*Dehydrogenation of the Degradation Products of Thujopsene**

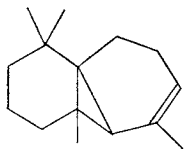
By Hiroshi KOBAYASHI, Shizuo NAGAHAMA and Saburo AKIYOSHI

(Received November 4, 1958)

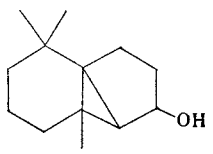
It has been reported[1] that thujopsene $C_{15}H_{24}$ (I) was oxidized with lead tetraacetate to a carbonyl compound $C_{15}H_{24}O$ having methyl cyclopentyl ketone structure, and that the ketone gave an alcohol $C_{13}H_{22}O$ (II), m.p. 78°, through the peracid oxidation followed by saponification. II was oxidized to the corresponding ketone III (pyroketone) which, when reduced with lithium aluminum hydride, gave the epimer of II, m.p. 133°.

Anal. Found. C, 80.30; H, 11.68. Calcd. for $C_{13}H_{22}O$: C, 80.35; H, 11.41%.

Both of the alcohols were shown to give α-methylnaphthalene by selenium dehydrogenation. The infrared spectrum was identical with synthetic α-methylnaphthalene. The m.p. of its picrate was 136~137°, undepressed upon admixture with the authentic sample.



I



II

Therefore, the carbon skeletons of both alcohols were considered to be shown by formula II, where the position of hydroxy group was determined by the following process. Through the Grignard

* Presented at the 2nd Symposium on Perfumery, Terpene and Essential Oil Chemistry held in Hiroshima, October 10, 1958.

1) S. Nagahama, H. Kobayashi and S. Akiyoshi, This Bulletin, in press.

reaction of III with methyl magnesium iodide a methyl group was introduced on the carbon atom of the carbonyl group of III and a corresponding alcohol IV, m.p. 63°, was obtained.

Anal. Found: C, 80.92; H, 11.76. Calcd. for $C_{14}H_{24}O$: C, 80.71; H, 11.61%.

Selenium dehydrogenation of IV gave 1,6-dimethylnaphthalene(picrate, m.p. 112°) which was identified by infrared spectrum.

Considering the above results together with the processes of degradation, the most probable structure of thujopsene is suggested to be formula I.

Department of Synthetic Chemistry
Faculty of Engineering
Kyushu University
Hakozaki, Fukuoka