

OPTICAL RADIATION OF MOLECULES OF NITROGENOUS BASES OF NUCLEIC ACIDS IN THE FIRM PHASE AT ELECTRONIC EXCITATION

The method of electron-photon spectroscopy is applied to an important class of six-membered heterocyclic compounds – the nitrogenous bases which are a part of nucleic acids. Spectral characteristics of the molecules of cytosine and uracil adsorbed on the surface of graphite are analyzed. In UV and visible areas of the spectrum three wide unstructured strips are found. The most intensive UV-strip is attributed to fluorescence and there corresponds to the singlet-singlet transition from the first excited electronic state to the main condition of molecules. Electronic transitions from the triplet T₁ to the main state form in visible area the second, less intensive strip of a phosphorescence. The nature of the third strip, with a maximum $\lambda = 495$ nanometers, is discussed.

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