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A RAPID SAMPLE PREPARATION METHOD FOR POWDER
DIFFRACTION CAMERAS

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ABSTRACT

A fiber pulled from a mixture of sample and liquid collodion is a rapid and satisfactory mount for X-ray powder cameras.

The following method is based on a modification of the well known collodion mount.

A few milligrams of powdered sample (<200 mesh) are placed on a glass slide. A drop or two of collodion is added to the powder. The mixture is then rapidly stirred with a sharp needle. After 20-30 seconds, as the collodion begins to set, the needle is lifted from the mixture. As the needle is withdrawn a thin fiber of collodion-bound sample will form. If a fiber fails to form, the viscosity of the sample-collodion mixture is still too low. The mixture is continuously stirred until a fiber of from 0.05-0.2 mm in diameter and from 1-2 inches in length is formed. A fiber of these dimensions can be produced in less than one minute.

The end of the fiber is held between the thumb and forefinger of the free hand and pulled slightly in order to keep it under tension. Tension is applied for about one minute to allow the collodion to set. The fiber, still attached at one end to the stirring needle, should then be put aside for about 10 minutes to allow the collodion to set more completely. The earlier the needle is withdrawn from the sample-collodion mixture, the thinner the resulting fiber. However, if the fiber becomes excessively thin, it will have a tendency to curl after drying. Two or three samples of 10-15 mm in length can then be cut from the fiber with a sharp safety razor. The simplicity of the method is such that any one should be able to prepare samples of proper dimensions after a few trial runs.

The advantages of this method are: 1) Rapidity of sample preparation.

2) The thinness of the sample results in improved resolution and higher accuracy. 3) Only the sample and low-absorbing collodion are in the X-ray beam. 4) The sample is homogeneous. Pulling out a fiber of collodion causes some preferred orientation, but less than in rolled collodion mount. It should be noted that the small sample diameter will necessitate longer exposure times.

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ORIENTATION OF EXSOLUTION LAMELLAE IN CLINOPYROXENES
AND CLINOAMPHIBOLES: CONSIDERATION OF OPTIMAL
PHASE BOUNDARIES: ERRATUM

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On page 925 of the article with the above title (*Amer. Mineral.* 56, 909-939 [May-June, 1971]) equation 6 appeared as follows:

$$w = \frac{c_{\text{PIG}} |\cos \beta_{\text{PIG}}| - c_{\text{AUG}} |\cos \beta_{\text{AUG}}| + \frac{(c_{\text{AUG}} \sin \beta_{\text{AUG}} - c_{\text{PIG}} \sin \beta_{\text{PIG}})}{x/z}}{a_{\text{AUG}} - a_{\text{PIG}}}$$

The equation should have read:

$$w = \frac{c_{\text{PIG}} |\cos \beta_{\text{PIG}}| - c_{\text{AUG}} |\cos \beta_{\text{AUG}}| - \frac{(c_{\text{AUG}} \sin \beta_{\text{AUG}} - c_{\text{PIG}} \sin \beta_{\text{PIG}})}{x/z}}{a_{\text{AUG}} - a_{\text{PIG}}}$$

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