

Supporting Information

Light Manipulating Electrode based on High Optical Haze Aluminum-Doped Zinc Oxide for Highly Efficient Indium-Tin-Oxide Free Organic Solar Cells Over 13% Efficiency

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Table R-1. The differences of the J_{sc} from EQE and J-V curve for devices based on different cathodes.

| Cathodes | J_{sc} from EQE (mA/cm ²) | J_{sc} from J-V curve (mA/cm ²) | Error |
|-------------|--|--|-------|
| Flat-ITO | 20.93 | 20.43 | 2.44% |
| Flat-AZO | 19.86 | 19.31 | 2.85% |
| Texture-AZO | 22.11 | 21.45 | 3.08% |

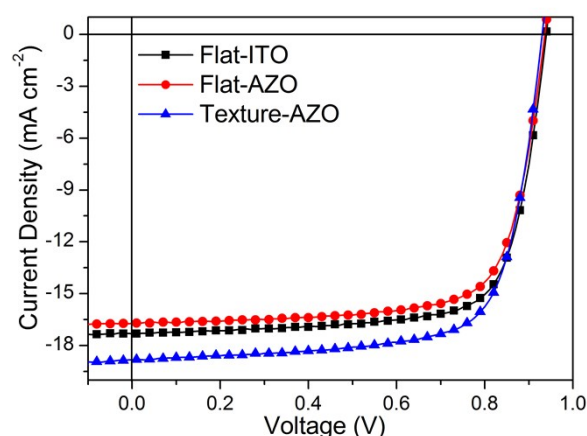


Figure S-1. Current density versus voltage characteristics of the devices with different cathodes based on PBDB-T:IT-M active-layer. Device structure: Glass/ Texture-AZO or Flat-AZO or Flat-ITO/ ZnO/ PBDB-T: IT-M/ MoO₃/Al.

Table R-2. Photovoltaic parameters for PBDB-T: IT-M based devices with different cathode.

| Cathodes | V_{oc} (V) | J_{sc} (mA/cm ²) | FF (%) | PCE (%) |
|-------------|--------------|--------------------------------|--------|---------|
| Flat-ITO | 0.94 | 17.31 | 73.86 | 12.02 |
| Flat-AZO | 0.94 | 16.72 | 72.46 | 11.39 |
| Texture-AZO | 0.94 | 18.84 | 71.87 | 12.73 |