

100–112°/0.01mm, (+)-bornyl acetate, carvone, sobrerol (?), phyllocladene, isophyllocladene, kaurene, rimuene, cupressene.—

Briggs, L. H., 1941. *J. Soc. chem. Ind.*, 60: 222T.

Briggs, L. H., Taylor, W. I., 1947. *J. org. Chem.*, 12: 551.

Aplin, R. T., Cambie, R. C., 1964. *N.Z. J. Sci.*, 7: 258.

(See also under respective diterpenes.)

HEARTWOOD: Manool, isopimaric acid.—

Hosking, J. R., 1937. *N.Z. J. Sci. Tech.*, 19B: 208.

Brossi, A., Jeger, O., 1950. *Helv. Chim. Acta*, 33: 722.

(See also under manool and isopimaric acid.)

Dacrydium biforme Pilger (“Yellow pine”).

LEAVES AND ESSENTIAL OIL: Myrcene, β -terpinene, three unidentified oxygenated terpenes, unidentified tricyclic sesquiterpene, b.p. 80°/4mm, (+)-longifolene, (+)-aromadendrene, (–)-metrosiderene, (+)- γ -cadinene, (+)- δ -cadinene, unidentified sesquiterpene alcohol, b.p. 104°/2.5mm, torreyol (?), α -camphorene, phyllocladene, isophyllocladene.—

Goudie, B. H., 1923. *J. Soc. chem. Ind. Lond.*, 42: 357T.

Aitken, P. W., 1928. *J. Soc. chem. Ind. Lond.*, 47: 223T.

Briggs, L. H., 1937. *J. chem. Soc.*: 79.

Briggs, L. H., 1937. *Aust. N.Z. Assoc. Adv. Sci.*, 23: 45.

Corbett, R. E., Wong, L. C.-K., 1955. *J. Sci. Food Agric.*, 6: 739.

Cambie, R. C., Mander, L. N., 1964. *N.Z. J. Sci.*, 7: 188.

Aplin, R. T., Cambie, R. C., 1964. *N.Z. J. Sci.*, 7: 258.

(See also under phyllocladene.)

HEARTWOOD: Biformene, isopimara-7,15-diene, manool, manoyl oxide, 2-oxomanoyl oxide, torulosol, torulosal, isopimarinal, isopimaric acid, juniperol (\equiv macrocarpol), β -sitosterol.—

Hosking, J. R., Brandt, C. W., 1935. *Chem. Ber.*, 68B: 1311.

Hosking, J. R., 1936. *Chem. Ber.*, 69B: 780.

Hosking, J. R., Brandt, C. W., 1936. *N.Z. J. Sci. Tech.*, 17: 750.

Brandt, C. W., Neubauer, L. G., 1940. *J. chem. Soc.*: 683.

Brossi, A., Jeger, O., 1950. *Helv. Chim. Acta*, 33: 722.

Ohloff, G., 1958. *Helv. Chim. Acta*, 41: 845.

Akiyoshi, S., Erdtman, H., Kubota, T., 1960. *Tetrahedron*, 9: 237.

Carman, R. M., Grant, P. K., 1961. *J. chem. Soc.*: 2187.

Enzell, C., 1961. *Acta Chem. Scand.*, 15: 1303.

Barreto, H. S., Enzell, C., 1961. *Acta Chem. Scand.*, 15: 1313.

Cambie, R. C., Mander, L. N., 1964. *N.Z. J. Sci.*, 7: 188.

Enzell, C. R., Thomas, B. R., 1964. *Tetrahedron Letters*, No. 8: 391.

(See also under manool, manoyl oxide, 2-oxomanoyl oxide, and isopimaric acid.)

BARK: Manool, β -sitosterol, leucodelphinidin.—

Cambie, R. C., Mander, L. N., 1964. *N.Z. J. Sci.*, 7: 188.

(See also under manool.)