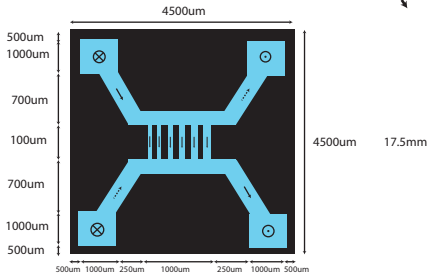


Notes: This scheme represents the patterned PDMS layer, that stands above the perforated PDMS layer. This PDMS layer is 6mm high. Water enters in reservoirs symbolized with a cross, and leaves from those with a dot. Punched holes inside the reservoirs (lightblue rectangles) have a diameter of 0.75mm. Channels linking the reservoirs have a width of 0.75mm.



Notes: This scheme, that is not to scale, represents the channels written with HSQ on top of the diamond surface. The HSQ layer is 50nm high. Water enters in reservoirs symbolized with a cross, and leaves from those with a dot. Full arrows represent water flow during measurement, and dashed ones the paths used to flush the reservoirs. The central zone with channels in series gathers 50 channels, spaced by 10um one from another. Channel dimensions, that are each replicated five times, are the following : 20nm, 40nm, 60nm, 80nm, 100nm, 200nm, 400nm, 600nm, 800nm, 1'000nm. The channels linking the reservoirs to the central zone are 50um wide.

Notes: This scheme represents the perforated PDMS layer, that stands between HSQ and the patterned PDMS cover. This PDMS layer is 3mm high. The black dashed square shows the position of the 4.5x4.5mm diamond that has HSQ on top. Water enters in reservoirs symbolized with a cross, and leaves from those with a dot. Punched holes inside the reservoirs (lightblue rectangles) have a diameter of 0.75mm.