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Title:Terahertz absorption spectroscopy of protein-containing reverse micellar solution

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Abstract:Terahertz time-domain spectroscopy has been carried out for AOT/isooctane reverse micellar solution with myoglobin at the water-to-surfactant molar ratios (w_0) of 0.2 and 4.4. The amplitude of the absorption spectrum increases with increasing the protein concentration at $w_0 = 0.2$, whereas it decreases at $w_0 = 4.4$. The molar extinction coefficients of the protein-filled reverse micelle, and the constituents, i.e., myoglobin, water, and AOT, have been derived by use of the structural parameters of the micellar solution. The experimental results are interpreted in terms of hydration onto the protein and surfactant in the reverse micelle.

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