

resolution. Resolution is also related to the stability of the spot size, that is a variable spot diameter will limit resolution. Resolution is also related to the nature of the specimen, that is how the beam spreads when it interacts with the specimen.

To illustrate the relation of spot size to resolution to my students, I step up to the blackboard and draw an outline of my hand with fingers outstretched. Then I demonstrate how this hand would be imaged as a mitten with large spots and how the fingers could be resolved by using small spots for imaging.

Reprinted from "The Beam" thanks to the courtesy of the Southeastern Electron Microscopy Society

## Isolation of Single Crystals from Liquid Drops

Walter C. McCrone, McCrone Research Institute

Microscopists often recrystallize or precipitate compounds for purposes of identification. Almost as often, a few crystals form that are irresistibly beautiful and demand isolating for single-crystal x-ray diffraction, spindle stage, polarized IR absorption, or remounting in a crystal-rolling medium like Aroclor® 1260.

The isolation of one such crystal among hundreds from the center of a drop is not as difficult as it sounds. It is done at 50-100X under a stereomicroscope using a fine, usually a tungsten, needle. The needle may (rarely) need to be surface-treated by rubbing with a water-insoluble wax (then tissue-wiped "clean") to prevent creeping of the solution up the needle and causing solution (and crystal) movement.

The needle is used to clear a path for the desired crystal by pushing the edge crust and other intervening crystals to one side. Complete clearance is not necessary. The desired crystal is then pushed with the needle along the slide to the edge and then well outside of the drop. A few smaller crystals and much solution may accompany it. An isthmus of solution is usually left back to the drop. The extraneous crystals are needed back into the drop and a small square of filter paper is used to cut the isthmus and leave the crystal in a small droplet of solution. The needle is then repeatedly touched to the remaining solution and small drops are thereby removed to a safe distance. This renders the crystal nearly dry but is then pushed along the clean slide surface until it has left all of its surface liquid behind. It must be pushed until completely dry (10 seconds +/-). It is then ready for remounting.

The same procedure is adaptable to other solvents if precautions are taken to prevent spreading of low surface tension solvents. This is essentially impossible for low boiling solvents but can be done for DMF, diethylene glycol, alcohols above C<sub>2</sub> and higher boiling liquids like nitrobenzene, tricresyl phosphate, benzyl alcohol, and monobromonaphthalene.

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Detailed information covering courses and IIM-94 can be received from Nancy Daerr, McCrone Research Institute  
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When you're "talking" to an online friend in eMail, you can't see each other's face - so you miss the smiles, winks and frowns that add meaning to conversation and lend context to cold words. Longtime navigators in the electronic network have come up with a substitute.

It is called an "emoticon", an icon reflecting emotion. That particular combination of colons, hyphens, etc., when viewed from the side, suddenly snaps into the familiar smiley face and takes the place of a friendly smile. Several are as follows:

- :-) Smile
- :-( Frown
- ;-) Wink
- :-D Big Smile
- :-O Mouth open in amazement
- :-Q Tongue hanging out in nausea or disgust
- :-{) Smile (user has a moustache)
- :-{)} Smile (user has a moustache and beard)
- 8-) Smile (user wears glasses)
- (-: Smile (user is left handed or Australian)
- \*<I:)} Smile, user is Santa Claus

In addition to emoticons, experienced eMail regulars use a variety of shorthand abbreviations to save time and keystrokes in expressing frequently repeated concepts. Here are a few:

- BRB - Be right back
- BTW - By the way
- FWIW - For what it's worth
- FYI - For your information
- GD&R - Grinning, ducking and running (after snide remark)
- IANAL - I am not a lawyer (but..)
- TIA - Thanks in advance
- TTFN - Ta-Ta for now
- IMHO - In my humble/honest opinion
- OTOH - On the other hand
- PMJI - Pardon my jumping in
- ROFL - Rolling on floor, laughing
- GD&WVVF - Grinning, ducking & walking very, very fast
- IMO - In my opinion
- /
- Regards, 8-)=(:) = :



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