Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C.

Supporting Information

Energy level engineering of PEDOT:PSS by antimonene quantum sheets doping for highly Efficient OLEDs

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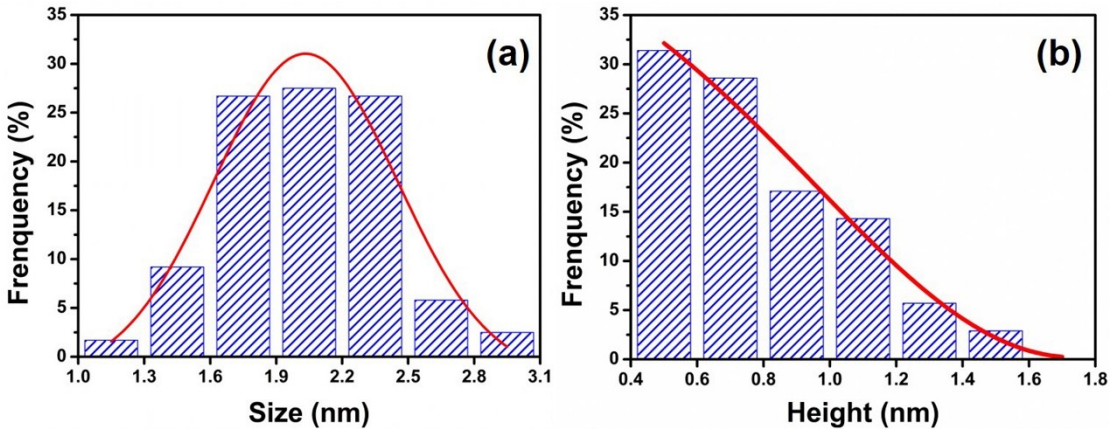

Fig. S1 Histogram statistical distribution. Diameter (a) and thickness (b) of AMQSs.

Table S1. Summary of the detailed performance parameters for this work and reported OLEDs with similar device structure in literatures.

Devices	Turn-on Voltage (V)	Maximum				Color	Reference
		L (cd m^{-2})	CE (cd A^{-1})	PE (lm W^{-1})	EQE (%)		
PEDOT:PSS:AMQSs (10 vol.%)	3.0[a] 3.3[b]	31170	69.88	48.28	19.91	Green	This work
MoS_2 UVO	4.4[b]	18900	12.01	3.43	*	Green	[1]
TaS_2 UVO	4.3[b]	18400	12.66	4.77	*	Green	[1]
UVO-MoS_x nanodot	4.0[b]	23300	14.70	4.20	*	Green	[2]
WS_2+UV-O_3 5 min	4.1[b]	19000	10.82	5.92	*	Green	[3]
MoS_2+PEDOT:PSS (2 : 1)	2.1[a]	24064	8.1	5.7	*	Blue	[4]
PEDOT:PSS+ 20 wt.% MoO_x	*	*	*	*	4.37	Blue	[5]
PEDOT:PSS/MoO_x	*	*	*	*	4.6	Blue	[6]

[a] Turn-on voltages at 1 cd m^{-2}; [b] Turn-on voltages at 10 cd m^{-2}; * No data.

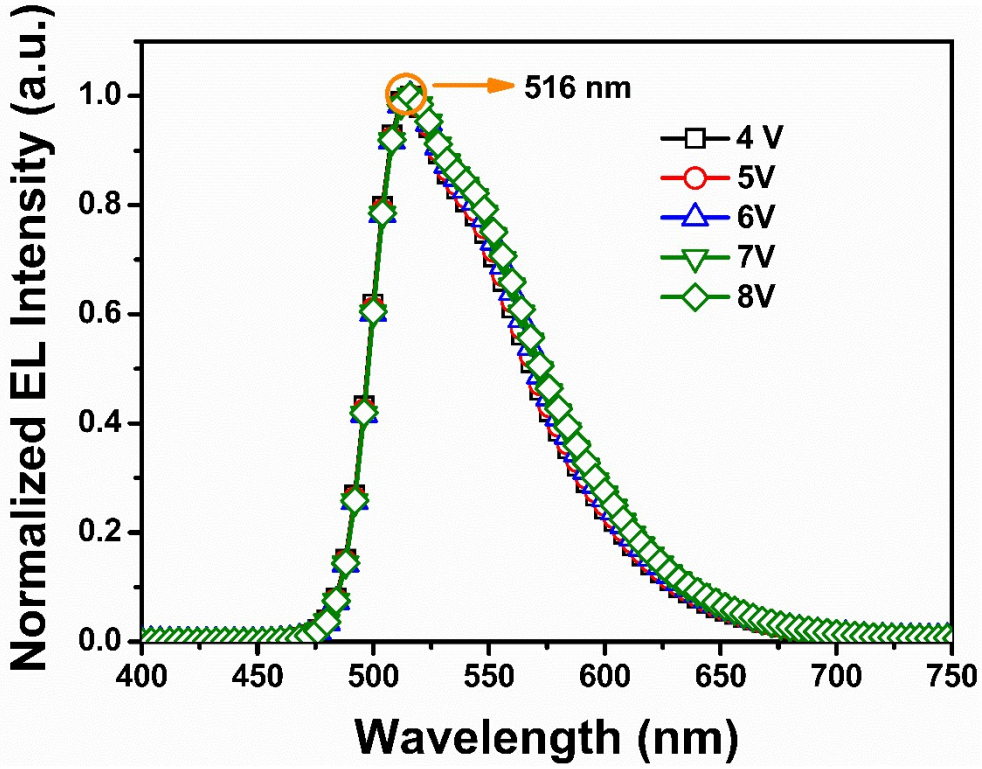

Fig. S2 Normalized EL spectra of the devices with AMQSs (10 vol.%) at the voltages of 4 V, 5 V, 6 V, 7 V, and 8 V.

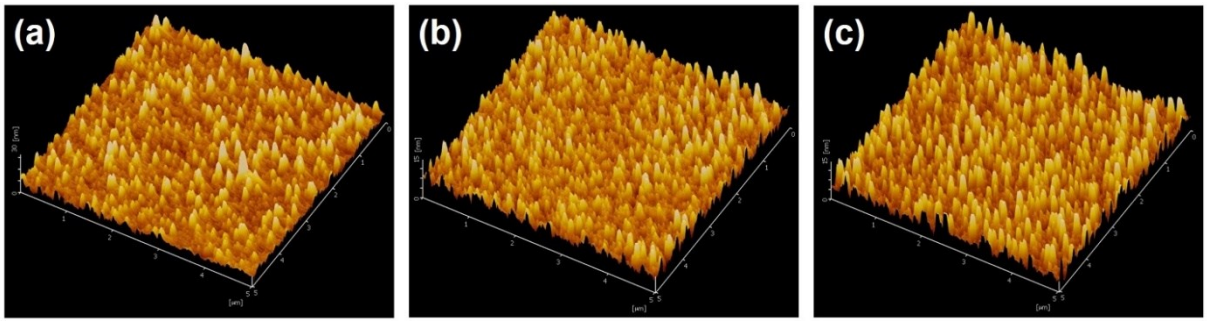

Fig. S3 There-dimensional (3-D) AMF images (5.0 × 5.0 μm^2) of the ITO/PEDOT:PSS:AMQSs HIL with (a) 0 vol.%, (b) 10 vol.% and (c) 15 vol.%.

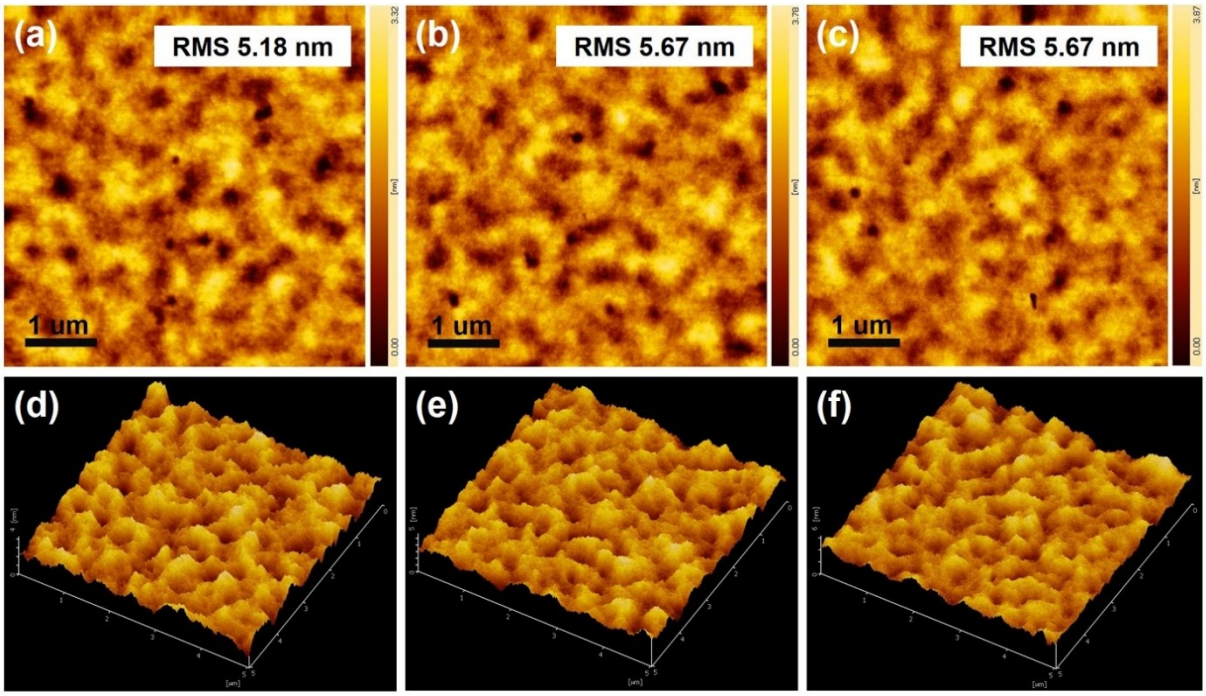

Fig. S4 Two-dimensional (2-D) AMF images (5.0 × 5.0 μm^2) of the ITO/PEDOT:PSS:AMQSs/TAPC film with AMQSs of (a) 0 vol.%, (b) 10 vol.% and (c) 15 vol.%. And corresponding there-dimensional (3-D) AMF images (5.0 × 5.0 μm^2) with AMQSs of (d) 0 vol.%, (e) 10 vol.% and (f) 15 vol.%, respectively.

References

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