

**Some Aliphatic Methyl Esters
from *Aralia elata* Seemann (Araliaceae)**

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Aralia elata Seemann, Aliphatic Methyl Ester, 1-Hexacosene

The dried bark of *Aralia elata* Seemann was extracted with *n*-hexane. Methyl pentadecanoate, methyl hexadecanoate, methyl octadecanoate, methyl eicosanoate, methyl docosanoate, methyl tetracosanoate, methyl hexacosanoate, and 1-hexacosene were identified from the extract by means of GC-Mass spectrometer.

In the course of the investigation of the bark components in *Aralia elata* Seemann which has been used as a folk medicine¹⁻³ for diabetes mellitus, we identified seven aliphatic methyl esters and 1-hexacosene from *n*-hexane extract by GC-Mass spectrometry.

Plant. The dried bark (1 kg) of *Aralia elata* Seemann, collected on May 1st at Okayama Prefecture in Japan, was extracted with methanol (9 l) for four weeks. The residue obtained after removal of the solvent was extracted with *n*-hexane. The hexane fraction was evaporated and chromato-

graphed on silica gel column (Merck, Kiesel gel 60). First elution with *n*-hexane – Et₂O (10:1) gave oily matter (2.23 g). The constituents of the oil were detected by means of GC-Mass spectrometer (GC: SE-52 0.75% on Chromosorb W, temperature programmed 50 to 250 °C, 5 °C/min; Mass: ionizing voltage 20 eV, ionaccelerating voltage 1000 V, ionization chamber temperature 220 °C, sample injection block temperature 160 °C) on the basis of the characteristic fragmentation patterns and the retention time as follows: methyl pentadecanoate 1.0%, methyl hexadecanoate 43.2%, methyl octadecanoate 27.5%, methyl eicosanoate 5.6%, methyl docosanoate 9.4%, methyl tetracosanoate 6.5%, and methyl hexacosanoate 6.8%. The common fragments of the above methyl esters are *m/e* 74 (base peak), 87, 143, 199 and M⁺-43. (The percentage of the constituents of the oil was calculated from the areas of the peaks of the gas chromatogram.) Among these constituents, 1-hexacosene (2.6 g) was isolated by column chromatography at second eluate and identified using mass spectrometry: *m/e* (relative abundance); 69 (49), 73 (100), 97 (89), 111 (52), 125 (28), 139 (14), 153 (8), 167 (6), 181 (4), 195 (3), 207 (2), 335 (5), 364 (5). The main components in *n*-hexane extract were seven methyl esters and 1-hexacosene.

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¹ S. Kuwata, J. Pharm. Soc. Japan **49**, 660 [1929].

² S. Kuwata and M. Harima, *ibid.* **49**, 668 [1929].

³ S. Kuwata, *ibid.* **51**, 17 [1931].



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