# TERPENOID CONSTITUENTS FROM *Vellozia epidendroides*

**ANGELO C. PINTO, VANESSA L. R. FURTADO AND LUIZ GONZAGA***

**Instituto de Química, Universidade Federal do Rio de Janeiro, CT, Bl. A, Cidade Universitária, 21910 Rio de Janeiro, RJ, Brasil.**
***Departamento de Química Orgânica da Universidade Federal Fluminense.**

*Recebido em 16/08/89*

**Abstract**: The isolation of pimarane and cleistanthane diterpenes and triterpenes with a lupane skeleton from **Vellozia epidendroides** is described.

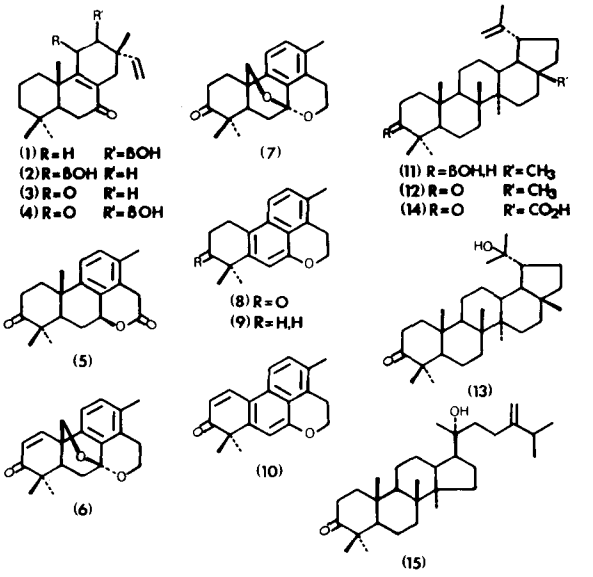
As part of our systematic phytochemical investigation of Brazilian Velloziaceae, we wish to report on the study of **Vellozia epidendroides** Martius ex Schultes, a perenial species widely distributed in the State of Minas Gerais, Brazil.

Using chromatography on silica gel column of the hexane and chloroform extracts of roots, stem and leaf sheaths of **Vellozia epidendroides** followed by recristallization with mixture of hexane and ethyl acetate was isolated a serie of diterpenes with pimarane (**1-4**) and cleistanthane (**5-10**) skeleton, $\beta$-sitosterol and stigmasterol (isolated as a mixture and identified by comparison with authentic samples), and the triterpenes: lupeol(**11**), lupenone (**12**), 20-hydroxy-lupan--3-one(**13**), betulonic acid (**14**) and Vellozone (**15**).

The pimarane(**1-4**) and the cleistanthane (**5**) diterpenes were previously isolated from **V. compacta** |1-2|; the cleistanthane diterpenoids (**6-7**) from **V. pusilla** and **V. nanuzae** |3|; and the norcleistanthane diterpenoids (**8-9**) from **V. declinans** and **V. stipitata** |4| and (**10**) from **V. phalocarpa** and the species of this study |5|. The absolute configuration of cleistanthanes were determined recently by CD studies |6|.

The triterpenes lupeol, lupenone and 20-hydroxy-lupan-3-one are widely distributed in the family Velloziaceae|7|. Vellozone was previously identified from **V. aloefolia** |8|. This is the first time that betulonic acid |9| has been observed in this family.

In the chloroform extract, (**6**) is the major component (8.5% by weight of extract), and in the hexane extract, (**1**) is the principal substance (4% by weight of extract).




## References

1. Pinto, A.C. and Borges, C. (1983), **Phytochemistry 22**, 2011.
2. Pinto, A.C. (1980), **An. Acad. Brasil. Ciênc. 52**, 473.
3. Pinto, A.C., Valente, L.M.M., Silva, R.S. Patitucci, M.L. and Gonzaga, L. (1983) **J. Chem. Research (S) 104, (M)** 0841.
4. Pinto, A.C., Pinchin, R., Zocher, D.H.T. and Lopes, C.C. (1979) **Tetrahedron Lett.**, 405.
5. Pinto, A.C., Gonzaga, L. and Fiorani, N. G.M. (1984) **Phytochemistry 23**, 918.
6. Pinto, A.C., Patitucci, M.L., Zocher, D. H.T. and Kelecon, A. (1985) **Phytochemistry 24**, 2345. In this paper, the structures of compounds **1-4** are correctly represented though erros appeared in the text: **1** instead of |5S, 10S| read |5R, 10S| for **2** and 3 instead of |5S, 7S, 10R| read |5R, 7S, 10S|; for **4** instead of |5S, 7S, 10S | read |5R, 7S, 10S|.
7. Garcez, W.S. (1983), M. Sc. Thesis, NPPN, Universidade Federal do Rio de Janeiro.
8. Pinto, A.C., Baker, P.M., Gilbert, B., Pinchin, R., Reis, F.A.M., Waineraich, M. S. and Zocher, D.H.T. (1980) **Phytochemistry 19**, 2486.
9. Aplin, R.T., Halsall, T.G. and Norin, T. (1963) **J. Chem. Soc.**, 3269.