

Entsprechende Behandlung der threo-Form von Ia lieferte N-Acetyl-*cis*-threo-1,3-dihydroxy-2-amino-4-octadecen (IIIa), Smp. 97–99°, bzw. die freie Base IIIb, Smp. 42–44° (Triacetylderivat Smp. 40–41°). Damit sind alle vier stereoisomeren Racemate mit Sphingosinstruktur zugänglich geworden.

Es ist bemerkenswert, dass die obigen beiden *cis*-Formen des Sphingosins IIIb kristallisierbar sind, während die beiden *trans*-Formen II bisher nur wachsartig erhalten werden konnten¹. Die eingehende Beschreibung dieser Versuche soll an anderer Stelle erfolgen.

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Organisch-chemische Anstalt der Universität Basel, den 26. Juni 1956.

Summary

The synthesis of *cis*-erythro- and *cis*-threo-1,3-dihydroxy-2-amino-4-octadecene, two further stereoisomers of sphingosine, is described.

Thermodynamics

of the *cis-trans* Interconversion of Dichlorobis-(ethylenediamine)-cobalt (III) Chloride

The *cis-trans* interconversion between the praseo and violeo complexes was discovered by JORGENSEN¹. The authors have reported on the rate of this interconversion elsewhere².

Trans-[Co(en)₂Cl₂]Cl³ was prepared as described by BAILAR⁴. The green *trans* form is spontaneously converted into a violet *cis* form on standing in aqueous solution. The conversion was followed with a Beckman D. U. spectrophotometer using 1.00% by weight (0.035 *M*) solutions of the *trans* form in all cases. It was found from a study of the spectrum of the *cis* and *trans* forms that a wave length of 6000 Å was suitable for following the reaction. The temperature was controlled to $\pm 0.2^\circ$.

The system was allowed to come to equilibrium at the desired temperature and the equilibrium concentrations of the *cis* and *trans* forms were calculated from the measured transmittances. Then,

$$K_c = \frac{[cis]}{[trans]}$$

The results are summarized in the Table.

<i>t</i> (°C)	<i>K_c</i>
1.5	0.129
23.0	11.60
36.3	87.40

The heat of conversion, ΔH , was found to be 31.4 kcal/mole from a plot of $\log K_c$ versus $1/T$.

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Department of Chemistry, Marquette University, Milwaukee, Wisconsin, June 7, 1956.

¹ S. M. JORGENSEN, J. prakt. Chem. 39, 18 (1889); 41, 449 (1890).

² D. T. HAWORTH, E. F. NEUZIL, and S. L. KITSLEY, J. amer. chem. Soc. 77, 6198 (1955).

³ Ethylenediamine is designated as en.

⁴ J. C. BAILAR, *Inorganic Syntheses*, vol. II (McGraw-Hill Book Co. New York, 1946), p. 223.

Zusammenfassung

Trans-[Co(en)₂Cl₂]Cl⁵ wird in wässriger Lösung in die *cis*-Form umgewandelt. Die Konzentrationen der beiden Formen, die miteinander im Gleichgewicht stehen, wurden gemessen und bei verschiedenen Temperaturen die Gleichgewichtskonstanten nach der Formel

$$K_c = \frac{cis}{trans}$$

berechnet.

⁵ en = H₂NCH₂CH₂NH₂.

Sterol from *Aegle marmelos*

In a previous communication¹, aegelin, isolated from the leaves of *Aegle marmelos* Correa (N. O. Rutaceae) by CHATTERJEE and BOSE², has been shown to be a neutral alkaloid and not a sterol. Recently, an attempt was made to isolate the real sterol constituent of leaves of *Aegle marmelos* following the normal procedure for isolation of sterols from plants. For this purpose the ethereal extract after separation of aegelin by the method of CHATTERJEE and BOSE² was saponified with strong alcoholic potash and then distilled in steam to remove volatile oils. The non-volatile, non-saponifiable fraction was obtained by extraction with ether. The product was then chromatographed following the procedure adopted by CHAKRAVARTI and DUTTA³ for isolation of stigmastanol from *Enhydra fluctuans*. From the petroleum ether-benzene (1:1) fraction a crystalline product was obtained which after proper purification crystallized from alcohol in shining plates, m. p. 144–145°, $[\alpha]_D^{25} = -40^\circ$ (CHCl₃), yield, 0.05%. The product has the molecular formula C₂₉H₅₀O, and has been identified with γ -sitosterol [acetate, m. p. 140–141°, $[\alpha]_D^{25} = -47^\circ$ (CHCl₃); benzoate, m. p. 150–151°, $[\alpha]_D^{25} = -17^\circ$ (CHCl₃)].

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Zusammenfassung

γ -Sitosterol wurde aus Blättern von *Aegle marmelos* Correa isoliert.

¹ R. N. CHAKRAVARTI and B. DASGUPTA, Chem. and Ind. 1955, 1632.

² A. CHATTERJEE (nee MOOKERJEE) and S. BOSE, J. Indian chem. Soc. 29, 425 (1952); Chem. Abstr. 47, 10544 (1953).

³ R. N. CHAKRAVARTI and A. DUTTA, J. Indian chem. Soc. 29, 374 (1952).

The Electron Microscopy of Chemosensory Hairs

One of the most sensitive sugar receptors known is that occurring in chemoreceptive hairs on the mouthparts and legs of flies. By means of these receptors flies are able to discriminate between water and sucrose solutions as dilute as 1×10^{-8} to 1×10^{-7} *M*. Such low threshold values prompt the question of how sensitive the receptors actually are in terms of the minimum number of mole-