Wurtzite CuInS₂: Solution based one pot direct synthesis and its doping studies with non-magnetic Ga³⁺ and magnetic Fe³⁺ ions Meenakshi Gusain, Prashant Kumar and Rajamani Nagarajan* Materials Chemistry Group, Department of Chemistry, University of Delhi Delhi 110007 INDIA

Essential Supporting Information (ESI)

Fig.S1 PXRD pattern of the product from the reaction of $[Cu(tu)_3]Cl$ with $In(OAc)_3$ after refluxing in ethyleneglycol for 3.5 h.

Fig. S2 Le Bail fitting of the PXRD pattern WZ- CuInS₂ sample from the reaction of $[Cu(tu)_3]Cl$ with $In_2(SO_4)_3$.

Fig.S3 SEM image of WZ-CIS

Fig.S4 HR-TEM image of WZ-CIS.

Fig. S5 PXRD pattern of the product from the reaction of $[Cu_4(tu)_9](NO_3)_4.4H_2O$ with (a) $In(OAc)_3$ and (b) $In_2(SO_4)_3$ after refluxing for 2.5 h in ethyleneglycol. All the reflections correspond to CuS, JCPDS file no.780877.* denotes reflections due to indium (III) acetate.

Fig. S6 PXRD pattern of CuInS₂ obtained from the reaction of $In_2(SO_4)_3$ and $[Cu(tu)_3]Cl$ (in 0.5:1 molar ratio) under refluxing in ethanolamine for 1.5 h. * denotes reflections due to unknown impurities.

Fig. S7 Le Bail fitting of the PXRD pattern Fe³⁺-doped CIS sample filtered under hot conditions.

Fig. S8 Le Bail fitting of the PXRD pattern Fe^{3+} -doped CuInS₂ sample filtered after natural cooling.

Fig.S9 HR-TEM image of Fe³⁺-doped CIS.













Fig.S3











Fig.S6



Fig.S7



Fig.S8



Fig.S9