

FLUORESCENCE CORRELATION SPECTROSCOPY IN HYDROGEL

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Abstract

This work is focused on studying of species diffusion inside a physically linked hydrogel using fluorescence correlation spectroscopy (FCS). This system was also studied with standard fluorescent probes via steady-state fluorescence measurement to compare obtained results. For the primordial study the probe ATTO 655 was chosen due to the suppression of its triplet state. Results clearly show that the measurement of gel systems by this method can be proceed under certain conditions. Extension of diffusion times caused the presence of unbounded parts of hydrogel, triplet presence caused by a characteristic environment properties inside the hydrogel. This probe show several diffusion times directly related to the presence of the probe in different environmnet and/or independent movement of the individual components of the hydrogel.

Keywords: Fluorescence correlation spectroscopy, hydrogel, TCSPC

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