

Supporting Information

A One-step, Template-free Synthesis, Characterization, Optical and Magnetic Properties of $\text{Zn}_{1-x}\text{Mn}_x\text{Te}$ Nanosheets

Sayan Bhattacharyya¹, D. Zitoun², Y. Estrin³, O. Moshe³, D. H. Rich³, and A. Gedanken^{1,*}

¹*Department of Chemistry and Kanbar Laboratory for Nanomaterials at the Bar-Ilan University Center for Advanced Materials and Nanotechnology, Bar-Ilan University, Ramat-Gan 52900, Israel*

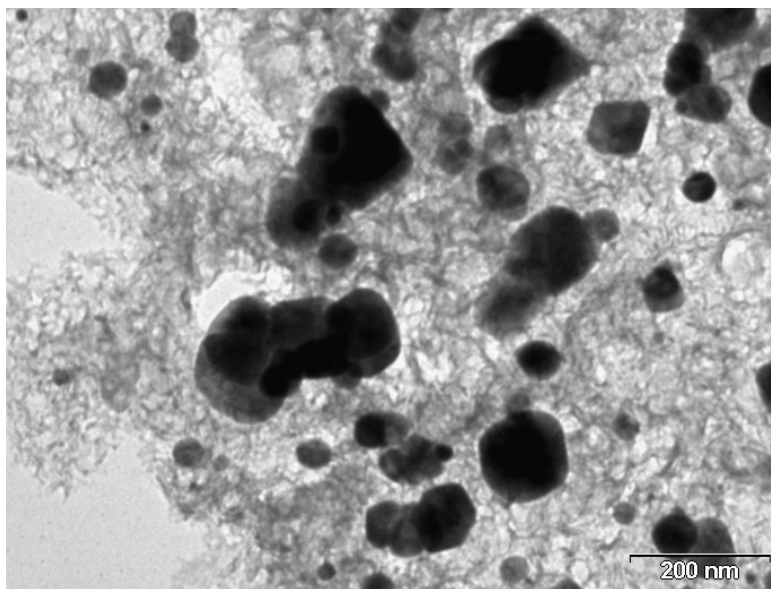
²*ICGM-AIME, Université Montpellier II, CC15, Place Bataillon 34095 Montpellier, France*

³*Department of Physics, The Ilse Katz Institute for Nanoscience and Nanotechnology, Ben-Gurion University of the Negev, P.O.B 653, Beer-Sheva 84105, Israel*

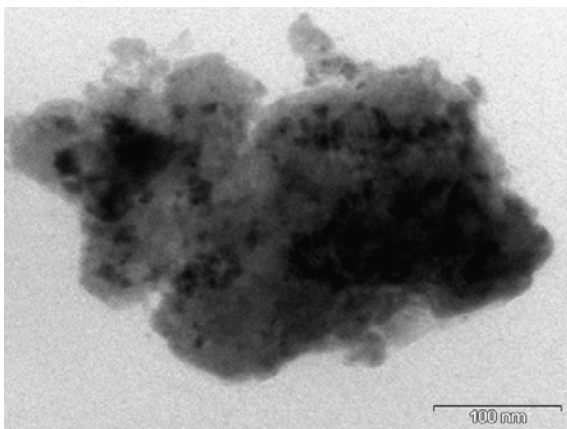
* Author for correspondence: email: gedanken@mail.biu.ac.il

1. TEM images from the blank experiments

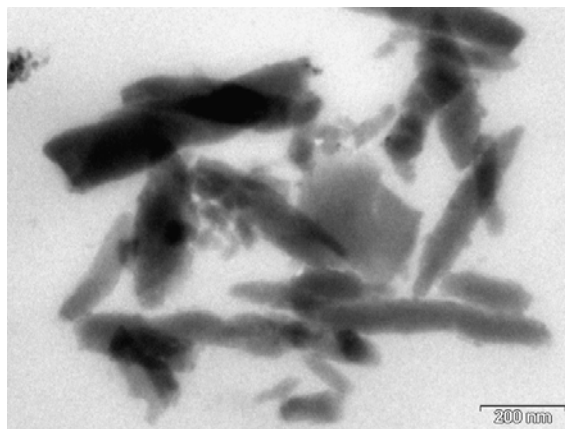
(a) The RAPET reaction between Zn- and Mn-acetates (in the absence of Te) at 600-1000°C, yielded 50-100 nm platelet shaped nanoparticles.



(b) Mn-acetate and Te reacts to form a mixture of nanosheets (L ~ 400 nm) with spherical ~10 nm particles attached to the nanosheets and rod-like structures of length = 450-600 nm and breadth = 90 ± 5 nm.



Nanosheets



Nanorods

(c) The reaction between Zn-acetate, Mn-acetate and Te at lower temperatures ($\leq 800^\circ\text{C}$) could form incomplete nanosheets (gaps within the sheet structure).

