------|------|------|------|------|------|------|------|------|-------|-------|------|------|
| ITO/m-MTDATA/ α -NPD/host:BDABVi/Alq3/LiF/Al | Spiro-FPA | BDABVi | 3 | 5.3 | 2.8 | 7.2 | - | - | - | - | - | - | - | - | 0.16 | 0.23 | | |
| ITO/m-MTDATA/ α -NPD/host:BDABVi/Alq3/LiF/Al | MADN | BDABVi | 3 | 5.3 | 2.5 | 7.4 | - | - | - | - | - | - | - | - | 0.15 | 0.22 | | |
| ITO/2-TNATA/NPB/EMLs/B3PYMPM/LiF/Al | - | TPAXAN | 100 | 5.59 | 2.5 | 4.62 | 4.37 | - | - | - | - | - | - | - | 0.155 | 0.049 | 2013 | [45] |
| ITO/2-TNATA/NPB/EMLs/B3PYMPM/LiF/Al | - | MADN | 100 | 5.6 | 2.8 | 2.99 | 2.71 | - | - | - | - | - | - | - | 0.153 | 0.06 | | |
| ITO/NPB/DPDT-ICZ/Bepp ₂ /LiF/Al | - | DPDT-ICZ | 100 | 4.96 | 3.1 | 0.96 | 0.71 | 0.4 | 1.58 | 0.82 | 0.28 | 1.31 | 1.02 | 0.56 | 0.15 | 0.08 | 2013 | [46] |
| ITO/NPB/DNDT-ICZ/Bepp ₂ /LiF/Al | - | DNDT-ICZ | 100 | 5 | - | 1.35 | 1.25 | 0.85 | 1.64 | 1.13 | 0.49 | 1.36 | 1.29 | 0.88 | 0.15 | 0.08 | | |
| ITO/PEDOT:PSS/NPB/TcTa/EML | CBP | BAn-(3,5)-CF ₃ | 5 | 5.86 | - | 5.02 | - | - | 2.62 | - | - | 3.05 | - | - | 0.156 | 0.083 | 2013 | [47] |

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|---|--|----------|-----|------|------|------|-----|---|------|---|---|------|---|-----|------|------|------|------|
| /TPBi/CsC O ₃ /Al | | | | | | | | | | | | | | | | | | |
| PEDOT:PSS/TCTA/ CBP:1/TPBi/CsF/Al | CBP | N-BF-1 | 3 | 5.57 | - | 4.5 | 3.4 | - | 1 | - | - | 2.3 | - | - | 0.15 | 0.07 | 2013 | [48] |
| ITO/NPB/TCTA/T1 B/TPBi/LiF/Al | - | T1B | 100 | 5.23 | - | 3.05 | - | - | - | - | - | 5.12 | - | - | 0.15 | 0.08 | 2013 | [48] |
| ITO/NPB/TCTA/T2 B/TPBi/LiF/Al | - | T2B | 100 | 5.21 | - | 4.67 | - | - | - | - | - | 3.13 | - | - | 0.15 | 0.08 | | |
| ITO/NPB/EML/Bphen/LiF/Al | MADN | DSA-ph | 5 | 5.4 | 2.9 | - | - | - | 8.7 | - | - | - | - | 4.5 | 0.15 | 0.29 | 2013 | [49] |
| ITO/MoO ₃ /NPB/MADN/Alq ₃ /LiF/Al | MADN | nondoped | - | - | 2.16 | - | - | - | - | - | - | 4.6 | - | - | 0.18 | 0.17 | 2014 | [50] |
| ITO/MoO ₃ /NPB/MADN/BPhen/LiF/Al | MADN | nondoped | - | - | 2.09 | - | - | - | - | - | - | 4.8 | - | - | 0.16 | 0.09 | | |
| ITO/NPB/1 or 2/Bphen/Liq/Al | 9,10-Bis(4-(triphenylsilyl)phenyl)anthracene | nondoped | - | - | - | 2.05 | - | - | 2.92 | - | - | 3.26 | - | - | 0.18 | 0.18 | 2014 | [51] |

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|--|----------|---|----|------|------|--------------|---|---|------|---|---|------|---|---|-----------|-----------|------|------|
| ITO/MoO3/NPB/TC TA/SBFBI/TPBi/LiF /Al | SBFBI | nondoped | - | - | 2.91 | 1.81 | - | - | 1.56 | - | - | 2.63 | - | - | 0.18 | 0.2 | 2014 | [52] |
| ITO/MoO3/NPB/TC TA/SAFBI/TPBi/LiF /Al | SAFBI | nondoped | - | - | 3.07 | 2.23 | - | - | 1.34 | - | - | 1.96 | - | - | 0.15 | 0.1 | | |
| ITO/N,N'-di(1-naphthyl)-N,N'-bis[(4-diphenylamino)phenyl]-biphenyl-4,4'-diamine/N,N,N',N'-tetra(1-biphenyl)-biphenyl-4,4'-diamine/ NA-MSBAF/LG201/LiF/ Al | NA-MSBAF | nondoped | - | - | 2.85 | 5.15 | - | - | | - | - | 7.67 | - | - | 0.14 7 | 0.20 2 | 2014 | [53] |
| ITO/NPNPB/NPB/DMPPP:6g/BAIq2/LiF /Al | DMPPP | 3,6,9,12-Tetrakis(bis(4-tert-butylphenyl)amino)chrysene | 5% | 5.02 | 2.79 | 6.31 (3V) | - | - | 3.21 | - | - | 7.2 | - | - | 0.13 | 0.2 | 2014 | [54] |

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|---|--|---|----|------|------|------|---|---|------|---|---|------|---|---|-----------|-----------|------|------|
| ITO/MoO ₃ /NPB/EM L/TPBi/LiF/Al | DTPBA | BCzVBi | - | 5.4 | - | 8.4 | - | - | 2.92 | - | - | 6.5 | - | - | 0.14 7 | 0.12 5 | 2015 | [55] |
| ITO/MoO ₃ /NPB/ EML/TPBi/LiF/Al | AND | BCzVBi | - | 5.4 | - | 7.83 | - | - | 3.2 | - | - | 5.7 | - | - | 0.16 7 | 0.23 1 | | |
| ITO/MoO ₃ /NPB/EM L/TPBi/LiF/Al | DTPBA | nondoped | - | 5.6 | 2.66 | 1.38 | - | - | 1.61 | - | - | 2.6 | - | - | 0.15 | 0.08 6 | | |
| ITO/MoO ₃ /NPB/EM L/TPBi/LiF/Al | AND | nondoped | - | 5.8 | 2.4 | 1.57 | - | - | 0.72 | - | - | 1.7 | - | - | 0.15 5 | 0.07 5 | | |
| ITO/DNTPD/TBB/H 3 hosts: D1 or D2/L G201/LiF/Al | 1-(2-naphthyl)- 10-(2-(6-phenyl)naphthyl)spiro [benzo[ij]tetraphene- 7,9'-fluorene] (SBTF) | 3,9-di(di(p-tolyl))amino (spiro[benzo[de]anthracene- 7,9'-fluorene] | 5% | 5.31 | 2.4 | 5.16 | - | - | 5.6 | - | - | 8.91 | - | - | 0.14 4 | 0.26 1 | 2015 | [56] |
| ITO/DNTPD/TBB/H 3 hosts: D1 or D2/L G201/LiF/Al | 1-(2-naphthyl)- 10-(2-(6-phenyl)naphthyl)spiro | 3,9-di(di-4-biphenyl)aminospiro[benzo[de]a | 5% | 5.42 | 2.4 | 4.83 | - | - | 4.63 | - | - | 7.37 | - | - | 0.13 9 | 0.21 7 | | |

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|--|---|---|----|-----|-----|------|---|---|------|---|---|------|---|---|-------|-------|------|------|
| | [benzo[ij]tetrathene-7,9'-fluorene] (SBTF) | anthracene-7,9'-fluorene] | | | | | | | | | | | | | | | | |
| ITO/DNTPD/TBB/H 3 hosts: D1 or D2/L G201/Li/Al | 1-(2-naphthyl)-10-(2-(6-phenyl)naphthyl)spiro[benzo[ij]tetrathene-7,9'-fluorene] (SBTF) | 9,10-p-bis(p-N,N-diphenylaminostyryl)benzene (DSA-Ph) | 5% | 5.4 | 2.4 | 4.76 | - | - | 4.86 | - | - | 7.91 | - | - | 0.148 | 0.239 | | |
| ITO/2-TNATA/NPB/MAD N: BD-1/TmPyPB/LiF/Al | MADN | BD-1 | 5% | 5.2 | - | - | - | - | 3.8 | - | - | 4.69 | - | - | 0.15 | 0.17 | 2015 | [57] |
| ITO/TMDI/NPB/MADN: BD-1/TmPyPB/LiF/Al | MADN | BD-1 | 5% | 5.2 | - | - | - | - | 5.26 | - | - | 5.79 | - | - | 0.15 | 0.17 | | |

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|--|---|----------|----|-----|---|------|------|------|------|------|------|------|------|------|-------|-------|------|------|
| ITO/DNTPD/NPB/ MADN: BD- 1/TmPyPB/LiF/Al | MADN | BD-1 | 5% | 5.2 | - | - | - | - | 4.33 | - | - | 5.88 | - | - | 0.15 | 0.17 | | |
| ITO/HATCN/NPB/T CTA/Ni/TPBI/LiF/A 1 | NI-1-TPA | nondoped | - | - | - | 4.12 | 4.06 | 3.81 | 3.48 | 3.19 | 2.16 | 3.33 | 3.28 | 3.08 | 0.145 | 0.087 | 2015 | [58] |
| ITO/HATCN/NPB/T CTA/Ni/TPBI/LiF/A 1 | NI-2-TPA | nondoped | - | - | 3 | 5.16 | 4.92 | 4.13 | 3.93 | 3.52 | 2.2 | 3.76 | 3.58 | 3.01 | 0.146 | 0.077 | | |
| ITO/HATCN/NPB/T CTA/Ni/TPBI/LiF/A 1 | NI-1- PhTPA | nondoped | - | - | 3 | 6.08 | 5.96 | 5.46 | 6.96 | 6.37 | 4.91 | 6.35 | 6.22 | 5.7 | 0.143 | 0.115 | | |
| ITO/HATCN/NPB/T CTA/Ni/TPBI/LiF/A 1 | NI-2- PhTPA | nondoped | - | - | - | 5.95 | 5.89 | 5.54 | 6.12 | 5.74 | 4.45 | 5.46 | 5.41 | 5.09 | 0.145 | 0.1 | | |
| ITO/NPB/EML 1– 3/Alq3/Liq/Al | 9-ethyl- 3,6-bis(10- phenylanth racen-9- yl)-9H- carbazole | nondoped | - | - | - | 1.36 | - | - | 0.92 | - | - | 2.28 | - | - | 0.2 | 0.22 | 2015 | [59] |

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|---|---|----------|---|---|------|------|---|---|------|---|---|------|---|---|------|------|------|------|
| ITO/NPB/EML 1–3/Alq3/Liq/Al | 2,8-bis(10-phenylanthracen-9-yl)dibenzo[b,d]furan | nondoped | - | - | 5.55 | 1.46 | - | - | 1.38 | - | - | 2.06 | - | - | 0.18 | 0.17 | | |
| ITO/NPB/EML 1–3/Alq3/Liq/Al | 2,8-bis(10-phenylanthracen-9-yl)dibenzo[b,d]thiophene | nondoped | - | - | 5.53 | 1.23 | - | - | 0.84 | - | - | 1.39 | - | - | 0.16 | 0.13 | | |
| ITO/NPB/designed emitting materials (1)/Alq3/Liq/Al | N-phenyl-4-(10-phenylanthracen-9-yl)-N-(4-(10-phenylanthracen-9-yl)phenyl)benzenamine | nondoped | - | - | 5.54 | - | - | - | 2.52 | - | - | 4.99 | - | - | 0.18 | 0.26 | 2015 | [60] |

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|-----------------------------------|------|----------|---|---|-----|-----|---|---|-----|---|---|-----|---|---|------|------|------|------|
| ITO/NPB/TCTA/Ph PC/TPBi/LiF/Al | PhPC | nondoped | - | - | 5.5 | 3.6 | - | - | 1.1 | - | - | 1.8 | - | - | 0.15 | 0.05 | 2015 | [61] |
|-----------------------------------|------|----------|---|---|-----|-----|---|---|-----|---|---|-----|---|---|------|------|------|------|

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|---|--|----------------------|-----|-----|------|------|---|-----|------|---|-----|------|---|-----|------|------|------|------|
| ITO/NPB/(9,9-Dimethyl-2-(10-(10-phenylanthracen-9-yl)anthracen-9-yl)-9H-fluoren-7-yl)triphenylsilane/Bphen/Liq/Al | (9,9-Dimethyl-2-(10-(10-phenylanthracen-9-yl)anthracen-9-yl)-9H-fluoren-7-yl)triphenylsilane | nondoped | - | - | 2.4 | 1.82 | - | - | 2.82 | - | - | 2.76 | - | - | 0.18 | 0.16 | 2015 | [62] |
| ITO/NPB/TCTA/BBTPI/TPBI/LiF/Al | BBTPI | nondoped | - | - | 2.5 | 5.77 | - | - | - | - | - | 5.48 | - | - | 0.15 | 0.1 | 2015 | [63] |
| ITO/NPB/TCTA/NBTPI/TPBI/LiF/Al | NBTPI | nondoped | - | - | 2.77 | 5.73 | - | - | - | - | - | 5.43 | - | - | 0.15 | 0.11 | | |
| ITO/NPB/TCTA/2NBTPI/TPBI/LiF/Al | 2NBTPI | nondoped | - | - | 2.77 | 5.95 | - | - | - | - | - | 3.93 | - | - | 0.15 | 0.09 | | |
| ITO/TAPC/TCTA/CZN/TmPyPB/LiF/Al | CZN | nondoped | - | - | 2.7 | 4.6 | - | 4.5 | 6.4 | - | 4.8 | 7.7 | - | 7.6 | 0.17 | 0.25 | 2015 | [64] |
| ITO/NPB/TCTA/EM L/TPBi/LiF/Al | Si(PPI) ₂ | An(PPI) ₂ | 10% | 5.6 | 2.7 | 6.1 | 4 | 1.9 | 8 | 3 | 0.9 | - | - | - | 0.18 | 0.17 | 2015 | [65] |

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|---|-----------------------------------|---|-----|-----|------|------|-----|------|------|------|-----|------|------|------|------|------|------|------|
| ITO/NPB/TCTA/BBTPI/TPBI/LiF/Al | BBTPI | nondoped | - | - | - | 5.77 | 5.6 | 5.41 | 4.77 | 4.41 | 2.9 | 5.48 | 5.35 | 5.1 | 0.15 | 0.1 | 2015 | [66] |
| ITO/NPB/TCTA/SOTPA/TPBI/LiF/Al | SOTPA | nondoped | - | - | 2.92 | 4.6 | - | 3.9 | 5.3 | - | 2.8 | 5.4 | - | 4.5 | 0.14 | 0.14 | 2015 | [67] |
| ITO/NPB/TCTA/Ph-BPA-BPI/TPBI/LiF/Al | Ph-BPA-BPI | nondoped | - | - | 2.95 | 4.56 | - | - | 3.66 | - | - | 3.6 | - | - | 0.15 | 0.08 | 2016 | [68] |
| ITO/NPB/TCTA/Py-BPA-BPI/TPBI/LiF/Al | Py-BPA-BPI | nondoped | - | - | 2.94 | 5.64 | - | - | 10.5 | - | - | 10.9 | - | - | 0.17 | 0.29 | | |
| ITO/HAT-CN/TAPC/EML/TPBi/LiF/Al | Spiro-(3,5)-F | 4,4'-bis(9-ethyl-3-carbazovinylen)-1,1'-biphenyl (BCzVBi) | 10% | 5.4 | - | 3.85 | - | 3.83 | 3.97 | - | - | 6.51 | - | 6.46 | 0.15 | 0.24 | 2016 | [69] |
| ITO/NPB/Blue materials 1-3/Bphen/Liq/Al | 3-(10-(naphthalen-7-yl)anthracene | nondoped | - | - | - | - | - | - | 1.03 | - | - | 1.1 | - | - | 0.17 | 0.22 | 2016 | [70] |

| | | | | | | | | | | | | | | | | | | |
|---|--|----------|---|---|-----|-----|---|---|------|---|---|------|---|---|-----------|-----------|------|------|
| | n-9-yl) quinoline | | | | | | | | | | | | | | | | | |
| ITO/NPB/Blue materials 1-3/Bphen/Liq/Al | 2-methyl- 6-(10- (naphthale n-7- yl)anthrace n-9-yl) quinoline | nondoped | - | - | - | - | - | - | 1.04 | - | - | 1.3 | - | - | 0.17 | 0.22 | | |
| ITO/NPB/Blue materials 1-3/Bphen/Liq/Al | 2-methyl- 4-(10- (naphthale n-7- yl)anthrace n-9-yl) quinoline | nondoped | - | - | - | - | - | - | 1.42 | - | - | 1.67 | - | - | 0.15 | 0.18 | | |
| ITO/TAPC/TCTA/N APT/B3PYMPM/Li F/Al | NAPT | nondoped | - | - | 2.5 | 6 | - | - | - | - | - | 11.3 | - | - | 0.15 8 | 0.25 | 2016 | [71] |
| ITO/TAPC/TCTA/N APPT/B3PYMPM/L iF/Al | NAPPT | nondoped | - | - | 2.5 | 4.7 | - | - | - | - | - | 6 | - | - | 0.14 9 | 0.14 2 | | |

| | | | | | | | | | | | | | | | | | | |
|-------------------------------------|---|----------|---|------|------|------|---|---|------|---|---|------|---|---|-------|-------|------|------|
| ITO/TAPC/TCTA/NAXPT/B3PYMPM/LiF/Al | NAXPT | nondoped | - | - | 2.5 | 6.6 | - | - | - | - | - | 3.9 | - | - | 0.145 | 0.068 | | |
| ITO/PEDOT:PSS/NPB/EML/TPBi/Ca:Ag | 2,5-BTPE-TP | nondoped | - | - | - | 2.67 | - | - | 4.07 | - | - | 6.8 | - | - | 0.19 | 0.35 | 2016 | [72] |
| ITO/NPB/CHDANT/TmPyPB/LiF/Al | CHDANT | nondoped | - | - | 2.89 | - | - | - | 3.48 | - | - | 4.22 | - | - | 0.2 | 0.26 | 2017 | [73] |
| ITO/NPB/SAF-BPI/TPBi/LiF/AL | SAF-BPI | nondoped | - | - | 2.78 | - | - | - | 2.08 | - | - | 3.95 | - | - | 0.15 | 0.1 | 2017 | [74] |
| ITO/HATCN/NPB/CTA/PTHPI/TPBi/LiF/Al | PTHPI | nondoped | - | - | 2.79 | 3.41 | - | - | 4 | - | - | 7.2 | - | - | 0.18 | 0.34 | 2017 | [75] |
| ITO/NPB/TCTA/EM-L/TPBi/LiF/Al | DTPA-DSO2 | nondoped | - | - | 2.36 | 6.4 | - | - | 10.6 | - | - | 9.8 | - | - | 0.144 | 0.224 | 2017 | [76] |
| ITO/NPB/blue emitter/Bphen/Liq/A1 | N-(4-((E)-2-(9,9-diethyl-2-(1,4-diphenyltriphenylen-3-yl)-9H- | nondoped | - | 5.65 | 2.42 | 2.13 | - | - | 1.31 | - | - | 2.82 | - | - | 0.18 | 0.25 | 2017 | [77] |

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|--|--|---|----|------|------|------|---|---|------|---|---|------|---|---|------|------|------|------|
| | fluoren-7-yl)vinyl)phenyl)-N-Phenylbenzenamine | | | | | | | | | | | | | | | | | |
| ITO/2-TNATA/NPB/mADN:blue dopant 3/Alq3/Liq/A1 | mADN | 3,6-bis[4'-(1-di(tert-butyl))phenyl]-11,14-bis(diphenylamino)dibenzo[g,p]chrysene | 3% | 5.19 | 2.45 | 4.75 | - | - | 4.29 | - | - | 6.42 | - | - | 0.14 | 0.18 | 2017 | [78] |
| ITO/MoO3/TCTA/DATPC)/TPBi/LiF/Al | DATPC-SCF3 | nondoped | - | - | 2.6 | 3.05 | - | - | - | - | - | - | - | - | 0.15 | 0.06 | 2017 | [79] |
| ITO/MoO3/TCTA/DATPC/TPBi/LiF/Al | DATPC-OCF3 | nondoped | - | - | 2.6 | 2.7 | - | - | - | - | - | - | - | - | 0.14 | 0.09 | | |
| ITO/NPB/Cz-BPIS/TPBi/LiF/Al | Cz-BPIS | nondoped | - | - | 2.54 | 2.61 | - | - | 1.63 | - | - | 1.91 | - | - | 0.16 | 0.09 | 2017 | [80] |

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|--|--|------------|----|------|------|-------|------|------|------|---|---|------|---|---|-------|-------|------|------|
| ITO/ NPB/TAPC/chrom I/ BCP/LiF/Al | 4-[4-(2,2':6',2''-Terpyridinyl)]phenyltriphenylamine (chromophore I) | nondoped | - | - | 2.56 | - | - | - | - | - | - | 3.6 | - | - | 0.19 | 0.22 | 2017 | [81] |
| ITO/NPB/MPPIS-Cz/TPBi/LiF/Al | MPPIS-Cz | nondoped | - | - | 2.55 | 1.48 | - | - | 1.3 | - | - | 1.52 | - | - | 0.16 | 0.08 | 2017 | [82] |
| ITO/HAT-CN/TAPC/EML/Bphen/Liq/Al | MBAAn-(4)-F | BBPA | 5% | 4.87 | 2.31 | 10.27 | 8.7 | 7.25 | - | - | - | - | - | - | 0.15 | 0.05 | 2018 | [83] |
| ITO/HAT-CN/TAPC/EML/Bphen/Liq/Al | mCP | BBPA | 5% | 4.87 | 2.78 | 6.02 | 5.14 | 2.41 | - | - | - | - | - | - | 0.15 | 0.03 | | |
| ITO/m-MTDATA:NPB/DMPPP:BCzVBi/Bphen/Cs2CO3:Ag2O/Al | DMPPP | BCzVBi | 8% | - | 2.61 | - | - | - | - | - | - | 3.53 | - | - | 0.155 | 0.128 | 2018 | [84] |
| ITO/MoO3/TCTA/CBP:CzPAF-TFMP | CBP | CzPAF-TFMP | 5% | 5.76 | 2.27 | 5.4 | 4.1 | 2.4 | 3.17 | - | - | 3.33 | - | - | 0.155 | 0.066 | 2018 | [85] |

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|--|----------------|-------------|-----|------|------|-----|-----|----------|------|---|---------|------|---|----------|-----------|-----------|------|------|
| TFMP/TmPyPB/LiF/ Al | | | | | | | | | | | | | | | | | | |
| ITO/PEDOT:PSS/Cz PAF- TFMP/TPBI/LiF/Al | CzPAF- TFMP | nondoped | - | | 2.66 | 4.6 | 4.5 | 3. 4 | 3.99 | - | - | 5.19 | - | - | 0.16 7 | 0.14 3 | | |
| ITO/ReO3:mCP/mC P/emitter:mCP/TSP O1/Rb2CO3:TSPO1/ Al | mCP | BDTPDD A | 10% | 5.45 | 2.66 | 8.5 | - | 4. 6 | 8.4 | - | 2. 3 | - | - | - | 0.14 2 | 0.11 6 | | |
| ITO/ReO3:mCP/mC P/emitter:mCP/TSP O1/Rb2CO3:TSPO1/ Al | mCP | BDTPSAF | 10% | 5.46 | 2.66 | 8.5 | - | 4. 8 | 10.3 | - | 3. 3 | - | - | - | 0.13 9 | 0.18 9 | 2018 | [86] |
| ITO/ReO3:mCP/mC P/emitter:mCP/TSP O1/Rb2CO3:TSPO1/ Al | mCP | DTXSAF | 10% | 5.52 | 2.7 | 7.7 | - | - | 5.2 | - | - | - | - | - | 0.14 9 | 0.08 2 | | |
| ITO/HTM: MoOx/HTM/HOST: dopant/HOST/ETM/ LiF/Al | - | BD-06 | 1% | 5.48 | 2.7 | - | - | 11 .4 | - | - | - | - | - | 9. 15 | 0.14 1 | 0.09 | 2018 | [87] |

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|---|---|----------|----|------|------|------|---|----------|-------|---|----------|-------|---|----------|------|-----------|------|------|
| ITO/ HTM: MoOx/HTM/HOST: dopant/HOST/ETM/ LiF/Al | - | BD-05 | 1% | 5.41 | 2.55 | - | - | 11 .8 | - | - | - | - | - | 11 .6 | 0.14 | 0.12 2 | | |
| ITO/NPB/Blue emitters 1 or 2/BPhen/Liq/Al | 7-(1-(1-(2-(diphenyla mino)-9,9- diethyl9H- fluoren-7- yl)naphthal en-4- yl)naphthal en-4-yl)- 9,9- diethylN,N -diphenyl- 9H- fluoren-2- amine | nondoped | - | - | 2.4 | 2.3 | - | 2. 12 | 1.19 | - | 1. 02 | 2.79 | - | 2. 7 | 0.14 | 0.12 | 2018 | [88] |
| ITO/HATCN/TAPC/ TCTA/PIAnCN/TPB I/LiF/Al | PIAnCN | nondoped | - | - | 2.48 | 9.44 | - | - | 10.44 | - | - | 13.16 | - | - | 0.14 | 0.19 | 2018 | [89] |

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|---|---|---|-----|------|------|------|---|---|------|---|---|------|---|---|------|-----|------|------|
| ITO/2-TNATA/NPB/ α,β -AND: synthesized material/Bphen/Liq/Al | α,β -ADN | 7-(4-(4-(N,N-diphenyl)styryl)phenyl)-spiro[9H-fluorene-9,5-[5H]indeno[1,2-b]pyridine] | 10% | 5.45 | 2.4 | 4.49 | - | - | 8.18 | - | - | 9.93 | - | - | 0.18 | 0.3 | 2018 | [90] |
| ITO/2-TNATA/NPB/Synthesized material/Bphen/Liq/Al | 2,7,7,13,13-pentamethyl-9-(10-phenylanthracen-9-yl)-7,13-dihydrobenzo[5,6]-s-indaceno[1,2-g]quinoline | nondoped | - | - | 2.57 | 4.92 | - | - | 2.52 | - | - | 4.51 | - | - | 0.15 | 0.1 | 2018 | [91] |

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|---|------------------------|--|-----|------|------|------|------|----------|------|---|---|------|----------|---------|-----------|-----------|------|------|
| | - | | - | - | 2.08 | 5.1 | - | - | - | - | - | 3.75 | - | - | 0.14 8 | 0.08 4 | 2018 | [92] |
| ITO/PEDOT/TCTA/ mPAC/TPBi/LiF/Al | mPAC | nondoped | - | - | 2.93 | 6.76 | - | - | 3.48 | - | - | 5.61 | - | - | 0.16 | 0.09 | | |
| ITO/HAT-CN/HAT- CN:TAPC/7 or 8:TCTA/7or 8:26 DCzPPy/Tm3PyP26 PyB/LiF/Al | TCTA/ 26 DCzPP y | 7- (Diphenyla mino)-4- (2,4,6- trimethoxy phenoxy)- 2H- chromen- 2-one | 10% | 5.51 | 2.86 | 5.1 | - | - | - | - | - | 3.75 | - | - | 0.14 8 | 0.08 4 | 2018 | [93] |
| | | | | - | - | - | - | - | 0.79 | - | - | 1.14 | - | - | 0.16 1 | 0.04 6 | | |
| ITO/2- TNATA/NPB/ α,β - ADN: synthesized material/TPBi/LiF/A 1 | α,β -ADN | p-TPA- AP-TPA | 4% | 5.66 | - | - | 6.51 | 8. 09 | - | - | - | - | 6. 93 | 8. 8 | 0.14 | 0.15 | 2019 | [94] |
| ITO/MoO3/TCTA/L - | L-BPPI | nondoped | - | 5.5 | 2.84 | - | - | - | 2.89 | - | - | 3.82 | - | - | 0.16 | 0.1 | 2019 | [95] |

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|---|---------|----------|-----|------|------|------|------|----------|-------|------|----------|-------|----------|----------|-----------|-----------|------|------|
| BPPI/TmPyPB/Liq/ Al | | | | | | | | | | | | | | | | | | |
| ITO/HATCN/TAPC/ BD4PP:dopants/TPB i/Liq/Al | BD4PP | BCzVB | 5% | 5.4 | 2.59 | 3.8 | - | - | - | - | - | 4.41 | - | - | 0.16 | 0.13 | 2019 | [96] |
| ITO/HATCN/NPB/T CTA/N- BPyIA/CBP- 15/TPBi/LiF/Al | CBP | N-BPyIA | 15% | 5.41 | 2.65 | 7.67 | 6.6 | 5. 13 | 6.78 | - | - | 7.98 | - | - | 0.15 | 0.1 | 2019 | [97] |
| ITO/HATCN/NPB/T CTA/N- BPyIA/TPBi/LiF/Al | N-BPyIA | nondoped | - | - | 2.6 | 5.63 | 5.63 | 4. 93 | 10.66 | - | - | 12.64 | - | - | 0.22 | 0.31 | | |
| ITO/HATCN/NPB/P CzAc/PhPC:BPPyA/ p-bPPhenB/LiF/Al | PhPC | BPPyA | 3% | 5.7 | 2.6 | 9.36 | - | 9. 18 | 6.6 | - | 5. 73 | 7.84 | - | 7. 72 | 0.13 5 | 0.11 5 | 2019 | [98] |
| ITO/HATCN/NPB/C CP/PhPC:BPPyA/p- bPPhenB/LiF/Al | PhPC | BPPyA | 3% | - | 2.6 | 8.65 | - | 7. 27 | 8.23 | - | 4. 02 | 7.35 | - | 6. 05 | 0.13 5 | 0.11 3 | | |
| ITO/TAPC/TCTA/m CP/CBP:TPP- PPI/TPBi/LiF/Al | CBP | TPP-PPI | 20% | 5.58 | 2.6 | 6.34 | 5.94 | 5. 35 | 2.85 | 2.14 | 1. 33 | 3.63 | 3. 24 | 2. 84 | 0.15 | 0.06 | 2019 | [99] |

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|--|----------------|--|-----|-----|------|------|------|----------|-----|---|---|------|---|---|------|------|------|-------|
| ITO/MoO ₃ /mCP: MoO ₃ /mCP/Cz- Oxa- BPh/TPBi/LiF/Al | Cz-Oxa- BPh | nondoped | - | - | 2.59 | 4 | 3.8 | 3. 1 | 1.3 | - | - | 1.4 | - | - | 0.16 | 0.06 | 2019 | [100] |
| ITO/TPD/ZnL/mCP/ PBD/Ca/Al | mCP | zinc complex with N,N'- ethylamine -bis[1- phenyl-3- methyl-4- formylimin o-2- pyrazoline- 5-ol] ligand | 20% | 5.6 | 2.6 | 5 | - | - | 7.6 | - | - | 13.8 | - | - | 0.22 | 0.19 | 2019 | [101] |
| ITO/HATCN/TAPC/ TCTA/EML/TPBi/Li F/Al | PIAnTPE | nondoped | - | - | 2.1 | 4.46 | 4.06 | 4. 42 | 5 | - | - | 6.9 | - | - | 0.16 | 0.23 | 2019 | [102] |
| ITO/HAT- CN/TAPC/TBBA/T PBi/Liq/Al | TBBA | nondoped | | - | 2.14 | 3.2 | - | - | 2.7 | - | - | 2.52 | - | - | 0.15 | 0.06 | 2019 | [103] |

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|---|---|---------------------------------|----|------|------|------------------|------|---|-------|------|---|----------------|------|---|------|------|------|-------|
| ITO/HAT-CN/TAPC/BAFs:DSA-ph/TPBi/Liq/Al | MBA | DSA-ph | 3% | - | 2.78 | 9.47 | - | - | 16.57 | - | - | 16.54 | - | - | 0.15 | 0.26 | | |
| ITO/NPB/Blue emitter/Bphen/Liq/Al | (6-(4-(10-phenylanthracen-9-yl)styryl)-N,N-diphenyl-naphthalen-2-amine) | nondoped | - | - | 2.6 | 3.41 | 3.39 | - | 2.41 | 1.99 | - | 5.79 | 5.69 | - | 0.19 | 0.31 | 2019 | [104] |
| ITO/HAT-CN/TAPC/TCTA/Host:BCz-BFPz/TmPyPB/Liq/Al | mCBP | BCz-BFPz | 3% | 5.58 | 1.6 | 4.34 | - | - | - | - | - | 2 | - | - | 0.15 | 0.05 | 2019 | [105] |
| ITO/PEDOT:PSS/NPB/CzB-MOPPI/TPBi/LiF/Al | CzB-MOPPI | nondoped | - | - | 1.58 | 5.97 | - | - | 1.32 | - | - | 3.34 | - | - | 0.16 | 0.08 | 2019 | [106] |
| ITO/2-TNATA/NPB/ α,β -ADN: synthesized | α,β -ADN | 4-(6-(10-(4-(diphenylamino)phen | 4% | 5.66 | 2.7 | 8.38 (5000 nits) | - | - | - | - | - | 9.14(5000nits) | - | - | 0.14 | 0.15 | 2019 | [94] |

| | | | | | | | | | | | | | | | | | | |
|--|----------|--|----|------|---|-----|---|---------|-----|---|---------|-----|---|---------|------|-----------|------|-------|
| material/TPBi/LiF/A 1 | | yl)anthracene n-9- yl)pyren-1- yl)-N,N- diphenylan iline (p- TPA-AP- TPA) | | | | | | | | | | | | | | | | |
| ITO/NPB/TCTA/2F PPICz/TPBi/LiF/Al | 2FPPICz | nondoped | - | - | - | 4.3 | - | 2. 5 | 1.7 | - | 0. 7 | 1.8 | - | 1. 1 | 0.16 | 0.04 5 | 2020 | [107] |
| | 2FPPIPCz | nondoped | - | - | - | 5.6 | - | 5. 4 | 4.5 | - | 3. 5 | 4.8 | - | 4. 6 | 0.15 | 0.07 5 | | |
| ITO/BPBPA:HATC N/BPBPA/TNPA/P ANB:emitter/TNPT/ ZADN/LiF/Al | PANB | N6,N6,N1 2,N12- tetraphenyl benzo[b]in dolo[1,2,3- lm]carbazo le-6,12- diamine (NIDPA-1) | 2% | 5.55 | - | 4.9 | - | - | - | - | - | 7.1 | - | - | 0.13 | 0.22 | 2020 | [108] |

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|---|---------|----------|-----|------|------|------|---|------|------|---|-----|------|---|------|-------|-------|------|-------|
| ITO/MoO3/TAPC/TCTA/CBP:IP-DPPI/TPBI/LiF/Al | CBP | IP-DPPI | 40% | 5.48 | - | 6.22 | - | 5.83 | 3.81 | - | 1.8 | 4.42 | - | 4.07 | 0.15 | 0.094 | 2020 | [109] |
| ITO/NPB/PyEtCz/TPBI/LiF/Al | PyEtCz | nondoped | - | - | - | 3.35 | - | - | 1.91 | - | - | 3.24 | - | - | 0.15 | 0.1 | 2020 | [110] |
| ITO/HATCN/TAPC/TCTA/TPAATPE/TPBi/LiF/Al | TPAATPE | nondoped | - | - | - | 6.97 | - | 5.96 | 8.8 | - | 4.8 | 9.4 | - | 7.7 | 0.15 | 0.16 | 2020 | [111] |
| ITO/MoO3/TAPC/TCTA/CBP:TPA-DFCP/TmPyPB/LiF/Al | CBP | TPA-DFCP | 5% | - | 2.29 | 8.3 | - | - | 4.87 | - | - | 5.63 | - | - | 0.153 | 0.077 | 2020 | [112] |

Table S2. A comprehensive list of wet-processed blue fluorescent OLED devices, including the publication year, device composition, key dopant, doping concentration, employed host, HOMO, LUMO, EQE, PE, CE, CIE (X), CIE (Y), and reference. The years span from 2006 to 2020

| Device Structure | Host | Emitter | | | | EQE (%) | | | PE (lm/W) | | | CE (cd/A) | | | CIE | | Year | Ref. |
|------------------|------|---------|--|------|------|---------|-----|------|-----------|-----|------|-----------|-----|------|-----|-----|------|------|
| | | Name | | HOMO | LUMO | Max | 100 | 1000 | Max | 100 | 1000 | Max | 100 | 1000 | (X) | (Y) | | |

| | | | Conc. (wt%) | | | | (cdm ⁻²) | | | (cdm ⁻²) | | | (cdm ⁻²) | | | | | |
|--|-----|------------|--------------------|------|------|-----------|----------------------|----------|---------|----------------------|-----|-----------|----------------------|----------|-----------|-----------|------|-------|
| ITO/PEDOT:PSS/blue material:PVK/BCP/Alq3/LiF/Al | PVK | PP-C | 2 | 4.9 | 2.06 | 1.6 | - | - | - | - | - | 2.2 | - | - | 0.1 6 | 0.2 | 2005 | [113] |
| ITO/PEDOT:PSS/T3/Ba/ Al | - | TAT- T3 | 100 | - | - | 2 | - | - | - | - | - | 2.0 7 | - | - | 0.1 5 | 0.0 9 | 2006 | [114] |
| ITO/PEDOT:PSS/C1/Ba/Al | - | C1 | 100 | 5.19 | 2.27 | 0.2 42 | 0.2 2 | 0.2 | - | - | - | 0.1 74 | 0. 16 | 0.1 4 | 0.1 7 | 0.1 4 | 2008 | [115] |
| ITO/PEDOT:PSS/C2/Ba/Al | - | C2 | 100 | 5.28 | 2.23 | 1.3 6 | 1.2 4 | 1.3 6 | - | - | - | 0.9 76 | 0. 89 | 0.9 8 | 0.1 6 | 0.1 4 | | |
| ITO/PEDOT:PSS/C3/Ba/Al | - | C3 | 100 | 5.27 | 2.15 | 2.1 6 | 1.4 6 | 2.0 6 | - | - | - | 1.5 6 | 1. 06 | 1.4 8 | 0.1 6 | 0.1 5 | | |
| ITO/PEDOT:PSS/PVK/G0/Ba/Al | - | G0 | 100 | 5.8 | - | 4.2 | - | 3.6 | 1. 7 | - | 1.2 | 3.3 | - | 2.9 | 0.1 55 | 0.0 9 | 2009 | [116] |
| ITO/PEDOT:PSS/PVK/G0/Ba/Al | - | G0 | 100 | 5.8 | - | 4.5 | - | 3.7 | 1. 8 | - | 1.3 | 3.6 | - | 3 | 0.1 55 | 0.0 87 | | |
| ITO/PEDOT:PSS/PVK/G0/Ba/Al | - | G0 | 100 | 5.8 | - | 6.6 | - | 6.2 | 3 | - | 2.4 | 5.3 | - | 4.9 | 0.1 55 | 0.0 86 | | |

| | | | | | | | | | | | | | | | | | | |
|---------------------------------|-----|-------|-----|------|------|------|------|---|------|------|---|-------|------|---|-------|-------|------|-------|
| ITO/PEDOT:PSS/TCDqC/Ba/Al | - | TCDqC | 100 | 5.4 | 2.74 | - | - | - | 0.4 | - | - | 0.7 | - | - | 0.15 | 0.1 | 2010 | [117] |
| ITO/PEDOT:PSS/TCDqC/TPBi/LiF/Al | - | TCDqC | 100 | 5.4 | 2.74 | - | - | - | 1.7 | - | - | 3.7 | - | - | 0.15 | 0.15 | | |
| ITO/PEDOT:PSS/EML/TPBi/LiF/Al | - | FBA-1 | 100 | 5.3 | 2.4 | - | - | - | 1.08 | - | - | 1.96 | - | - | 0.15 | 0.13 | 2011 | [118] |
| ITO/PEDOT:PSS/EML/TPBi/LiF/Al | - | FBA-2 | 100 | 5.46 | 2.45 | - | - | - | 0.19 | - | - | 0.38 | - | - | 0.16 | 0.1 | | |
| ITO/PEDOT:PSS/EML/TPBi/LiF/Al | - | FBA-3 | 100 | 5.45 | 2.46 | - | - | - | 0.05 | - | - | 0.1 | - | - | 0.19 | 0.22 | | |
| ITO/PEDOT:PSS/EML/TPBi/LiF/Al | - | Blu1 | 100 | 4.8 | 1.36 | 2 | 0.53 | - | - | 0.89 | - | 1.83 | 0.49 | - | 0.151 | 0.097 | 2011 | [119] |
| ITO/PEDOT:PSS/EML/TPBi/LiF/Al | - | Blu2 | 100 | - | - | 5.8 | 4.6 | - | - | 6.42 | - | 10.76 | 8.5 | - | 0.159 | 0.303 | | |
| ITO/PEDOT:PSS/EML/TPBi/LiF/Al | - | Blu2 | 100 | - | - | 6.1 | 4.8 | - | - | 7.23 | - | 11.2 | 8.8 | - | 0.148 | 0.28 | | |
| ITO/PEDOT:PSS/EML/TPBi/LiF/Al | - | Blu2 | 100 | - | - | 7.4 | 5.16 | - | - | 8.55 | - | 13.27 | 9.24 | - | 0.149 | 0.292 | | |
| ITO/PEDOT:PSS/EML/TPBi/LiF/Al | PVK | Blu2 | 2 | - | - | 2.71 | 1.33 | - | - | 0.7 | - | 2.64 | 1.29 | - | 0.147 | 0.135 | | |

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|-------------------------------------|-----|-------------|-----|------|------|----------|----------|---|----------|----------|---|-----------|----------|---|-----------|-----------|------|-------|
| ITO/PEDOT:PSS/EML/TPBi/LiF/AI | CBP | Blu2 | 6 | - | - | 9.4 | 5.1 1 | - | - | 4. 29 | - | 10. 08 | 5. 48 | - | 0.1 47 | 0.1 39 | | |
| ITO/PEDOT:PSS/ T1/TPBi /LiF/AI | - | TAB-OF (T1) | 100 | 5.53 | 2.58 | - | - | - | 0. 74 | - | - | 1.1 3 | - | - | 0.1 51 | 0.1 21 | 2011 | [120] |
| ITO/PEDOT:PSS/ T2 /TPBi /LiF/AI | - | TAB-OF (T2) | 100 | 5.55 | 2.61 | - | - | - | 1. 35 | - | - | 1.8 | - | - | 0.1 49 | 0.0 98 | | |
| ITO/PEDOT:PSS/T3/TPBi/LiF/AI | - | TAB-OF (T3) | 100 | 5.57 | 2.64 | - | - | - | 0. 93 | - | - | 1.3 9 | - | - | 0.1 49 | 0.1 01 | | |
| ITO/PEDOT:PSS/polymers/TPBi /LiF/AI | - | PF-33F | 100 | 5.57 | 2.45 | 1.1 4 | - | - | - | - | - | 1.1 4 | - | - | 0.1 6 | 0.1 3 | 2012 | [121] |
| ITO/PEDOT:PSS/T1/TPBi/CsF/AI | - | T1 | 100 | 5.15 | 2.22 | 1.8 2 | - | - | 0. 98 | - | - | 1.6 3 | - | - | 0.1 9 | 0.1 1 | 2012 | [122] |
| ITO/PEDOT:PSS/T2/TPBi/CsF/AI | - | T2 | 100 | 5.14 | 2.29 | 2.3 | - | - | 1. 23 | - | - | 1.9 6 | - | - | 0.1 6 | 0.1 1 | | |
| ITO/PEDOT:PSS/T3/TPBi/CsF/AI | - | T3 | 100 | 5.15 | 2.32 | 4.1 9 | - | - | 3. 16 | - | - | 3.8 3 | - | - | 0.1 6 | 0.0 9 | | |

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|-------------------------------------|------------|------|-----|------|------|------|------|------|------|------|------|------|------|------|-------|-------|------|-------|
| ITO/PEDOT:PSS/PCAN/Bphen/ LiF/Al | - | PCAN | 100 | 5.49 | 2.51 | 4.61 | - | - | 1.41 | - | - | 3.64 | - | - | 0.15 | 0.08 | 2012 | [123] |
| ITO/PEDOT:PSS/EML/TPBi/LiF /Al | - | PO1 | 100 | 5.26 | 2.3 | 1.79 | 1.7 | 1.77 | 1.11 | 1.08 | 0.91 | 1.78 | 1.69 | 1.76 | 0.15 | 0.09 | 2012 | [124] |
| ITO/PEDOT:PSS/EML/TPBi/LiF /Al | - | PO2 | 100 | 5.24 | 2.28 | 1.54 | 1.5 | 1.5 | 1.11 | 1.06 | 0.86 | 1.84 | 1.79 | 1.79 | 0.15 | 0.12 | | |
| ITO/PEDOT:PSS/EML/TPBi/LiF /Al | - | PO3 | 100 | 5.14 | 2.21 | 1.66 | 1.66 | 1.61 | 1.19 | 1.1 | 0.86 | 1.72 | 1.72 | 1.67 | 0.15 | 0.1 | | |
| ITO/PEDOT:PSS/EML/TPBi/LiF /Al | - | PO4 | 100 | 5.11 | 2.23 | 2.06 | 2.01 | 1.87 | 1.86 | 1.55 | 1.18 | 2.36 | 2.32 | 2.15 | 0.15 | 0.11 | | |
| ITO/PEDOT:PSS/EML/BCP/LiF: Al | - | TCF | 100 | 5.19 | 1.96 | - | - | - | - | - | - | 0.93 | - | - | 0.16 | 0.09 | 2012 | [125] |
| ITO/PEDOT:PSS/EML/TPBi/LiF /Al | - | PA-1 | 100 | 5.55 | 2.5 | - | - | - | - | - | - | 0.02 | - | - | 0.19 | 0.241 | 2012 | [126] |
| ITO/PEDOT:PSS/EML/TPBi/LiF /Al | CBP | PA-1 | 1 | 5.55 | 2.5 | - | 3.3 | 2.3 | - | 0.9 | 0.5 | - | 1.3 | 1 | 0.157 | 0.053 | | |
| ITO/PEDOT:PSS/EML/TPBi/LiF /Al | CBP | PA-1 | 3 | - | - | - | 3.5 | 2.5 | - | 1.2 | 0.6 | - | 1.9 | 1.4 | 0.155 | 0.063 | | |
| ITO/PEDOT:PSS/EML/TPBi/LiF /Al | Spiro-2CBP | PA-1 | 3 | 5.55 | 2.5 | - | 3.1 | 2.4 | - | 1.3 | 0.6 | - | 1.6 | 1.2 | 0.157 | 0.064 | | |

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|-----------------------------------|-------------|-------------|-----|------|-----|----------|-----|-----|---|---------|-----|----------|---------|-----|-----------|-----------|------|---------------------|
| ITO/PEDOT:PSS/EML/TPBi/LiF /Al | SimCP2 | PA-1 | 3 | 5.55 | 2.5 | - | 2.9 | 1.4 | - | 1. 3 | 0.4 | - | 2 | 0.9 | 0.1 64 | 0.0 87 | | |
| ITO/PEDOT:PSS/EML/TPBi/LiF /Al | TCTA | PA-1 | 5 | 5.55 | 2.5 | - | 2.9 | 1.9 | - | 3 | 1.2 | - | 4. 1 | 2.4 | 0.1 66 | 0.1 84 | | |
| ITO/PEDOT:PSS/T1/TPBi/Ba/Al | - | T1 | 100 | - | - | 6.1 | 6.1 | - | - | - | - | 4.9 | 4. 9 | - | 0.1 7 | 0.0 8 | 2013 | [127] |
| ITO/PEDOT:PSS/T2/TPBi/Ba/Al | - | T2 | 100 | - | - | 6.7 | 4.6 | - | - | - | - | 5.3 | 3. 5 | - | 0.1 6 | 0.0 8 | | |
| ITO/PEDOT:PSS/T3/TPBi/Ba/Al | - | T3 | 100 | - | - | 6.8 | 6.3 | - | - | - | - | 5.4 | 5. 1 | - | 0.1 6 | 0.0 7 | | |
| | - | D1 | 100 | - | - | 1.7 | - | - | - | - | - | 0.9 | - | - | 0.1 7 | 0.0 9 | 2013 | 60_Ma_JPC C_2013 |
| | - | D2 | 100 | - | - | 2.6 | - | - | - | - | - | 2.8 | - | - | 0.1 7 | 0.2 2 | | |
| | - | P2 | 100 | - | - | 1.2 | - | - | - | - | - | 1.2 | - | - | 0.2 1 | 0.1 9 | | |
| | PVK+PB D | P2 | 10 | - | - | 0.7 | - | - | - | - | - | 0.3 | - | - | 0.1 7 | 0.0 8 | | |
| ITO/PEDOT:PSS/EML/TPBi/Cs F/Al | - | PPO- BF2 | 100 | 5.52 | 2.4 | 1.7 4 | - | - | - | - | - | 1.0 8 | - | - | 0.1 7 | 0.1 1 | 2013 | [128] |

| | | | | | | | | | | | | | | | | | | |
|--|-----|-------------|-----|------|------|----------|---|---|----------|---|---|----------|---|---|----------|----------|------|-------|
| ITO/PEDOT:PSS/EML/TPBi/Cs F/Al | - | PPO- BF3 | 100 | 5.45 | 2.47 | 3.1 7 | - | - | - | - | - | 1.7 6 | - | - | 0.1 6 | 0.0 8 | | |
| ITO/PEDOT:PSS/EML/TPBi/Cs F/Al | - | PPO- TF2 | 100 | 5.56 | 2.46 | 1.8 2 | - | - | - | - | - | 1.1 3 | - | - | 0.1 7 | 0.1 | | |
| ITO/PEDOT:PSS/EML/TPBi/Cs F/Al | - | PPO- TF3 | 100 | 5.48 | 2.5 | 3.3 9 | - | - | - | - | - | 1.8 8 | - | - | 0.1 6 | 0.0 9 | | |
| ITO/PEDOT:PSS/PFO-P/Ba/Al | - | PFO- P | 100 | 5.8 | 2.2 | 0.3 1 | - | - | - | - | - | 0.0 7 | - | - | 0.1 8 | 0.1 8 | 2013 | [129] |
| ITO/PEDOT:PSS/PFO/Ba/Al | - | PFO | 100 | 5.6 | 2.2 | 0.5 6 | - | - | - | - | - | 0.2 | - | - | 0.1 6 | 0.1 1 | | |
| ITO/PEDOT:PSS/PFO- TFP/Ba/Al | - | PFO- TFP | 100 | 6.2 | 2.4 | 0.5 4 | - | - | - | - | - | 0.1 2 | - | - | 0.1 7 | 0.0 6 | | |
| ITO/PEDOT:PSS/PVK/PFO- TFP/TPBi/Ba/Al | - | PFO- TFP | 100 | - | - | 5.0 2 | - | - | - | - | - | 1.0 7 | - | - | 0.1 6 | 0.0 5 | | |
| ITO/PEDOT:PSS/EML/BPhen/Li F/Al | CBP | PBOF -O | 1 | 5.91 | 3.26 | 2.4 | - | - | 1. 7 | - | - | 3.4 | - | - | 0.1 4 | 0.1 3 | 2013 | [130] |
| ITO/PEDOT:PSS/EML/BPhen/Li F/Al | PVK | | 4 | 5.91 | 3.26 | 1.9 | - | - | 1. 1 | - | - | 2.5 | - | - | 0.1 4 | 0.1 4 | | |
| ITO/PEDOT:PSS/EML/BPhen/Li F/Al | CBP | | 0.5 | 5.88 | 3.23 | 1.5 | - | - | 0. 77 | - | - | 1.6 | - | - | 0.1 5 | 0.1 2 | | |

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|---|---------------------------------|------------------|-----|------|------|------|-------|------|------|-----|-----|------|-----|-----|-------|-------|------|-------|
| ITO/PEDOT:PSS/EML/BPhen/LiF/Al | PVK | PBOF - DMO | 0.5 | 5.88 | 3.23 | 1.2 | - | - | 0.57 | - | - | 1.2 | - | - | 0.15 | 0.11 | | |
| ITO/PEDOT:PSS/EML/TPBI/LiF/Al | - | 4c | 100 | 5.5 | 2.5 | - | 0.55 | 0.69 | - | 0.9 | 0.8 | - | 1.2 | 1.5 | 0.188 | 0.33 | 2013 | [131] |
| ITO/PEDOT:PSS/EML/TPBI/LiF/Al | CBP | | 3 | 5.5 | 2.5 | - | 2.24 | 2.12 | - | 1.2 | 0.8 | - | 2.4 | 2.1 | 0.156 | 0.126 | | |
| ITO/PEDOT:PSS/EML/TPBI/LiF/Al | - | 5b | 100 | 5.33 | 2.2 | - | 0.71 | 0.76 | - | 0.7 | 0.5 | - | 0.9 | 0.9 | 0.176 | 0.16 | | |
| ITO/PEDOT:PSS/EML/TPBI/LiF/Al | CBP | | 3 | 5.33 | 2.2 | - | 1.53 | - | - | 0.2 | - | - | 0.4 | - | 0.158 | 0.045 | | |
| ITO/PEDOT:PSS/EML/TPBI/LiF/Al | - | 5c | 100 | 5.4 | 2.1 | - | 0.47 | - | - | 0.5 | - | - | 0.7 | - | 0.185 | 0.232 | | |
| ITO/PEDOT:PSS/EML/TPBI/LiF/Al | CBP | | 3 | 5.4 | 2.1 | - | 0.194 | - | - | 0.1 | - | - | 0.3 | - | 0.163 | 0.041 | | |
| ITO/PEDOT:PSS/poly-TPD/XL-PHNSF-E50/Ca/Al | - | PHNSF-E50 | 100 | 5.7 | 2.7 | 3.2 | - | - | 1.62 | - | - | - | - | - | 0.204 | 0.232 | 2014 | [132] |
| ITO/PEDOT:PSS/NPB/M1/TPBi/LiF/Al | (2-(4-(9H-carbazol-9-yl)phenyl) | nondoped | | - | - | 1.94 | - | - | 0.48 | - | - | 0.65 | - | - | 0.165 | 0.05 | 2014 | [133] |

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|----------------------------------|--|----------|---|---|------|---|---|------|---|---|------|---|---|-------|-------|--|--|
| | -1-phenyl-1H-phenanthro[9,10-d]imidazole (M1) | | | | | | | | | | | | | | | | |
| ITO/PEDOT:PSS/NPB/M2/TPBi/LiF/Al | 1-phenyl-2-(4-(3-(1-phenyl-1H-phenanthro[9,10-d]imidazole-1-yl)-9H-carbazol-9-yl)phenyl)-1H-phenanthro[9,10-d]imidazole (M2) | nondoped | - | - | 3.02 | - | - | 0.86 | - | - | 1.53 | - | - | 0.167 | 0.056 | | |

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|----------------------------------|--|----------|---|---|----------|---|---|----------|---|---|-----------|---|---|-----------|-----------|--|--|
| ITO/PEDOT/NPB/M3/TPBi/LiF/ Al | 1-phenyl- 2-(9-phenyl- 9H-carbazol- 3-yl)-1H-phenanthr o[9,10- d]imidazo le (M3) | nondoped | - | - | 1.5 1 | - | - | 0. 32 | - | - | 0.5 7 | - | - | 0.1 65 | 0.0 53 | | |
| ITO/PEDOT/NPB/M4/TPBi/LiF/ Al | 2,2'-(9-phenyl- 9H-carbazole- 3,6-diyl)bis(1-phenyl- 1H-phenanthr o[9,10- d]imidazo le) (M4) | nondoped | - | - | 2.1 1 | - | - | 0. 76 | - | - | 0.1 25 | - | - | 0.1 69 | 0.0 78 | | |
| ITO/PEDOT/NPB/M5/TPBi/LiF/ Al | 2-(4'-(9H-carbazol- | nondoped | - | - | 1.4 6 | - | - | 0. 3 | - | - | 0.8 8 | - | - | 0.1 7 | 0.0 77 | | |

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|---|--|----------|---|---|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|------|-------|
| | 9-yl)- [1,1'- biphenyl]- 4-yl)-1- phenyl- 1H- phenanthr o[9,10- d]imidazo le (M5) | | | | | | | | | | | | | | | | |
| ITO/PEDOT:PSS/NPB/TCTA/T BPMCn/TPBi/LiF/Al | TBPMCn | nondoped | - | - | 7.8 | - | - | 5. 5 | - | - | 10. 5 | - | - | 0.1 6 | 0.1 6 | 2015 | [134] |
| ITO/TDMS/TPBi/Ca/Al | TDMS | nondoped | - | - | 1.1 9 | - | - | 0. 23 | - | - | 1.0 6 | - | - | 0.1 56 | 0.1 | 2015 | [135] |
| ITO/TDPS/TPBi/Ca/Al | TDPS | nondoped | - | - | 1.3 6 | - | - | 0. 38 | - | - | 1.6 2 | - | - | 0.1 75 | 0.1 44 | | |
| ITO/PEDOT:PSS/EML/TPBi/Ca: Ag | CAC | nondoped | - | - | 1.5 3 | 1.2 6 | 1.3 7 | 0. 77 | 0. 69 | 0.6 1 | 1.6 3 | 1. 35 | 1.4 6 | 0.1 6 | 0.1 | 2015 | [136] |
| ITO/PEDOT:PSS/EML/TPBi/Ca: Ag | BAC | nondoped | - | - | 0.4 7 | 0.4 6 | 0.3 1 | 0. 27 | 0. 27 | 0.1 3 | 0.6 1 | 0. 6 | 0.4 | 0.1 8 | 0.1 6 | | |

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|--|---|----------|-----|---|---|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| ITO/PEDOT:PSS/PVK:OXD-7 (7:3):EML/TPBi/Ca:Ag | PVK:OXD-7 (7:3) | CAC | 15% | - | - | 2.81 | 2.78 | 2.05 | 1.64 | 1.39 | 0.71 | 3.03 | 3.01 | 2.22 | 0.16 | 0.1 | | |
| ITO/PEDOT:PSS/NPB/OCADN/TPBi/LiF/Al | OCADN | nondoped | | - | - | - | - | - | 1.13 | - | - | 2.25 | - | - | 0.16 | 0.3 | 2015 | [137] |
| ITO/PEDOT:PSS/NPB/OC4PADN/TPBi/LiF/Al | OC4PADN | nondoped | | - | - | - | - | - | 0.48 | - | - | 0.99 | - | - | 0.16 | 0.14 | | |
| ITO/PEDOT:PSS/I or II or III or IV/TPBi/LiF/Al | 2-(4-(9,9-dimethyl-10-phenyl-9,10-dihydroacridin-2-yl)phenyl)-1-phenyl-1H-phenanthro[9,10-d]imidazole | nondoped | | - | - | 5.12 | - | - | 2.49 | - | - | 4.6 | - | - | 0.15 | 0.09 | 2016 | [138] |

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|--|---|----------|---|---|------|---|---|------|---|---|------|---|---|------|------|--|--|
| ITO/PEDOT:PSS/I or II or III or IV/TPBI/LiF/Al | 2-(3-(9,9-dimethyl-10-phenyl-9,10-dihydroacridin-2-yl)phenyl)-1-phenyl-1H-phenanthro[9,10-d]imidazole | nondoped | - | - | 2.87 | - | - | 0.7 | - | - | 1.33 | - | - | 0.17 | 0.09 | | |
| ITO/PEDOT:PSS/I or II or III or IV/TPBI/LiF/Al | 9,9-dimethyl-10-phenyl-2-(4-(1,4,5-triphenyl-1H-imidazol-2-yl)phenyl)-9,10- | nondoped | - | - | 3.56 | - | - | 1.33 | - | - | 3.36 | - | - | 0.14 | 0.13 | | |

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|--|--|----------|----|------|------|------|-----|-----|-----|-----|-----|------|-----|-----|-------|-------|------|-------|
| | dihydroacridine | | | | | | | | | | | | | | | | | |
| ITO/PEDOT:PSS/I or II or III or IV/TPBi/LiF/Al | 9,9-dimethyl-10-phenyl-2-(3-(1,4,5-triphenyl-1H-imidazol-2-yl)phenyl)-9,10-dihydroacridine | nondoped | | - | - | 1.96 | - | - | 0.5 | - | - | 1.45 | - | - | 0.16 | 0.08 | | |
| ITO/ PEDOT/ EML/ TPBi/ LiF/Al | CBP | JV234 | 3% | 5.03 | 2.35 | - | 4.1 | 2.8 | - | 1.3 | 0.7 | - | 2 | 1.4 | 0.15 | 0.06 | 2017 | [139] |
| ITO/PEDOT:PSS/mCBP:JV55/TPBi/ LiF/Al | mCBP | JV55 | 3% | 5.7 | 2.7 | 6.5 | 5.5 | 2.7 | - | 1.7 | 0.7 | - | 2.6 | 1.4 | 0.16 | 0.06 | 2018 | [140] |
| ITO/PEDOT:PSS/MADN/MADN: DSA-Ph/BPhen/LiF/Al | MADN | DSA-Ph | 3% | 5.4 | 2.7 | 10 | - | - | 13 | - | - | 14.7 | - | - | 0.159 | 0.281 | 2018 | [141] |

| | | | | | | | | | | | | | | | | | | |
|---|---------------|--|----|------|------|----------|---|---|----------|---|---|----------|---|---|-----------|-----------|------|-------|
| ITO/PEDOT:PSS/TAPC/TCTA/ mcp:Oxd-bCz/TmPyPB/LiF/Al | mcp | Oxd- bCz | 6% | 5.95 | 2.69 | 5.6 | - | - | 1. 9 | - | - | 2.4 | - | - | 0.1 6 | 0.0 7 | 2018 | [142] |
| ITO/Wox/NPB/EML/Bphen/LiF/ Al | MADN | 1-4-di-[4- (N,N- diphenyl)amin o]styryl- benzene | | - | - | 7.2 | - | - | 6. 4 | - | - | 10. 8 | - | - | 0.1 67 | 0.2 83 | 2018 | [143] |
| ITO/Wox/NPB/EML/Bphen/LiF/ Al | MADN | nondoped | | - | - | 4.6 | - | - | 2. 5 | - | - | 3.2 | - | - | 0.1 55 | 0.1 01 | | |
| ITO/NPB/TCTA/mCP/Bepp2: dopant/TPBi/ Liq/ Al | Bepp2 | DPAc -OXD | 6% | 5.69 | 2.56 | 1.8 4 | - | - | 0. 99 | - | - | 1.3 | - | - | 0.1 6 | 0.1 2 | 2018 | [144] |
| ITO/PEDOT:PSS/5,9- CSBF/TPBi/LiF/Al (150 nm) | 5,9-CSBF | nondoped | | - | - | 4.1 | - | - | - | - | - | 4.4 2 | - | - | 0.1 5 | 0.0 91 | 2020 | [145] |
| ITO/PEDOT:PSS/2,7- CSBF/TPBi/LiF/Al | 2,7-CSBF | nondoped | | - | - | 2.4 9 | - | - | - | - | - | 1.2 3 | - | - | 0.1 55 | 0.0 5 | | |
| ITO/PEDOT:PSS/emission layer/DPEPO/TmPyPB/Liq/Al | CzPA-F- PD | nondoped | | - | - | 4.6 1 | - | - | 3. 97 | - | - | 6.3 2 | - | - | 0.1 7 | 0.1 8 | 2020 | [146] |
| ITO/PEDOT:PSS/emission layer/DPEPO/TmPyPB/Liq/Al | CzPA-F- PD | TFA | | - | - | 4.6 7 | - | - | 3. 92 | - | - | 7.1 1 | - | - | 0.2 5 | 0.2 6 | 2020 | |

| | | | | | | | | | | | | | | | | | | |
|---|---------------|----------|--|---|---|----------|----------|---|----------|---|---|----------|---|---|----------|----------|------|-------|
| | | | CzPA -F- PD:T FA (5000 /1, v- v) | | | | | | | | | | | | | | | |
| | | | | - | - | 4.0 7 | - | - | 3. 65 | - | - | 6.9 7 | - | - | 0.3 6 | 0.3 7 | | |
| ITO/PEDOT:PSS/EML/DPEPO/ TmPyPB/Liq/Al | FBTO- EHFF | nondoped | | - | - | 3.6 6 | 0.7 8 | - | 3. 66 | - | - | 6.3 7 | - | - | 0.2 | 0.2 4 | 2020 | [147] |

Table S3. A comprehensive list of dry-processed blue phosphorescence OLED devices, including the publication year, device composition, key dopant, doping concentration, employed host, HOMO, LUMO, EQE, PE, CE, CIE (X), CIE (Y), and reference. The years span from 2001 to 2020

| Device Structure | Host | Emitter | | | | EQE (%) | | | PE (lm/W) | | | CE (cd/A) | | | CIE | | Year | Ref. |
|------------------|------|---------|--------------------|------------------|------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------|------|
| | | Name | Conc. (wt%) | H O M O | L U M O | M a x | 1 0 0 | 1 0 0 | M a x | 1 0 0 | 1 0 0 | M a x | 1 0 0 | 1 0 0 | (X) | (Y) | | |

| | | | | | | | (cdm ⁻²) | | | (cdm ⁻²) | | | (cdm ⁻²) | | | | | |
|--|------|--------|----|-----|-----|------|----------------------|---|------|----------------------|---|------|----------------------|---|------|------|------|-------|
| ITO/CuPc/a-NPD/CBP:FIrpic/BAlq/LiF/Al | CBP | FIrpic | 6 | 5.8 | 3.1 | 5.7 | - | - | 6.3 | - | - | - | - | - | 0.16 | 0.29 | 2001 | [148] |
| ITO/NPD/mCP/UGH2:FIr6/BCP/LiF/Al | UGH2 | FIr6 | 10 | 6.1 | 3.1 | 11.6 | - | - | 13.9 | - | - | - | - | - | 0.16 | 0.26 | 2003 | [149] |
| ITO/PEDOT:PSS/CDBP:FIrpic/Balq/LiF/Al | CDBP | FIrpic | 3 | 5.8 | 3.1 | 10.4 | - | - | 10.5 | - | - | 20.4 | - | - | 0.17 | 0.34 | 2003 | [150] |
| ITO/NPB/DCB:FIrpic/DCB:FIrpic/DCB:FIrpic/Bphen/Mg: Ag. | DCB | FIrpic | 20 | 5.8 | 3.1 | - | - | - | - | - | - | 15.4 | - | - | - | - | 2004 | [151] |
| ITO/NPB/DCB:FIrpic/BPhen/Mg:Ag. | DCB | FIrpic | 8 | 5.8 | 3.1 | 5.8 | - | - | - | - | - | 9.8 | - | - | 0.17 | 0.34 | 200 | [152] |

| | | | | | | | | | | | | | | | | | | |
|--|--------------|-----------------|---|---|---|---------|--------------|---|---------|---------|---|--------------|---|---|--------------|--------------|------------------|---------------|
| | | | | | | | | | | | | | | | | | 0 4 | |
| - | UGH2 | f-Irpmb3 | - | - | - | 5. 9 | - | - | 1. 7 | - | - | - | - | - | 0. 1 7 | 0. 0 6 | 2 0 0 5 | [1 5 3] |
| - | - | - | - | - | - | 1 1 | - | - | - | - | - | 2 1 | - | - | 0. 1 6 | 0. 2 9 | 2 0 0 6 | [1 5 4] |
| - | - | - | - | - | - | 1 4 | - | - | - | - | - | 3 2 | - | - | 0. 1 7 | 0. 3 8 | 2 0 0 6 | [1 5 4] |
| ITO/PEDOT:PSS/PVK/26mCPy :OXD-7:Pt-4/BCP/CsF/Al | 26mCPy:OXD-7 | :Pt-4 | 2 | - | - | - | 1 2. 6 | - | - | 6. 4 | - | 2 0. 6 | - | - | 0. 1 5 | 0. 2 6 | 2 0 0 8 | [1 5 5] |
| - | - | (dfbmb)2Ir(fptz | - | - | - | 6 | 2. 7 | - | 4 | 0. 9 | - | 6. 3 | 3 | - | 0. 1 6 | 0. 1 3 | 2 0 0 8 | [1 5 6] |

| | | | | | | | | | | | | | | | | | | |
|---|-------|--------|-----|-----|-----|------|------|------|------|-----|----|------|------|----|------|------|------|-------|
| ITO/MeO-TPD:F4-TCNQ/TAPC/mCP:FIr6/UGH2:FIr6/Bphen/Bphen:Li/LiF/Al | mCP | FIr6 | 4 | 6.1 | 3.1 | 17 | - | - | 25 | 25 | 20 | 35 | - | - | 0.16 | 0.28 | 2008 | [157] |
| ITO/CuPC/NPD/Firpic:TCTEB/BAIq/LiF/Al | TCTEB | FIrpic | 8 | 5.8 | 3.1 | 8.5 | - | - | 11.3 | - | - | 13.7 | - | - | 0.17 | 0.36 | 2008 | [158] |
| ITO/HTL / mCP / mCP/UGH2:FIr6 / BCP / BCP / LiF / LiF / Al / Al | UGH2 | FIr6 | 10 | 6.1 | 3.1 | 18 | - | - | 16 | - | - | - | - | - | 0.16 | 0.27 | 2008 | [159] |
| TO/PEDOT/TAPC/mCP:FIrpic/BCP/LiF/Al | mCP | FIrpic | - | 5.8 | 3.1 | - | - | - | 50 | - | - | 60 | 59 | 57 | 0.19 | 0.22 | 2009 | [160] |
| ITO/DNTPD/NPB/mCP/PPO2:FCNIr/BCP/Alq3/LiF/Al | PPO2 | FCNIr | 15% | 5.8 | 3 | 18.4 | 13.5 | 11.8 | 16.6 | 9.1 | - | 21.1 | 16.5 | - | 0.14 | 0.15 | 2009 | [161] |

| | | | | | | | | | | | | | | | | | | |
|--|-----------|--------|----|-----|-----|-------------------|---|--------|--------------|---|--------------|--------------|---|---|--------------|--------------|------------------|---------------|
| ITO/BCP/Alq3/LiF/Al | mCP | FCNIr | - | 5.8 | 3 | 9. 2 | - | - | - | - | - | 1 1 | - | - | 0. 1 5 | 0. 1 6 | 2 0 0 9 | [1 6 2] |
| ITO/TAPC/Pt(ptp)2Pt(ptp)2:HM -A1/PO-15/LiF/Al | - | - | - | - | - | 1 6. 7 | - | 1 6 | 4 2. 8 | - | 3 0. 7 | - | - | - | 0. 1 6 | 0. 3 | 2 0 0 9 | [1 6 3] |
| ITO/NPB/host:FIrpic/TPBI/LiF/ Al | DPSiCBP | FIrpic | 8 | 5.8 | 3.1 | 3. 5 | - | - | 4. 5 | - | - | 6. 5 | - | - | 0. 1 6 | 0. 2 9 | 2 0 0 9 | [1 6 4] |
| ITO/Al/Me2SiCBP2:FIr6/TAZ/ LiF/Al | Me2SiCBP2 | FIr6 | 16 | 6.1 | 3.1 | 1 5. 7 5 | - | - | 1 8. 6 | - | - | 2 6. 7 | - | - | 0. 1 5 | 0. 2 4 | 2 0 0 9 | [1 6 5] |

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|--|----------------------|--------|------|-----|-----|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|------------------|---------------|
| ITO/NPB/mCP/mCP:FIrpic/BAI q3/LiF/Al | mCP | FIrpic | 9 | 5.8 | 3.1 | 1 0. 6 | - | - | 1 2. 8 | - | - | - | - | - | 0. 1 6 | 0. 2 8 | 2 0 0 9 | [1 6 6] |
| ITO/BPAF/EML/TAZ/LiF/Al | POAPF(5.26,2.40) | FIrpic | 7 | 5.8 | 3.1 | 2 0. 6 | 2 0. 2 | 1 8. 8 | 3 6. 7 | 3 3. 8 | 2 4. 3 | 3 5. 4 | 3 4. 8 | 3 2. 3 | 0. 1 3 | 0. 2 7 | 2 0 0 9 | [1 6 7] |
| ITO/MeO-TPD:F4- TCNQ/TAPC/mCP:FIr6 /GH2:FIr6/3TPYMB/CsEIL/LiF/ Al | mCP:UGH2: 2:1 | FIrpic | 4:25 | 5.8 | 3.1 | 2 0 | - | - | 3 6 | - | - | 4 1 | - | - | 0. 1 6 | 0. 2 8 | 2 0 0 9 | [1 6 8] |
| ITO/BPAF/FIrpic:PCF/TAZ/LiF /Al | PCF(5.86,2.76) | FIrpic | 28 | 5.8 | 3.1 | 1 3 | - | - | 2 6. 2 | - | - | 3 0. 8 | - | - | 0. 1 3 | 0. 3 5 | 2 0 0 9 | [1 6 9] |
| ITO/MoO3/FIrpic:BCBP/BCP/A lq3/LiF/Al | BCBP | FIrpic | 7 | 5.8 | 3.1 | 4 | - | - | 6. 3 | - | - | 9 | - | - | 0. 1 1 | 0. 3 4 | 2 0 0 9 | [1 7 0] |

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|--|----------------|---|----|-----|------|------|------|------|------|------|------|------|------|-----|------|------|------|-------|
| ITO/TAPC/EML/Tm3PyPB/Tm3PyPB:Cs/LiF/Al | SPPO1 | FIr6 | 10 | - | - | 20.1 | - | - | 29.2 | - | - | 37.8 | - | - | 0.16 | 0.32 | 2009 | [171] |
| ITO/TAPC/Ir(dbfmi):PO9/PO9/B3PyPB/LiF/Al | PO9 | Ir(dbfmi) | 10 | - | - | 18.6 | 13.3 | 6.2 | 35.9 | 19.6 | 6.3 | 28.6 | 20.5 | 9.4 | 0.15 | 0.19 | 2010 | [172] |
| ITO/TAPC/EML/Tm3PyPB/Tm3PyPB:Cs/LiF/Al | mCP:UGH3 = 5:5 | FIr6 | 10 | 6.1 | 3.1 | 22.9 | - | - | 39.2 | 27.9 | 17.2 | 39.5 | - | - | 0.16 | 0.29 | 2010 | [173] |
| ITO/MoO3/NPB/1/TPBI/LiF/Al | | N,N,N',N'-tetraphenyl-5'-(1-phenyl1H-benzimidazol-2-yl)-1,1':3',1''-terphenyl-4,4''-diamine | | 5.2 | 2.06 | 2.9 | - | - | 1.6 | - | - | 2.2 | - | - | 0.17 | 0.07 | 2010 | [174] |
| ITO/NPB/TAPC/Me2Si(CBP)2/Me2Si(CBP)2:FIr6/SiTAZ/LiF/Al | Me2Si(CBP)2 | FIr6 | 15 | 6.1 | 3.1 | 15.5 | - | 13.8 | - | - | - | - | - | - | 0.16 | 0.22 | 2010 | [175] |

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|--|----------|-------------------|----|----------|----------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|------------------|---------------|
| - | CP2 | Ir(dbfmi) | 8 | - | - | - | - | - | 7. 6 | 4. 9 | 2. 3 | 1 3. 4 | 1 1. 4 | 6. 7 | 0. 1 5 | 0. 1 8 | 2 0 1 1 | [1 7 6] |
| ITO/NPB/mCP/UGH3:FIr6/UG H3/Bphen/LiF/Al | mCP | FIr6 | 10 | 6.1 | 3.1 | 1 4. 8 | - | - | 1 5. 4 | - | - | 2 2. 8 | - | - | 0. 1 5 | 0. 2 3 | 2 0 1 1 | [1 7 7] |
| ITO/PEDOT:PSS/MoO3-doped DPBIC/DPBIC/1: Ir(dbfmi)/1)/Cs2CO3-doped BCP/Cs2CO3/Al | DPBIC | <i>meta</i> -CBP | - | 5.7 1 | 1.7 7 | - | 8. 7 | 6. 1 | - | 1 0. 2 | 6 | - | 1 2. 2 | 8. 5 | 0. 1 6 | 0. 1 8 | 2 0 1 1 | [1 7 8] |
| ITO/TPD/TCTA/2: BSB- CzSi/BSB/TPBI/LiF/Al | BSB-CzSi | [Ir(mpmi)2(pypz) | - | 5.0 3 | 1.9 5 | 1 5. 2 | - | - | 1 9. 6 | - | - | 2 8. 1 | - | - | 0. 1 4 | 0. 2 7 | 2 0 1 1 | [1 7 9] |
| ITO/TAPC/ <i>t</i> -CzSA/BCPO: (fpmi)2Ir(dmpypz)/3TPYMB/BP hen/LiF/Al | BCPO | (fpmi)2Ir(dmpypz) | 8 | 5.2 | 2 | 1 7. 1 | 1 6. 5 | 1 5. 1 | 1 9. 8 | 1 5 | 1 1. 2 | 2 2. 3 | 2 1. 5 | 1 9. 6 | 0. 1 3 | 0. 1 6 | 2 0 1 1 | [1 8 0] |

| | | | | | | | | | | | | | | | | | | |
|---|----------------|----------|---|----------|----------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------|--------------|--------------|--------------|------------------|---------------|
| ITO/PEDOT:PSS/NPB/BIPPA or BCPPA/mCPPO1:FCNIrpic/TSP O1/LiF/Al | mCPPO1 | FCNIrpic | 3 | 5.7 2 | 2.9 8 | 2 4. 7 | 2 4. 4 | 2 3. 9 | 3 0 | 1 9. 8 | 1 3. 9 | 3 0. 7 | - | 2 7. 6 | 0. 1 4 | 0. 1 8 | 2 0 1 1 | [1 8 1] |
| ITO/DNTPD/NPB/mCP/mCPPO 1:FCNIrpic/TSPO1/LiF/Al | mCPPO1 | FCNIrpic | - | 5.7 2 | 2.9 8 | 2 5. 1 | 2 5. 1 | 2 4 | 2 9. 8 | 2 3. 1 | 1 7. 2 | - | 3 1 | 2 8. 9 | 0. 1 4 | 0. 1 8 | 2 0 1 1 | [1 8 2] |
| ITO/DNTPD/NPB/mCP/DFCzP O:FCNIrpic/TSPO1/LiF/Al | DFCzPO | FCNIrpic | 3 | 5.7 2 | 2.9 8 | 2 1. 4 | - | 1 7. 5 | 2 2. 6 | - | 1 0 | 2 6. 4 | - | 2 1. 5 | 0. 1 4 | 0. 1 8 | 2 0 1 1 | [1 8 3] |
| ITO/PEDOT:PSS/TAPC/Flr6:A d-CzPd/TmPyPB/LiF/Al | Ad-CzPd | Flr6 | - | 6.1 | 3.1 | 1 3 | - | - | 1 5 | - | - | - | - | - | 0. 1 6 | 0. 2 6 | 2 0 1 1 | [1 8 4] |
| ITO/TPD/TCTA/3:UGH2- CzSi/UGH2/TPBI/LiF/Al | CzSi:UGH2; 2:1 | Flrpic | 4 | 5.8 | 3.1 | 1 4. 1 | - | - | 1 3. 8 | - | - | 1. 7 | - | - | 0. 1 4 | 0. 1 8 | 2 0 1 1 | [1 7 9] |

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|--|----------------------|----------|------|----------|----------|-------------------|---|--------------|--------------|---|--------|-------------------|---|---|--------------|--------------|------------------|---------------|
| ITO/NPB/mCP/Flrpic:mCP/Firp ic:UGH2/BPhen/Liq/Al | mCP:UGH2: 2:1 | Flrpic | 8:20 | 5.8 | 3.1 | 1 1. 4 4 | - | - | 1 6. 8 | - | - | 2 3. 1 4 | - | - | 0. 1 7 | 0. 3 3 | 2 0 1 1 | [1 8 5] |
| ITO/MoO3/NPB/TCTA/EML/T PBI/LiF/Al | <i>m</i> -BISiPCz, 2 | Flrpic | 8 | 5.4 1 | 1.7 8 | 1 1. 4 | - | - | 1 9. 8 | - | - | 2 9. 3 | - | - | 0. 1 8 | 0. 4 | 2 0 1 1 | [1 8 6] |
| ITO/PEDOT/DTAF/host:dopant/ TPBI/LiF/Al | mCPNBI (5.8,2.36) | Flrpic | 8 | - | - | 1 6. 3 | - | - | 2 3. 3 | - | - | 3 5. 7 | - | - | 0. 1 7 | 0. 3 7 | 2 0 1 1 | [1 8 7] |
| ITO/DNTPD/NPB/mCP/DBT2: FCNIrpic/TSP01/LiF/Al | DBT2 (6.09,2.57) | FCNIrpic | 15 | 5.7 2 | 2.9 8 | 2 0. 2 | - | 1 7. 9 | 2 8. 9 | - | - | 2 8. 9 | - | - | 0. 1 4 | 0. 2 1 | 2 0 1 1 | [1 8 8] |
| ITO/DNTPD/NPB/FPCC or FPCA/mCPPO1:FCNIrpic/TSP O1/LiF/Al | <i>m</i> CPPO1 | FCNIrpic | 3 | 5.7 2 | 2.9 8 | 2 2 | - | 1 9. 7 | 2 5. 2 | - | 1 3 | 2 6 | - | - | 0. 1 4 | 0. 1 7 | 2 0 1 1 | [1 8 9] |

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|--|----------|---------------------|----|----------|----------|--------------|--------------|--------------|--------------|---|--------------|--------------|---|--------------|--------------|--------------|------------------|---------------|
| ITO/NPB/mCP/Host:Firpic/TPB I/LiF/Al | Bim-4 | Firpic | 10 | 5.8 | 3.1 | - | - | 1 4. 1 | 1 5 | - | 9. 7 | 2 2 | - | 2 0. 3 | 0. 1 7 | 0. 2 9 | 2 0 1 2 | [1 9 0] |
| ITO/NPB:MoO3/NPB/DOPPP/P OAPF/POAPF:Firpic/BmPyPB/ LiF/Mg:Ag | POAPF | Firpic | - | 5.8 | 3.1 | - | - | - | 2 0. 3 | - | 1 3. 3 | 2 3. 5 | - | 1 5. 5 | 0. 1 6 | 0. 3 2 | 2 0 1 2 | [1 9 1] |
| ITO/graphene/TAPC/HAT- CN/TAPC/HAT- CN/TAPCTCTA:FIrpic/DCzPPy :FIrpic/BmPyPB/LiF/Al | - | FIrpic | - | 5.8 | 3.1 | - | - | 1 5. 6 | - | - | 2 4. 1 | - | - | - | 0. 1 5 | 0. 3 4 | 2 0 1 2 | [1 9 2] |
| ITO/Plexcore OC/MoO3:DPBIC/DPBIC/4:Si mCP/SimCP/P3PyPB/CsF/Al | SimCP | Ir(dfpybpy)2(fpbpz) | - | - | - | 7 | - | - | 4. 1 4 | - | - | - | - | - | 0. 1 6 | 0. 1 9 | 2 0 1 2 | [1 9 3] |
| ITO/DNTPD/NPB/mCP/FCNIrp ic/TSPO1/LiF/Al | bis-CMPC | FCNIrpic | 10 | 5.7 2 | 2.9 8 | 1 3. 3 | 1 3. 1 | 8. 8 | - | - | - | - | - | - | 0. 1 4 | 0. 2 1 | 2 0 1 2 | [1 9 4] |

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|--|--------------|----------|----|----------|----------|--------------|--------------|--------------|--------|--------|--------------|--------------|---|--------------|--------------|--------------|------------------|---------------|
| ITO/DNTPD/NPB/mCP/DFPO3: FCNIrpic/TSP01/LiF/Al | DFPO3 | FCNIrpic | 10 | 5.7 2 | 2.9 8 | 2 5. 9 | 2 3. 2 | - | - | - | - | - | - | - | 0. 1 4 | 0. 2 2 | 2 0 1 2 | [1 9 5] |
| ITO/TAPC or DCDPA/DCDPA:DBFPO:FCNI rpic/TSP01/LiF/Al | DCDPA:DBFPO | FCNIrpic | 3 | 5.7 2 | 2.9 8 | 2 6. 4 | 2 4. 8 | 1 5 | - | - | - | 3 4 | - | 2 9. 5 | 0. 1 4 | 0. 1 9 | 2 0 1 2 | [1 9 6] |
| ITO/DNTPD/NPB/mCP/BDDS: mCP:FCNIrpic/BDDS/LiF/Al | BDDS | FCNIrpic | 10 | 5.7 2 | 2.9 8 | 1 8. 1 | 1 4. 5 | 1 2. 2 | - | - | - | - | - | - | 0. 1 4 | 0. 1 9 | 2 0 1 2 | [1 9 7] |
| ITO/DNTPD/NPB/mCP/BCPCB or CPBDC:FCNIrpic/TSP01/LiF/A 1 | PEDOT-CPBDC | FCNIrpic | 10 | 5.7 2 | 2.9 8 | 2 4. 5 | 2 2. 5 | 1 9. 4 | 3 1 | 2 1 | 1 3. 4 | - | - | - | 0. 1 4 | 0. 1 9 | 2 0 1 2 | [1 9 8] |
| ITO/NPB/TAPC/Host/Host:FIr6/ SiTAZ/LiF/Al | <i>p</i> -Cb | FIr6 | 10 | 6.1 | 3.1 | 1 5. 3 | - | - | - | - | - | 2 5. 3 | - | - | 0. 1 5 | 0. 2 4 | 2 0 1 2 | [1 9 9] |

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|---|-----------------|--------|----|----------|----------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|------------------|---------------|
| ITO/HATCN/NPB/TAPC/B2tCz :FIrpic/TmPyPB/LiF/Al | B2tCz | FIrpic | 10 | 5.5 4 | 2.2 5 | 2 4. 6 | 2 3. 2 | - | 3 4 | 2 9. 5 | - | 4 3. 3 | 4 0. 8 | - | 0. 1 4 | 0. 3 1 | 2 0 1 2 | [2 0 0] |
| ITO/MoO3/NPB/TCTAPO/TCT APO:FIrpic/TmPyPB/LiF/Al | TCTAPO | FIrpic | 7 | 5.8 | 3.1 | 1 7. 8 | 1 7 | 1 5. 6 | 4 0. 7 | 2 8. 4 | 1 8. 5 | 3 5. 6 | 3 3. 9 | 3 1 | 0. 1 4 | 0. 3 4 | 2 0 1 2 | [2 0 1] |
| ITO/NPB/SimCP:FIrpic/TPBI/Li F/Al | SimCP | FIrpic | 7 | 5.8 | 3.1 | 1 2. 3 | - | - | 9. 3 | - | - | - | - | - | 0. 1 5 | 0. 2 8 | 2 0 1 2 | [2 0 2] |
| ITO/NPB/DTASi/EML/Bphen/n -ETL/Al | New Host | FIrpic | 10 | 5.8 | 3.1 | 1 2 | - | 1 2 | 1 7 | - | 1 7 | 2 5. 3 | - | 2 5. 3 | 0. 1 6 | 0. 3 4 | 2 0 1 2 | [2 0 3] |
| ITO/NPB/mCP/Bim- 4:FIrpic/TPBI/LiF/Al | Bim-4 (5.8,2.4) | FIrpic | 10 | 5.8 | 3.1 | 1 4. 1 | - | - | 1 5 | - | 9. 7 | 2 2 | - | 2 0. 3 | 0. 1 7 | 0. 2 9 | 2 0 1 2 | [1 9 0] |

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|--|-----------------------|---------------------------|----|----------|-----|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|------------------|---------------|
| ITO/MoO ₃ /NPB/mCP/1,8-mBICz:FIrpic/TmPyPB/LiF/Al | 1,8-mBICz (5.58,2.31) | FIrpic | 6 | 5.8 | 3.1 | 1 1. 6 | - | - | 2 7 | - | - | 2 7. 6 | - | - | 0. 1 5 | 0. 3 1 | 2 0 1 2 | [2 0 4] |
| ITO/HATCN/NPB/TAPC/B2tCz:FIrpic/TmPyPB/LiF/Al | B2tCz (5.54,2.25) | FIrpic | 10 | 5.8 | 3.1 | 2 4. 6 | 2 3. 2 | - | 3 4 | 2 9. 5 | - | 4 3. 3 | 4 0. 8 | - | 0. 1 3 | 0. 3 2 | 2 0 1 2 | [2 0 0] |
| ITO/Plexcore OC/MoO ₃ :DPBIC/DPBIC/4:Si mCP/SimCP/P3PyPB/CsF/Al | CDBP | Ir(III) compound | 20 | 5.9 5 | 2.8 | 1 3. 5 | 1 2. 6 | 9. 9 | 2 3. 9 | - | - | 2 2. 2 | - | - | 0. 1 5 | 0. 2 4 | 2 0 1 3 | [2 0 5] |
| - | mCPPO1 | (TF) ₂ Ir(pic) | 10 | 5.9 | 2.9 | 1 7. 1 | 1 6. 8 | - | 1 9 | 1 5. 2 | - | 2 1. 7 | 2 1. 3 | - | 0. 1 4 | 0. 1 6 | 2 0 1 3 | [2 0 6] |
| ITO/TAPC/FK306:mCP/B3PyPB/LiF/Al | mCP | FK306 | 17 | - | - | 1 7 | 1 5. 3 | 1 2. 7 | 3 0. 2 | 2 4. 2 | 1 6. 1 | 2 9 | 2 6. 1 | 2 1. 5 | 0. 1 6 | 0. 2 5 | 2 0 1 3 | [2 0 7] |

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|--|---------|-----------------------|----|------|------|------|------|------|------|------|------|------|---|---|------|------|------|-------|
| ITO/MoO ₃ /mCP:MoO ₃ /mCP/DPEPO:Ir(fdpt) ₃ /DPEPO/TPBi/LiF/Al | DPEPO | Ir(fdpt) ₃ | 10 | 5.27 | 2.41 | 22.5 | 20.4 | 18.5 | 24.7 | - | - | - | - | - | 0.14 | 0.18 | 2013 | [208] |
| ITO/HATCN/NPD/TAPC/tON7:26 mCPy/DPPS/LiF/Al | 26 mCPy | PtON7 | 6 | - | - | 23.3 | 20.4 | 16.8 | - | 20.6 | 11.7 | - | - | - | 0.15 | 0.13 | 2013 | [209] |
| ITO/PEDOT:PSS/TAPC/3DCPO:FCNIrpic/TSPO1/LiF/Al | 3DCPO | FCNIrpic | 3 | 5.72 | 2.98 | 18.8 | - | 13.9 | 18.1 | 11.1 | - | 22.6 | - | - | 0.14 | 0.18 | 2013 | [210] |
| ITO/PEDOT:PSS/NPB/BIPIA/mCPPO1:FCNIrpic/TSPO1/LiF/Al | mCPPO1 | FCNIrpic | 3 | 5.72 | 2.98 | 19.3 | 19 | 17.4 | - | 14.7 | 9.8 | - | - | - | 0.14 | 0.17 | 2013 | [211] |
| ITO/PEDOT:PSS/TAPC/mCP/CbOTCb:FIrpic/TSPO1/LiF/Al | CbOTCb | FIrpic | - | 5.8 | 3.1 | 28.8 | 28.6 | 26.7 | 44 | - | - | 47.4 | - | - | 0.14 | 0.3 | 2013 | [212] |

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|---|---------|--------|---|-----|-----|------|---|------|------|------|------|------|------|------|------|------|------|-------|
| ITO/TAPC/Firpic:pBCb2Cz/TmPyPB/LiF/Al | pBCb2Cz | FIrpic | 6 | 5.8 | 3.1 | 23 | - | 22 | 34.6 | | 28.4 | 38.3 | - | 36.7 | 0.15 | 0.31 | 2013 | [213] |
| ITO/HAT-CN/TAPC/host:FIrpic/TmPyPB/Liq/Al | SSTF | FIrpic | - | 5.8 | 3.1 | 18.7 | - | - | 41.5 | 41.3 | 32.9 | 44 | 44 | 41.9 | 0.16 | 0.36 | 2013 | [214] |
| ITO/HAT-CN/TAPC/Host:FIrpic/TmPyPB/Liq/Al | - | FIrpic | 8 | 5.8 | 3.1 | 21 | - | 18 | 23 | - | | 43.9 | - | 37.7 | 0.15 | 0.35 | 2013 | [215] |
| - | - | - | - | - | - | 27.1 | - | 24.6 | 52.3 | | 28.2 | 48.2 | | 46.1 | 0.16 | 0.34 | 2013 | [216] |
| ITO/NPB/TCTA/EML/TAZ/LiF/Al | SiBSTPA | FIrpic | 8 | 5.8 | 3.1 | 10.2 | - | - | 15.6 | 8.3 | 5.2 | 21.4 | 15.6 | 12.8 | 0.16 | 0.31 | 2013 | [217] |

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|--|--------|--------------------|---|----------|----------|--------------|--------------|--------------|--------------|--------------|---------|--------------|--------------|--------------|--------------|-------------------|------------------|---------------|
| ITO/DNTPD/NPB/mCP/33DCT PFIrpic/TSP01/LiF/Al | 33DCTP | FIrpic | 3 | 5.8 | 3.1 | 2 3. 7 | - | - | - | - | - | - | - | - | 0. 1 4 | 0. 2 8 | 2 0 1 3 | [2 1 8] |
| ITO/MoO3/NPB/mCP/Host:FIrpic/TmPyPB/LiF/Al | mCPmPO | FIrpic | 6 | 5.8 | 3.1 | 2 0. 3 | - | - | 3 9. 7 | - | - | 4 0 | - | - | 0. 1 4 | 0. 3 2 | 2 0 1 3 | [2 1 9] |
| ITO/MoO3/TAPC/TCTA:dopants/Tm/LiF/Al | TCTA | 4-Cl-FIrpic | - | 5.7 6 | 2.1 9 | 1 6 | 1 5. 6 | 1 2. 5 | 4 1 | 3 4 | 2 0 | 3 9 | 3 8 | 3 0 | 0. 1 8 | 0. 4 | 2 0 1 3 | [2 2 0] |
| ITO/TAPC/mCP/mCP:2 or 4/UGH2:2 or 4/UGH2/TmPyPB/LiF/Al | mCP | [Ir(b5bpm)2(fppz)] | 6 | 5.8 | 2.0 9 | 1 7. 9 | 1 5. 8 | - | 3 5. 8 | 2 1. 6 | - | 3 8 | 3 3. 6 | - | 0. 1 9 | 0. 3 2 8 | 2 0 1 3 | [2 2 0] |
| - | MBPTRZ | FIrpic | 5 | 5.8 | 3.1 | 7 | - | 5. 5 | 6. 3 | - | 3. 7 | 1 6. 3 | - | 1 2. 9 | 0. 1 6 | 0. 1 8 | 2 0 1 3 | [2 2 1] |

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|---|------------------------|--------|----|-----|-----|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------------|------------------|---------------|
| ITO/TAPC/host:FIrpic/TmPyPB /LiF/Al | TATA (5.66,2.4) | FIrpic | 6 | 5.8 | 3.1 | 2 5. 8 | - | 2 5. 7 | 4 5. 4 | - | 4 1. 5 | 4 6. 2 | - | 4 6. 1 | 0. 1 6 | 0. 3 4 3 | 2 0 1 3 | [2 1 6] |
| ITO/HAT- CN/TAPC/POSTF:FIrpic/TmPy PB/Liq/Al | POSTF | FIrpic | 15 | 5.8 | 3.1 | 2 6. 8 | - | - | 5 0. 5 | - | - | 5 3. 9 | - | - | 0. 1 4 | 0. 3 3 | 2 0 1 4 | [2 2 2] |
| ITO/m- MTDATA/(Ir(ppz)3/23'ODSFX: FIrpic/BPhen/LiF/Al | 23' ODSFX | FIrpic | 10 | 5.8 | 3.1 | 1 1. 9 | 1 1. 5 | 7 | 1 9. 5 | 1 8. 5 | 8. 1 | 2 1. 7 | 2 1. 1 | 1 2. 9 | 0. 1 5 | 0. 2 8 | 2 0 1 4 | [2 2 3] |
| ITO/MoO3/TAPC/EML/TmPyP B/LiF/Al | NSF-NSF (5.31,1.81) | FIrpic | 10 | 5.8 | 3.1 | 1 9. 1 | 1 7. 7 | 1 6. 2 | 4 2 2 | 3 2 2 | 2 2 2 | 4 1 | 3 7. 8 | 3 4. 5 | 0. 1 5 | 0. 3 3 | 2 0 1 4 | [2 2 4] |
| ITO/HAT- CN/TAPC/Host:FIrpic/TmPyPB/ Liq/Al | mCP | FIrpic | 8 | 5.8 | 3.1 | 1 4. 6 | - | - | 2 4. 4 | - | 1 7. 4 | 3 6 | - | 3 4. 6 | 0. 1 6 | 0. 3 8 | 2 0 1 4 | [2 2 5] |

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|--|-----------------------|--------------------------------|----|-----|-----|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------------|-------------------|------------------|---------------|
| ITO/MoO ₃ /TAPC/POBPmDPA: FIr6/TmPyPB/LiF/Al | POBPmDPA | FIr6 | 10 | 6.1 | 3.1 | 1 8. 1 | - | - | 3 4 | - | - | 3 4 | - | - | 0. 1 5 | 0. 2 5 | 2 0 1 4 | [2 2 6] |
| ITO/MoO ₃ /TAPC/POPCPA:FIr 6/TP3PO/LiF/Al. | POPCPA (5.24,1.84) | FIr6 | 10 | 6.1 | 3.1 | 2 0. 8 | - | - | 3 7. 5 | - | - | 4 5. 3 | - | - | 0. 1 5 | 0. 2 6 | 2 0 1 4 | [2 2 7] |
| ITO/TAPC/mCP:Pt complex/DPEPO:Pt complex/ DPEPO/TmPyPB/LiF/Al | DPEPO | Pt(II) complex 5 | 8 | - | - | 1 5. 3 | 1 2. 8 | - | 3 8 | 2 1. 1 | - | 3 6. 3 | 3 0. 4 | - | 0. 1 9 | 0. 3 9 | 2 0 1 5 | [2 2 8] |
| ITO/TAPC/SiDMAC/(dfppy) ₂ I r(acac):host material/BPSPF/B3PyPB/Liq/Al | SiDMAC:BPSPF | [(dfppy) ₂ Ir(acac) | 16 | - | - | - | 1 7 | 1 5. 9 | - | 3 1. 8 | 2 4. 7 | - | 3 0. 8 | 2 8. 8 | 0. 1 5 | 0. 2 7 | 2 0 1 5 | [2 2 9] |
| ITO/PEDOT:PSS/CBP:C3FLA- 2/TPBi/LiF/Al | CBP | C3FLA-2 | 1 | - | - | 8 | - | - | - | - | - | - | - | - | 0. 1 5 6 | 0. 0 4 8 | 2 0 1 5 | [2 3 0] |

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|--|------------------------|---------------|----|-----|-----|-------------------|--------------|--------------|--------------|--------------|--------------|-------------------|--------------|--------------|--------------|--------------|------------------|---------------|
| ITO/HAT-CN/TAPC/PBCz-PO:FIrpic/TmPyPB/Liq/Al | PBCz-PO | FIrpic | 5 | 5.8 | 3.1 | 1 3. 4 | - | - | 3 1 | - | - | 3 1. 5 | - | - | 0. 1 6 | 0. 4 | 2 0 1 5 | [2 3 1] |
| ITO/NOB/mCP/CbzTAZ:FIrpic/Taz/LiF/Al | CbzTAZ | FIrpic | 9 | 5.8 | 3.1 | 2 1. 7 8 | - | - | 3 9. 8 | - | - | 4 6. 0 6 | - | - | 0. 1 4 | 0. 3 5 | 2 0 1 5 | [2 3 2] |
| - | CzBPDCb (6.23,2.73) | FIrpic | 3 | 5.8 | 3.1 | 2 5. 3 | - | 2 4. 4 | 3 6. 4 | - | 2 2. 5 | - | - | - | 0. 1 4 | 0. 2 8 | 2 0 1 5 | [2 3 3] |
| ITO/MoO3/SQTPA/mCP/SPPO 1:FIrpic/SPPO1/LiF/Al | SQTPA | FIrpic | 10 | 5.8 | 3.1 | 1 7. 5 | 1 4. 4 | 1 2. 3 | 3 2. 5 | 2 2. 6 | 1 4. 6 | 4 1. 5 | 3 4. 2 | 2 9. 4 | 0. 1 8 | 0. 4 | 2 0 1 5 | [2 3 4] |
| ITO/TAPC/mCP:Pt complex/DPEPO:Pt complex/ DPEPO/ TmPyPB/LiF/Al | mCP/DPEPO | Pt II complex | 5 | - | - | 1 5. 3 | 1 2. 8 | - | 3 8 | 2 1. 1 | - | 3 6. 3 | 3 0. 4 | - | 0. 1 9 | 0. 3 9 | 2 0 1 5 | [2 2 8] |

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|---|-------------------------------|--|----|----------|----------|--------------|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------------|-------------------|------------------|---------------|
| ITO/MoO ₃ /NPB/ <i>m</i> CP/BBDC, BBDP, BSBDC and BSBDFIrpic/TmPyPB/LiF/Al | BSBDP (5.89,2.55) | FIrpic | 7 | 5.8 | 3.1 | 1 8. 7 | - | - | 3 4. 4 | - | 3 0. 3 | 3 4. 2 | - | 3 0. 1 | 0. 1 5 | 0. 3 | 2 0 1 5 | [2 3 5] |
| ITO/HATCN/NPB/TCTA/EML/TPBI/LiF/Al | - | TPA-SO ₂ | - | - | - | 3. 9 1 | - | - | - | 5. 2 6 | 3. 6 8 | 5. 4 6 | 5. 3 5 | 4. 9 2 | 0. 1 5 4 | 0. 1 6 8 | 2 0 1 5 | [2 3 6] |
| ITO/NPB/blue materials (1–5)/Bphen/Liq/Al | | 9-(2-Naphthalenyl)-10-[6-(triphenylsilyl)-2-naphthalenyl]-anthracene | | 5.7 1 | 2.6 3 | 2. 6 4 | - | - | 2. 4 3 | - | - | 2. 7 1 | - | - | 0. 1 6 | 0. 1 | 2 0 1 5 | [2 3 7] |
| - | <i>o,o'</i> -NPh ₂ | - | - | - | - | 1 5. 3 | - | 1 2. 3 | 3 1. 4 | - | 1 8. 9 | 3 4. 5 | - | 2 7. 5 | 0. 1 7 | 0. 3 7 | 2 0 1 6 | [2 3 8] |
| - | mCBP | Ir(itpim) ₃ | 15 | 5.5 3 | - | - | - | 2 0. 1 | - | - | 2 5. 3 | - | - | 3 6. 3 | 0. 1 6 | 0. 2 8 | 2 0 1 6 | [2 3 9] |

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|---|------------|-----------|----|----------|----------|--------------|--------------|--------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------|--------------|------------------|---------------|
| ITO/MoO ₃ /TAPC/mCP/mCPCN :Ir(III) dopants/3TPYMB/LiF/Al | mCPCN | [Ir(pimf) | 12 | 5.4 8 | 2.7 2 | 3 1. 4 | 3 0. 8 | 2 8. 4 | 1 0 8. 7 | 9 4. 7 | 6 5. 6 | 1 1 0. 8 | 1 0 8. 5 | 1 0 0. 2 | 0. 3 4 | 0. 6 | 2 0 1 6 | [2 4 0] |
| ITO/MoO ₃ /NPB/mCP/CzDPOP B:FIrpic/TmPyPB/LiF/Al | CzDPOP | FIrpic | 6 | 5.8 | 3.1 | 1 6. 5 | - | - | 2 9. 1 | - | 1 4. 7 | 3 2. 2 | - | 2 3. 7 | 0. 1 5 | 0. 3 1 | 2 0 1 6 | [2 4 1] |
| ITO/MoO ₃ /TAPC/TcTa/(dfppy) 2Ir(dpp):26DCzPPy/TmPyPB/Li F/Al | 26DCzPPy | DPP-2 | 10 | 5.9 6 | 2.9 5 | 2 8. 3 | - | - | 5 2. 7 4 | 4 6. 3 4 | 3 3. 3 1 | 5 8. 7 8 | 5 4. 2 4 | 4 8. 7 9 | 0. 1 3 | 0. 3 7 | 2 0 1 6 | [2 4 2] |
| ITO/ReO ₃ :mCP/mCP/EML/BM -A10/Rb ₂ CO ₃ :BM-A10/Al | mCP:BM-A10 | FCNIr | 12 | - | - | 2 4 | 2 3 | 2 1 | 4 1 | 3 7 | 2 6 | - | - | | 0. 1 5 | 0. 2 1 | 2 0 1 7 | [2 4 3] |
| ITO/PEDOT:PSS/TAPC/host:Ir dopant/TmPyPB/LiF/Al | - | FIrpic | 6 | 5.8 | 3.1 | 2 7 | - | 2 3. 6 | 4 6. 5 | - | - | 5 1. 9 | - | 4 4 | 0. 1 4 | 0. 3 1 | 2 0 1 7 | [2 4 4] |

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|---|------------------------------|-----------------------------------|----|----------|----------|--------------|--------------|--------------|-------------------|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|------------------|---------------|
| ITO/MoO ₃ /TAPC/ <i>m</i> CP/ <i>m</i> CP:ETM:FIrpic/EBL/TmPyPB/LiF/Al | <i>m</i> CP: <i>i</i> TPBIPy | FIrpic | 8 | 5.8 | 3.1 | 1 9. 3 | - | - | 3 6. 9 | - | - | 3 8. 5 | - | - | 0. 1 5 | 0. 2 9 | 2 0 1 7 | [2 4 5] |
| ITO/MoO ₃ /TAPC/ <i>m</i> CP/ <i>m</i> CPCN:Ir complex/3TPYMB/LiF/Al | <i>m</i> CPCN | MS 19 | 8 | 5.7 6 | 3.0 8 | 3 1. 3 | 3 1. 1 | 2 9. 7 | 5 1. 4 | 5 1. 4 | 3 1. 2 | 5 6. 4 | 5 6. 4 | 5 3. 7 | 0. 1 5 | 0. 3 | 2 0 1 7 | [2 4 6] |
| ITO/HAT-CN/TAPC/ <i>f</i> -Ir-(dbfmi) ₃ :TSPO1/TSPO1/TmPyPB/Liq/Al | TSPO1 | <i>f</i> -Ir-(dbfmi) ₃ | 10 | - | - | 1 8. 5 | - | - | 1 9. 4 | - | - | 1 8. 6 | - | - | 0. 1 4 | 0. 1 1 | 2 0 1 7 | [2 4 7] |
| ITO/NPB/ <i>m</i> CP:iridium complex/BCP/Alq3/LiF/Al | <i>m</i> CP | Ir2 | - | 5.7 | 2.0 2 | 2. 7 | - | - | - | - | - | - | - | - | 0. 1 8 | 0. 3 | 2 0 1 7 | [2 4 8] |
| ITO/HATCN/TAPC/DP4CzDBP Si:FIrpic/TmPyPB/LiF/Al | DP4CzDBPSi (2.5,6) | FIrpic | 6 | 5.8 | 3.1 | 2 0. 9 | - | 7. 3 | 4 1. 5 8 | 2 2. 1 9 | - | - | - | - | 0. 1 4 | 0. 3 3 | 2 0 1 7 | [2 4 9] |

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|---|-----------------|----------|----|----------|----------|--------------|---|--------------|--------------|---|--------------|--------------|---|--------------|--------------|--------------|------------------|---------------|
| | CzDBTCN | Ir(dbi)3 | 5 | 5.2 9 | 2.5 2 | 2 6. 9 | - | 1 2. 6 | - | - | - | 2 8. 3 | - | 2 1. 1 | 0. 1 5 | 0. 2 4 | 2 0 1 8 | [2 5 0] |
| ITO/HAT-CN/TAPC/Host: FIrpic/TmPyPB/Liq/Al | PO1TPA | FIrpic | 15 | 5.8 | 3.1 | 1 3. 8 | - | 8. 6 | 2 7. 6 | - | 1 4. 7 | 3 1 | - | 2 0. 7 | 0. 1 6 | 0. 3 3 | 2 0 1 8 | [2 5 1] |
| ITO/PEDOT:PSS/TAPC/TCTA/ host:FIrpic/TmPyPB/LiF/Al | <i>m</i> -TzCCz | FIrpic | 6 | 5.8 | 3.1 | 1 1 | - | - | 2 8 | - | - | 2 2 | - | - | 0. 1 6 | 0. 3 3 | 2 0 1 8 | [2 5 2] |
| ITO/ReO3:mCP/mCP/Ir1:DPEP O/DPEPO/TSP01/LiF/Al | DPEPO | Ir2 | 20 | 5.5 7 | 1.3 9 | - | - | 2 0 | - | - | 2 7. 1 | - | - | 6 7 | 0. 2 8 | 0. 6 2 | 2 0 1 8 | [2 5 3] |
| ITO/TAPC/1/DPEPO:2/TPBi/Li F/Al | DPEPO | 2 | 10 | 5.2 3 | 0.1 7 | 1 3. 4 | - | - | - | - | - | - | - | - | 0. 1 5 | 0. 0 5 | 2 0 1 8 | [2 5 4] |

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|---|---------------------|------------------|----|------|------|------|------|------|-------|---|------|-------|---|-------|------|------|------|-------|
| ITO/MoO ₃ /mCP:MoO ₃ /mCP/DPEPO:Ir(fdpt)3/DPEPO/TPBi/LiF/Al | DPEPO | Ir(fdpt)3 | 10 | 5.27 | 2.41 | 22.5 | 16.5 | 11 | - | - | - | 23 | - | - | 0.15 | 0.11 | 2018 | [255] |
| ITO/MoO ₃ /TAPC/mCP/Ir(III) complex:PP021/TmPyPb/LiF/Al | PP021(2.68,6.21) | D3 | 8 | 5.86 | 2.88 | 27.9 | - | - | 44.9 | - | - | 58.6 | - | 50.6 | 0.16 | 0.13 | 2018 | [256] |
| ITO/PEDOT:PSS/TAPC/TCTA/host:FIrpic/TmPyPB/LiF/Al | PyTzSCz(5.54,2.63) | FIrpic | 4 | 5.8 | 3.1 | 26.4 | - | 20.4 | 48.1 | - | - | 45.9 | - | 35.6 | 0.14 | 0.12 | 2018 | [257] |
| ITO/HAT-CN/TAPC/TCTA/SPBI-TPA:blue phosphor/TmPyPB/LiF/Al | SPBI-TPA(5.40,5.29) | FIrpic | 10 | 5.8 | 3.1 | 25.5 | - | - | - | - | - | 55.1 | - | - | 0.17 | 0.13 | 2018 | [258] |
| ITO/HATCN/TAPC/mCP/Ir(dfppy)2phpzpy:PPO21/TmPyPB/LiF/Al | mCP | Ir(dfppy)2phpzpy | 10 | 5.44 | 2.8 | 29.3 | - | 24.4 | 49.85 | - | 28.4 | 58.74 | - | 48.84 | 0.18 | 0.13 | 2018 | [259] |

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|--|-------|------------------------|----|----------|----------|-------------------|--------------|---|-------------------|--------------|---|-------------------|--------------|---|-------------------|-------------------|------------------|---------------|
| ITO/HAT-CN/TAPC/TCTA/TCzSi:FIrpic/TmPyPB/Liq/Al | TCzSi | FIrpic | 20 | 5.3 5 | 1.8 | 1 3. 3 2 | - | - | 1 8. 1 5 | - | - | 2 5. 5 | - | - | 0. 1 5 9 | 0. 3 1 | 2 0 1 8 | [2 6 0] |
| ITO/HAT-CN/TAPC/TCTA/mCP:Ir(III) complex/TmPyPB/Liq/Al | mCP | <i>Ir(dfmppm)(taz)</i> | 15 | 6.0 6 | 3.4 2 | 1 4. 5 | - | - | 1 9. 5 | - | - | 2 8 | - | - | 0. 1 5 | 0. 3 | 2 0 1 8 | [2 6 1] |
| ITO/PEDOT:PSS/Emitter/TPBi/LiF/Al | - | | - | 5.7 2 | 1.8 6 | - | - | - | 0. 3 5 | - | - | 0. 1 3 3 | - | - | 0. 1 8 | 0. 2 1 | 2 0 1 9 | [2 6 2] |
| ITO/TAPC/mCP/dopant:DPEPO/DPEPO/TmPyPB/LiF/Al | DPEPO | Cz-5 | 10 | - | - | 1 8. 7 | 1 3. 7 | - | 3 0. 1 | 2 1. 8 | - | 2 5. 9 | 1 3. 5 | - | 0. 1 4 5 | 0. 2 1 8 | 2 0 1 9 | [2 6 3] |
| ITO/2-TNATA/NPB/EML/TPBi/Liq/Al | MADN | Pyrene-CN | 10 | - | - | - | - | - | 3. 6 2 | - | - | 5. 4 5 | - | - | 0. 1 4 2 | 0. 1 0 2 | 2 0 1 9 | [2 6 4] |

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|---|--------------------|-----------|----|----------|----------|-------------------|--------------|-------------------|-------------------|---|-------------------|-------------------|---|-------------------|-------------------|-------------------|------------------|---------------|
| ITO/HAT-CN/TAPC/TCTA/mCBP/mCBP:PO-T2T:Dopants/PO-T2T/Liq/Al | mCBP:PO-T2T | Flrpic | 10 | 5.8 | 3.1 | 2 5. 2 | - | 2 4. 3 | 5 9. 9 | - | 3 9 | 5 0. 3 | - | 4 8. 4 | 0. 1 4 7 | 0. 3 2 8 | 2 0 1 9 | [2 6 5] |
| ITO/HATCN/BPBP/TAAPC/26mCPy:dopant/DPEPO/TmPyPB/LiF/Al | 26mCPy | Pt(2-ptz) | 8 | 5.2 7 | 2.3 4 | 1 4. 7 | 1 4. 6 | 1 2. 3 | 2 4. 2 | - | - | 3 0. 8 | - | - | 0. 1 7 | 0. 3 1 | 2 0 1 9 | [2 6 6] |
| ITO/HAT-CN/TAPC/TCTA/TCZSO ₂ :Flrpic/TmPyPB/Liq/Al | TCZSO ₂ | Flrpic | 15 | | | 2 2. 8 | - | 2 1. 6 | 4 0. 3 | - | 3 4 | 4 7. 8 | - | 4 7. 7 | 0. 1 5 | 0. 3 5 | 2 0 1 9 | [2 6 7] |
| ITO/PEDOT:PSS/TAPC/mCP/excplex host: blue phoshporsecent dopant/TSPO1/TBPe/LiF/Al | DPEPO:CDBP:PO-T2T | FCNIr | | | | 2 5. 5 1 | - | 2 3. 6 2 | 4 4. 1 3 | - | 2 8. 3 3 | 5 0. 6 5 | - | 4 6. 1 3 | 0. 1 6 | 0. 3 | 2 0 1 9 | [2 6 8] |
| ITO/HATCN/NPD/TAPC/PtNON or TBPe:26mCPy/DPPS/BmPyPB/LiF/Al | mCBP | PtNON | 6 | - | - | 1 2. 6 | - | 1 1. 6 | - | - | - | - | - | - | 0. 1 7 | 0. 3 8 | 2 0 1 9 | [2 6 9] |

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|--|------|-------|---|---|---|--------------|---|--------------|---|---|---|---|---|---|--------------|--------------|------------------|
| ITO/HATCN/NPD/TAPC/PtNO N or TBPe:26 mCPy/DPPS/BmPyPB/LiF/Al | mCBP | PtNON | - | - | - | 1 7. 8 | - | 1 6. 8 | - | - | | - | - | - | 0. 1 9 | 0. 4 1 | 2 0 1 9 |
| ITO/HATCN/NPD/TAPC/PtNO N or TBPe:26 mCPy/DPPS/BmPyPB/LiF/Al | mCBP | PtNON | - | - | - | 1 7. 4 | - | 1 7. 4 | - | - | | - | - | - | 0. 1 9 | 0. 4 1 | 2 0 1 9 |
| ITO/HATCN/NPD/TAPC/PtNO N or TBPe:26 mCPy/DPPS/BmPyPB/LiF/Al | mCBP | PtNON | - | - | - | 1 7. 6 | - | 1 6. 2 | - | - | | - | - | - | 0. 1 6 | 0. 2 8 | 2 0 1 9 |
| ITO/HATCN/NPD/TAPC/PtNO N or TBPe:26 mCPy/DPPS/BmPyPB/LiF/Al | mCBP | PtNON | - | - | - | 1 6. 9 | - | 1 5. 2 | - | - | | - | - | - | 0. 1 6 | 0. 2 5 | 2 0 1 9 |
| ITO/HATCN/NPD/TAPC/PtNO N or TBPe:26 mCPy/DPPS/BmPyPB/LiF/Al | mCBP | PtNON | - | - | - | 1 8 | - | 1 7. 1 | - | - | - | - | - | - | 0. 1 6 | 0. 2 9 | 2 0 1 9 |

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|--|-----------|------------|----|----------|----------|--------------|---|---------|--------------|---|---------|--------------|---|--------------|-------------------|-------------------|------------------|---------------|
| ITO/PEDOT:PSS/CzSi:Pt complex/DPEPO/ <i>m</i> - TmPyPB/LiF/Al | CzSi | Pt complex | 30 | - | - | 9. 8 | - | 4. 5 | 1 0. 5 | - | 2. 3 | 1 6. 7 | - | 7. 3 | 0. 1 8 | 0. 2 3 | 2 0 1 9 | [2 7 0] |
| ITO/BPBPA:HATCN/BABPA/P CZAC/emitting layer/DBFTRZ/ZADN/LiF/Al | O-39BCzCN | CN-Ir | 5 | 6.0 2 | 2.8 3 | 5. 5 | - | 5. 4 | - | - | - | 6. 3 | - | 4. 7 | 0. 1 5 | 0. 2 3 | 2 0 1 9 | [2 7 1] |
| ITO/BPBPA:HATCN/BABPA/P CZAC/emitting layer/DBFTRZ/ZADN/LiF/Al | M-39BCzCN | CN-Ir | 5 | 6.0 2 | 2.8 2 | 5. 9 | - | 5. 2 | - | - | - | 9. 1 | - | 5. 1 | 0. 1 5 | 0. 2 3 | 2 0 1 9 | |
| ITO/BPBPA:HATCN/BABPA/P CZAC/emitting layer/DBFTRZ/ZADN/LiF/Al | P-39BCzCN | CN-Ir | 5 | 6.0 1 | 2.8 2 | 9. 7 | - | 9. 4 | - | - | - | 1 4. 5 | - | 1 1. 1 | 0. 1 5 | 0. 2 4 | 2 0 1 9 | |
| - | - | - | - | - | - | 2. 4 7 | - | - | 2. 3 5 | - | - | 1. 4 2 | - | - | 0. 1 5 3 | 0. 1 2 1 | 2 0 1 9 | [2 7 2] |

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|--|----------|--|----------------|------|------|------|---|------|------|---|------|------|---|---|------|------|------|-------|
| ITO/MoO ₃ /TAPC/TcTa/Firpic:p2PCB2CZ/TmPyPB/LiF/Mg:Ag | p2PCB2CZ | Firpic | 10 | 5.8 | 3.1 | 19.2 | - | - | 35.2 | - | - | 36.9 | - | - | 0.15 | 0.29 | 2019 | [273] |
| ITO/BPBPA:HATCN/BPBPA/P CZAC/EML/DBFTrz/ZADN/Li F/Al | mCBP | CNIrIr | 5 | 5.79 | 2.79 | 12.1 | - | 5.7 | 20.2 | - | 9.6 | - | - | - | 0.15 | 0.24 | 2019 | [274] |
| ITO/BPBPA:HATCN/BPBPA/P CZAC/EML/DBFTrz/ZADN/Li F/Al | mCBP | iPrIrIr | 5 | 5.03 | 2.36 | 17.1 | - | 12.6 | 28.3 | - | 21.1 | - | - | - | 0.15 | 0.24 | 2019 | |
| ITO/BPBPA:HATCN/BPBPA/P CZAC/EML/DBFTrz/ZADN/Li F/Al | mCBP | DBFTrz:CNIrIr | 50 wt %:5 wt % | 5.79 | 2.79 | 14.7 | - | 12.3 | 27.1 | - | 23.3 | - | - | - | 0.15 | 0.28 | 2019 | |
| ITO/BPBPA:HATCN/BPBPA/P CZAC/EML/DBFTrz/ZADN/Li F/Al | mCBP | mCBP:CNIrIr(15 nm:5 wt%)/mCBP:iPrIrIr(15 nm:5 wt%) | | - | - | 16.1 | - | 13.8 | 26.6 | - | 23.3 | - | - | - | 0.15 | 0.24 | 2019 | |

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|--|-------|-----------------|----|----------|----------|--------------|--------------|--------------|--------------|---------|---------|--------------|--------------|--------------|--------------|--------------|------------------|---------------|
| ITO/PEDOT:PSS/CzSi:Pt(ppzOczpy-4m)/DPEPO/TmPyPB/Liq/Al | CzSi | Pt(ppzOczpy-4m) | 30 | 5.3 | 2.1 | 1 9. 5 | - | 9 | 1 6. 7 | - | 4. 1 | 2 6. 6 | - | 1 2. 1 | 0. 1 5 | 0. 1 6 | 2 0 1 9 | [2 7 5] |
| ITO/HAT-CN/TAPC/TCTA/SAIP:FIrpic/B4PyMPM/Liq/Al | SAIP | FIrpic | 10 | 5.8 | 3.1 | 1 9. 2 | - | - | 3 6. 9 | - | - | 3 5. 2 | - | - | 0. 1 5 | 0. 2 9 | 2 0 1 9 | [2 7 6] |
| ITO/PEDOT:PSS/NPB/TSP01:mer-Ir1/TSP01/TPBi/LiF/Al | TSP01 | mer-Ir1 | 40 | 5.2 2 | 2.0 8 | 2 4. 8 | 1 6. 6 | 1 3. 1 | 1 6. 9 | 9. 1 | 5. 5 | 2 0. 9 | 1 4. 1 | 1 1. 2 | 0. 1 4 | 0. 0 8 | 2 0 2 0 | [2 7 7] |
| ITO/TAPC/TCTA/mCP/EML/3TPYMB/LiF/Al | DPEPO | Flu-4 | - | - | - | 2 2. 3 | 1 4. 9 | 1 0 | - | - | - | 2 4. 6 | 2 2. 8 | 1 6 | 0. 1 7 | 0. 1 9 | 2 0 2 0 | [2 7 8] |
| ITO/TAPC/TCTA/DPEPO:dopant/DPEPO/TPBi/LiF/Al | DPEPO | - | 15 | - | - | 1 4. 1 | 1 0. 2 | - | - | - | - | - | - | - | 0. 1 6 | 0. 1 3 | 2 0 2 0 | [2 7 9] |

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|--|-------|------------|----|-----|-----|-------------------|-------------------|--------------|-------------------|---|--------------|-------------------|-------------------|--------------|--------------|--------------|------------------|---------------|
| - | - | CN-TPB-TPA | - | - | - | 7. 2 7 | - | 6. 2 6 | 5. 3 5 | - | 2. 9 2 | 5. 5 9 | - | 5. 0 3 | 0. 1 5 | 0. 0 8 | 2 0 2 0 | [2 8 0] |
| ITO/BPBPA:HAT- CN/BPBPA/PCZAC or mCBP/EML/DBFTrz/ZADN:Li Q/LiQ/Al | - | - | - | - | - | 2 7. 6 | - | - | - | - | - | - | - | - | 0. 1 2 | 0. 1 3 | 2 0 2 0 | [2 8 1] |
| ITO/HATCN/TAPC/TCTA/Host :Dopant/TmPyPb/LiF/Al | 4CzMC | Flrpic | - | 5.8 | 3.1 | 1 8. 9 | - | - | 3 8. 8 | - | - | 3 7. 1 | - | - | 0. 1 6 | 0. 3 1 | 2 0 2 0 | [2 8 2] |
| ITO/PEDOT:PSS/TAPC/mCP/Ir 3:PPF/TmPyPB/LiF/Al | PPF | Ir3 | 7 | 5.8 | 2.8 | 2 1. 2 3 | 1 8. 7 3 | - | 2 8. 6 8 | - | - | 3 6. 5 3 | 3 2. 2 3 | | 0. 1 5 | 0. 2 6 | 2 0 2 0 | [2 8 3] |
| ITO/MoO3/mCP:MoO3/mCP/D PEPO:complexes/DPEPO/TPBi/ LiF/Al | DPEPO | Ir3 | 13 | 5.8 | 3 | 1 3 | - | - | 8. 8 | - | - | 1 6. 9 | - | - | 0. 1 5 | 0. 3 1 | 2 0 2 0 | [2 8 4] |

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|---|--|--------|----|----------|-----|--------------|---------|--------------|--------------|---------|--------------|--------------|---|--------------|-------------------|-------------------|------------------|---------------|
| ITO/HATCN/TAPC/mCP/Ir-1:mCPPO1/TmPyPB/LiF/Al | mCPPO1 | Ir-1 | 8 | 5.4 4 | 2.8 | 2 0. 6 | - | 1 3. 6 | 3 9. 3 | - | 1 8. 4 | 4 7. 6 | - | 3 1. 7 | 0. 1 8 7 | 0. 3 8 5 | 2 0 2 0 | [2 8 5] |
| ITO/HAT-CN/TAPC/TCTA/MADN:DSA-ph/TPBi/LiF/Al | MADN | DSA-ph | 3 | - | - | 1 1. 6 | - | 8. 4 | 1 3 | - | 1 0. 3 | 2 0. 7 | - | 1 5. 2 | 0. 1 4 | 0. 2 8 | 2 0 2 0 | [2 8 6] |
| - | SPA-2,7-F(POPh ₂) ₂ | Flrpic | 10 | 5.8 | 3.1 | 1 8 | - | - | 3 8. 4 | - | - | 3 9 | - | - | 0. 1 5 | 0. 3 7 | 2 0 2 0 | [2 8 7] |
| ITO/PEDOT:PSS/TAPC/mCP/mCP:phosphor/TSPO1/TPBi/LiF/Al | mCP | - | - | - | - | 4. 4 | 4. 4 | 1. 3 | - | 4. 3 | 0. 8 | - | - | - | 0. 2 | 0. 3 2 | 2 0 2 0 | [2 8 8] |
| - | MADN | DSA-ph | - | 5.4 | 2.7 | 6. 1 | - | 5. 5 | 4. 7 | - | 1. 4 | 4. 2 | - | 3. 2 | 0. 1 5 | 0. 0 6 | 2 0 2 0 | [2 8 9] |

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|--|-------------|--------|-----------------------|-----|-----|--------------|--------|--------------|--------------|--------------|--------------|--------------|--------|--------------|-------------------|-------------------|------------------|---------------|
| BPBPA:HATCN/BPBPA/mCBP /mCBP:host:CN- IM/DBFTTrz/ZADN/LiF/Al | mCP:3CNCzBN | CNIm | 15 | - | - | 2 5. 6 | - | 2 3. 6 | 4 8. 2 | - | 2 2. 8 | 5 2. 1 | - | 4 8. 1 | 0. 1 6 | 0. 3 2 | 2 0 2 0 | [2 9 0] |
| ITO/MoO3/CzSi:MoO3/CzSi/B CPO:Ce-1/TSPO1/TPBi/LiF/Al | BCPO | Ce-1 | 10 | 6.2 | 3.1 | 1 4 | - | - | - | - | - | 1 0. 3 | - | - | 0. 1 4 6 | 0. 0 7 8 | 2 0 2 0 | [2 9 1] |
| ITO/HAT- CN/TAPC/TCTA/Host: FIrpic/TmPyPB/Liq/Al | BPCN-2Cz | FIrpic | 5 | 5.8 | 3.1 | - | 2 4 | 2 1. 5 | - | 4 6. 8 | 3 4. 5 | - | 5 0 | 4 4. 8 | 0. 1 5 | 0. 3 5 | 2 0 2 0 | [2 9 2] |
| ITO/MoO3/CzSi:MoO3/CzSi/TS PO1:CzSi:Ce- 1/TSPO1/Bphen/LiF/Al | TSPO1:CzSi | Ce-1 | 0.18:0 .72:0. 1 | 6.2 | 3.1 | 1 2. 4 | - | - | - | - | - | 8. 7 | - | - | 0. 1 4 6 | 0. 0 7 8 | 2 0 2 0 | [2 9 1] |
| ITO/MoO3/TAPC/mCP:Ce- 2/TmPyPB/LiF/Al | mCP | Ce-1 | 10 | 6.2 | 3.1 | 2 0. 8 | - | - | 3 0. 8 | - | - | 4 5. 6 | - | - | 0. 1 7 | 0. 3 3 | 2 0 2 0 | [2 9 3] |

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|--|-------|-----|----|----------|----------|--------------|---|--------------|--------------|---|---------|--------------|---|--------------|--------------|--------------|------------------|---------------|
| ITO/ReO3:mCBP/mCBP/DPEP O:Cz6/3TPYMB/Liq/Al | DPEPO | Cz6 | 15 | 5.4 2 | 2.4 7 | 1 6. 3 | - | 1 1. 7 | 1 7. 6 | - | 7. 9 | 2 9. 2 | - | 2 0. 8 | 0. 1 6 | 0. 2 6 | 2 0 2 0 | [2 9 4] |
|--|-------|-----|----|----------|----------|--------------|---|--------------|--------------|---|---------|--------------|---|--------------|--------------|--------------|------------------|---------------|

Table S4. A comprehensive list of wet-processed blue phosphorescence OLED devices, including the publication year, device composition, key dopant, doping concentration, employed host, HOMO, LUMO, EQE, PE, CE, CIE (X), CIE (Y), and reference. The years span from 2001 to 2020

| Device Structure | Host | Emitter | | | | EQE (%) | | | PE (lm/W) | | | CE (cd/A) | | | CIE | | Year | Ref. |
|---|----------|------------------|-------------|------|------|---------|----------------------|------|-----------|----------------------|------|-----------|----------------------|------|------|------|------|-------|
| | | Name | Conc. (wt%) | HOMO | LUMO | Max | 100 | 1000 | Max | 100 | 1000 | Max | 100 | 1000 | (X) | (Y) | | |
| | | | | | | | (cdm ⁻²) | | | (cdm ⁻²) | | | (cdm ⁻²) | | | | | |
| ITO/PEDOT/PVK/PSiFC6C6+Ir(PPF)2(PZ)/Ba/Al | PSiFC6C6 | Ir(PPF)2(PZ)(4%) | 4 | - | - | 5.9 | - | - | - | - | - | 9.5 | - | - | 0.19 | 0.39 | 2006 | [295] |
| - | - | fac-Ir(dpbic)3 | | - | - | - | - | - | - | - | - | - | - | - | 0.16 | 0.05 | 2006 | [296] |

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|---|----------------------------------|-------------------|----|------|------|-----|---|-----|------|------|------|------|------|------|------|------|------|-------|
| ITO/ α NPD/TCTA/CzSi/1:UGH2/TAZ/LiF/Al | UGH2 | Ir(dfb-pz)2(fptz) | 10 | 5.89 | 2.12 | 2.3 | - | - | 2.9 | - | - | 1.5 | - | - | 0.19 | 0.21 | 2008 | [297] |
| ITO/PEDOT:PSS/CBP:FIrpic/TPBi/LiF/Al | CBP | FIrpic | | 5.8 | 3.1 | - | - | - | 28.4 | 25.9 | - | - | 25.9 | - | 0.18 | 0.34 | 2008 | [298] |
| ITO/NPB/TAPC/p-type host/mixed host:FIr6/SiTAZ/LiF/Al | Opt-MCBP | FIr6 | 10 | 6.1 | 3.1 | 19 | - | - | 23.5 | 19.3 | 11.1 | 31.5 | 30.6 | 25.9 | 0.15 | 0.23 | 2011 | [299] |
| ITO/PEDOT:PSS/EML/vacuum-deposited TPyQB/Al | PVK+OXD-7 | FIrpic | - | 5.8 | 3.1 | 16 | - | - | 10.9 | - | - | 30.5 | - | - | 0.14 | 0.28 | 2011 | [300] |
| ITO/PEDOT:PSS/p-TAZSiTPA:FIr6/Tm3PyPB/TPBi/LiF/Al | p-TAZSiTPA | FIr6 | 10 | 6.1 | 3.1 | 6.3 | - | 8.8 | 6.2 | - | - | 12.5 | - | 11.4 | 0.16 | 0.27 | 2011 | [301] |
| ITO/PEDOT:PSS/EML/CsF/Al | [PVK (35%) + SimCP2 (35%), OXD-7 | FIrpic | 5 | 5.8 | 3.1 | 6.2 | - | - | 15.8 | - | - | 11 | - | - | 0.14 | 0.32 | 2012 | [302] |

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|--|-----------------|----------|----|------|----------|----------|---|----------|----------|---|----------|----------|--------------|----------|---------------|---------------|----------|---------------|
| ITO/PEDOT:PSS/polymeric EML/TPBi/Bphen/LiF/Al | mCP | Flrpic | 7 | 5.8 | 3.1 | 6. 2 | - | - | 8. 3 | - | - | - | - | - | 0. 17 4 | 0. 38 9 | 20 12 | [3 03] |
| ITO/PEDOT:PSS/hosts:Flrpic/Tm3PyP B/TPBi/LiF/Al | mOXDDSiPA | Flrpic | 15 | 5.8 | 3.1 | 10 .7 | - | - | 10 .2 | - | - | 23 .4 | 2 3. 3 | 17 .7 | 0. 15 | 0. 35 | 20 12 | [3 04] |
| ITO/PEDOT:PSS/hosts:Flrpic/Tm3PyP B/TPBi/LiF/Al | mOXDDSiCz | Flrpic | 15 | 5.8 | 3.1 | 4. 5 | - | - | 4. 3 | - | - | 9. 7 | 9. 1 | 7. 5 | 0. 15 | 0. 35 | 20 12 | |
| ITO/EIL/SPPO13:TCTA:Flrpic/TCTA/ MoO3/Al | SPPO13:TCT A | Flrpic | - | 5.8 | 3.1 | 15 .2 | - | 13 .7 | 20 .5 | - | 13 .4 | 34 .3 | - | 30 .8 | 0. 16 | 0. 3 | 20 12 | |
| ITO/ PEDOT:PSS/Host:Flrpic/Cs2CO3/Al | BDPPC | Flrpic | 10 | 5.8 | 3.1 | 3. 6 | - | - | 5. 2 | - | - | 7. 1 | - | - | 0. 15 | 0. 32 | 20 12 | [3 05] |
| f ITO/PEDOT:PSS/Hosts:OXD- 7:Flrpic/Cs2CO3/Al | Cz-mCP | Flrpic | 10 | 5.8 | 3.1 | 11 .5 | - | - | - | - | - | 22 .7 | - | - | 0. 15 | 0. 33 | 20 12 | [3 06] |
| ITO/PEDOT:PSS/PVK/Host:FCNIrpic/T SPO1/LiF/Al | CMPC | FCNIrpic | 15 | 5.72 | 2.9 8 | 12 .1 | - | - | - | - | - | - | - | - | 0. 14 | 0. 19 | 20 12 | [3 07] |

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|--|----------------|--------------------------------|----|--------------------------------|------|------|---|------|------|----|------|-------|------|------|------|------|------|-------|
| ITO/PEDOT:PSS/Host:FCNIrpic/TPBi/Cs ₂ CO ₃ /Al | TDPA | FCNIrpic | 10 | 5.72 | 2.98 | 5.7 | - | - | - | - | - | 9.7 | - | - | 0.18 | 0.24 | 2012 | [308] |
| ITO/PEDOT:PSS/PVK/CPBDC:FCNIrpic/TSP01/LiF/Al | CPBDC | FCNIrpic | 10 | 5.72 | 2.98 | 13.8 | - | - | - | - | - | - | - | - | 0.14 | 0.22 | 2012 | [309] |
| ITO/PEDOT:PSS/TCTA:OXD-7:FIrpic/TmPyPB/LiF/Al | TCTA:OXD-7 | FIrpic | 15 | 5.8 | 3.1 | - | - | - | 16.4 | 16 | 12.9 | 23.5 | 23.2 | 22.6 | 0.16 | 0.3 | 2012 | [310] |
| ITO/PEDOT:PSS/DMBC:26DCzPPy:FIrpic/TmPyPB/LiF/Al | DMBC:26DCzPPy | FIrpic | 10 | 5.8 | 3.1 | - | - | 12.5 | 10.5 | 10 | 9.5 | 20.7 | - | 20 | 0.17 | 0.28 | 2012 | [311] |
| ITO/PEDOT:PSS/hosts:FIrpic/Tm3PyPB/TPBi/LiF/Al | DBISiPA | FIrpic | 15 | 5.8 | 3.1 | - | - | - | 4.7 | - | - | 16.2 | - | - | 0.16 | 0.32 | 2013 | [312] |
| ITO/PEDOT:PSS/Host:FIrpic/TmPyPB/LiF/Al | 36FCzG2 | FIrpic | 20 | 5.8 | 3.1 | 9.3 | - | - | 8.1 | - | - | 18.5 | - | - | 0.15 | 0.31 | 2013 | [313] |
| ITO/PEDOT:PSS/Host-Ir/TmPyPB/LiF/Al | PVK:OXD-7:UGH3 | (dfppyCF ₃)Ir(pic) | 12 | (dfppyCF ₃)Ir(pic) | 3.1 | 7.53 | - | - | 5.88 | - | - | 16.86 | - | - | 0.17 | 0.4 | 2013 | [314] |

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|---|---|---------------|----|-----|-----|------|---|---|-------|-----|-----|------|-----|------|-------|-------|-------|-------|
| ITO/PEDOT:PSS 1.1/PVK:Ir complex/TPBi/LiF/Al | PVK | | | - | - | 10.4 | - | - | 12.6 | - | - | 23.7 | - | - | 0.18 | 0.4 | 20.13 | [315] |
| ITO/PEDOT:PSS/first EML/second EML/Au+ITO/LiF/first EML/second EML/LiF/Al | - | SPPO13:FIrpic | | - | - | - | - | - | - | - | 11 | - | - | 25 | 0.16 | 0.38 | 20.13 | [316] |
| ITO/PEDOT:PSS/NPB/mCP:FIrpic/BCP/LiF/Al | mCP | FIrpic | 10 | 5.8 | 3.1 | - | - | - | 10.18 | - | - | 2.95 | - | - | 0.167 | 0.325 | 20.14 | [317] |
| ITO/PEDOT:PSS/PVK/TPCz:FIrpic/SPPO13/LiF/Al | TPCz | FIrpic | 10 | 5.8 | 3.1 | - | - | - | 22.3 | - | - | 15.6 | - | - | 0.15 | 0.32 | 20.14 | [318] |
| ITO/PEDOT:PSS/host:co-host:FIrpic/CsF/Al | CzPPO:OXD-7 | FIrpic | - | 5.8 | 3.1 | - | - | - | 5.4 | 4.9 | 4.3 | 12.2 | 9.5 | 11.5 | 0.16 | 0.39 | 20.14 | [319] |
| ITO/Pedot:PSS/DY/H2:FIrpic/TPBi/LiF/Al | 8,8'-spirobi[indole][3,2,1-de]acridine] | FIrpic | 8 | 5.8 | 3.1 | - | - | - | 8.8 | - | - | 12.2 | - | - | 0.17 | 0.27 | 20.15 | [320] |

| | | | | | | | | | | | | | | | | | | |
|--|--------------|-------------------------|----|------|------|------|---|---|------|---|------|------|------|------|-------|-------|------|-------|
| ITO/PEDOT:PSS/PVKDPF:OXD-7:FIrpic/TPBi/Ca:Ag | PVKDPF:OXD-7 | FIrpic | 1 | 5.8 | 3.1 | - | - | - | 17.3 | - | 17.2 | 9 | - | 8.2 | 0.184 | 0.381 | 2015 | [321] |
| ITO/PEDOT:PSS/host:FIrpic/TPBi/LiF/Al | PEPEK | FIrpic | 12 | 5.8 | 3.1 | 2.03 | - | - | 4.14 | - | - | 11.3 | - | - | 0.197 | 0.358 | 2015 | [322] |
| ITO/PEDOT:PSS/host:FIrpic/TPBi/Cs2CO3/Al | CP-QPBI | FIrpic | 12 | 5.8 | 3.1 | - | - | - | 8.2 | 7 | - | 17.8 | 15.5 | - | 0.16 | 0.33 | 2015 | [323] |
| ITO/PEDOT:PSS/exciplexes:FIrpic/TPBi/Ca/Ag | TCTA:POPH | FIrpic | 10 | 5.8 | 3.1 | - | - | - | 22.5 | - | - | 25.8 | - | 24.5 | 0.15 | 0.32 | 2015 | [324] |
| ITO/PEDOT:PSS/host:FIrpic/Tm3PyPB/TPBi/LiF or CsF/Al | PCzSiPh | FIrpic | 10 | 5.8 | 3.1 | 14.3 | - | - | 10.4 | - | - | 29.3 | - | - | 0.15 | 0.33 | 2015 | [325] |
| ITO/PEDOT:PSS/TCTA/Hosts:FIrpic/TmPyPB/Cs2CO3/Al | 9PhCz-BPO | FIrpic | 10 | 5.8 | 3.1 | 12.7 | - | - | 10.6 | - | - | 27.8 | - | - | 0.16 | 0.34 | 2015 | [326] |
| ITO/PEDOT:PSS/PVK: OXD-7:emitter/TPBi/Liq/Al | PVK: OXD-7 | Ir(dfpmPy)2(pzpy)](PF6) | 10 | 6.01 | 2.69 | 0.77 | - | - | 0.33 | - | - | 1.56 | - | - | 0.19 | 0.33 | 2016 | [327] |

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|---|-----------|----------|----|------|----------|---------------|---|---------------|---------------|---|---------------|----------|---|----------|----------|----------|----------|---------------|
| ITO/PEDOT:PSS/TAPC/mCP/CzDPEPI :Ir(dbi)3/TSPO1/TPBi/LiF/Al | CzDPEPI | Ir(dbi)3 | 10 | 6.13 | 2.8 8 | 24 .4 6 | - | 12 .5 8 | 39 .4 7 | - | 12 .7 1 | - | - | - | 0. 19 | 0. 37 | 20 16 | [3 28] |
| ITO/PEDOT:PSS/Exciplex:FIrpic/TmPy PB/Cs2CO3/Al | TCTA:TPOB | FIrpic | 10 | | 3.1 | 13 .8 | - | 13 .7 | 22 | - | - | 28 .2 | - | 28 .1 | 0. 15 | 0. 33 | 20 16 | [3 29] |
| ITO/PEDOT:PSS/TAPC/mCBP- CN:Ir(dbi)3/TSPO1/TPBi/LiF/Al | mCBP-CN | Ir(dbi)3 | 10 | 6.13 | 2.8 8 | 24 .2 | - | 23 .5 | 57 .1 | - | 37 .4 | - | - | - | 0. 19 | 0. 41 | 20 16 | [3 30] |
| ITO/PEDOT:PSS/EML-2/CsF/Al | - | Ir-3b | - | | - | 8. 55 | - | - | 6. 15 | - | - | 17 .6 | - | - | 0. 17 | 0. 33 | 20 16 | [3 31] |
| ITO/PEDOT:PSS/PVK:OXD-7/Ir complex/TPBi/LiF/Al | PVK | FIrpic | 15 | 5.49 | 1.8 7 | 5. 4 | - | - | 5. 1 | - | - | 12 .2 | - | - | 0. 19 | 0. 38 | 20 16 | [3 32] |
| ITO/PEDOT:PSS/Exciplex:FIrpic/TmPy PB/Cs2CO3/Al | TCTA:TPOB | FIrpic | 10 | 5.8 | 3.1 | 13 .8 | - | 13 .7 | 13 .8 | - | - | 28 .2 | - | 28 .1 | 0. 15 | 0. 33 | 20 16 | [3 29] |
| ITO/PEDOT:PSS/TAPC/TCTA/host:FIr pic/TmPyPB/LiF/Al | m-CzPyPz | FIrpic | 5 | 5.8 | 3.1 | 24 .5 | - | 20 .5 | 30 .9 | - | - | 49 .1 | - | 41 .2 | 0. 15 | 0. 35 | 20 16 | [3 33] |

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|---|---------|--|----|------|----------|---------------|---------------|---------------|---------------|--------------|----------|---------------|--------------|----------|----------|----------|----------|---------------|
| ITO/TAPC/mCP/EML/TPBi/LiF/Al | t-BuCPO | Ir2 | 10 | 6.19 | 1.9 9 | 13 | 12 .6 | 10 .1 | 11 .2 | 8. 8 | 5 | - | - | - | 0. 14 | 0. 11 | 20 16 | [3 34] |
| ITO/NPB/mCP/host:dopant/TmPyPB/LiF/Al | BP2 | FIrpic | 10 | 5.8 | 3.1 | 5. 3 | 4. 9 | - | - | - | - | - | - | - | 0. 17 | 0. 32 | 20 16 | [3 35] |
| ITO/PEDOT:PSS/TAPC/mCP/DCPPy:FIrpic/TmPyPB/LiF/Al | CPDPy | FIrpic | 10 | 5.8 | 3.1 | 21 .6 | - | 21 .6 | 24 .4 | - | 19 .4 | 43 .3 | - | 43 .2 | 0. 16 | 0. 31 | 20 17 | [3 36] |
| ITO/PEDOT/TAPC/mCP/mCP:1/TSPO1/TPBi/LiF/Al | mCP | fac-tris(2,3-dimethylimidazo[1,2-f]phenanthridinato-k2 C, N)iridium(III) | 3 | | - | 20 .4 1 | 18 .3 5 | 13 .1 1 | 32 .2 3 | - | - | - | - | - | 0. 18 | 0. 34 | 20 18 | [3 37] |
| ITO/PEDOT:PSS/iridium (III) complex:mCP/TmPyPB/Liq/Al | mCP | (DNaTPA)2DBF(FIrpic)2 | 2 | 5.58 | 2.4 | 6. 22 | 2. 24 | - | 3. 13 | 0. 8 1 | - | 12 .9 6 | 0. 8 1 | - | 0. 19 | 0. 34 | 20 18 | [3 38] |

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|---|----------|---|----|------|------|------|-----|------|-----|------|------|-------|------|------|------|------|-------|-------|
| ITO/PEDOT:PSS/TAPC/mCP/mCP:CNIr/TSP01/TPBi/LiF/Al | mCP | CNIr | 5 | 5.77 | 2.54 | 22.5 | - | 17.6 | 33 | - | 16.5 | 40.9 | - | 32.3 | 0.15 | 0.28 | 20.18 | [339] |
| ITO/PEDOT:PSS/TAPC/PCZAC/mCP/mCPPO1:dopant 10/TSP01/TPBi/LiF/Al | mCPPO1 | 1,1-Bis(2',6'-difluoro-2,3'-bipyridyl-N,C4')-1-methoxyethane]platinum(II) | 5 | | - | 17.6 | 17 | 13.6 | - | 24.9 | 16 | - | - | - | 0.15 | 0.29 | 20.18 | [340] |
| - | SimCP2 | FIrpic | - | 5.8 | 3.1 | - | - | - | 9.9 | - | - | 15.76 | - | - | 0.14 | 0.28 | 20.18 | [341] |
| ITO/PEDOT:PSS/PVK/ Host:OXD-7:FIrpic/Ba/Al | 134OXD | FIrpic | 15 | 5.8 | 3.1 | - | - | - | - | - | - | 8.75 | 6.26 | - | 0.17 | 0.37 | 20.18 | [342] |
| ITO /PEDOT:PSS/poly-TPD/t-Ph-mCP:FIrpic/TSP01/TPBi/LiF/Al | t-Ph-mCP | Firpic | 10 | 5.8 | 3.1 | 5.2 | 2.5 | - | - | - | - | 9.6 | 4.8 | - | 0.16 | 0.34 | 20.19 | [343] |

| | | | | | | | | | | | | | | | | | | |
|---|-----------|--------------------------------|----|------|------|------|---|-----|------|------|------|------|------|-----|------|------|------|-------|
| ITO/PEDOT:PSS/TCTA:Ir complexes/TmPyPB/Liq/Al | TCTA | Ir(ppySCF3) ₂ (bor) | 10 | 6.28 | 2.26 | 1.14 | - | - | 1.21 | - | - | 2.31 | - | - | 0.16 | 0.32 | 2019 | [344] |
| ITO/ PEDOT: PSS:GNPs/CBP:FIrpic/TPBi/LiF/Al | CBP | FIrpic | 15 | 5.8 | 3.1 | - | 8 | 5.9 | - | 19.3 | 14.5 | - | 12.4 | 8.1 | 0.17 | 0.42 | 2020 | [345] |
| ITO/PEDOT:PSS/host:FIrpic/DPEPO/TmPyPB/Liq/Al | BPhCz-ThX | FIrpic | 15 | 5.8 | 3.1 | 9.6 | - | - | 8.5 | - | - | 21 | - | - | 0.19 | 0.36 | 2020 | [346] |

Table S5. A comprehensive list of dry-processed blue TADF OLED devices, including the publication year, device structure, key dopant, doping concentration, employed host, HOMO, LUMO, EQE, PE, CE, CIE (X), CIE (Y), and reference. The years span from 2015 to 2020.

| Device Structure | Host | Emitter | | | | EQE (%) | | | PE (lm/W) | | | CE (cd/A) | | | CIE | | Year | Ref. |
|------------------|------|---------|-------|------|------|---------|-----|------|-----------|-----|------|-----------|-----|------|-----|-----|------|------|
| | | Name | Conc. | HOMO | LUMO | Max | 100 | 1000 | Max | 100 | 1000 | Max | 100 | 1000 | (X) | (Y) | | |

| | | | (wt %) | | | | (cdm ⁻²) | | | (cdm ⁻²) | | | (cdm ⁻²) | | | | | |
|--|------|---------|-----------|------|------|----------|----------------------|----------|----------|----------------------|-----|----------|----------------------|----------|-----------|-----------|----------|-----------|
| ITO/ReO ₃ :mCP/mCP/ mCP:TSPO1:DPTDDA/TSPO1/ Rb ₂ CO ₃ :TSPO1/Al | mCP | DTPDDA | 16 % | 5.57 | 2.8 | 22. 3 | - | 10. 6 | 30. 4 | | 9.8 | 35. 6 | | 17. 9 | 0.1 49 | 0.1 97 | 20 15 | [347] |
| ITO/ α - NPD/mCP/mCP:2CzPN/mCP/PPT/LiF/Al | mCP | 2CzPN | 10 % | 5.8 | 3 | 24 | 12. 6 | - | 30. 9 | 12. 6 | - | 47. 2 | 26. 1 | - | 0.1 7 | 0.3 3 | 20 15 | [348] |
| ITO/F4-TCNQ/ α - NPD/EML/BCP/Alq ₃ /LiF/Al | - | - | - | - | - | 4 | - | - | 7.6 5 | - | - | 14. 6 | - | - | 0.1 68 | 0.2 27 | 20 15 | [349] |
| ITO/NPB/TAPC/mCBP: Dopant (A-D or D1 or D2/PPT/TmPyPb/LiF/Al | mCBP | BPy-pC | - | 5.68 | 2.54 | 4.2 | - | - | 3.9 | - | - | 5 | - | - | 0.1 6 | 0.1 3 | 20 16 | [350] |
| ITO/NPB/TAPC/mCBP: Dopant (A-D or D1 or D2/PPT/TmPyPb/LiF/Al | mCBP | BPy-pTC | - | 5.6 | 2.63 | 9.4 | - | - | 14. 6 | - | - | 16. 3 | - | - | 0.1 7 | 0.2 7 | 20 16 | [350] |
| ITO/NPB/TAPC/mCBP: Dopant (A-D or D1 or D2/PPT/TmPyPb/LiF/Al | mCBP | BPy-p2C | - | 5.58 | 2.63 | 11 | - | - | 16. 2 | - | - | 20. 8 | - | - | 0.1 8 | 0.2 8 | 20 16 | [350] |
| ITO/NPB/TAPC/mCBP: Dopant (A-D or D1 or D2/PPT/TmPyPb/LiF/Al | mCBP | BPy-p3C | - | 5.53 | 2.58 | 23. 9 | - | - | 50. 6 | - | - | 56. 5 | - | - | 0.1 9 | 0.3 2 | 20 16 | |
| ITO/NPB/TAPC/mCBP: Dopant (A-D or D1 or D2/PPT/TmPyPb/LiF/Al | mCBP | BPy-p3C | - | 5.53 | 2.58 | 14. 5 | - | - | 31. 5 | - | - | 35. 2 | - | - | 0.2 6 | 0.3 6 | 20 16 | |

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|--|-------|-----------|----|------|------|------|------|-----|------|------|---|------|------|-----|------|------|------|-------|
| ITO/NPB/TAPC/mCBP: Dopant (A-D or D1 or D2/PPT/TmPyPb/LiF/Al | mCBP | BPy-p3C | - | 5.53 | 2.58 | 9.9 | - | - | 18.1 | - | - | 25.3 | - | - | 0.2 | 0.38 | 2016 | |
| ITO/NPB/TCTA/CyFbCz:mCP/TPBi/LiF/Al | mCBP | CyFbCz | 8% | 5.3 | 2.4 | - | - | - | 2.66 | - | - | 6.64 | - | - | 0.18 | 0.13 | 2016 | [351] |
| ITO/ReO3:mCP/mCP/mCP:2CzPN/ReO3:P O-15/Al | | - | - | - | - | 21.8 | - | 2.8 | 47.4 | - | 3 | 45.3 | - | 5.5 | 0.17 | 0.27 | 2016 | [352] |
| ITO/ α -NPD/mCP/EML/PPF/TPBi/LiF/Al | PPF | Cz-VPN | - | 6.1 | 2.9 | 8.7 | - | - | 12.3 | - | - | 18 | - | - | 0.15 | 0.18 | 2016 | [353] |
| ITO/HAT-CN/a-NPD/CCP/emitter:PPF/PPF/TPBi/Liq/Al | PPF | 2DPAC-MPM | - | 6.04 | 3.04 | 19 | 9.4 | - | 27.9 | 11.1 | - | 32 | 16.5 | - | 0.16 | 0.21 | 2016 | [354] |
| ITO/HAT-CN/a-NPD/CCP/emitter:PPF/PPF/TPBi/Liq/Al | PPF | 2DPAC-PPM | - | 6.04 | 3.07 | 20.8 | 12.4 | - | 31.5 | 14.6 | - | 38.1 | 23.5 | - | 0.16 | 0.24 | 2016 | |
| ITO/CuI/TPD/host: <i>p</i> -TPB-2Cz/PBD/Ca/Al | mCP | m-TPB-2Cz | - | 5.36 | 2.56 | 3.5 | - | - | 0.85 | - | - | 3.7 | - | - | 0.25 | 0.23 | 2017 | [355] |
| ITO/CuI/TPD/host: <i>p</i> -TPB-2Cz/PBD/Ca/Al | mCP | m-TPB-2Cz | - | 5.36 | 2.56 | 14.1 | - | - | 4.2 | - | - | 11.1 | - | - | 0.22 | 0.19 | 2017 | |
| ITO/MoO3/TAPC/Hosts/TAPC/MoO3/Al | DPEPO | CzDPPy | - | 5.52 | 1.97 | 16 | - | - | 33.1 | - | - | 34.8 | - | - | 0.18 | 0.34 | 2017 | [356] |
| ITO/MoO3/TAPC/Hosts/TAPC/MoO3/Al | DPEPO | tCzPN | - | 5.4 | 1.98 | 11.7 | - | - | 23.3 | - | - | 28.9 | - | - | 0.22 | 0.38 | 2017 | |

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|---|-----|-----------------|---|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|---------------------|
| ITO/HATCN/ α -NPD/CCP/EML/ PPF/TPBi/Liq/Al | PPF | MXAc-BF | - | 5.44 | 2.48 | 16 | 15. | 12 | 31. | - | - | - | - | - | 0.1 | 0.2 | 20 | [357]]] |
| ITO/HATCN/ α -NPD/CCP/EML/ PPF/TPBi/Liq/Al | PPF | MXAc- CM | - | 5.56 | 2.77 | 15 | 14. | 11. | 25. | - | - | - | - | - | 0.1 | 0.2 | 20 | |
| ITO/HATCN/ α -NPD/CCP/EML/ PPF/TPBi/Liq/Al | PPF | XAc-CM | - | 5.73 | 2.87 | 12. | 11. | 7.1 | 14. | - | - | - | - | - | 0.1 | 0.1 | 20 | |
| ITO/TAPC/TCTA/mCP/mCP:B4PyMPM:FIr pic:PO-01/B4PyMPM/Liq/Al | - | - | - | - | - | 17. | 17. | 16. | 48 | 45. | 35. | 41. | 41. | 39. | 0.1 | 0.3 | 20 | [358] |
| ITO/HATCN/NPB/mcp/DPEPO:BdPyInCz/ DBFPO/LiQ/Al | - | - | - | - | - | 17. | 12. | - | 48 | - | - | - | - | - | 0.1 | 0.3 | 20 | [359]] |
| ITO/HATCN/NPB/mcp/DPEPO:BdPyInCz/ DBFPO/LiQ/Al | - | - | - | - | - | 13. | 11. | - | - | - | - | - | - | - | 0.1 | 0.2 | 20 | |
| ITO/TAPC/TCTA/DAB- DCNB:mCP/TmPyPB/LiF/Al | mCP | DAB- DCNB | - | 5.07 | 2.21 | 16. | - | - | 45. | - | - | 40. | - | - | 0.2 | 0.3 | 20 | [360] |
| ITO/PPBI/TAPC/emitter- host/B3PyPB/LiF/Al | mCP | Ac- 46DPPM | - | 5.14 | 2.18 | 11. | 4.4 | 1.7 | 19. | 5.4 | 1.2 | 18. | 6.9 | 2.4 | 0.1 | 0.2 | 20 | [361]]] |
| ITO/PPBI/TAPC/emitter- host/B3PyPB/LiF/Al | mCP | Ac- 26DPPM | - | 5.26 | 2.21 | 18. | 11. | 6.3 | 43. | 21. | 8.6 | 39. | 25. | 13. | 0.1 | 0.3 | 20 | |
| ITO/PPBI/TAPC/emitter- host/B3PyPB/LiF/Al | mCP | CzAc- 26DPPM | - | 5.34 | 2.36 | 22. | 14. | 9.2 | 59. | 29. | 14. | 53. | 35. | 21. | 0.2 | 0.3 | 20 | |

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|---|-------|-------------|-----|------|------|------|------|------|------|------|------|------|------|------|-------|-------|------|-------|
| ITO/TAPC/CCX-I:DPEPO/BmPyPhB/Liq/Al | PPF | CCX-I-6B | - | 5.49 | 1.93 | 17.6 | 13.7 | 9 | 24.7 | - | - | 28.3 | - | - | 0.16 | 0.21 | 2017 | [362] |
| ITO/TAPC/CCX-I:DPEPO/BmPyPhB/Liq/Al | PPF | CCX-II-6B | - | 5.5 | 2.03 | 25.9 | 20.2 | 14.4 | 35.9 | - | - | 41.1 | - | - | 0.15 | 0.22 | 2017 | |
| ITO/TAPC/CCX-I:DPEPO/BmPyPhB/Liq/Al | PPF | CCX-II-10B | - | 5.5 | 2.03 | 24.5 | 21.8 | 17 | 44.9 | - | - | 44.8 | - | - | 0.16 | 0.26 | 2017 | |
| ITO/TAPC/CCX-I:DPEPO/BmPyPhB/Liq/Al | PPF | CCX-II-15B | - | 5.5 | 2.03 | 24 | 22.1 | 18.4 | 52.5 | - | - | 47.5 | - | - | 0.16 | 0.29 | 2017 | |
| ITO/TAPC/CCX-I:DPEPO/BmPyPhB/Liq/Al | PPF | CCX-I-6B-OC | - | 5.49 | 1.93 | 33.3 | 28.9 | 21.9 | 54.4 | - | - | 55.4 | - | - | 0.16 | 0.22 | 2017 | |
| ITO/ MoO3/NPB/PFBP-1b:mCP/TPBi/Ca:Al | mCP | PFPB-1b | - | 6.19 | 3.06 | 3.3 | - | - | 12.6 | - | - | 6.5 | - | - | 0.177 | 0.266 | 2018 | [363] |
| ITO/ MoO3/NPB/PFBP-1b:mCP/TPBi/Ca:Al | TCz1 | PFPB-2a | - | 5.92 | 2.88 | 3.9 | - | - | 4.4 | - | - | 3.7 | - | - | 0.199 | 0.289 | 2018 | |
| ITO/PEDOT:PSS/TAPC/mCP/DPEPO:dopant/TSPO1/TPBi/LiF/Al | DPEPO | 23CT | 30% | - | - | 21.8 | 21.8 | 20.8 | 45.8 | 45.8 | 43.8 | 35.5 | 35.5 | 27.5 | 0.17 | 0.33 | 2018 | [364] |
| ITO/PEDOT:PSS/TAPC/mCP/DPEPO:dopant/TSPO1/TPBi/LiF/Al | DPEPO | 24CT | 30% | - | - | 22.4 | 20.4 | 14.5 | 36 | 36 | 25 | 28 | 28 | 15 | 0.15 | 0.26 | 2018 | |
| ITO/PEDOT:PSS/TAPC/mCP/DPEPO:dopant/TSPO1/TPBi/LiF/Al | DPEPO | 34CT | 30% | - | - | 13.3 | 9.4 | 5.6 | 13.6 | 13.6 | 7.3 | 9.5 | 9.5 | 3.5 | 0.15 | 0.17 | 2018 | |

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|--|-------|--------------------|---------|------|------|----------|----------|-----|----------|----------|---|----------|----------|---|-----------|-----------|----------|-----------|
| ITO/TAPC:MoO3/TAPC/TCTA/CzSi/DPEP O:PhPMAF or 2NPMAF/DPEPO/TmPyPB/LiF/Al | DPEPO | PhPMAF | 22 % | - | - | 19. 7 | 14. 4 | - | 40. 7 | 21. 4 | - | 36. 3 | 26. 5 | - | 0.1 68 | 0.2 5 | 20 18 | [365] |
| ITO/TAPC:MoO3/TAPC/TCTA/CzSi/DPEP O:PhPMAF or 2NPMAF/DPEPO/TmPyPB/LiF/Al | DPEPO | 2NPMAF | 22 % | - | - | 23. 6 | 18. 4 | - | 56. 7 | 33. 9 | - | 50. 6 | 39. 4 | - | 0.1 72 | 0.2 31 | 20 18 | |
| ITO/TAPC:MoO3/TAPC/TCTA/CzSi/DPEP O:PhPMAF or 2NPMAF/DPEPO/TmPyPB/LiF/Al | DPEPO | 2NPMAF | 22 % | - | - | 24. 9 | 21. 2 | - | 68. 2 | 46 | - | 60. 7 | 51. 6 | - | 0.1 87 | 0.3 43 | 20 18 | |
| ITO/NPB/mCP/EML/PPT/TmPyPB/LiF/Al | mCP | 2CzdOXMe | 6% | 5.83 | 2.7 | 4.7 | 2.6 | 1.8 | 3.7 | - | - | 4.2 | - | - | 0.1 56 | 0.1 18 | 20 18 | [366] |
| ITO/NPB/mCP/EML/PPT/TmPyPB/LiF/Al | PPT | 2CzdOXPh | 6% | 5.84 | 2.8 | 6.8 | 2 | 1.4 | 5.9 | - | - | 7.5 | - | - | 0.1 61 | 0.1 5 | 20 18 | |
| ITO/NPB/mCP/EML/PPT/TmPyPB/LiF/Al | PPT | 2CzdOX4 CF3Ph | 6% | 5.84 | 2.86 | 11. 2 | 2.5 | - | 14. 5 | - | - | 18. 9 | - | - | 0.1 65 | 0.2 54 | 20 18 | |
| ITO/NPB/mCP/EML/PPT/TmPyPB/LiF/Al | mCP | 2CzdOXD 4MeOph | 6% | 5.88 | 2.74 | 6.6 | 2 | 0.8 | 5 | - | - | 5.7 | - | - | 0.1 47 | 0.1 08 | 20 18 | |
| ITO/NPB/mCP/EML/PPT/TmPyPB/LiF/Al | PPT | 2CzdOXD 4meOpPh | 6% | 5.88 | 2.74 | 4.2 | 2.4 | 1.5 | 3.2 | - | - | 3.8 | - | - | 0.1 53 | 0.1 18 | 20 18 | |

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|---|------------|----------------------|-----|------|------|------|------|------|------|------|-----|------|------|------|-------|-------|------|-------|
| ITO/NPB/mCP/EML/PPT/TmPyPB/LiF/Al | mCP | 2CzPN | 6% | 5.88 | 2.97 | 14.2 | 10.3 | 4 | 18.4 | - | - | 25.9 | - | - | 0.16 | 0.3 | 2018 | |
| ITO/ MoO3/TAPC/ 2,6-DCzppy:TBN-TPA/TmPyPB/LiF/Al | 2,6-Dczppy | TBN-TPA | 4% | 5.19 | 2.56 | 32.1 | 27.4 | 13.9 | 30 | 23.5 | 8.8 | 40.2 | 34.4 | 17.4 | 0.12 | 0.19 | 2018 | [367] |
| ITO/MoO3/TAPC/mCP/DPEPO:emitters/DP EPO/TmPyPB/LiF/Al | DPEPO | <i>p</i> BFCz-26DPPM | 10% | 5.26 | 1.82 | 6.2 | - | - | 2.5 | - | - | 3.57 | - | - | 0.154 | 0.054 | 2018 | [368] |
| ITO/MoO3/TAPC/mCP/DPEPO:emitters/DP EPO/TmPyPB/LiF/Al | DPEPO | <i>p</i> BTCz-26DPPM | 20% | 5.3 | 1.84 | 5.67 | - | - | 3.27 | - | - | 3.55 | | | 0.152 | 0.06 | 2018 | |
| ITO/HATCN/TAPC/DCDPA/host:DMAC-DPS/TSPO1/TPBi/LiF/Al | DPEPO | DMAC-DPS | - | - | - | 23.9 | - | 16.6 | - | - | - | 30.7 | | 21.3 | 0.15 | 0.2 | 2018 | [369] |
| ITO/HATCN/TAPC/DCDPA/host:DMAC-DPS/TSPO1/TPBi/LiF/Al | PPO2 | DMAC-DPS | - | - | - | 27.8 | - | 21.8 | - | - | - | 36.1 | | 28.4 | 0.15 | 0.22 | 2018 | |
| ITO/HATCN/TAPC/DCDPA/host:DMAC-DPS/TSPO1/TPBi/LiF/Al | 3DCPO | DMAC-DPS | - | - | - | 23.1 | - | 17 | - | - | - | 32.5 | | 23.9 | 0.15 | 0.22 | 2018 | |
| ITO/HAT-CN/NPB/mCBP/DPEPO:dopant/DPEPO/TP Bi/Liq/Al | - | Cy-2Cz | - | 5 | 1.48 | 11.9 | 10.9 | - | 8.5 | 6.2 | - | 11.8 | 10.8 | - | 0.16 | 0.1 | 2018 | [370] |
| ITO/HAT-CN/NPB/mCBP/DPEPO:dopant/DPEPO/TP Bi/Liq/Al | - | Cy-3Cz | - | 4.91 | 1.46 | 5.4 | 3.7 | - | 5.1 | 2.3 | - | 6.6 | 4.6 | - | 0.17 | 0.14 | 2018 | |

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|--|-------|------------|-----|------|------|-------|-----|------|-------|------|---|-------|------|------|------|------|------|-------|
| ITO/HAT-CN/NPB/mCBP/DPEPO:dopant/DPEPO/TPBi/Liq/Al | - | sf-3Cz | - | 5.02 | 1.51 | 15.8 | 6.1 | - | 13.7 | 3.2 | - | 19.2 | 7.3 | - | 0.16 | 0.14 | 2018 | |
| ITO/MoO3/TAPC/mCP/EML/DPEPO (5 nm) /TmPyPB/LiF/Al | mCBP | IndCzpTr-1 | 20% | 4.92 | 1.91 | 14.5 | 11 | - | - | 11.5 | - | 28.1 | 20.5 | - | 0.17 | 0.27 | 2018 | [371] |
| ITO/MoO3/TAPC/mCP/EML/DPEPO/TmPyPB/LiF/Al | DPEPO | TCTZ | 6% | 5.68 | 2.27 | 17.1 | - | 8.6 | 19.73 | - | - | 28 | - | - | 0.16 | 0.24 | 2018 | [372] |
| ITO/HAT-CN/TAPC/emitter:DPEPO/TPBi/LiF/Al | DPEPO | BP-Ph-DPAC | 16% | 5.27 | 2.25 | 4.25 | - | - | 6.85 | - | - | 8.08 | - | - | 0.16 | 0.29 | 2018 | [373] |
| ITO/HAT-CN/TAPC/emitter:DPEPO/TPBi/LiF/Al | DPEPO | BP-DPAC | 25% | 5.31 | 2.61 | 6.82 | - | - | 13.52 | - | - | 15.08 | - | - | 0.18 | 0.36 | 2018 | |
| ITO/HAT-CN/TAPC/mCP/DPEPO:TRTZ or SFCC/3TPYMB/Liq/Al | DPEPO | TRTZ | 30% | 5.42 | 1.95 | 4.46 | - | - | 2.5 | - | - | 4 | - | - | 0.16 | 0.11 | 2018 | [374] |
| ITO/HAT-CN/TAPC/mCP/DPEPO:TRTZ or SFCC/3TPYMB/Liq/Al | DPEPO | SFCC | 30% | 5.27 | 1.97 | 10.59 | - | - | 11.04 | - | - | 15 | - | - | 0.17 | 0.21 | 2018 | |
| ITO/TPBi/PHCz2BP/TPBi/LiF/Al | DPEPO | PHCz2BP | - | 5.7 | 2.2 | 4 | 4 | 3.6 | 11.04 | - | - | - | - | - | 0.15 | 0.26 | 2018 | [375] |
| ITO/HATCN/TAPC/TCTA/mCP/DBFPO:emitters/TSPO1/TPBi/LiF/Al | - | TCzTrZ | - | 5.36 | 2.54 | 22.1 | - | 10.1 | 6.9 | - | - | 33.5 | - | 15.3 | 0.16 | 0.23 | 2018 | [376] |

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|--|-------|-----------|---|------|------|-------|-------|-------|-------|-------|-------|------|-------|-------|------|------|------|-------|
| ITO/HATCN/TAPC/TCTA/mCP/DBFPO:emitters/TSPO1/TPBi/LiF/Al | - | DCzCbTrZ | - | 5.39 | 2.51 | 7.1 | - | - | - | - | - | 5.9 | - | - | 0.16 | 0.11 | 2018 | |
| ITO/HATCN/TAPC/TCTA/mCP/DBFPO:emitters/TSPO1/TPBi/LiF/Al | - | TCzCbTrZ | - | 5.54 | 2.55 | 12.8 | - | 3.2 | - | - | - | 13.2 | - | 3.3 | 0.15 | 0.12 | 2018 | |
| ITO/MoO3/TAPC/2,6- DCzppy:guest/TmPyPB/LiF/Al | - | TN4T-PCZ | - | 5.76 | 2.56 | 3.8 | - | - | - | - | - | 1.38 | 0.87 | 1.3 | 0.17 | 0.06 | 2018 | [377] |
| ITO/MoO3/TAPC/2,6- DCzppy:guest/TmPyPB/LiF/Al | - | NTN-PCZ | - | 5.73 | 2.36 | 20.4 | - | - | - | - | - | 5.01 | 2.69 | 4.74 | 0.16 | 0.03 | 2018 | |
| ITO/TAPC/mCP/DCzBN1-4:DPEPO/DPEPO/TPBi/LiF/Al | mcp | DCzBN1 | - | 5.82 | 2.52 | 2.5 | - | - | 0.6 | - | - | 0.8 | - | - | 0.15 | 0.05 | 2018 | [378] |
| ITO/TAPC/mCP/DCzBN1-4:DPEPO/DPEPO/TPBi/LiF/Al | mcp | DCzBN2 | - | 5.72 | 2.54 | 7.7 | - | - | 2.7 | - | - | 3.9 | - | - | 0.15 | 0.07 | 2018 | |
| ITO/TAPC/mCP/DCzBN1-4:DPEPO/DPEPO/TPBi/LiF/Al | mcp | DCzBN3 | - | 5.72 | 2.49 | 10.3 | - | - | 3.5 | - | - | 5.1 | - | - | 0.16 | 0.06 | 2018 | |
| ITO/TAPC/mCP/DCzBN1-4:DPEPO/DPEPO/TPBi/LiF/Al | mcp | DCzBN4 | - | 5.72 | 2.54 | 18 | 10.4 | 4.1 | 19 | - | - | 24.2 | - | - | 0.16 | 0.23 | 2018 | |
| ITO/HATCN/TAPC/mCP/emitter:DPEPO/DPEPO/TPBi/LiF/Al | DPEPO | 2SPAc-HPM | - | 5.46 | 2.6 | 25.56 | 18.86 | 11.94 | 51.6 | 26.65 | 12.98 | 57.5 | 42.42 | 26.85 | 0.18 | 0.34 | 2018 | [379] |
| ITO/HATCN/TAPC/mCP/emitter:DPEPO/DPEPO/TPBi/LiF/Al | DPEPO | 2SPAc-MPM | - | 5.45 | 2.54 | 24.34 | 16.14 | 9.16 | 42.45 | 20.03 | 7.68 | 50 | 33.15 | 18.82 | 0.17 | 0.29 | 2018 | |

| | | | | | | | | | | | | | | | | | | |
|--|-------|------------|-----|------|------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|------|-------|
| ITO/HATCN/TAPC/mCP/emitter:DPEPO/DPEPO/TPBi/LiF/Al | DPEPO | 2SPAcPPM | - | 5.45 | 2.57 | 31.45 | 18.34 | 10.84 | 56.85 | 23.78 | 9.55 | 68.77 | 40.11 | 23.71 | 0.18 | 0.32 | 2018 | |
| ITO/HATCN/TAPC/DCDPA/host:DMAC-DPS/TSPO1/TPBi/LiF/Al | - | - | - | - | - | 17.5 | - | 10.8 | - | - | - | 24.4 | - | 15.2 | 0.16 | 0.23 | 2018 | [380] |
| ITO/HATCN/TAPC/DCDPA/host:DMAC-DPS/TSPO1/TPBi/LiF/Al | - | | - | - | - | 22.9 | - | 19.8 | - | - | - | 35 | - | 29.7 | 0.15 | 0.26 | 2018 | |
| ITO/HATCN/TAPC/DCDPA/host:DMAC-DPS/TSPO1/TPBi/LiF/Al | - | | - | - | - | 18.8 | - | 14.5 | - | - | - | 31.3 | - | 24.6 | 0.16 | 0.28 | 2018 | |
| ITO/TAPC/mCP/mittter:DPEPO/DPEPO/TmPyPB/LiF/Al | DPEPO | PDTCz-DpmS | - | 5.98 | 1.86 | 14 | 7 | - | 21.8 | - | - | - | - | - | 0.19 | 0.26 | 2019 | [381] |
| ITO/HAT-CN/TAPC/TCTA/emitter:mCP/TmPyPb/LiF/Al | mCP | DiKTa | 3.5 | - | - | 14.7 | 8.3 | 3.3 | - | - | - | - | - | - | 0.14 | 0.18 | 2019 | [382] |
| ITO/HAT-CN/TAPC/TCTA/emitter:mCP/TmPyPb/LiF/Al | mCP | Mes3DiKTa | 3.5 | - | - | 21.1 | 14.5 | 4.5 | - | - | - | - | - | - | 0.12 | 0.32 | 2019 | |
| ITO/HAT-CN/NPB/mCP/Host:emitter/DBFPO/DBFPO:Liq/Liq/Al | - | CPT2 | - | - | - | 18.7 | - | - | - | - | - | 30.1 | - | - | 0.162 | 0.206 | 2019 | [383] |

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|--|-------|------------|----|------|------|------|------|------|------|------|------|------|------|------|--------|-------|------|-------|
| ITO/HAT-CN/NPB/mCP/Host:emitter/DBFPO/DBFPO:Liq/Liq/Al | DPEPO | BMK-T138 | - | 5.16 | 1.79 | 19.6 | - | - | - | - | - | 40.6 | - | - | 0.155 | 0.314 | 2019 | |
| ITO/TAPC/mCP/DPEPO:emitter/DPEPO/TmPyPB/LiF/Al | DPEPO | 2CPTCB | - | 4.96 | 1.84 | 21.1 | - | - | - | - | - | - | - | - | 0.15 | 0.19 | 2019 | [384] |
| ITO/NPB/TSBPA/DPEPO:DtBuAc-DBT/DPEPO/TPBi/LiF/Al | DPEPO | DtBuAc-DBT | - | 5.47 | 0.71 | 10.5 | - | 9.8 | - | - | - | 13.9 | - | - | 0.133 | 0.129 | 2019 | [385] |
| ITO/MoOx/TCTA/NPB/TPBi:PPh3O/PPh3O/BPhen/CsF/Al. | - | PPh3O | - | 6 | 1.5 | 4 | - | - | 2.23 | - | - | 3.6 | - | - | 0.1525 | 0.082 | 2019 | [386] |
| ITO/HATCN/TAPC/DCDPA/DBFPO:dopant/DBFPO/TPBi/LiF/Al | DPEPO | Trz-oIc | 20 | 5.75 | 2.8 | 23.2 | - | 13.3 | - | - | - | 46.1 | - | - | 0.19 | 0.37 | 2019 | [387] |
| ITO/HATCN/TAPC/DCDPA/DBFPO:dopant/DBFPO/TPBi/LiF/Al | DPEPO | Trz-mIc | 20 | 5.72 | 2.75 | 28 | - | 23.2 | - | - | - | 56.5 | - | - | 0.2 | 0.39 | 2019 | |
| ITO/Moo3/NPB/mCP/SXSPO:DMAC-DPS/Bphen/LiF/Al | - | DMACDPS | 30 | 5.9 | 2.4 | 22.6 | 21.7 | 18 | 39.6 | 24.8 | 13.8 | 37.2 | 35.5 | 29.6 | 0.15 | 0.2 | 2019 | [388] |
| ITO/Moo3/NPB/mCP/SXSPO:DMAC-DPS/Bphen/LiF/Al | - | DMACDPS | 30 | 5.9 | 2.4 | 2.9 | 3.5 | 2.4 | 3.2 | 2.4 | 1.2 | 5 | 6.1 | 4.1 | 0.17 | 0.18 | 2019 | |
| ITO/HATCN/NPB/TCTA/mCBP/mCBP:dopant/PPT/Li2CO3:Bepp2/Li2CO3/Al | mCBP | NOBF2-Cz | 10 | 5.7 | 2.99 | 11 | - | - | 12.5 | - | - | 12.6 | - | - | 0.14 | 0.16 | 2019 | [389] |

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|--|-------|-------------|--------|------|------|------|------|------|------|---|---|------|------|------|------|------|------|-------|
| ITO/HATCN/NPB/TCTA/mCBP/mCBP:dopant/PPT/Li2CO3:Bepp2/Li2CO3/Al | mCBP | NOBF2-DTCz | 10 | 5.59 | 3 | 12.7 | - | - | 44 | - | - | 40.6 | - | - | 0.14 | 0.21 | 2019 | |
| ITO/HATCN/NPB/TCTA/mCBP/mCBP:dopant/PPT/Li2CO3:Bepp2/Li2CO3/Al | mCBP | NOBF2-DPCz | 10 | 5.6 | 3 | 15.8 | - | - | 22.7 | - | - | 25.3 | - | - | 0.14 | 0.28 | 2019 | |
| ITO/TPBi/DPAc-DCzBN in DPEPO, DPAc-DCzBN, DPAc-DtCzBN in DPEPO, or DPAc-DtCzB/TPBi/LiF/Al | DPEPO | DPAc-DCzBN | 20% | 5.53 | 2.39 | 22.8 | 18 | - | - | - | - | 40.9 | - | - | 0.17 | 0.25 | 2019 | [390] |
| ITO/TPBi/DPAc-DCzBN in DPEPO, DPAc-DCzBN, DPAc-DtCzBN in DPEPO, or DPAc-DtCzBN/TPBi/LiF/Al | DPEPO | DPAc-DtCzBN | 30% | 5.55 | 2.47 | 23.1 | 18.3 | - | 33.8 | - | - | 31.3 | - | - | 0.16 | 0.15 | 2019 | |
| ITO/NPB/TSBPA/emitter I–IV:DPEPO/DPEPO/TPBi/LiF/Al | DPEPO | I | 35% | 5.7 | 2.6 | 21.2 | 20 | 19.3 | 22 | - | - | 36.8 | - | - | 0.16 | 0.25 | 2019 | [391] |
| ITO/NPB/TSBPA/emitter I–IV:DPEPO/DPEPO/TPBi/LiF/Al | DPEPO | II | 35% | 5.6 | 2.5 | 15.6 | 14.3 | 11.2 | 27.5 | - | - | 29.6 | - | - | 0.17 | 0.29 | 2019 | |
| ITO/NPB/TSBPA/emitter I–IV:DPEPO/DPEPO/TPBi/LiF/Al | DPEPO | III | 35% | 5.7 | 2.6 | 22.6 | 22.5 | 19.9 | 18.6 | - | - | 31.7 | - | - | 0.15 | 0.18 | 2019 | |
| ITO/TAPC/mCP/EML/DPEPO/TmPyPb/LiF/Al | DPEPO | TspiroS-TRZ | 30.00% | 5.42 | 4.93 | 33.3 | 31.1 | 23.7 | 24.3 | - | - | 71.1 | 66.9 | 50.6 | 0.17 | 0.33 | 2019 | [392] |

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|--|-------|-----------------|----------------|------|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| ITO/TAPC/ mCP/EML/DPEPO/TmPyPb/LiF/Al | DPEPO | TspiroF- TRZ | 30. 00 % | 5.67 | 5.04 | 28. 1 | 27. 7 | 23. 1 | - | - | - | 68. 4 | 53. 3 | 56. 2 | 0.1 9 | 0.3 9 | 20 19 | |
| ITO/TAPC/mCP/EML/DPEPO/TmPyPb/LiF /Al | DPEPO | TspiroS- TRZ | 100 % | - | - | 20 | 16. 2 | 10. 6 | | 26. 1 | 14. 9 | 41. 1 | 33. 3 | 21. 9 | 0.1 6 | 0.3 | 20 19 | |
| ITO/TAPC/mCP/EML/DPEPO/TmPyPb/LiF /Al | - | - | - | - | - | 16. 5 | 15. 4 | 9.7 | 35. 8 | 29. 1 | 15. 8 | 39 | 36. 4 | 22. 8 | 0.1 8 | 0.3 4 | 20 19 | |
| ITO/HATCN/NPB/X/TPBi/LiF/Al | - | DPECTT | - | - | - | - | - | - | 33. 5 | - | - | 3.9 6 | - | - | 0.1 9 | 0.3 8 | 20 19 | [393] |
| ITO/Moo3/mCP/mCP:TCzPzCp/PPT/LiQ/Al | - | TCzPzCN | 10 % | 5.57 | 2.92 | 7.6 | - | - | - | - | - | - | - | - | 0.1 5 | 0.2 9 | 20 19 | [394] |
| ITO/Moo3/mCP/mCP:TCzPzCp/ PT/LiQ/Al | - | 2TCzPzCN | 10 % | 5.53 | 2.95 | 12. 2 | - | - | - | - | - | - | - | - | 0.1 5 | 0.2 6 | 20 19 | |
| ITO/HATCN/TAPC/DCDPA/host:dopant/D BFPO/TPBi/LiF/Al | DBFPO | PXB-DI | 20 % | 5.54 | 2.62 | 37. 4 | - | 31. 7 | - | - | - | 66. 2 | - | 56. 1 | 0.1 6 | 0.3 4 | 20 19 | [395] |
| ITO/HATCN/TAPC/DCDPA/host: dopant/DBFPO/TPBi/LiF/Al | PPBI | PXB-DI | 20 % | 5.54 | 2.62 | 28. 4 | - | 21. 4 | - | - | - | 37. 8 | - | 32. 5 | 0.1 4 | 0.2 | 20 19 | |
| ITO/HATCN/TAPC/DCDPA/host:dopant/D BFPO/TPBi/LiF/Al | DBFPO | PXB-mIC | 20 % | 5.73 | 2.63 | 18. 8 | - | 12. 8 | - | - | - | 22. 1 | - | 15. 1 | 0.1 4 | 0.1 8 | 20 19 | |

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|---|--------|---------|---------|------|------|----------|----------|----------|-----------|----------|---|-----------|----------|----------|----------|----------|----------|-----------|
| ITO/HATCN/TAPC/DCDPA/host:dopant/D BFPO/TPBi/LiF/Al | PPBI | PXB-mIC | 20 % | 5.73 | 2.63 | 12. 5 | - | 5.2 | - | - | - | 8.6 | - | 3.6 | 0.1 5 | 0.0 8 | 20 19 | |
| ITO/NPB/TCTA/mCPPO1/mCPPO1:PO- T2T/PO-T2T/LiF/Al | - | - | - | - | - | 6.1 | 4.7 | - | - | - | - | 8.9 | 8 | - | 0.1 6 | 0.2 1 | 20 19 | [396] |
| ITO/NPB/TCTA/mCPPO1/mCPPO1:PO- T2T/PO-T2T/LiF/Al | - | - | - | - | - | 16 | 14. 5 | 12. 9 | 7 | - | - | 27 | 26. 7 | 24. 6 | 0.1 6 | 0.2 8 | 20 19 | |
| ITO/NPB/TCTA/mCPPO1/mCPPO1:PO- T2T/PO-T2T/LiF/Al | - | - | - | - | - | 6.5 | 6.3 | 4.5 | 26. 4 | - | - | 9.4 | 9.5 | 8.8 | 0.1 8 | 0.2 9 | 20 19 | |
| ITO/PPBI/TAPC/PXZ-BIP-mCP/PXZ-BIP- DPEPO/B3PyPB/LiF/Al | - | - | - | - | - | 2.6 4 | 1.2 | - | 8 | 0.6 2 | - | 2.4 4 | 1.0 5 | - | 0.1 6 | 0.1 | 20 19 | [397] |
| ITO/PPBI/TAPC/PXZ-BIP-mCP/PXZ-BIP- DPEPO/B3PyPB/LiF/Al | - | - | - | - | - | 5.9 3 | 1.5 5 | - | 2.4 | 2.2 9 | - | 12. 2 | 3.1 8 | - | 0.1 9 | 0.3 | 20 19 | |
| ITO/PEDOT:PSS/mCP:polymers/DPEPO/T mPyPB/Liq/Al | mCP | CP1 | 5% | 5.11 | 1.31 | 6.3 6 | 2.8 | - | 6.6 8 | - | - | 10. 64 | - | - | 0.1 8 | 0.2 5 | 20 19 | [398] |
| ITO/PEDOT:PSS/mCP:polymers/DPEPO/T mPyPB/Liq/Al | mCP | CP2 | 5% | 4.89 | 1.03 | 1.1 2 | 0.4 7 | - | 0.8 1 | - | - | 1.8 1 | - | - | 0.2 | 0.2 6 | 20 19 | |
| ITO/PEDOT:PSS/mCP:polymers/DPEPO/T mPyPB/Liq/Al | mCP | CP3 | 5% | 5.18 | 1.19 | 3.4 9 | 3.3 | - | 2.5 1 | - | - | 5.5 9 | - | - | 0.1 6 | 0.2 3 | 20 19 | |
| ITO/PEDOT:PSS/mCP:polymers/DPEPO/T mPyPB/Liq/Al | CzAcSF | CP1 | 5% | 5.11 | 1.31 | 9.7 4 | 8.8 | - | 10. 75 | - | - | 16. 96 | - | - | 0.1 7 | 0.2 4 | 20 19 | |

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|---|--------------------------|---------------|---------------|------|------|-------|------|------|-------|------|------|-------|------|------|------|------|------|-------|
| ITO/PEDOT:PSS/mCP:polymers/DPEPO/TmPyPB/Liq/Al | CzAcSF | CP2 | 5% | 4.89 | 1.03 | 6.51 | 5.77 | - | 7.75 | - | - | 12.32 | - | - | 0.19 | 0.28 | 2019 | |
| ITO/PEDOT:PSS/mCP:polymers/DPEPO/TmPyPB/Liq/Al | CzAcSF | CP3 | 5% | 5.18 | 1.19 | 4.87 | 4.5 | - | 5.89 | - | - | 9.38 | - | - | 0.19 | 0.28 | 2019 | |
| ITO/Moo3/TCTA/mCP/Tczi: (1) and (4)/TSPo1/TPBi/LiQ/Al | TCz1 | 4 | 25% | - | - | 6.3 | 4 | - | 12.6 | - | - | - | - | - | 0.18 | 0.32 | 2019 | [399] |
| ITO/MoO3/TAPC/TCTA/Emitters/TmPyPB/LiF/Al | Nil | 3CP-DPSDMA C | Fli m (20 nm) | 5.31 | 2.01 | 9.1 | - | 2.8 | - | - | 15.7 | 17 | - | - | 0.16 | 0.28 | 2020 | [400] |
| ITO/NPB/TSBPA/DMAC-TXO2:DPEPO/DPEPO/TPBi/LiF/Al. | DPEPO | DMAC-TXO2 | 30% | - | - | 20.6 | - | - | 24.5 | - | - | 35.1 | - | - | 0.16 | 0.24 | 2020 | [401] |
| ITO/PEDOT:PSS/TAPC/mCP/mCP:dopant/DPEPO/TmPyPB/LiF/Al | mCP | TrzDMAC-Me | 5% | 5.24 | 2.91 | 19.01 | - | - | 30.93 | - | - | 41.12 | - | - | 0.18 | 0.33 | 2020 | [402] |
| ITO/MoO3/NPB/mCP/tBCzPPOSPO:DAM C-DPS:4CzTPNBu/DBFDPO/LiF/Al, | tBCzPP OSPO (5.45,1.012) | - | - | - | - | 21.1 | 20.8 | 17.5 | 63.5 | 42.3 | 26.1 | 60.7 | 60.2 | 50.2 | 0.36 | 0.44 | 2020 | [403] |
| ITO/HATCN/NPB/PCZAC/mCP or pCzBzbCz or pCzPybCz:DBA-DI/DDBFT/p-bPPhenB/LiF/Al | - | 30 wt% DBA-DI | - | - | - | 24 | - | - | 42.6 | - | - | 40.7 | - | - | 0.14 | 0.3 | 2020 | [404] |

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|---|-----------------|---------------|-----|------|------|------|------|------|------|------|------|------|------|------|-------|-------|------|-------|
| ITO/HATCN/NPB/PCZAC/mCP or pCzBzbCz or pCzPybCz:DBA-DI/DDBFT/p-bPPhenB/LiF/Al | - | 30 wt% DBA-DI | - | - | - | 22.7 | - | - | 40.7 | - | - | 42.2 | - | - | 0.15 | 0.35 | 2020 | |
| ITO/HATCN/TAPC/TCTA/DPEPO or DMAC-DPS:TBPe/TmPyPB/LiF/Al | DPEPO (6.1,2.0) | TBPe | 1% | 5.4 | 2.7 | 10 | 7.4 | 1.9 | 12.5 | 6.6 | 1 | 12.7 | 9.2 | 2.3 | 0.14 | 0.17 | 2020 | [405] |
| ITO/HATCN/TAPC/TCTA/DPEPO or DMAC-DPS:TBPe/TmPyPB/LiF/Al | DPEPO (6.1,2.0) | TBPe | 1% | 5.4 | 2.7 | 14.1 | 11.3 | 7.3 | 16 | 11.4 | 5.3 | 16.2 | 14.5 | 9.4 | 0.14 | 0.17 | 2020 | |
| ITO/HATCN/TAPC/ TCTA/DPEPO or DMAC-DPS:TBPe/TmPyPB/LiF/Al | DPEPO (6.1,2.0) | TBPe | 1% | 5.4 | 2.7 | 11 | 8.2 | 4.1 | 14.2 | 7.5 | 2.3 | 13.6 | 10 | 5 | 0.14 | 0.17 | 2020 | |
| ITO/HATCN/TAPC/TCTA/DPEPO or DMAC-DPS:TBPe/TmPyPB/LiF/Al | DPEPO (6.1,2.0) | TBPe | 1% | 5.4 | 2.7 | 9.7 | 8 | 4.9 | 14.4 | 8.5 | 3.5 | 12.9 | 10.3 | 6.2 | 0.14 | 0.17 | 2020 | |
| ITO/MoO3/TAPC/TCTA/mCP/DPEPO:emitter/DPEPO/Bphen/LiF/Al | DPEPO (6.1,2.0) | TDBA-SAF | 20% | 4.96 | 1.58 | 28.2 | 24.2 | 17.6 | 19.9 | 14.2 | 7.4 | 23.7 | 20.6 | 14.9 | 0.142 | 0.09 | 2020 | |
| ITO/MoO3/TAPC/TCTA/mCP/DPEPO:emitter/DPEPO/Bphen/LiF/Al | DPEPO (6.1,2.0) | DBA-SAB | 20% | 4.91 | 1.68 | 25.7 | 25.2 | 23.6 | 35.1 | 32.1 | 20.2 | 43.8 | 42.4 | 37.8 | 0.144 | 0.212 | 2020 | [406] |

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|---|-----------------------------------|-----------|-----|------|------|------|---|-----|-------|---|---|-------|---|---|-------|-------|------|-------|
| ITO/MoO3/mCP/DPEPO/host:FIrpic/DPEPO/TPBi/LiF/Al | mSOAD (5.8.2.8)) Host work | FIrpic | 6% | - | - | 16.7 | - | 8 | 32.46 | - | - | 36.19 | - | - | 0.19 | 0.36 | 2020 | [407] |
| ITO/HATCN/TAPC/DCDPA/DBFPO:dopant/DBFPO/TPBi/LiF/Al | DPEPO (6.1,2.0) | TPDICz | 20% | 5.34 | 2.39 | 16.9 | - | 3.5 | - | - | - | 21.4 | - | - | 0.14 | 0.14 | 2020 | [408] |
| ITO/TAPC/TCTA/emitter:DPEPO/TmPyPB/LiF/Al | DPEPO (6.1,2.0) | 3CzbPYR | 10% | 5.52 | 2.37 | 19.7 | - | - | - | - | - | - | - | - | 0.16 | 0.23 | 2020 | [409] |
| ITO/NPB/mCP/DPEPO:tACR:DBO/TAZ/LiF/Al | DPEPO (6.1,2.0) | tACR-DBO | 1% | 5.2 | 2.3 | 9.9 | - | - | 7.7 | - | - | 8.6 | - | - | 0.152 | 0.088 | 2020 | [410] |
| ITO/HAT-CN/NPB/TCTA/mCBP/BCz-TRZ:host/PPT/ BePP2:Li2CO3/Li2CO3/Al | PyD2 (5.6,2.1) | BCz-TRZ | 30% | - | - | 19.6 | - | - | - | - | - | - | - | - | 0.16 | 0.3 | 2020 | [411] |
| ITO/HAT-CN/NPB/TCTA/mCBP/BCz-TRZ:host/PPT/BePP2:Li2CO3/Li2CO3/Al | PyD2 (5.6,2.1) | PyBCz-TRZ | - | - | - | 17.3 | - | - | - | - | - | - | - | - | 0.15 | 0.24 | 2020 | |

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|--|--------------------|-----------|-----|-----|-----|------|---|---|---|---|---|---|---|---|---|------|------|------|-------|
| ITO/HAT-CN/NPB/TCTA/mCBP/BCz-TRZ:host/PPT/BePP2:Li2CO3/Li2CO3/Al | PyD2 (5.6,2.1) | ICz-TRZ | - | - | - | 18.1 | - | - | - | - | - | - | - | - | - | 0.15 | 0.23 | 2020 | |
| ITO/HAT-CN/NPB/TCTA/mCBP/BCz-TRZ:host/PPT/BePP2:Li2CO3/Li2CO3/Al | mCBP(5.6,2.0) | PyBCz-TRZ | - | - | - | 10 | - | - | - | - | - | - | - | - | - | 0.14 | 0.2 | 2020 | |
| ITO/HAT-CN/NPB/TCTA/mCBP/BCz-TRZ:host/PPT/BePP2:Li2CO3/Li2CO3/Al | mCBP(5.6,2.0) | ICz-TRZ | - | - | - | 11.8 | - | - | - | - | - | - | - | - | - | 0.14 | 0.19 | 2020 | |
| ITO/MoO3/mCP/DMAC-DPS/ETM/ETM/Liq/Al | A3 | DMAC-DPS | 30% | 5.9 | 2.9 | 22.3 | - | - | - | - | - | - | - | - | - | 0.15 | 0.15 | 2020 | [412] |
| ITO/MoO3/mCP/DMAC-DPS/ETM/ETM/Liq/Al | PPT | DMAC-DPS | 30% | 5.9 | 2.9 | 14.9 | - | - | - | - | - | - | - | - | - | 0.14 | 0.2 | 2020 | |
| ITO/MoO3/mCP/DMAC-DPS/ETM/ETM/Liq/Al | DPEPO (6.1,2.0) | DMAC-DPS | 30% | 5.9 | 2.9 | 23.1 | - | - | - | - | - | - | - | - | - | 0.14 | 0.16 | 2020 | |
| ITO/MoO3/mCP/DMAC-DPS/ETM/ETM/Liq/Al | A1 | DMAC-DPS | 30% | 5.9 | 2.9 | 18.9 | - | - | - | - | - | - | - | - | - | 0.14 | 0.18 | 2020 | |
| ITO/MoO3/mCP/DMAC-DPS/ETM/ETM/Liq/Al | A2 | DMAC-DPS | 30% | 5.9 | 2.9 | 22.4 | - | - | - | - | - | - | - | - | - | 0.14 | 0.18 | 2020 | |
| ITO/MoO3/mCP/DMAC-DPS/ETM/ETM/Liq/Al | A3 | DMAC-DPS | 30% | 5.9 | 2.9 | 21.9 | - | - | - | - | - | - | - | - | - | 0.14 | 0.17 | 2020 | |

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|---|-----------------|----------|------|------|------|------|------|------|-------|---|---|-------|---|---|-------|-------|------|-------|
| ITO/MoO ₃ /mCP/DMAC-DPS/ETM/ETM/Liq/Al | A4 | DMAC-DPS | 30 % | 5.9 | 2.9 | 14.2 | - | - | - | - | - | - | - | - | 0.15 | 0.21 | 2020 | |
| ITO/MoO ₃ /mCP/DMAC-DPS/ETM/ETM/Liq/Al | A5 | DMAC-DPS | 30 % | 5.9 | 2.9 | 7.9 | - | - | - | - | - | - | - | - | 0.19 | 0.36 | 2020 | |
| ITO/ TAPC/ TCTA/ emitter:mCP/DPEPO/TmPyPB/LiF/Al | mCP(6.1,2.4) | tCz-ND | 7% | 5.6 | 2.7 | 17 | 9.9 | 7 | 19.88 | - | - | 22.17 | - | - | 0.14 | 0.16 | 2020 | [413] |
| ITO/TAPC/TCTA/emitter:mCP/DPEPO/TmPyPB/LiF/Al | mCP(6.1,2.4) | metCz-ND | 7% | 5.6 | 2.7 | 17.6 | 14.4 | 19.8 | 23.6 | - | - | 31.98 | - | - | 0.18 | 0.32 | 2020 | |
| ITO/HAT-CN/HAT-CN:TAPC/TCTA:CZ-MPS/CzSi:CZ-MPS/Tm3PyP26PyB/LiF/Al | TCTA | CZ-MPS | 10 % | 5.6 | 2.3 | 9.3 | - | - | - | - | - | 3.4 | - | - | 0.175 | 0.065 | 2020 | [414] |
| ITO/HAT-CN/TAPC/mCP/emitter:DPEPO/TSPO1/TPBi/LiF/Al | DPEPO (6.1,2.0) | Cz-ND | 20 % | 5.72 | 2.76 | 15.3 | - | - | 16.5 | - | - | 19.9 | - | - | 0.15 | 0.17 | 2020 | [415] |
| ITO/HAT-CN/TAPC/mCP/emitter:DPEPO/TSPO1/TPBi/LiF/Al | DPEPO (6.1,2.0) | tBuCz-ND | 20 % | 5.62 | 2.71 | 20.9 | - | - | 26.5 | - | - | 35.9 | - | - | 0.15 | 0.22 | 2020 | |
| ITO/HATCN/TAPC/mCP:emitter/DPEPO/TmPyPb/LiF/Al | DPEPO (6.1,2.0) | 4 | 8% | - | - | 15.5 | - | - | 10.1 | - | - | 13.9 | - | - | 0.18 | 0.25 | 2020 | [416] |

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|--|-----------------|---------|-----|------|------|------|------|------|------|----|------|------|------|------|------|------|------|-------|
| ITO/HATCN/TAPC/mCP:emitter/DPEPO/TmPyPb/LiF/Al | DPEPO (6.1,2.0) | 5 | 8% | - | - | 10.8 | - | - | 6.1 | - | - | 15 | - | - | 0.16 | 0.2 | 2020 | |
| ITO/HATCN/TAPC/mCP:emitter/DPEPO/TmPyPb/LiF/Al | DPEPO (6.1,2.0) | 6 | 8% | - | - | 17.6 | - | - | 12 | - | - | 16 | - | - | 0.16 | 0.19 | 2020 | |
| ITO/HAT-CN/TAPC/CCP/EML/PPF/B3PyPB/Liq/Al | - | TMCz-BO | 5% | - | - | 20.7 | 20.2 | 17.4 | 12 | - | - | 29.8 | - | - | 0.14 | 0.18 | 2020 | [417] |
| ITO/HAT-CN/TAPC/CCP/EML/PPF/Liq/Al | - | TMCz-3P | 5% | - | - | 20.4 | 18.3 | 12.8 | 31.2 | - | - | 37.8 | - | - | 0.14 | 0.26 | 2020 | |
| ITO/HATCN/NPB/PCZAC/host:DBA-DI/DDBFT/p-bPPhenB/LiF/Al | mCBP-CN | DBA-DI | 30% | 5.51 | 2.71 | 23.1 | 22.8 | - | 40.3 | - | - | - | - | - | 0.15 | 0.33 | 2020 | [418] |
| ITO/HATCN/NPB/PCZAC/host:DBA-DI/DDBFT/p-bPPhenB/LiF/Al | mCBP-CN: DDBFT | DBA-DI | 30% | 5.51 | 2.71 | 28.1 | 27.8 | - | - | - | - | - | - | - | 0.16 | 0.39 | 2020 | |
| ITO/NPB/TCTA/EML/TSPO1/TPBi/LiF/Al | DCzDPy | 4CzDBN | 5% | 5.79 | 3.15 | 18.3 | 14 | 11.9 | 33.6 | - | - | 39.8 | - | - | 0.19 | 0.36 | 2020 | [419] |
| ITO/HATCN/Spiro-TPD/HMTPD/mCP/EML/PPT/Liq:PPT/Liq/Al | PPT | PyCF3BN | 15% | - | - | 19.5 | 18 | 14.6 | 29.9 | 19 | 11.9 | 44.4 | 40.4 | 32.4 | 0.18 | 0.38 | 2020 | [420] |

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|---|---|---|---|------|------|------|------|------|------|---|-----|-----|---|-----|------|------|------|-------|
| ITO/MoO ₃ /mCP/9ArFDBFxPO:emitter/DBF DPO/LiF/Al | - | - | - | - | - | - | 29.6 | 16.7 | 29.9 | - | - | - | - | - | 0.17 | 0.21 | 2020 | [421] |
| ITO/MoO ₃ /NPB/mCP/9ArFDBFxPO:emitter /DBFDPO/LiF/Al | - | - | - | - | - | - | 23.3 | 20.2 | - | - | - | - | - | - | 0.18 | 0.22 | 2020 | |
| ITO/MoO ₃ /NPB/mCP/9ArFDBFxPO:emitter /DBFDPO/LiF/Al | - | - | - | - | - | - | 22.3 | 13.4 | - | - | - | - | - | - | 0.16 | 0.19 | 2020 | |
| ITO/MoO ₃ /NPB/mCP/9ArFDBFxPO:emitter /DBFDPO/LiF/Al | - | - | - | - | - | - | 26 | 15.6 | - | - | - | - | - | - | 0.16 | 0.2 | 2020 | |
| ITO/HATCN/BPBPA/mCBP/mCBP:X-Host5CzCN/DBFTrZ/ZADN/Liq/Al | - | - | - | 6.67 | 2.97 | 17.3 | - | - | - | - | - | - | - | - | 0.17 | 0.35 | 2020 | [422] |
| ITO/HATCN/BPBPA/mCBP/mCBP: X-Host-5CzCN/DBFTrZ/ZADN/Liq/Al | - | - | - | 6.8 | 3.13 | 14.8 | - | - | - | - | - | - | - | - | 0.17 | 0.35 | 2020 | |
| ITO/HATCN/BPBPA/mCBP/mCBP: X-Host-5CzCN/DBFTrZ/ZADN/Liq/Al | - | - | - | 6.69 | 2.95 | 12.9 | - | - | - | - | - | - | - | - | 0.17 | 0.35 | 2020 | |
| ITO/HATCN/BPBPA/mCBP/mCBP: X-Host-5CzCN/DBFTrZ/ZADN/Liq/Al | - | - | - | 6.85 | 3.14 | 12.2 | - | - | - | - | - | - | - | - | 0.17 | 0.35 | 2020 | |
| ITO/TPBi/TPAATPE or PPIATPE/TPBi/LiF/Al | - | - | - | 5.34 | 2.8 | 6.97 | - | 5.96 | 8.8 | - | 4.8 | 9.4 | - | 7.7 | 0.15 | 0.16 | 2020 | [423] |
| ITO/TPBi/TPAATPE or PPIATPE/TPBi/LiF/Al | - | - | - | 5.6 | 2.78 | 6.1 | - | 5 | 7.3 | - | 3.2 | 7.9 | - | 6.3 | 0.16 | 0.16 | 2020 | |

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|---|-------|--------------------------|----|------|------|------|------|------|------|------|------|------|----|------|-------|-------|------|-------|
| ITO/TAPC/mcp/DspiroAc-TRZ/TmPyPb/LiF/Al | - | DspiroAc-TRZ | - | 5.31 | 2.94 | 25.7 | 22.4 | 16.4 | 47.7 | 37.5 | 22.4 | 55.8 | 51 | 35.7 | 0.175 | 0.375 | 2020 | [424] |
| ITO/ReO ₃ :SimCP/SimCP/EML/oCF ₃ -T2T/CN-T2T/Liq/Al | - | 3CzIPN-H-CF ₃ | 10 | 5.66 | 2.27 | 19.7 | - | 17.9 | 23.6 | - | 18.8 | 31.5 | - | 28.6 | 0.16 | 0.22 | 2020 | [425] |
| ITO/NPB/mcp/DPEPO:Eimtter/DPEPO/LiF/Al | DPEPO | TrSAc | 10 | 5.35 | 2.85 | 23.8 | - | - | 40.9 | - | - | 50.1 | - | - | 0.19 | 0.36 | 2020 | [426] |
| ITO/NPB/mcp/DPEPO:Eimtter/DPEPO/LiF/Al | DPEPO | moTrSAc | 10 | 5.35 | 2.75 | 21.3 | - | - | 28.7 | - | - | 36.6 | - | - | 0.17 | 0.27 | 2020 | |
| ITO/NPB/mcp/DPEPO:Eimtter/DPEPO/LiF/Al | DPEPO | tmTrSAc | 10 | 5.35 | 2.75 | 15.5 | - | - | 21.3 | - | - | 28.5 | - | - | 0.17 | 0.27 | 2020 | |
| ITO/NPB/mcp/DPEPO:Eimtter/DPEPO/LiF/Al | DPEPO | motmTrSAc | 10 | 5.35 | 2.65 | 19.5 | - | - | 21.8 | - | - | 29.2 | - | - | 0.16 | 0.22 | 2020 | |

Table S6. A comprehensive list of wet-processed blue TADF OLED devices, including the publication year, device structure, key dopant, doping concentration, employed host, HOMO, LUMO, EQE, PE, CE, CIE (X), CIE (Y), and reference. The years span from 2016 to 2020.

| Device Structure | Host | Emitter | EQE (%) | PE (lm/W) | CE (cd/A) | CIE | Year | Ref. |
|------------------|------|---------|---------|-----------|-----------|-----|------|------|
|------------------|------|---------|---------|-----------|-----------|-----|------|------|

| | | Name | Con c. (wt %) | HO MO | LU MO | Ma x | 10 0 | 10 00 | Ma x | 10 0 | 10 00 | Ma x | 10 0 | 10 00 | (X) | (Y) | | |
|---|-----|-------------|------------------------|----------|----------|----------|----------------------|----------|----------|----------------------|----------|----------|----------------------|----------|----------|----------|----------|-----------|
| | | | | | | | (cdm ⁻²) | | | (cdm ⁻²) | | | (cdm ⁻²) | | | | | |
| ITO/PEDOT:PSS/tbCz-SO or poCz-SO/TmPyPB/Cs ₂ CO ₃ /Al | - | tbCz-So | 100 | 5.5 | 2.3 | 2.6 | 1. 4 | - | - | - | - | 4 | 2. 1 | - | 0. 16 | 0. 19 | 20 16 | [427] |
| ITO/PEDOT:PSS/tbCz-SO or poCz-SO/TmPyPB/Cs ₂ CO ₃ /Al | - | poCz-So | 100 | 5.6 | 2.4 | 6.2 | 5. 5 | - | - | - | - | 10. 5 | 9. 5 | - | 0. 18 | 0. 27 | 20 16 | |
| ITO/PEDOT:PSS/EML/TPBI/Liq/Al | - | DMAC-DPS | 100 % | 5.92 | 2.92 | 7 | 4. 4 | 1.6 | 10. 1 | 5. 2 | 1.3 | 11. 4 | 9 | 3.4 | 0. 18 | 0. 31 | 20 16 | [428] |
| ITO/PEDOT:PSS/EML/TPBI/Liq/Al | - | DCzDMAC-DPS | 100 % | 5.2 | 2.36 | 2.2 | 1. 5 | - | 2 | 1. 2 | - | 3.8 | 2. 7 | - | 0. 18 | 0. 27 | 20 16 | |
| ITO/PEDOT:PSS/TAPC/mCP/mCP:BisCz-Trz)/TSPO1/TPBi/LiF/Al | mCP | BisCz-Trz | 3% | 6.1 | 3.53 | 12. 2 | - | - | 6.5 | - | - | 18. 5 | - | - | 0. 15 | 0. 2 | 20 17 | [429] |
| ITO/PEDOT:PSS/TAPC/mCP/mCP:BisCz-Trz)/TSPO1/TPBi/LiF/Al | mCP | trisCz-Trz | 7% | 6.11 | 3.33 | 16. 5 | - | - | 12. 3 | - | - | 23. 9 | - | - | 0. 15 | 0. 22 | 20 17 | |
| ITO/PEDOT:PSS/mCP:TSPO1/BmPyPb/LiF/Al | - | DTPDDA | 10% | 5.57 | 2.8 | 4.4 3 | - | - | 3.1 3 | - | - | 7.4 6 | - | - | 0. 15 | 0. 26 | 20 18 | [430] |

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|---|-------|------------|-----|------|------|-------|-----|-----|-------|-----|-----|-------|------|------|------|------|------|-------|
| ITO/PEDOT:PSS/TAPC/mCP/EML/TSPO1/TBPI/LiF/Al | - | CzTrZ | - | 6.04 | 3.39 | 4.2 | - | 0.6 | 2.7 | - | 0.1 | 3.8 | - | 0.53 | 0.17 | 0.11 | 2018 | [431] |
| ITO/PEDOT:PSS/m-ACSO2/ETLs/Liq/Al | CzSi | o-ACSO2 | 10% | 5.33 | 2.44 | 8.7 | 7.9 | - | 7.5 | 6.1 | - | 19 | 17.2 | - | 0.2 | 0.34 | 2018 | [432] |
| ITO/PEDOT:PSS/m-ACSO2/ETLs/Liq/Al | CzSi | m-ACSO2 | 10% | 5.36 | 2.26 | 9.7 | 8.3 | - | 9.1 | 6.3 | - | 19.2 | 16.3 | - | 0.19 | 0.3 | 2018 | |
| ITO/PEDOT:PSS/m-ACSO2/ETLs/Liq/Al | CzSi | DMAC-DPS | 10% | 5.33 | 2.32 | 8.9 | 8.9 | - | 4.8 | 4.8 | - | 13.8 | 13.7 | - | 0.16 | 0.21 | 2018 | |
| ITO/PEDOT:PSS/NPB/mCP/SBABz4:DPEPO/DPEPO/TPBi/Ca/Al | DPEPO | SBABz4 | 10% | - | - | 6.8 | - | - | - | - | - | - | - | - | 0.16 | 0.09 | 2019 | [433] |
| ITO/PEDOT:PSS/mCP:emitter/TSPO1/LiF/Al | mCP | TSXA | 1% | - | - | 6.34 | - | - | 5.39 | - | - | 12.41 | - | - | 0.16 | 0.32 | 2019 | [434] |
| ITO/PEDOT:PSS/mCP:emitter/TSPO1/LiF/Al | mCP | TTSA | 1% | - | - | 14.94 | - | - | 13.94 | - | - | 29.29 | - | - | 0.16 | 0.33 | 2019 | |
| ITO/ZnO/PEIE:Rb2CO3/EML/TCTA/MoO3/Al | - | SDPA-4PhCz | - | 5.74 | 2.49 | 4.92 | - | - | 1.12 | - | - | 1.15 | - | - | 0.15 | 0.04 | 2019 | [435] |
| ITO/PEDOT:PSS/mCP/DPEPO:Emitter/TSP01/TPBI/LiF/Al | - | DCz-mPym | - | 5.65 | 2.53 | 6.72 | - | - | 3.91 | - | - | 4.99 | - | - | 0.15 | 0.11 | 2019 | [436] |
| ITO/PEDOT:PSS/mCP/DPEPO:Emitter/TSP01/TPBI/LiF/Al | - | DtBCz-mPym | - | 5.5 | 2.52 | 10.9 | - | - | 9.67 | - | - | 12.3 | - | - | 0.15 | 0.15 | 2019 | |

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|--|--------|--------------|-------|------|------|------|------|-----|-------|---|-----|-------|---|------|------|------|------|-------|
| ITO/PEDOT:PSS/CzAcSF:emitters/DPEPO/TmPyPB/Liq/Al | CzAcSF | 2tDMG | 10% | 5.12 | 2.37 | 16.2 | - | 7.4 | 20.1 | - | 6.4 | 37.5 | - | 17.2 | 0.22 | 0.37 | 2020 | [437] |
| ITO/HATCN/TCTA/EML/TSP01/TPBi/LiF/Al | mCP | PTZTPE-1 | - | 5.48 | 2.6 | 3.9 | - | - | - | - | - | - | - | - | 0.16 | 0.1 | 2020 | [438] |
| ITO/HATCN/TCTA/EML/TSP01/TPBi/LiF/Al | mCP | PTZTPE-3 | - | 5.56 | 3.24 | 8.2 | - | - | - | - | - | - | - | - | 0.28 | 0.38 | 2020 | |
| ITO/HATCN/TCTA/EML/TSP01/TPBi/LiF/Al | mCP | PTZTPE-4 | - | 5.49 | 2.95 | 0.7 | - | - | - | - | - | - | - | - | 0.17 | 0.21 | 2020 | |
| ITO/TAPC/TCTA/emitter:mCP/DPEPO/TmPyPB/LiF/Al | mCP | tCz-ND | 7% | 5.6 | 2.7 | 13.5 | 12.1 | 7.8 | 10.24 | - | - | 17.26 | - | - | 0.15 | 0.14 | 2020 | [413] |
| ITO/TAPC/TCTA/emitter:mCP/DPEPO/TmPyPB/LiF/Al | mCP | MetCZ-ND | 7% | 5.6 | 2.7 | 11.7 | 7.5 | 11 | 11.76 | - | - | 23.84 | - | - | 0.16 | 0.29 | 2020 | |
| ITO/PEDOT:PSS/host:5TCzBN/TPBi/Cs2CO3/Al | - | 3CzPhCN-O-Cz | 60% | 5.27 | 1.69 | 4.63 | - | - | 6.76 | - | - | 10.75 | - | - | 0.18 | 0.39 | 2020 | [439] |
| ITO/PEDOT:PSS/host:5TCzBN/TPBi/Cs2CO3/Al | - | 3PhCzCN-O-Cz | 60% | 5.24 | 1.94 | 1.05 | - | - | 1.09 | - | - | 2.43 | - | - | 0.2 | 0.36 | 2020 | |
| ITO/PEDOT:PSS/PVK/nondoped emitter (TB-3Cz, TB-P3Cz, or TB-DACz)/TPBi/LiF/Al | - | TB-3Cz | 0.30% | 5.15 | 1.93 | 9.19 | - | - | 3.76 | - | - | 4 | - | - | 0.17 | 0.07 | 2020 | [440] |

| | | | | | | | | | | | | | | | | | | |
|---|---|-----------------|-----------|------|------|----------|----------|----------|----------|----------|-----|----------|----------|----------|----------|----------|----------|-----------|
| ITO/PEDOT:PSS/PVK/nondoped emitter (TB-3Cz, TB-P3Cz, or TB-DACz)/TPBi/LiF/Al | - | TB-P3Cz | 0.20 % | 4.88 | 1.72 | 6.1 3 | - | - | 4.1 2 | - | - | 4.5 9 | - | - | 0. 15 | 0. 08 | 20 20 | |
| ITO/PEDOT:PSS/PVK/nondoped emitter (TB-3Cz, TB-P3Cz, or TB-DACz)/TPBi/LiF/Al | - | TB-DACz | 0.10 % | 4.62 | 1.76 | 6.0 4 | - | - | 15. 7 | - | - | 15 | - | - | 0. 18 | 0. 4 | 20 20 | |
| ITO/PEDOT:PSS/PVK/EML/DPEPO/TmPyP b/LiF/Al | - | 2tCz2Cz Bn | - | 5.65 | 2.8 | 24. 5 | 11 .9 | 4.5 | 26. 3 | 11 .6 | 3.1 | 41. 9 | 21 | 8.1 | 0. 16 | 0. 24 | 20 20 | [441] |
| ITO/PEDOT:PSS/PVK/EML/DPEPO/TmPyP b/LiF/Al | - | 2PhCz2t CzBn | - | 5.71 | 2.96 | 19. 5 | 17 .6 | 7.6 | 26. 7 | 23 .8 | 8.1 | 42. 5 | 38 .3 | 16. 9 | 0. 18 | 0. 35 | 20 20 | |
| ITO/PEDOT:PSS/PVK/EML/DPEPO/TmPyP b/LiF/Al | - | 2tCz2Ph CzBn | - | 5.61 | 2.86 | 19. 1 | 13 .2 | 7.9 | 29. 2 | 17 .9 | 8 | 43. 7 | 30 .4 | 18. 4 | 0. 19 | 0. 38 | 20 20 | |
| ITO/PEDOT:PSS/Emitter/PHPO/Cs2CO3/Al | - | MeCz- 4CzCN | - | 5.33 | 2.52 | 21. 8 | 21 .3 | 19 | 35. 6 | - | - | 46. 5 | - | - | 0. 17 | 0. 35 | 20 20 | [442] |
| ITO/PEDOT:PSS/Emitter/PHPO/Cs2CO3/Al | - | PhCz- 4CzCN | - | 5.36 | 2.55 | 20. 6 | 20 | 18. 2 | 27. 5 | - | - | 40. 8 | - | - | 0. 16 | 0. 27 | 20 20 | |
| ITO/PEDOT:PSS/Emitter/PHPO/Cs2CO3/Al | - | PhDCz- 4CzCN | - | 5.41 | 2.58 | 10 | 9. 8 | 7.9 | 11. 2 | - | - | 18. 9 | - | - | 0. 19 | 0. 28 | 20 20 | |

| | | | | | | | | | | | | | | | | | | |
|--|-----------|----------------------|---|---|---|-----|---|---|----------|---|---|----------|---|---|----------|----------|----------|-----------|
| ITO/PEDOT:PSS/T-CNDF-T-tCz/DPEPO/TmPyPB/Liq/Al | DPE PO | T- CNDF- T-tCz | - | - | - | 21 | - | - | 20. 8 | - | - | 46. 4 | - | - | 0. 19 | 0. 35 | 20 20 | [443] |
| ITO/PEDOT:PSS/T-CNDF-T-tCz/DPEPO/TmPyPB/Liq/Al | DPE PO | S-CNDF- S-tCz | - | - | - | 2.6 | - | - | 1.4 | - | - | 3.6 | - | - | 0. 16 | 0. 18 | 20 20 | |
| ITO/PEDOT:PSS/T-CNDF-T-tCz/DPEPO/TmPyPB/Liq/Al | DPE PO | S-CNDF- D-tCz | - | - | - | 3.7 | - | - | 2.2 | - | - | 5 | - | - | 0. 16 | 0. 17 | 20 20 | |

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