Impact of Humic Substances on the Toxicity of Xenobiotic Organic Compounds. I.V. PERMINOVA*, N. YU. YASHCHENKO, M.A. ANISIMOVA and N.A. KULIKOVA, Moscow State Univ., Russia.

Humic substances modify the toxic behavior of various xenobiotic organic compounds impacting their transport into the cell interior. Both increase and reduction in toxicity were observed in the presence of humics. To predict the modifying impact of humics, the corresponding structure-activity relationships are needed. In this paper, the general problems of application of QSAR-methodology to humics will be discussed. The perspectives of the approach based on the complex investigation of structure and reaction ability of humics along with estimation of their modifying impact on the xenobiotics toxicity will be considered. The experimental design which implies a use of 13C-NMR-spectroscopy, SEC-chromatography, fluorescence quenching technique and biotesting will be described. The results of its application for a set of humics and some xenobiotic organics (herbicides and polyaromatic hydrocarbons) will be discussed.

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