

COMPLEX FORMATION IN AQUEOUS SOLUTIONS OF BSA WITH IBUPROFEN AND SILVER NANOPARTICLES

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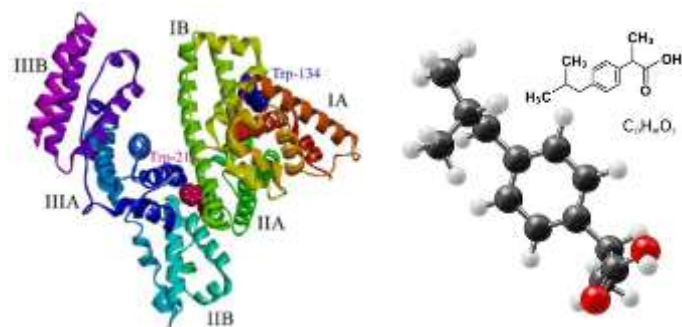


Fig. 1. Molecules of BSA and ibuprofen

Quenching behavior follows the Stern–Volmer relationship and reveals static quenching with binding constants increasing with temperature, suggesting a hydrophobic interaction mechanism. The calculated binding constants ranged from 4.3 to 5.0 with a binding stoichiometry close to 1:1. Thermodynamic analysis using the van't Hoff equation reveals positive values of ΔH and ΔS , confirming the spontaneous and entropy-driven binding.

Acknowledgment

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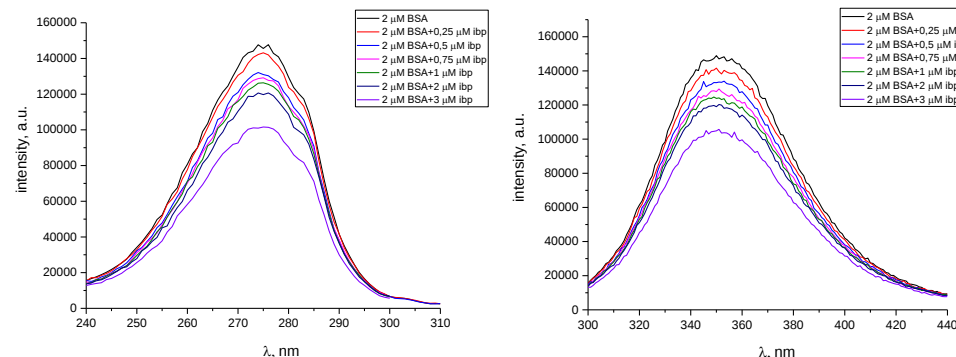


Fig. 2. Spectra of fluorescence emission ($\lambda_{\text{ex}}=353$ nm) and excitation ($\lambda_{\text{em}}=275$ nm) of aqueous solutions of BSA and ibuprofen

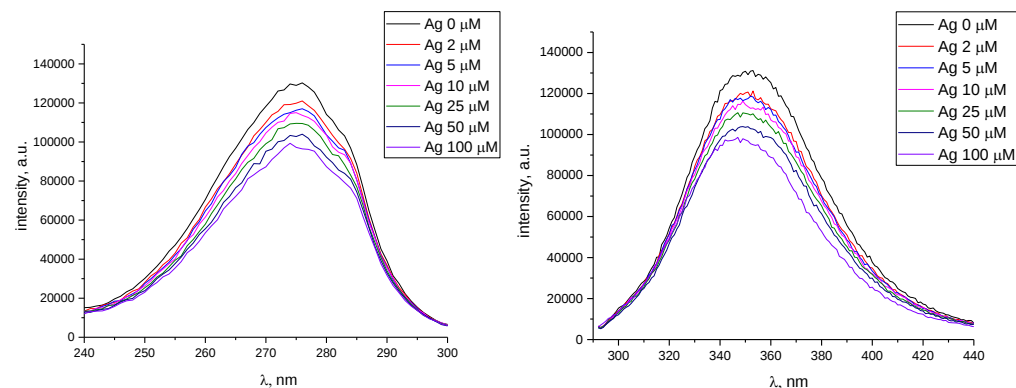


Fig. 3. Spectra of fluorescence emission ($\lambda_{\text{ex}}=353$ nm) and excitation ($\lambda_{\text{em}}=275$ nm) of aqueous solutions of BSA (2 μM) and ibuprofen (μM) with Ag nanoparticles in different concentrations

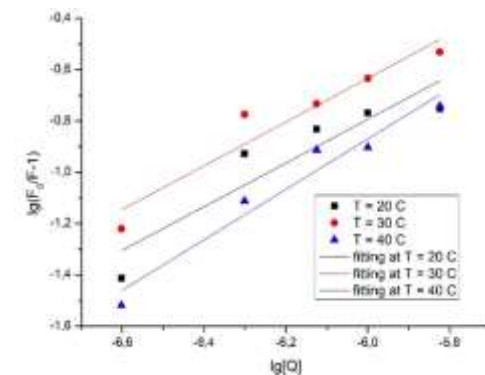
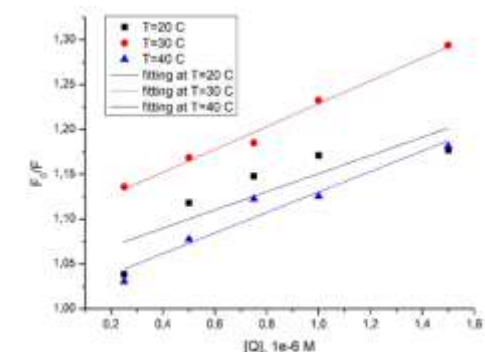


Fig. 4. Stern–Volmer (top) and Hill (bottom) relations for dynamic and static fluorescence quenching