

Supporting materials

Cu₂ZnSnS₄ crystal growth using a SnCl₂ based flux

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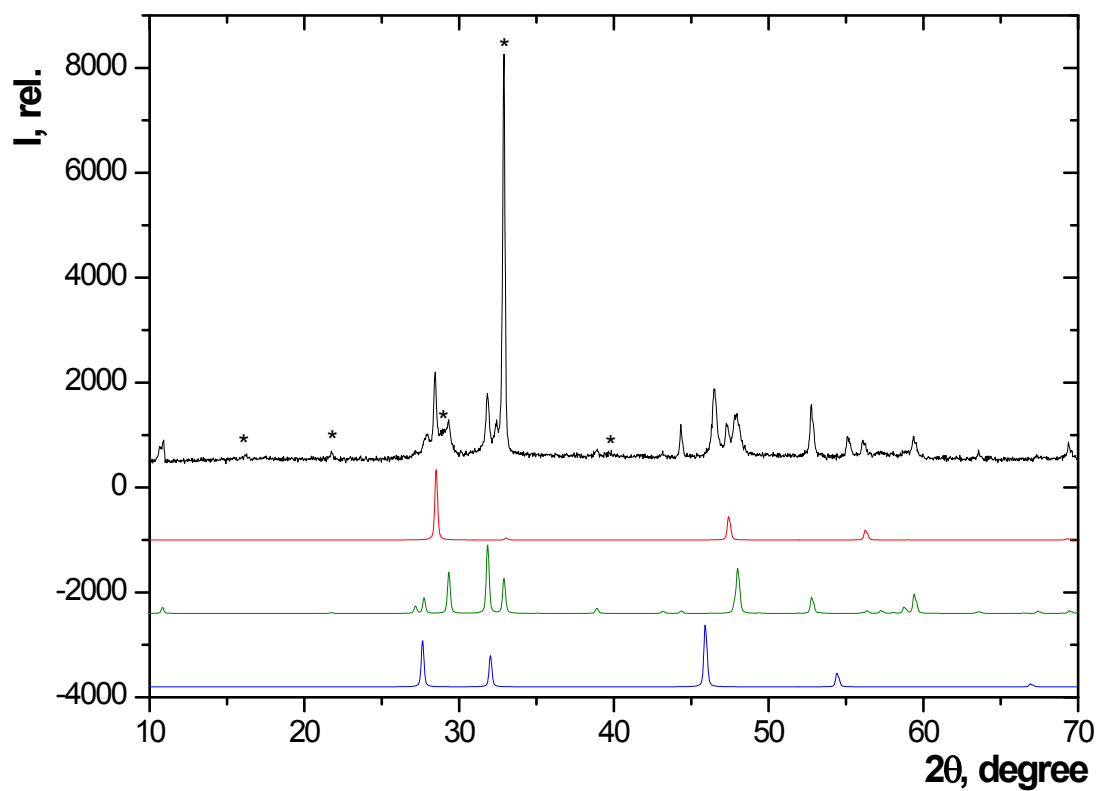


Figure 1S. X-ray diffraction data for CZTS crystals **I** grown from CuCl_2 solvent: a) comparison of experimental (black) and calculated data for ZnS/CuCl (red), CuS (green), $\text{Cu}_{1.8}\text{S}$ (blue). Unindexed peaks are marked with asterix.

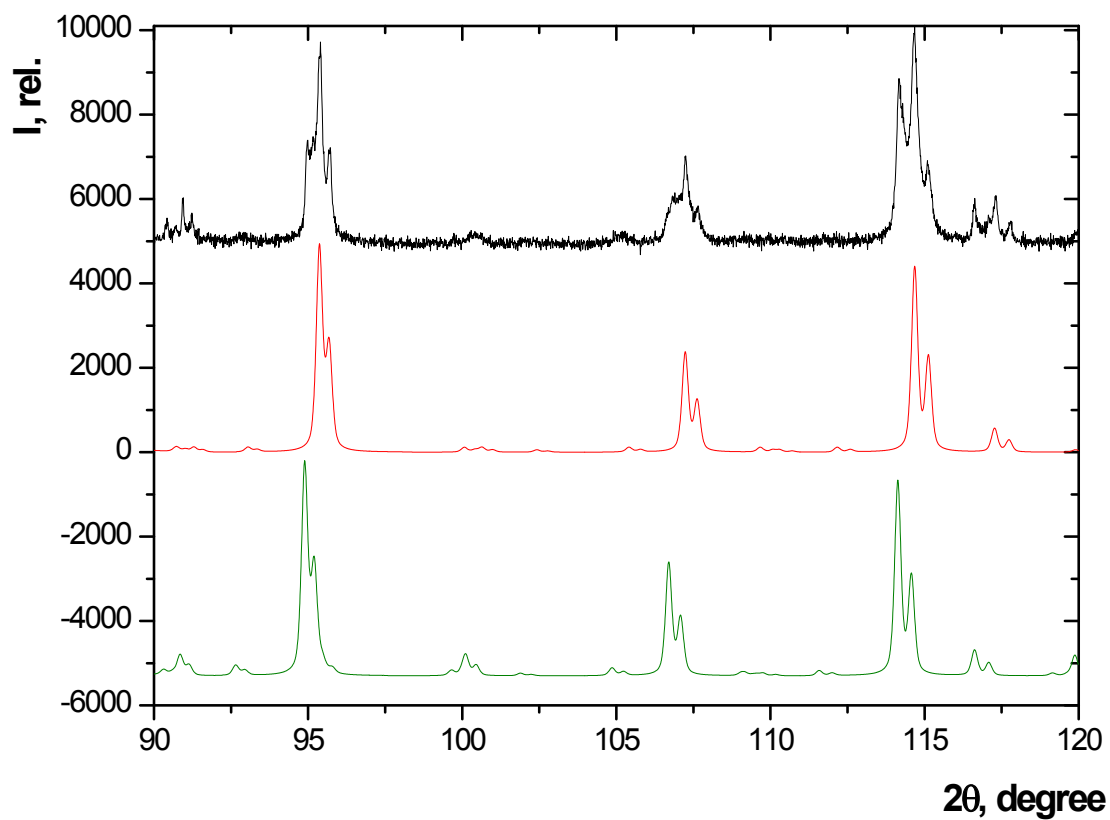


Figure 2S. X-ray diffraction data for CZTS sample **II** obtained with the use of ZnCl₂ solvent: a) comparison of experimental (black) and calculated data for Cu₂SnS₃(red), Cu₂ZnSnS₄(green).

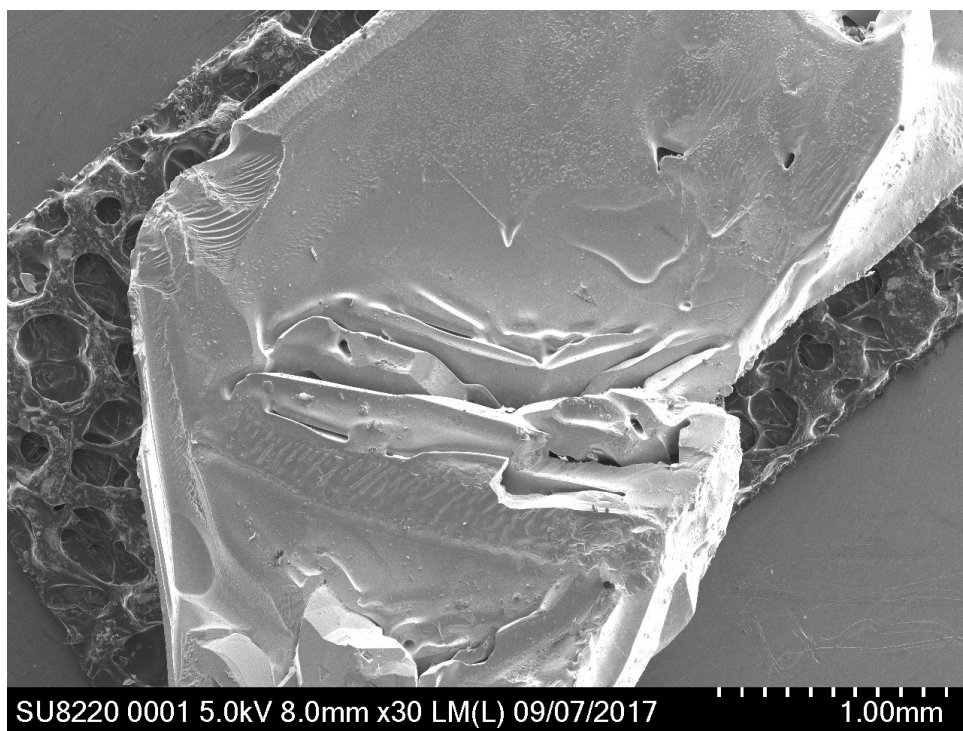


Figure 3S. SEM image of crystal **III** selected for the Raman measurements.