

# IR-SPECTROMETRY OF WATER BASIS OF BIOLOGICALLY ACTIVE SUBSTANCES

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Water researches have clearly shown that even ideally pure water represents like difficult arranged system. In what direction as a whole there is a water researching?

From the ecological point of view the water research is directed on studying of its qualitative and quantitative structure. However on a question, whether it is possible to drink water of such structure, we do not receive the answer. It is established, that in the presence of numerous impurity in water their total biological effect surpasses the maximum permissible concentration of separate components established by statutory acts. Thus, it is important to define not only the maintenance of separate substances, but also to register effect of their influence on biological objects, more exact for water component.

The human body almost on 80 % consists of water. However, at studying of pathological conditions arising in a human body, scientists try to find out, what of biochemical tests bears responsibility for it. And again we see, that scientists try to dismember difficult system to the simple parts. And can, it is necessary to reflect, what occurs during this moment to the aqueous component?

Our scientific interest is study the modelling solutions and biological systems. In the researches we have applied the phenomenological approach to studing object that assumes substance studing as a single whole, without separation of primary elements. Novelty of such approach is defined by this: water systems are analyzed as a unit, and their dynamic features are considered. It became possible with introduction in research practice developed infra-red (IR) spectrometer «IKAR» and application the multidimensional analysis of databases by criteria Machalanobis and Bartlett. Such approach to the analysis of the water systems reflecting their complete condition, has allowed us to be engaged in researches of properties of high dilution by pure water the solutions of biologically active compounds.

In the message we will speak on features of the device and application possibilities «IKAR» in researches of a water basis of modelling solutions of biologically active substances and biological liquids. We will present results of experiments. The obtained data will promote clearing-up of mechanisms of participation endogenous waters in functioning of biological systems.