

CHEMICAL INVESTIGATION OF
COCCULUS HIRSUTUS (LINN.) DIELS.

Cocculus hirsutus belongs to the natural order Menispermaceæ and is used in the Indian system of medicine for chronic rheumatism, fevers and digestive disorders.¹ The chemical investigation of the plant was therefore undertaken with a view to determine the active constituents.

The petroleum ether extract of the whole plant after chromatographic separation over alumina, gave the following substances: (i) A neutral white substance of m.p. 84-85° (Found: C, 81.7%; H, 14.1%; 'H', 0.23%; -OCH₃, nil). Its acetyl derivative had m.p. 47-48° (Found: C, 79.6%; H, 13.2%). (ii) A colourless solid of m.p. 143-144°, which gave a positive Liebermann-Burchard test for sterols and was identified as β -sitosterol by a mixed m.p. determination (Found: C, 83.6%; H, 11.9%; 'H' 0.33%; C₂₉H₅₀O requires: C, 84.0%; H, 12.2%; 'H', 0.24%). Its acetyl derivative had m.p. 131-132° (Found: C, 81.3%; H, 11.8%; C₃₁H₅₂O₂ requires: C, 81.6%; H, 11.4%). (iii) A colourless neutral substance of m.p. 104°. (Found: C, 77.5%; H, 13.6%). In addition to the above solids, an appreciable quantity of a viscous oil was also obtained.

From the methanol extract of the whole plant, two substances were isolated: (i) a

nitrogen-free crystalline solid of m.p. 224-225°. It was soluble in hot water but insoluble in most organic solvents. It did not reduce Fehling's solution but gave a silver mirror test with ammoniacal silver nitrate, (ii) a small amount of a pale yellow substance having m.p. 119-120°.

The petroleum ether extract of the roots gave a large quantity of a brownish oil and a sterol of m.p. 156-57° (Found: C, 80.0%; H, 11.9%). The methanol extract of the roots gave positive tests for alkaloids and also reduced Fehling's solution. A 1% hydrochloric acid extract of the plant gave an alkaloidal base from which two picrates of m.p. 204-205° and m.p. 211° were obtained.

A fuller account will be published elsewhere.

Dept. of Organic Chemistry, R. M. NAIK.
Institute of Science, J. R. MERCHANT.
Bombay-1, July 15, 1956.

-
1. Nadkarni, A. K., *Indian Materia Medica*, Popular Book Depot and Dhoot-papeshwar Prakashan Ltd., Bombay, 1954, 1, p. 362.
-