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Nanopore formation by controlled electrical breakdown: Efficient molecular-sensors

By: Abdalla, S (Abdalla, S.)^[1]; Al-Marzouki, FM (Al-Marzouki, F. M.)^[1]; Abdel-Daiem, AM (Abdel-Daiem, A. M.)^[1]

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Abstract

A controlled electrical breakdown is used to produce efficient nanopore (NP) sensors. This phenomenon can be used to precisely fabricate these nanopore (NP) sensors through the membranes of the polydimethylsiloxane microarrays. This can be carried out, when localizing the electrical potential through a suitable microfluidic channel. Organic molecules, and other different protein-molecules, can be easily and precisely detected using this procedure referred to as controlled electrical breakdown technique.

Keywords

Author Keywords: Nanopore; electrical breakdown; microfluidic channels; molecules detection; sensors

KeyWords Plus: LABEL-FREE MICROCAVITY; SOLID-STATE NANOPORES; SINGLE-MOLECULE; TRANSLOCATION

Author Information

Reprint Address: Abdalla, S (reprint author)

+ King Abdulaziz Univ, Fac Sci, Dept Phys, POB 80203, Jeddah 21589, Saudi Arabia.

Addresses:

+ [1] King Abdulaziz Univ, Fac Sci, Dept Phys, POB 80203, Jeddah 21589, Saudi Arabia

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