venously. Apnea was usually preceded by decreased frequency and depth of respiration. In dogs the effects were not constant as in several cases moderate amounts of acetone produced stimulation of respiration at first. As larger quantities, however, were introduced the depressing effect became very marked. A frequent phenomenon in our experiments was the occurrence of Cheyne-Stokes respiration after repeated acetone injections. The greater depressing effect on respiration than on circulation was also shown when large amounts of acetone were injected. Blood-pressure remained moderately high for some time after respiration stopped.

ABSTRACTS OF THE COMMUNICATIONS, PACIFIC COAST BRANCH.

San Francisco, California, March 9, 1921.

103 (1685)

The reaction of taurin with α-naphthylisocyanate.

By CARL L. A. SCHMIDT.

[*From the Department of Biochemistry and Pharmacology of the University of California, Berkeley.*]

Although taurin differs from that particular group of amino acids which constitute the building stones of the proteins in that it contains a sulphonic instead of a carboxyl group, it nevertheless closely resembles the amino acids in its chemical properties. Like the amino acids taurin can be quantitatively estimated when in pure solution either by treating it with HNO_2 and determining the nitrogen set free or by titration with alkali in the presence of formalin. It possesses amphoteric properties[1] and reacts with many of the amino acid reagents. Thus Paal and Zitelmann[2] found that taurin reacts with phenylisocyanate to give α-phenyl-ureidoethylsulphonic acid, Gabriel[3] and his associates prepared

[1] Winkelblech, K., *Z. physik. Chem.*, 1901, xxxvi, 546.

[2] Paal, C., and Zitelmann, G., *Ber. d. d. chem. Gesell.*, 1903, xxxvi, 3337.

[3] Gabriel, S., and Heymann, P., *Ber. d. d. chem. Gesell.*, 1890, xxiii, 157. Gabriel, S., and Colman, J., *Ber. d. d. chem. Gesell*, 1911, xliv, 3628.

benzoyl- and phthalyl-taurin, and Bergell[1] has attempted to use β-naphthalinsulphotaurin as a means of estimating taurin in urine.

We have found that taurin like the carboxy amino acids[2] reacts with α-naphthylisocyanate to yield the corresponding hydantoic acid. The barium salt of α-naphthylureidoethyl sulphonic acid was prepared by adding to a concentrated solution of taurin which contained an equivalent amount of KOH, 1¼ equivalents of α-naphthylisocyanate and the mixture was shaken at frequent intervals for an hour. The insoluble dinaphthyl urea was filtered off and on acidifying with HCl the solution thickened but the free hydantoic acid did not separate. On addition of $BaCl_2$ solution the barium salt of the hydantoic acid was precipitated. This was washed with small quantities of ice water and then with alcohol and was dried to constant weight. Estimations of C, H, and Ba gave (per gram of substance) the following results.

Found	Calculated for $Ba(C_{10}H_7NHCONHCH_2CH_2SO_3)_2$
C.....0.419	0.431
H.....0.039	0.036
Ba.....0.187	0.189

104 (1686)

A cheap and convenient source for glutamic acid.

By CARL L. A. SCHMIDT and G. L. FOSTER.

[*From the Department of Biochemistry and Pharmacology of the University of California, Berkeley.*]

One of the pressing needs of biochemistry and allied sciences is an adequate supply of pure amino acids. While methods for the isolation and purification of these substances are well known,

[1] Bergell, P., *Z. physiol. Chem.*, 1916, xcvii, p. 260.

[2] Neuberg, C. and Manasse, A., *Ber. d. d. chem. Gesell.*, 1905, xxxviii, 2359.
Loewy, A., *Deut. med. Woch.*, 1905, xxxi, 1918.
Neuberg, C., and Strauss, H., *Berlin klin. Woch.*, 1906, xliii, 258.
Hirschstein, L., *Berlin klin. Woch.*, 1906, xlviii, 589.
Neuberg, C., and Manasse, A., *Berlin klin. Woch.*, 1906, xliii, 734.
Wohlgemuth, J., and Neuberg, C., *Med. Klinik*, 1906, ii, 227.
Neuberg, C., and Rosenberg, E., *Biochem. Z.*, 1907, v, 456.
Levene, P. A., and Van Slyke, D. D., *Biochem. Z.*, 1908, xiii, 440.
Hirschberg, E., Dissert. Berlin, 1910.