

Double Coating for the Enhancement of the Performance in a $\text{MA}_{0.7}\text{FA}_{0.3}\text{PbBr}_3$ Photodetector

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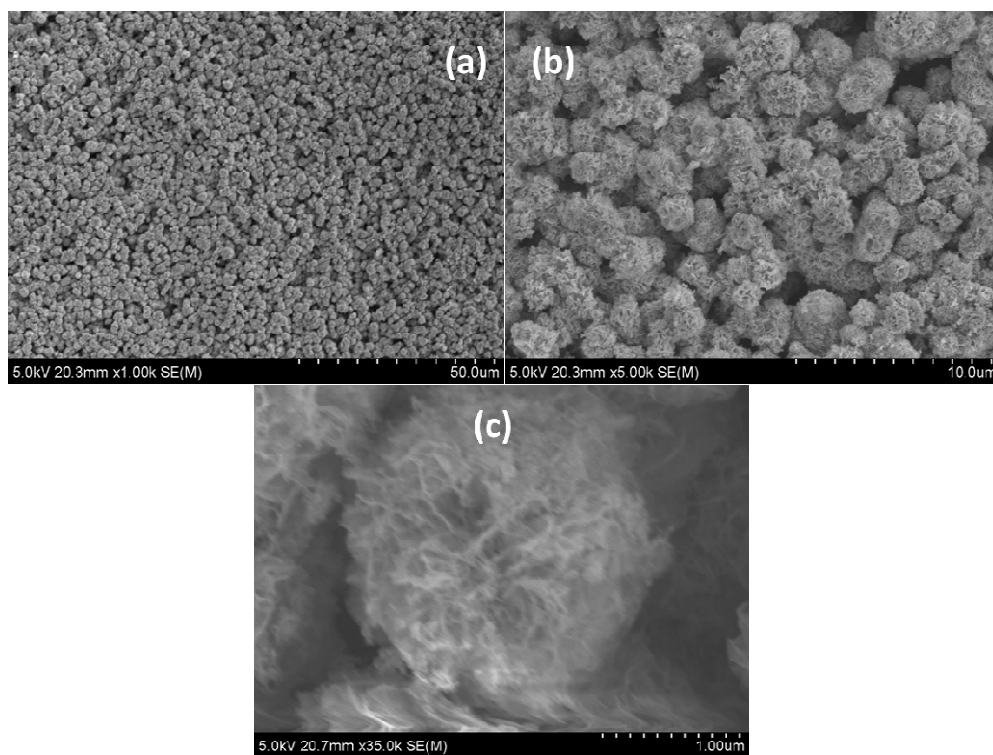


Figure S1 The SEM images of ZnO MP.

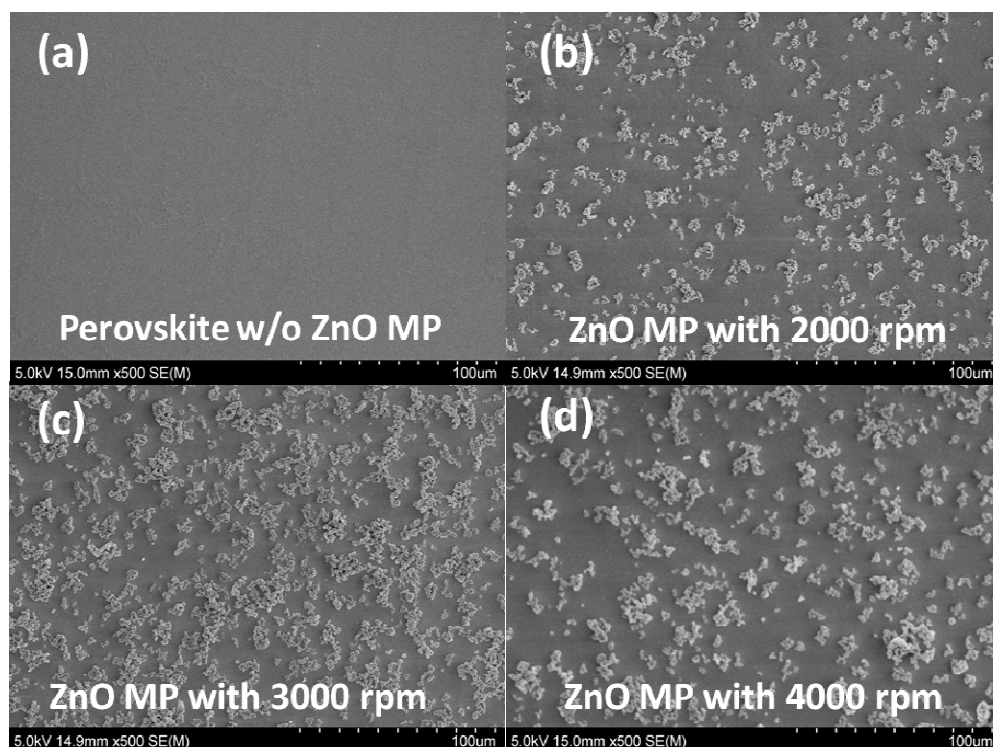


Figure S2 SEM images of perovskite without ZnO MP (a), with ZnO MP at (b) 2000 rpm, (c) 3000 rpm and (d) 4000 rpm.

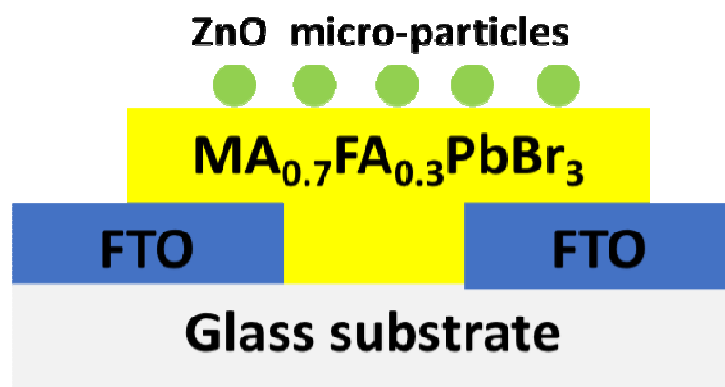


Figure S3 Schematic illustration of a perovskite PD coated by ZnO MPs.

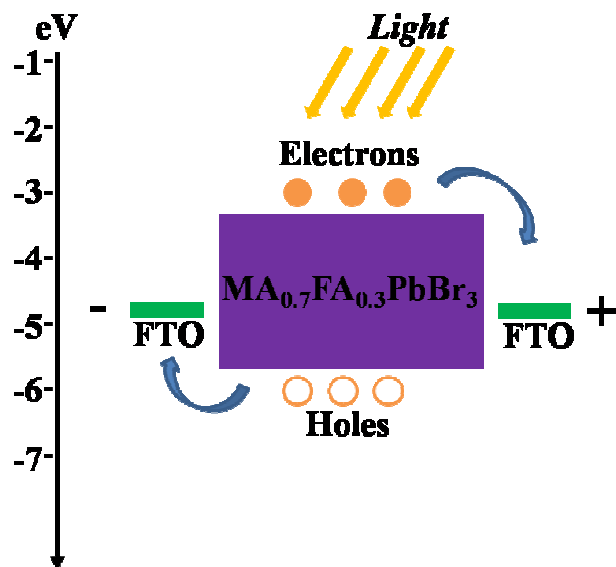


Figure S4 The band alignment of a perovskite PD.

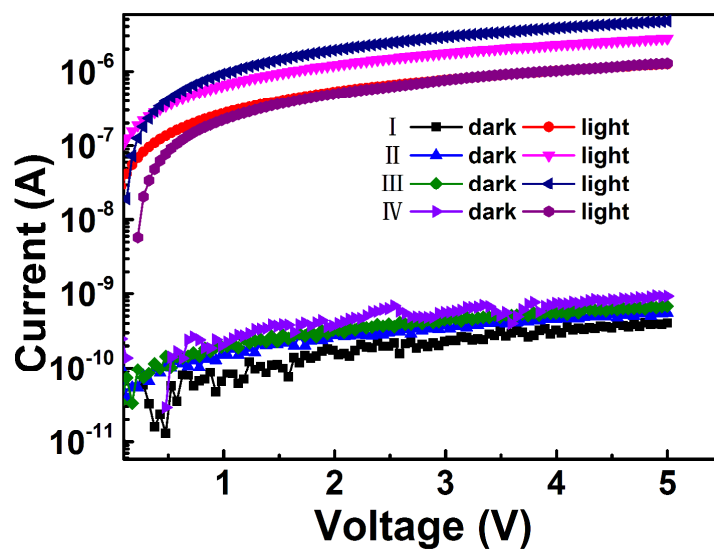


Figure S5 The I - V characteristics in semilogarithmic coordinates of the devices modified by ZnO MP with various spin-coating rpm.

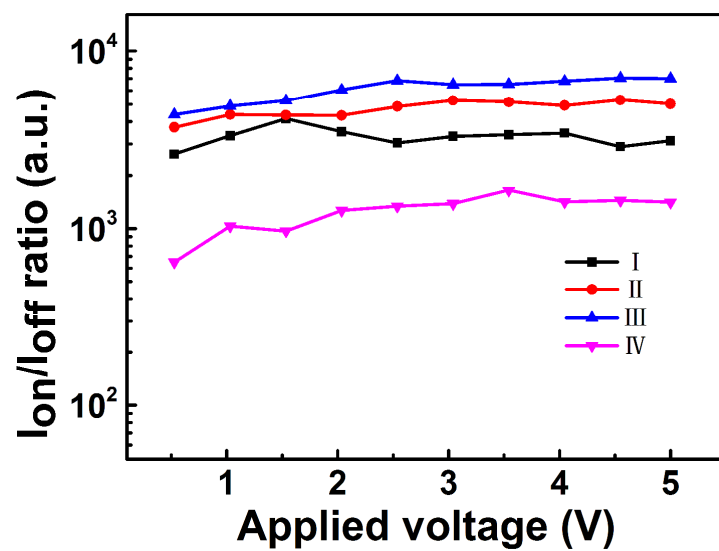


Figure S6 I_{on}/I_{off} ratio curves of the devices modified by ZnO MP with various spin-coating rpm.

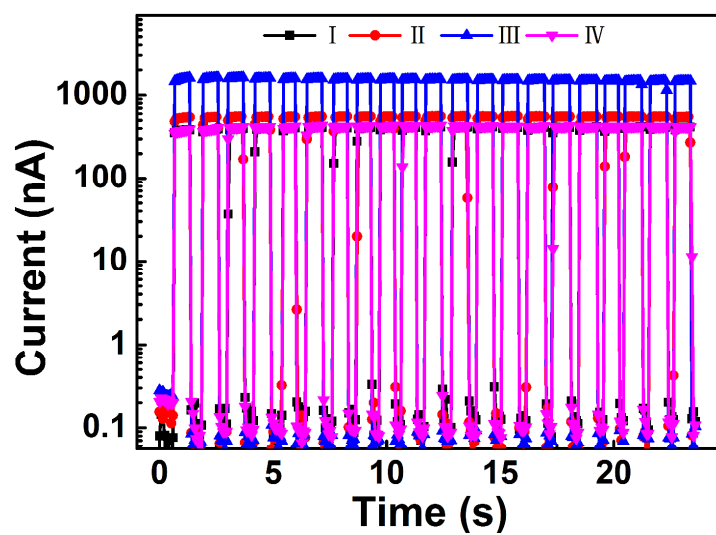


Figure S7 The dependence of photocurrent on operating time at 2 V.

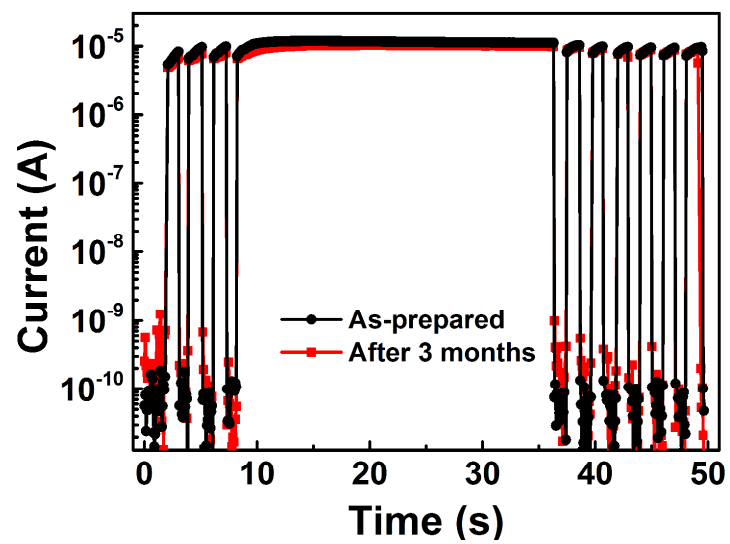


Figure S8 I-T curve of the device stored in the air after 3 months at 2 V.

Table S1 The performance parameters of perovskite-based PDs in this and previously reported

work						
Type	Structure	Responsivity (A/W)	Detectivity ($\times 10^{12}$ Jones)	LDR (dB)	On/off ratio	References
Film	FTO/MA _{0.7} FA _{0.3} PbBr ₃ /FTO	0.51	4.0	100	$\sim 10^5$	This work
Film	ZnO/CsPbI ₃ /P3HT	0.035	1.8	85.6	-	26
Single crystal	Ti/CH ₃ NH ₃ PbCl ₃ /Pt	6×10^4	10	-	~ 100	27
Single crystal	Au/CsPbBr ₃ /Pt	0.028	0.17	-	10^5	28
nanowire	Au/MAPbI ₃ /Au	0.1	1.02	-	~ 300	29
Film	Pt/MAPbI ₃ /Pt	0.175	0.0967	-	10^4	30
Single crystal	Au/CsPbBr ₃ /Au	0.028	0.18	-	100	31