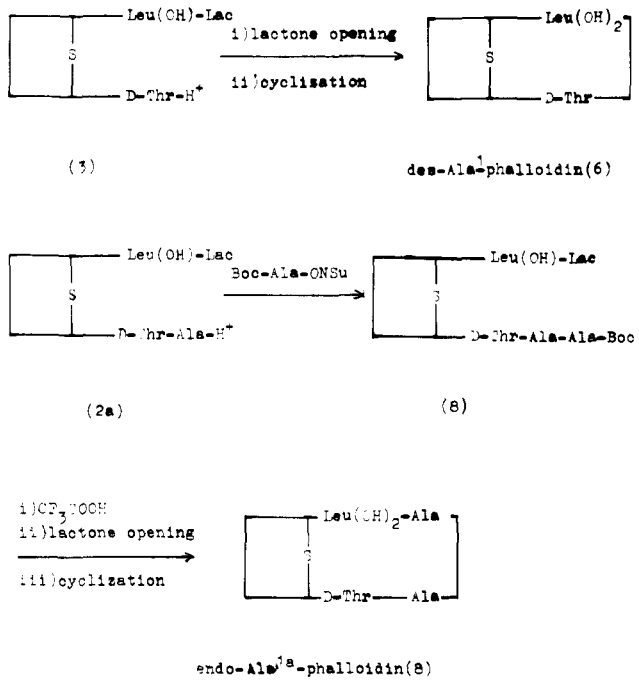
Scheme II



Boc group and opening of the lactone ring (Scheme II).

The yields of the cyclization reactions, R_f values of the analogues on TLC, amino acid analyses, and toxicities in white mice are compiled in Table I.

The CD spectra of the analogues **1d, 1e,** and **1f** are almost identical with that of **1a,** whereas the curve of analogue **1c** is significantly different (Figures 1 and 2). The same is true for the UV-difference spectra of the complexes with rabbit muscle actin,[2b,6] where the Gly^1 analogue **1c** shows a curve deviating from the normal one. Interestingly **1c** possesses toxicity, although to a reduced extent. The hexapeptide **6** and the octapeptide **8** also show abnormal CD spectra and no binding to actin as evidenced by the lack of difference spectra.

The present results extend our knowledge on the structure-toxicity relationships of the phallotoxins as follows. (1) In order to be toxic the bicyclic peptide must consist of seven amino acids, since the hexapeptide **6** and octapeptide **8** are nontoxic. (2) The methyl group of L-alanine may be replaced by an isopropyl (**1d**) or an isobutyl group (**1e**) without loss of toxicity. Toxicity is reduced by substitution of the methyl group by either a hydrogen atom (**1c**) or benzyl group (**1f**). (3) Change of configuration at L-alanine from L to D eliminates the toxic properties of the cyclic peptide. Details of the preparation of the analogues and their binding to actin will be reported in a forthcoming publication.

Acknowledgment. Ms. A. Schmitz, Ingelheim, is thanked for performing the toxicological experiments.

References and Notes

(1) Paper 54. Communication on the Components of the Green Deathcap Toadstool *Amanita phalloides*. 53: E. Munekata, H. Faulstich, and T. Wieland, *Justus Liebigs Ann. Chem.*, in press.
(2) For reviews, see (a) T. Wieland and O. Wieland, "Microbial Toxins", Vol. 8, S. Kadis, A. Ciegler, and S. J. Ajl, Ed., Academic Press, New York, N.Y., 1972, pp 249-280; (b) T. Wieland, "26. Colloquium Mosbach, 1975", L. Heilmeyer, J. C. Rüegg, and T. Wieland, Ed., Springer-Verlag, Berlin-Heidelberg, 1976, pp 203-214.
(3) E. Munekata, H. Faulstich, and T. Wieland, *Angew. Chem.*, **89**, 274 (1977); *Angew. Chem., Int. Ed. Engl.*, **16**, 267 (1977).
(4) T. Wieland and W. Schön, *Justus Liebigs Ann. Chem.*, **593**, 157 (1955). For the purpose of preparation, phalloidin was treated overnight with 50% aqueous trifluoroacetic acid and the seco compound purified chromatographically on Sephadex G-15 in 0.1 M acetic acid.
(5) P. Edman, "Protein Sequence Determination", S. B. Needleman, Ed., Chapman and Hall, London, Springer-Verlag, Berlin-Heidelberg-New York, 1972, pp 211-255.
(6) T. Wieland, J. X. de Vries, A. Schäfer, and H. Faulstich, *FEBS Lett.*, **54**, 73 (1975).
(7) Research fellow of Alexander von Humboldt Foundation, 1974-1976.

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Additions and Corrections

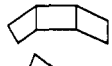
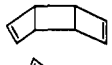
A Study on the Mechanism of the Reaction of *N*-(2,4-Dinitrophenyl)-3-carbamoylpyridinium Chloride with Amines and Amino Acids with Reference to Effect of Polyelectrolyte Addition [*J. Am. Chem. Soc.*, **98**, 2282 (1976)]. By S. KUNUGI, T. OKUBO, and N. ISE,* Department of Polymer Chemistry, Kyoto University, Kyoto, Japan.

On page 2285, in Table II, footnote *a*, "[amine] = 2.5×10^{-3} M" should be deleted.

On page 2286, second column, line 46 should read: "The τ_{s1} process was . . .".

Thermally Promoted Ring Cleavage Reactions of Stereoisomeric Tetracyclo[4.3.0.$0^{2,5}$.$0^{7,9}$]non-3-enes, Pentacyclo[5.3.0.$0^{2,6}0^{3,5}$.$0^{8,10}$]decanes, and Their Epoxide Counterparts [*J. Am. Chem. Soc.*, **98**, 8175 (1976)]. By LEO A. PAQUETTE* and MICHAEL J. CARMODY, Evans Chemical Laboratories, The Ohio State University, Columbus, Ohio 43210.

The lower section of Table III (p 8177) should read as follows:

	$\Delta H^{\pm}$, kcal/mol	$\Delta S^{\pm}$, eu	E_a, kcal/mol	Log A
	*a* 30.8	+1.05		
	31.2	−1.63		
			30.49 ± 0.16	14.22 ± 0.09
			32.59 ± 0.17	14.01 ± 0.09

1,3-Dicarbonyl-2-ketimines. Hydrolysis of 1,3-Dimethyl-5-(*p*-tolylimino)barbituric Acid [*J. Am. Chem. Soc.*, **99**, 2665 (1977)]. By J. M. SAYER* and MARTHA DEPECOL, Department of Chemistry, University of Vermont, Burlington, Vermont 05401.

On p 2668, headings for the last two columns of Table I