

**B097 Steroidal saponin E from *Convallaria majalis* L.**J. Nartowska<sup>a</sup>, I. Wawer<sup>b</sup> and H. Strzelecka<sup>a</sup><sup>a</sup> Department of Pharmacognosy and <sup>b</sup> Department of Physical Chemistry, Faculty of Pharmacy, Medical University of Warsaw, Banacha 1, 02-097 Warsaw, Poland.

*Convallaria majalis* L. (lily of the valley) is a plant of the family Liliaceae, widely distributed in Europe. The over-ground parts of *C. majalis* contain cardenolide glycosides and its roots and rhizomes were found to contain several steroidal saponins. Tschesche et al. (1) have isolated furostanol saponin, i.e., convallamaroside, the aglycone of which is convallamarogenin, that has been identified as  $\Delta^{25-5\beta,20\beta,22\alpha}$ -spirosten-1 $\beta,3\beta$ -diol. In addition to convallamaroside, other steroidal spirostanol saponins (13 compounds) have been isolated (2). In this report we describe the isolation and structural characterization of saponin E. Powdered roots and rhizomes of *C. majalis*, 1900 g, were macerated for 48 h with aqueous 50% methanol. The extract was partitioned between  $\text{CHCl}_3$  and *n*-BuOH with  $\text{H}_2\text{O}$ . Compound E (m.p., 198-204°C) was isolated, 370 mg, by column chromatography from a fraction of less polar compounds. The structure of saponin E was elucidated in terms of  $^1\text{H}$  and  $^{13}\text{C}$  NMR spectra involving the 2D techniques (HETCOR, HMBC, ROESY). The compound E was identified as  $\Delta^{25-5\beta}$ -spirostene-1 $\alpha,2\beta,3\beta,5\beta$ -tetraol 5-O- $\beta$ -D-arabinoside.

Conformational analysis including the orientation of -OH groups and of the sugar moiety was performed by the semiempirical MO method. For the optimized low energy structure, the NMR shielding constants were calculated by using the *ab initio* GIAO CHF method.

**References:** 1. Tschesche R. et al. (1973) Chem. Ber., 106: 3010. 2. Nartowska J. et al. (1983) Acta Polon. Pharm., 25: 650.

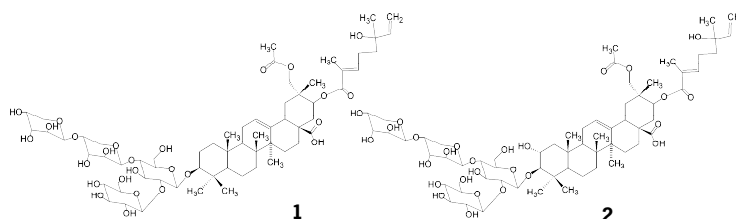
**B098 New triterpene saponins from *Mimosa pudica* seeds**

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In the framework of our research programme on bioactive products from the Mimosaceae family (1-2) we investigated the presence of saponins in *Mimosa pudica* L. seeds. In a previous phytochemical work on the "sensitive plant", we reported the occurrence of flavonoid glycosides (3-4) in aerial parts. A refluxing ethanolic seed extract was partitioned with *n*-butanol / water. The concentrated butanolic fraction was submitted to extensive preparative RP-HPLC to give two new monodesmosidic oleanane-type saponins bearing unusual 29-acetyl and 21-geranyl chains (1-2).

Their structural elucidation was performed mainly by 2D NMR techniques and HR-FAB-MS.



**References:** 1. Jiang, Y. (1991) Saponins from *Mimosa tenuiflora* (Wild) Poir., Mimosaceae, PhD Thesis, ULP Strasbourg. 2. Englert J. (1995) Saponins from *Mimosa pigra* L., Mimosaceae, PhD Thesis, ULP Strasbourg. 3. Englert J. et al. (1993) Planta Med., 60: 194. 4. Lobstein A. et al. (2002) Biochem. Syst. Ecol., 30: 375.