

Facile, air-insensitive solvothermal synthesis of emission-tunable CuInS₂/ZnS quantum dots with high quantum yields

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For comparison of crystal structure, CIS QDs with a stoichiometric composition (i.e., Cu/In=1) have been separately prepared by the same solvothermal condition. Using a Rigaku Ultima IV diffractometer with Cu K_α radiation source, the X-ray diffraction (XRD) pattern of CIS QDs with a Cu-deficient composition (i.e., Cu/In=0.5) was collected and compared with that of those with a stoichiometric composition. As shown in Fig. S1, the CIS QDs with Cu/In molar ratios of 1 and 0.5 exhibited almost identical diffraction patterns of tetragonal chalcopyrite structure, indicating that our Cu-deficient CIS QDs still possessed chalcopyrite frame.

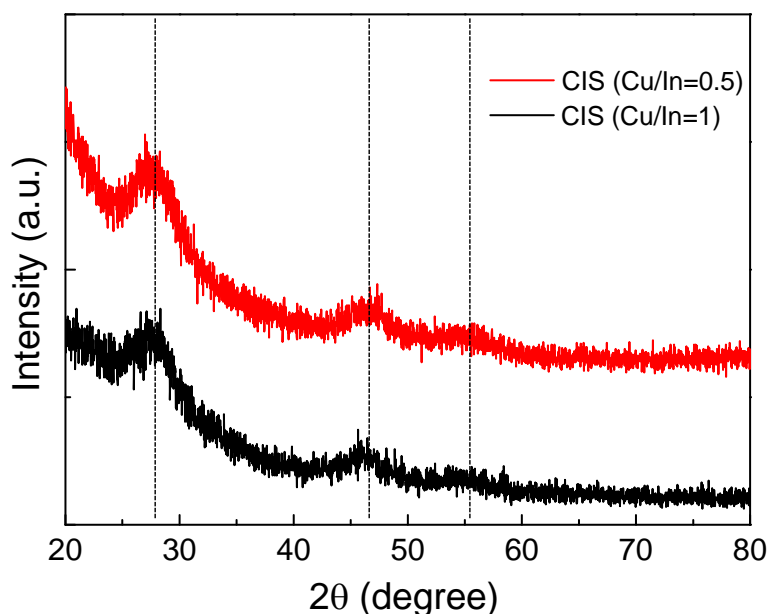


Fig. S1 Comparison of XRD patterns of off-stoichiometric (Cu/In=0.5) and stoichiometric (Cu/In=1) CIS QDs.