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Time-resolved circular dichroism : what can we learn on conformational changes ?

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Time-resolved circular dichroism (CD) is a powerful technique to investigate the dynamics of conformational changes in molecules and in biomolecules. Starting from a pump-probe configuration, it consists in measuring the CD of the pump-excited molecules to gain information on the relevant timescales. Complementary experiments on short (picoseconds) or longer (microseconds) timescales have been set-up based on various polarization-sensitive measurements. However, in order for this technique to be quantitative, it must rely on *a priori* knowledge of the CD spectra before and after photoexcitation or on some simple models. In this talk, such issues will be discussed for several experimental studies : ultrarapid conformational changes in Binaphthol molecules or in the chromophore of Photoactive Yellow Protein on the one hand ; determination of thermodynamic and kinetic parameters in denaturation of poly(Glutamic acid) and DNA G-quadruplexes on the other hand.*emphasized text*

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