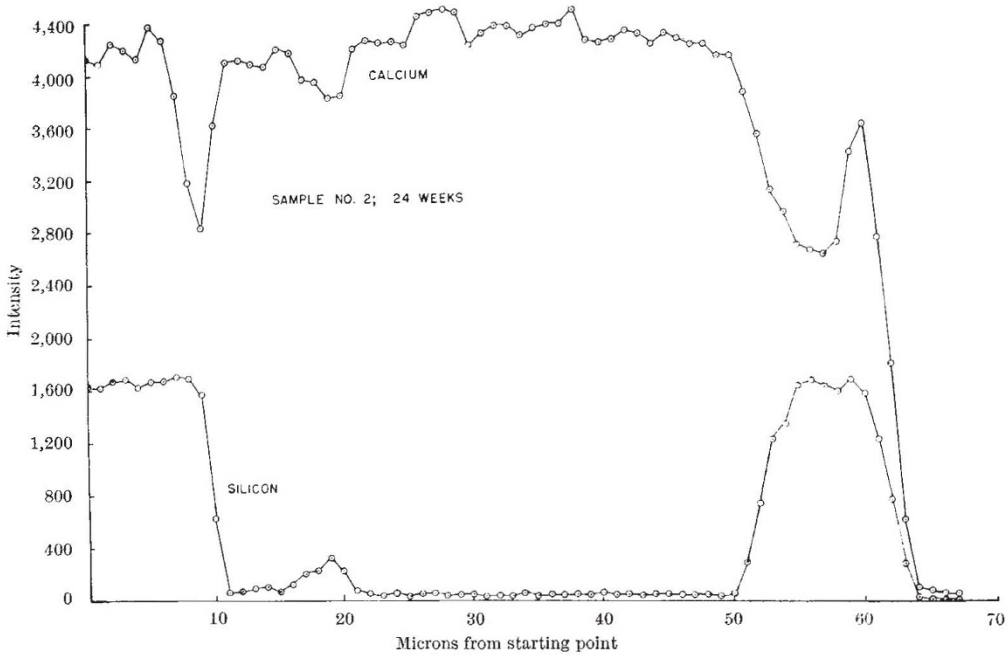

Fig. 4. Ca and Si X-ray intensities for the grain in the left of Fig. 1, showing anhydrous $3CaO.SiO_2$, $Ca(OH)_2$ and engulfed silicate particles.

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Infrared Absorption Spectra of α and β-Calcium Sulphate Hemihydrates

IN their recent communication concerning the application of infrared spectroscopy to the calcium sulphate-water system, Bensted and Prakash[1] stated that they obtained no spectral differences between the α and β forms of the hemihydrate. I would like to report that I have found differences in the spectral range 1,200 to 1,000 cm^{-1} associated with the vibrations of the tetrahedral SO_4 ion as shown in Table 1.

Table 1. INFRARED ABSORPTION (cm^{-1})

α-$CaSO_4 . \frac{1}{2}H_2O$	β-$CaSO_4 . \frac{1}{2}H_2O$
1,155	1,157
1,117	1,119
1,095	1,098
1,007	1,009

The samples of hemihydrate, from BPB Industries (Research and Development) Ltd, were characterized by differential thermal analysis[2,3] and their infrared absorption spectra were recorded on Hilger and Watts Infrascan and Unicam *SP* 100 spectrophotometers using the potassium bromide disk technique[4]. In the case of the Infrascan the wavenumber scale was calibrated by means of a polystyrene film (supplied by Perkin Elmer Ltd).

In addition to minor positional differences, the absorption maxima were much sharper in the β-hemihydrate than in the α form. These results indicate that the same structure is present in both forms of the hemihydrate but that the lattice of the β-form is less strained than in the α form[5]. This result is in accord with the conclusions drawn from differential thermal analysis[2,3].

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Morphology of *ABA* Block Polymers

MICROPHASE separation is believed to occur in many block copolymers. In interpreting the mechanical properties of block copolymers of the type $A_x B_y A_x$, where A_x and B_y are blocks having x repeat units of type A and y repeat units of type B respectively, it has been suggested that when y is much greater than x the A_x blocks aggregate to form spherical domains in a matrix composed of B_y blocks[1]. Partial support for this model has recently been obtained from electron microscopy studies carried out on copolymers in which the outer blocks