

Electronic Supplementary Information (ESI)

Three-Dimensional Inkjet-Printed Redox Cycling Sensor

N. Y. Adly,^a B. Bachmann,^b K. J. Krause,^a A. Offenhäusser,^a B. Wolfrum^{a, b} and A. Yakushenko^{a†}

a) Institute of Bioelectronics (PGI-8/ICS-8) and JARA—Fundamentals of Future Information Technology, Forschungszentrum Jülich, 52425 Jülich, Germany

b) Neuroelectronics, MSB, Department of Electrical and Computer Engineering, Technical University of Munich (TUM) & BCCN Munich, Boltzmannstrasse 11, Garching, 85748 Germany

Table S1. Cost Calculation for a single printed chip of 40 electrodes.

Material	Cost (€)	Cost per chip (Cent)
Substrate	2.5 per A6 sheet	2.1
Silver ink	14 per 1 mL	0.37
Carbon ink	10 per 1 mL	0.26
PI ink	30 per 1 mL	0.8
Total		3.6

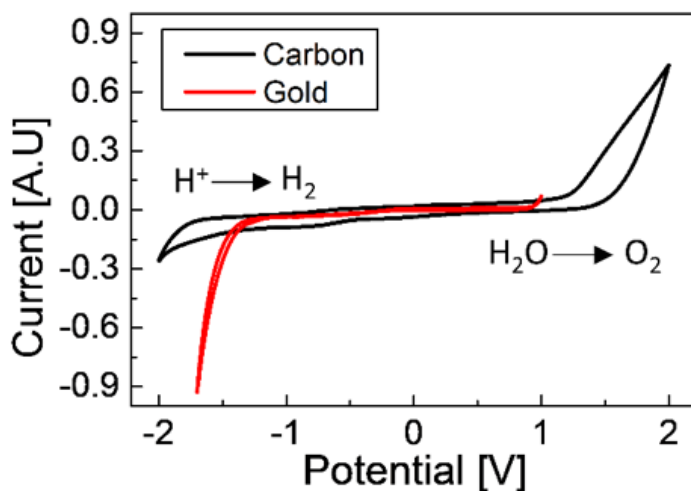


Fig. S1. Normalized current values for CV measurements of printed carbon (black line) and gold electrodes (red line) in 0.1 M PBS.

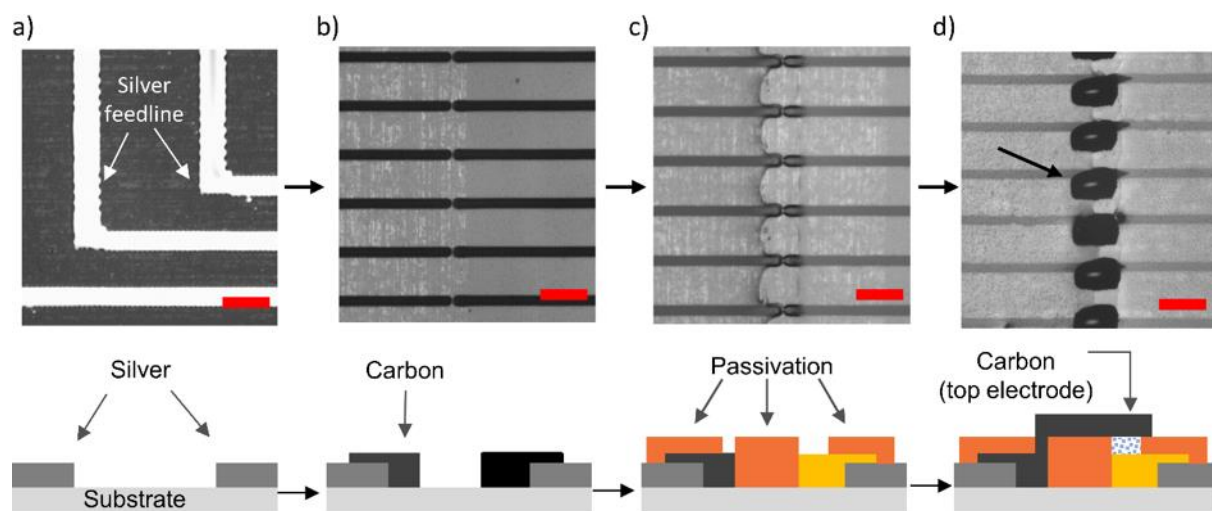


Fig. S2. . Fabrication sequence of the printed redox cycling sensors, scale bars represent 200 μm .

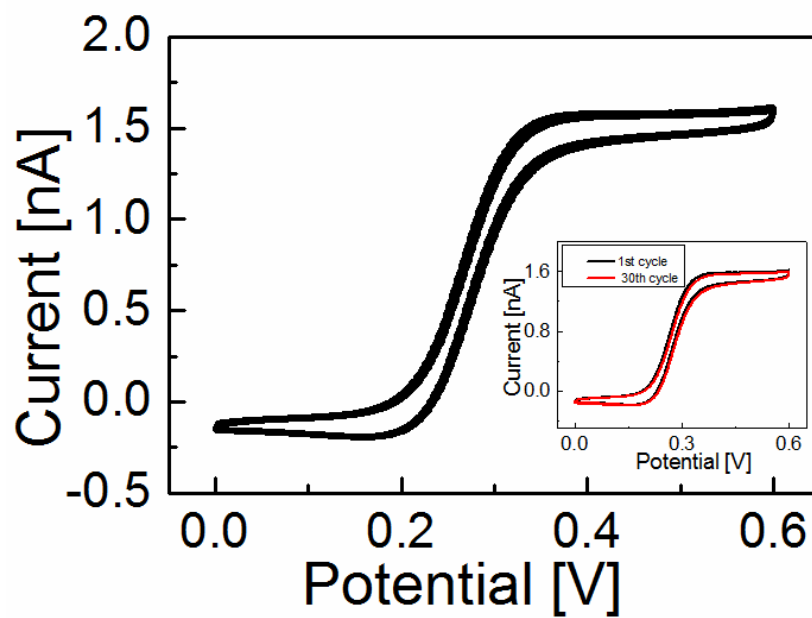


Fig. S3. Overlay of CV plots showing cycling stability of printed redox cycling sensors over 30 cycle. Inset showing the first cycle (black curve) as compared to the 30th cycle (red curve).

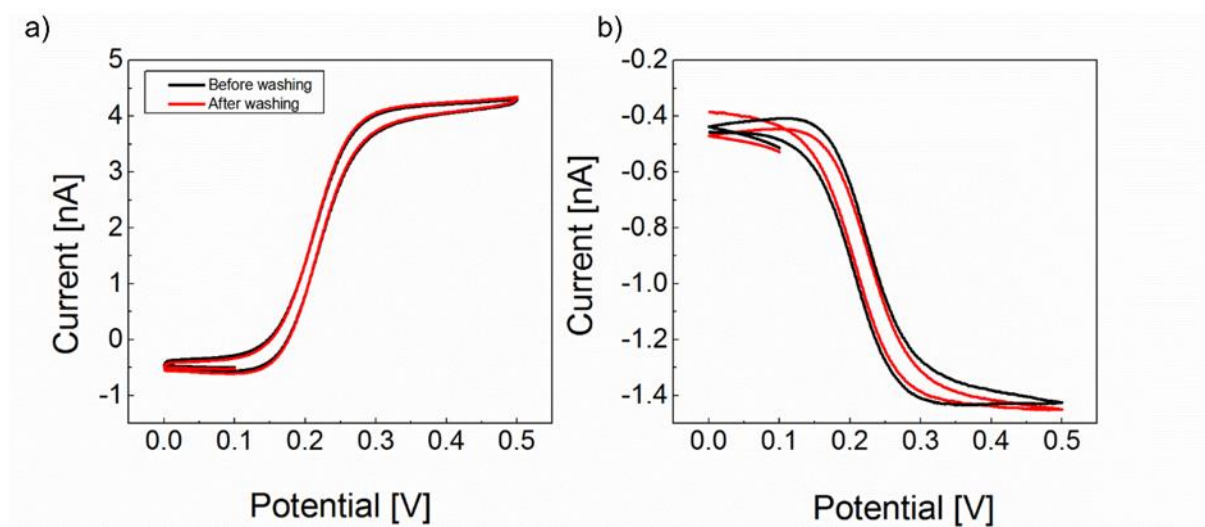


Fig. S4. Electrochemical performance of printed redox cycling sensor before washing (black) and after vigorous washing in PBS (red) using 500 μM FeMe(OH)₂ on a) top electrode while b) bottom electrode.