Supplementary information:

N-type thermoelectric materials based on CuTCNQ nanocrystals and CuTCNQ nanorod arrays

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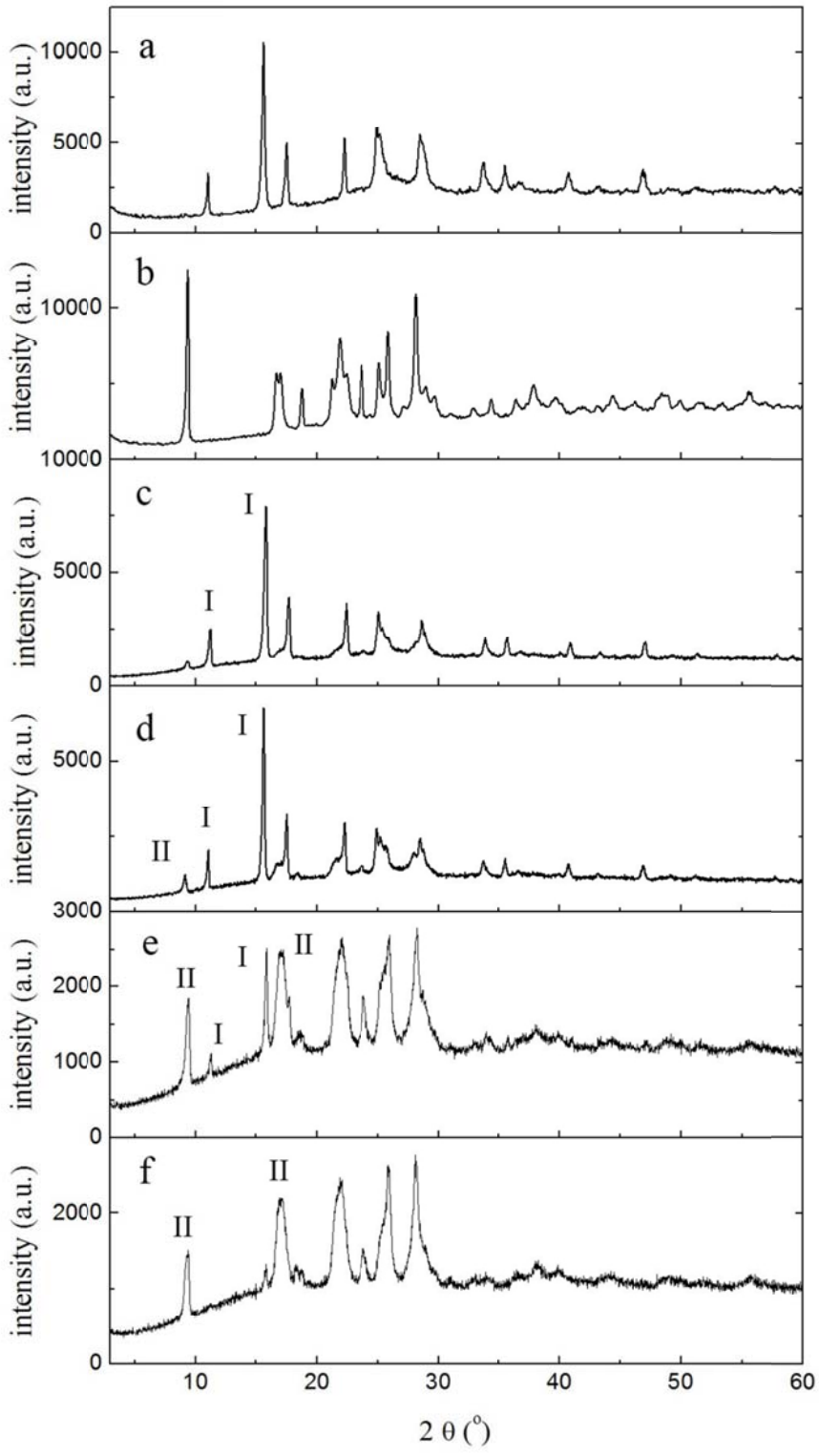

Figure S1. XRD patterns for a) CuTCNQ phase I needles, b) CuTCNQ phase II platelets and CuTCNQ-F_4TCNQ blends (c) B1-CuTCNQ, (d) B2-CuTCNQ, (e) B3-CuTCNQ and (f) B4-CuTCNQ.

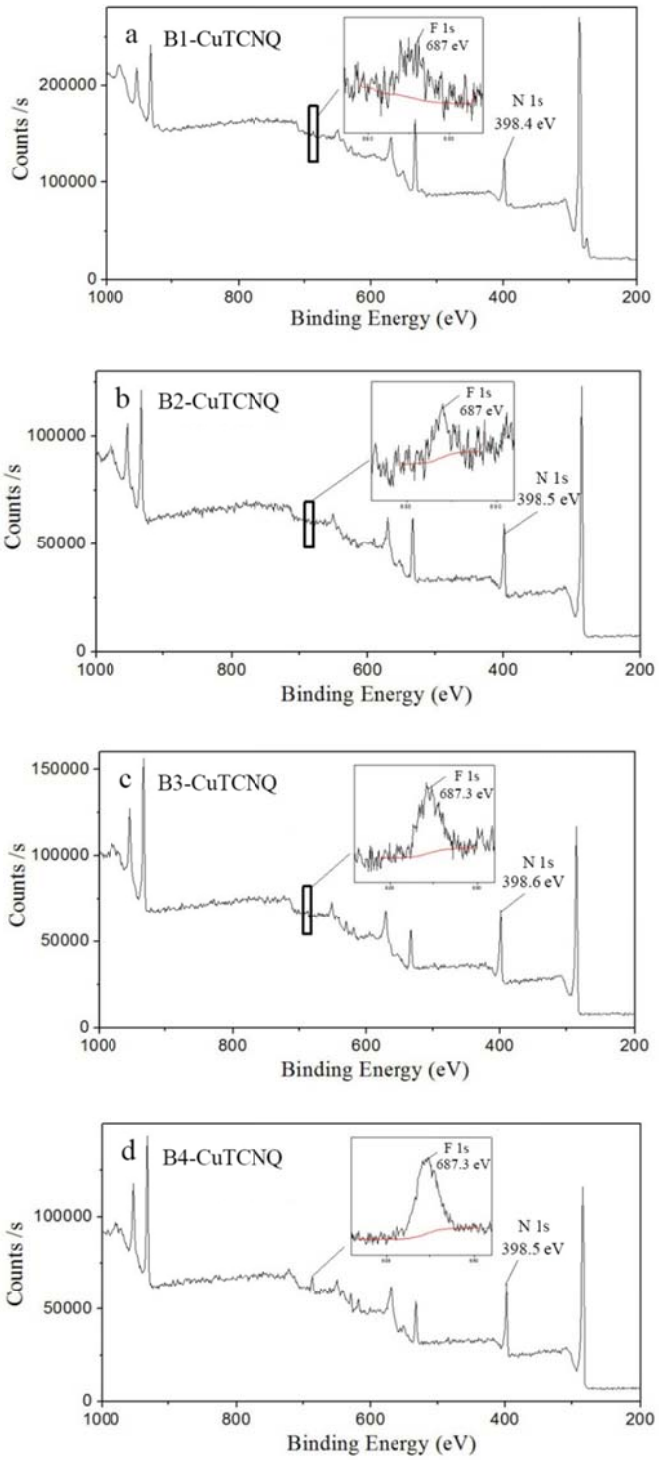

Figure S2. X-Ray photoelectron spectra of CuTCNQ blends a) with 0.97% F_4TCNQ ratio (B1-CuTCNQ), b) with 2.98% F_4TCNQ ratio (B2-CuTCNQ); c) with 3.2% F_4TCNQ ratio (B3-CuTCNQ) and d) with 6.59% F_4TCNQ ratio (B4-CuTCNQ). (Inset: F 1s peak spectra).

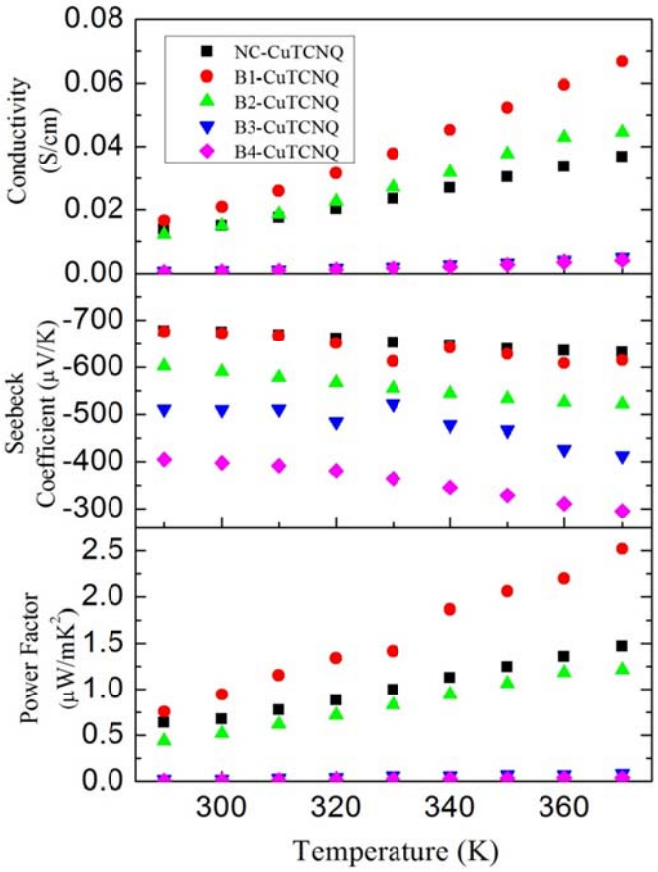

Figure S3. (Color online) Temperature dependence of a) Seebeck coefficient, b) electrical conductivity and c) power factors of NC-CuTCNQ and CuTCNQ blends with a series of F_4TCNQ concentration (mol %).

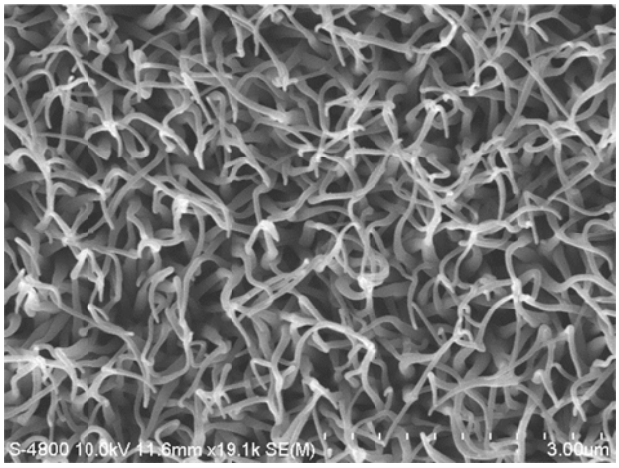

Figure S4. The SEM image of NrA-CuTCNQ films prepared in situ on 30 nm copper film.

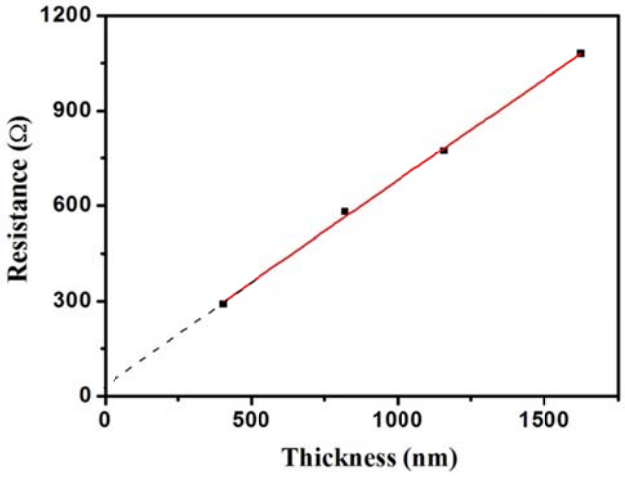

Figure S5. The resistance in the direction of the nanorods versus thickness of NrA-CuTCNQ films.