

Electronic Supporting Information

Solution-Processed PEDOT:PSS/MoS₂ Nanocomposites as Efficient Hole-Transporting Layers for Organic Solar Cells

Madheshwaran Sekkarapatti Ramasamy^a, Ka Yeon Ryu^a, Ju Won Lim^a, Asia Bibi^a, Hannah Kwon^a, Ji-Eun Lee^a, Dong Ha Kim^{a*} and Kyungkon Kim^{a*}

^aDepartment of Chemistry and Nanoscience, Ewha Womans University, 52 Ewhayeodae-gil, Seodaemun-gu, Seoul 03760, Republic of Korea

* Corresponding author.

E-mail address: kimkk@ewha.ac.kr (Kyungkon Kim), dhkim@ewha.ac.kr (Dong Ha Kim).

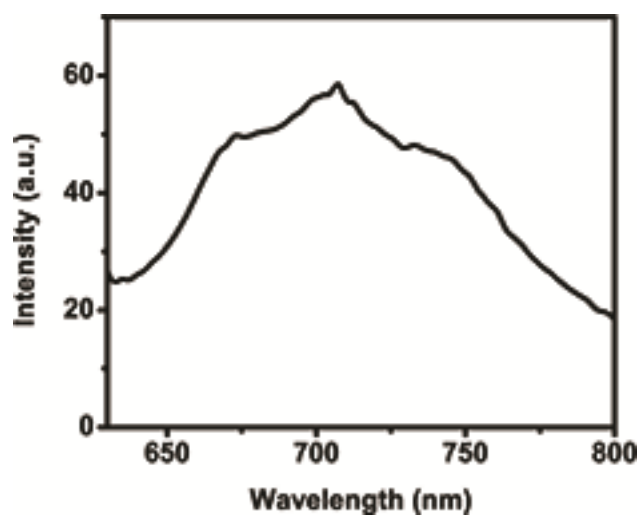


Fig. S1. Photoluminescence (PL) spectra of oleylamine-functionalized MoS₂ (FMoS₂).

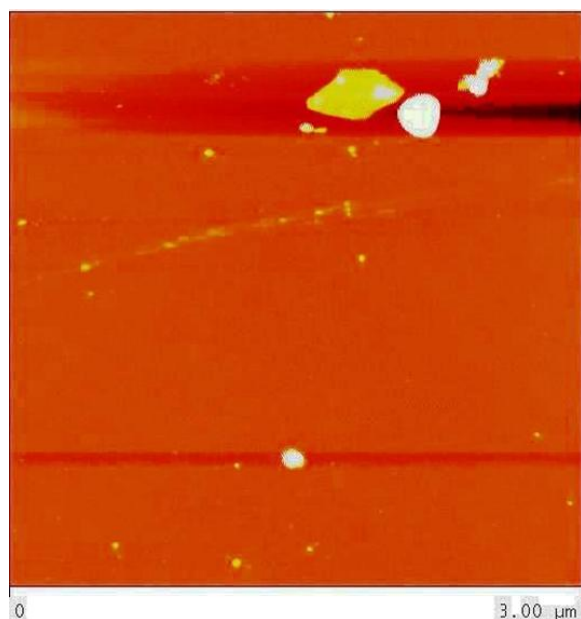


Fig. S2. AFM image of oleylamine-functionalized MoS₂ (FMOs₂).

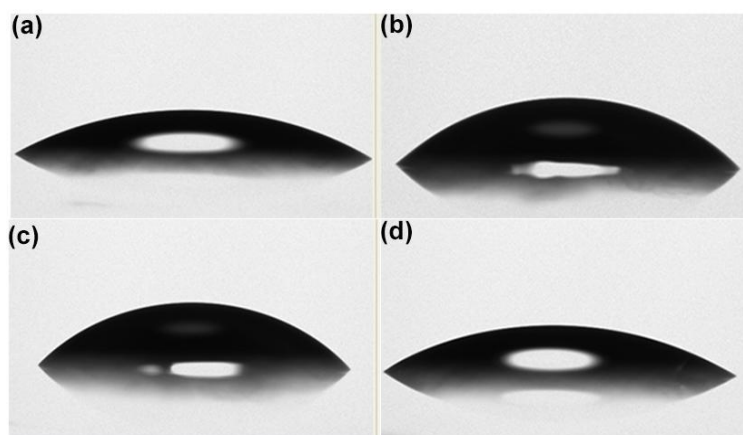


Fig. S3. Contact angles of (a) poly(3,4-ethylenedioxythiophene):poly(styrenesulfonate) (PEDOT:PSS) and PEDOT:PSS combined with (b) 5, (c) 20, and (d) 50 μl of oleylamine-functionalized MoS₂ thin films spin coated on ITO substrates.

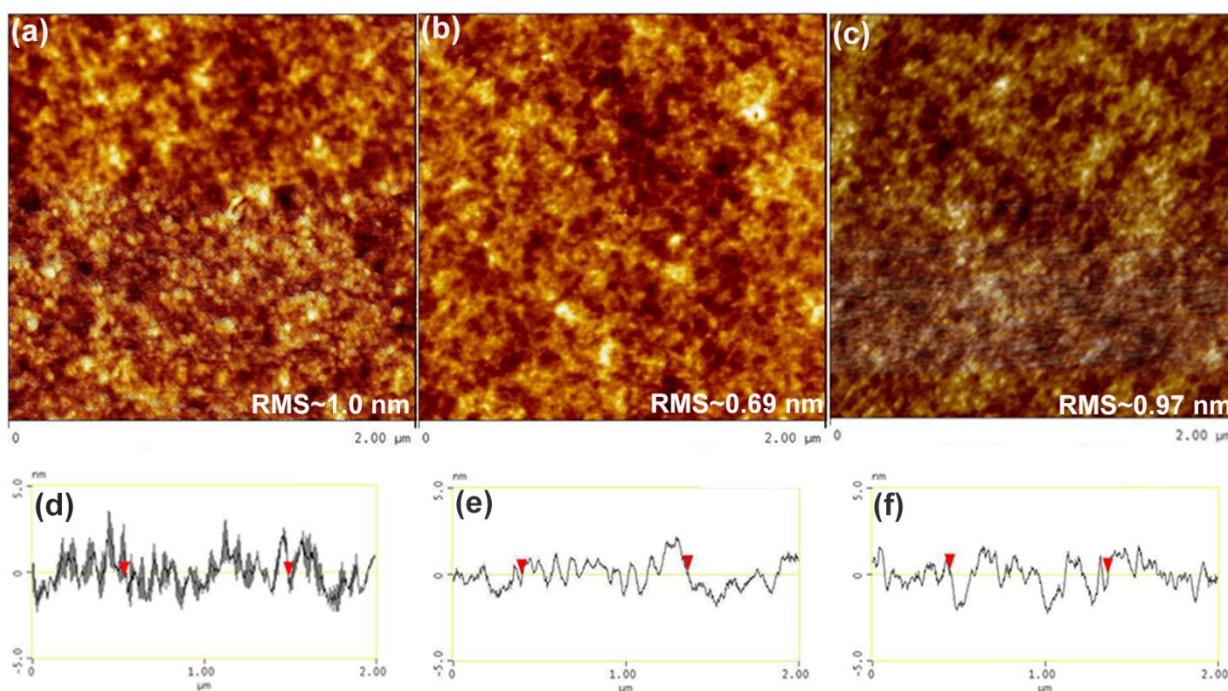


Fig. S4. AFM images of (a) poly(3,4-ethylenedioxythiophene):poly(styrenesulfonate) (PEDOT:PSS) and PEDOT:PSS combined with (b) 5, and (c) 50 μl of oleylamine-functionalized MoS_2 .

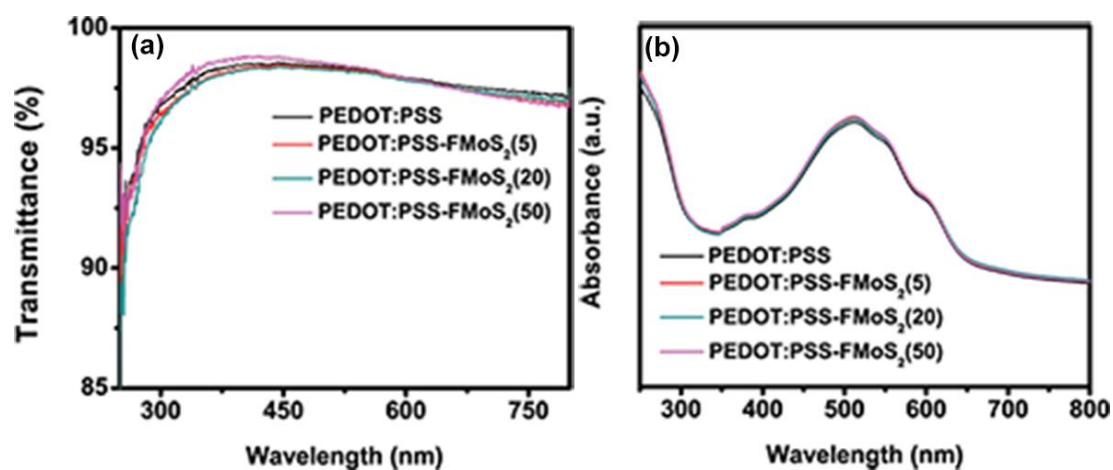


Fig. S5. (a) UV-Vis transmittance spectra of PEDOT:PSS and PEDOT:PSS combined with 5, 20, and 50 μl of oleylamine-functionalized MoS_2 . (b) UV-Vis absorbance spectra of P3HT:PCBM thin film spin-coated on PEDOT:PSS and PEDOT:PSS combined with 5, 20, and 50 μl of oleylamine-functionalized MoS_2 .