Electronic Supplementary Information for

## Mechanical exfoliation and electrical characterization of onedimensional Nb<sub>2</sub>Se<sub>9</sub> atomic crystal

Bum Jun Kim<sup>a,†</sup>, Byung Joo Jeong<sup>b,†</sup>, Seung Bae OH<sup>b</sup>, Su Dong Chae<sup>b</sup>, Kyung Hwan Choi<sup>a</sup>, Tuqeer Nasir<sup>a</sup>, Sang Hoon Lee<sup>b</sup>, Kwan-Woo Kim<sup>b</sup>, Hyung Kyu Lim<sup>b</sup>, Ik Jun Choi<sup>b</sup>, Linlin Chin<sup>b</sup>, Sang-Hwa Hyun<sup>c</sup>, Hak Ki Yu<sup>c</sup>, Jae-Hyun Lee<sup>c,\*</sup>, and Jae-Young Choi<sup>a,b,\*</sup>

<sup>a.</sup> SKKU Advanced Institute of Nanotechnology (SAINT), Sungkyunkwan University, Suwon, 16419, Korea
<sup>b.</sup> School of Advanced Materials Science & Engineering, Sungkyunkwan University, Suwon 16419, Korea
<sup>c.</sup> Dept. of Materials Science and Engineering & Dept. of Energy Systems Research, Ajou University, Suwon, 16499, Korea

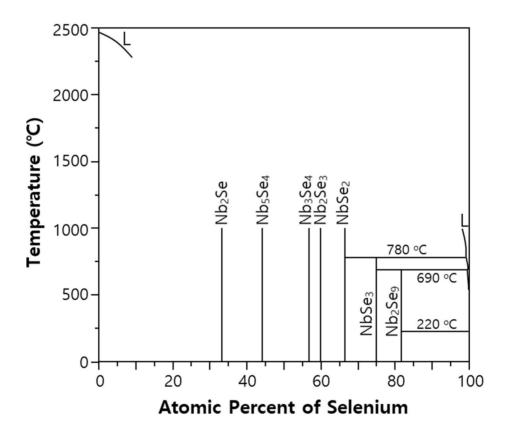


Figure S1. Phase diagram of Nb-Se binary system.

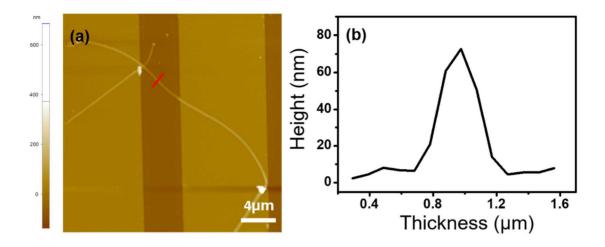


Figure S2. (a) AFM image of the Nb<sub>2</sub>Se<sub>9</sub> FET. (b) Line profile of the corresponding Nb<sub>2</sub>Se<sub>9</sub> flake, as marked in

