Electronic Supplementary Material (ESI) for Nanoscale.

Supporting information

Boosting up the Electrical Performance of Low-Grade PEDOT:PSS by Optimizing Non-Ionic Surfactants

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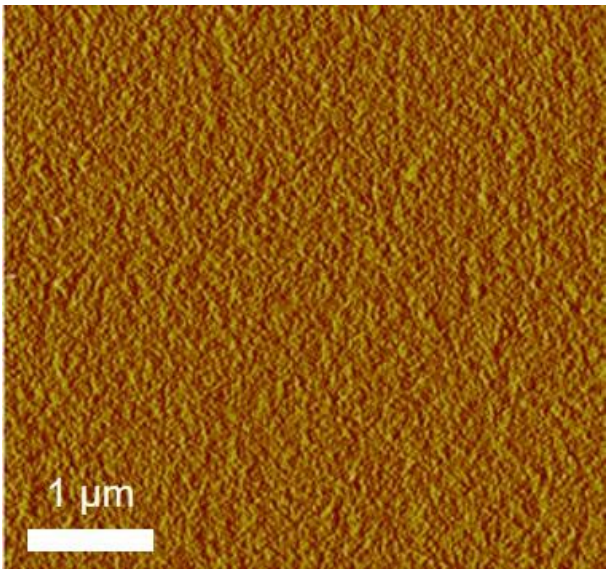

Fig. S1 AFM image of the high-grade PEDOT:PSS (Clevious P). Small PEDOT nanoparticles clump together to form a continuous film in the absence of the surfactant.

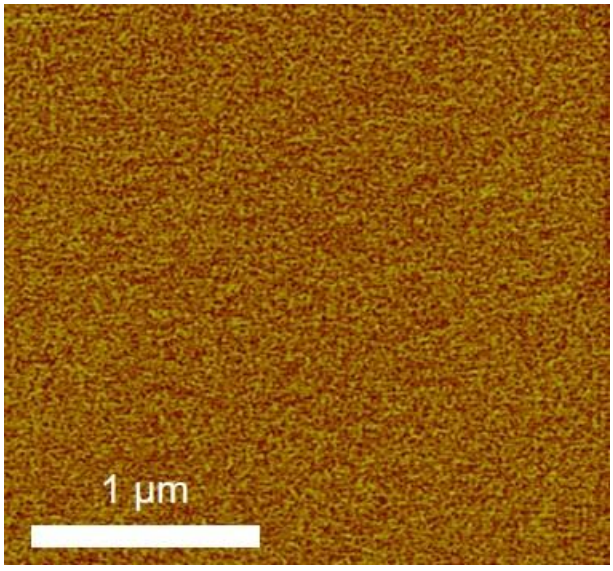

Fig. S2 AFM image of the low-grade PEDOT:PSS thin film.

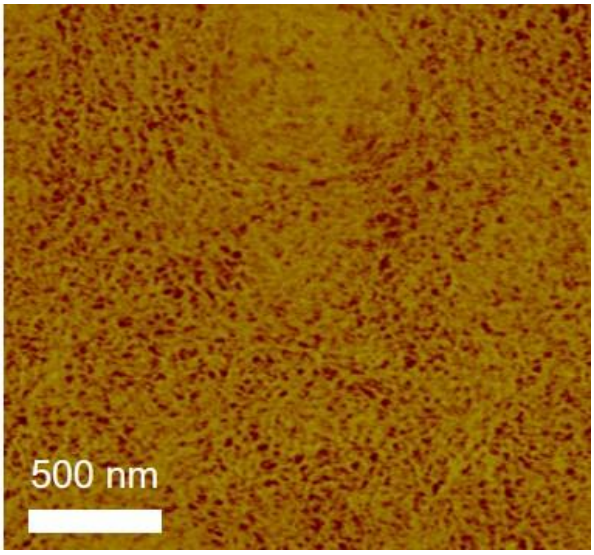

Fig. S3 AFM image of the low-grade PEDOT:PSS film when the surfactant (Triton X-100) was added more than maximum solubility (f_s = 0.85). The surfactant formed PEDOT nanofibrils and the excess surfactant was microphase separated.

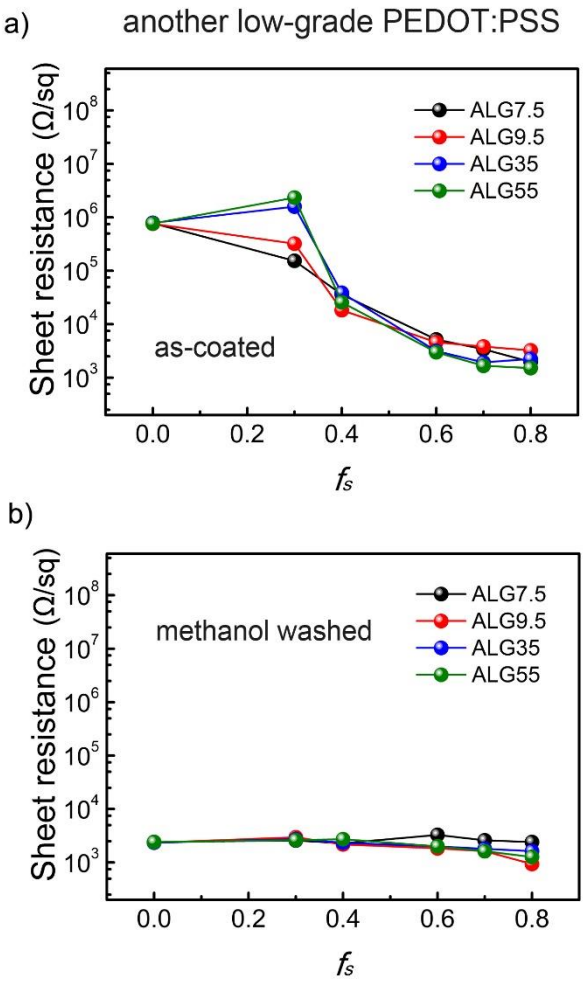

Fig. S4 Changes in sheet resistance of the another low-grade PEDOT:PSS thin films as a function of the surfactant concentration. The thickness of the films was fixed at 100 nm for all the specimen. a) Sheet resistances of the as-coated films of the ALG. b) Sheet resistances after washing with methanol for the ALG film.

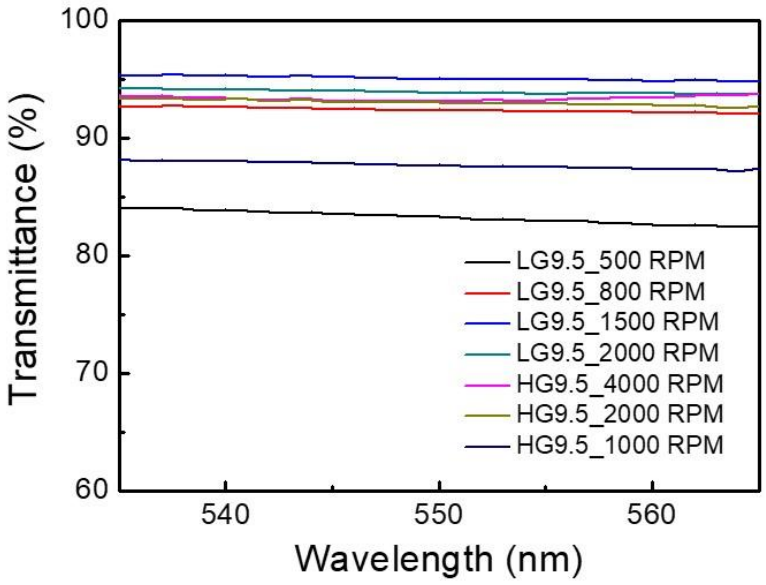

Fig. S5 The transmittance of the methanol washed LG and HG thin films obtained under various coating conditions.

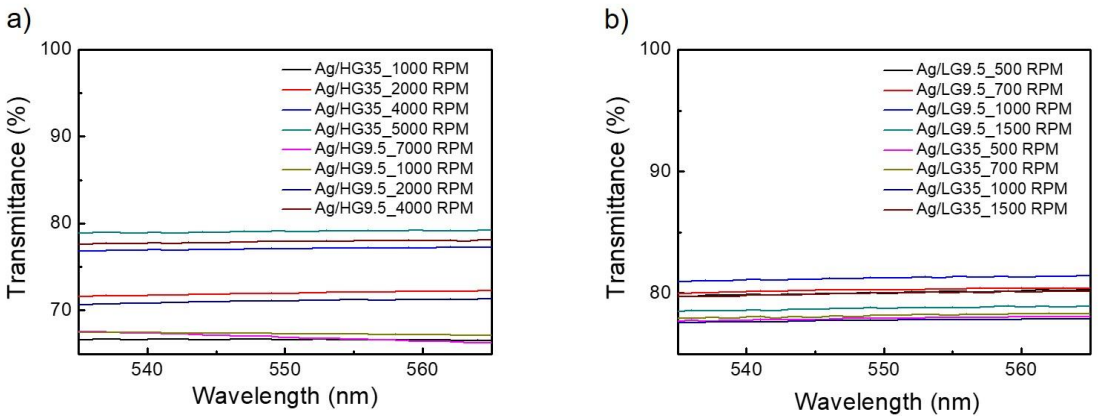

Fig. S6 The transmittance of the Ag NW/PEDOT:PSS hybrid electrodes. a) Hybrid electrodes made of the high-grade PEDOT:PSS and b) hybrid electrodes made of the low-grade PEDOT:PSS. The surfactants of n = 9.5 and 35 were used. The samples were washed with methanol.