A facile one-step solution deposition via non-solvent/solvent mixture for efficient organometal halide perovskite light-emitting diodes

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Supporting Information

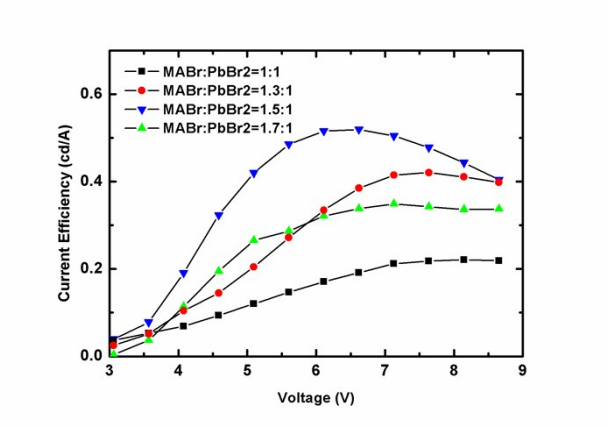

Figure S1 Efficiency-voltage characteristics for devices fabricated by solutions with different MABr:$PbBr_2$ ratios of 1:1, 1.3:1, 1.5:1, and 1.7:1 respectively. The solvent is 4/10 CBZ/DMF mixture for all solutions.

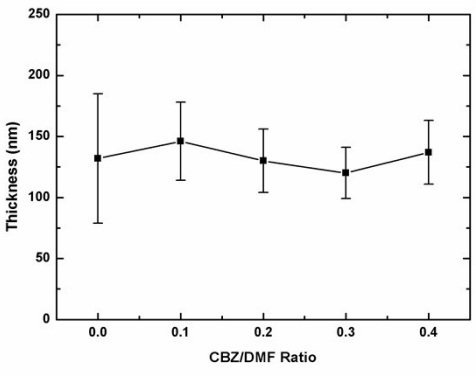

Figure S2 Dependence of the thickness of the perovskite layer versus the CBZ/DMF ratio in the mixed solvent. The solution concentration is 20 wt.%. The thicknesses have been measured by profilometer for a single layer but at five different points of the film. The average values are plotted. Error bars correspond to the standard deviation. For film fabricated by 5 wt.% $MAPbBr_3$ solution using 4/10 CBZ/DMF solvent, its thickness is 48±17 nm.

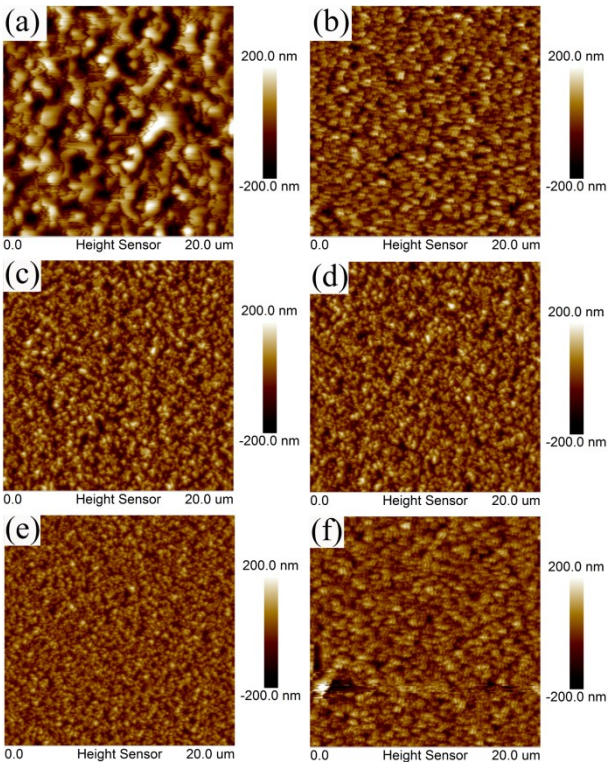

Figure S3 AFM images of $MAPbBr_3$ films deposited on PEDOT:PSS/ITO substrate. MAPbBr3 films were fabricated by solutions with different CBZ/DMF ratios of (a) 0/1, (b)1/10, (c)2/10, (d)3/10, (e)4/10, and (f)4/10 respectively. The concentrations of solution (a)-(e) are 20 wt.%, and that of solution (f) is 5 wt.%.