

Supporting Information

General Synthesis and White Light Emission of Diluted Magnetic Semiconductor Nanowires Using Single-Source Precursors

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Figures.

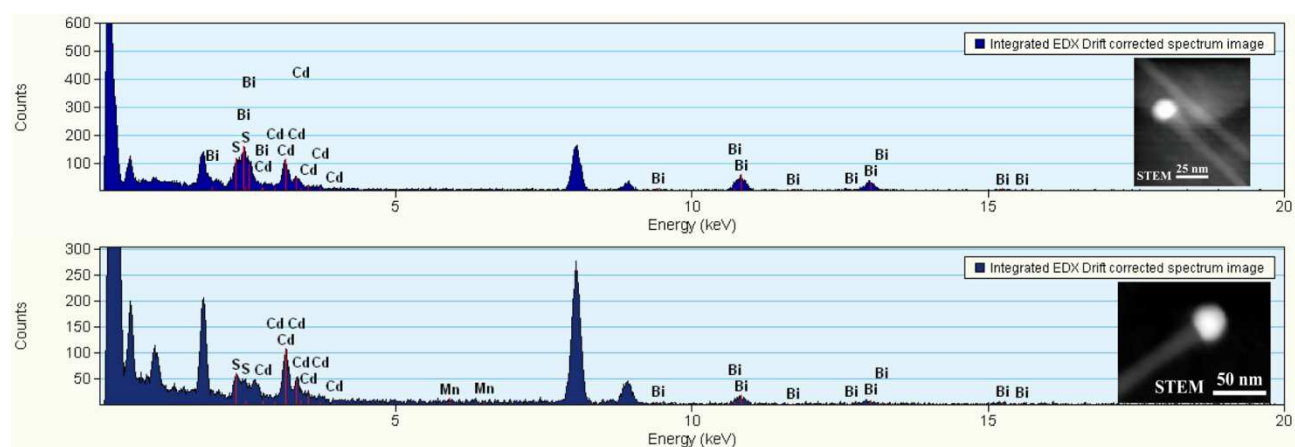


Figure S1. EDS spectrum from the corresponding STEM image (inset) of the undoped (a) and doped (b) NWs.

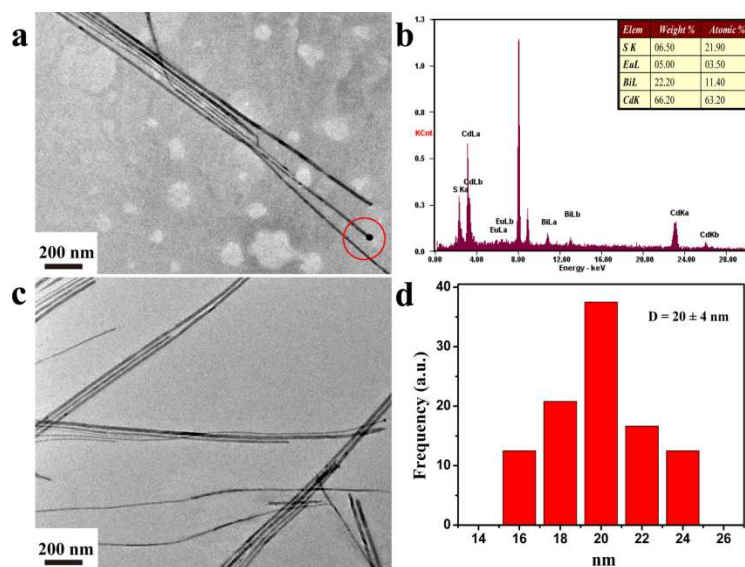


Figure S2. (a) TEM image of Eu doped CdS NWs and (b) corresponding EDS spectrum. (c) TEM image and corresponding (d) diameter distribution of Eu doped CdS NWs

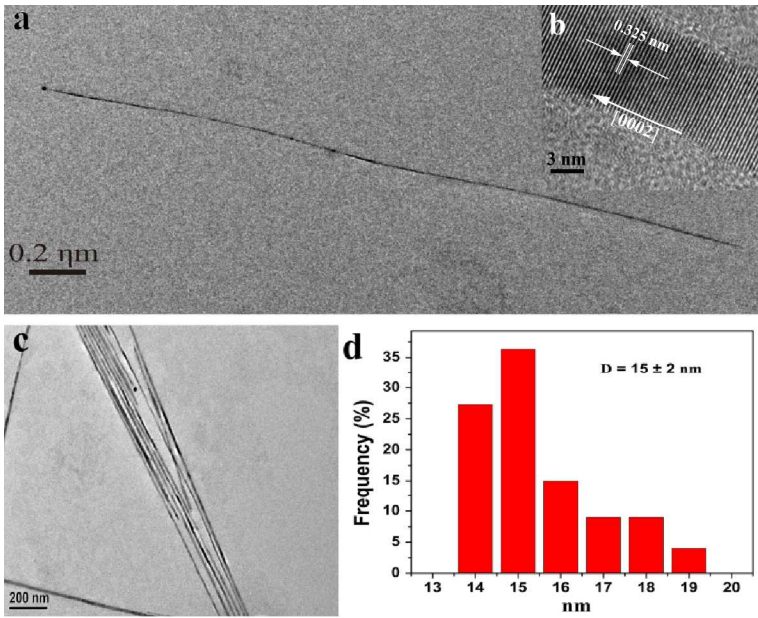


Figure S3. (a) Representative TEM image of CdS NW. (b) HRTEM image of CdS NW. (c) TEM image of CdS NWs prepared at the same conditions in the absence of Mn precursor. (d) Diameter distribution of CdS NWs.

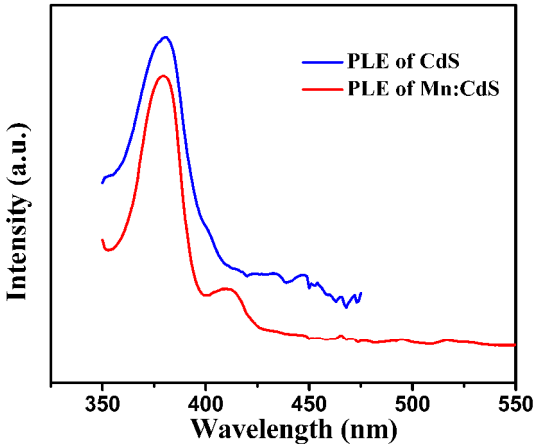


Figure S4. PLE spectra of CdS NWs corresponding to 530 nm emission and Mn doped CdS NWs corresponding to 580 nm emission.

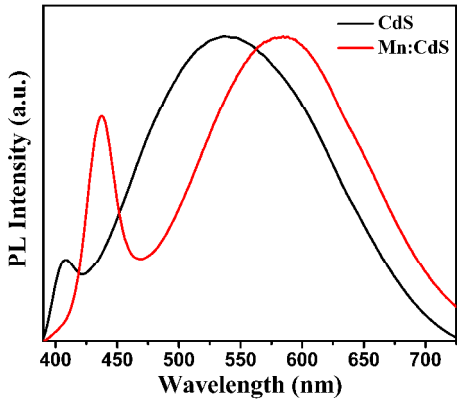


Figure S5. PL spectra of CdS NWs and Mn doped CdS NWs. All spectra measured at room temperature and the excitation wavelength was 380 nm.

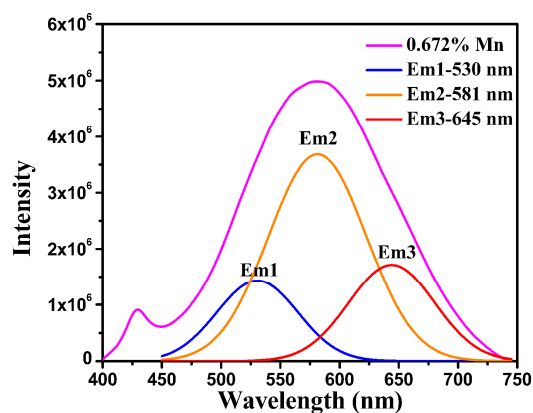


Figure S6. The Gaussian fitting of a typical PL spectrum of Mn doped CdS NWs.



Figure S7. Optical images of Mn doped CdS NWs tuned by varying the Mn concentration.

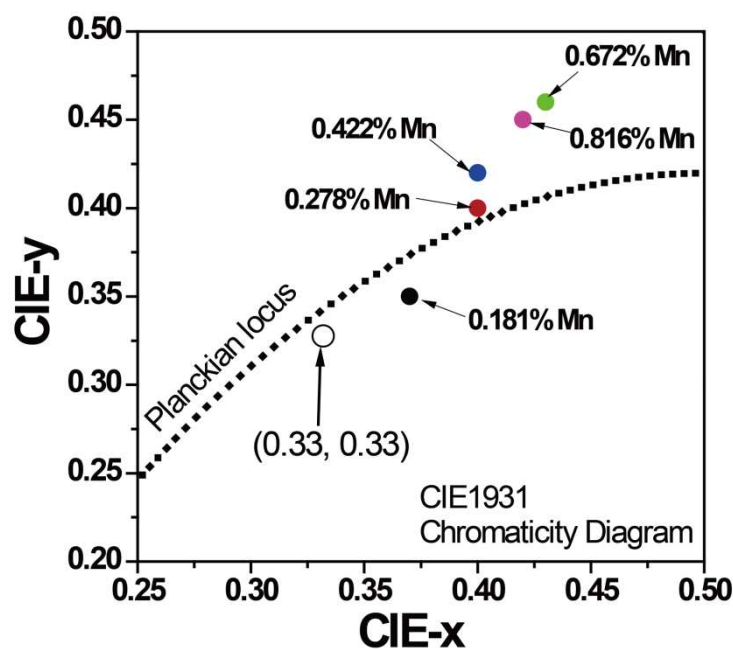


Figure S8. CIE coordinates calculated from PL emission spectra of Mn doped CdS NWs formed with different Mn precursors concentrations.

Tables.

Table S1. Preparative parameters of Mn doped and undoped CdS NWs.

Code	Cd(S ₂ CNEt ₂) ₂ (mg)	TOPO (g)	TDPA (mg)	BiCl ₃ (μL)	Mn(CH ₃ COO) ₂ •4H ₂ O (mg)	OLA (mL)	Mn solution (μL)	T (°C)	t (Min)	D (nm)
1	40.2	4.02	7.1	25	0	5	0	250	5	15.5
2	40.1	4.03	7.0	25	12.2	5	10	250	5	17
3	40.2	4.01	7.1	25	24.5	5	10	250	5	17
4	40.3	4.03	7.0	25	50	5	10	250	5	17
5	40.1	3.97	7.3	25	100	5	10	250	5	18
6	40.5	4.05	7.2	25	200	5	10	250	5	20.5

Table S2. Cd and Mn concentration from ICP measurement.

code	Mn	%	Cd	%
1	0.015	0.181	16.9	99.819
2	0.012	0.278	8.8	99.722
3	0.033	0.422	15.9	99.578
4	0.022	0.627	7.13	99.373
5	0.016	0.816	3.96	99.184