Jelen's four lowest points, which cover the range 0.00025 to 0.00075 molar, was found by the method of least squares. The equation for this line is $\Lambda = 741.56 - 4621\sqrt{c}$, and there is no evidence of curvature from it within the experimental error up to 0.00075 molar.

Jones and Jelen stated that there was no experimental evidence or theoretical warrant for a change in the direction of curvature at the lowest concentrations. These measurements indicate that the curve straightens out in the most dilute solutions as is the case with lower valence type salts, and that the Jones and Dole equation gives too high a value of the limiting conductance due to the upward curvature it imposes on the extrapolated line. On the other hand, no evidence is found for the negative curvature postulated by Davies, although it is not necessarily excluded at still lower concentrations.

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A Calcium Chloride Compound of α-*l*-Sorbose

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Calcium chloride is known to form crystalline addition compounds with several sugars.[1-5] All of these compounds undergo mutarotation; the rotatory changes in most cases follow closely the changes exhibited by the pure sugar components. The preparation of a calcium chloride compound of *l*-sorbose was undertaken in the hope of obtaining a compound containing sorbose in either the alpha or beta stereoisomeric forms. Should such a compound be obtained its acetylation might yield a convenient method for preparing the corresponding sorbose acetate.

The compound produced showed a rapid but small upward mutarotation thus resembling the rotatory changes exhibited by pure sorbose.[6] The observed initial rotation was that calculated assuming the sugar component to be unaltered structurally and to possess the same specific rotation as pure sorbose. On acetylating the addition compound by the general procedures for acetylation, the keto sorbose pentaacetate was obtained. Hence, the property of sorbose to form preferentially an open chain pentaacetate is also exhibited by the calcium chloride addition compound. Acetylation using the special method[7] designed to give sorbose tetraacetate produced this tetraacetate in good yield. These facts indicate that the calcium chloride addition compound does not stabilize sorbose in a new form.

Experimental

Twenty grams of *l*-sorbose was dissolved in 25 cc. of warm water and 18 g. of calcium chloride slowly added with stirring. After effecting complete solution by stirring and heating on a hot-plate, the solution was placed in a desiccator over phosphorus pentoxide. In three weeks the solution had turned to a thick mush of crystals. These were stirred with absolute alcohol, filtered and washed free from sirup with absolute alcohol; yield 15 g. The crystals melted at 159° (corr.) and were stable in air. Recrystallization by dissolving in water and slow concentration of the sirup in a desiccator produced fine crystals melting at 159° (corr). Dissolved in water (*c*, 4.4) the rotation two minutes after solution was $[\alpha]^{26}\text{D}$ −24.2°. In fifteen minutes the value became constant at $[\alpha]^{26}\text{D}$ −23.9°.

Anal. Calcd. for $C_6H_{12}O_6 \cdot CaCl_2 \cdot 2H_2O$: Ca, 12.25; Cl, 21.72; α, 2.30. Found: Ca, 12.26; Cl, 21.77; α, 2.30.

The addition product can be prepared in a shorter time by adding three volumes of absolute alcohol to the prepared calcium chloride–sorbose sirup, described above, and then ether in small quantities until crystallization occurs.

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