

Supporting Information

for

Electron-induced chemistry of surface-grown coordination polymers

with different linker anions

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Keywords:

Electron-induced chemistry, metal-organic materials, layer-by-layer growth, electron-stimulated desorption, reflection absorption infrared spectroscopy, Helium ion microscopy,

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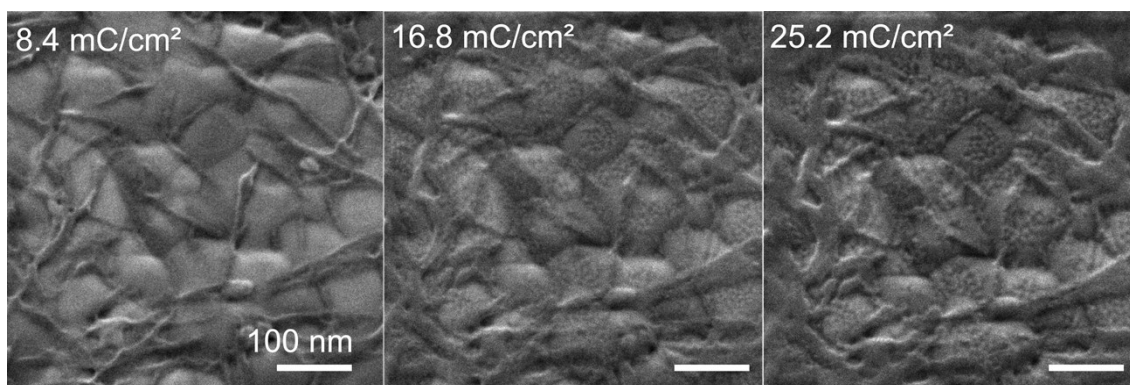


Figure S11: HIM images of a copper(II) oxalate surface layer obtained by 8 dipping cycles with increasing helium ion exposure. Up to an exposure of 8.4 mC/cm², no change of the typical surface structure is visible. At higher exposures, the needle-like structures broaden and some additional nanogranular material appears on the underlying gold surface. As copper(II) oxalate is by far the most sensitive material in the present study as well and the helium ion exposures used to image the samples did not exceed 2 mC/cm², we can exclude any visible beam damage for the images in Figure 6 of the main article.

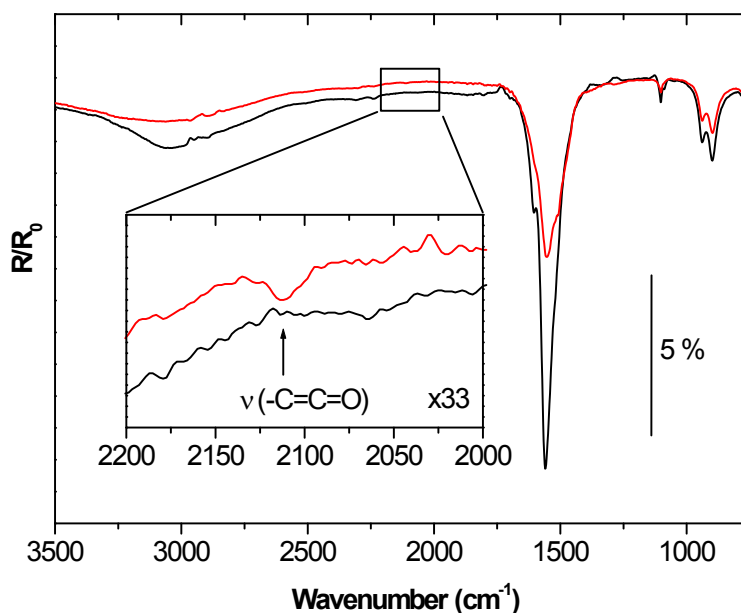


Figure S12: RAIR spectra of surface grown copper(II) squarate after 10 dipping cycles before (black) and after irradiation at 150 eV with roughly 5 mC/cm² (red). The enlargement shows the formation of an additional small band at 2115 cm⁻¹ in the ketene stretching region.

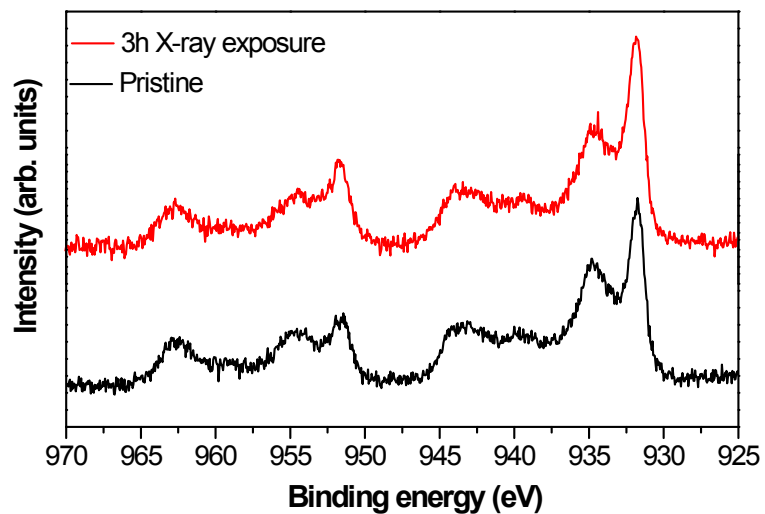


Figure S13: XP spectra of surface grown copper(II) squarate in the Cu 2p elemental region. The black curve represents the first acquired spectra while the red curve was taken after 3h of continuous X-ray exposure.