PP8. RESEARCH OF COMPLEXES OF GOSSYPOL DERIVATIVES

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Gossypol is a natural polyphenol, a yellow pigment extracted from the *Gossypium* plant (cotton plant). The structural properties of gossypol and its derivatives and thepossibility of chemical modification of their structure make it possible to increase effective drugs. A number of preparations based on gossypol and the scientists of the «Low molecular biologically active compounds» laboratory at the Institute of Bioorganic Chemistry AS RUz, which are currently used in medical practice, have created its derivatives. In order to expand the production of local medicines created because of gossypol, large-scale research and development work is ongoing. At the same time, continuing our scientific research, the Schiff base with gossypol 2-amino-5-methylpyridine was synthesized. A complex was obtained by modifying the azomethine derivative of this gossypol with $NiCl_2 \cdot H_2O$. Physico-chemical dimensions, structure and individuality of the obtained complex were comparatively studied usingmodern UV- and IR-spectroscopy methods. The following results were obtained whenthe IR spectrum of 2-amino-5-methylpyridine was analyzed. Accordingly, the absorption maxima of the valence vibration of the $-NH_2$ group, the valence vibrationsof the -N=C bond and the valence vibrations of the Ar-CH_3 bond were determined dueto the valence vibrations of the -C=C bond. When analyzing the IR-spectrum of the Schiff base formed by gossypol with 2-amino-5-methylpyridine, the absorption maxima belonging to the NH_2 group and the absorption maxima caused by the valencevibrations of the new -N=CH-bond were formed. According to the analysis of IR spectrum of Gossypol Schiff base complex with $NiCl_2 \cdot H_2O$, absorption maxima causedby valence vibrations of -N=CH bond did not change and absorption maxima caused by hydrogen bonds in the complex were determined. Based on the obtained results, the structural formula of the new complex was confirmed. Currently, studies on crystal growth and biological activity of the obtained complex are being continued.