

Supporting Information

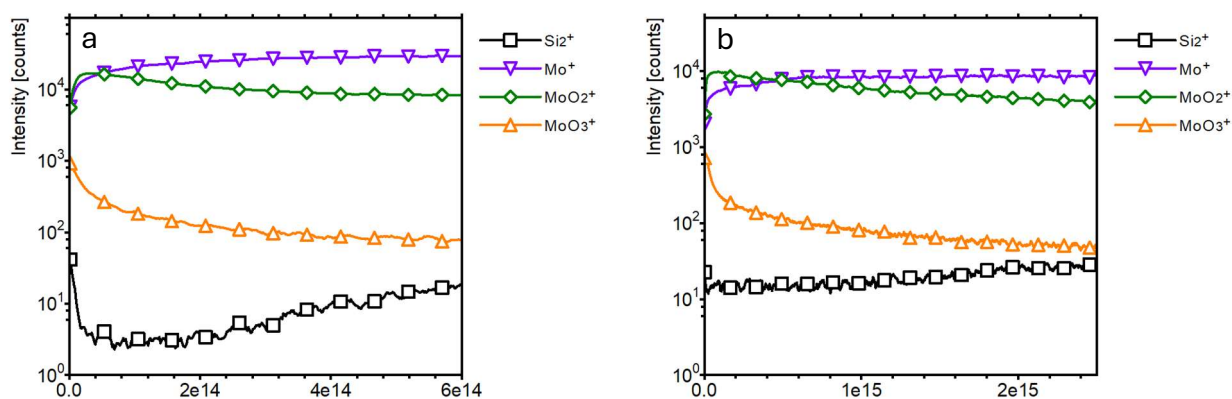


Figure S1: MoO₃ film partial depth profiles acquired with a) Ar₅₀₀⁺ 20 keV, b) Ar₄₀₀₀⁺ 20 keV. The depth profiles were stopped half-way through the layer for sputter yield calculation purposes. For both conditions, already at low fluences, differences in MoO_x cluster ions trends can be observed, as an indication of the MoO₃ composition evolution.

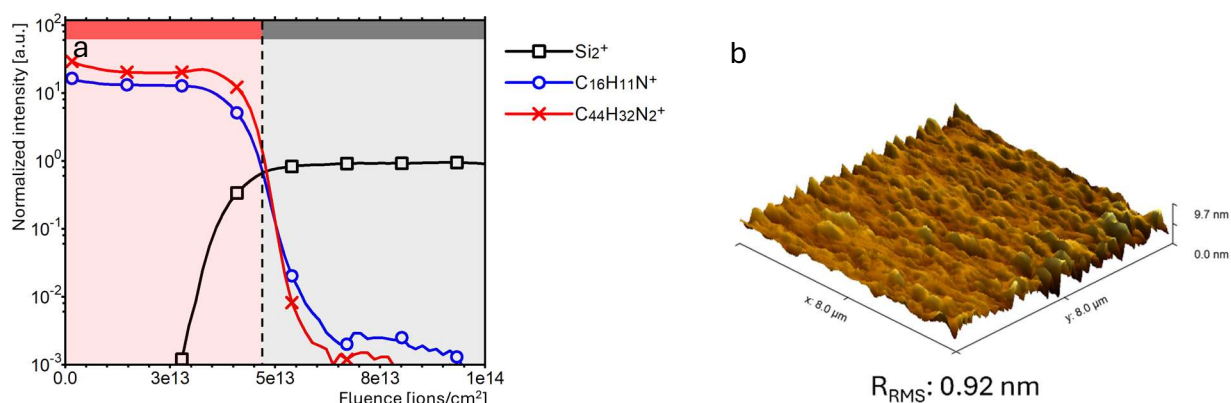


Figure S2: a) NPD film depth profile acquired with Ar₄₀₀₀⁺ 20 keV. The two regions, NPD, and silicon substrate, are indicated by the red and gray boxes, respectively. The dashed line qualitatively marks the interface. Intensities are normalized to the steady state value of the substrate signal Si₂⁺. b) AFM image acquired on the crater bottom after stopping the depth profiling at a fluence of $\sim 2.0 \times 10^{13}$ ions/cm² (Ar₄₀₀₀⁺ 20 keV).

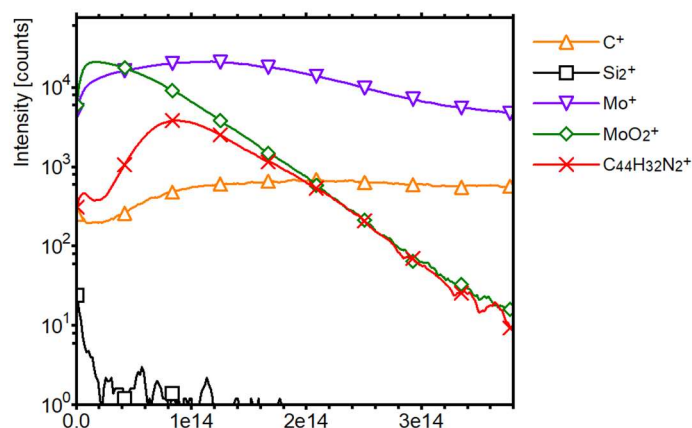


Figure S3: MoO₃/NPD bilayer partial depth profile, acquired with Ar₄₀₀₀⁺ 20keV. Damage accumulation can be observed already at low fluences, in contrast with the results obtained on the NPD film (Figure S2 a).