

Figure 1. X-ray photoelectron spectra of MLD aluminum oxalate as deposited (black) and after 20 mC/cm<sup>2</sup> e-beam exposure (violet). Arrows indicate exposure-induced changes.

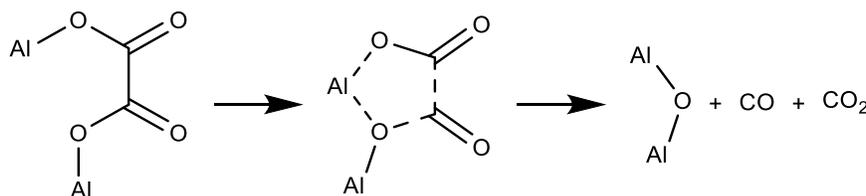
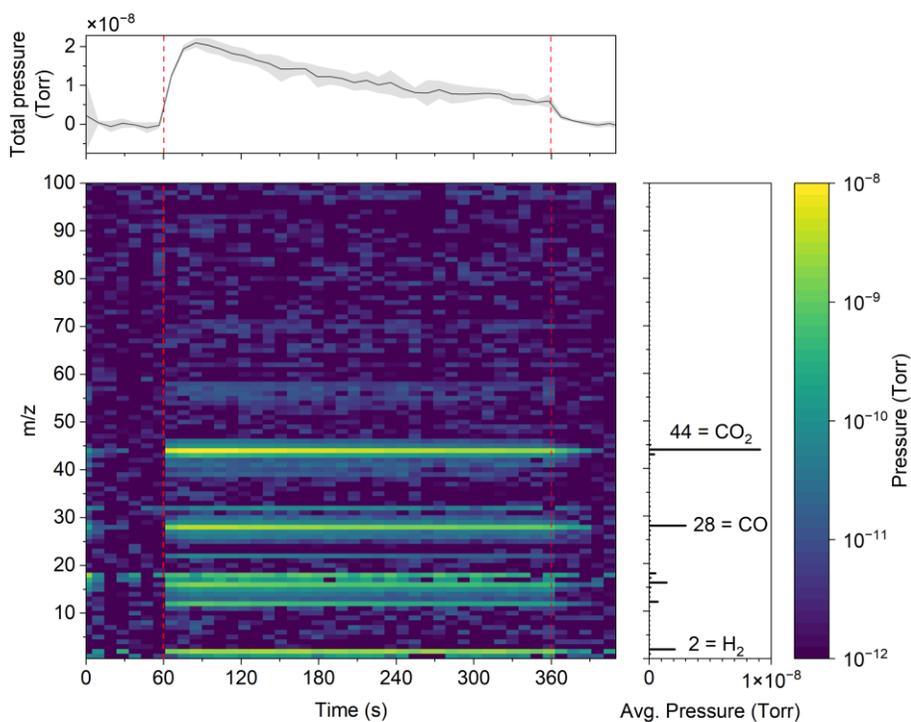


Figure 2. In situ residual gas analysis (RGA) during EUV flood exposure of MLD aluminum oxalate. Exposure occurs between 60 and 360 s, indicated by red dashed lines. The chemical schematic illustrates the hypothesized exposure-induced mechanism resulting in CO<sub>2</sub> and CO gas evolution.

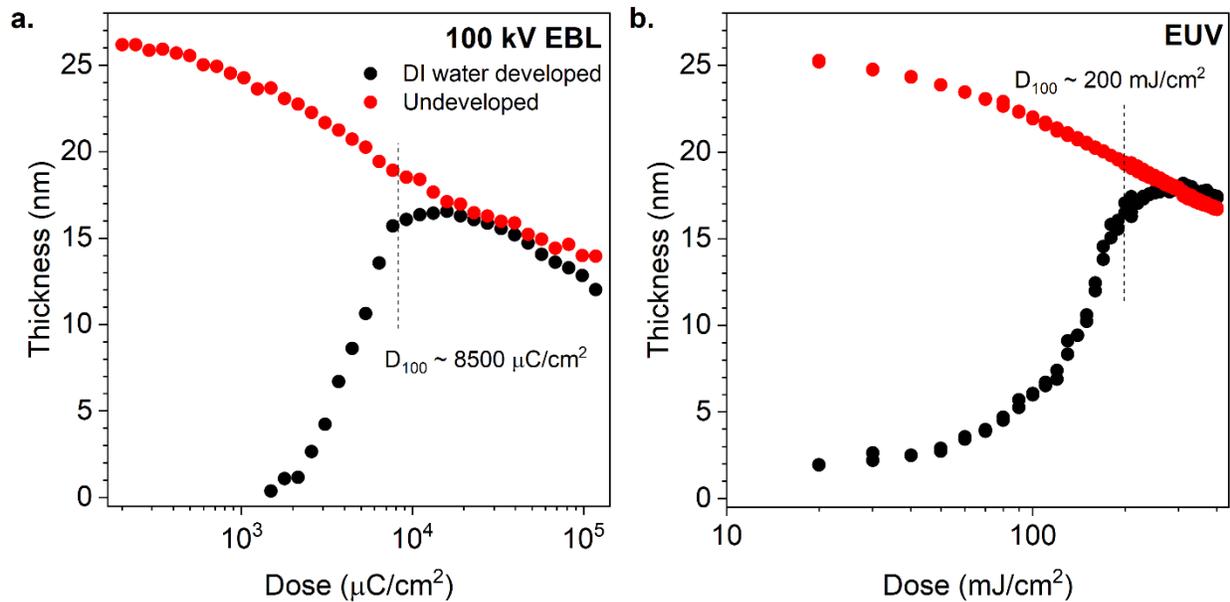


Figure 3. Lithographic contrast curves of aluminum oxalate after (a) 100 kV e-beam lithography and (b) EUV flood exposure, before development (red) and after development in de-ionized water for 60s (black).

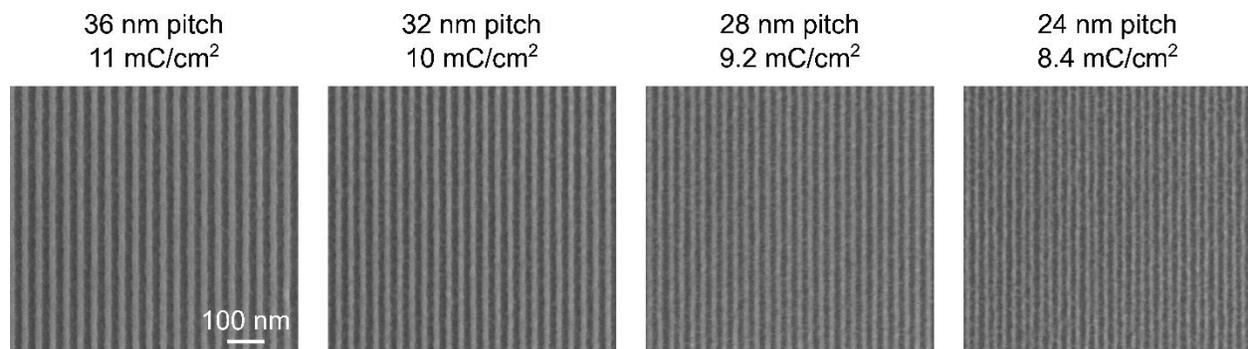


Figure 4. 1:1 line/space patterns on aluminum-oxalate after electron beam lithography and development in de-ionized water. Exposure doses are optimized for each pattern to produce accurate linewidths. Line wiggling and collapse is visible below 28 nm pitch.