

Linear and nonlinear optical properties of tRNA molecules in solution (conformation studies by optical Kerr effect and light scattering in a strong optic field of a laser) - Liniowe i nieliniowe właściwości optyczne cząsteczek tRNA w roztworze (badania konformacji za pomocą optycznego efektu Kerra i rozpraszania światła w silnym polu optycznym lasera).

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Optical Kerr effect and light scattering in a strong optical field were for the first time observed in macromolecular (tRNA) solutions. Conformational changes and interactions of transfer RNA in solution were analysed on the basis of the measured values of linear and nonlinear optical polarizabilities of the macromolecules. Comparison of the effects observed in a nano- and picosecond timescales show, that different physical mechanisms are involved in the investigated phenomena.