Increased cAMP level in As-treated rat is correlated to 50% reduction in the rate of ADP-induced aggr while mercury with a slight rise in cAMP causes 20% inhibition in the rate of platelet aggregation. The p investigation suggests that cellular cAMP is a regulatory molecule in the event of platelet aggregation a disruption of its homeostasis is directly correlated to xenobiotic induced inhibition of platelet aggregation. grateful to CSIR for Grant No. 37(0921)/96-EMR-II.

3J/P016 - Chemical-toxicological studies of interaction between humic substances and polyaromatic hydrocarbons

Perminova[1], I.V., N.Yu. Yashchenko[1], D.N. Matorin[2], E.M. Philippova[3], V.V. Fadeev[3] and V.S. Petro Department of Chemistry[1], Department of Biology [2], Department of Physics [3], Lomonosov Moscow University, Moscow, Russia. interaction with humic substances (HS) is an important factor which influ speciation and toxicity of polyaromatic hydrocarbons (PAHs) in fresh water ecosystems. To establish between changes in speciation and toxicity of PAHs caused by the presence of HS, the corresponding che toxicological studies were conducted. For this purpose a set of 27 HS samples of different origin was asse Anthracene, fluoranthene and pyrene were chosen as model PAHs. The experimental design included bioas toxicity of PAH in the absence and presence of HS with a use of Daphnia Magna as a target organism a grazing activity as a biological response. The constants of association of PAHs with HS were estimated by of fluorescence quenching technique. On the basis of the determined constants, concentrations of free species in the presence of HS were calculated. The obtained data were used for simulation of the level of g activity of D.Magna to be observed in the presence of HS under assumption that only free PAH are to comparison of the simulated and experimentally observed grazing activities of D. Magna in the presence of and HS allowed to demonstrate that this is formation of PAHs-HS associates which contributes the most observed detoxification of PAHs by HS.

3J/P017 - Molecular pathways of organomercurials in mitochondrial elctr transport chain

Osipova[2], V.P., E.R. Milaeva[2], V.Yu. Tyurin[2], N.T. Berberova[1], E.V. Kharitonashvili[2] and V.S. Petros Astrakhan, State Technical University, Tatischeva 16, 414025, Astrakhan, Russia.[2] M.V. Lomonosov M State University, Vorobjevy Gory, [2] 9899, Moscow, Russia. The biochemical redox processes affected pollutants belong to the responses presenting the adaptation potential of organisms. The mitochondrial resp chain is supposed to behave as one of the biological targets exposed to ecotoxicants. The aims of this stud (1) to test the responses of mitochondria and mitochondrial particles, isolated from the liver of Russian sturg the organomercurials exposure; (2) to observe the *in vitro* effects of these toxicants upon the key enzymes ac (malate dehydrogenase, cytochrome c oxidase) and upon the non-specific coenzymes (NADH, NADP substrate (cytochrome c) functions. The principal preliminary results of these experiments can be summar follws: the organomercurials inhibit the subcellular respiration and decrease the *in vitro* activity of dehydrogenase and cytochrome c oxidase. The interactions of ecotoxicants with NADH, NADPH and cytoc in the cultivated conditions studied on the molecular level by electronic spectroscopy and electrochemistry o the case of inorganic mercury species but are not significant in the case of organomercurials.

3J/P018 - Gas-chromatography-mass spectrometry analysis of polychlorophiphenyles in fish and seals of the lake Baikal

Lebedev, A.T., O.V. Poliakova, V.S. Petrosyan Organic Chemistry Dept., Moscow State University, M Russia. The Baikal is the deepest and the oldest freshwater lake in the world. Its unusual size (700 km long 40 km wide, 23,000 km^3 of water, i.e. 20% of the world's surface fresh water) makes evaluation of its health particularly difficult. In the last twenty years potential pollution of the lake has caused controversy in Russia but throughout the world. There are two evident sources of pollution: pulp and paper mill in Baik trans-Siberian railroad. Nevertheless the contamination of the lake (variety of pollutants and their quantity) be rationalised taking into account only these sources. There were data published earlier claiming contamination of the Baikal seals with polychlorinated biphenyl (PCB). Thus in the present work we analy samples of various fish species abundant in the lake including endemic sculpins constituting 90% in the rat seals, as well as a number of samples of blubber of seals caught in 1995-1997 and belonging to the diffe and age groups. Besides PCB DDT with metabolites were also quantitated. The analysis was carried out us