



Quake US2002/0058332 A1

“In one preferred embodiment, droplets at these dimensions tend to conform to the size and shape of the channels, while maintaining their respective volumes. Thus, as droplets move from a wider channel to a narrower channel they become longer and thinner, and *vice versa*. In preferred embodiments, droplets are at least about four times as long as they are wide. This droplet configuration, which can be envisioned as a lozenge shape, flows smoothly and well through the channels. Longer droplets, produced in narrower channels, provides a higher shear, meaning that droplets can more easily be sheared or broken off from a flow, *i.e.* using less force. Droplets may also tend to adhere to channel surfaces, which can slow or block the flow, or produce turbulence. Droplet adherence is overcome when the droplet is massive enough in relation to the channel size to break free. Thus, droplets of varying size, if present, may combine to form uniform droplets having a so-called critical mass or volume that results in smooth or laminar droplet flow.”

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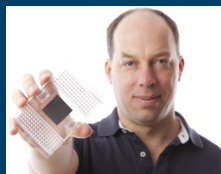


Ismagilov 60/379,927 Provisional

“In one preferred embodiment, plugs conform to the size and shape of the channels while maintaining their respective volumes. Thus, as plugs move from a wider channel to a narrower channel they become longer and thinner, and vice versa preferred embodiments, plugs are at least about four times as long as they are wide. This plug configuration, which can be envisioned as a lozenge shape, flows smoothly and well through the channels. Longer plugs, produced in narrower channels, provides a higher shear, meaning that plugs can more easily be sheared or broken off from a flow, *i.e.* using less force. Plugs may also tend to adhere to channel surfaces, which can slow or block the flow, or produce turbulence. Plug adherence is overcome when the plug is massive enough in relation to the channel size to break free. Thus, plugs of varying size, if present, may combine to form uniform plugs having a so-called critical mass or volume that results in smooth or laminar plug flow.”

U.S. Provisional Application No. 60/379,927 at 10 (to which Ismagilov 091 claims priority)

DDX14.1



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“For instance, in those embodiments where aqueous droplets are used as microreactors for chemical reactions (including biochemical reactions) or are used to analyze and/or sort biomaterials, a water soluble surfactant such as SDS may denature or inactivate the contents of the droplet.”



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