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Microdrops in Microfluidic: Estimation of Geometrical Form

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Abstract: Manipulation of small-sized liquid quantities is one of the key issues in technology, biology, chemistry and medicine.Where the increased surface-to-volume ratio making surface effects more dominant [42], which allows toreduce time of reaction and economies the costs of manufacturing products. The microdrop is a typical example of asmall-sized liquid quantity; that can be considered as samples, reagents and supplementary indicator to approach us inthe direction of reaction and the state of microdrop. The creation of reproducible in stable geometrical form ofmicrodrop makes a critical step during the manufacturing of microdrop. Pressure based manufacturing of microdropnowadays a common way to create reproducible and stable small-sized drops. Many geometrical form of microdropcan be generated in different techniques. Proofed that microdevices based on pressure based manufacturing ofmicrodrops has already been successfully implemented. This paper serves as a review of the most importantcontributions, in the development of the creation of reproducible and stable microdrops in the past decades. Besidesserving as a reverence for researchers in this area, this paper is also a resource for everybody who wants to identify theeasiest way to precise microdrops geometrical form for a particular application by simple analysis.

Keywords : form, microdrop, description and theoretical analysis.