CONFERÊNCIA

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Structural Fluctuations and Excited State Processes in 2-Aminopurine-labeled DNA Oligomers

The adenine analog 2-aminopurine (2AP) is a useful fluorescent probe of the local environment in nucleic acids. Selective photoexcitation of 2AP in DNA results in highly nonexponential fluorescence decays, which report on both static and dynamic conformational heterogeneities. In addition, photoexcitation of 2AP is an efficient method of charge injection into DNA base stacks for studies of the mechanism of charge migration. Here we discuss both theoretical and experimental fluorescent studies of energy transfer and charge transfer following photoexcitation of the π-π^* transition in 2AP-labeled DNA trimers. The results of these studies provide new insight into the interplay of local structural dynamics and excited state processes in DNA.

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