

Electronic Supplementary Information

**Toward Nanostructured Thermoelectrics: Synthesis and Characterization of Lead
Telluride Gels and Aerogels[†]**

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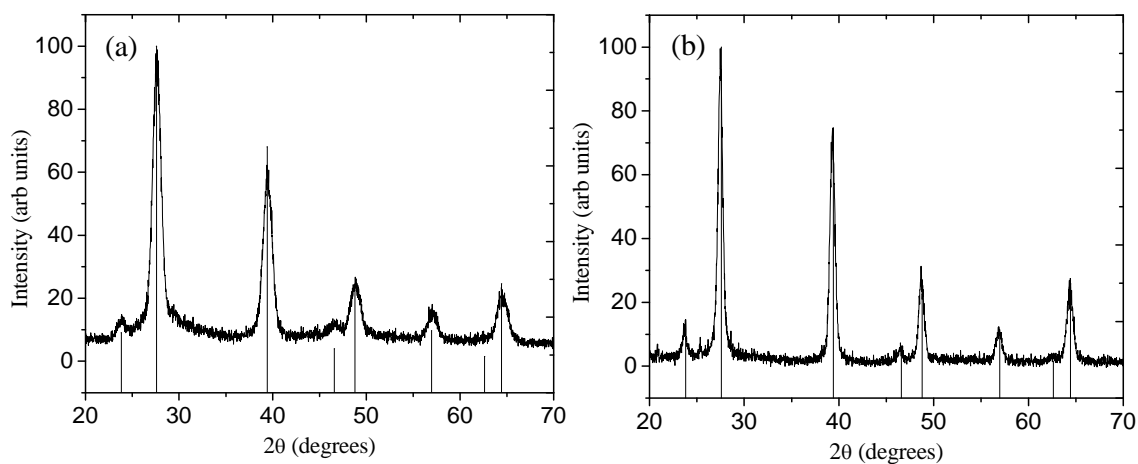


Fig. S1. PXRD of PbTe nanoparticles obtained after a growth time of (a) 3 min and (b) 5 min. The vertical lines correspond to the ICDD-PDF # 38-1435 of cubic PbTe.

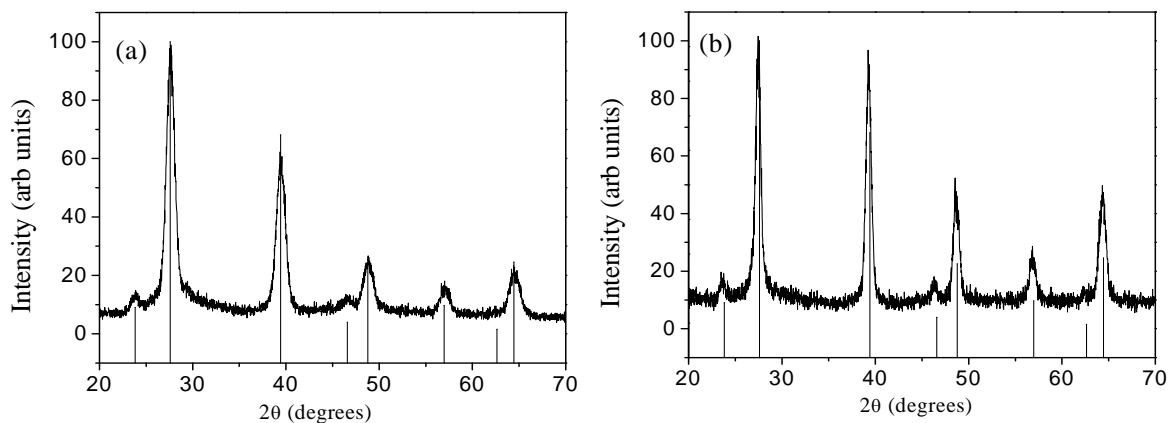


Fig. S2. PXRD of PbTe thiolate capped nanoparticles obtained from ligand exchange of nanoparticles prepared using a growth time of (a) 3 min and (b) 5 min. The vertical lines correspond to the ICDD-PDF # 38-1435 of cubic PbTe.

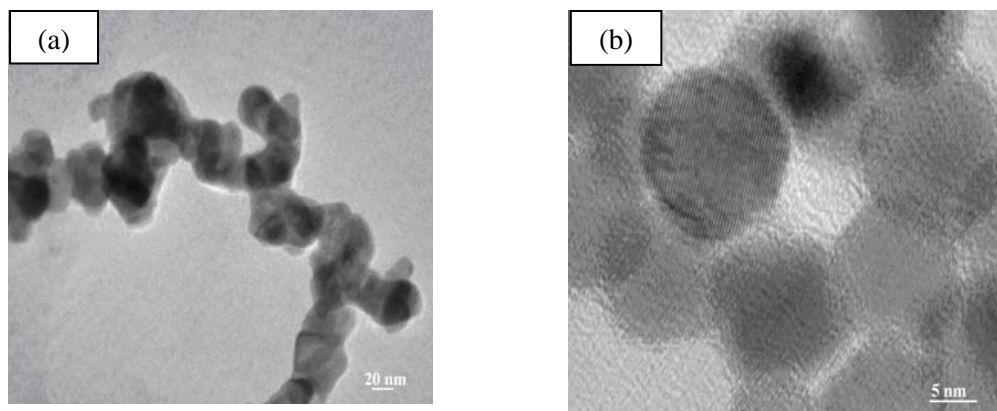


Fig. S3. TEM images of thiolate-capped nanoparticles obtained from (a) spherical and (b) cube-shaped PbTe oleate capped nanoparticles.



Fig. S4. Photograph of initial sol of PbTe (right) and the wet gel formed after addition of TNM (left).

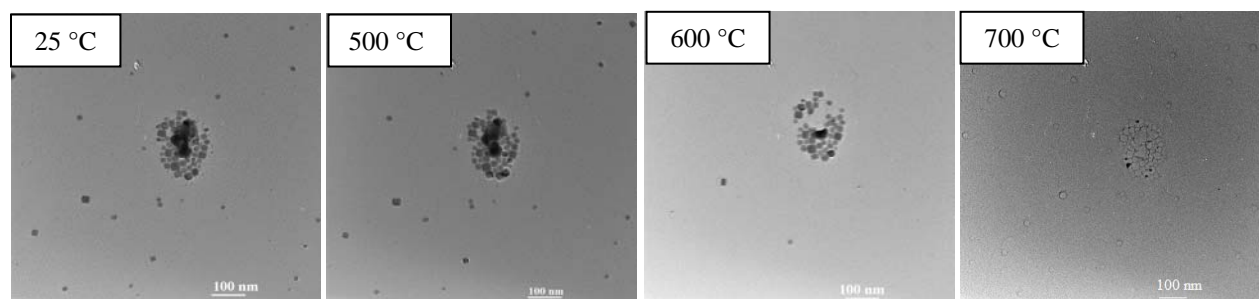


Fig. S5: TEM images of PbTe nanoparticles (size = 20 nm) obtained upon heating.

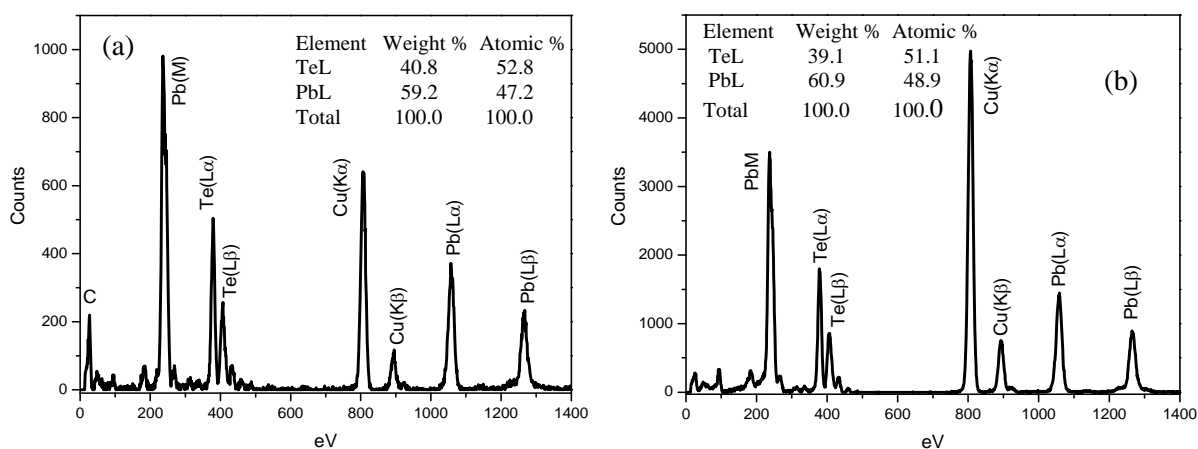


Fig. S6. EDS of a) 12 nm PbTe nanoparticles and b) PbTe aerogels prepared from 12 nm particles.

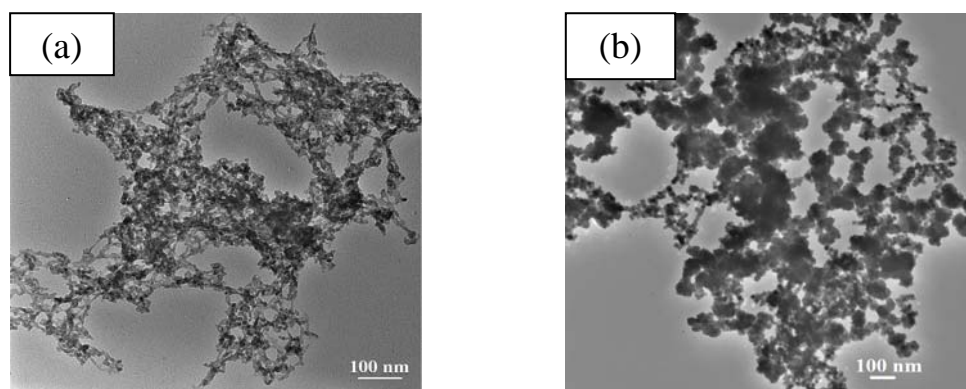


Fig. S7. TEM micrographs of aerogel network obtained after addition of 3% H₂O₂ to achieve a ratio of concentration of a) H₂O₂:Pb²⁺ = 1: 6 and b) H₂O₂: Pb²⁺ = 1: 11.

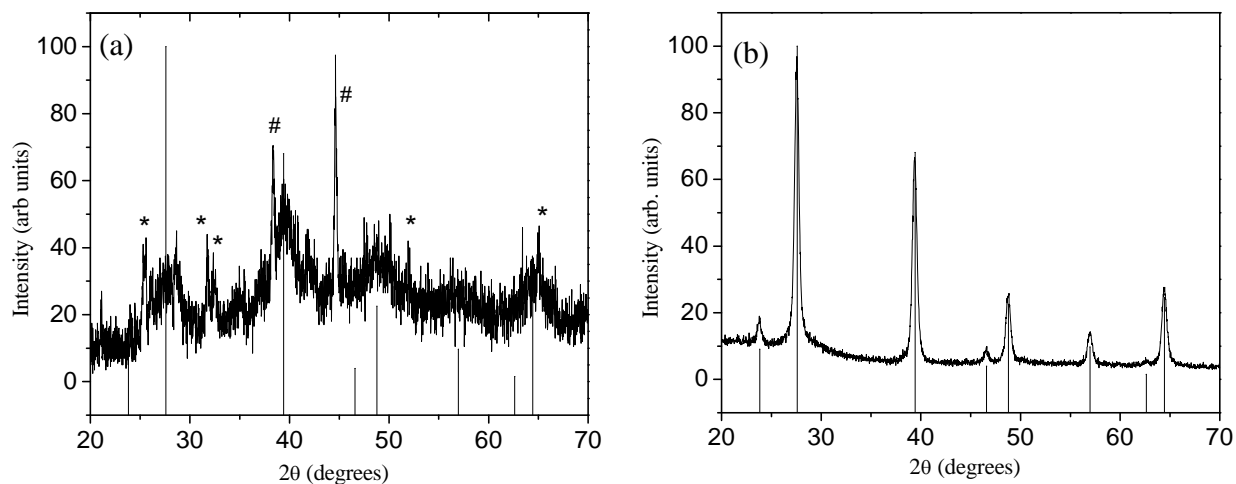


Fig. S8. PXRD pattern of PbTe aerogel from addition of 3 % H₂O₂ to achieve a ratio of concentration of a) H₂O₂:Pb²⁺ = 1: 6 and b) H₂O₂:Pb²⁺ = 1:11. The symbols “*” and “#” denote impurity peaks from Te₂O₅ and Pb₂O₃, respectively. The line diagrams correspond to the ICDD-PDF # 38-1435 of cubic PbTe.