

Ultrasonic and densimetric titration applied for acid-base reactions.

Autorzy

Andrzej Burakowski

Jacek Gliński

Rok wydania

2014

Czasopismo

Analytical Sciences

Numer woluminu

30

Strony

793-798

DOI

10.2116/analsci.30.793

Kolekcja

Naukowa

Język

Angielski

Typ publikacji

Artykuł

Streszczenie

Classical acoustic acid-base titration was monitored using sound speed and density measurements. Plots of these parameters, as well as of the adiabatic compressibility coefficient calculated from them, exhibit changes with the volume of added titrant. Compressibility changes can be explained and quantitatively predicted theoretically in terms of Pasynski theory of non-compressible hydrates combined with that of the additivity of the hydration numbers with the amount and type of ions and molecules present in solution. It also seems that this development could be applied in chemical engineering for monitoring the course of chemical processes, since the applied experimental methods can be carried out almost independently on the medium under test (harmful, aggressive, *etc.*).

Słowa kluczowe

Sound speed, compressibility, density, densimetric titration, acoustic titration, hydration number, monitoring of chemical reactions

Licencja otwartego dostępu

OTHER

Pełny tekst licencji:

Adres publiczny

<http://doi.org/10.2116/analsci.30.793>