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## Effect of Bromide

Judson and Walker<sup>1</sup> have shown that potassium bromide, which is one of the products of the reaction between bromic acid and hydriodic acid, is itself oxidized by bromic acid; this reaction, however, takes place much more slowly than the oxidation of potassium iodide even when equivalent quantities are employed, and in the experiments of Tables I to IV the concentration of the bromide never reached 3 percent of that of the iodide. A few experiments in which small quantities of potassium bromide were added to the reacting mixture gave results identical with those in which no such addition had been made, so that it was not necessary to make any correction for the presence of this product of the reaction.

In this connection a number of experiments were undertaken to see whether the two reactions, viz, the oxidation of potassium iodide and that of potassium bromide by bromic acid, take place independently in the solution. In Tables V and VII potassium bromide alone was present; in those of VI and VIII both bromide and iodide, the latter, however, in comparatively small quantity, as under like conditions the iodide is oxidized 58 times as rapidly as the bromide.

In the fourth column of Tables VI and VIII are entered the sums of the values of x' from Tables I and V, and IV and VII respectively; that is to say, the combined amounts of iodine which would have been liberated in solutions containing the bromide and iodide separately; in each case these sums are greater than the amount of iodine set free in the mixture, as given in column four of Tables VI and VII.

TABLE V		
KBrO <sub>s</sub> , 20.5;	KBr, 2000;	HCl, 95.15
t	x	x'
20	0.61	0.62
30	0.94	0.95
45	1.42	1.44
60	1.85	1.89
90	2.75	2.86

<sup>1</sup> Jour. Chem. Soc., 73, 411 (1898).

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