Supplementary Information

to

Direct Extreme UV-lithographic conversion of metal xanthates into nanostructured metal sulfide layers for hybrid photovoltaics

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Fig. S1 Chemical structures of the used Cu- and In- xanthates (copper O-2,2-dimethylpentan-3-yl-dithiocarbonate; indium O-2,2-dimethylpentan-3-yl-dithiocarbonate).

IR frequency / cm ⁻¹	Assignments
2967	-CH ₂ - str. asym.
2872	-CH ₂ - str. sym.
1367	sym. CH₃ bnding
1345	CH wagging
1257	C(CH ₃) ₃
1240	asym. C-O-C str.
1213	
1129	sym. C-O-C str.
1082	C=S str.
1056	
1037	
1019	
902	CH ₃ out of phase rocking

Table S1 Assignment of the peaks of the Cu- and In-xanthate precursor layer in the FT-IR spectra.^{1,2}



Fig. S2 Height profiles of the column-structures presented in Fig. 4 extracted from the AFM images in the diagonal (A,B) and in x-direction (C,D). For the sample with a periodicity of 282 nm (A,C), the height difference in the structure is about 30-35 nm, for sample P = 141 nm (B,D) it is about 29 nm in x-direction and about 16 nm in the diagonal.



Fig. S3 Height profile of the comb-structures presented in Fig. 5 extracted from the AFM image. The height difference in the structure is about 25 nm.

References:

¹ Socrates, G. Infrared Characteristic Group Frequences, Tables and Charts, Second Edition, Wiley, Chichester, **1994**.

² Barreca, D.; Gasparotto, A.; Maragno, C.; Seraglia, R.; Tondello, E.; Venzo, A.; Krishnan V.; Bertagnolli, H. *Appl. Organomet. Chem.* **2005**, *19*, 1002–1009.