

Infrared Absorption of Monoketo-Stearic Acid Methylene Esters

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The infrared spectra of the monohydroxy- and monoketo-stearic acids and their methyl esters, known from the work of Bergström *et al.*¹, are being investigated in view of the possibility of identification. Out of this group, only the monoketo-stearic acid methylesters are not too complicated with respect to polymorphism; they were therefore investigated first.

The spectra of these positionally isomeric esters — dispersed in the solid state in potassium bromide — show characteristic differences between 7.4 and 15 μ , which allows complete identification. In the region between 7.4 and 8.4 μ there is a sort of band progression, similar to that known from the homologous series of fatty acids. Parallel investigations on methyl esters of keto-fatty acids of varying chain length show that these absorption bands are determined mainly by the chain length between the ester and keto group.

1. Bergström, S., Aulin-Erdtman, G., Rolander, B., Stenhagen, E. and Östling, S. *Acta Chem. Scand.* 6 (1952) 1157.

Quasi-racemic Compounds in Homologous Series of Branched Long Chain Acids

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We have previously¹ demonstrated the existence of a quasi-racemic compound between optically active forms of isomeric methyl-substituted long chain acids. In the present work quasi-racemic compounds have been found between optically active forms of homologous 3-methyl-substituted long chain acids. When (+)-3D-methyltricosanoic acid² of m. p. 62.1—62.3° is mixed in equimolecular proportions with (—)-3L-methyltetracosanoic acid³ of m. p. 65.4—65.6° it is found that the mixture melts at 68.6°, that is higher than either com-

ponent. The melting point curve for this binary system shows that mixtures containing from about 10 to about 90% of one of the enantiomorphs can exist in two different forms. The stable, higher-melting form corresponds to the racemic compound. The melting point curve of the unstable, low-melting form shows a simple eutectic point only. The melting point diagram of the binary system of (+)-3D-methyltricosanoic acid and (+)-3D-methyltetracosanoic acid also shows the existence of an eutectic point only.

We have recently found that the enantiomorphs of 3-methyltetracosanoic acid form quasi-racemic compounds with the enantiomorphs of 3-methyldocosanoic acid⁴ and 3-methyloctadecanoic acid⁵ having the opposite configuration.

1. Hallgren, B. *Arkiv Kemi. In press.*
2. Stållberg-Stenhagen, S. *Arkiv Kemi* 3 (1951) 117.
3. Stållberg-Stenhagen, S. *Arkiv Kemi, Mineral. Geol.* 26 A (1948) No. 1.
4. Stållberg-Stenhagen, S. *Arkiv Kemi* 2 (1950) 431.
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Adenine Deoxyriboside Polyphosphates

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In the past few years the enzyme catalyzed phosphorylation of a number of nucleoside mono- and diphosphates by nucleoside triphosphates has been recognized. Evidence has also been obtained that deoxyadenylic acid (deoxy-AMP), deoxycytidylic acid and thymidylic acid act as phosphate acceptors in different enzyme systems¹⁻³.

We have incubated adenosine triphosphate (ATP) with the deoxyribose analogues of adenylic acid (AMP) or guanylic acid in the presence of red bone marrow extract, muscle extract or myokinase. By two dimensional paper chromatography two additional deoxyribose compounds were found to have been formed. The products formed from reactions between ATP and deoxy-AMP have been isolated in preparative scale. This was accom-