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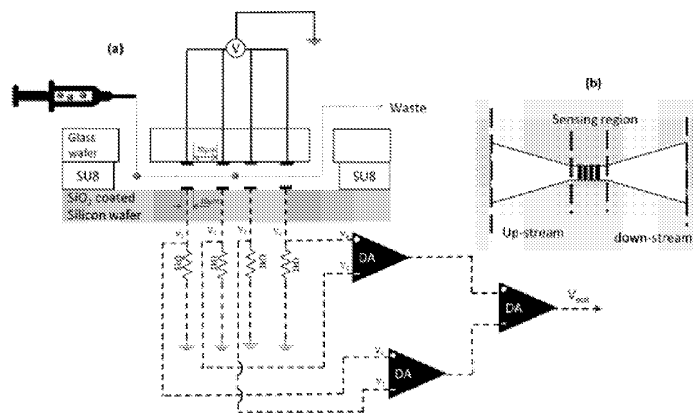


FIGURE 1

(57) Abstract: A microfluidic impedance cytometry apparatus, for position determination and impedance measurement of particle/s in a fluid carrying particles, comprising: a microfluidic impedance flow channel for allowing flow of said fluid; an upstream section; a downstream section; a sensing region to receive said channeled fluid, to sense one or more parameters of said fluid, said sensing region comprising one or more sets of pairs of electrodes, each pair forming a current path from an operative top to an operative bottom, each of said pairs being formed by an operative top electrode and an operative bottom electrode, electric potential being applied on said operative top electrode/s, each electrode for a particular pair being parallel-aligned and being symmetric, with respect to each other, same positive electric potential being applied on each of said top electrodes and each of said bottom electrodes is virtually grounded, for a pair; and a configuration of amplifiers.

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