Supporting Information

Eumelanin thin films: solution-processing, growth, and charge transport properties

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Fig S1 1 µm ×1 µm AFM images of 30 nm thick films of different eumelanins spin-coated from DMSO and NH₃(aq) suspensions as indicated. The root mean square roughness Rq is indicated for each film.

Fig. S2 10 µm × 10 µm AFM images of drop cast films of (a) DMSO melanin on glass and (b) Sigma melanin on Si. In both cases, a DMSO suspension of 3 mg/ml concentration was used. The root mean square roughness Rq is indicated for each film.
**Fig. S3** 10 µm ×10 µm AFM images of *DMSO melanin* films of about 8 and 15 nm thickness, spin-coated from DMSO suspension (top) and the corresponding height histograms (bottom). Z-scale: 4 nm. The morphology is dominated by planar islands, about 1 nm high.

**Fig. S4** 10 µm ×10 µm AFM image of a *Dopa melanin* drop cast from DMSO suspension (3 mg/ml) on SiO₂ and height profile corresponding to the white line. Z-scale: 5 nm. The surface of the film is covered with holes, about 1.5 nm deep.
**Fig. S5** Transient current measurement on a *Sigma melanin* film, about 30 nm thick, at 90% RH and an electrical bias of 0.6 V. $L = 10 \, \mu\text{m}$ and $W = 7810 \, \mu\text{m}$. The current decreases more and more slowly without reaching a steady state.