Electronic Supplementary Material (ESI) for Nanoscale.

Electronic Supplemental Information

Anisotropic Manganese Antimonide Nanoparticle Formation by Solution-Solid-Solid Growth Mechanism : Consequence of Sodium Borohydride Addition Towards Reduced Surface Oxidation and Enhanced Magnetic Moment

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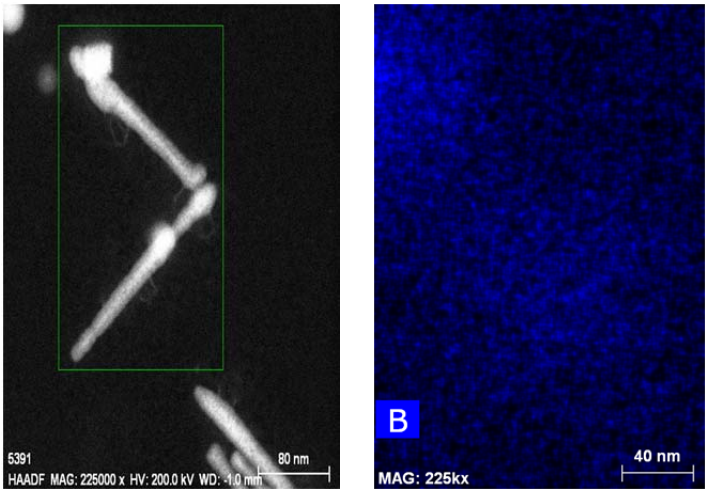

Figure S1: HAADF-STEM of MnSb nanoparticles synthesized in the presence of $NaBH_4$ and EDS mapping for B. The scale bar corresponds to 40 nm.

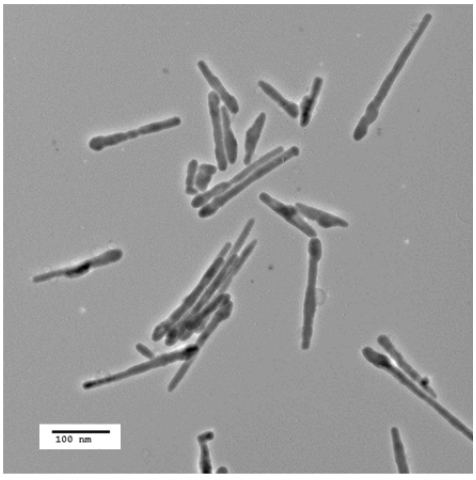

Figure S2: TEM image of MnSb nanoparticles reminiscent of peas in a pod synthesized in the presence of 2.64 mmol $NaBH_4$

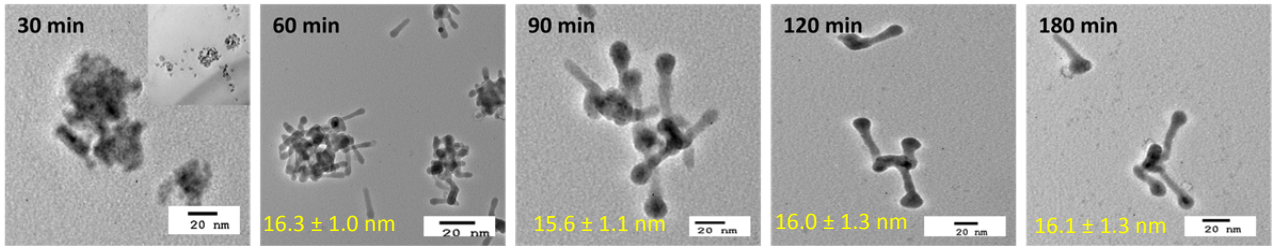

Figure S3 (a): TEM images of the fractions obtained at different time intervals (30, 60, 90, 120, 180 min) and quenched in cold chloroform from the reaction using near-stoichiometric $Mn_2(CO)_{10}$ and 0.53 mmol $NaBH_4$

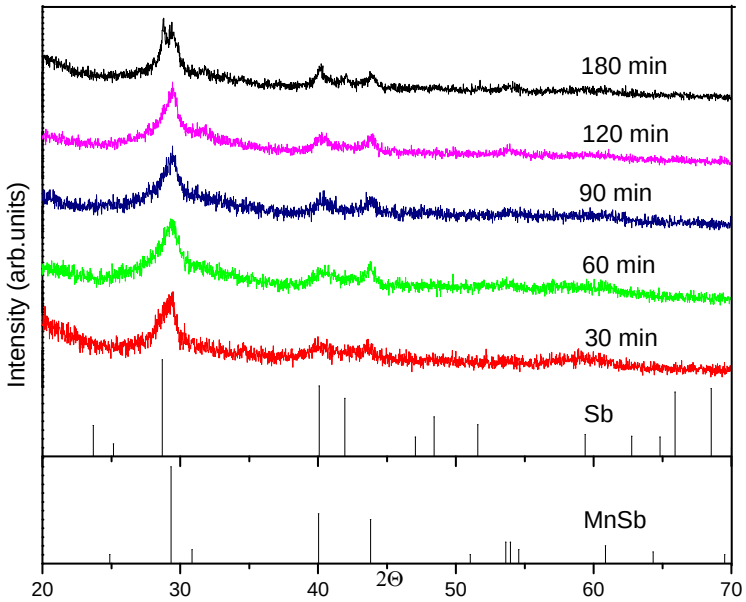

Figure S3(b): PXRD patterns of the fractions obtained at different time intervals (30, 60, 90, 120, 180 min) and quenched in cold chloroform from the reaction that used near-stoichiometric $Mn_2(CO)_{10}$ in the presence of $NaBH_4$ (0.53 mmol)

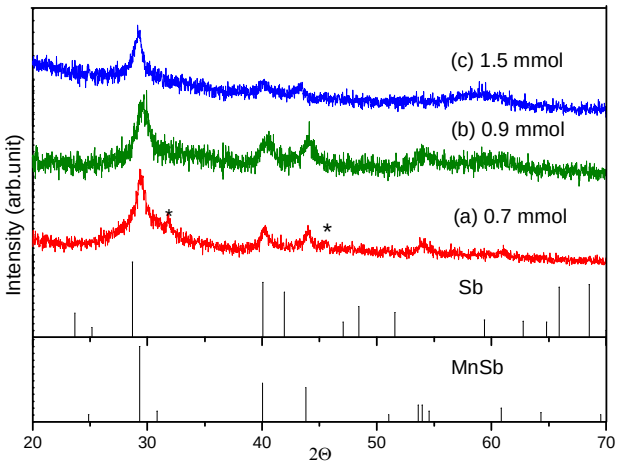

Figure S4 (a-c): PXRD patterns of MnSb nanoparticles synthesized in the presence of $NaBH_4$ (0.79 mmol), using (a) 0.7 (b) 0.9 (c) 1.5 mmol (40, 80, 200% mole excess) of $Mn_2(CO)_{10}$. MnO_2 peaks are marked with asterisks (PDF #-00-42-1169)

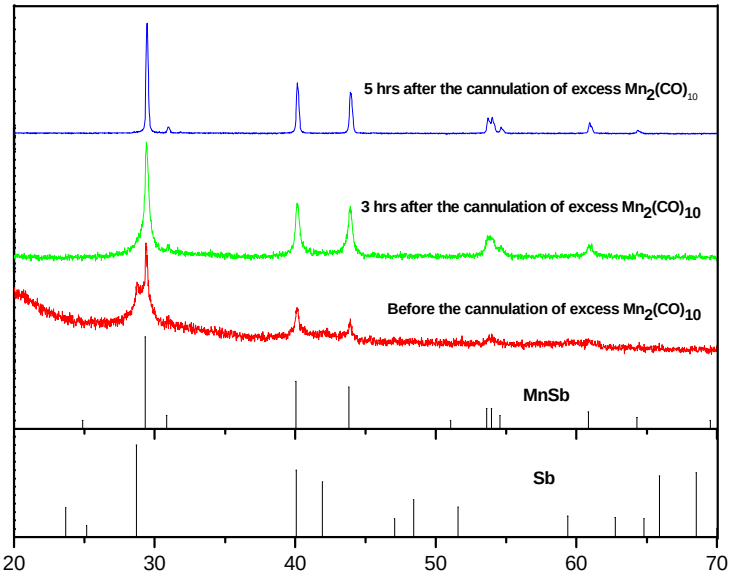

Figure S5: PXRD patterns of near-stoichiometric $Mn_2(CO)_{10}$ containing reaction mixture and upon the introduction of excess $Mn_2(CO)_{10}$ to the near-stoichiometric $Mn_2(CO)_{10}$ containing the reaction mixture after 3 and 5 h carried out in the presence of 1.59 mmol $NaBH_4$.

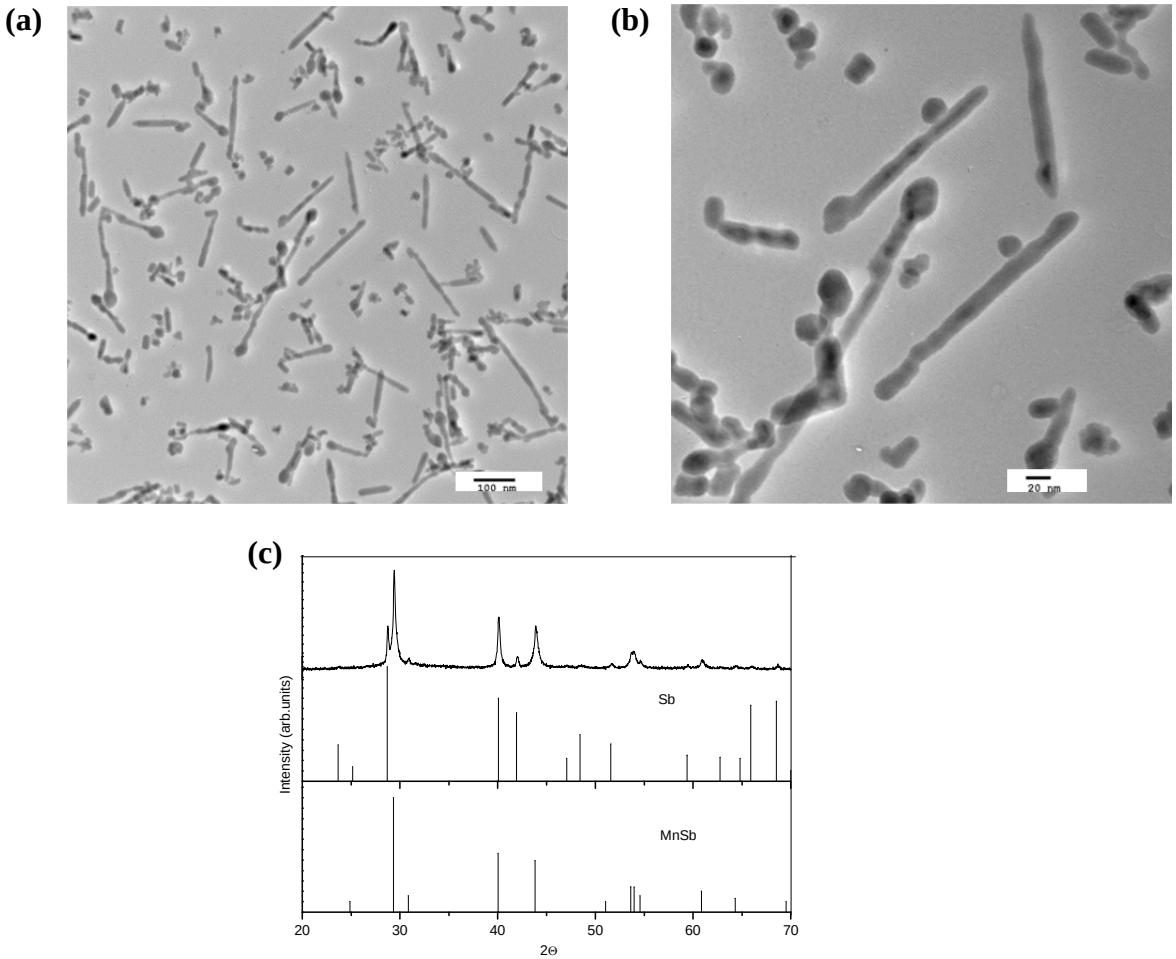

Figure S6: (a) Low magnification and **(b)** high magnification TEM images **(c)** PXRD pattern of the MnSb nanoparticles synthesized under near stoichiometric $Mn_2(CO)_{10}$ amount with $NaBH_4$ (1.59 mmol) after heating for a total of 8 h