

Supplementary information:

Experimental method: Microfluidic setup

A valve selects different liquid inputs, for example washing or priming liquids. A motorized syringe pump is used for fast purging of the whole line at high pressure to prevent channel clogging and a sample valve selects either cleaning liquid or sample. Pressure control of the sample tube is provided by a high-precision pressure regulator (Marsh-Bellofram), allowing precise control of fluid flow. The level of the liquid in the collection vials is set so as to produce a small back-flow when atmospheric pressure is applied to the sample.

Fig. 1 Supplementary:

Diagram showing the AC impedance measurement setup and the microfluidic control.

