

ABSTRACT

INTEGRATING NANOPORE SENSORS WITHIN MICROFLUIDIC CHANNEL ARRAYS USING CONTROLLED BREAKDOWN

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Nanopore arrays are fabricated by controlled breakdown in solid-state membranes integrated within polydimethylsiloxane (PDMS) microfluidic devices. This technique enables the scalable production of independently addressable nanopores. By confining the electric field within the microfluidic architecture,
10 nanopore fabrication is precisely localized and electrical noise is significantly reduced during sensing.

Figure 1.

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