Supporting Information

**Figure S1** a typical SEM images of the as-prepared CuInSe$_2$ nanowires array prepared with AAO template of 100 nm pore size.

**Figure S2** A TEM image of the as-prepared CuInSe$_2$ nanowires array prepared with AAO template of 100 nm pore size.
Figure S3  A HRTEM image of the as-prepared CuInSe₂ nanowires array prepared with AAO template of 100 nm pore size. The inset shows a two-dimensional Fourier transform pattern of the lattice resolved image.