Electronic Supplementary Information

Figure S1. Performance of solution-processed OLEDs with the light-emitting layers cast from 1,2-dichloroethane with varied thickness of Cs_2CO_3. The structure of OLED is ITO/ PEDOT: PSS (60 nm)/ PVK: OXD-7: 10 *wt.* % FIrpic (10 mg/mL)/ Cs_2CO_3 (*y* nm)/ Al (150 nm), *y* = 2.0, 2.3, 2.6 or 3.0. **(a)** *J* (current density) *versus V* (voltage), **(b)** *L* (luminance) *versus V* (voltage) characteristics and **(c)** electroluminescent spectra of OLEDs.

(a) **(b)** **(c)**

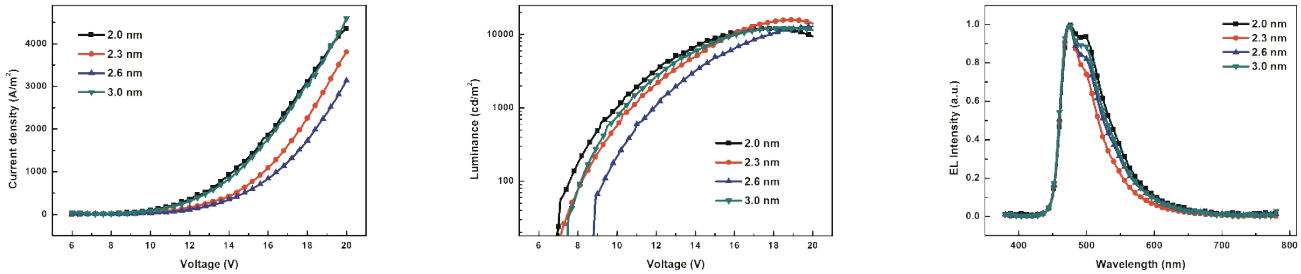

Figure S2. Performance of solution-processed OLEDs with the light-emitting layers cast from chlorobenzene with varied thickness of Cs_2CO_3. The structure of OLED is ITO/ PEDOT: PSS (60 nm)/ PVK: OXD-7: 10 *wt.* % FIrpic (20 mg/mL)/ Cs_2CO_3 (*y* nm)/ Al (150 nm), *y* = 2.0, 2.3, 2.6 or 3.0. **(a)** *J* (current density) *versus V* (voltage), **(b)** *L* (luminance) *versus V* (voltage) characteristics and **(c)** electroluminescent spectra of OLEDs.

(a) **(b)** **(c)**

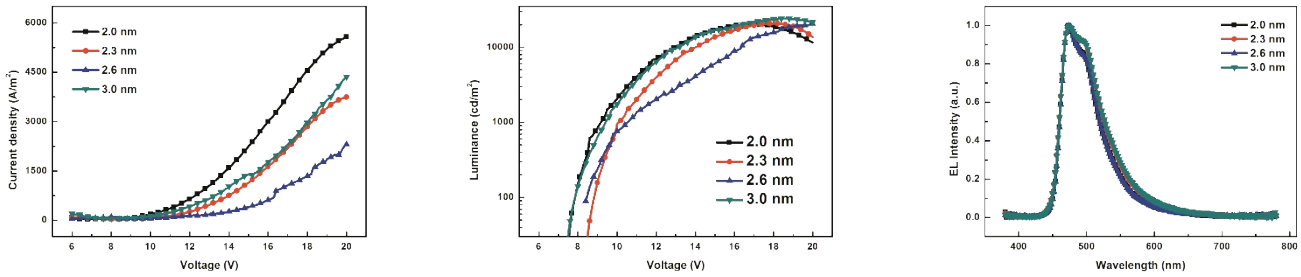

Figure S3. Performance of solution-processed OLEDs with the light-emitting layers cast from 1,2-dichlorobenzene with varied thickness of Cs_2CO_3. The structure of OLED is ITO/ PEDOT: PSS (60 nm)/ PVK: OXD-7: 10 *wt.* % FIrpic (40 mg/mL)/ Cs_2CO_3 (*y* nm)/ Al (150 nm), *y* = 2.0, 2.3, 2.6 or 3.0. **(a)** *J* (current density) *versus V* (voltage), **(b)** *L* (luminance) *versus V* (voltage) characteristics and **(c)** electroluminescent spectra of OLEDs.

(a) **(b)** **(c)**

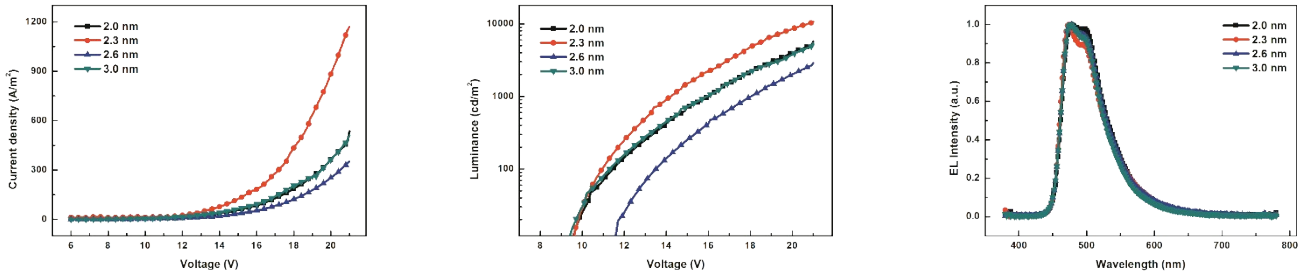

Table S1. Physical properties of different solvents.

Solvent	Boiling point	Viscosity at 25 °C	Molecular Polarity	Surface tension at 25 °C
	T [°C]	τ [cps]	μ [D]	γ [mN/m]
1,2-dichloroethane	83.5	0.78	0	31.7
chlorobenzene	132.2	0.75	2.7	32.5
1,2-dichlorobenzene	180.4	1.33	2.7	36.2

Table S2. Detailed performance of solution-processed OLEDs with the light-emitting layers cast from 1,2-dichloroethane with varied thickness of Cs_2CO_3. The structure of OLED is ITO/ PEDOT: PSS (60 nm)/ PVK: OXD-7: 10 *wt.* % FIrpic (10 mg/mL)/ Cs_2CO_3 (*y* nm)/ Al (150 nm).

y	Turn-on Voltage	Current Efficiency	Luminance	Current Density	Wavelength	CIE
	V_{on} [V]	η_{max} [cd/A]	L_{max} [cd/m^2]	J [A/m^2] at 18 V	λ [nm]	(x, y)
2.0	6.6	11.09	12.02×10^3	3110	474	(0.20, 0.39)
2.3	6.5	14.67	15.81×10^3	2255	474	(0.17, 0.34)
2.6	8.6	10.80	12.89×10^3	1727	474	(0.19, 0.37)
3.0	7.3	10.15	12.18×10^3	3032	474	(0.19, 0.37)

Table S3. Detailed performance of solution-processed OLEDs with the light-emitting layers cast from chlorobenzene with varied thickness of Cs_2CO_3. The structure of OLED is ITO/ PEDOT: PSS (60 nm)/ PVK: OXD-7: 10 *wt.* % FIrpic (20 mg/mL)/ Cs_2CO_3 (*y* nm)/ Al (150 nm).

y	Turn-on Voltage	Current Efficiency	Luminance	Current Density	Wavelength	CIE
	V_{on} [V]	η_{max} [cd/A]	L_{max} [cd/m^2]	J [A/m^2] at 18 V	λ [nm]	(x, y)
2.0	7.3	12.30	20.03×10^3	4548	474	(0.16, 0.35)
2.3	8.2	15.84	20.72×10^3	2842	474	(0.18, 0.36)
2.6	8.4	18.99	20.50×10^3	1346	474	(0.16, 0.34)
3.0	7.3	15.79	23.90×10^3	2965	474	(0.18, 0.37)

Table S4. Detailed performance of solution-processed OLEDs with the light-emitting layers cast from 1, 2-dichlorobenzene with varied thickness of Cs_2CO_3. The structure of OLED is ITO/ PEDOT: PSS (60 nm)/ PVK: OXD-7: 10 *wt.* % FIrpic (40 mg/mL)/ Cs_2CO_3 (*y* nm)/ Al (150 nm).

y	Turn-on Voltage	Current Efficiency	Luminance	Current Density	Wavelength	CIE
	V_{on} [V]	η_{max} [cd/A]	L_{max} [cd/m^2]	J [A/m^2] at 18 V	λ [nm]	(x, y)
2.0	9.1	12.58	5.75×10^3	185	478	(0.18, 0.40)
2.3	9.3	12.51	10.71×10^3	434	474	(0.18, 0.37)
2.6	11.2	8.39	2.87×10^3	122	478	(0.18, 0.38)
3.0	9.0	11.61	5.34×10^3	206	476	(0.17, 0.37)