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showing that the sulphuric acid (D) acts inversely as its first power. The relation between the values of K_1 in Tables 28 and 29 confirms this conclusion.

The results of the series are summarized in Table 30, where $K_3 = 0.135$ is constant well within the experimental error. This value is only half that found using sulphuric acid and the difference may be due to the greater dissociation of hydriodic acid.

Temperature Coefficient.—The experiments of Tables 28 and 29 were earried out at 10° C, and the relation of the constants gives 3.2 as the coefficient for this temperature interval; using sulphuric acid, the value was 3.39.

Series E. Reverse rate in the presence of hydriodic acid

In this series on the reduction of arsenic acid by hydriodic acid it was not possible to duplicate the extended set of rates of

Series A, since the II ion could never be present in greater

number than the 1 ion. The experiments of Tables 31-35 were carried out, using exactly the same procedure as in Series A, and the results are summarized in Table 37 where the headings have the same significance as in Table 20. The C factor and D factor are almost identical in both tables (20 and 37) for the same values of C and D—the divergence from the simple formula (Equation 4) is closely the same for C as for D. The value of K seems to be slightly larger than in the case of sulphuric acid.

Temperature Coefficient.—The experiment of Table 36 was carried out at 10° C and the value of K_1 gives, by comparison with that of Table 32, a coefficient of 2.53 for this temperature interval; the value for sulpluric acid was 2.37.

Series F. Equilibrium in the presence of hydriodic acid

In this series on equilibrium of mixtures with hydriodic acid, the same methods as are described in Series C were employed. A set of the determinations is given in Table 38. The value of K_x for dilute solutions seems to lie in the neighborhood of 0.9 to?. The value of $K_x K_b$ from the results of Series D and E, is 2.5 to so that about the same discrepancy is here observed as was found in the former paper in the work with sulphurie

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