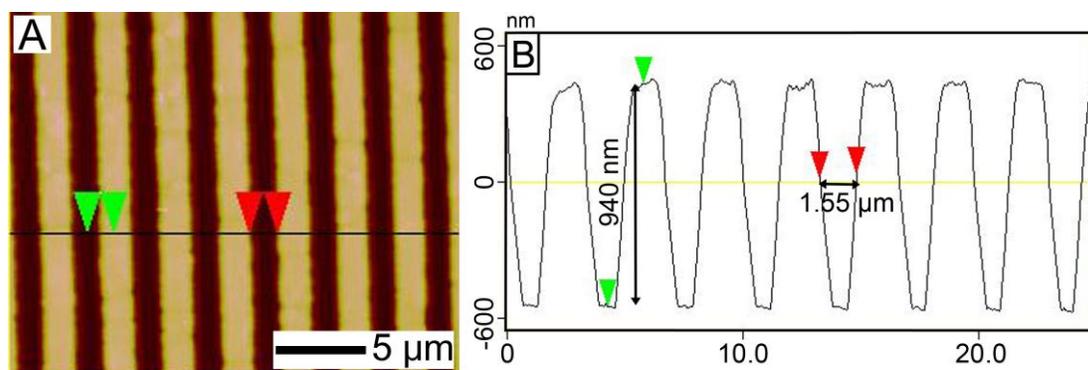


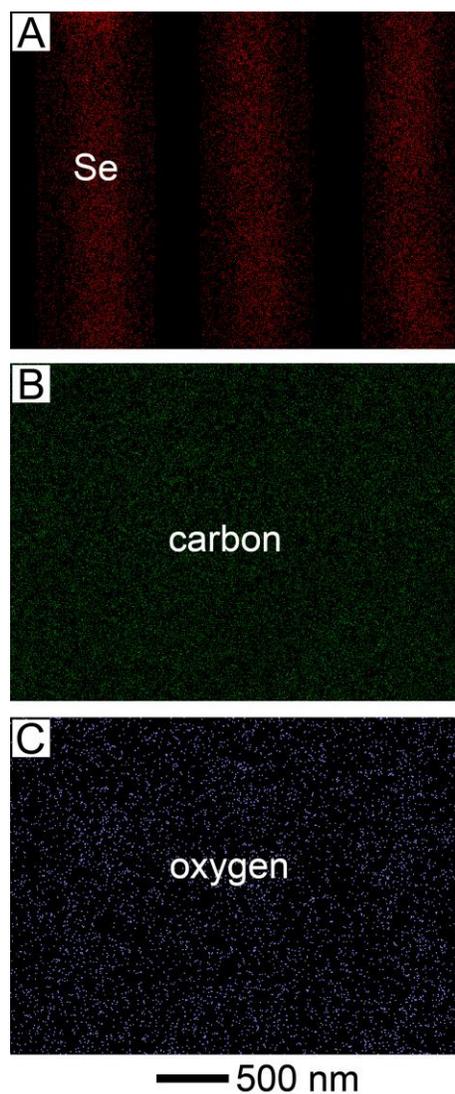
## Supporting Information

### **Ag<sub>2</sub>Se Micropatterns via Viscoelastic Flow-Driven Phase Separation**

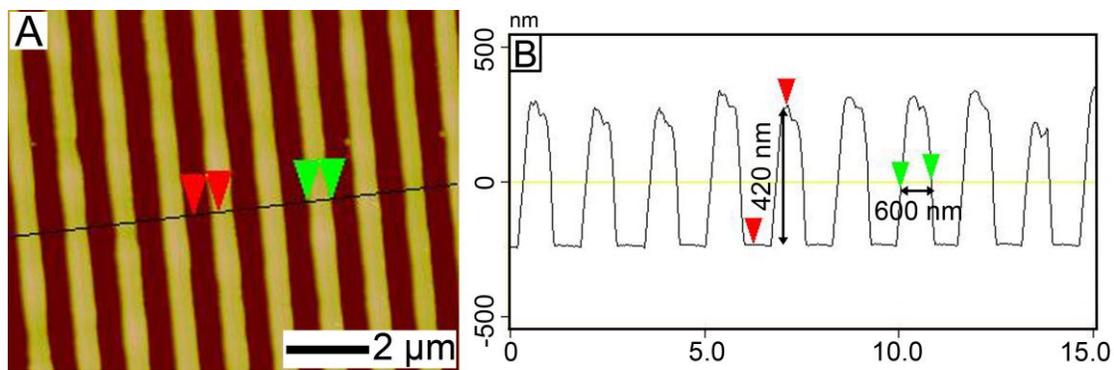
By *Minwoo Park*<sup>1</sup>, *Heesook Cho*<sup>2</sup>, *Soojin Park*<sup>2</sup> and *Unyong Jeong*<sup>1\*</sup>



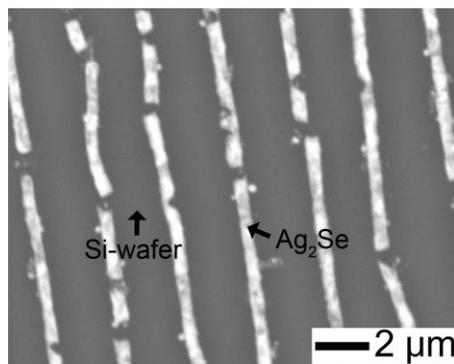
**Fig. S1.** (A) AFM height image of a PCL line pattern (line/space=1.55 μm/ 1.55 μm). (B) AFM height profile of (A).



**Fig. S2.** SEM-EDX mapping for the *a*-Se lines/ PCL thin film composite (see Fig. 2C). (A) Elemental distribution of Se obtained at  $L\alpha_1$  and  $L\alpha_2$  emission from X-ray. (B) Elemental distribution of carbon in PCL obtained at  $K\alpha_1$  and  $K\alpha_2$  emission from X-ray. (C) Elemental distribution of oxygen in PCL obtained at  $K\alpha_1$  emission from X-ray.

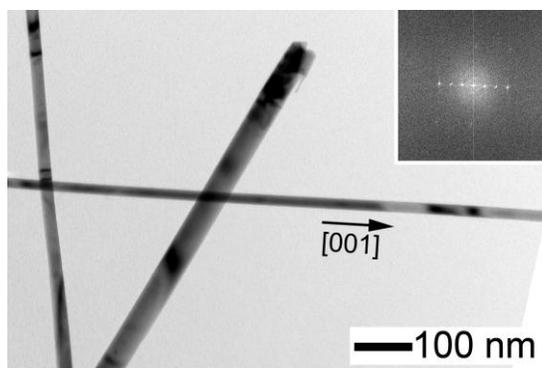


**Fig. S3.** (A) AFM height image of *a*-Se lines after dissolving PCL layers. (B) AFM height profile of (A).

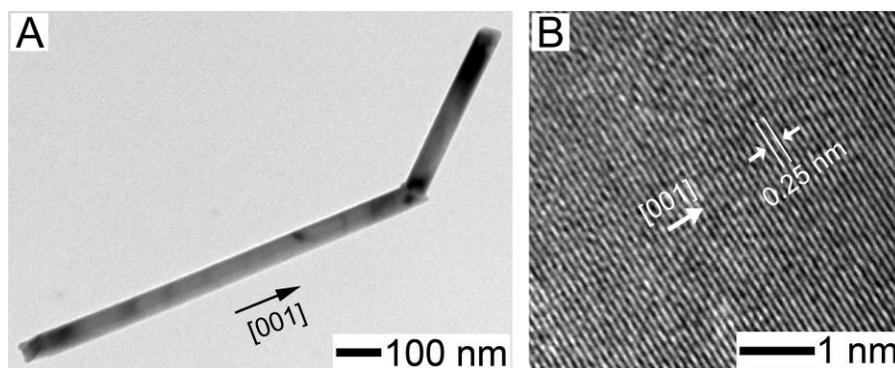


**Fig. S4.** SEM image of Ag<sub>2</sub>Se lines obtained after chemical transformation without PCL films.

The cracks of Ag<sub>2</sub>Se were generated from its volume expansion while chemical transformation.



**Fig. S5.** TEM image of *t*-Se nanowires detached from the network between *a*-Se lines. Fast Fourier transformation (FFT) image indicates  $[001]$  direction of the *t*-Se nanowire.



**Fig. S6.** (A) TEM image of a  $\text{Ag}_2\text{Se}$  nanowire detached from  $\text{Ag}_2\text{Se}$  lines. (B) HR-TEM image of (A) indicating  $[001]$  direction of a  $\text{Ag}_2\text{Se}$  nanowire.