

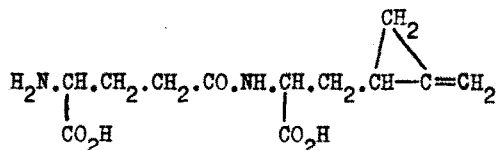
THE CONSTITUTION OF HYPOGLYCIN B

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IN a recent publication<sup>1</sup> there is evidence supporting the formulation of hypoglycin B<sup>2</sup> as the dipeptide  $\gamma$ -L-glutamylO $\alpha$ -amino- $\beta$ -(2-methylene-cyclopropyl) propionic acid (I). This is based on hydrolysis experiments on the peptide and its 2,4-dinitrophenyl-derivative, together with the indication by Van Slyke amino-nitrogen and carboxyl determinations that the glutamic acid residue is attached by a  $\gamma$ -link. We have been led independently, by similar evidence, to the same conclusion concerning the structure of hypoglycin B. In addition, we have confirmed this structure by synthesis, using a procedure which, as model experiments have shown, leads to a  $\gamma$ -glutamyl peptide.<sup>3</sup>



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<sup>1</sup> A. Johl and W. G. Stoll, Helv. Chim. Acta **42**, 156 (1959)

<sup>2</sup> C. H. Hassall and K. Reyle, Biochem. J. **60**, 334 (1955)

<sup>3</sup> G. Amiard, R. Heymes and L. Velluz, Bull. Soc. Chim. Fr. 698 (1956).

The methyl ester of (+) hypoglycin A condensed with the triethylamine salt of N-trityl-L-glutamic acid in the presence of dicyclohexylcarbodiimide. The product was hydrolysed with 0.2 N-sodium hydroxide (3 hr, 40°), then detritylated with 50% acetic acid (3 min, 100°) to give the dipeptide I which is identical with hypoglycin B. The synthetic product has  $[\alpha]_D^{19} +9^\circ \pm 2^\circ$ ; D.N.P. derivative, m.p. and mixed m.p. with D.N.P. - hypoglycin B, 163-166°C; the infra-red spectra of the natural and synthetic compounds and their D.N.P. derivatives are identical.