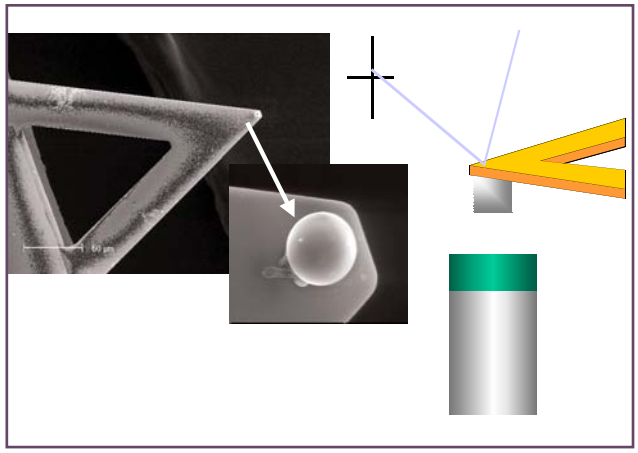
colloid probe surface force measurements, in normal and lateral (frictional) modes. This project commenced in 2001 and is now in its final stages, with a second draft report prepared. The project team consists of John Ralston (University of South Australia, Adelaide, Australia), Ian Larson (Victoria College, Australia), Mark Rutland and Adam Feiler (Institute for Surface Chemistry, Stockholm, Sweden), Per Claesson (Royal Institute of Technology, Stockholm, Sweden), and Mieke Kleijn (Wageningen, Netherlands).



AFM—how to best obtain reliable images?

The second draft report, now in circulation, deals, with the following:

- AFM development
- calibration of cantilever spring constant for normal (z) deflection
- calibration of piezoscanner
- colloid probe attachment
- force measurements
- construction of force versus distance curves
- different materials
- latest developments

A section on frictional forces is presently being expanded.

The penultimate report will be completed by late December of this year at which time a project meeting will be held in Adelaide to agree on the final version.

For more information, contact the Task Group Chairman John Ralston <john.ralston@unisa.edu.au>.

www.iupac.org/projects/1999/1999-016-3-100.html

Ionic Strength Corrections for Stability Constants

Version 1.5 of the Specific Interaction Theory (SIT) program was released this past September. The program uses specific interaction theory to render ionic strength corrections for stability constants, and includes activity coefficient calculation molar-molal interconversion. The SIT program can be readily applied to industrial processes for which stability constants may be required at very high ionic strengths.

The calculations of stability constants over a wide range of ionic strengths are not trivial, and require for instance a database of ionic coefficients for each ion-ion interaction. The program, developed by L. D. Pettit of Academic Software and part of this IUPAC project, performs the following:

1. calculates activity coefficients (0–5 m)
2. corrects stability constants for the general reaction: $xM + yL + zH_2O$
3. calculates SIT(complex) values from sets of log K/ionic strength values
4. interconverts molarities - molalities
5. interconverts log K(molar) - log K(molal)

The user can select any of 14 background electrolytes and the program uses a text file which currently holds over 360 SIT parameters. The program has an extensive Help file that gives references and equations used. A Russian version, written by Dr. I Sukhno and Dr. V. Buzko, is now available.

Interested persons are invited to download this free program (see Web address below), test it, and send comments.

A comparable program to perform calculations using Pitzer parameters is being prepared. This will perform similar calculations to the SIT program and will also include activity and stability constants changes as a function of salinity, and oxygen, nitrogen, and carbon dioxide solubility as a function of salinity and fluid composition.

For more information, questions, and comments, contact the Task Group Chairman L. D. Pettit <pettit@acadsoft.co.uk>.

www.iupac.org/projects/2000/2000-003-1-500.html