Electronic Supplementary Material (ESI) for CrystEngComm.

Electronic Supplementary Information

Alloyed $CuInS_2$-ZnS Nanorods: Synthesis, Structure and Optical Properties

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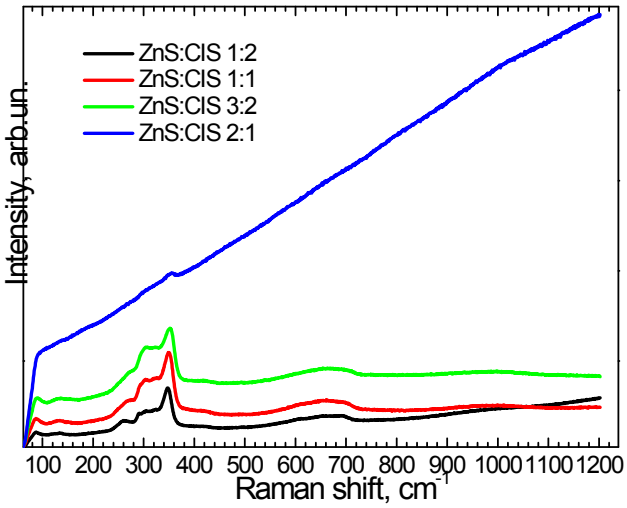


Fig. S1. Original Raman spectra of the nanorod samples. Note the huge PL background in the spectrum of sample ZnS:CIS 2:1, which leads to low signal-to-noise ratio in the Raman spectrum of this sample and thus complete absence of the higher-order Raman features (Fig. 5 a).

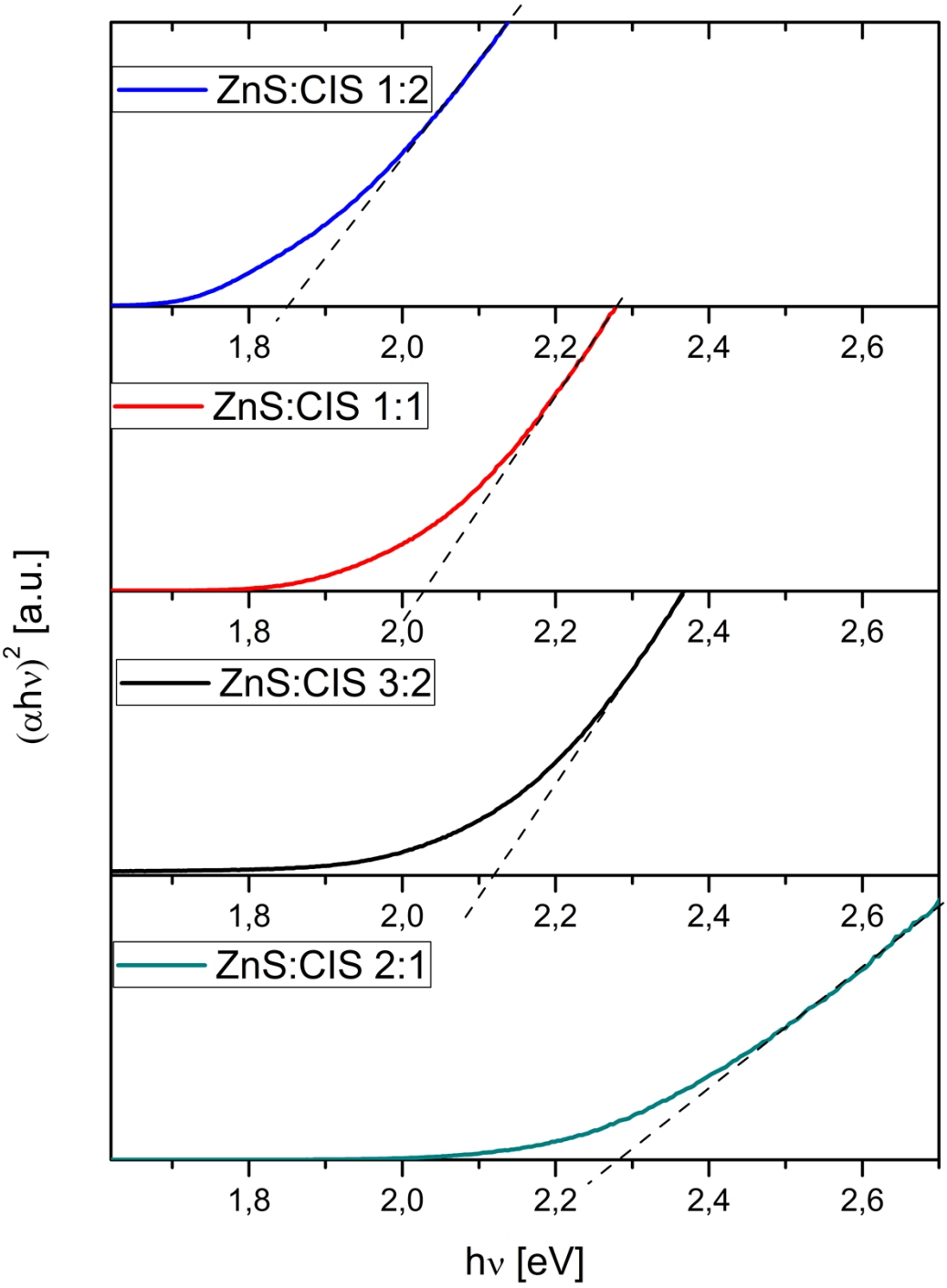
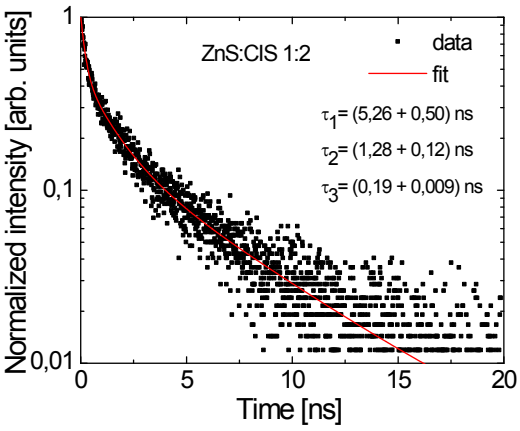
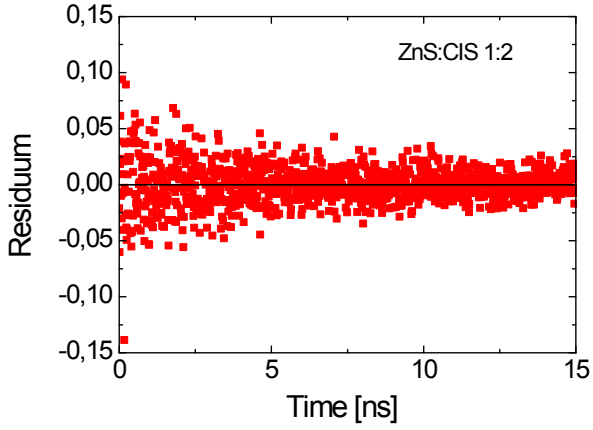
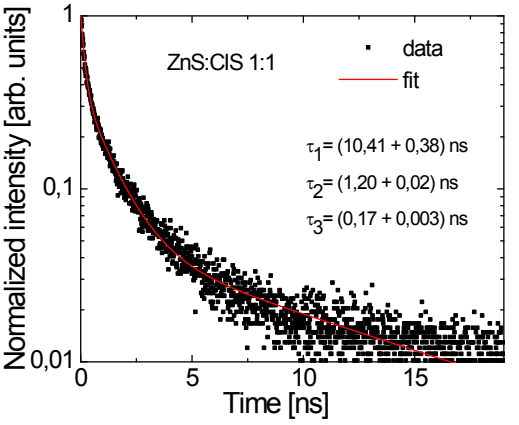
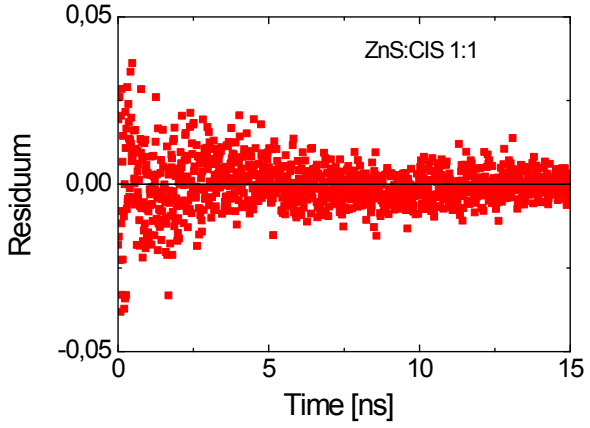


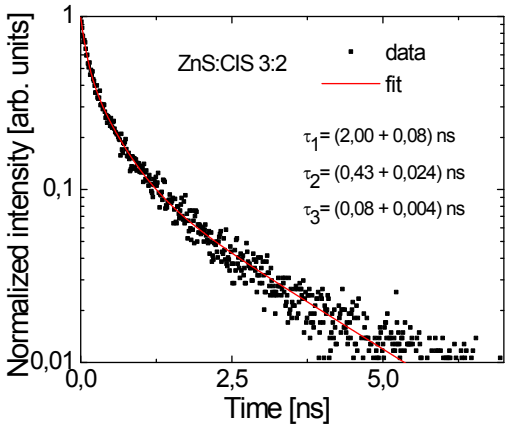
Fig. S2. Tauc plots corresponding to absorption spectra in Figure 6

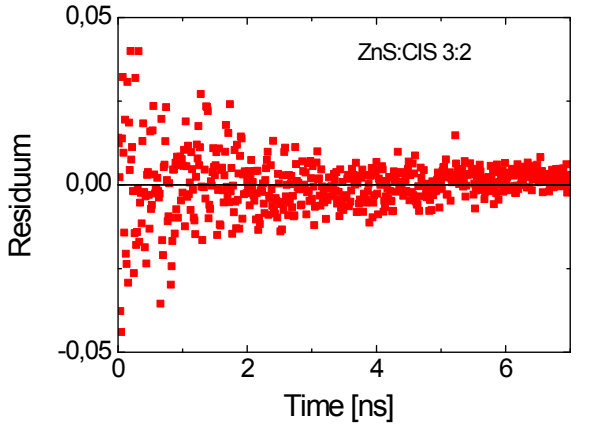

ZnS:CIS 1:2
data
fit
τ1= (5,26 + 0,50) ns
τ2= (1,28 + 0,12) ns
τ3= (0,19 + 0,009) ns
Normalized intensity [arb. units]
Time [ns]


ZnS:CIS 1:2
Residuum
Time [ns]


ZnS:CIS 1:1
data
fit
τ1= (10,41 + 0,38) ns
τ2= (1,20 + 0,02) ns
τ3= (0,17 + 0,003) ns
Normalized intensity [arb. units]
Time [ns]


ZnS:CIS 1:1
Residuum
Time [ns]


ZnS:CIS 3:2
data
fit
τ1= (2,00 + 0,08) ns
τ2= (0,43 + 0,024) ns
τ3= (0,08 + 0,004) ns
Normalized intensity [arb. units]
Time [ns]


ZnS:CIS 3:2
Residuum
Time [ns]

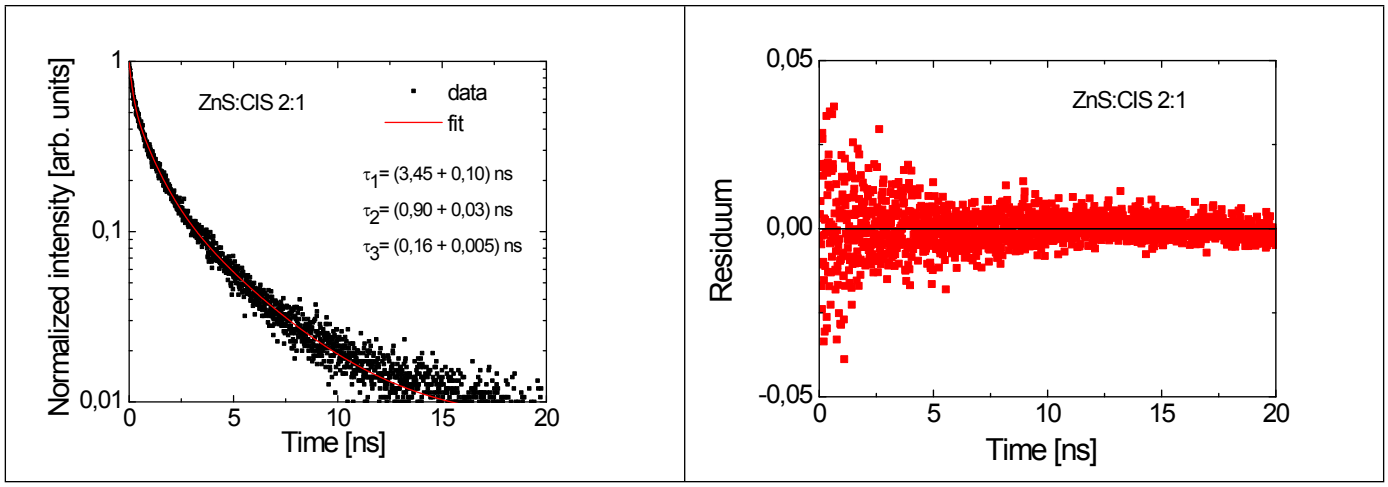


Fig. S3. Fluorescence decay curves measured with λ_{exc} = 405 nm for the samples with varied Zn content (black dots), as well as the corresponding fits (red curves) and the resulting decay constants.

Table S1 Fluorescence decay times of the samples with different Zn content

Sample	τ_1 [ns]	τ_2 [ns]	τ_3 [ns]
ZnS:CIS 1:2	0.19	1.28	5.26
ZnS:CIS 1:1	0.17	1.20	10.41
ZnS:CIS 3:2	0.08	0.43	2.00
ZnS:CIS 2:1	0.16	0.90	3.45