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# A TECHNIQUE FOR ACHIEVING CONSISTENT RELEASE OF FORMVAR FILM FROM CLEAN GLASS SLIDES

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The use of Formvar (polyvinyl formal) coated grids for supporting specimens such as bacteria, viruses, very thin sections, and particulate matter has become common practice in Transmission Electron Microscopy (TEM). The primary difficulty in obtaining satisfactory results has been "coaxing" the film off of the microscope slide onto a water surface. This problem can be overcome by pretreating microscope slides with Victawet[1]; a commercially available wetting agent. The procedure involves the following steps:

A) Dip microscope slides in absolute ethanol and wipe dry. Place these aside in a vertical position to minimize lint and dust accumulation.

B) Place a small piece of Victawet ($1mm^3$) in a tungsten wire basket (which has been previously secured in a vacuum evaporator) using fine forceps, and force the Victawet gently towards the bottom, or conical end.

C) Place two or three clean microscope slides <u>directly</u> under the tungsten wire basket, allowing a distance of two inches between the basket and slides. Close the bell jar and evacuate to proper operating vacuum.

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[1]available from: E.F. Fullam Inc., Schenectady, N.Y.

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D) Slowly increase the current across the tungsten wire. As the wire heats up, the Victawet may be ejected from the basket if heated too rapidly. If heated properly, the Victawet should start to melt. Applying more current at this point will evaporate the wetting agent over the microscope slides. Continued heating for twenty to thirty seconds should be sufficient to completely evaporate the Victawet.

The slides are now ready to be dipped in the Formvar solution. Texts of electron microscopic technique may be consulted for the remaining steps which have become routine in nearly every E.M. laboratory. However, consult Howard (1973) or Dawes (1979) for a detailed account of Formvar grid coating preparations.

We have had repeated success with this technique. Nearly every attempt to remove Formvar film from Victawet pre-treated microscope slides has resulted in a smooth and very clean support film.

## References

Dawes, C.J. (1979) Biological Techniques for Transmission and Scanning Electron Microscopy. Ladd Research Industries, Inc.

Howard, K.S. (1983) The preparation of formvar grids for transmission electron microscopy. In: Electron Microscopy Society of America Bulletin, Vol. 13, No. 1, pp. 96-98.

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