Polymer Samples

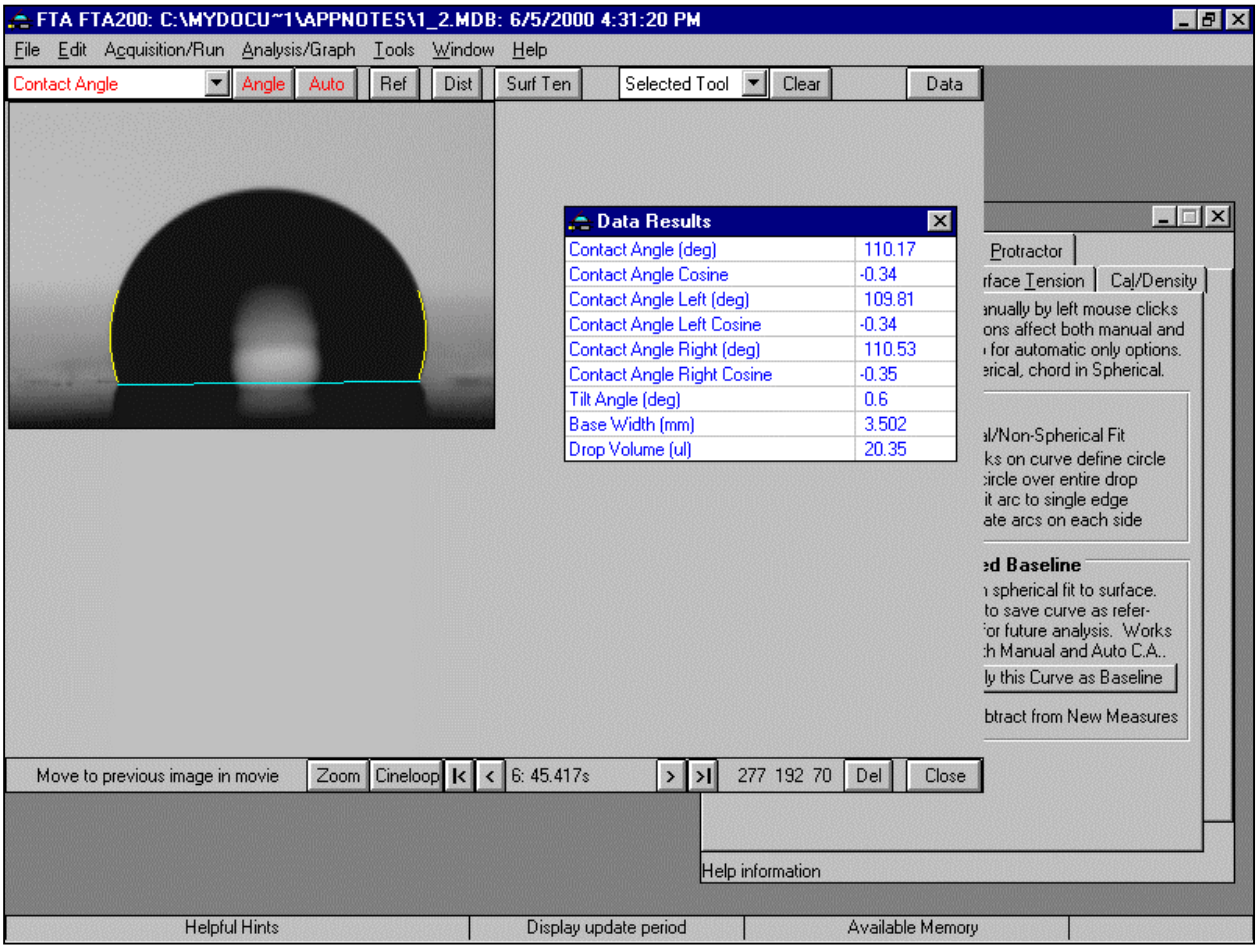
June 5, 2000

Three polymer coupons were examined for contact angles with water. The water was first checked by measuring its surface tension using the FTÅ200 and the value found to be 72.17mN/m, reasonable for room temperature of approximately 25C.

Each coupon was sampled by two or more drops. The results for any particular coupon were very repeatable, except that #3 exhibited notable charging and deflected some of the detaching drops. These data were excluded.

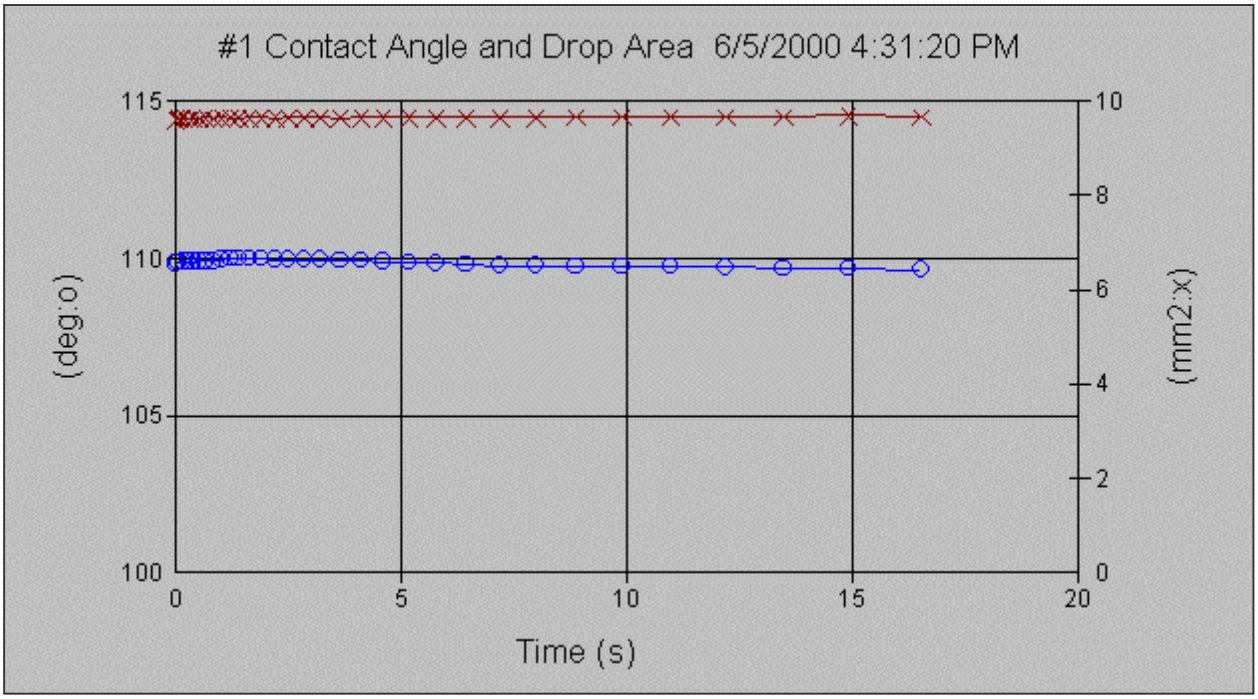
Sample #1

A representative contact angle image is shown below.

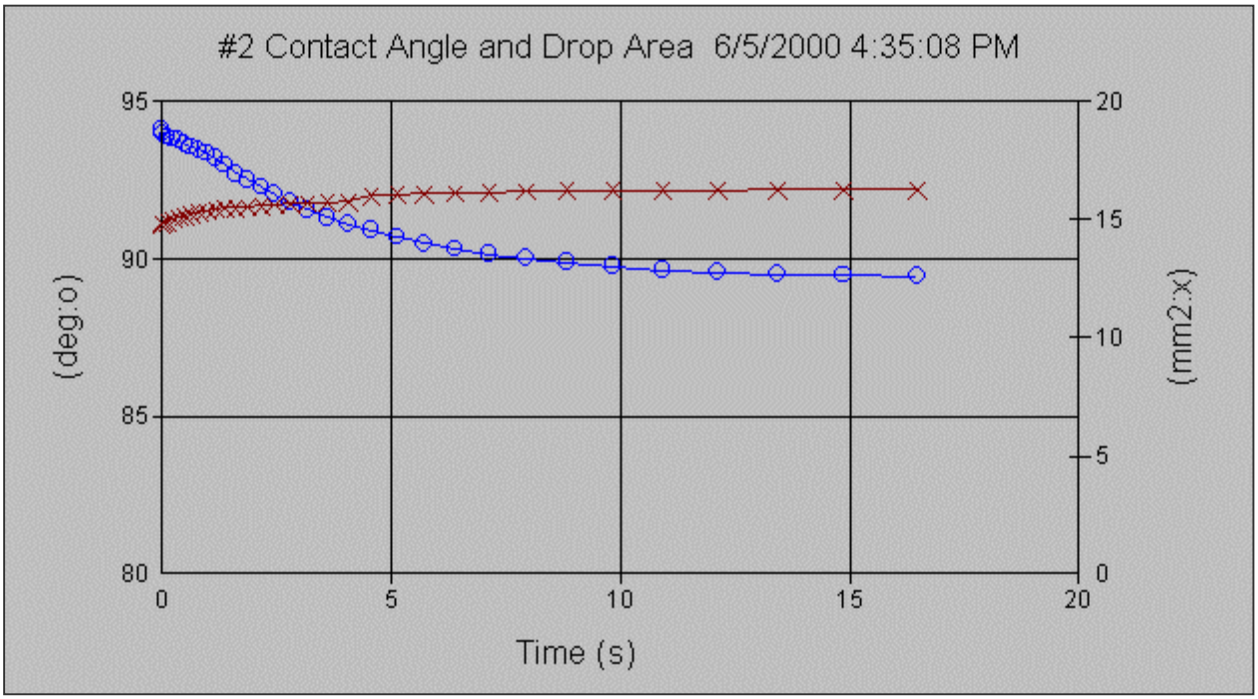


A movie was taken of the first 15 seconds of each drop after it was touched off on the sample. A graph of the contact angle and drop base area (liquid-solid interfacial area) is shows whether the

liquid is spreading on the sample (which would indicate hydration). In the case of #1, no spreading is seen. The average contact angle over the entire measurement period is 109.9°.

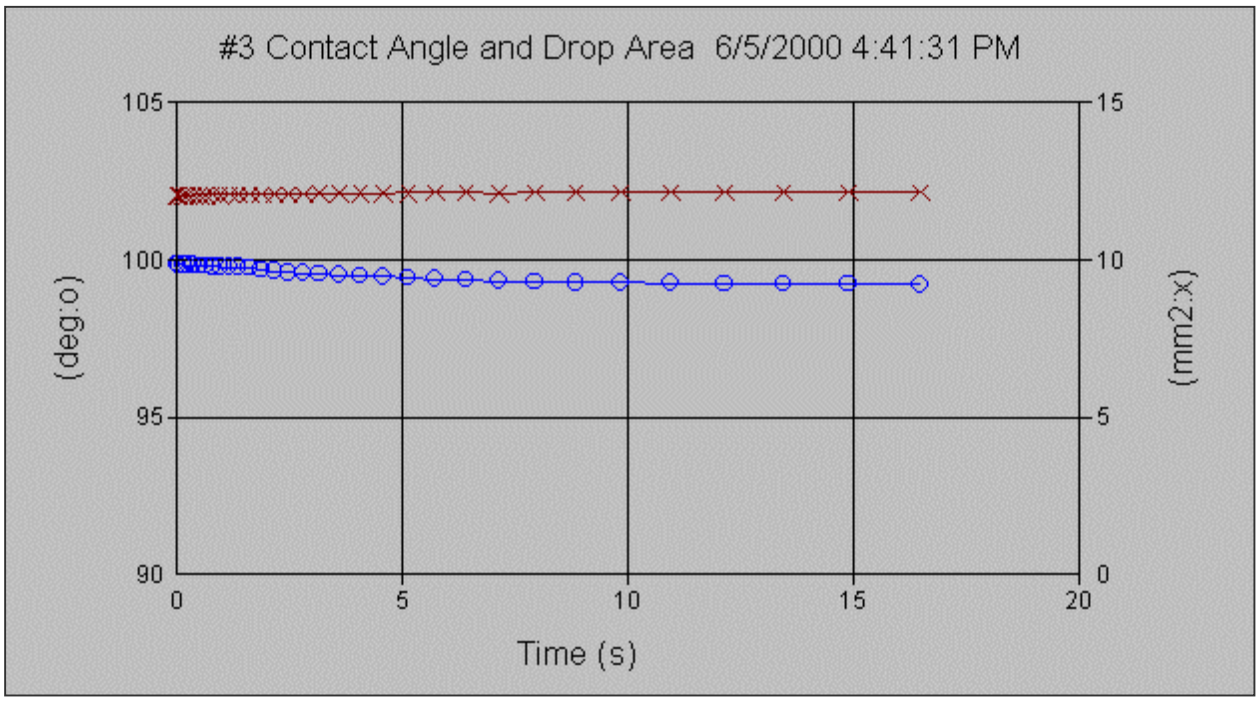


Sample #2



Drop #2 shows clearly spreads and its contact angles are lower than those for #1.

Sample #3



There is a very small amount of spreading. However, this sample did exhibit noticeable charging and deflected some drops.