Supplementary

A Paper-Based Ultrasensitive Optical Sensor for the Selective Detection of H_2S Vapors

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Additional Figures

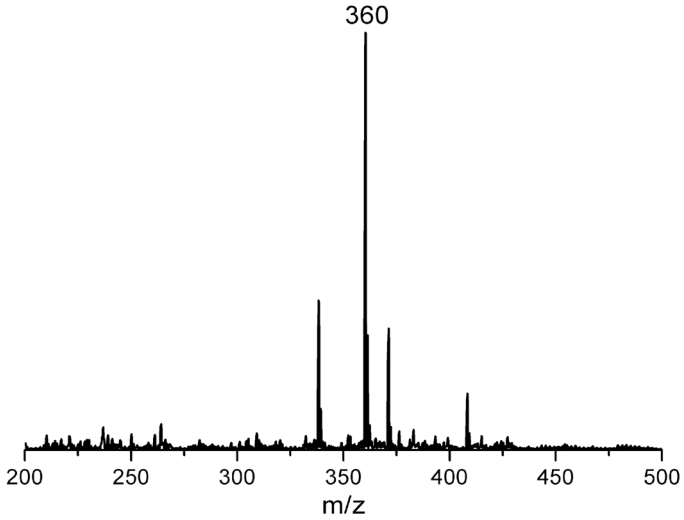

Figure S1. ESI mass spectra of the synthesized $(NBD)_2S$ powder (30 μg/mL in methanol).

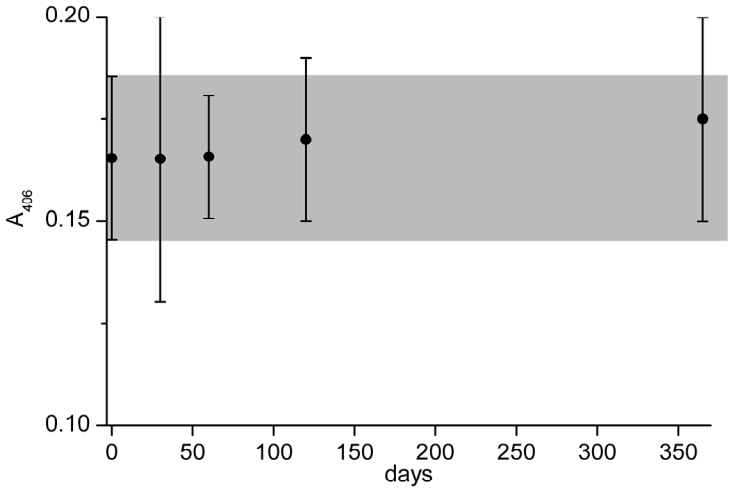

Figure S2. Stability of the synthesized $(NBD)_2S$ in methanol. The gray area indicates the absorbance range covered by ±1σ of the initial absorbance averaged over triplicate independent samples. The maximum relative absorbance with respect to the initial value is ~6 % within this temporal window.

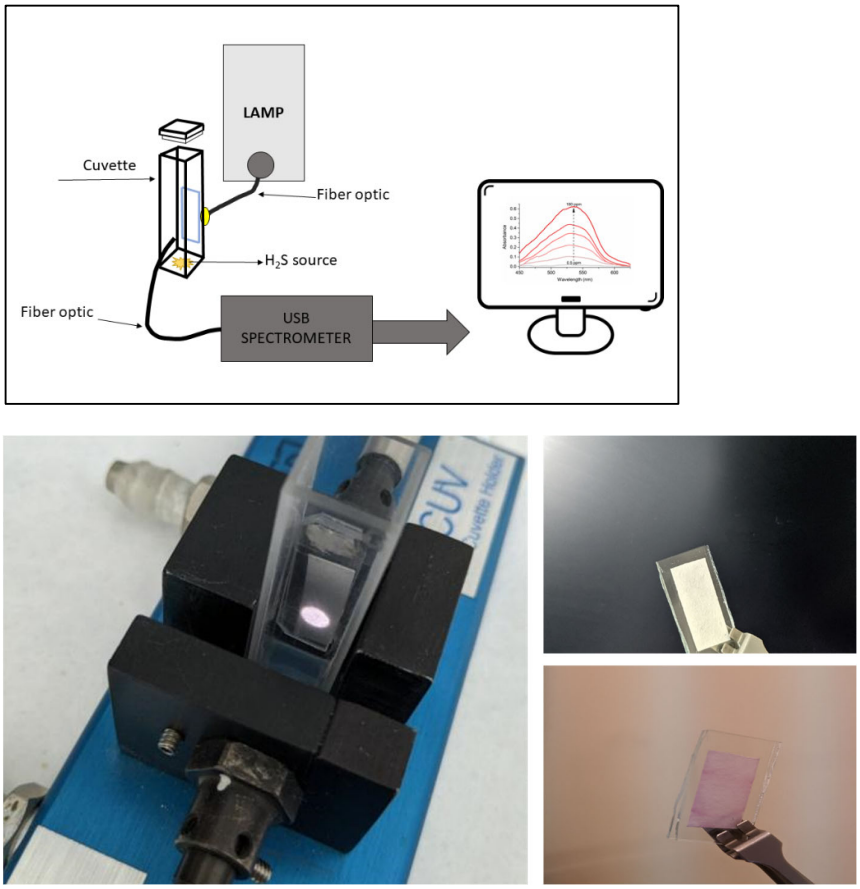

Figure S3. Details of the experimental setup for the passive sampling of the sensor to H_2S. See main text for details.

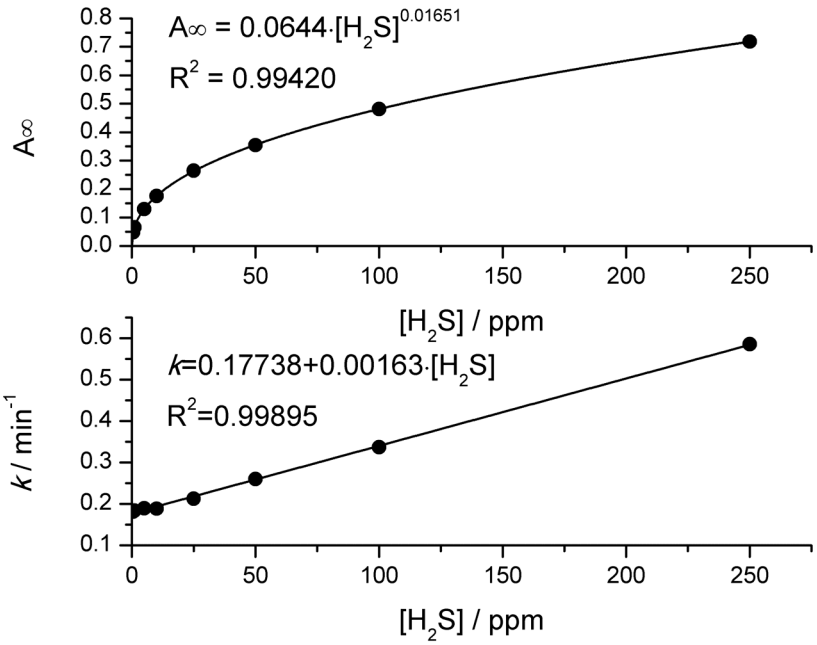

Figure S4. Concentration dependence of the fitting coefficients describing the kinetics of the background-corrected absorbance. Symbols stand for data extracted from the experimental data and the lines correspond to the fit written in each graph. See main text for details.

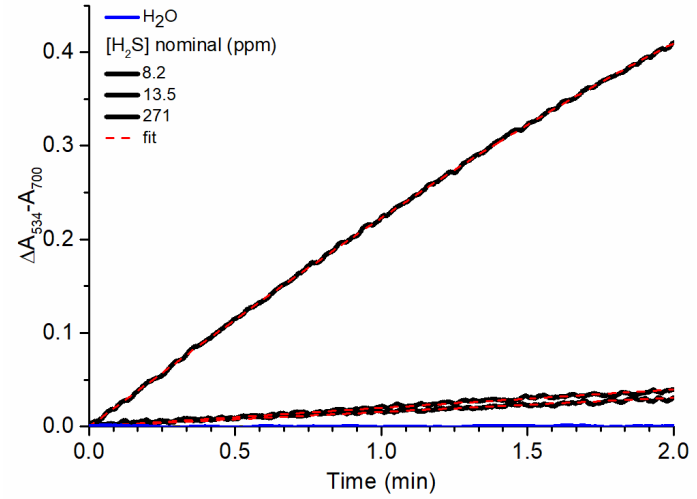

Figure S5. Experimental kinetics and analytical fitting of the kinetic experiments performed by generating H_2S vapors by the reaction of FeS with HCl and the sensor exposure to water vapours.

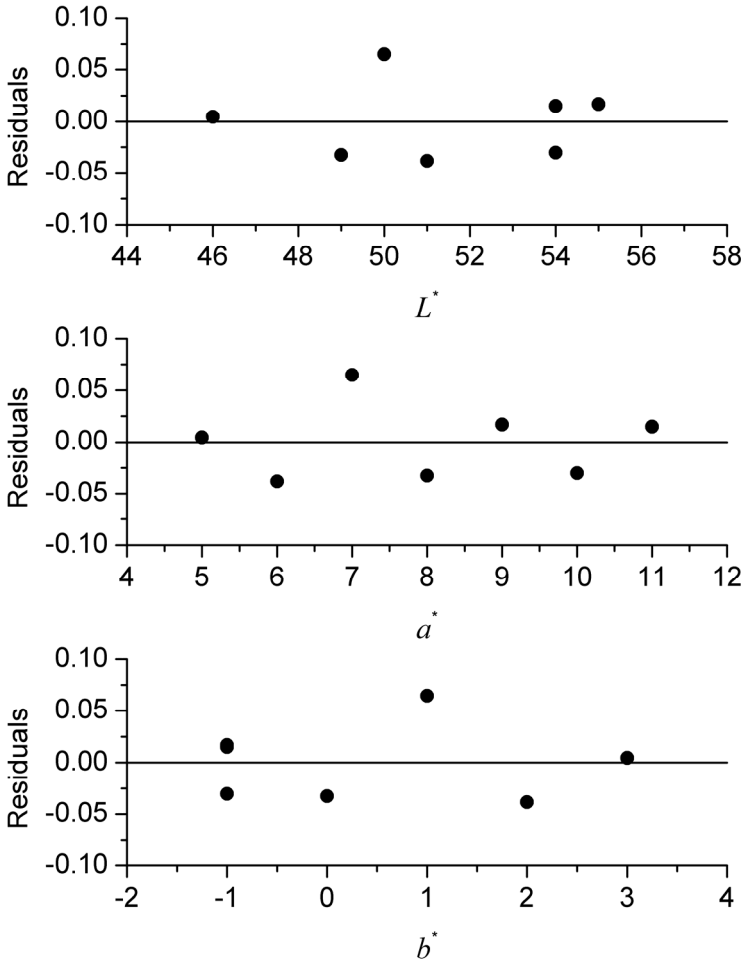

Figure S6. Residual plot for the multiple linear regression performed in the CIELAB color-space from the sensor photographs. See main text for details.

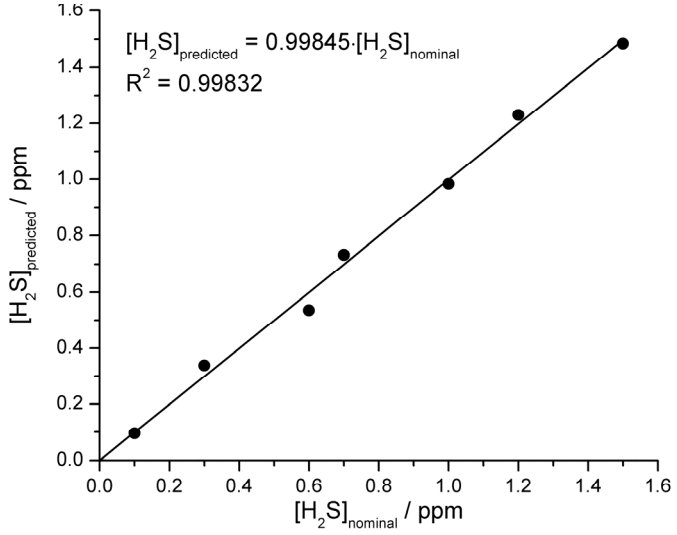

Figure S7. Linear calibration constructed from the [H_2S] predicted with the multiple linear regression against the nominal [H_2S].