

Supplementary Information

Effect of thermal annealing Super Yellow emissive layer on efficiency of OLEDs

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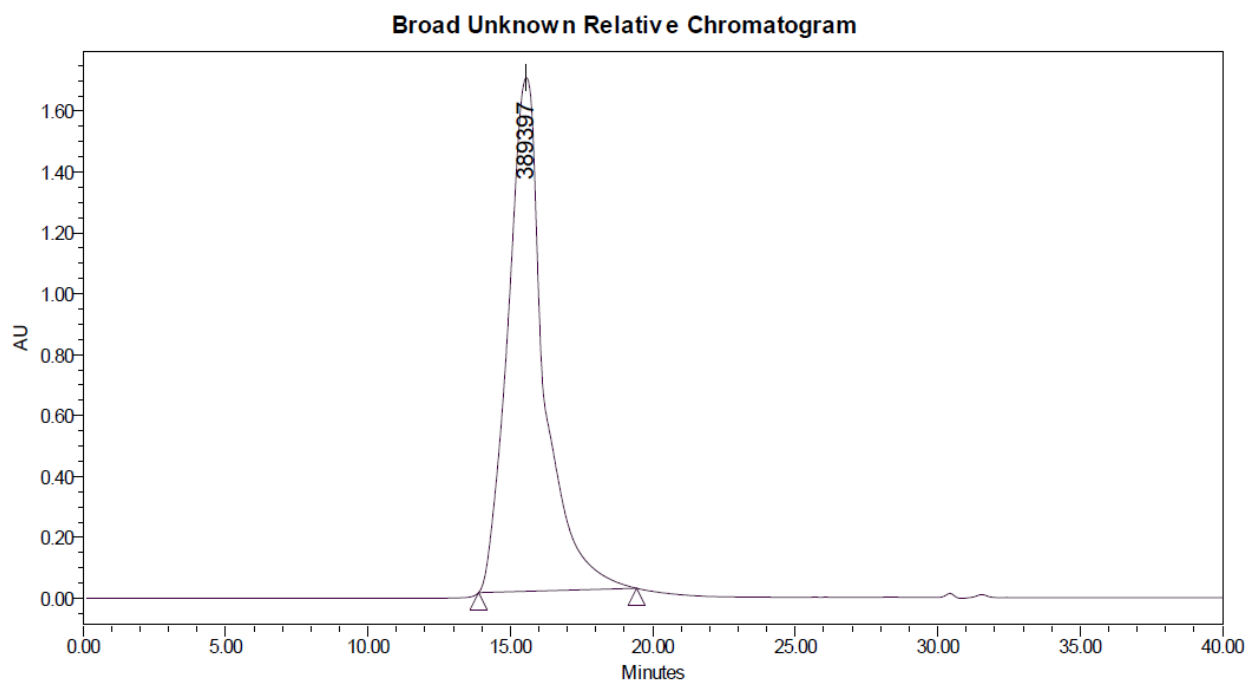
Table S1. Different annealing temperatures of polymer Super Yellow thin films in fabrication of organic light emitting devices. OLED: Organic Light Emitting diode, OFET: Organic field effect transistor.

Sl. No.	Temperature (°C)	Time	Light Emitting Device
1.	200	30 mins	OFET ¹
2.	175	30 mins	OFET ²
3.	140	30 mins	OLED ³
4.	120	--	OLED ⁴
5.	120	--	OLED ⁵
6.	100	60 mins	OFET ⁶
7.	100	10 mins	OLED ⁷
8.	80	30 mins	OLED ⁸
9.	80	30 mins	OLED ⁹
10.	70	30 mins	OLED ¹⁰
11.	50	15 mins	OLED ¹¹
12.	--	--	OLED ¹²

Table S2. Averages of current efficiency and EQE at different luminance values, averages of maximum current efficiency and EQE and average turn on voltages. The standard deviation is given as error. Highest values are in brackets.

Annealing Temperature	At 100 cd/m ²		At 1000 cd/m ²		At 10000 cd/m ²		Maximum		Turn on Voltage
	cd/A	EQE (%)	cd/A	EQE (%)	cd/A	EQE (%)	cd/A	EQE (%)	(V)
Non Annealed	7.96 ± 1.82 (9.32)	2.65 ± 0.61 (3.11)	9.30 ± 1.82 (10.68)	3.11 ± 0.61 (3.57)	8.38 ± 1.23 (9.25)	2.80 ± 0.42 (3.11)	9.40 ± 1.71 (10.73)	3.13 ± 0.57 (3.58)	2.25 ± 0.15
50 °C	9.37 ± 1.03 (10.51)	2.96 ± 0.50 (3.57)	10.14 ± 1.34 (11.90)	3.22 ± 0.58 (4.04)	8.92 ± 1.06 (10.18)	2.87 ± 0.44 (3.47)	10.37 ± 1.30 (12.03)	3.52 ± 0.44 (4.09)	2.16 ± 0.05
100 °C	4.38 ± 1.82 (6.96)	1.49 ± 0.62 (2.38)	7.05 ± 1.89 (9.87)	2.40 ± 0.66 (3.39)	8.49 ± 1.58 (10.27)	2.89 ± 0.55 (3.49)	8.66 ± 1.76 (10.69)	2.97 ± 0.60 (3.67)	2.28 ± 2.17

150 °C	6.73 ± 0.83 (7.71)	2.27 ± 0.29 (2.62)	8.73 ± 1.30 (10.21)	2.94 ± 0.43 (3.44)	8.17 ± 1.25 (9.63)	2.76 ± 0.43 (3.27)	9.04 ± 1.47 (10.37)	2.96 ± 0.45 (3.48)	2.16 ± 0.08
200 °C	4.02 ± 0.32 (4.34)	1.34 ± 0.11 (1.43)	6.10 ± 0.71 (6.76)	2.04 ± 0.24 (2.27)	6.71 ± 1.13 (7.80)	2.24 ± 0.37 (2.60)	7.31 ± 0.76 (8.07)	2.31 ± 0.38 (2.72)	2.10 ± 0.05



Broad Unknown Relative Peak Table

	Distribution Name	Mn (Daltons)	Mw (Daltons)	MP (Daltons)	Mz+1 (Daltons)	Polydispersity	Mz/Mw	Mz+1/Mw
1		184300	254594	389397	322830	1.381408	1.168589	1.268018

Figure S1. Gel permeation chromatogram of the super yellow polymer in tetrahydrofuran at 30 °C. M_R are relative to polystyrene standards.

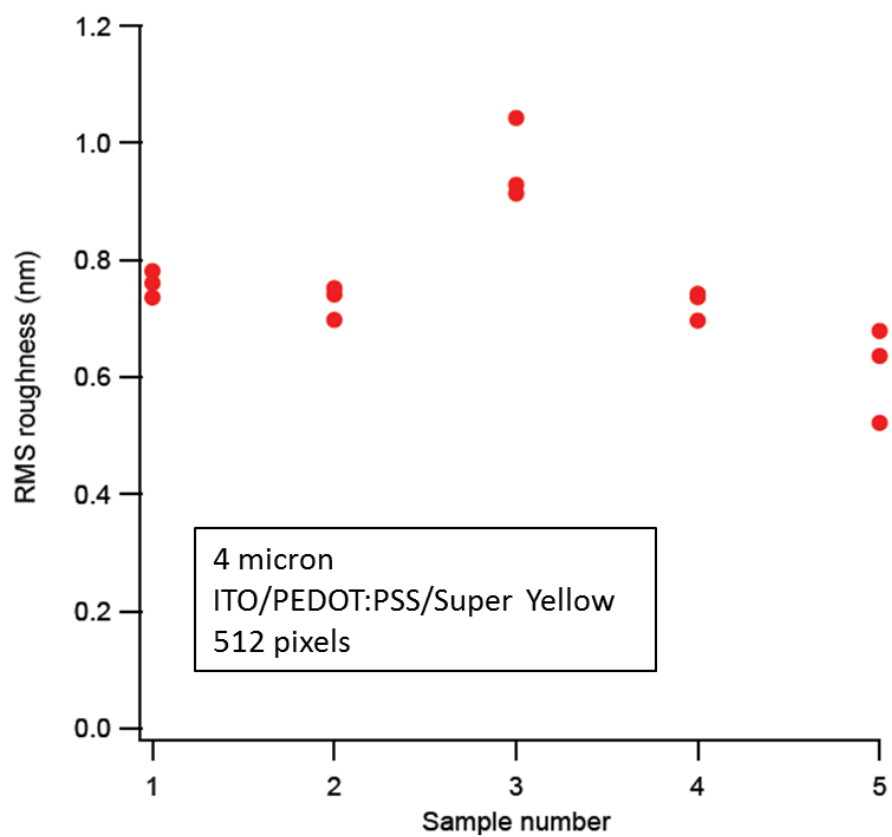


Figure S2. RMS roughness of ITO/PEDOT:PSS/Super Yellow films on glass annealed at different temperatures. Sample numbers 1, 2, 3, 4 and 5 correspond to non-annealed, annealed at 50 °C, 100 °C, 150 °C and 200 °C, respectively.

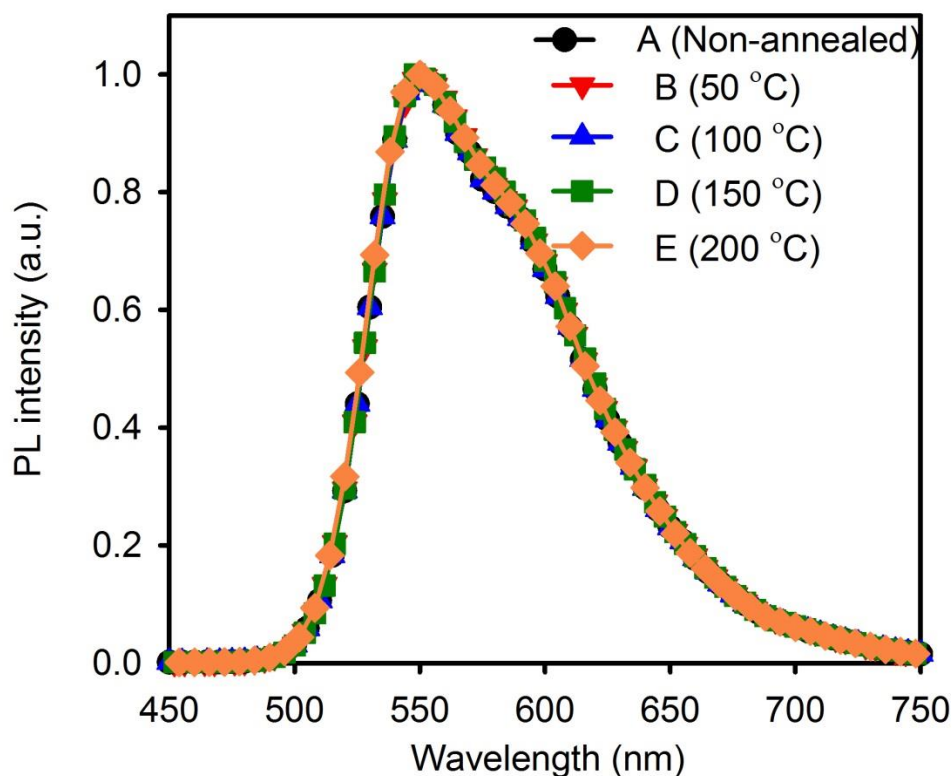


Figure S3. Normalized PL spectra for non-annealed and annealed Super Yellow thin films.

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