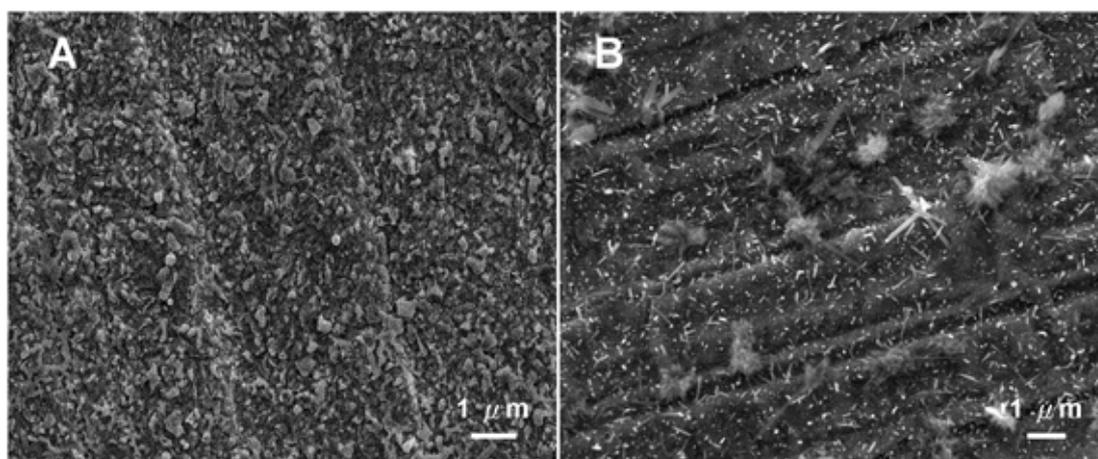


Electronic Supporting Information

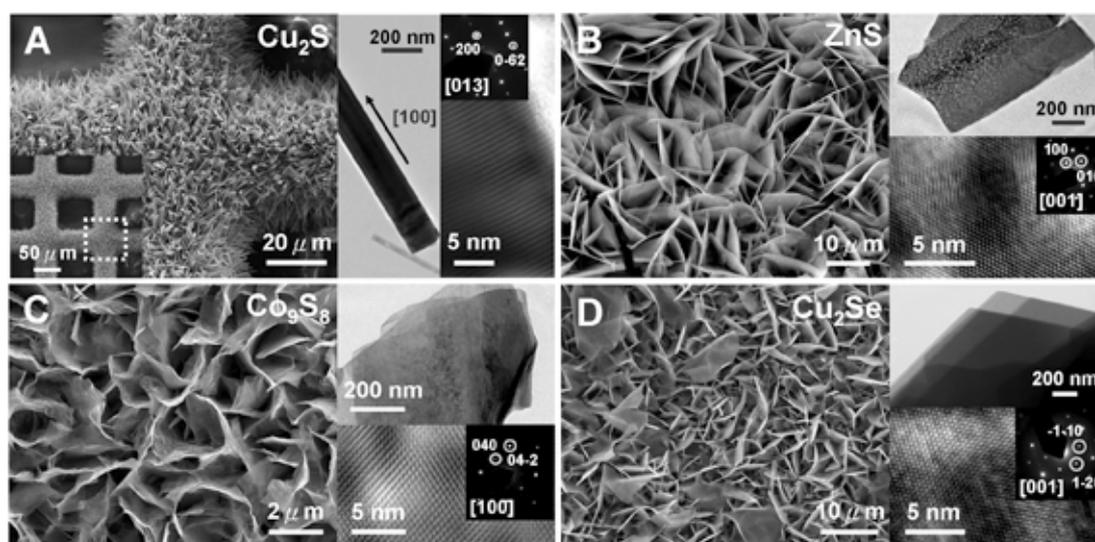
# Oriented Growth of Large-Scale Nickel Sulfide Nanowire Arrays via General Solution Route for Lithium-Ion Battery Cathode Applications

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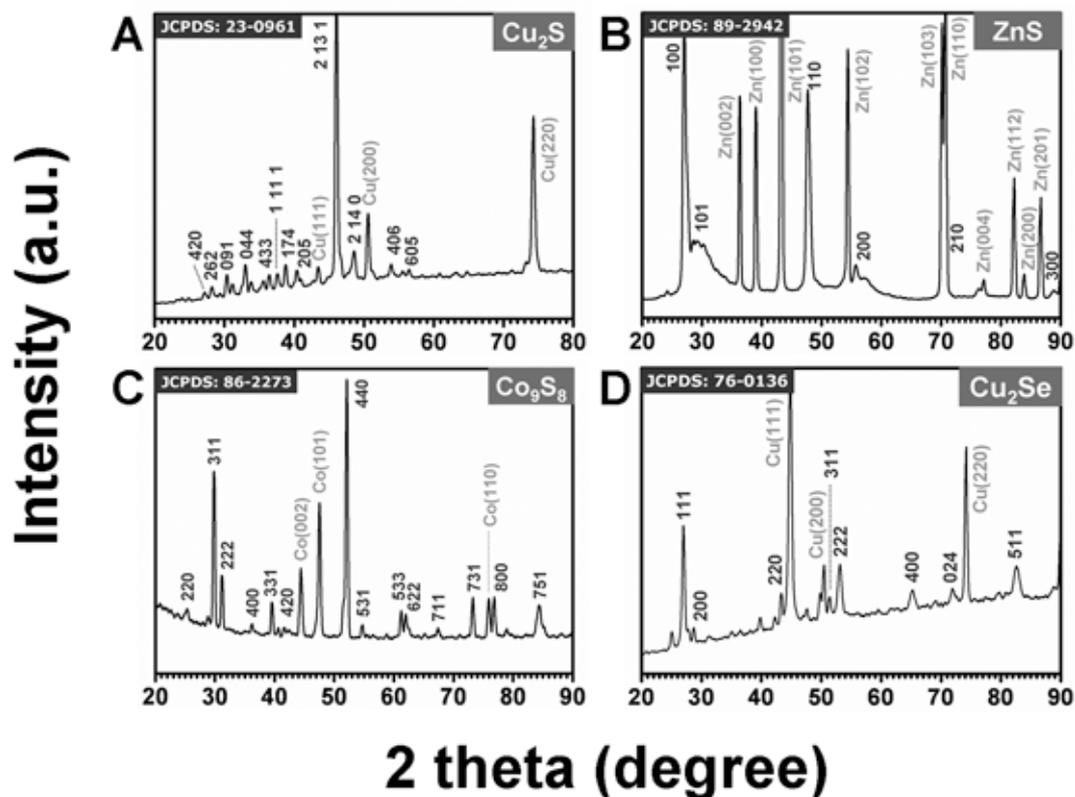
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**Fig. S1.** SEM images of the products grown on the nickel substrate in typical reaction conditions carried out (A) under Ar flow and (B) in sealed reactor.



**Fig. S2.** SEM, TEM, HRTEM and SAED analyses of a series of oriented metal chalcogenides nanostructures grown by our method on corresponding metal substrates to indicate the generality of this route: (A) Cu<sub>2</sub>S, (B) ZnS, (C) Co<sub>9</sub>S<sub>8</sub> and (D) Cu<sub>2</sub>Se nanostructures, respectively.



**Fig. S3.** XRD spectra of the as-grown (A) Cu<sub>2</sub>S, (B) ZnS, (C) Co<sub>9</sub>S<sub>8</sub> and (D) Cu<sub>2</sub>Se nanostructures.