A polymer-based neural microimplant for optogenetic applications: design and first in vivo study

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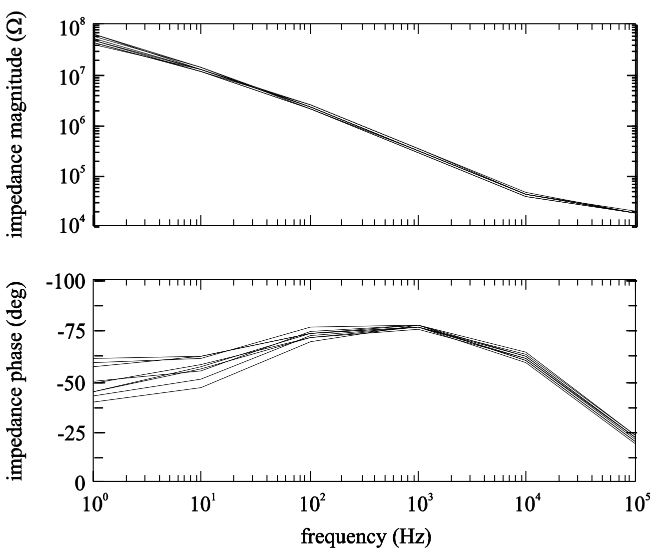
Electronic Supplementary Information



S1: Electrochemical impedance spectra of nine electrode sites (30 µm in diameter, platinum) of one implant device. Bode plot displays impedance magnitude and phase of the complex electrode impedance.

Electronic Supplementary Material (ESI) for Lab on a Chip

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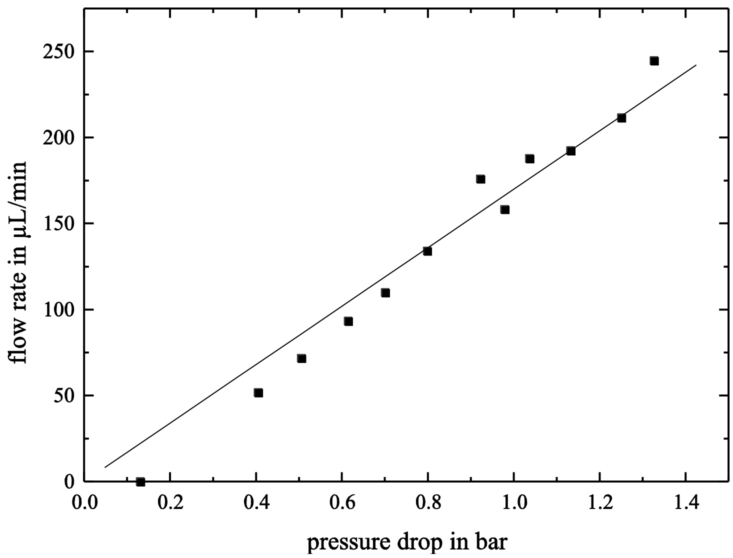
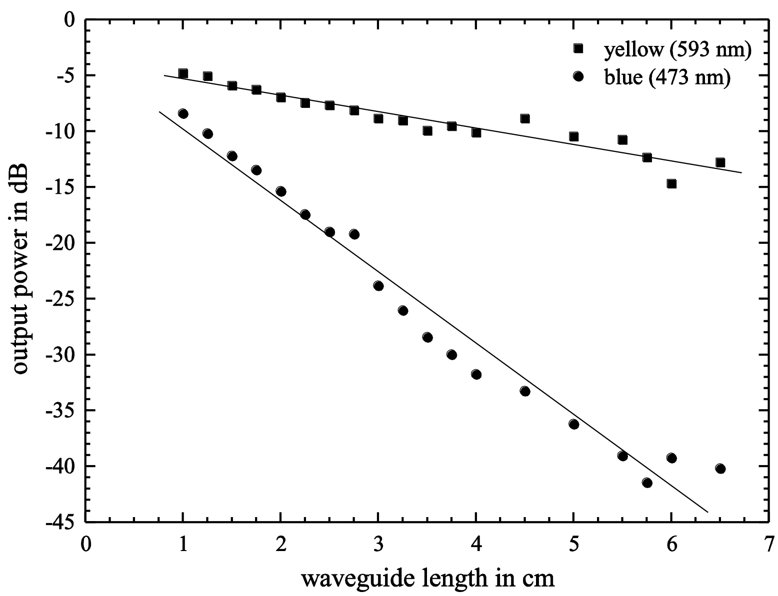


S2:The flow rate as a function of fluid pressure in the microfluidic channels. The squares show the measured values, the straight line represents the theoretical values calculated with the Hagen-Poiseuille equation for rectangular cross-sections with a width of 50 µm, a height of 45 µm and a length of 7 mm.



S3: The waveguide's output power as a function of waveguide length measured with yellow light (squares) and blue light (circles). The input power was 21 mW (blue) and 14 mW (yellow), respectively. By using a linear fit (straight lines), the transmission loss could be obtained as the slope of the linear fit with -6.4 dB/cm (473 nm) and -1.5 dB/cm (593 nm). The coupling loss between the optical fibre and the waveguide was estimated by the ordinate intercept of the linear fit which was -3.4 dB (473 nm) and -3.8 dB (593 nm).