

replaced by hexadecane (Figs. 1 A and 1 C) is even more pronounced. The L_2 area is reduced to a small region, where the emulsifier dissolves the hydrocarbon, and the area of the D-phase is also reduced to a high degree. The E-phase is able to solubilize considerably more hexadecane than *p*-xylene. The continuous L_1 region in Fig. 1 A is transformed into three isotropic phases; one liquid and two viscous isotropic ones (I_1 and I_2) in Fig. 1 C.

The reason for this markedly changed phase behaviour is partly to find in the difference of the polarizability of the hydrocarbon which has an influence on the site of the molecules in the micells as shown by NMR investigations.⁸ This would explain the change in L_1 area when *p*-xylene is replaced by hexadecane, but could scarcely explain the excess solubility of the hexadecane in the E-phase. This behaviour is considered to have a close connection

with the packing of the xylene molecules and the benzene part of the emulsifier, a fact that may favour a lamellar structure.

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Received March 1, 1969.

Bacterial Carotenoids XXVIII*

C_{50} -Carotenoids

4. Stereochemistry of the Terminal Double Bonds of *Dehydrogenans*-P439

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A year ago we reported on the structure determination of *dehydrogenans*-P439 (I).¹ The configuration around the terminal double bond was not established and was arbitrarily chosen as *trans* between the two largest substituents. Support for the *trans*-configuration is now obtained from the

aldehyde signal in the PMR-spectrum of P439-dialdehyde (2), compared with data recently reported for related *cis* and *trans* α,β -unsaturated aldehydes (Table I, p. 1058).

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Received February 21, 1969.

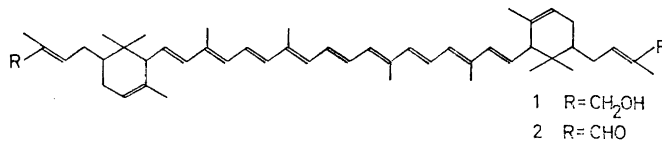

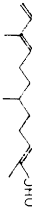
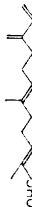

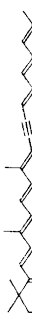


Table 1. Signal position (τ -value) of the aldehyde protons in some α,β -unsaturated *cis* and *trans* aldehydes.

Compound	Ref.	<i>trans</i>	<i>cis</i>
	2	0.68 (CCl ₄)	
Angelicaldehyde	3		-0.10
	3	0.35 (CCl ₄)	
Central double bond omitted.	4	0.30 (CCl ₄)	
	5	0.67 (CCl ₄)	
	3	0.70 (CDCl ₃)	
2- <i>trans</i> -2,6-Dimethyl-oct-2,6-dien-1-al	6	0.74 (CCl ₄)	
2- <i>cis</i> -2,6-Dimethyl-oct-2,6-dien-1-al	6		-0.01 (CCl ₄)
<i>trans</i> - β -C ₁₄ -aldehyde	7	0.68 (CCl ₄)	
<i>cis</i> - β -C ₁₄ -aldehyde	7		-0.22 (CCl ₄)
	7	0.53 (CDCl ₃)	
	7		-0.33 (CDCl ₃)
P439 dialdehyde	1	0.60 (CDCl ₃)	