Reaction between Iodic and Hydriodic Acids

475

ions introduced with the sodium acetate in the previous series.

If it be assumed that the rate is strictly proportional to the square of the concentration of the hydrogen-ion, there remains only the hypothesis that the calculation of the dissociation of acetic acid is faulty. If in Table 17 H be set, not 0.000007 but 0.000012, the agreement is good; this corresponds to a value 0.00003 for the dissociation constant of acetic acid, however, which is entirely ont of the question (see page 459). This is not the first time that the calculation of dissociation from conductivity measurements has given unsatisfactory results.

TABLE 28

IO₃, 0.000005; I, 0.000564; H, 0.000569; Vol, 0.31 liter

£ .	As	$k_1 imes 10^3$
2	0.74	65.0
4	1.28	64.4
5	I.44	61.0
7	1.70	56.0
		Av 616

TABLE 29

t	As	$k_1 \times 10^{10}$
2	1.51	67.3
3	2.06	65.5
4	2.33	57-5

TABLE 30

t	As	$k_1 imes 10^3$
0.25	1.66	(1568.7)
0.5	2.30	1216.4
1.0	2.58	1010.0

Av. 1113.2

Vol.