

Title: Biomolecular Spectroscopy [2-1-0-3]**Content :**

UV-visible absorption spectroscopy: Beer-Lambert's law; applications of UV-visible difference spectroscopy; Circular dichroism in protein analysis; Fluorescence spectroscopy of Biomolecules: Jablonsky diagram; quantum yield, static and dynamic quenching of fluorescence, energy transfer, polarization, anisotropy, time-resolved fluorescence; FT-IR spectroscopy, Nuclear Magnetic Resonance Spectroscopy: chemical shifts, coupling constants, ring currents, paramagnetic shifts, spin-spin and spin-lattice relaxation times, NOE, chemical exchange; Mass spectrometry of biomolecules.

Texts / References:

1. C.R. Cantor & P.R. Schimmel; Biophysical Chemistry, Part-2. W.H.Freeman & Co. 1980.
2. J.R. Lalcowicz; Principles of Fluorescence Spectroscopy. Plenum Press.
3. J.D. Campbell & RA. Dwek; Biological Spectroscopy. Benjamin, 1984.
4. P.S.C Mathews; Quantum Chemistry of Atoms and Molecules. Cambridge University Press, 1986.