

The starting points for the computation are the measured R_o and R_e and a value of α estimated from room pressure data. As successively better fits are obtained, the interval of variation of the three parameters is made smaller until, at the final fit, the intervals are

$$\begin{aligned}\delta R_e &= 4 \times 10^{-5} R_e \\ \delta R_o &= 1.7 \times 10^{-5} R_o \\ \delta \alpha &= 6 \times 10^{-4}\end{aligned}$$

At this interval size computational errors are negligible compared to experimental errors.

Two series of kinetic experiments were done. In one, a constant pressure of 900 bars was used and the ordering temperature was varied between 247 and 289°C; in the other, the temperature was 286°C and pressure ranged from 1 to 14 kbar. Rate constants from the first series are shown in Fig. 7 and are seen to fit Eq. 2. The activation energy for ordering obtained from this plot is 1.9 ± 0.2 ev. This may be compared with the value of 2.03 ev obtained by Feder, Mooney and Nowick,⁵ and the 1.95 ev value found by Goering and Nowick¹⁶ by an internal friction experiment.

The results of the second series of measurements, in which a series of pressures and one temperature were used, are shown in Fig. 8. It is seen from this figure that the data fit an equation of the form of Eq. 3. The slope of the line drawn through the points yields a total activation volume for ordering of 6.8 ± 1 cm³/mole or $(11 \pm 2) \times 10^{-24}$ cm³/atom.