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Poster Presentation

Synthesis of a New Triterpenoid – Steroid Hybrid Molecule from Betulin

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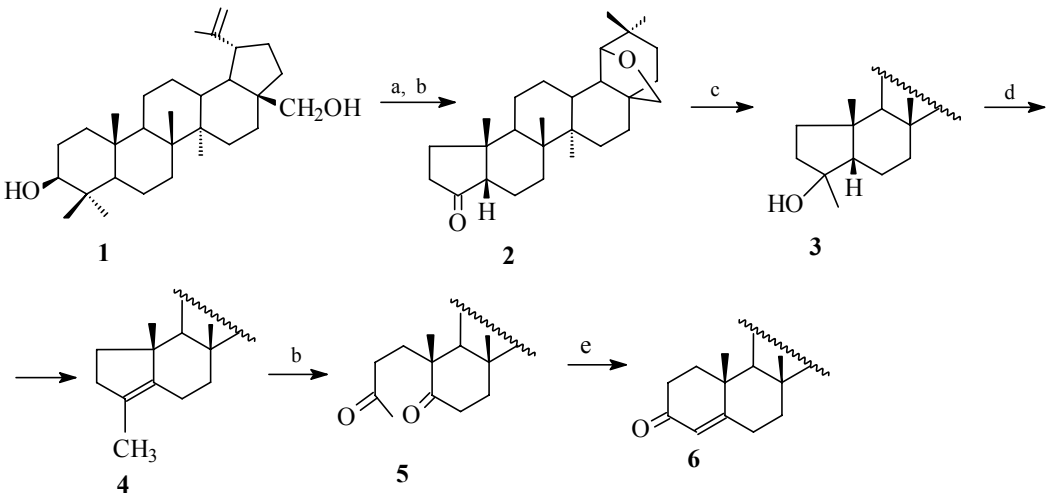
Earliar it was found, that some synthetic triterpenoids with modified ring A (for example 2-cyano-3,12-dioxoolean-1,9-dien-28-oic acid, CDDO) induce differentiation and apoptosis of human leukemia cells [1]. Thus the search of new compounds among oleanane triterpenoids with potential biological activity is a very attractive area.

Here we report for the first time the synthesis of a new triterpenoid-steroid hybrid molecule from available lupane triterpenoid betulin. A-Nor-5βH-19β,28-epoxy-18α-olean-3-on **2**, received from betulin **1** via three steps, under treatment with MeMgI gave 3-hydroxy-3-methyl-derivative **3**. The following dehydration of **3** with $POCl_3$ in pyridine and ozonolysis of olefin **4** to diketone **5** were used. Aldol condensation of **5** in 5% NaOH/MeOH led to the new triterpenoid – steroid hybride molecule 23,24-dinor-3-oxo-4-en-19β,28-epoxy-18α-olean **6**.



Reagents: a. 1) CF_3COOH, CH_2Cl_2; 2) PCl_5, 0^0C, benzene/toluene; b. O_3, -60^0C, CH_2Cl_2, Zn/AcOH; c. MeMgI, ether; d. $POCl_3$/Py; e. NaOH/MeOH

[1] T. Ikeda, Y. Nakata, F. Kamura et al., *Mol. Cancer Ther.* **2004**. 3(1): 39-45.

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