

umes of  $\text{BiBr}_3$  (l)<sup>7</sup> and  $\text{BiCl}_3$  (l)<sup>6</sup> are, significantly smaller than the sum of the molar volumes of their respective elements from which they are formed. On this basis,  $\text{BiI}_3$  (l) would show a tendency to disproportionate at high pressures whereas  $\text{BiBr}_3$ (l) and  $\text{BiCl}_3$ (l) become more stable. This difference in stability with pressure could account for the difference in behavior of the  $\log \kappa$  vs  $1/T$  and  $\kappa$  vs.  $P$  curves of  $\text{BiI}_3$  from those of  $\text{BiBr}_3$  and  $\text{BiCl}_3$ .

The activation energies ( $E_x$ ) for  $\text{BiCl}_3$ ,  $\text{BiBr}_3$ , and  $\text{BiI}_3$  at  $P \leq 0.1$  kbar were estimated from the slope of

the  $\log \kappa$  vs.  $1/T$  curves for these salts from data given by Grantham and Yosim<sup>2a</sup> at temperatures immediately above the melting point. These estimated values of  $E_x$  at  $P \leq 0.1$  kbar are compared with  $E_x$  at  $P = 5.4$  kbars in Table III. The activation energies at these two pressures are essentially identical in the cases of  $\text{BiCl}_3$  and  $\text{BiBr}_3$ ; for  $\text{BiI}_3$ ,  $E_x$  at 5.4 kbars is almost four times its value at  $P = 0$ . This difference in  $E_x$  between bismuth triiodide and the tribromide and trichloride may be due to a greater effect of pressure upon ionic association in the case of  $\text{BiI}_3$ .