

## Accepted Manuscript

Title: Extensive Database of Liquid Phase Diffusion Coefficients of Some Frequently Used Test Molecules in Reversed-Phase Liquid Chromatography and Hydrophilic Interaction Liquid Chromatography

Author: Huiying Song Yoachim Vanderheyden Erwin Adams  
Gert Desmet Deirdre Cabooter



PII: S0021-9673(16)30645-8  
DOI: <http://dx.doi.org/doi:10.1016/j.chroma.2016.05.054>  
Reference: CHROMA 357581

To appear in: *Journal of Chromatography A*

Received date: 5-3-2016  
Revised date: 6-5-2016  
Accepted date: 13-5-2016

Please cite this article as: Huiying Song, Yoachim Vanderheyden, Erwin Adams, Gert Desmet, Deirdre Cabooter, Extensive Database of Liquid Phase Diffusion Coefficients of Some Frequently Used Test Molecules in Reversed-Phase Liquid Chromatography and Hydrophilic Interaction Liquid Chromatography, *Journal of Chromatography A* <http://dx.doi.org/10.1016/j.chroma.2016.05.054>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

# Extensive Database of Liquid Phase Diffusion Coefficients of Some Frequently Used Test Molecules in Reversed-Phase Liquid Chromatography and Hydrophilic Interaction Liquid Chromatography

Huiying Song<sup>(1)</sup>, Yoachim Vanderheyden<sup>(2)</sup>, Erwin Adams<sup>(1)</sup>, Gert Desmet<sup>(2)</sup>, Deirdre Cabooter<sup>(1,\*)</sup>

<sup>(1)</sup>KU Leuven, Department for Pharmaceutical and Pharmacological Sciences, Pharmaceutical Analysis, Herestraat 49, Leuven, Belgium

<sup>(2)</sup>Vrije Universiteit Brussel, Department of Chemical Engineering, Pleinlaan 2, 1050 Brussel, Belgium

(\*) corresponding author:

tel.: (+) 32 (0)16.32.34.42, fax: (+) 32 (0)16.32.34.48, e-mail: deirdre.cabooter@pharm.kuleuven.be

## Highlights

- A database of experimentally measured molecular diffusion coefficients is presented
- Data for 45 compounds frequently used as test molecules in HILIC and RPLC are given
- Diffusion coefficients cover a broad range of mobile phases for each molecule
- Buffer concentration mainly affects the molecular diffusion of charged molecules
- Diffusion coefficients are measured using the Taylor-Aris method

## Abstract

Diffusion plays an important role in all aspects of band broadening in chromatography. An accurate knowledge of molecular diffusion coefficients in different mobile phases is therefore

Download English Version:

<https://daneshyari.com/en/article/7609964>

Download Persian Version:

<https://daneshyari.com/article/7609964>

[Daneshyari.com](https://daneshyari.com)