

INTERACTIONS BETWEEN SERTRALINE HYDROCHLORIDE AND SOME B-CYCLODEXTRINS

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Sertraline hydrochloride is an antidepressant with low solubility in water. To increase the bioavailability of this oral-taken drug it is worth to check influence of the cyclodextrins on this substance. Cyclodextrins are able to improve solubility of the guest drug inserted into their cavities and make the drug absorption in the gastrointestinal tract more effective.

One of the methods to examine the complex formation between drugs and cyclodextrins is the isothermal titration calorimetry (ITC). The set of parameters of interaction given by this experimental method brings information about the strength and the energetic aspects of complex formation between guest and host molecules.

In this work the interaction parameters from ITC measurements like binding constant, enthalpy, entropy and Gibbs energy of binding β -cyclodextrin and their derivatives like heptakis(2,6-di-O-methyl)- β -cyclodextrin and 2-hydroxy-propyl- β -cyclodextrin with sertraline hydrochloride in water at 298.15 K are presented. The parameters of complex formation are compared with each other and with available literature and the conclusions are made.