

International Congress on Organic Chemistry

dedicated to the 150-th anniversary of
the Butlerov's Theory of Chemical Structure of
Organic Compounds



Book of Abstracts

Ministry of Education and Science of the Russian Federation
Russian Academy of Sciences (RAS)
Government of the Republic of Tatarstan
Kazan (Volga region) Federal University
Kazan Scientific Center of RAS
A.E. Arbuzov Institute of Organic and Physical Chemistry
Academy of Sciences of the Republic of Tatarstan
I.I. Mendeleev Russian Chemical Society

September 18-23, 2011
KAZAN, RUSSIA



International Year of
CHEMISTRY
2011

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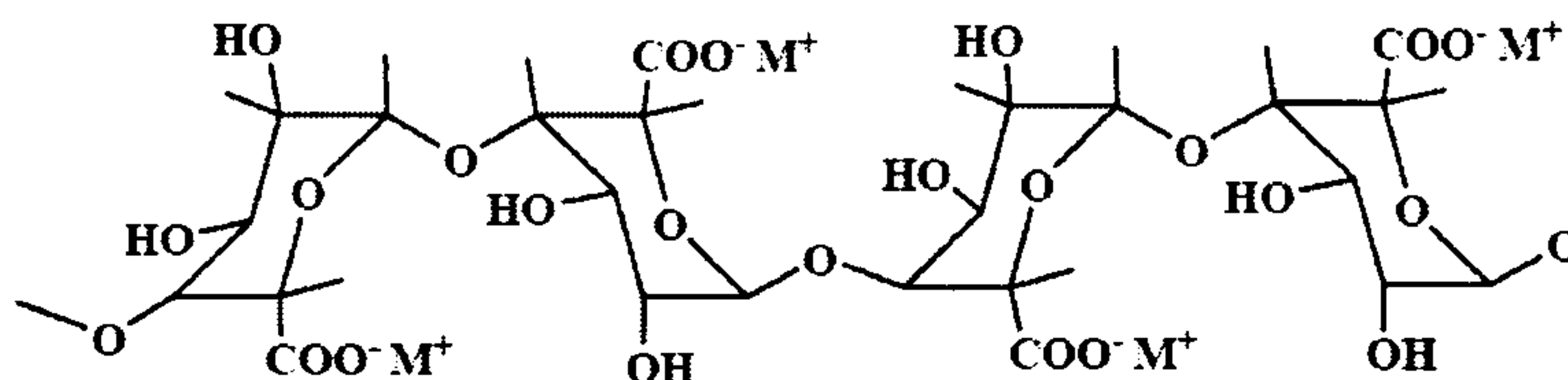
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ANTIANEMIC FERROPOLY GALACTURONATES

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The solution of microelementosis problems is an important for health of people as well as animals. One of the most spread form of microelementosis is anemia.

The water soluble metal complexes of pectin polysaccharides with Na, Fe and Na, Ca, Fe (1) possessing obvious antianemic activity were obtained. Synthesized compounds combine both biological properties of pectin biopolymers and ones of metal ions responsible for important functions in living organisms.



1 (M = Na, Fe; Na, Ca, Fe)

Ferropolygalacturonates are stable in the acid conditions at pH 3-7, minimizes the influence of free metal ions on the gastric wall.

The ferropolygalacturonates polymer matrix provides a gradual separation of metal ions passing through the gastrointestinal tract without causing their local high concentrations of metal ions that lead to negative effects on gastric and intestinal wall.

Complex formation of metal ions with pectin biopolymers ensures the high bio accessibility of macro and microelements and leads to decrease of their toxicity.

The antianemic activity of obtained complexes is higher than the activity of Ferroplex, Tot'hema, Sorbifer, Actiferrin, Ferroglobin B₁₂ preparations. Na-, Fe- and Na-, Ca-, Fe-polygalacturonates (1) are not toxic at the dose of 15-25 g/kg. They don't irritate the gastric well, have no irritation and skin-resorbtion effect, don't have teratogenic and embriotoxic effects on the posterity.