

Interfacial Tension with Digidrop

The Digidrop is an instrument dedicated for the measurement of contact angle between a liquid and a surface and interfacial tension between liquid /air and liquid/liquid.



This paper describes what kind of module is advised to complete a good measurement in interfacial tension

The software Visiodrop supplied with the instrument can measure the interfacial tension either by using the Bashford and Adams theory and Young-Laplace equation with Nurbs equation mathematical fit for the perfect determination of

the contour of the droplet.

To succeed a good measurement you need:

An automatic syringe which will be able to dispense a continuous and homogenous flow of liquid at a very low speed (around 0,4 $\mu\text{L/s}$). As the instrument records 50 images/s the evolution of volume between 2 images will be 0,008 μL .

If you want to analyze the last image before the droplet will be distached from the needle you will be consistent avec very closed at 0,008 μL of the critical volume.

An accurate adjustment of the verticality of the syringe. This module insures that your droplet of liquid is perfectly axysymmetric

A temperature regulated chamber with built-in needle

the built-in needle insures that the capillary is all the time perfectly perpendicular

This built-in needle helps in completing captive bubble measurement for highly hydrophilic surfaces.



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