

Supporting Information for

Direct Intense Pulsed Light Sintering of Inkjet-Printed Copper Oxide Layers within 6 ms

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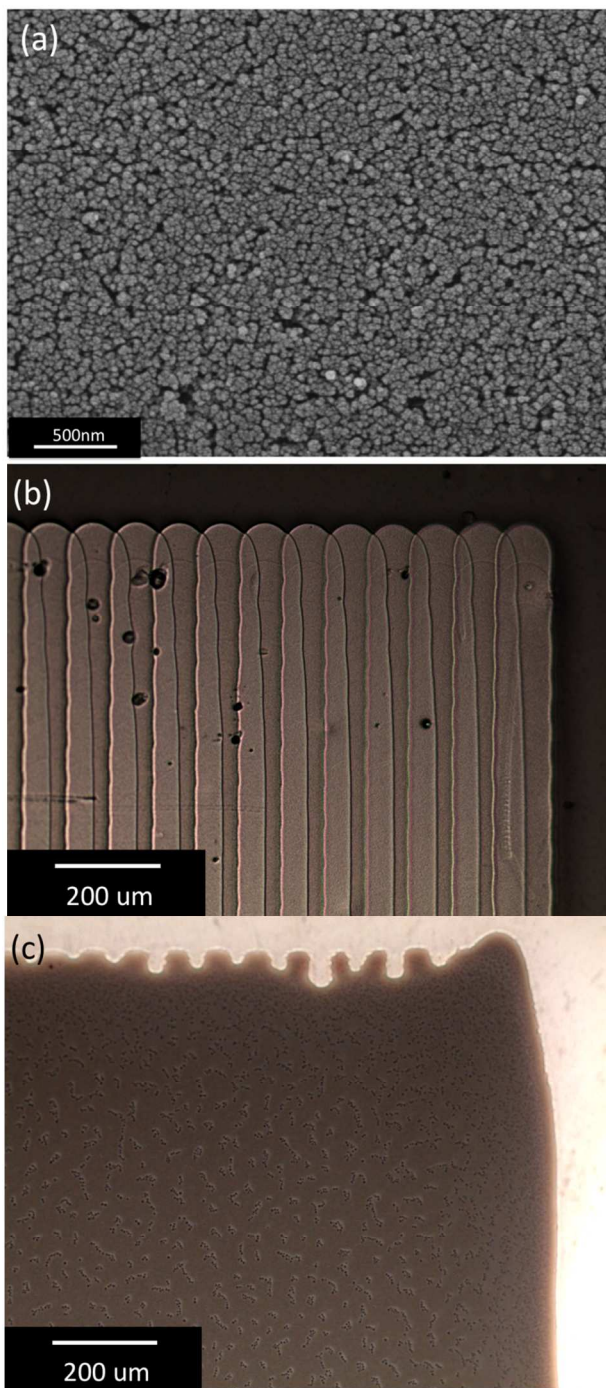


Figure S1. (a) Scanning electron microscopy (SEM) image of primer coated porous substrate, and microscopic images of as deposited CuO layer (b) on the porous substrate, and (c) non-porous substrate.

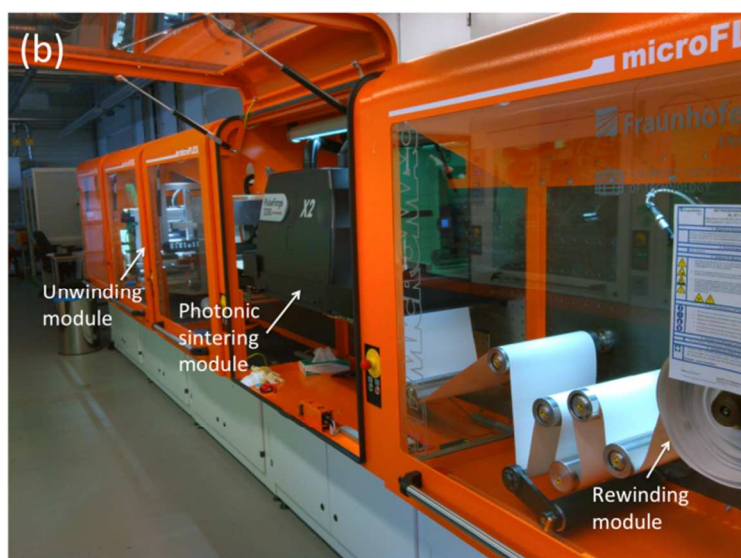
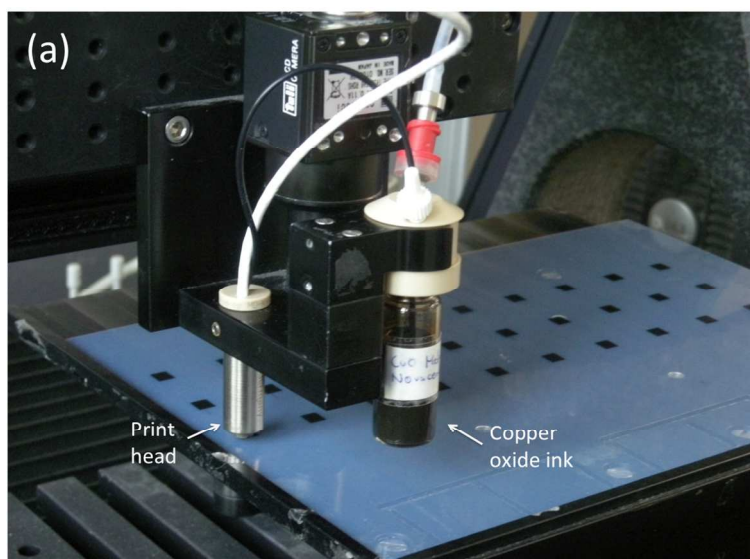
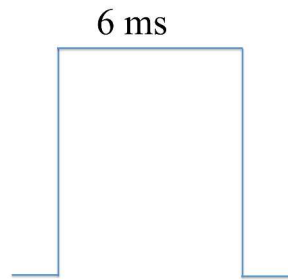
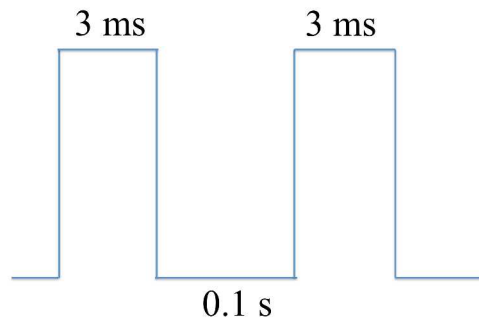


Figure S2. (a) Autodrop single nozzle inkjet printing system for deposition of CuO layer, (b) R2R Microflex system equipped with IPL/photonic sintering module.

(a) Single pulse



(b) Double pulse



(c) Triple pulse

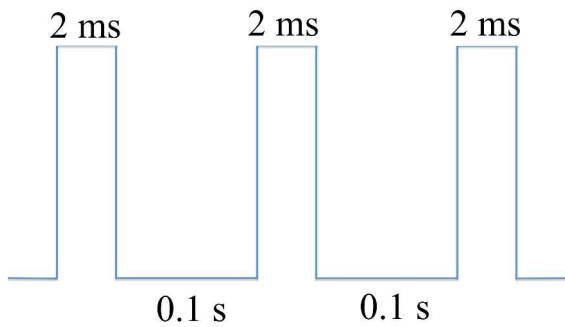


Figure S3. The detailed shapes of IPL pulse profile for (a) single pulse, (b) double pulse, and (c) triple pulse.

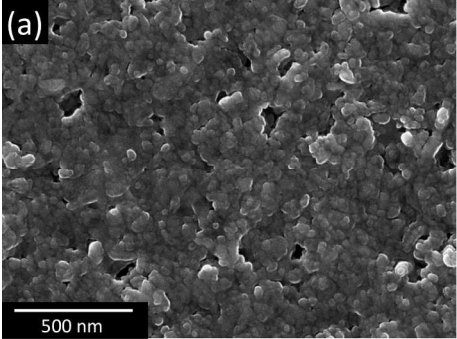
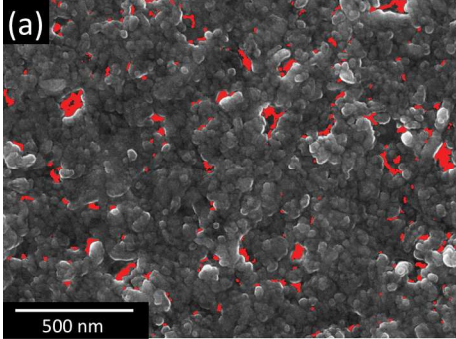
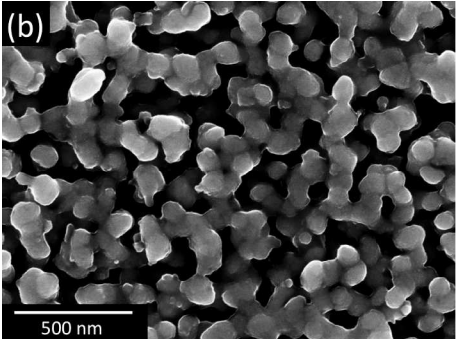
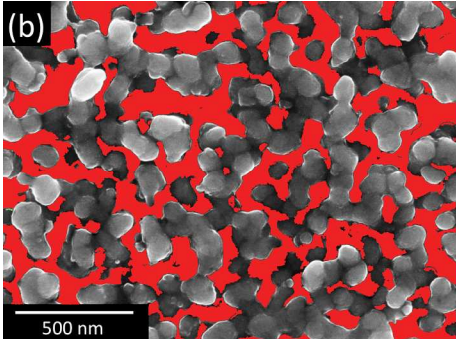
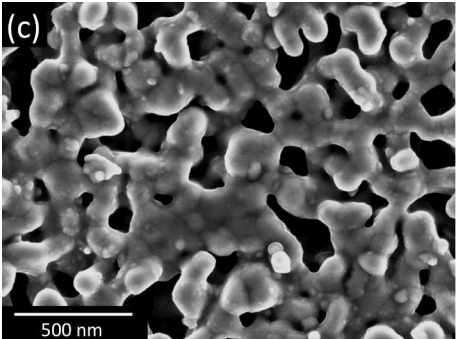
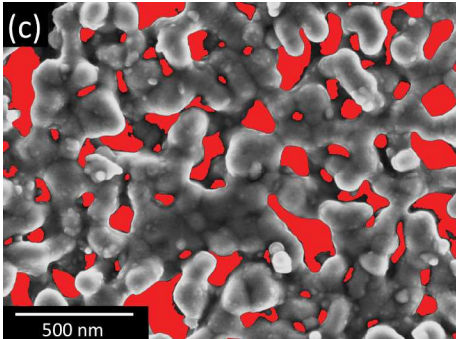
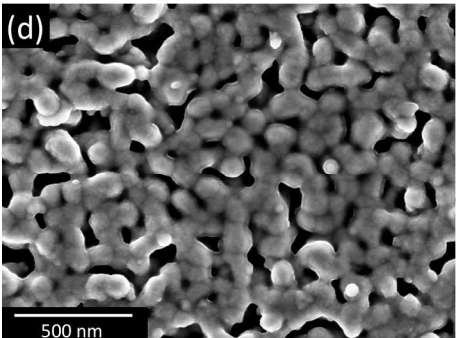
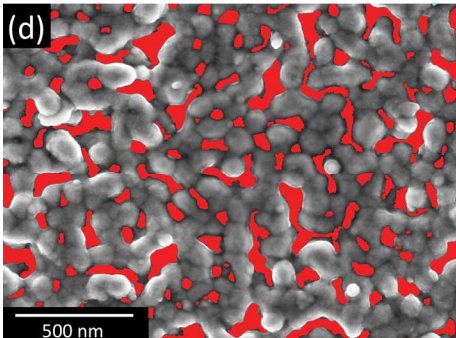
Original images	Development of pores (colored)	% of pores
(a) 	(a) 	2.74
(b) 	(b) 	30.15
(c) 	(c) 	15.21
(d) 	(d) 	15.59

Figure S4. Measurement of percentage of pores per image. The left column shows the original obtained SEM images. In the middle column the pores of are colored and the right column indicates the percentage of pores per image. The calculation was done by image processing on

the basis of pixels. Fig. S4(a) is as printed CuO without IPL sintering, and (b) to (d) are IPL-sintered Cu layers of different exposure energies: 5.01 J.cm⁻² with 1 pulse, 5.99 J.cm⁻² with 2 pulses, and 6.81J.cm⁻² with 3 pulses.