

## Supporting Information

### New Journal of Chemistry

For

In-situ growth of CdTe nanostructures from novel electrodeposition bath: Tuning of electrical properties and Reuse of Ionic liquid

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SI-Figure-1a: EDX spectrum for the overall nanostructured CdTe thin film.

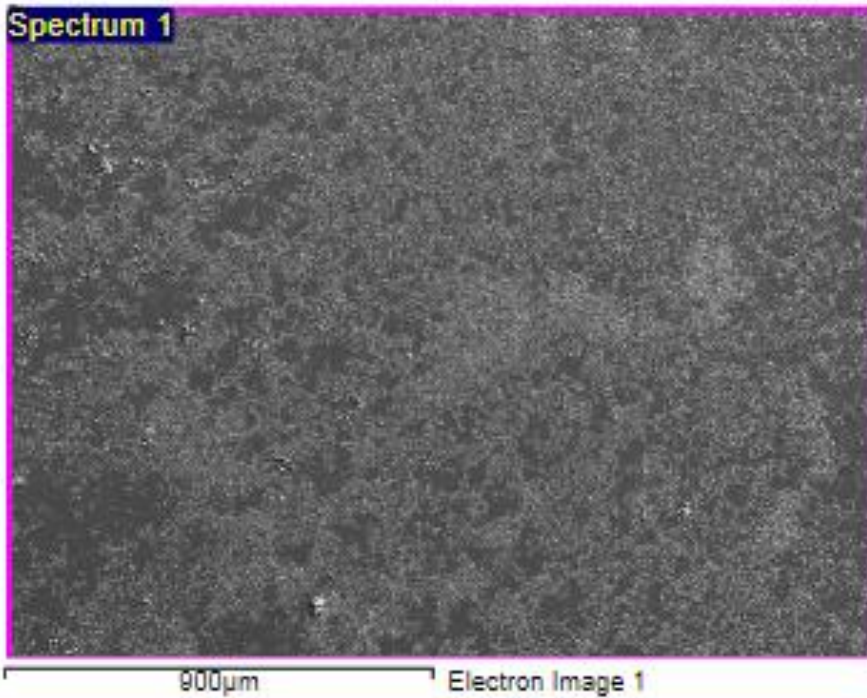
SI-Figure-1b: EDX spectrum for the nanostructures.

SI-Figure-2: TauC plot for the determination of the CdTe thin film.

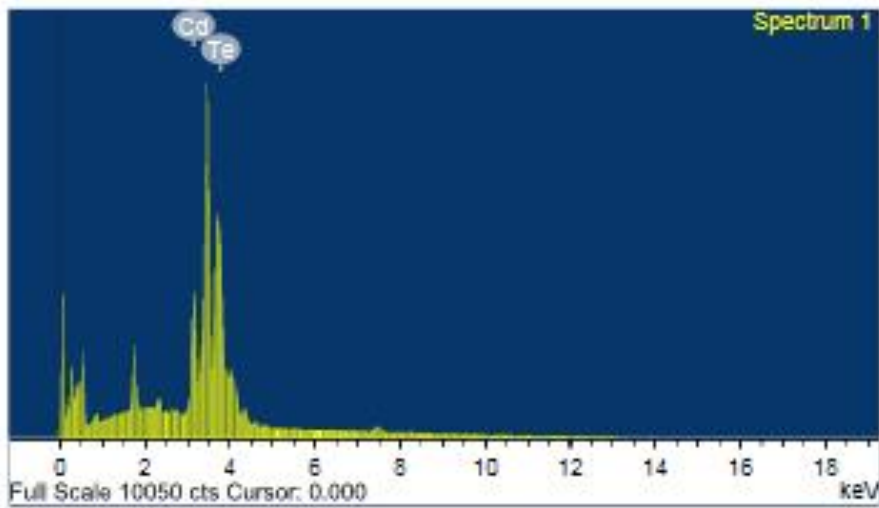
SI-Figure-3a & b: Length and diameter of the structures measured by SEM length tool: the variation is shown for a typical bath of 1:10 Te: Cd in IL.

SI-Figure-4: Photographs of the ionic liquids after Re-Use.

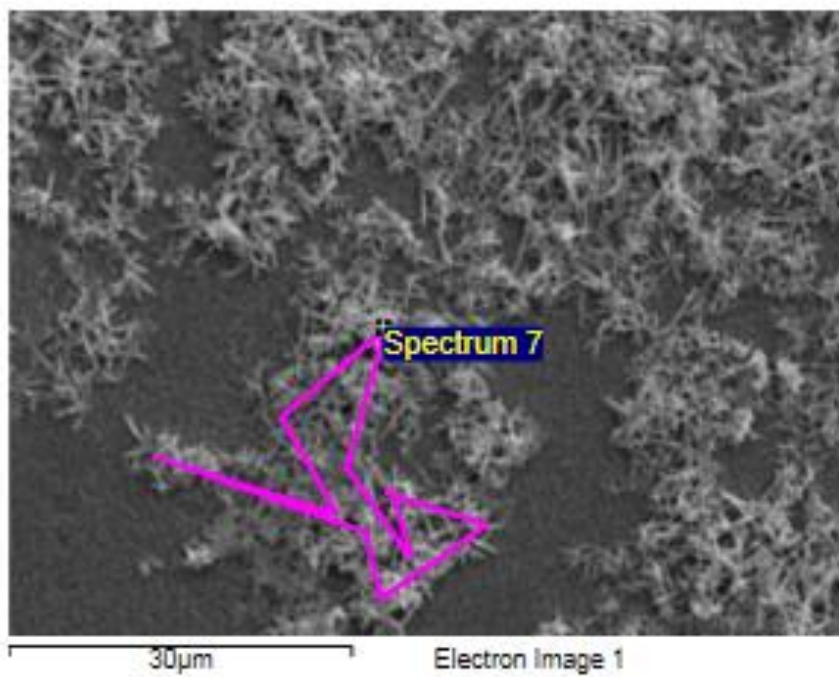
SI-Figure-5: TEM images of the ionic liquid (a drop of ionic liquid dispersed in the solution of methanol).



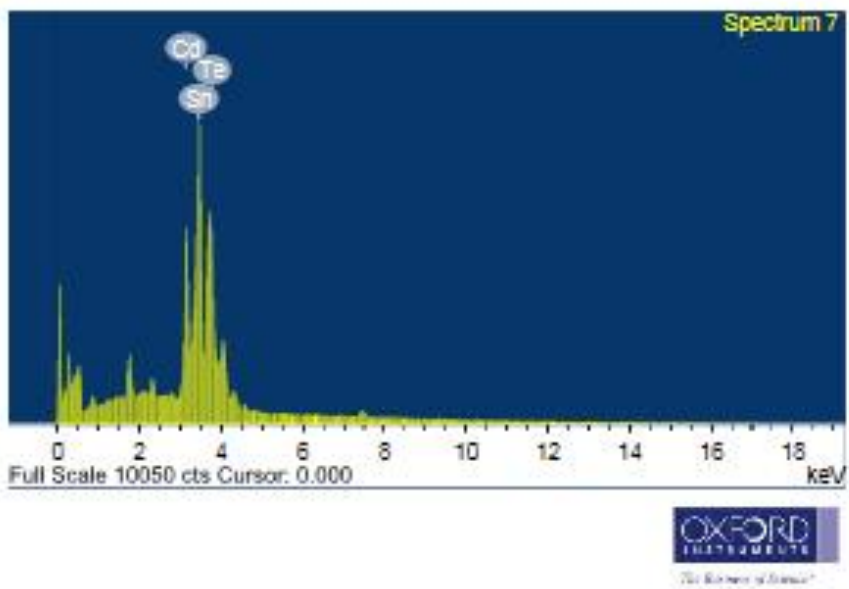
Standard :		
Cd	Cd	1-Jun-1999 12:00 AM
Te	HgTe	1-Jun-1999 12:00 AM
Elem...	Weight%	Atomic%
Cd L	4.53	52.34
Te L	4.68	47.66
Totals	9.21	



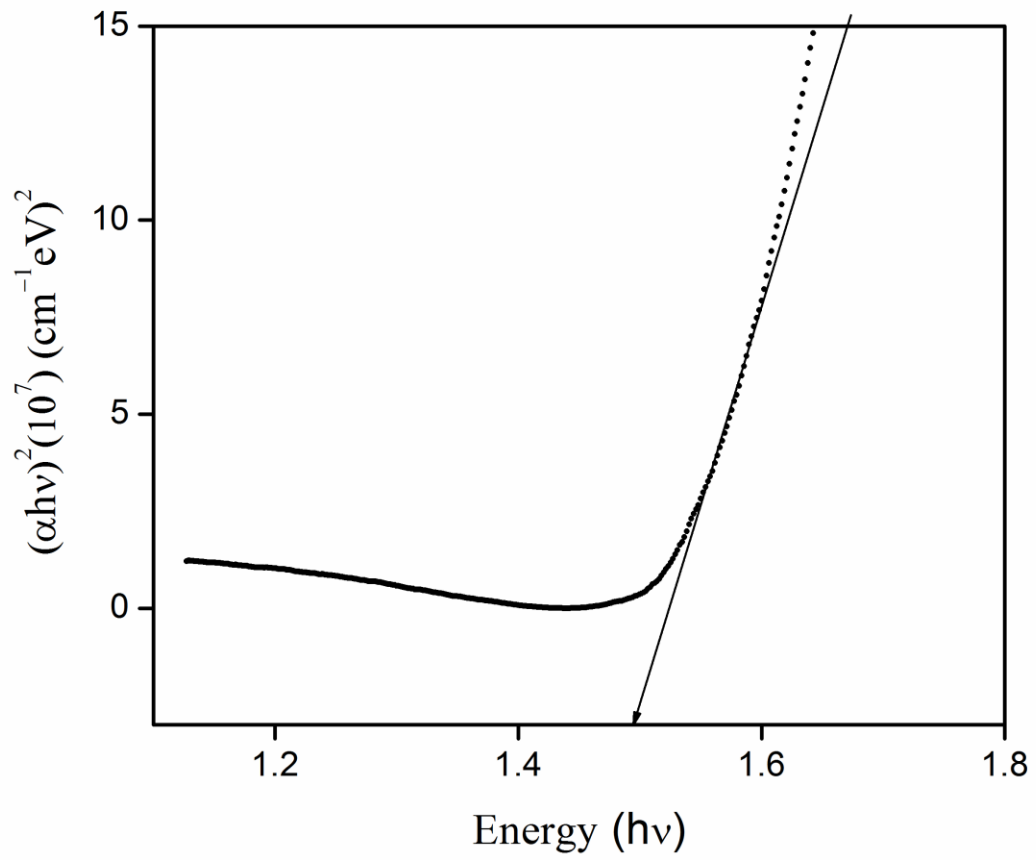
SI-Figure-1a: EDX spectrum for the nanostructured CdTe thin film.



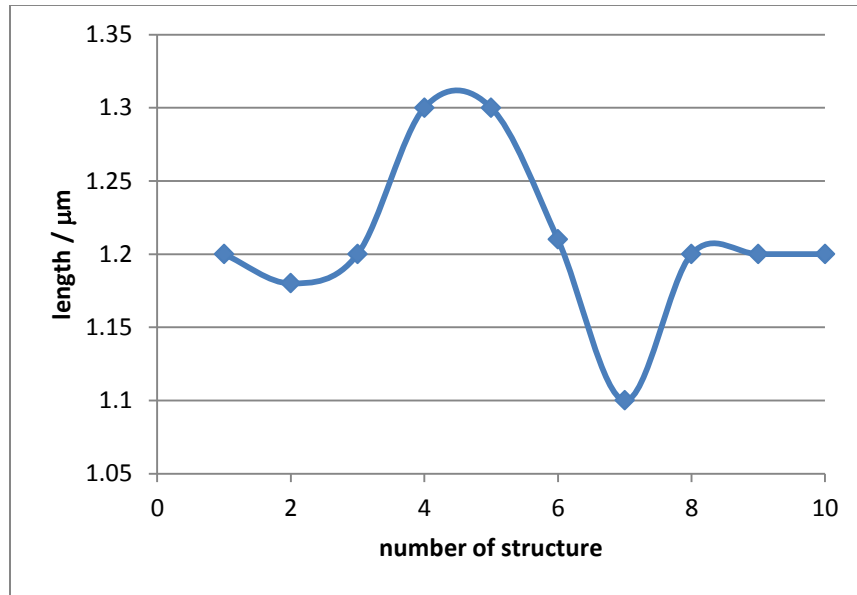
Standard :			
Cd	Cd	1-Jun-1999 12:00 AM	
Sn	Sn	1-Jun-1999 12:00 AM	
Te	HgTe	1-Jun-1999 12:00 AM	
Elem... Weight% Atomic%			
Cd L	9.04	24.83	
Sn L	19.21	49.94	
Te L	10.43	25.23	
Totals	38.68		



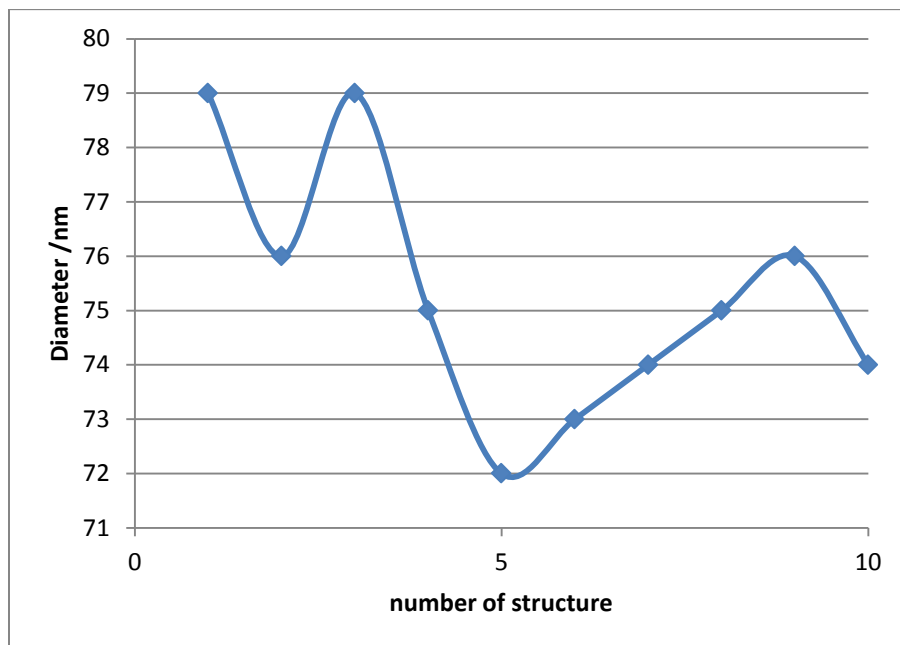
SI-Figure-1b: EDX spectrum for the nanostructures.



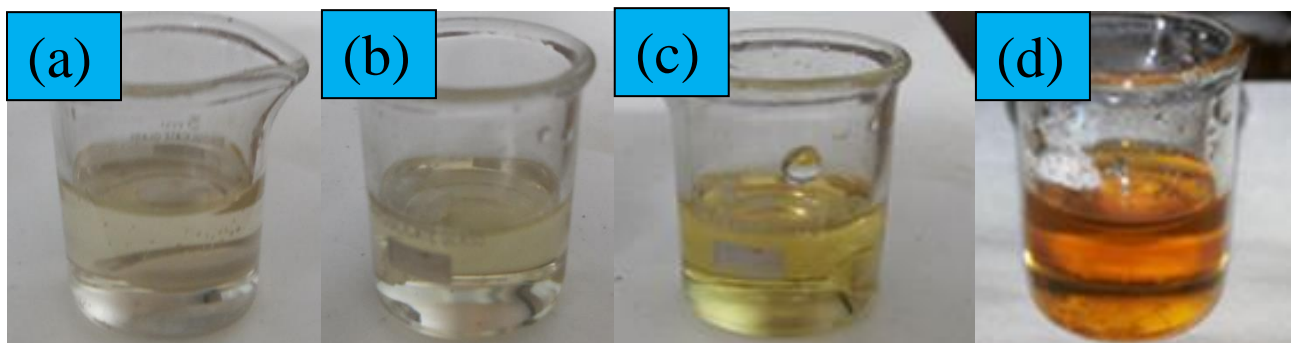
SI-Figure-2: TauC plot for the determination of the CdTe thin film.



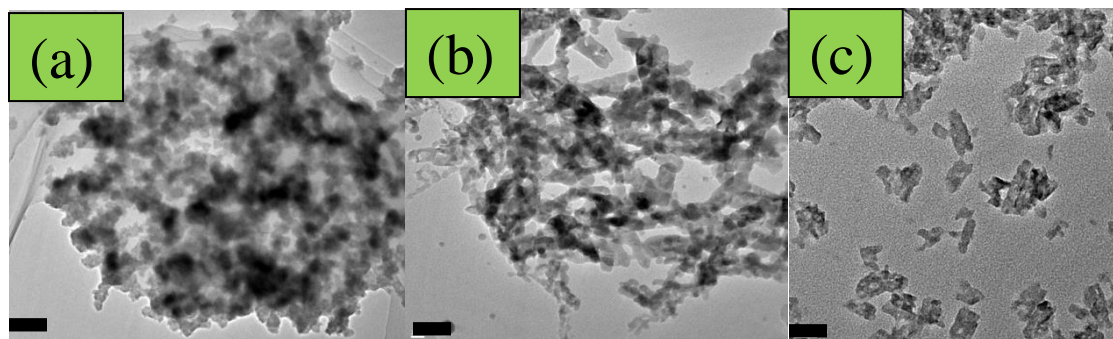
SI-Figure-3a: Length of the structures measured by SEM length tool, during a typical deposition (1:10 Te:Cd) the average length was found to be 1.2 μm.



SI-Figure-3b: Diameter of the structures measured by SEM length tool, during a typical deposition (1:10 Te:Cd) the average diameter was found to be 75 nm.



SI-Figure-4: Photographs of the ionic liquids after Re-Use (a) after 1<sup>st</sup> (b) 2<sup>nd</sup> (c) 3<sup>rd</sup> (d) 4<sup>th</sup> run.



SI-Figure-5: TEM images of the ionic liquid (a) after 1<sup>st</sup> run (b) 2<sup>nd</sup> run (c) 3<sup>rd</sup> run (a drop of used ionic liquid dispersed in the solution of methanol), the scale bar shows 20 nm length.