Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

Supporting Information

Solution-Phase Hierarchical Self-Organization of Ultralong Se Nanowires into Diverse Macroarchitectures and Their Enhanced Field Emission

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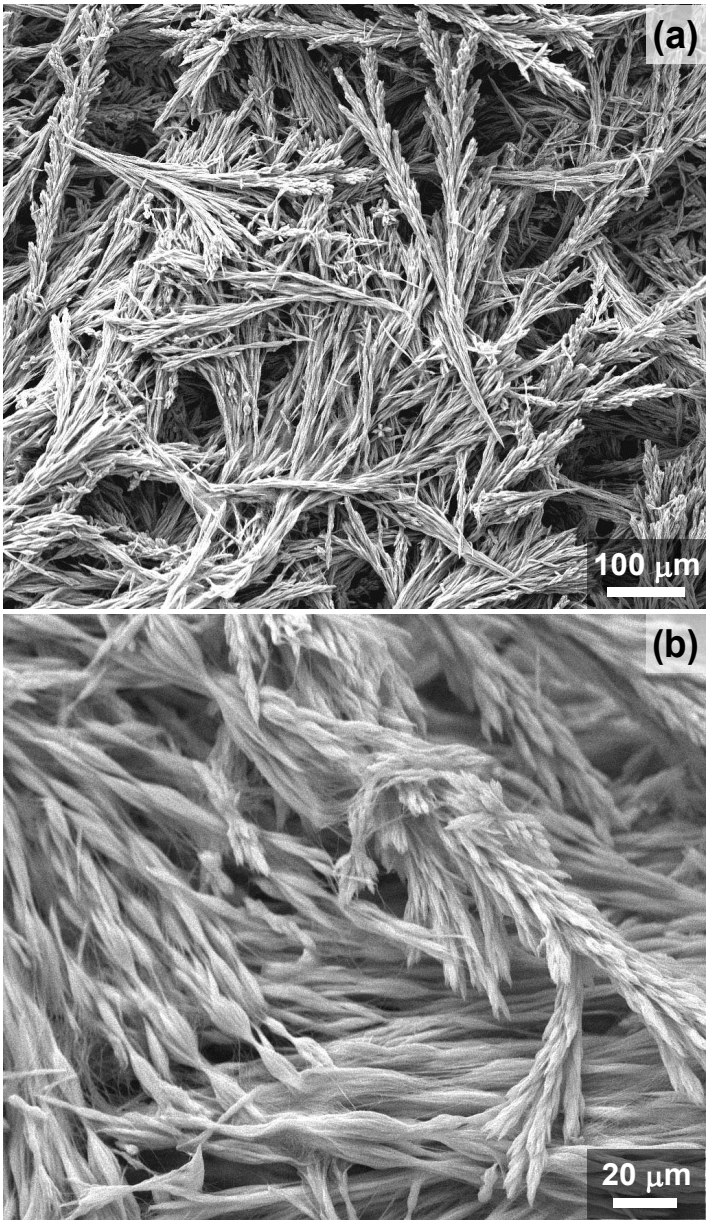

Figure S1. (a) Low-magnification and (b) high-magnification SEM images of the self-organized hierarchical structures of the as-grown Se nanowires prepared by using 3,5-dimethoxyaniline as the reductant.

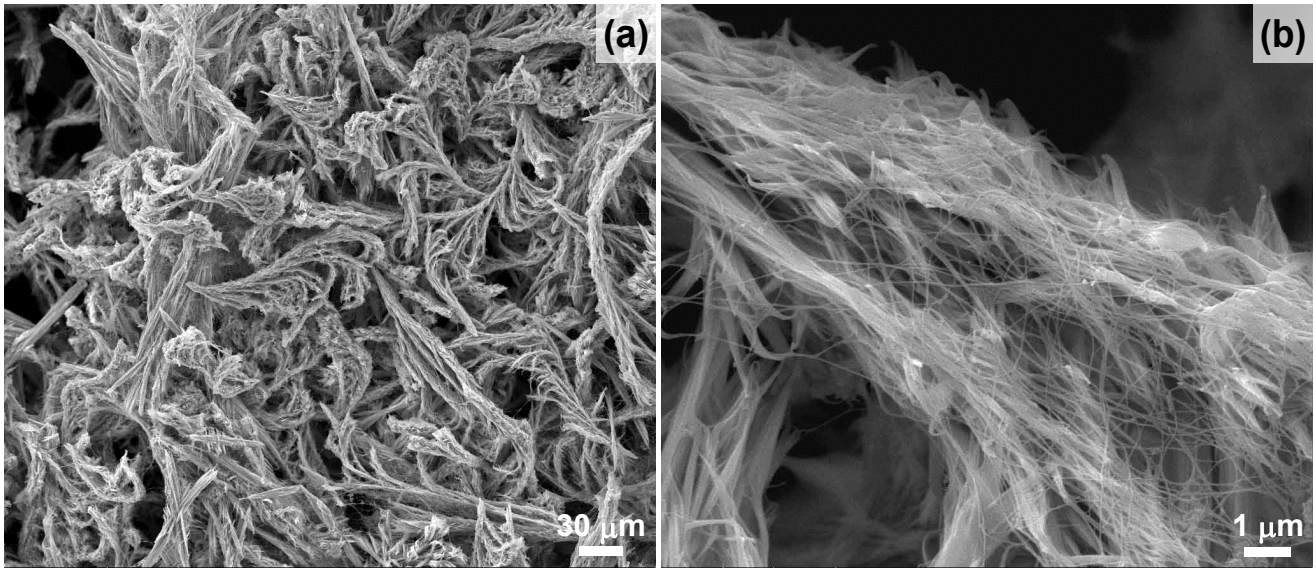

Figure S2. (a) Low-magnification and (b) high-magnification SEM images of the self-organized hierarchical structures of the as-synthesized Se nanowires prepared by using 2,5-dimethoxyaniline as the reductant in a cosolvent of pyridine and water at a volumetric ratio of 13/3.

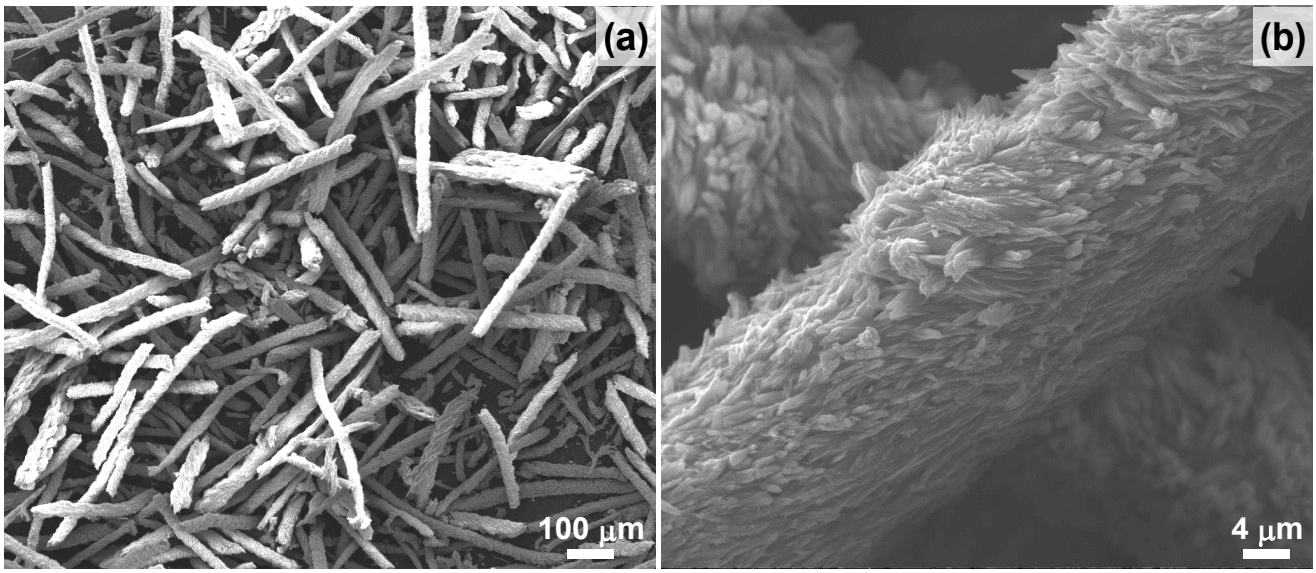

Figure S3. (a) Low-magnification and (b) high-magnification SEM images of the as-grown Se microrods prepared by using 3,5-dimethoxyaniline as the reductant in a cosolvent of pyridine and water at a volumetric ratio of 13/3.

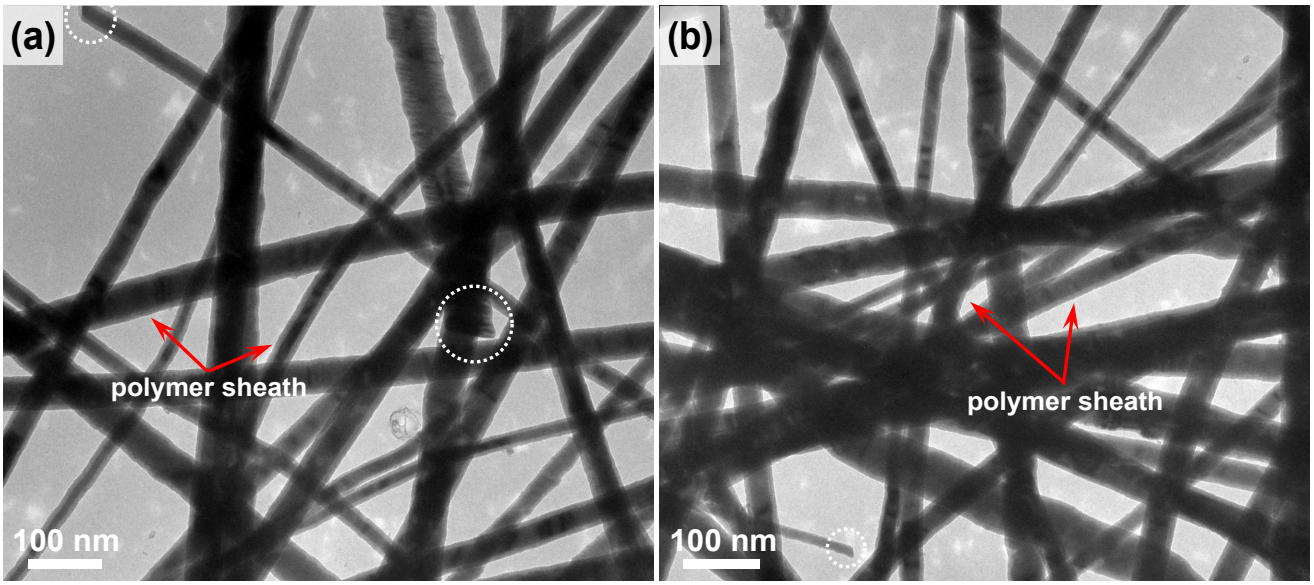

Figure S4. TEM images of the as-synthesized (a) Se/poly(3,5-dimethoxyaniline) and (b) Se/poly(2,6-dimethoxyaniline) core/sheath nanowires. The TEM images also show the nanowires have sharp tips, as marked by the white circles. To clearly view the structures of single nanowires, each sample for TEM observation was mildly sonicated to disassemble and disperse the self-organized nanowires. The products obtained with 2,5-dimethoxyaniline, 2-methoxy-5-nitroaniline, and *o*-anisidine as the reductants have analogous structures (i.e., Se/polymer core/sheath nanowires). For clarity, the TEM images of these Se/polymer core/sheath nanowires are not shown.

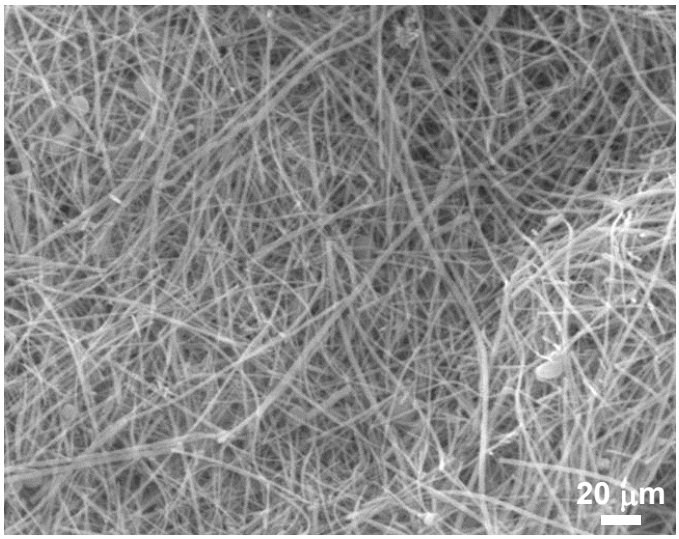

Figure S5. SEM image of the as-synthesized Se nanowires prepared by using *o*-anisidine as the reductant.

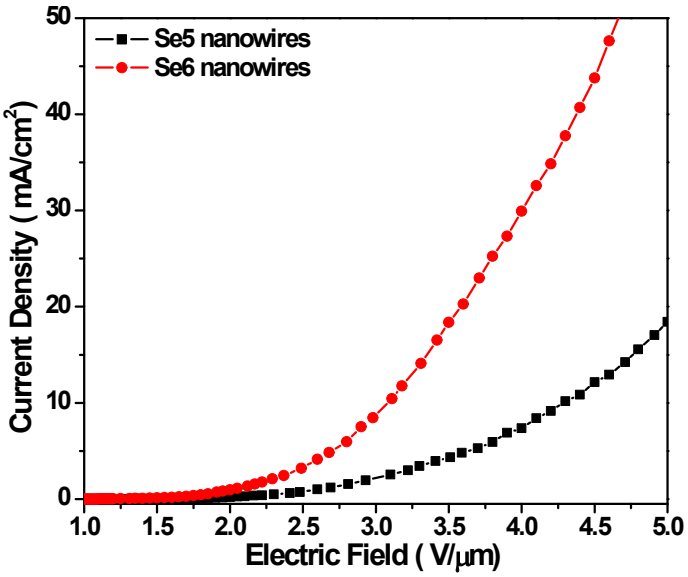

Figure S6. Field emission *J–E* curves recorded from the Se5 and Se6 nanowire arrays at a working distance of 500 μm.