

# Electronic Supplementary Material

## Multilayer MoS<sub>2</sub> Growth by Metal and Metal-Oxide Sulfurization

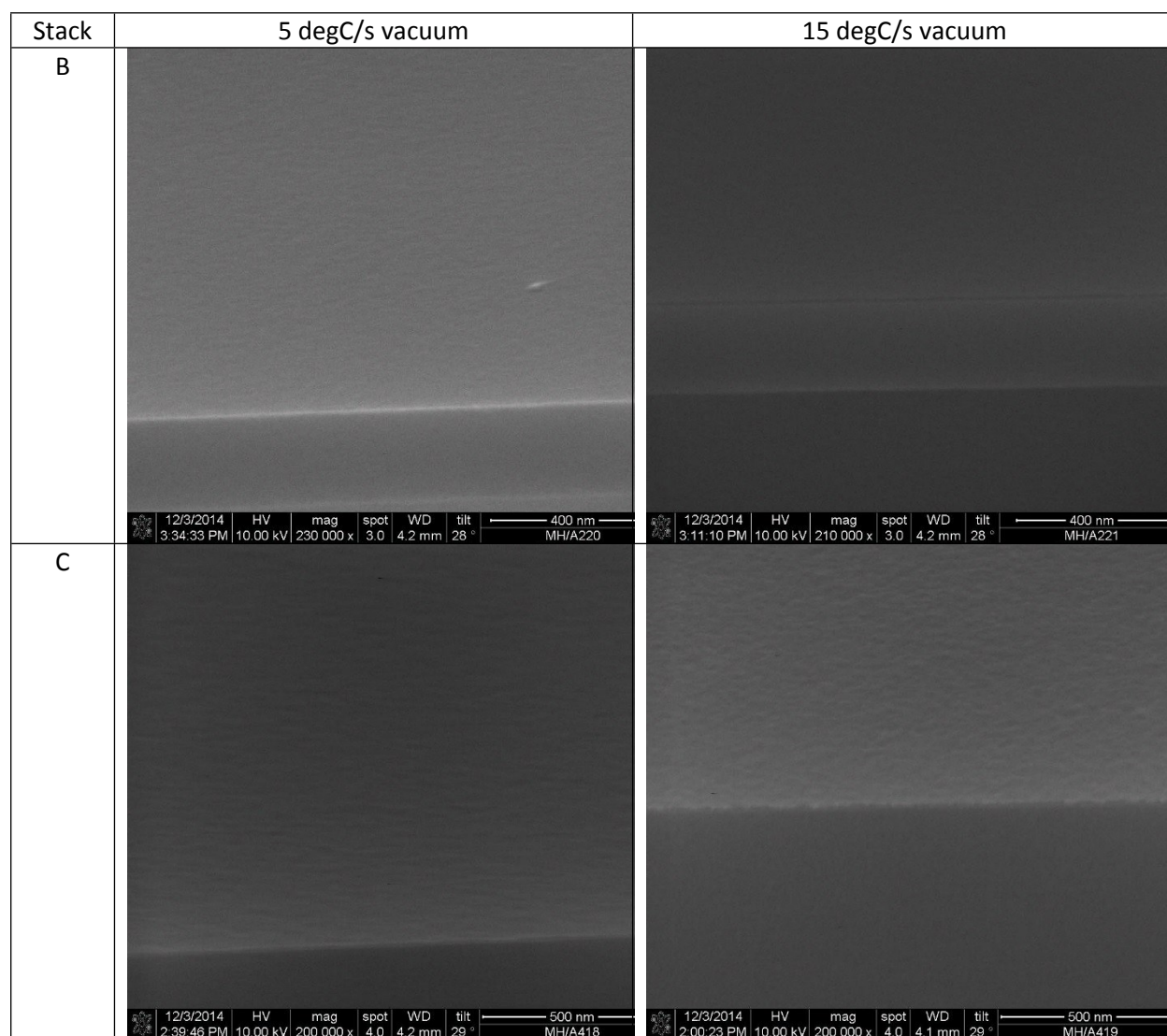
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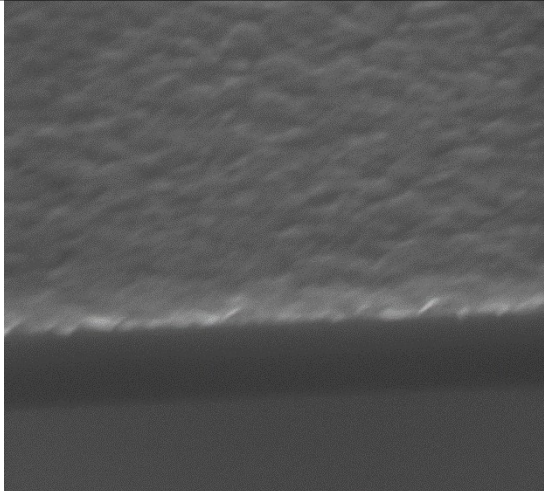
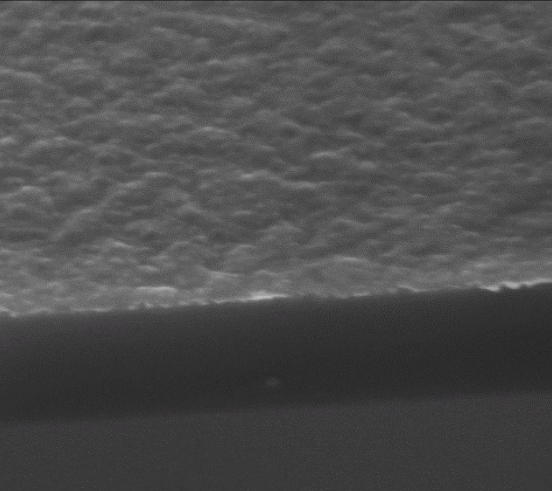
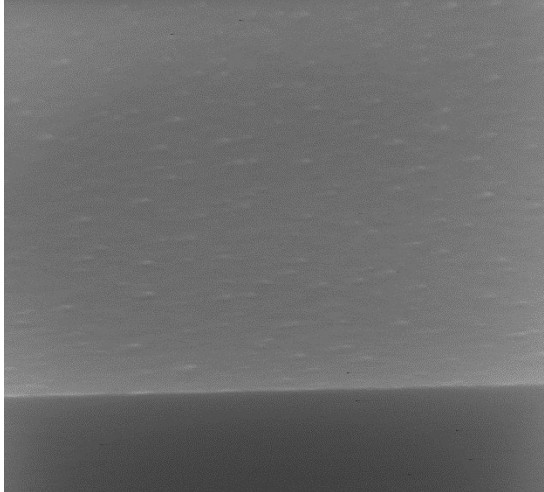
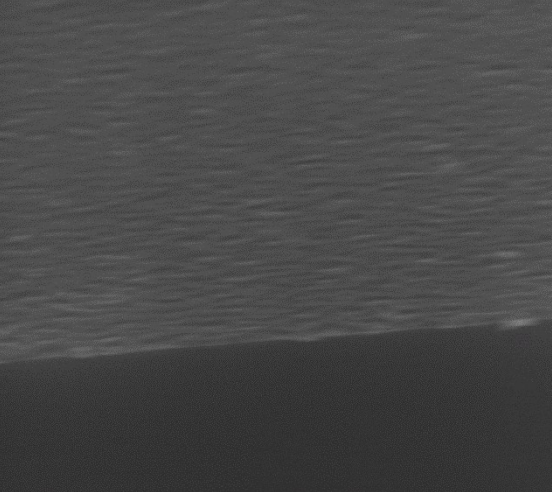
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S1: SEM images after vacuum annealing at different ramp rates.



S2: SEM images after H<sub>2</sub>S annealing at different ramp rates.

Stack	5 degC/s H <sub>2</sub> S	15 degC/s H <sub>2</sub> S
B	 <p data-bbox="310 772 850 808"> <small>1/7/2014 8:48:14 PM HV 5.00 kV mag 200 033 x spot 3.5 WD 4.5 mm tilt 31 ° 500 nm</small> </p>	 <p data-bbox="873 772 1421 808"> <small>1/11/2014 5:16:21 PM HV 5.00 kV mag 260 000 x spot 3.0 WD 4.3 mm tilt 30 ° det TLD mode SE MH/A030 200 nm</small> </p>
C	 <p data-bbox="310 1302 850 1339"> <small>10/22/2015 5:52:56 PM HV 8.00 kV spot 3.5 mag 200 000 x WD 4.3 mm tilt 47 ° 500 nm MH/A420</small> </p>	 <p data-bbox="873 1302 1421 1339"> <small>1/11/2014 4:50:58 PM HV 5.00 kV mag 208 906 x spot 3.0 WD 4.4 mm tilt 31 ° det TLD mode SE MH/A325 200 nm</small> </p>