

# Constituents of the flower essential oil of *Aglaia odorata* Lour. from Vietnam

Weyerstahl P., Marschall H., Son P.T., Giang P.M.

Institut für Organische Chemie, Technische Universität Berlin, Strasse des 17. Juni 135, D-10623 Berlin, Germany; Faculty of Chemistry, University of Hanoi, 19, Le Thanh Tong Street, Hanoi, Viet Nam

**Abstract:** The very pleasant (flowery, hay- and tea-like, woody) smelling essential oil of the flowers of *Aglaia odorata* Lour. (Meliaceae) consists mainly of cadinane derivatives (ca. 48%, including 27% of  $\gamma$ -cadinene, 24). A main constituent is muurola-4,10(14)-dien-1 $\alpha$ -ol (4%, 37), accompanied by the new epimeric 1 $\alpha$ -alcohol, 54. Methyl jasmonates (4%, 36, 50) obviously make an important odour contribution.

**Author Keywords:** *Aglaia odorata* Lour; Cadinane derivatives; Essential oil; Meliaceae; Methyl jasmonate; Sesquiterpenes; Vetiver oil

**Index Keywords:** essential oil; jasmonic acid; plant extract; sesquiterpene; article; chemical composition; distillation; gas chromatography; mass spectrometry; odor; Viet Nam; *Aglaia odorata*

Year: 1999

Source title: Flavour and Fragrance Journal

Volume: 14

Issue: 4

Page : 219-224

Cited by: 9

Link: Scopus Link

Chemicals/CAS: jasmonic acid, 6894-38-8

Correspondence Address: Weyerstahl, P.; Institut für Organische Chemie, Technische Universität Berlin, Strasse des 17. Juni 135, D-10623 Berlin, Germany

ISSN: 8825734

CODEN: FFJOE

DOI: 10.1002/(SICI)1099-1026(199907/08)14:43.0.CO;2-#

Language of Original Document: English

Abbreviated Source Title: Flavour and Fragrance Journal

Document Type: Article

Source: Scopus

Authors with affiliations:

1. Weyerstahl, P., Institut für Organische Chemie, Technische Universität Berlin, Strasse des 17. Juni 135, D-10623 Berlin, Germany
2. Marschall, H., Institut für Organische Chemie, Technische Universität Berlin, Strasse des 17. Juni 135, D-10623 Berlin, Germany
3. Son, P.T., Faculty of Chemistry, University of Hanoi, 19, Le Thanh Tong Street, Hanoi, Viet Nam
4. Giang, P.M., Faculty of Chemistry, University of Hanoi, 19, Le Thanh Tong Street, Hanoi, Viet Nam

## References:

1. Ho, P.H., (1992) *Cay Co Vietnam, An Illustrated Flora of Vietnam*, 2 (PART 1), pp. 497-507. , published by the author, Montreal
2. Brunke, E.-J., Hammerschmidt, F.-J., K??ster, F.-H., (1986) *Progress in Essential Oil Research*, pp. 117-122. , ed. E.-J. Brunke, W. de Gruyter, Berlin
3. Weyerstahl, P., Schneider, S., Marschall, H., (1996) *Flavour Fragr. J.*, 11. , 18 and references cited therein
4. Liu, Z., Wu, H., Fu, G., Xu, Y., Ming, Y., Li, A., (1983) *Youji Huaxue*, 431
5. (1984) *Chem. Abstr.*, 100, p. 126709
6. Liu, Z., Wu, H., Fu, G., Xu, Y., Ming, Y., Li, A., (1983) *Youji Huaxue*, p. 336
7. (1983) *Chem. Abstr.*, 99, p. 218401
8. Liu, C., Chu, S., Lu, H., Nian, S., (1981) *Huaxue Xuebao*, p. 248
9. (1983) *Chem. Abstr.*, 98, p. 176158
10. Lin, Z.-K., Hua, Y.-F., Gu, Y.-H., (1981) *Chih Wu Hsueh Pao*, 23, p. 208
11. (1981) *Chem. Abstr.*, 95, p. 192190
12. Pizza, C., Tommasi, N., (1987) *J. Nat. Prod.*, 50, p. 784
13. Adams, R.P., (1989) *Identification of Essential Oils by Ion Trap Mass Spectroscopy*, , Academic Press, San Diego
14. noteMaurer, B., Hauser, A., (1983) *Helv. Chim. Acta*, 66, p. 2223
15. Weyerstahl, P., Marschall-Weyerstahl, H., Manteuffel, E., Kaul, V.K., (1988) *Planta Med.*, 54, p. 259
16. Wratten, S.J., Faulkner, D.J., (1977) *J. Org. Chem.*, 42, p. 3343
17. Itokawa, H., Yoshimoto, S., Morita, H., (1988) *Phytochemistry*, 27, p. 435
18. Yang, X., Deinzer, M.L., (1992) *J. Org. Chem.*, 57, p. 4717. , supplementary material
19. Weyerstahl, P., Christiansen, C., Marschall, H., (1996) *Flavour Fragr. J.*, 11, p. 15
20. Weinges, K., Lernhardt, U., (1990) *Liebigs Ann. Chem.*, p. 751. , and references cited therein
21. Khan, V.A., Gatilov, J.V., Pentegova, V.A., (1988) *Izv. Sib. Otd. Akad. Nauk. SSSR. Ser. Khim. Nauk*, p. 99
22. (1989) *Chem. Abstr.*, 111, pp. 233236g
23. Weyerstahl, P., Schneider, S., Marschall, H., Rustaiyan, A., (1993) *Liebigs Ann. Chem.*, p. 111
24. Connolly, J.D., Phillips, W.R., Huneck, S., (1982) *Phytochemistry*, 21, p. 233
25. Oyarz?n, M.L., Garbarino, J.A., (1988) *Phytochemistry*, 27, p. 1121. , and references cited therein
26. Weyerstahl, P., Marschall, H., Bork, W.-R., Rilk, R., (1994) *Liebigs Ann. Chem.*, p. 1043
27. Itokawa, H., Matsumoto, H., Mihashi, S., (1983) *Chem. Lett.*, p. 1253
28. Niwa, M., Iguchi, M., Yamamura, S., (1978) *Tetrahedron Lett.*, p. 4043
29. Groweiss, A., Kashman, Y., (1983) *Tetrahedron*, 39, p. 3385
30. Barrero, A.F., S?nchez, J.F., Oltra, J.E., Altarejos, J., Ferrol, N., Barrag?n, A., (1991) *Phytochemistry*, 30, p. 1551
31. Kitahara, T., Nishi, T., Mori, K., (1991) *Tetrahedron*, 47, p. 6999
32. Acree, T.E., Nishida, R., Fukami, H., (1985) *J. Agric. Food Chem.*, 33, p. 425
33. Maqua, M.P., Vines, A.C.G., Caballero, E., Grande, M.C., Medarde, M., Bellido, I.S., (1988) *Phytochemistry*, 27, p. 3664
34. Itokawa, H., Matsumoto, H., Mihashi, S., (1983) *Chem. Pharm. Bull.*, 31, p. 1743. , and references cited therein
35. Bauer, R., Remiger, P., Wray, V., Wagner, H., (1988) *Planta Med.*, p. 478
36. Kaiser, R., Lamparsky, D., (1983) *Helv. Chim. Acta*, 66, p. 1843
37. Blay, G., Cardona, L., Garc??a, C.L., Pedro, J.R., (1996) *Tetrahedron*, 52, p. 10507
38. Weyerstahl, P., Schneider, S., Marschall, H., Rustaiyan, A., (1993) *Flavour Fragr. J.*, 8, p. 139

39. Ohta, Y., Hirose, Y., (1973) Bull. Chem. Soc. Jpn., 46, p. 1535
40. Weyerstahl, P., Marschall, H., Weirauch, M., Thefeld, K., Surburg, H., (1998) Flavour Fragr. J., 13, p. 295
41. Weyerstahl, P., Marschall, H., Thefeld, K., Subba, G.C., (1998) Flavour Fragr. J., 13, p. 377
42. Kalembe, D., Weyerstahl, P., Marschall, H., (1994) Flavour Fragr. J., 9, p. 269
43. Kobayashi, A., Kawamura, M., Yamamoto, Y., Shimizu, K., Kubota, K., Yamanishi, T., (1988) Agric. Biol. Chem., 52, p. 2299