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Utilization of Sperm Whale Oil

(Preparation of Oleyl Oleate from Sperm Blubber Oil and its Hydroxy-Derivatives)

Masanori KIMURA*

The crude oleyl oleate was prepared from sperm blubber oil by the following process.

The sperm blubber oil was lightly polymerized to remove the trace of higher unsaturated components, followed by the recrystallization and molecular distillation, then the crude oleyl oleate was obtained. Its characteristics were as follows; I. V. 80.9, Sap. V. 107.7.

Further, the purity of the prepared ester was checked by the gas-liquid chromatography and was compared with the synthesized oleyl oleate by the Swern's method (1). It was confirmed that the given ester was almost pure oleyl oleate, which contained ca. 10% of oleyl palmitate and cetyl oleate.

To find the new uses of oleyl oleate, the ester was hydroxylated with hydrogen peroxide. The constants of hydroxylated ester were as follows; m. p. 31—34°, I. V. 3.7, Sap. V. 142.8 and OH-V. 83.5

It was a mixture of hydroxy ester and a unknown ester occurred by the breakdown of the C-C double bonds.

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