amount of the monomethylolurea was measured by adding to the sample sufficient of an equimolal mixture of disodium hydrogen phosphate and sodium dihydrogen phosphate to make the total phosphate concentration 0.3 M. The sample was then heated on a steam bath for 1 hr. and finally assayed for formaldehyde as before. The monomethylolurea concentration should be below 0.006 M for 99 per cent dissociation of the compound under these conditions.

In figure 1 is shown a plot of $\log a/(a - x)$, where a is the initial concentration of monomethylolurea and x is the concentration of formaldehyde at time t against the time in hours. Initial monomethylolurea concentrations varied from 0.0054 to 0.0061 M and the hydrochloric acid concentrations in different experiments were 0.0058, 0.0295, 0.05, and 0.25 M. Owing to the formation reaction and perhaps also to the side reactions the plots deviate toward the end of the reactions from a straight line. However, it is possible to compare the reaction rate constants, k_1, by use of the slope of the curve at zero time.

In figure 2 is shown a plot of $\log k_1$ against log (HCl). In table 1 the data are tabulated; also included are values obtained at concentrations of potassium chloride up to 0.35 M.

SUMMARY

The rate of dissociation of monomethylolurea at hydrochloric acid concentrations of 0.0058 to 0.25 M and at 18.8°C. was measured. The rate was found to be directly proportional to the concentration of hydrochloric acid in that range of hydrogen-ion concentration.

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COMMUNICATION TO THE EDITOR

ADDITION TO THE PAPERS "THE ORIGIN OF THE BI-IONIC POTENTIAL ACROSS POROUS MEMBRANES OF HIGH IONIC SELECTIVITY. I AND II."

J. Phys. & Colloid Chem. **53,** 1211, 1226 (1949)

In reviewing the literature on the bi-ionic potential (B.I.P.) important work by K. H. Meyer and P. Bernfeld (Helv. Chim. Acta **28,** 962, 980 (1945)) was missed.

These investigators have reported some additional measurements on B.I.P. chains which check with those of previous workers. More important, they have applied the fixed-charge theory to this problem, anticipating thereby, in a somewhat different terminology, major aspects of our later much more extensive

treatment of this topic. Readers interested in the B.I.P. will find it illuminating and well worthwhile to refer to the quoted papers by Meyer and Bernfeld.

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