Electronic Supplementary Material (ESI) for ChemComm.

An STM study of Exchange Processes in Organic Thin Film Growth

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The clean Au(111) surface

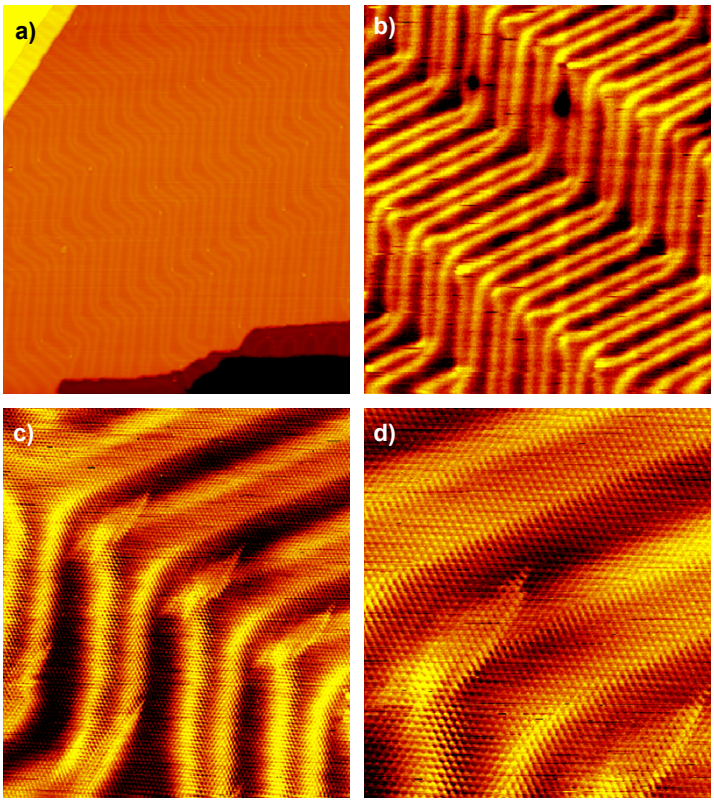

Figure S1. STM images of the Au(111) Surface. a) 118 nm x 123 nm; b) 59 nm x 66 nm; c) 24 nm x 26 nm; 12 nm x 13 nm.

Molecular shape

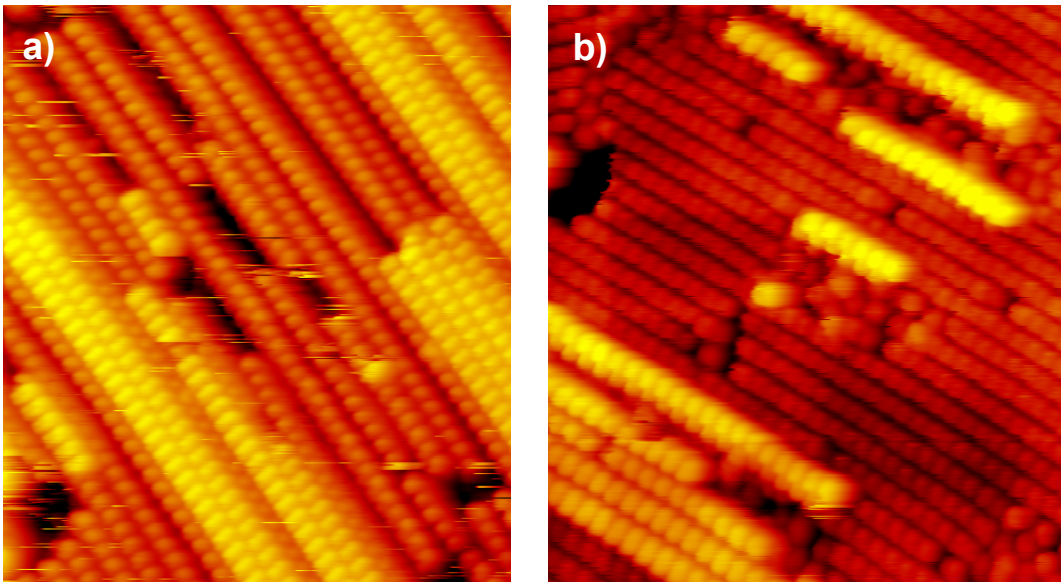

Figure S2. .STM images (24 nm x 26 nm) allowing a comparison of the molecular shape between a) a multilayer exTTF film; and b) 0.30 ML of PCBM deposited on top of 1 ML of exTTF. In both cases the top layer molecules are elongated in the direction perpendicular to the molecular rows. (24 nm x 26 nm)

First layer of exTTF after depositing PCBM

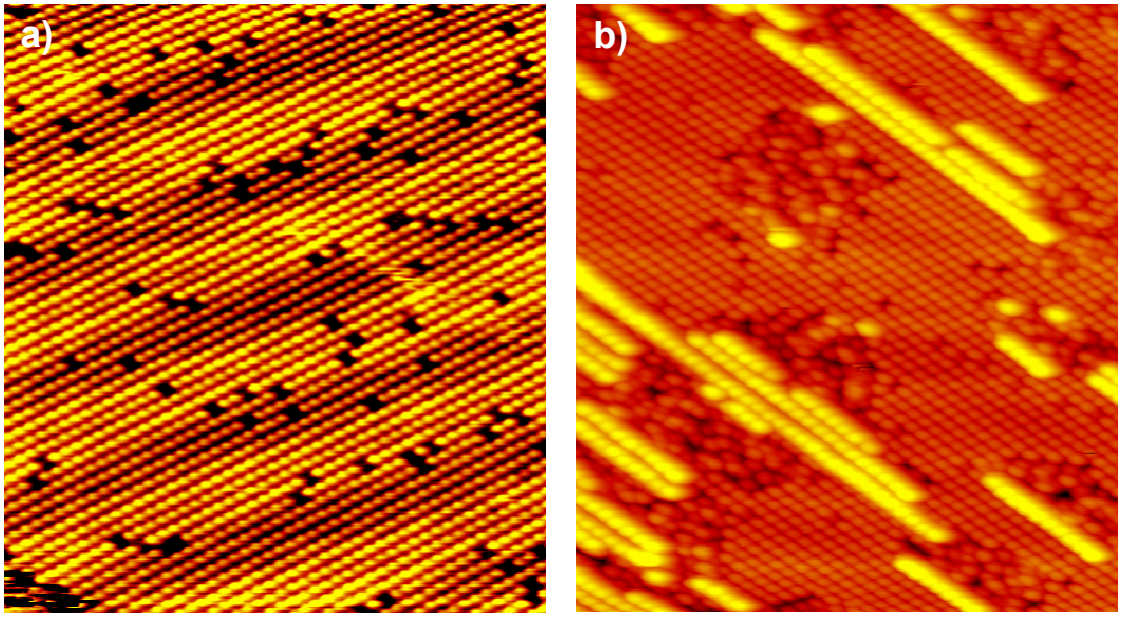

Figure S3. .STM images (35 nm x 40 nm) of the Au(111) surface after depositing a) 1 ML of exTTF; and b) 0.45 ML of PCBM on top of the monolayer of exTTF. For 1 ML of exTTF on Au(111) the only visible defects (besides the orientational domains) are single vacancies; however, after depositing PCBM, the first exTTF layer is severely distorted, with areas where irregular (probably PCBM) molecules show a short range hexagonal order instead of the rhombohedral arrangement characteristic of exTTF.

exTTF multilayer after depositing PCBM

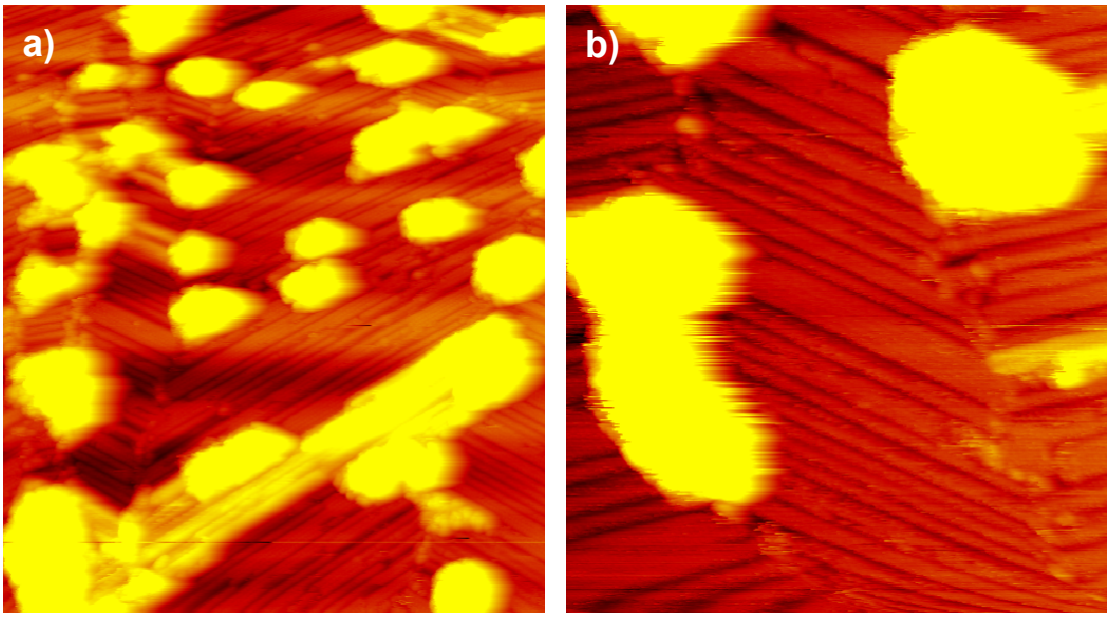

Figure S4. .STM images of the exTTF layer (~2.5 ML) after depositing 0.5 ML of PCBM. a) 118 nm x 132 nm; b) 59 nm x 66 nm.