

Supporting Information

On the Growth Mechanism of Transition Metal Dichalcogenide Monolayers: The Role of Self-Seeding Fullerene Nuclei

Jeffrey D. Cain^{1,2}, Fengyuan Shi^{1,3}, Jinsong Wu^{1,3}, Vinayak P. Dravid^{1,2,3*}

¹*Department of Materials Science and Engineering, Northwestern University, Evanston, Illinois 60208, USA*

²*International Institute for Nanotechnology, Northwestern University, Evanston, Illinois 60208, USA*

³*Northwestern University Atomic and Nanoscale Characterization Experimental (NUANCE) Center, Northwestern University, Evanston, Illinois, 60208, USA*

v-dravid@northwestern.edu

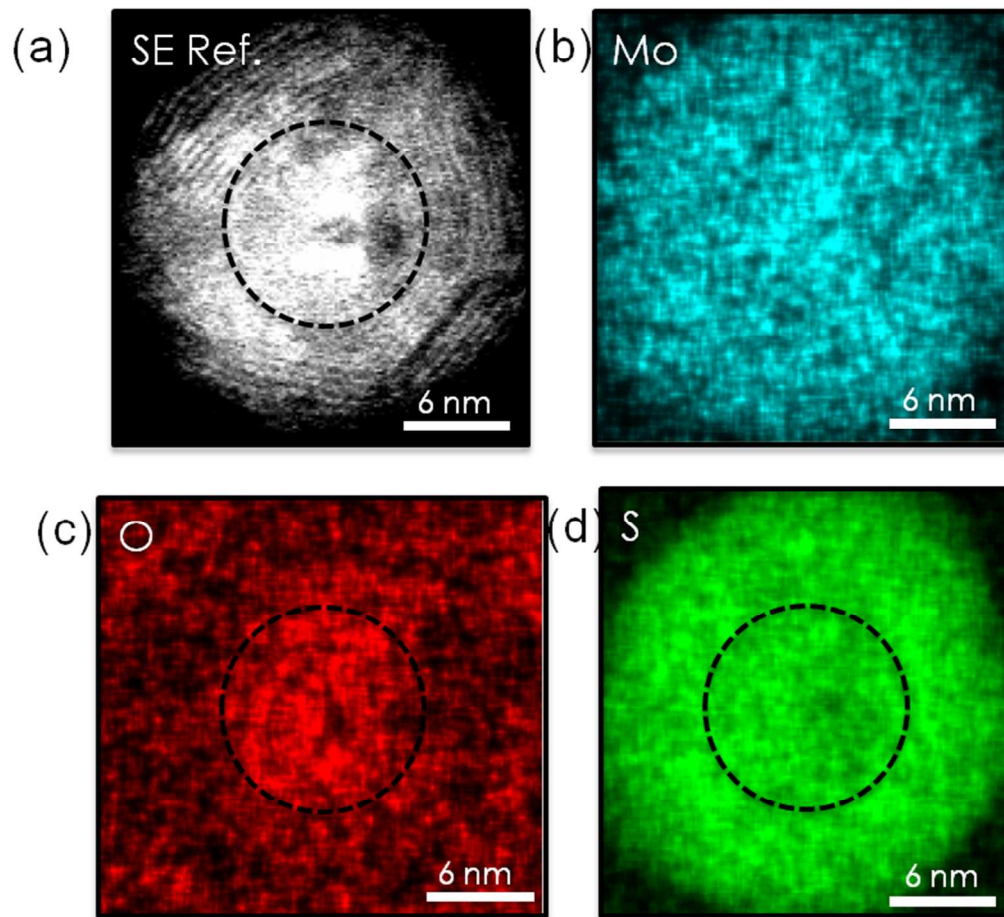


Figure S1. Energy dispersive spectroscopy (EDS) maps of the core shell nucleus structure. (a) Secondary electron reference image of core. (b) EDS map of the molybdenum K series. (c) EDS map of the oxygen K series. (d) EDS map of the sulfur K series

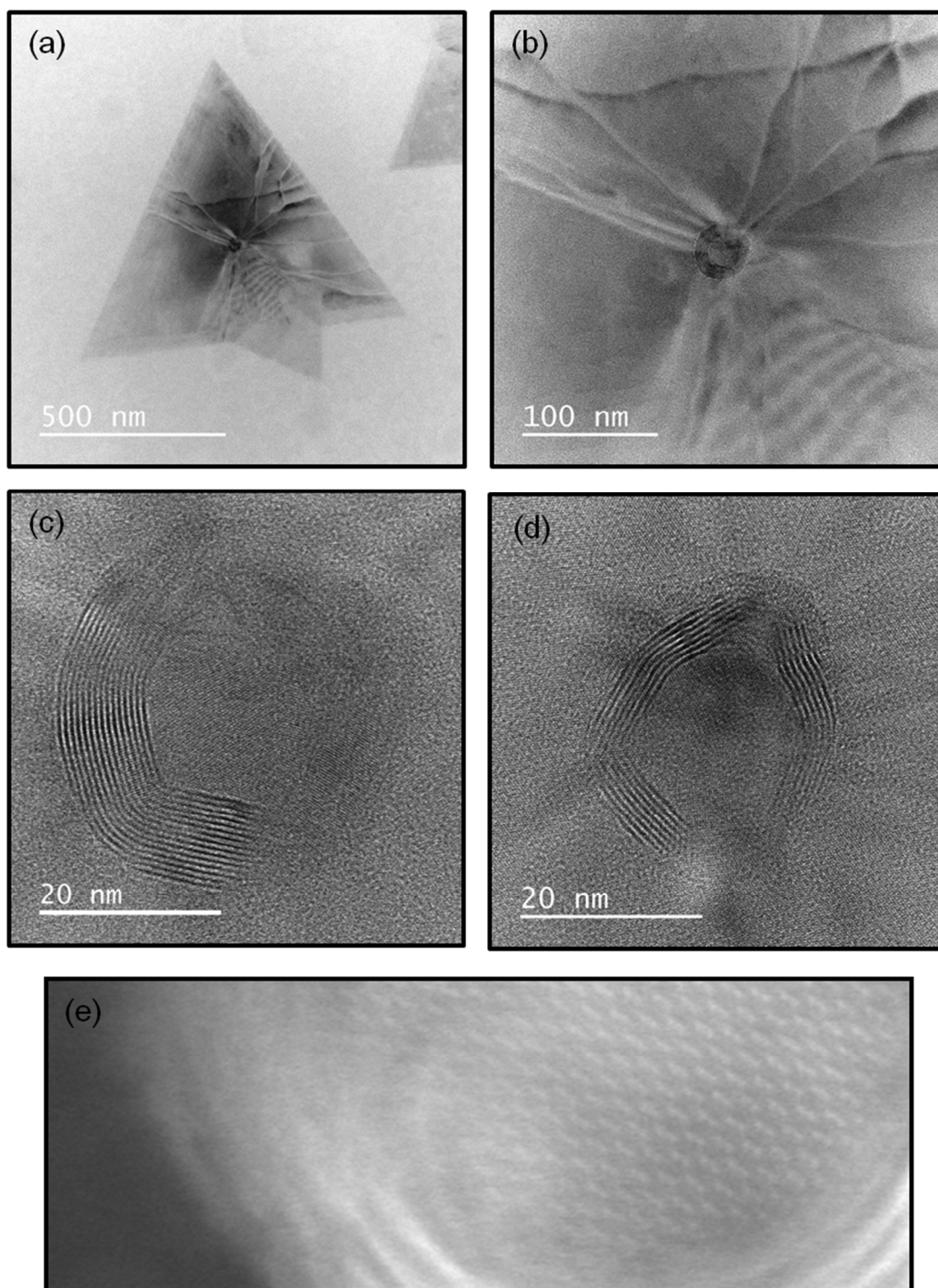


Figure S2. Additional transmission electron microscope images of flakes and nuclei (a) Multilayer $\text{MoS}_2\text{-MoSe}_2$ sheet (b) Low-magnification image of nucleus (c) and (d) High-magnification images of nuclei (e) HREM image of nucleus core.

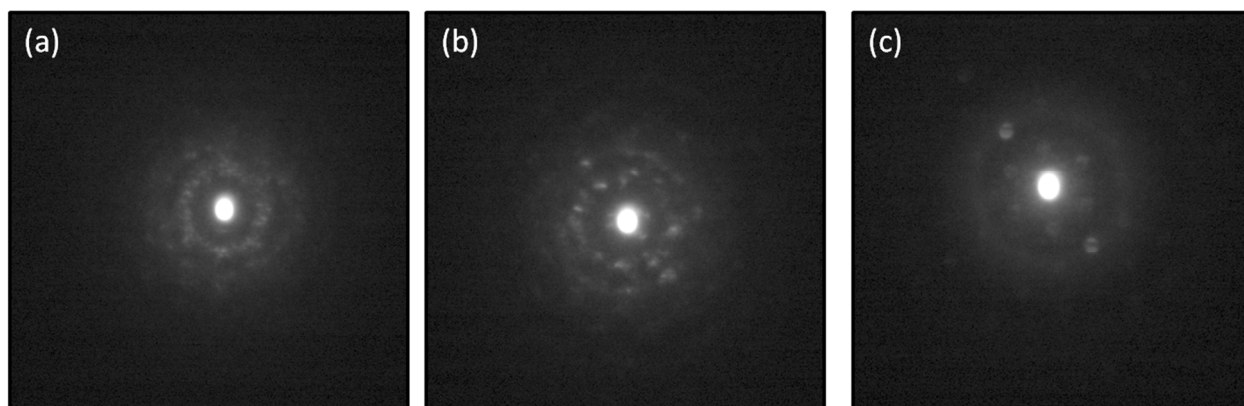


Figure S3. Nano electron diffraction patterns from each section of the core-shell-monolayer structure. (a) Nucleus center (b) Nucleus Edge (c) Monolayer film

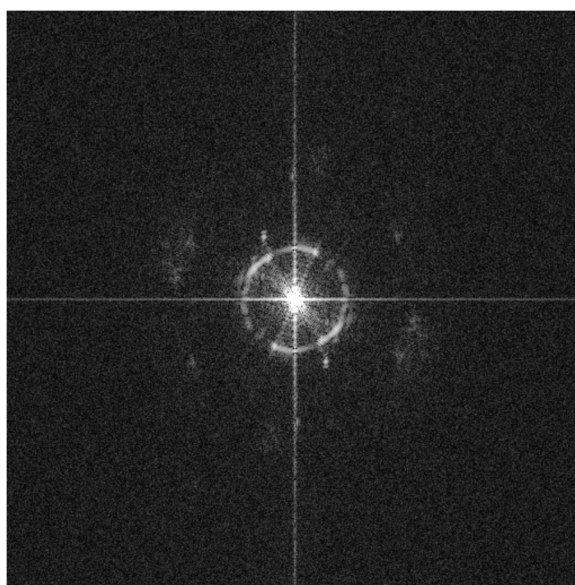


Figure S4. Fast Fourier Transform of the false colored image shown in Figure 2.