Electronic Supplementary Information

Synthesis of One-dimensional Atomic Crystal of Vanadium Selenide (V_2Se_9)

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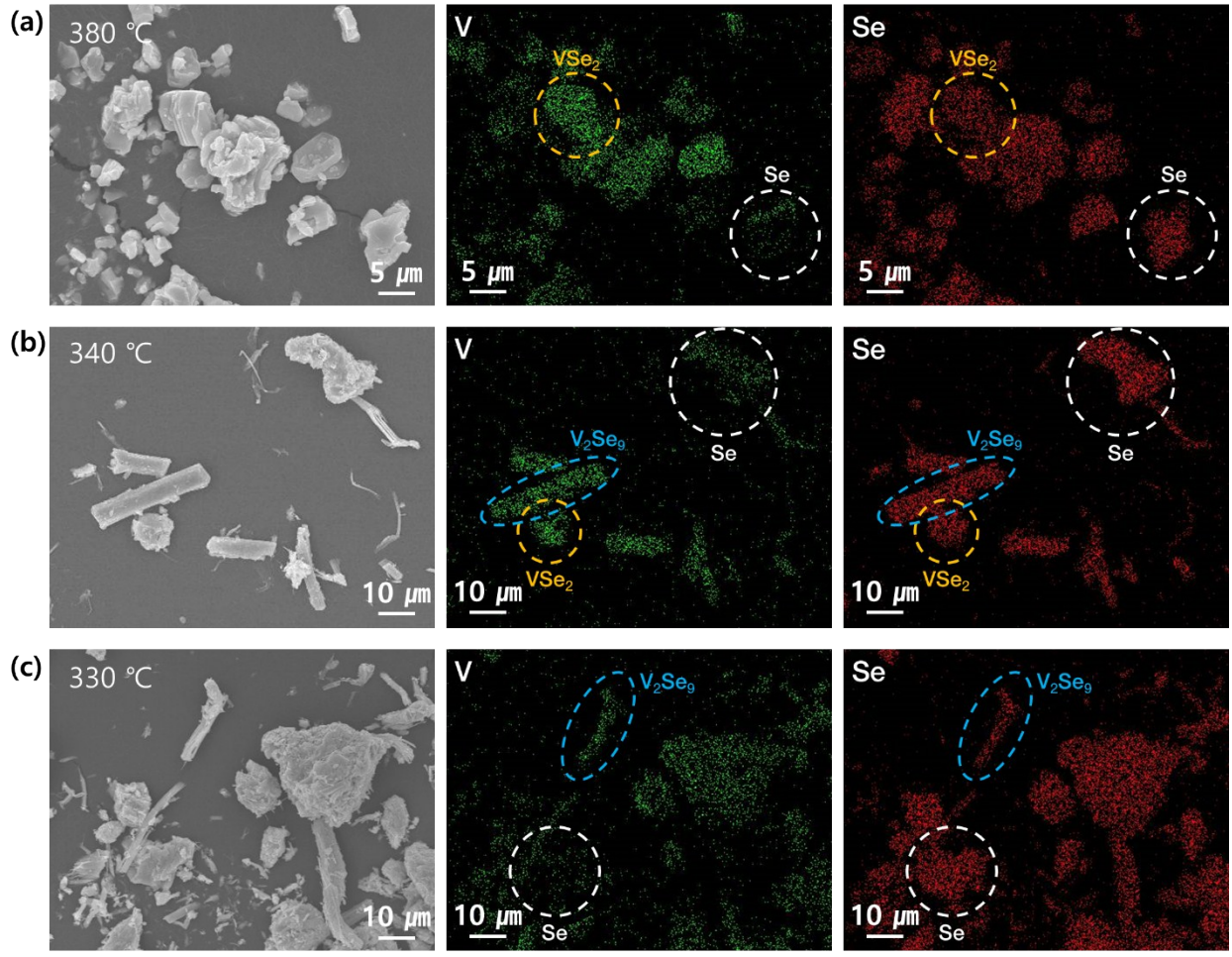

Fig. S1 EDS mapping of the as-synthesized samples in Fig 2. which is synthesized at (a) 380 °C, (b) 340 °C, (c) 330 °C (V:Se ratio is 2: 12.6). (left: SEM image, middle: EDS mapping of vanadium, right: EDS mapping of selenium, yellow dotted circle: VSe_2, white dotted circle: Se particles, blue dotted circle: V_2Se_9)

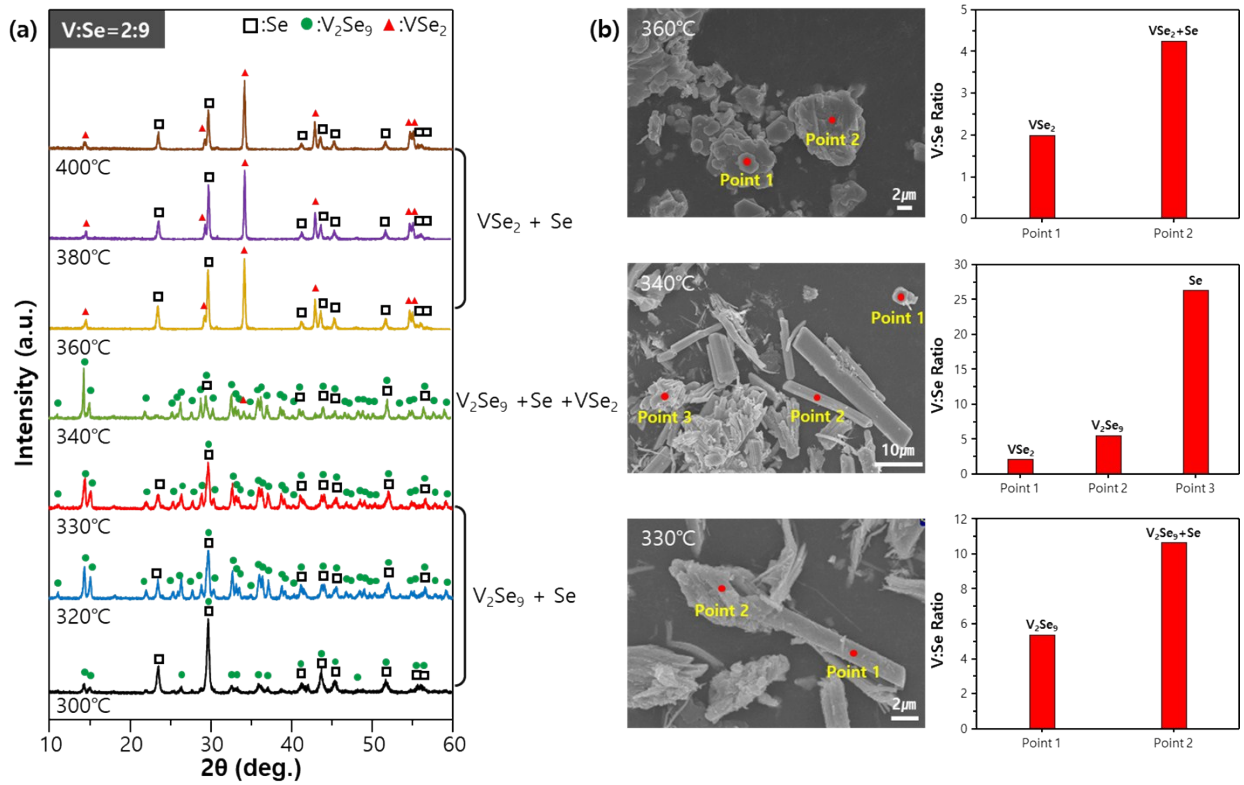

Fig. S2 (a) XRD patterns and (b) SEM images (left) and EDS analysis (right) of as-synthesized samples with Temperature ranging from 300 ℃ to 400 ℃. (V:Se ratio is 2:9)

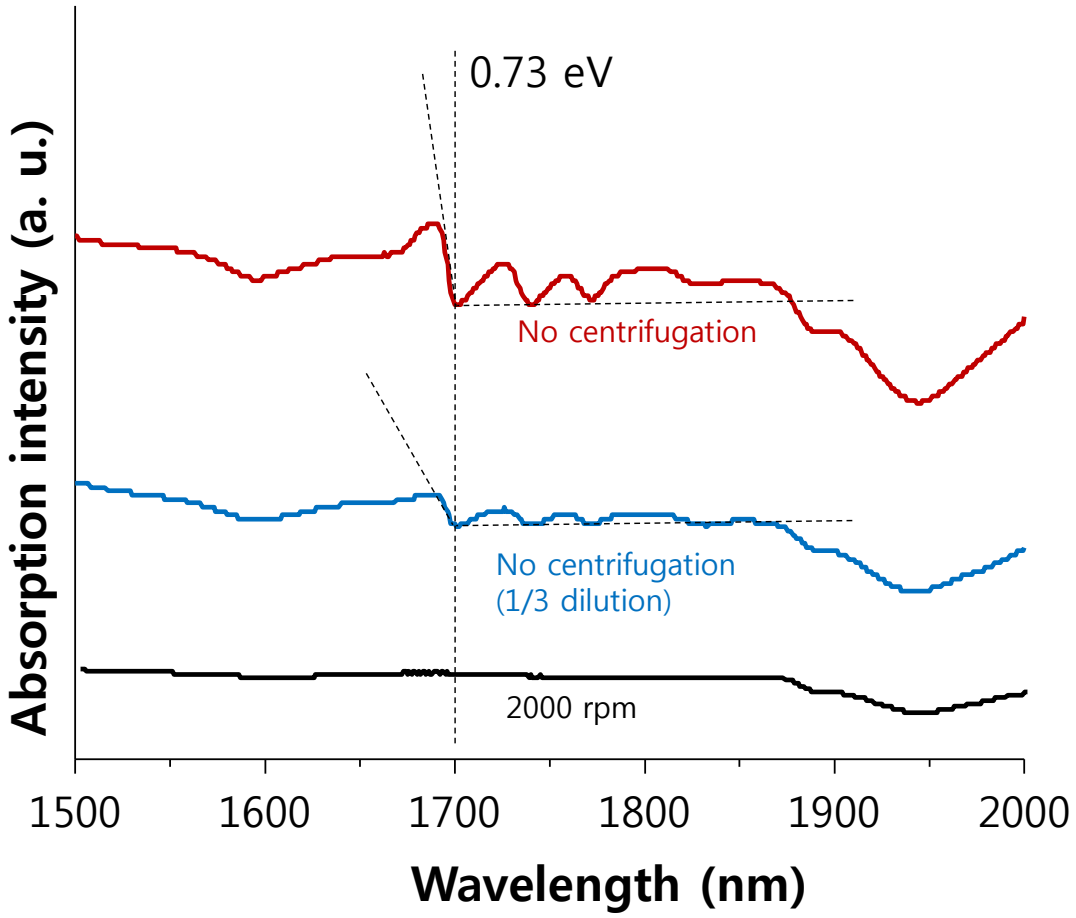

Fig. S3 IR absorption spectrum of V_2Se_9. Red and blue spectrum indicates the absorption of V_2Se_9 dispersed solution without centrifugation (blue: diluted solution which concentration is 1/3 of solution for red spectrum). Black spectrum is absorption of dispersed solution with centrifugation at 2000 rpm. The absorption peak around 1700 nm is due to the band gap known as 0.73 eV.