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## **Analysis of hydration of binary protein-water mixtures. methodology**

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### **Abstract**

© 2014 by Nova Science Publishers, Inc. All rights reserved. This chapter describes the basic principles of a novel methodology to investigate the protein-water interactions. This methodology is based on the analysis of the excess thermodynamic functions (volume  $V$ , enthalpy  $H$ , entropy  $S$ , heat capacity  $C_p$ , and Gibbs free energy  $G$ ) of mixing. The advantages of our methodology are: i) We are able to simultaneously determine the excess partial quantities of water and proteins; ii) These thermodynamic quantities can be determined in the entire range of water content.

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### **Keywords**

Binary mixtures, Excess functions, Methodology, Protein (biomacromolecule) hydration