

## عنوان مقاله:

Solvent Effects on Tautomeric and Microscopic Protonation Constants of Valin in Different Aqueous Solutions of Dimethylsulfoxide

## محل انتشار:

اولین همایش ملی فناوری های نوین در شیمی و مهندسی شیمی (سال: 1392)

تعداد صفحات اصل مقاله: 5

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## خلاصه مقاله:

The acid-base equilibria of valin have been studied in different aqueous solutions of dimethylsulfoxide (0-50 % by v/v) using potentiometric method. In this study, the macro and micro protonation constants of the amino acid and its tautomeric constant have been determined at 25 C and constant ionic strength 0.1 mol dm<sup>-3</sup> (NaCl). The protonation and the tautomeric constants of valin in different binary mixtures were analyzed in terms of Kamlet, Abboud and Taft (KAT) parameters. Single-parameter correlations of the constants versus (hydrogen-bond donor acidity), (hydrogen-bond acceptor basicity) and  $\chi^*$  (dipolarity/polarizability) are poor in all solutions. Multi-parameter correlations show better results, but dual-parameter correlations represent significant improvements with regard to the single and multi-parameter models. Linear correlation is observed when the experimental protonation constant values are plotted versus the calculated ones, while the KAT parameters are considered. Finally, the results are discussed in terms of the effect of the solvent on protonation and tautomeric constants.

## کلمات کلیدی:

Valin; Micro and macro protonation and tautomeric constants; dimethylsulfoxide; Solvent effect

## لینک ثابت مقاله در پایگاه سیویلیکا:

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