

ISOLATION OF A LINEAR SESQUITERPENE LACTONE FROM *MATRICARIA CHAMOMILLA*

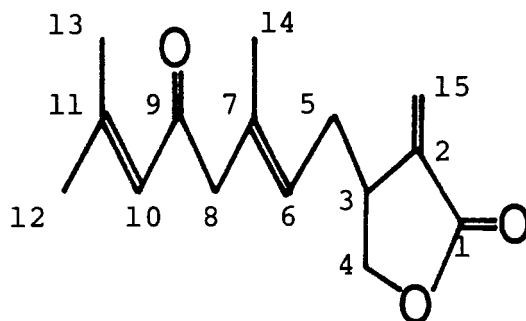
HIROKO YAMAZAKI and MASAKAZU MIYAKADO

*Pesticide Research Department, Institute for Biological Science,
Sumitomo Chemical Co. Ltd., 4-2-1, Takatsukasa, Takarazuka, Hyogo 665, Japan*

TOM J. MABRY

*The Department of Botany, The University of Texas at Austin,
Austin, Texas 78712*

A known linear sesquiterpene lactone **1** was isolated in 7.30% yield from a chloroform extract of aerial parts of *Matricaria chamomilla* L. (*Asteraceae*) collected in January, 1975, in Tucuman Province, Argentina, (Bacon-Bohnstedt No. 1572). A voucher is deposited in the Herbarium of the University of Texas at Austin. Lactone **1** was first isolated from *Anthemis cotula* L. (*Asteraceae*) (1), and the identity of our sample was confirmed by direct comparison of the ¹H-nmr spectrum of an authentic specimen. Previously unreported ¹³C-nmr and ms data for lactone **1** are described below.



Hrms, m/z : 248.1432 (248.1453 calculated for $C_{15}H_{20}O_3$, M^+), 193.0809 (193.0755 for $C_{11}H_{14}O_2$), 151.1158 (151.1194 for $C_{10}H_{14}O_1$), 150.1042 (150.1041 for $C_{10}H_{14}O_1$), 149.0964 (149.0963 for $C_{10}H_{14}O_1$), 123.0820 (123.0831 for $C_8H_{11}O_1$), 109.0665 (109.0677 for $C_7H_9O_1$), 91.0554 (91.0561 for C_7H_7), 83.0491 (83.0486 for $C_6H_7O_1$), 55.0503 (55.0459 for C_4H_7); lrms (DI, 70eV) m/z : 248 M^+ (0.88), 193 (0.56), 151 (1.96), 150 (1.08), 149 (1.24), 123 (1.60), 109 (1.88), 95 (1.36), 93 (1.32), 91 (1.72), 83 (100), 55 (20.0); ¹³C-nmr (22.6 MHz, $CDCl_3$, TMS standard) C_1 170.81 ppm (s), C_2 138.07 (s), C_3 38.71 (d), C_4 70.57 (t), C_5 32.16 (t), C_6 124.01¹ (d), C_7 133.72 (s), C_8 55.05 (t), C_9 198.55 (s), C_{10} 122.96¹ (d), C_{11} 156.37 (s), C_{12} 20.72 (q), C_{13} 27.69 (q), C_{14} 16.91 (q), C_{15} 122.27 (t); ir, ν max ($CHCl_3$): 1758, 1682, 1660, 1615 cm^{-1} ; uv, λ max (EtOH): 238 and 207 nm.

$$[\alpha]_{25}^{\lambda} \frac{589 \quad 577 \quad 546 \quad 435 \quad 365nm}{+76.9^\circ + 116.9^\circ + 132.5^\circ + 198.1^\circ + 347.5^\circ} \quad (c=0.032)$$

ACKNOWLEDGMENTS

We thank Professor F. Bohlmann, Institute for Organic Chemistry, Technical University of Berlin, for ¹H-nmr of the lactone **1**. T. J. M. wishes to acknowledge support from the Robert A. Welch Foundation (Grant F-130) and the National Institutes of Health (HD-04488).

Received 19 November 1981

LITERATURE CITED

1. F. Bohlmann, C. Zdero and M. Grenz, *Tetrahedron Letters*, 2417 (1969).

¹Assignments may be interchanged.