Contribution ID: **418** Type: **Poster**

Biologically Degradable Labelled Esters of Triterpenic Acids

Thursday, 15 May 2014 17:30 (1h 15m)

Triterpenes are natural substances obtained by isolation from common species of plants and fruits. Together with its semisynthetic derivatives, have different biological effects such as analgesic, antibacterial, antiosteoporotic, antihypertensive, antimicrobial, diuretic, antiviral, hepatoprotective, anti-inflammatory or a wide range of antitumor activities.
From this perspective are interesting lupane, oleanane, ursane and taraxastane derivatives. The well-known representatives of these compounds are betulin and betulinic acid. In order to increase the cytotoxic activity and retain good chemical and pharmacological properties of these compounds were prepared their esters. As most beneficial appears acetoxymethyl-esteric group because the cytotoxic activity of these compounds is comparable or even higher than the starting acid. For these reasons could be acetoxymethyl esters suitable prodrug and suitable candidates for the selective labelling.1
In this work were selective labelled acetoxymethylesters of oleanolic, ursolic, morolic and heterobetulinic acids. For this labelling were used hydrogen isotopes and was accomplished by reduction of ketones of previously prepared acetoxymethylesters using NaB[2H]4 or NaB[3H]4.2

Partially supported by grants SGS14/084/OHK4/1T/14 (CTU) and C262d (MŠMT).

1. URBAN, M.; ŠAREK, J.; TISLEROVÁ, I.; DŽUBÁK, P. & HAJDÚCH, M. (2005). Influence of esterification and modification of A-ring in a group of lupane acids on their cytotoxicity. Bioorg. Med. Chem. Vol. 13, No. 19, pp. 5527-5535, ISSN 0968-0896.
2. VLK, M.; URBAN, M.; ELBERT, T. & ŠAREK, J. (2013). Synthesis of selectively deuterated and tritiated lupane derivatives with cytotoxic aktivity. J. Radioanal. Nucl. Chem. Vol. 298, No. 2, pp.1149-1157, ISSN 0236- 5731.

Primary author: Ms MIČOLOVÁ, Petra (Department of Nuclear Chemistry, Faculty of Nuclear Science and Physical Engineering, Czech Technical University, Brehova 7, 115 19 Prague 1, Czech Republic)

Co-authors: Dr ŠAREK, Jan (Department of Organic Chemistry, IMTM, Faculty of Science, Palacky University in Olomouc, 17. listopadu 1192/12, 771 46 Olomouc, Czech Republic); Dr HAJDÚCH, Marián (IMTM, Faculty of Medicine and Dentistry, Palacky Univerzity in Olomouc, Hnevotinska 5, 779 00 Olomouc, Czech Republic); Mr VLK, Martin (Department of Nuclear Chemistry, Faculty of Nuclear Science and Physical Engineering, Czech Technical University, Brehova 7, 115 19 Prague 1, Czech Republic); Dr ELBERT, Tomáš (Institute of Organic Chemistry and Biochemistry, Academy of Science, Flemingovo n. 2, 116 10 Prague 6, Czech Republic)

Presenter: Ms MIČOLOVÁ, Petra (Department of Nuclear Chemistry, Faculty of Nuclear Science and Physical Engineering, Czech Technical University, Brehova 7, 115 19 Prague 1, Czech Republic)

Session Classification: Poster Session - Radiopharmaceutical Chemistry, Labelled Compounds

Track Classification: Radiopharmaceutical Chemistry, Labelled Compounds