

the experiments of Tables X-XX, however, I have calculated the velocity constants of the equations

$$dx/dt K_1(A-x)(B-x)^2(C-x)^2 = K_2x(D-x) \quad \text{Equation 1}$$

$$dx/dt K_1(A-x)(B-x)^2(C-x)^2 = K_2x^2(D-x)^2 \quad \text{Equation 2}$$

from each successive pair of measurements by means of the "Method of Areas."

Equation 1 gave fairly constant values for K_1 but mostly negative—and therefore impossible—values for K_2 ; in some cases the values of K_2 were much greater than those of K_1 , although the rate of condensation is obviously much greater than that of alcoholysis.

The numbers calculated from Equation 2 are more satisfactory, and are entered in the tables; in looking them over, it must be remembered that a small change in K_1 causes a large change in K_2 .

The form of these equations was suggested by the experiments of p. 13; whatever hypothesis as to the mechanism of the reaction may ultimately be adopted, the constants entered in the tables may serve as the basis of a useful interpolation formula connecting the rate with the composition of the reacting solution.

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