8th European Chemistry Congress

June 21-23, 2018 | Paris, France

An approach to macrocyclic derivatives with sucrose scaffold

Slawomir Jarosz Polish Academy of Sciences, Poland

S ucrose (1), α -D-glucopyranosyl- β -D-fructofuranoside, composed of D-glucopyranose and D-fructo-furanose units connected *via* their anomeric positions, is undoubtedly the most common disaccharide existing in nature. Its worldwide production exceeds 160 million tons, most of which is consumed by the food market. Relatively small percentage, which cannot be absorbed by the food industry, accounts, however for several million tons this huge overproduction has to be utilized in other ways. No wonder that great interest is directed to use of this 'redundant' sucrose in other than nutritive fields, such as biodegradable polymers or surfactants. There is also an increasing interest in application of sucrose as a normal chemical. We are engaged in the application of sucrose for the preparation of fine chemicals. The key-substrate for this purpose is diol 2, in which the terminal hydroxyl groups are free and the remaining six are protected as benzyl ethers. Such derivative was used as a platform for construction of the analogs of crown and aza-crown ether analogs 3 and other macrocyclic derivatives such as 4. Several derivatives of type 3 have interesting complexing properties able to distinguish chiral ammonium cations. Macrocycles of type 4 have interesting conformational properties.



Biography

Slawomir Jarosz has completed his PhD in 1979 at the IOC, PAS and he is now a full professor at this institute since 1999. Since 2011 he is a general director of this Institute and, since 1999, a head of the carbohydrate group. He spent 1 year (1980) as a post-doc in the group of bert fraser-reid (Maryland, US) and 1 year as a visiting scientist (1988) at Duke University (US). He published ca 190 papers and promoted 18 PhD students.

slawomir.jarosz@icho.edu.pl

Notes: