Electronic Supporting Material

Additive Fabrication of Nanostructures with Focused Soft X-Rays

Andreas Späth,*[a‡] Fan Tu,[a‡] Florian Vollnhals,[ab] Martin Drost,[a] Sandra Krick Calderón,[a] Benjamin Watts,[c] Rainer H. Fink[ad] and Hubertus Marbach[a]

[a] Physikalische Chemie II and ICMM, Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU), Egerlandstraße 3, 91058 Erlangen, Germany

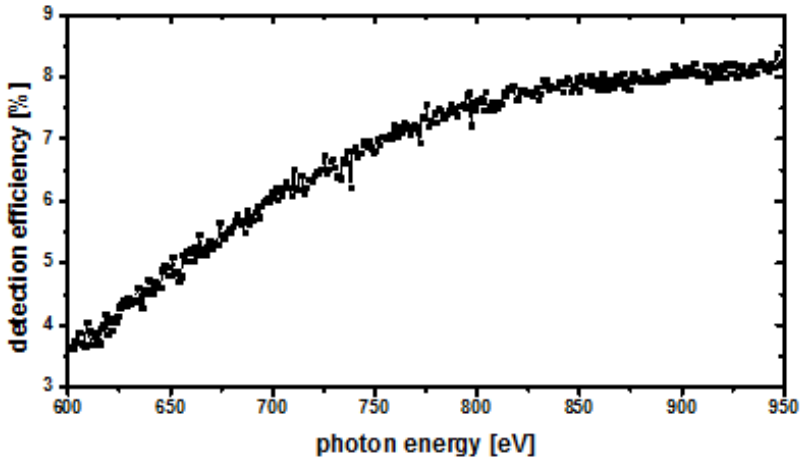
[b] present address: Materials Research and Technology, Luxembourg Institute of Science and Technology (LIST), 41 rue du Brill, 4422 Belvaux, Luxembourg

[c] Swiss Light Source (SLS), Paul Scherrer Institute, 5232 Villigen, Switzerland

[d] CENEM, Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU), Egerlandstraße 3, 91058 Erlangen, Germany

* Corresponding author, e-mail: andreas.spaeth@fau.de

[‡] These authors contributed equally to this work.



Supplementary Figure:
Efficiency of the PolLux detection setup during our FXBID studies. The detection efficiency was measured with respect to a calibrated photodiode (100% collection efficiency and a quantum efficiency of E/3.65 for photon energy E). The energy dependence is mainly affected by the fluorescence efficiency of the phosphor powder scintillator and contamination artefacts. Note, that the detection efficiency is also influenced by the threshold value of the discriminator that is implemented for noise suppression. Due the comparably long acquisition times during the FXBID process, this threshold was set to a high value. Therefore the absolute values of the detection efficiency are about ten times smaller than for standard threshold (yielding optimized ratio of I_0 and dark counts).