Supplementary information

Underestimated photoactive area in organic solar cells based on a ZnO interlayer

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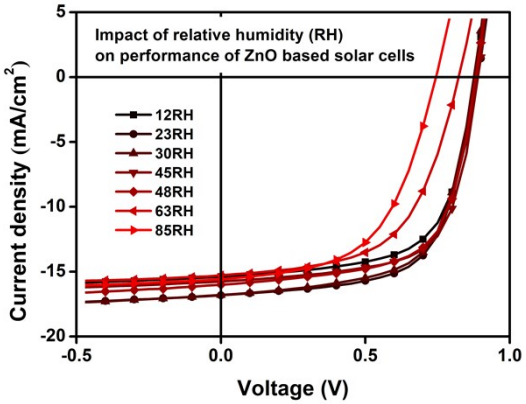

Relative humidity (%)	V_{OC} (V)	J_{SC} (mA/cm^2)	FF (%)	PCE (%)
12	0.879	15.38	64.7	8.75
23	0.889	16.82	64.4	9.63
30	0.876	16.80	64.2	9.44
45	0.890	15.76	66.4	9.31
48	0.882	16.01	65.1	9.20
63	0.823	15.28	57.8	7.27
85	0.745	15.57	55.0	6.38

Figure S1. JV characteristic curves and performance parameters for the ZnO based solar cells with the ZnO interlayers grown at different relative humidity and an annealing temperature of 200 ^{o}C.

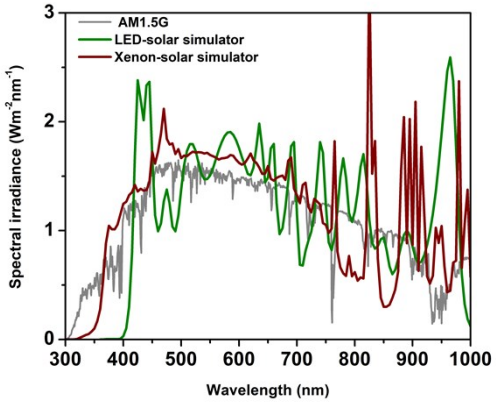

Figure S2. Spectra irradiance of the LED (Newport Oriel VeraSol-2™ Class AAA) and the xenon lamp (Newport Oriel Sol3A ™) based solar simulators used in this work, compared to the AM1.5G spectrum.

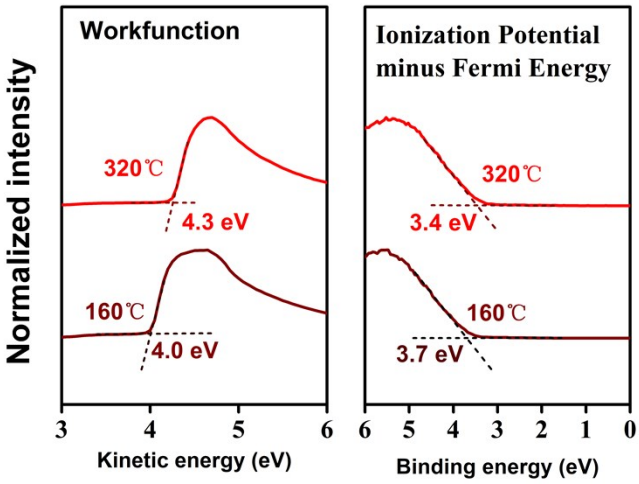

Figure S3. UPS spectra for the ZnO interlayers grown at different annealing temperatures.

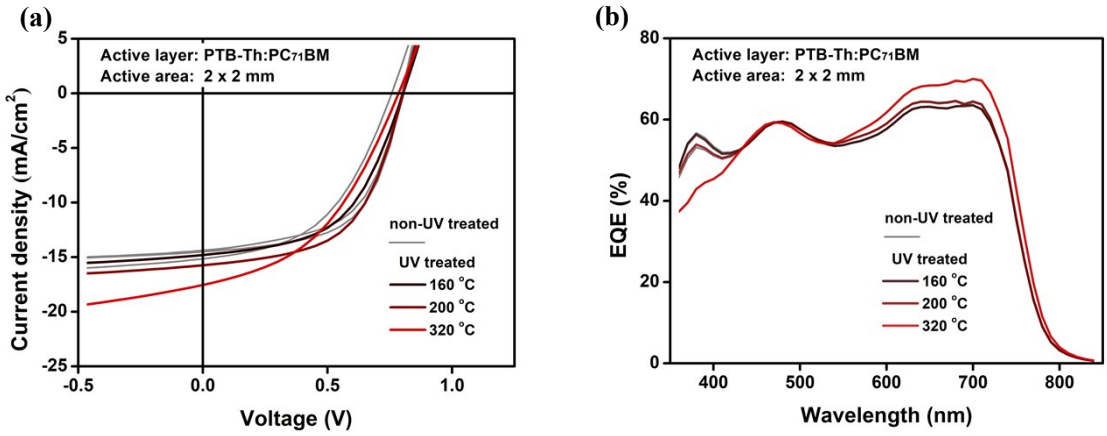

Figure S4. a) JV characteristic curves and **b)** EQE of the solar cells based on PTB7-Th:$PC_{71}BM$ with the ZnO interlayers grown at different annealing temperatures, before and after the UV treatment.