

Supplementary Information

Bulk heterojunction organic solar cells fabricated by oblique angle deposition

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AFM, TEM and SEM images of the surface of organic film.

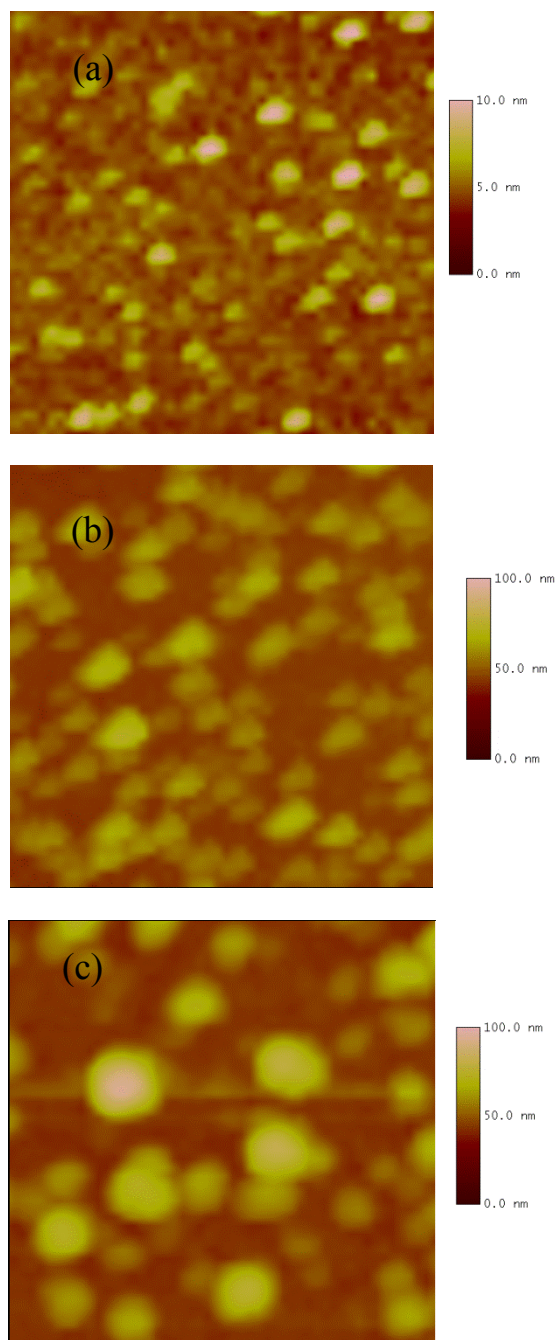


Fig. S1 AFM image of ZnPc:C60 BHJ with different thickness: (a) 2 nm, (b) 5 nm, and (c) 10 nm. RMS roughness is 0.83 nm (a), 5.78 nm (b), and 9.07 nm (c). The size of all figures is $1\mu\text{m} \times 1\mu\text{m}$.

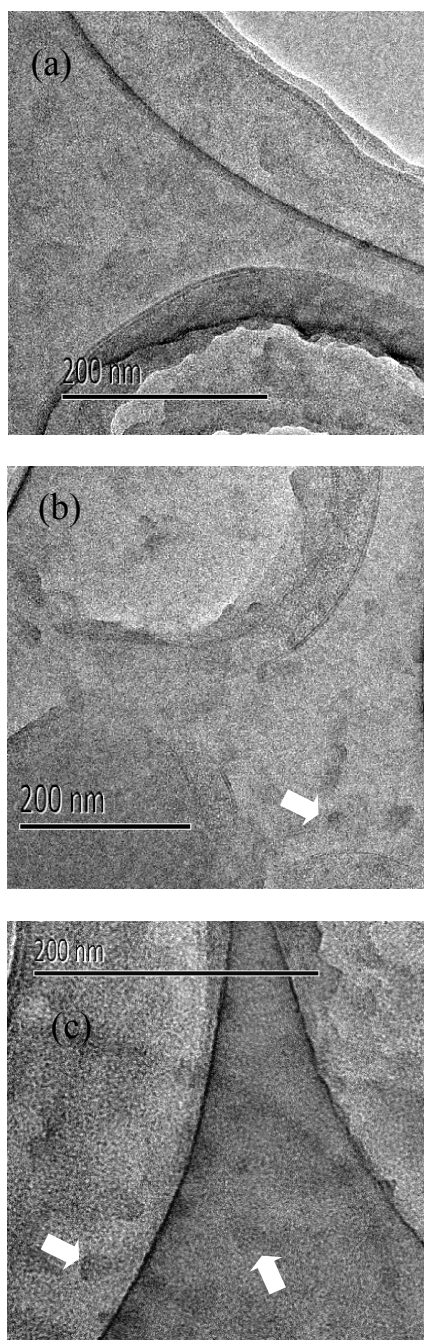


Fig. S2 TEM image of ZnPc:C60 BHJ with different thickness: (a) 2 nm, (b) 5 nm, and (c) 10 nm. White arrows indicate the aggregations in Fig. S2b and S2c.

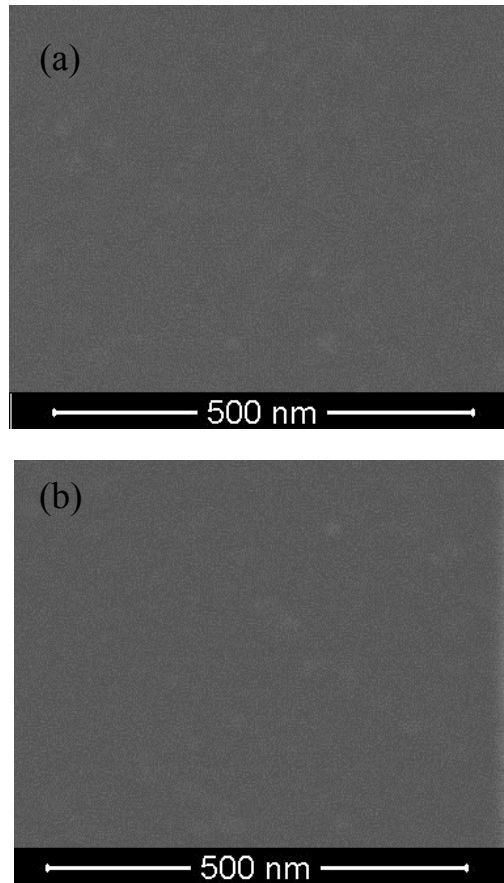


Fig. S3 SEM images of the surface of (a) ZnPc and (b) CuPc layer prepared on Si substrate by oblique angle deposition. No pin-hole is found in the organic film.