



## Kruss DSA100 Contact Angle Goniometer Protocol

1. Turn on the power switch located on the back of the goniometer (left side).
  2. Open **Drop Shape Analysis** Software by double click on the icon.
  3. Go to *File-> Open FG-Window*. This will open the frame grabber.
  4. Click on the **Acquire** icon , this will give you a live image.
  5. Adjust the height of the sample platform so that it appears in the live image. The interface should be positioned at  $\frac{1}{4}$  of the image from the bottom.
  6. Adjust the position of the needle so that it is at the center of the image and focused.
  7. Adjust brightness and contrast, so that the sample platform is grey, the background is white and the needle is black. The bright ness can be adjusted using **Page Up** and **Page Down** button on the key board. The contrast can be adjusted by sliding the black cover of the light source up and down.
  8. Go to *File-> Open Result-Window*. The parameters reported in the result window can be customized by right clicking on the result window.
  9. Make a drop so that the diameter of the drop is twice as much as the needle. This will roughly give you a 2 ul drop.
  10. Lower the needle slowly till the drop touches the surface and back up the needle immediately. This will leave the drop on the surface.
  11. Click the **Acquire** icon, this will freeze the frame. Do this within 2 seconds of making the drop. Otherwise water starts to evaporate and the contact angle will change.
  12. Click on the **Baseline Detection** icon . The program will automatically detect the baseline. Make sure baseline is set at Linear. You can check this by right click on the icon.
  13. Click on the **Contact Angle** icon. The program will make a fit of the drop and calculate the contact angle. Make sure the method is set at Tangent-2. You can check this by right click on the icon.
  14. Check the result window and see if the Fit-Er is less than 5 um. If not, use a different fitting method. You can change this by right click on the **Contact Angle** icon.
  15. For one surface, measure the contact angle of at least 5 drops. You can save the result by copy and paste into excel.
  16. When you are done, exit the program and turn off the goniometer.
  17. Clean up the area and sign the user log.
- ❖ For additional information, please refer to the **User Manual** in the drawer below the goniometer.
- ❖ For technical support, you can also contact **Greg Price** at 610-746-9001, or email [gap@krussusa.com](mailto:gap@krussusa.com)