

TABLE II

KBrO₃, 20.5; KI, 98.67; HCl, 95.15; Cr, 2.0; Vol., 250 cc;
Temp., 30° C.

<i>t</i>	<i>x</i>	<i>x'</i>	<i>R</i> ₀
240	13.95, 14.07, average 14.01	19.83	0.083
300	16.33, 16.33, " 16.33	24.65	0.082
$\frac{24.65 - 19.83}{300 - 240} = 0.080$			

over, show that even after the reaction had proceeded for four hours during which the additional iodine liberated because of the presence of the dichromate was oxidimetrically equivalent to 56 percent of the latter, there was no diminution in the rate of liberation of iodine except that due to the fall in the concentrations of the bromate, iodide and acid, which was allowed for in computing *R*₀.

EFFECT OF THE CONCENTRATIONS OF BROMATE, IODIDE AND ACID ON THE RATE

Systematic measurements were undertaken to ascertain the effect of changes in the concentration of each of the reagents in turn, on the rate of liberation of iodine. The results, which are contained in Tables III-VI, show that the rate is

TABLE III

KBrO₃, 20.5; KI, 98.67; HCl, 95.15; Vol., 250 cc; Temp., 30° C.;
t = 5

Cr	<i>x</i>	<i>x'</i>	<i>R</i> ₀	Cr	<i>x</i>	<i>x'</i>	<i>R</i> ₀
0	0.19	0.19	0.038	18	1.64	1.70	0.34
1	0.25	0.253	0.05	20	1.83	1.89	0.38
2	0.35	0.354	0.07	30	2.70	2.83	0.57
3	0.40	0.404	0.08	40	3.50	3.71	0.74
4	0.50	0.505	0.10	50	4.35	4.69	0.94
6	0.65	0.659	0.13	60	5.25	5.74	1.15
8	0.81	0.82	0.16	70	6.07	6.73	1.35
10	0.97	0.98	0.20	80	6.95	7.82	1.56
12	1.17	1.20	0.24	90	7.65	8.71	1.74
14	1.29	1.33	0.27	100	8.35	9.73	1.95
16	1.48	1.52	0.30				