

NOE Effect of Sodium Dodecyl Sulfate in Monomeric and Micellar Systems by NMR Spectroscopy

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Abstract

This paper describes the particular nuclear Overhauser effect (NOE) of sodium dodecyl sulfate (SDS) in monomeric and micellar systems. Two-dimensional NOE spectroscopy nuclear magnetic resonance (NMR) spectra of SDS in solution with concentration lower and higher than critical micellar concentration were recorded. In the first case diagonal and cross-peaks have different signs, and the opposite one was in the second case. This paper discusses theoretical background of this effect and we supposed that particular NOE can be used for inspection of SDS micelle formation during NMR researches. As a rough estimate of micelles formation an approach based on the difference between the chemical shifts in the monomer and micellar form of SDS was used. © 2014 Springer-Verlag Wien.

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