

Generalized concentration dependence of globular protein self-diffusion coefficients in aqueous solutions

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Abstract

The self-diffusion coefficients of globular proteins (myoglobin, bovine serum albumin, barstar, lysozyme) in aqueous solutions at different temperatures and pH values are obtained by pulsed-gradient spin-echo NMR, and their concentration dependence is analyzed. The generalized concentration dependence of globular protein self-diffusion coefficients is empirically established, and compared to the concentration dependence of diffusion coefficients of flexible polymers and rigid Brownian particles. © 2002 John Wiley & Sons, Inc.

<http://dx.doi.org/10.1002/bip.10023>

Keywords

Concentration dependence, Proteins, Pulsed-gradient spin-echo NMR, Self-diffusion