Turkish Journal of Chemistry

Turkish Journal

of

Chemistry

Keywords
Authors

chem@tubitak.gov.tr

Scientific Journals Home Page

Potentiometric Studies on the Protonation Constants and Solvation of Some α-Amino Acid Benzyl- and t-Butyl- Esters in Ethanol-Water Mixtures

Alev DOĞAN[1], Esma KILIÇ[2]

[1]Department of Chemistry, Gazi Faculty of Education,
University of Gazi, Ankara-TURKEY
e-mail: alevd@gazi.edu.tr

[2]Department of Chemistry, Faculty of Science, Ankara University,
Ankara-TURKEY

Abstract: To gain more information about the effect of solvent on α -amino acid benzyl- and t-butyl-esters, the stoichiometric protonation constants of 10 esters (glycine benzyl ester, L-alanine benzyl ester, L-valine benzyl ester, L-serine benzyl ester, glycine t-butyl ester, L-alanine t-butyl ester, L-valine t-butyl ester, L-leucine t-butyl ester, L-phenylalanine t-butyl ester and L-isoleucine t-butyl ester) in 20%-80% (v/v) ethanol-water mixtures were determined at an ionic strength of 0.10 M NaCl and at 25.0 \pm 0.1 °C under nitrogen atmosphere. A potentiometric method was used and the calculation of constants was carried out using the PKAS computer program. The logarithm of the protonation constants of the above-mentioned α -amino acid esters linearly decreased with increases in ethanol contents but the values that determined 80% ethanol did not follow this linear trend. The variation of these constants is discussed on the basis of specific solute-solvent interactions.

Key Words: Potentiometry; protonation constants, solvent effect, amino acid esters

---

Turk. J. Chem., **29**, (2005), 41-48.
Full text: pdf
Other articles published in the same issue: Turk. J. Chem.,vol.29,iss.1.