

Supplemental Documents

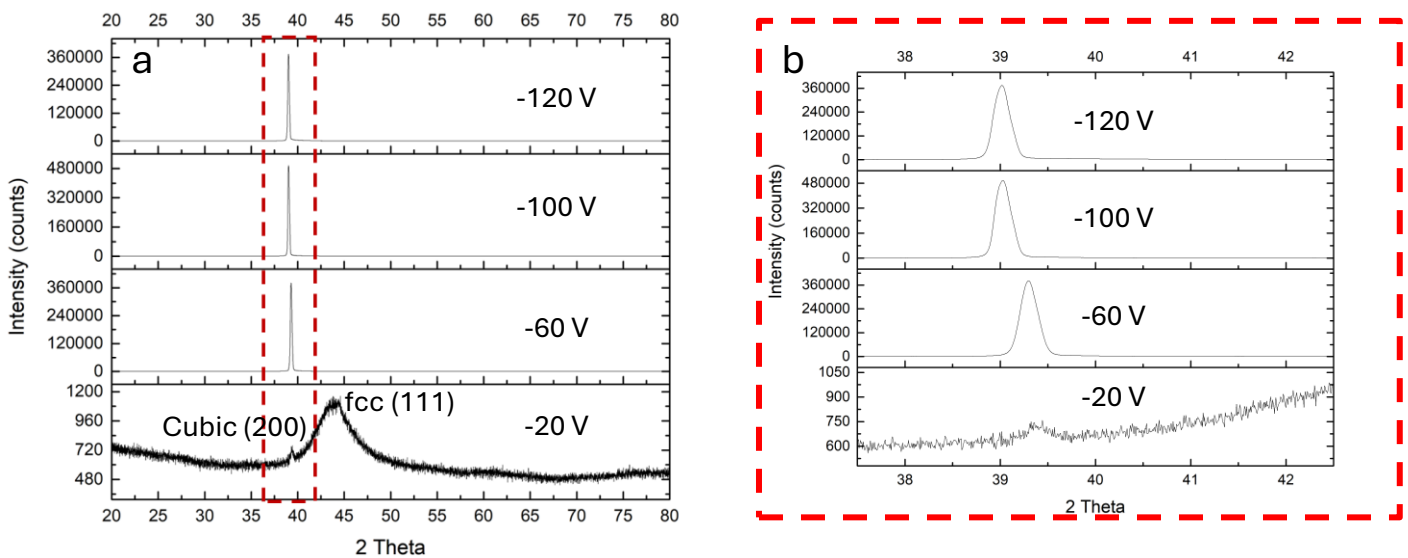


Figure 1. a) XRD patterns for coatings deposited at bias voltages of -20, -60, -100, and -120 V. A change in the dominant peak can be observed from the {111} peak at -20V to the {200} peaks at higher bias voltages. These particular peaks (highlighted in red box) are magnified in b), showing shifts in 2 theta positions, likely to be the effect, in part, due to the presence of residual stress.

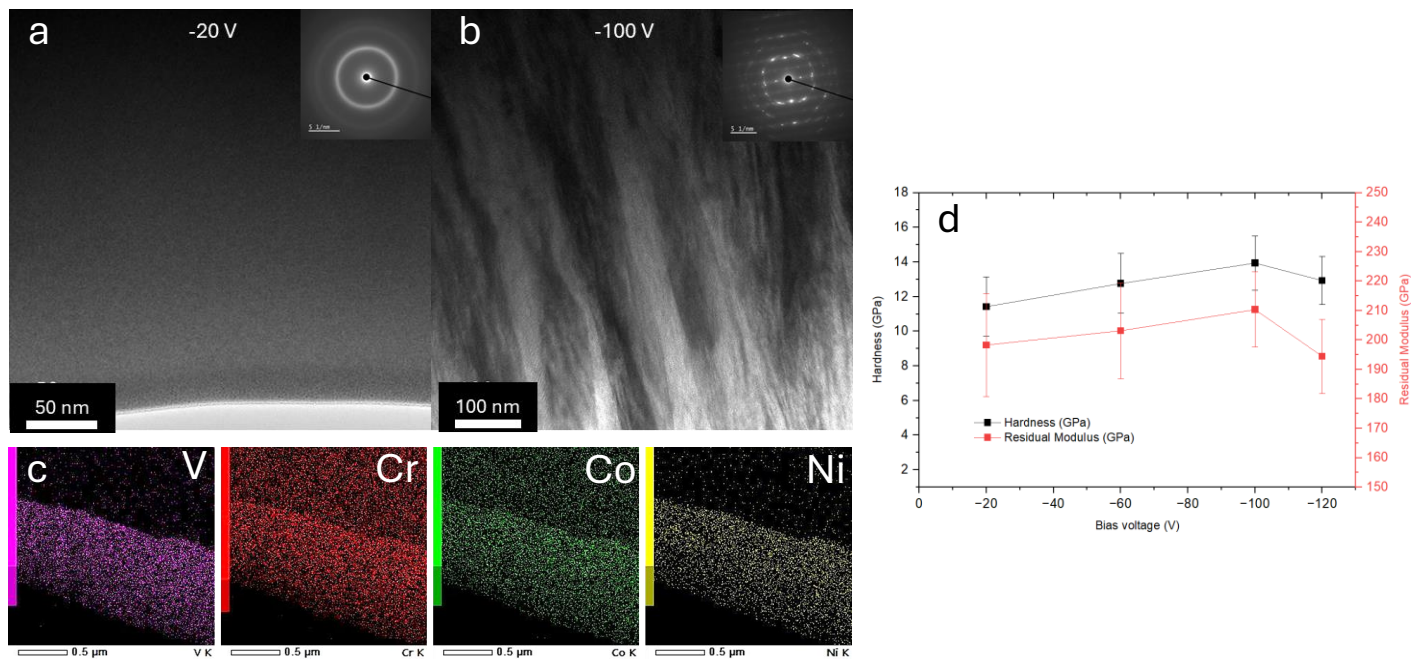


Figure 2. Bright field transmission electron micrographs from a) the -20V and b) -100V specimens (Inserts are selected areas diffraction patterns from each specimen. c) EDS elemental maps from the -100 V specimen suggesting that the composition of the film is homogeneous. d) Hardness and residual modulus values of each samples, with the -100 V samples exhibiting the highest values in both categories.