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## **Thermochemistry of heteroatomic compounds: The calculations of the bonds strength of carbohydrates in condensed phase**

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The calculations of strength of bonds (enthalpy) magnitudes of C-C, C-H, C-O, C=O and O-H bonds with the use of Widows-Excel-function «Search of the decision by a method gradient descent» of condensed carbohydrates of a various spatial structure (15 compounds) were made first time. The reduced magnitudes of the force of all bonds in condensed phase, comparing to gas state, designated as a strength of bond (Sb) carbohydrates, necessary to explain by the presence significant hydrogen bonds, dipole-dipole- and dispersive interactions in biochemical molecules.

### **Biography**

Vitaly Ovchinnikov was awarded his PhD in 1989. He was recognized by the Cambridge Biographical Centre among the 100 Top scientists of year and 2000 Outstanding Intellectuals of the 21st Century in the year 2012. He has expertise in thermodynamics and thermochemistry, reactivity of heteroatomic compounds in differed useful areas such as hydrocarbons, nitro compounds, carbohydrates and amino acids of different structure. He has over 250 scientific publications, 16 patents, 10 methodical textbooks for students of technical universities and presented over 30 reports on the various Russian Regional and International Conferences. He was a member of American Chemical Society and was awarded Honored Worker of a Science of Republic Tatarstan (in Russia). He is currently serving as a member of Editorial Boards of *American Journal of Physical Chemistry*, *Journal of Chemical Engineering* and a reviewer of *Journal Advances in Natural Science* (Canada).

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