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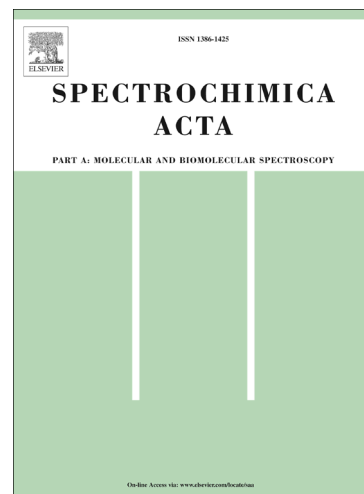
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# Study on the interaction between Besifloxacin and bovine serum albumin by spectroscopic techniques

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## Abstract

The interaction between Besifloxacin (BFLX) and bovine serum albumin (BSA) was investigated by spectroscopic (fluorescence, UV–Vis absorption and circular dichroism) techniques under imitated physiological conditions. The experiments were conducted at different temperatures (298, 304 and 310 K) and the results showed that the BFLX caused the fluorescence quenching of BSA through a static quenching procedure. The binding constant ( $K_a$ ), binding sites ( $n$ ) were obtained. The corresponding thermodynamic parameters ( $\Delta H$ ,  $\Delta S$  and  $\Delta G$ ) of the interaction system were calculated at different temperatures. The results revealed that the binding process was spontaneous and the acting force between BFLX and BSA were mainly electrostatic forces. According to Förster non-radiation energy transfer theory, the binding distance between BFLX and BSA was calculated to be 4.96 nm. What is more, both synchronous fluorescence and circular dichroism spectra confirmed conformational changes of BSA.

**Keywords:** Interaction; Besifloxacin; Bovine serum albumin; Spectroscopic techniques; Circular dichroism spectrum.

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