

When the molecular conductivity is plotted against volume, a nearly straight line is obtained.

CONTRIBUTION FROM THE
CHEMISTRY DEPARTMENT
FORMAN CHRISTIAN COLLEGE
LAHORE, INDIA

N. A. YAJNIK
BODH RAJ SOBTI

Received June 16, 1923

The Points of Minimum Swelling of Ash-Free Gelatin.¹—In an earlier paper² we described experiments indicating two points of minimum in the curve showing the degree of swelling of gelatin as a function of Sørensen (*PH*) value, one at 4.7 and the other at 7.7. This finding was criticized

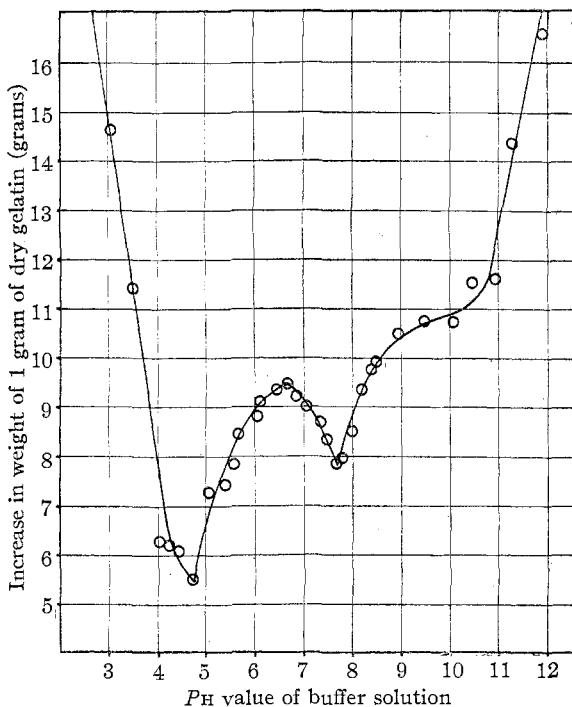


Fig. 1.—The two points of minimum swelling of ash-free gelatin.

by Sheppard and Elliott³ on the ground that the gelatin used was not ash-free. It was intimated that the point of minimum found at 7.7 was probably due to mineral impurities in the gelatin used.

¹ Presented before the Leather and Gelatin Division at the 66th meeting of the American Chemical Society, Milwaukee, Wis., September 12, 1923.

² Wilson and Kern, *THIS JOURNAL*, **44**, 2633 (1922).

³ Paper presented before the 65th meeting of the American Chemical Society, New Haven, Conn., April 6, 1923.

Through the kindness of Dr. Sheppard, we secured a sample of Eastman's highly purified gelatin,⁴ which proved to be practically ash-free and gave a Sørensen value of 4.7 in distilled water. We repeated the experiments exactly as described in the earlier paper, except for using a more dilute buffer solution so as to increase the sensitivity of the measurements. In all cases, the buffer solutions had a final concentration of 0.02 *M* phosphoric acid plus sodium hydroxide to give the desired Sørensen value. The results obtained, at 7°, are shown in Fig. 1.

The second point of minimum, at 7.7, stands out too sharply to be attributed to experimental error and we found that the results can easily be duplicated. Moreover, Mathews and Higley⁵ studied the absorption spectrum of gelatin with changing Sørensen value and found minimum values for the wave length of maximum absorption in the ultraviolet at P_H 4.68 and 7.66, coinciding with our points of minimum swelling. Since they used gelatin solutions, it was not necessary to use an extraneous buffer material. It is important to note that they used purified gelatin and regulated the Sørensen value by the simple addition of hydrochloric acid or sodium hydroxide.

That the two points of minimum have a real existence seems established, although the explanations offered as to the cause still remain in the controversial stage.

LABORATORIES OF A. F. GALLUN
AND SONS COMPANY
MILWAUKEE, WISCONSIN
Received October 8, 1923

JOHN ARTHUR WILSON
ERWIN J. KERN

ADDITIONS AND CORRECTIONS

1921, VOLUME 43

The Purification and Some Physical Properties of Certain Aliphatic Alcohols, by Roger F. Brunel, J. L. Crenshaw and Elise Tobin.

P. 565. In line 22, instead of "—0.00042¹⁸" read "0.0003671¹⁸."

P. 574. Table I, under columns headed d_{25}^D and M_{25}^D , read as follows.

<i>n</i> -Propyl alcohol		<i>iso</i> -Butyl alcohol	
A	0.79975	A	0.79762
B	0.79952	B	0.79762
Most probable value	0.7997	C (Res.)	0.79764
	M_{25}^D 17.54	Most probable value	0.79763
		M_{25}^D	22.22
<i>sec</i> -Butyl alcohol			
A-III	0.80228		
IV	0.80234		

⁴ For method of preparation, see Sheppard, Sweet and Benedict, *THIS JOURNAL*, **44**, 1858 (1922).

⁵ Paper presented before the Leather and Gelatin Division at the 66th meeting of the American Chemical Society, Milwaukee, Wis., September 12, 1923.