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## Adiabatic Compressibilities of Some Aqueous Solutions and Their Variation with the Indicated Liquid Structure of the Water

Victor B. Corey  
*State University of Iowa*

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## REPORTS

### THE RECIPROCAL BENDING - TORSION EFFECT FOR LEAD SINGLE CRYSTALS

STANLEY BRUNTJIN

A single crystal rod subjected to a pure axial torque also bends. Direct measurements on this effect have been made for lead single crystals.

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### ADIABATIC COMPRESSIBILITIES OF SOME AQUEOUS SOLUTIONS AND THEIR VARIATION WITH THE IN- DICATED LIQUID STRUCTURE OF THE WATER

VICTOR B. COREY

Adiabatic compressibilities of aqueous solutions of twenty-seven strong electrolytes were determined by measuring the velocities of a supersonic wave of approximately  $10^6$  cycles. When the values of the partial molal volumes of the solute, water, were computed, there was found a striking correlation of these values with the adiabatic compressibilities. An exact correlation cannot be expected both because of the empirical nature of the formulas used and also because there is no reason to suppose that the altered structure of the water is of the same kind in every electrolyte. The results, however, are strongly indicative of the view that ions alter the structure of the solute, the water becoming more dense with ionic concentration.

STATE UNIVERSITY OF IOWA,  
IOWA CITY, IOWA

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### ADIABATIC COMPRESSIBILITY OF ELECTROLYTIC SOLUTIONS AND THE X-RAY DIFFRACTION INTENSITY DISTRIBUTIONS

V. B. COREY AND G. W. STEWART

A study of the adiabatic compressibility and the X-ray diffraction intensity distributions of twenty-six strong electrolytes shows a correlation to the following extent. If one compares the rate of change of adiabatic compressibility per mole with the rate of change of the minor X-ray diffraction peak per mole in two thirds