B087 Chemical constituents of *Chamaelirium luteum*

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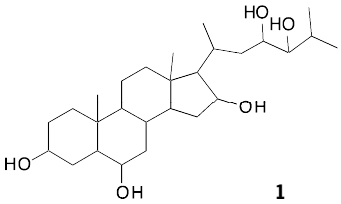
Results of an investigation of the rhizome and roots of *Chamaelirium luteum* (L.) A. Gray (syn. *Helonias dioica*, Liliaceae) are presented. Traditionally and in homeopathy this herb is used as a uterine tonic, emmenagogue and also to treat a broad range of female symptoms (1,2). Little is known about the chemical constituents of *C. luteum*, with most present day secondary literature based upon scientific data from the late 19th century (3,4). *C. luteum* is reported to contain chamaelirin (diosgenin glycoside) (1-4), helonin (a glycoside) (2,3), and diosgenin (1,2,5). However, no chemical structure has ever been attributed to either chamaelirin or helonin. HPLC (Evaporative Light Scattering Detector) analysis of the alcoholic extracts of the dried underground parts of *C. luteum* reveals four major constituents. The principal constituent was characterized as a steroidal saponin upon chromatographic purification. It has a molecular weight of 922 g/mol, to which we attributed the molecular formula of $C_{45}H_{78}O_{19}$. The sugar components of the steroidal saponin were identified by GC/MS analysis as glucose and fucose, via a procedure involving degradation and derivatisation. After preliminary 1D and 2D NMR studies (750 MHz ^{1}H, ^{13}C, COSY, TOCSY, HSQC and HMBC), we propose that the structure of the aglycone ($C_{27}H_{48}O_5$) of the major steroidal saponin is **1**.



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B088 Degradation of andrographolide under heat accelerating condition

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Andrographolide is the major active diterpene lactone from *Andrographis paniculata* (Burm. f.) Wall. ex Nees, a medicinal herb widely used in many Asian countries for the treatment of common cold, fever, and non-infectious diarrhea. Despite its keen potential, the herb itself, as herbal drug, has very short shelf life according to Chemical Specification of Thai Herbal Drugs, with higher than 26% loss in total lactone content upon 1-year storage at ambient condition (1). This leads to the limitation of the further development of *A. paniculata* for wider clinical uses. Here, we wish to report the preliminary result on degradation of andrographolide in dry, solid form. Upon an elevated temperature (70ºC, 75% relative humidity), crystalline andrographolide appeared highly stable with neither chemical nor physical observable change after 3 months. However, its amorphous form, prepared by solid-dispersion of andrographolide in PVP K-30 (1:2), decomposed under the same condition with higher than 50% degradation after 2 months. The main decomposition route was found to be the dehydration of 14-OH group, possibly via a concerted mechanism.

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