

little, however,  $D$  is found in the region over this region. The normal state does not of the activated state of freedom of the transition to the normal state. Diffusion over the transition is directly caused by the presence of the  $\text{SnI}_4$  molecules in the activated state. It is obvious that

at some sort of quasi-static arrangement is appearing in  $\text{CCl}_4$  which allows the formation of holes larger than those existing at lower pressures. The most likely explanation seems to be that rotation in the  $\text{CCl}_4$  molecules surrounding the  $\text{SnI}_4$  molecules begins to be inhibited to some extent at about 1000 atmos at these temperatures. This does not mean that any sharp transition corresponding to the case for the solid at 1 atmosphere takes place. On the contrary, the nature of the liquid state is such that a sharp transition would not be expected. The intermolecular distances in a liquid are much less uniform than those in a solid. Hence, any such inhibition of rotation would be expected to be a localized phenomenon whose occurrence increases gradually with increasing density. In addition, the present work furnishes no clue as to whether such

an inhibition takes place only around  $\text{SnI}_4$  molecules or whether it would take place even in pure  $\text{CCl}_4$ . In either event the structure resulting from such an inhibition of the rotation would be expected to be harder to distort, a conclusion supported by the higher values of  $\Delta H_p^\ddagger$ .

The plots of  $\Delta F_p^\ddagger - \Delta F_0^\ddagger$  are shown in Fig. 4. These values are not truly values at  $50^\circ$  and  $75^\circ$ , since they were calculated from the "average" values of  $\Delta H_p^\ddagger - \Delta H_0^\ddagger$ . The curve shows an increasing value of  $\Delta F_p^\ddagger - \Delta F_0^\ddagger$  with  $P$ , qualitatively paralleling the decrease in  $D$ . This is, of course, to be expected from the manner in which  $\Delta F_p^\ddagger - \Delta F_0^\ddagger$  was obtained.

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$\text{CCl}_4-\text{SnI}_4$ .

of closely packed molecules move with less ease, if it is oriented in a certain direction.

is sharply, showing that the transition to move is determined. However, shows that the transition is smaller at lower pressures. The curve shows, indicating that the transition to the normal state of the activated state with increasing pressure takes place more and more and accordingly indicates