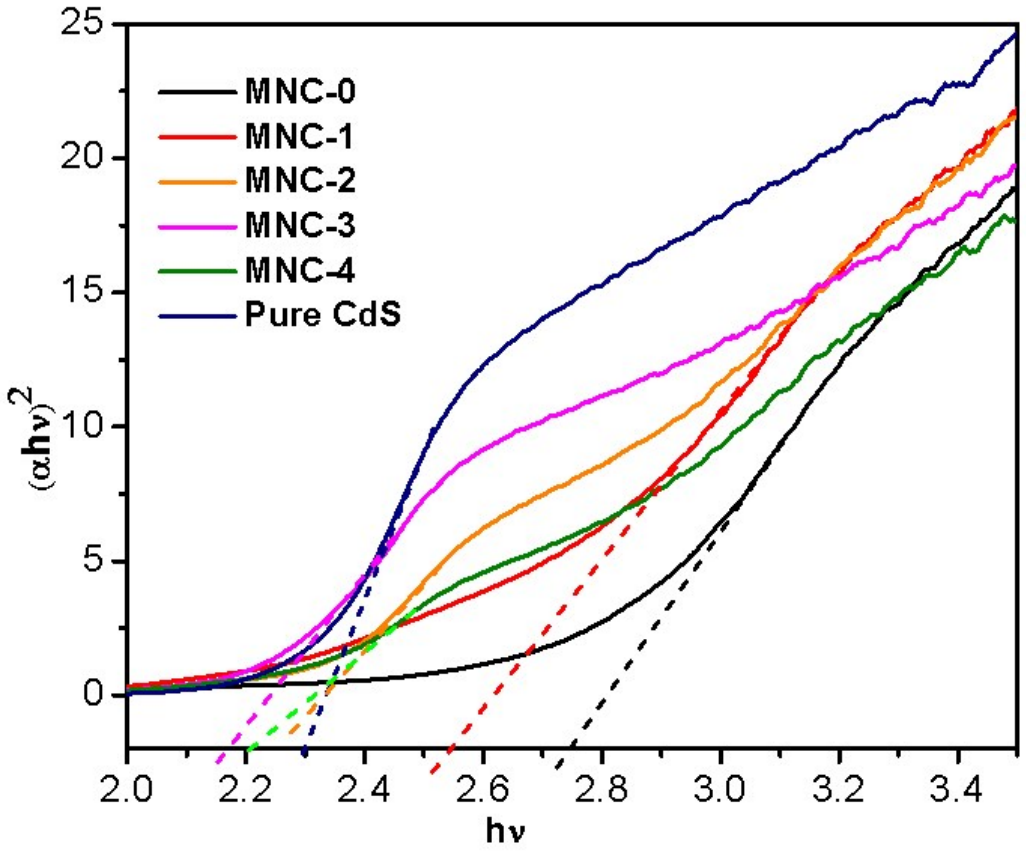
Electronic Supplementary Material (ESI) for Nanoscale Advances.

CdS decorated $MnWO_4$ nanorods nanoheterostructure: a new 0D-1D hybrid system for enhanced photocatalytic hydrogen under natural sunlight

Yogesh A. Sethi,[a] Aniruddha K. Kulkarni[b], Anuradha A. Ambalkar[a], Supriya K. Khore,[a] Aarti R.Gunjal,[a] Suresh W. Gosavi,[c]* Bharat B. Kale [a]*

ESI I:

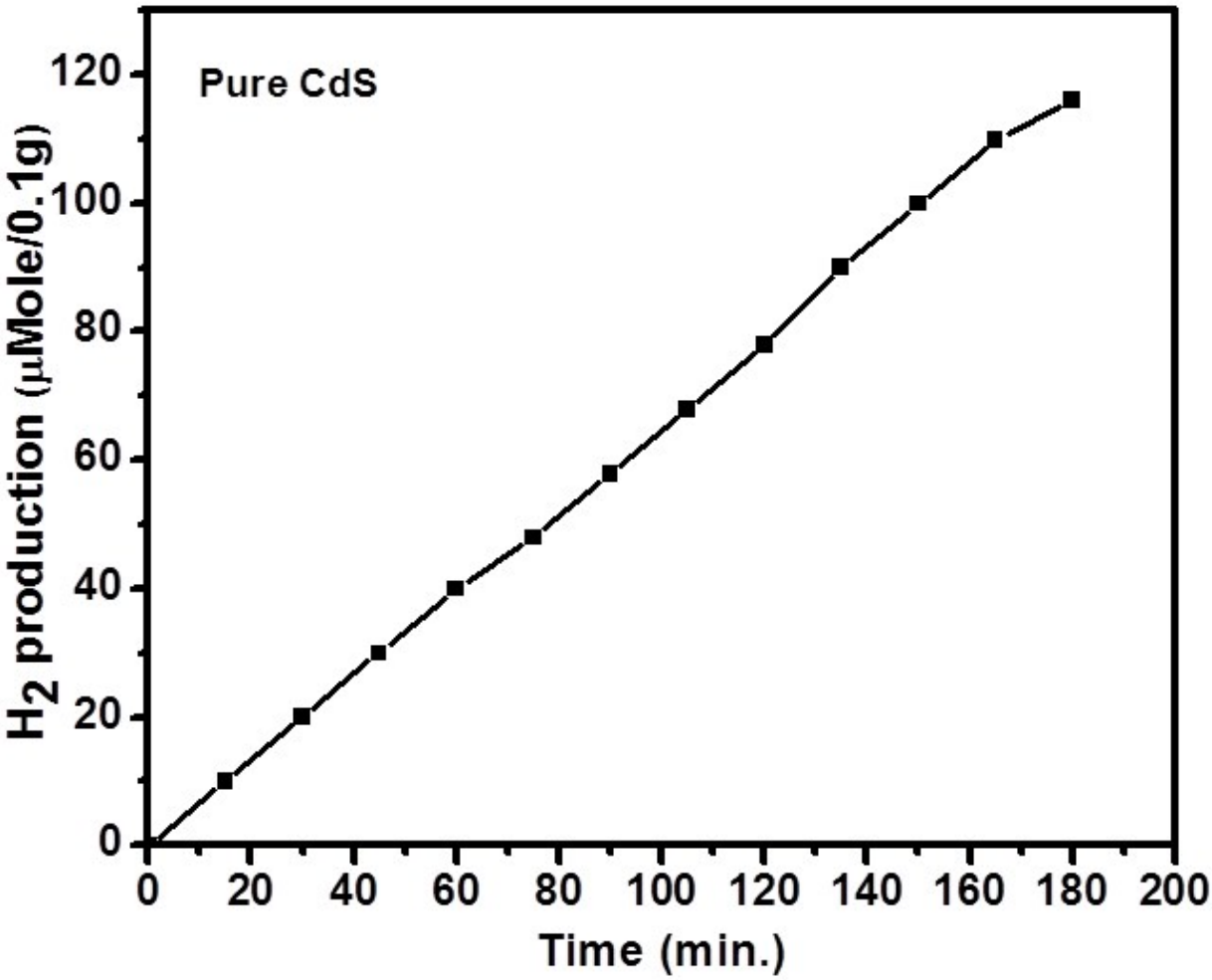


ESI I: Tau plot of sample a) CdS b) MNC-0, c) MNC-1 d) MNC-2 c) MNC-3 d) MNC-4 e) CdS.

Table 1: Band gap values of CdS, $MnWO_4$ and CdS/$MnWO_4$ composites.

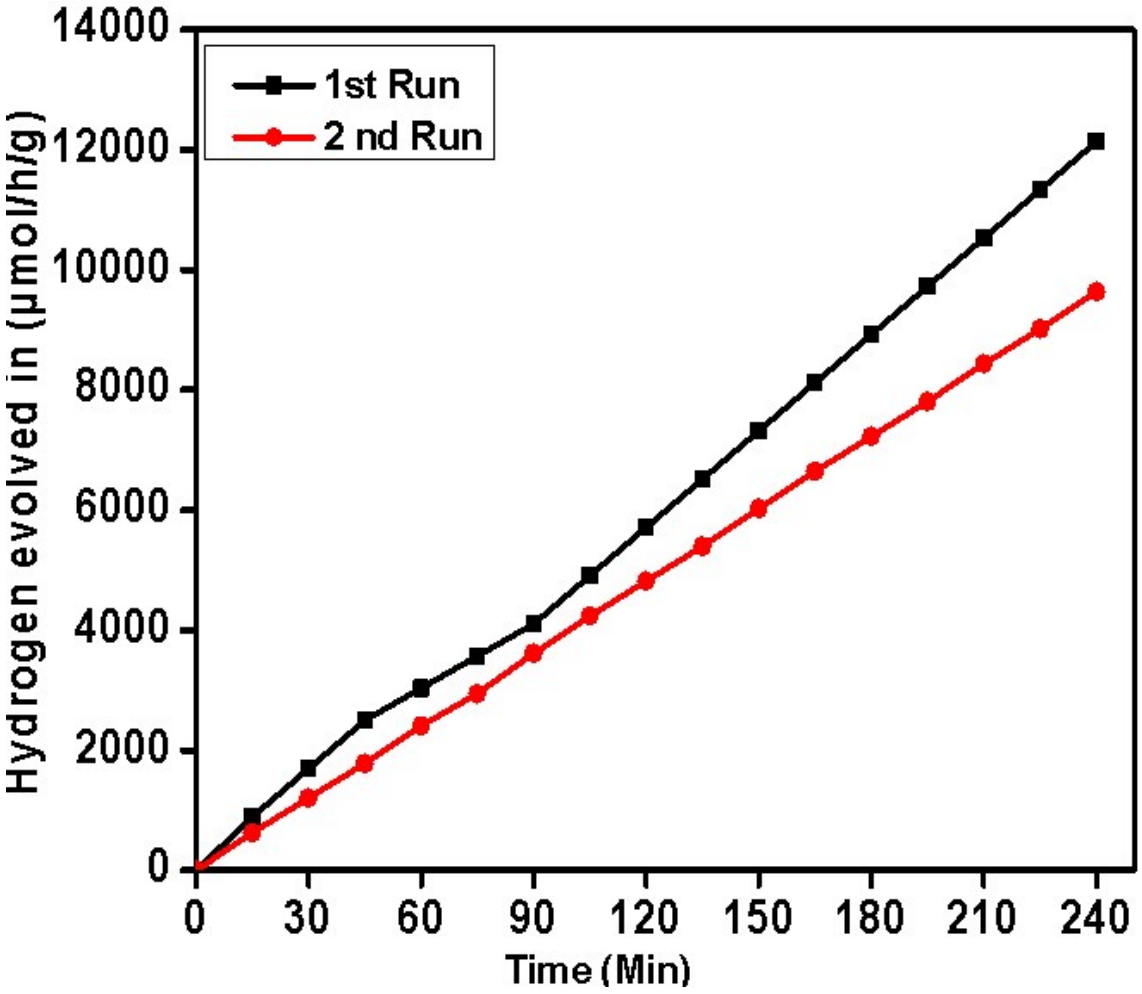
Sample Code	Band gap (eV)
MNC 0	2.74
MNC 1	2.54
MNC 2	2.27
MNC 3	2.16
MNC 4	2.21
pure CdS	2.34

ESI II:



ESI II: Photo catalytic hydrogen generation with time *via* H_2O splitting using pure CdS.

ESI III



ESI IIi: Recycle study towards hydrogen generation with time *via* H_2O splitting using pure $CdS@MnWO_4$ (MNC-3).

ESI Table 2: Recycle study of hydrogen generation

Sr no	Cycle	H_2 Evolution rate (µmol/hr/g)
1	1^{ST} cycle	2950
2	2^{nd} cycle	2780