Reduction of Mn^{3+} to Mn^{2+} and Near Infrared Plasmonics from Mn-Sn codoped In_2O_3 Nanocrystals

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Electronic Supplementary Information (ESI)

In : Mn : Sn (atomic ratio)		
Precursor Ratio	**EDX Composition**	**ICP-AES Composition**
99 : 1 : 0	98.9 : 1.1 : 0	99.2 : 0.8 : 0
95 : 5 : 0	95.5 : 4.5 : 0	95.5 : 4.5 : 0
90 : 5 : 5	89.4 : 5.6 : 5.0	91.6 : 4.7 : 3.7
85: 5 : 10	84.1 : 5.5 : 10.4	88.5 : 4.5 : 7.0

Table ST1: Comparison of elemental compositions (atomic ratios) obtained by ICP-OES and EDX techniques showing similar results from both techniques and are good correlation with precursor ratios.

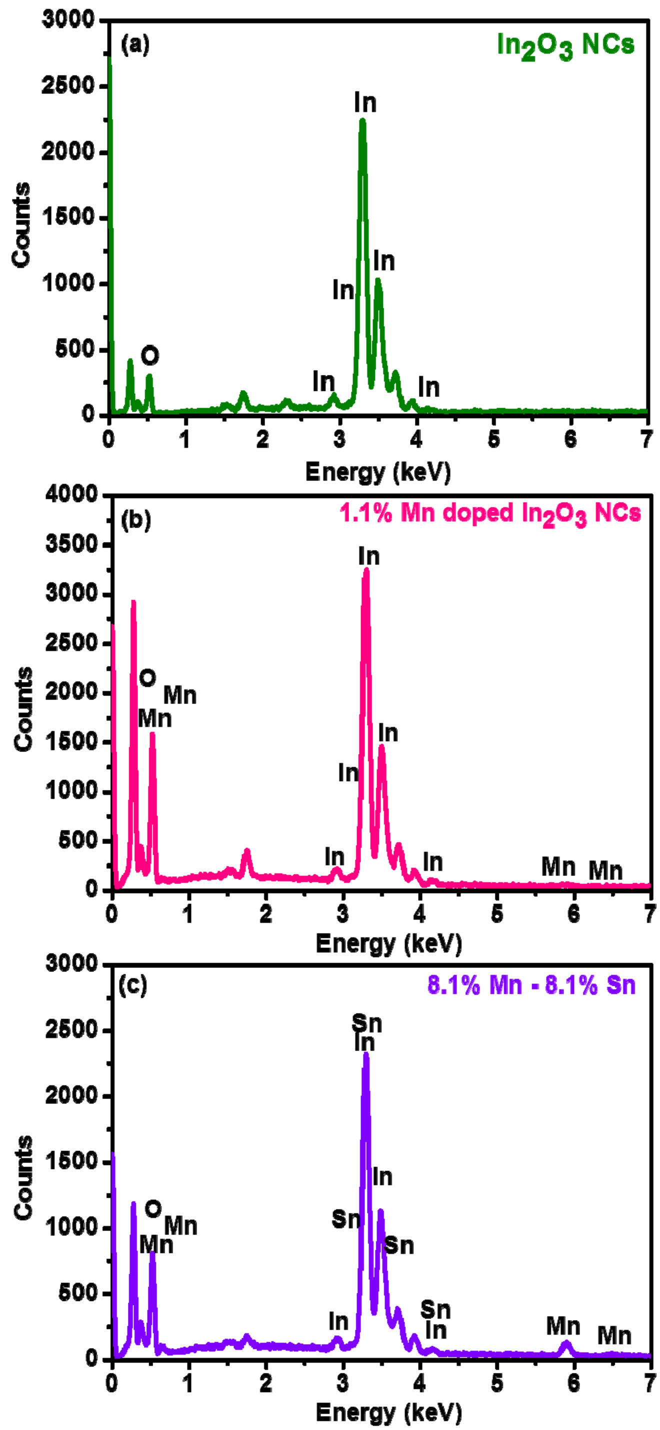

Figure S1: Comparison of EDX patterns of (a) undoped In_2O_3 NCs with (b) 1.1% Mn doped and (c) 8.1% Mn-8.1% Sn codoped In_2O_3 NCs to represent increase in Mn peak(s) intensity with increase in Mn doping percentage.

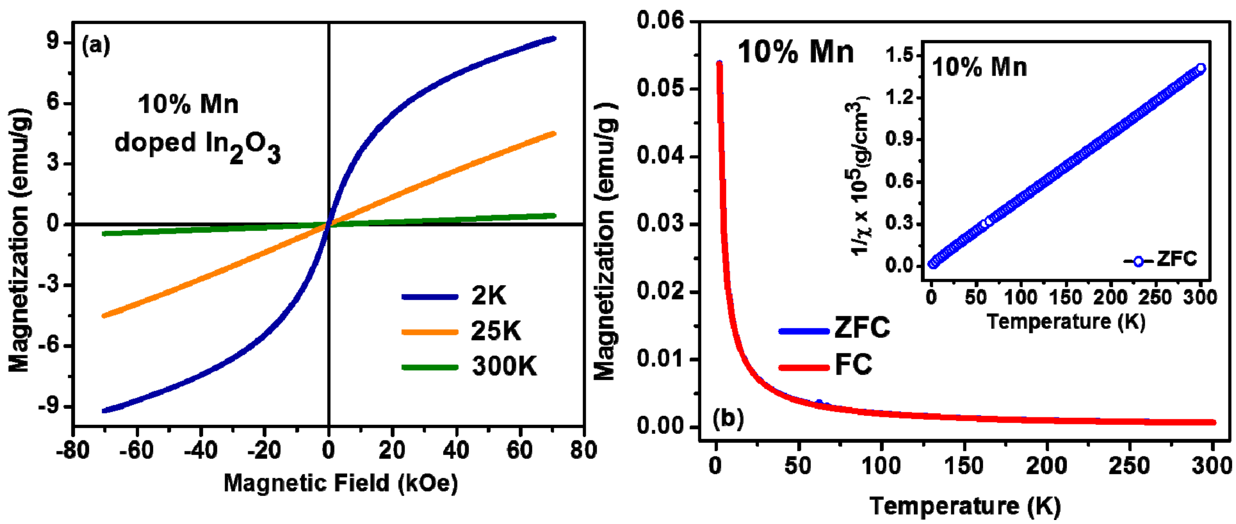

Figure S2: (a) Magnetization vs magnetic field strength curves for 10% Mn doped In_2O_3 NCs with zero coercivity and no hysteresis indicating absence of ferromagnetism in grains. (b) Temperature dependent magnetization (zero field cooling, field cooling at 100 Oe) curves overlapping completely with each other confirming presence of paramagnetism in 10% Mn doped In_2O_3 NCs. Inset shows linear behavior of 1/susceptibility vs temperature plot depicting that Curie-Weiss law.