Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information for

DMSO-based PbI_2 precursor with $PbCl_2$ additive for high efficient perovskite solar cells fabricated at low temperature

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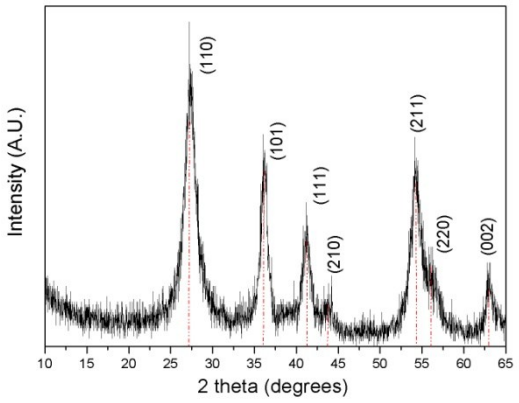

Fig. S1. The XRD patterns of TO_2 nanocrystalline contact layer prepared by chemical bath deposition method.

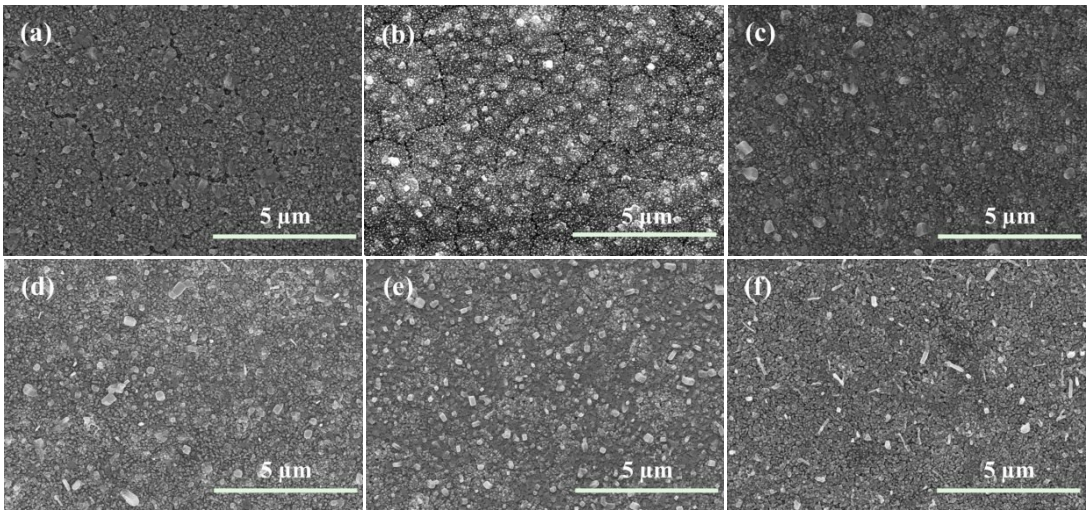

Fig. S2. Top view SEM images (high-magnification) of DMSO-based perovskite films prepared with (a) no, (b) 10 mol %, (c) 30 mol %, (d) 50 mol %, (e) 70 mol % and (f) 90 mol % $PbCl_2$ additive, respectively.

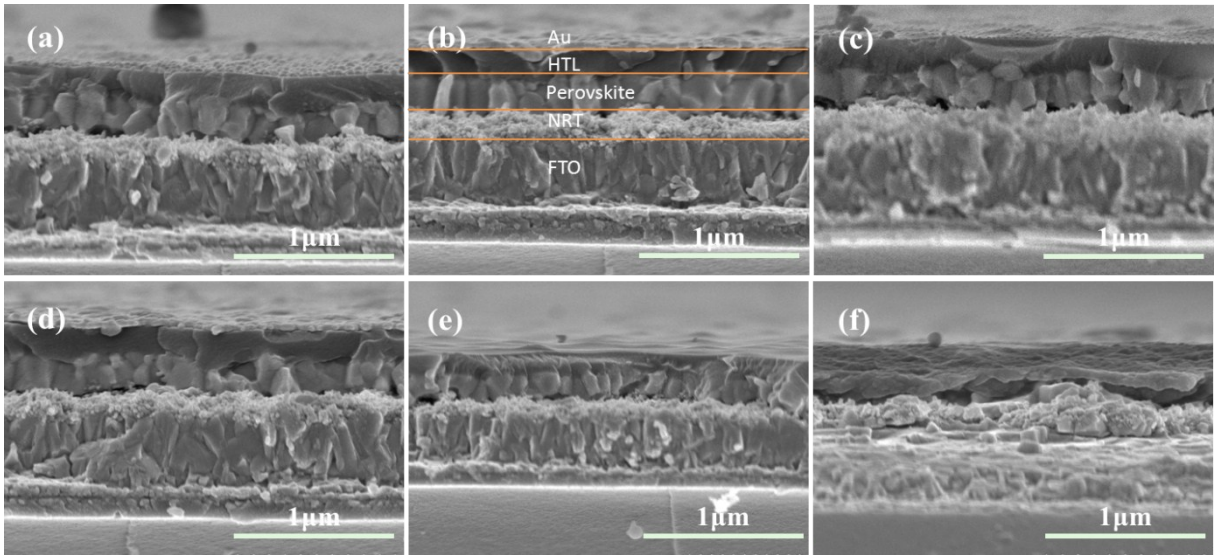

Fig. S3. The cross-section SEM images of the solar cells based on (a) Film b, (b) c, (c) d, (d) e, (e) f and (f) g, respectively.

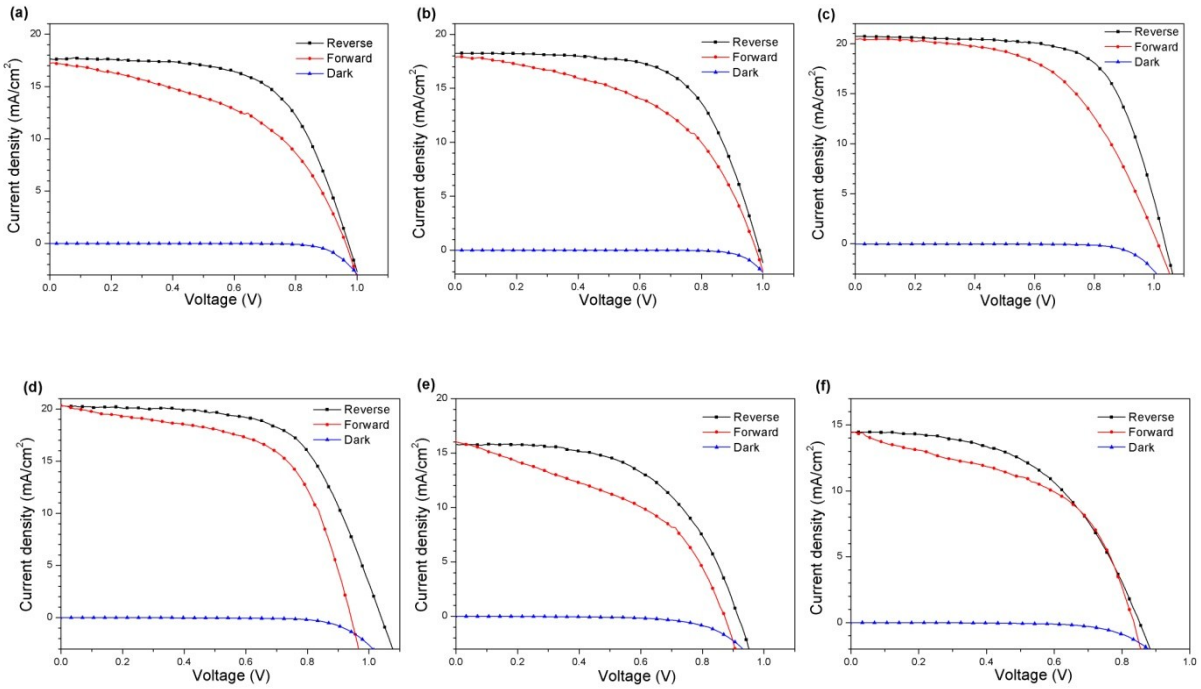

Fig. S4. *J-V* curves (as well as the dark *I-V*) of the solar cells based on (a) Film b, (b) c, (c) d, (d) e, (e) f and (f) g, respectively, with respect to forward and reverse scan direction.