Taylor & Francis
Online

Journal of Liquid Chromatography & Related Technologies ›
Volume 30, 2007 - Issue 12

71 Views | 19 CrossRef citations to date | 0 Altmetric

Original Articles

Determination of the Lipophilicity Parameters R_{M0} and Log*P* of New Azaphenothiazines by Reversed-Phase Thin-Layer Chromatography†

Beata Morak, Małgorzata Nowak, & Krystian Pluta

Pages 1845-1854 | Received 10 Dec 2005, Accepted 20 Nov 2006, Published online: 07 May 2007

Cite this article https://doi.org/10.1080/10826070701360749

Sample our Physical Sciences Journals
>> Sign in here to start your access to the latest two volumes for 14 days

Full Article | Figures & data | References | Citations | Metrics
Reprints & Permissions | Read this article | Share

Abstract

The lipophilicity parameters (R_{M0} and $logP_{TLC}$) of three types of azaphenothiazines 1–3 were determined by reversed-phase thin-layer chromatography on RP-18 silica plates with acetone-aqueous TRIS (tris(hydroxymethyl)aminomethane) buffer as the mobile phase. The R_M values were linearly dependent on the concentration of acetone, and extrapolated to 0% of acetone, gave the lipophilicity parameter R_{M0}. The parameter R_{M0} and specific hydrophobic surface area b were significantly intercorrelated showing a congeneric class of azaphenothiazines 1–3. The parameter $logP_{TLC}$ was determined from the R_{M0} values by use of a calibration curve obtained for five standards. The determined parameters were discussed in the terms of structure lipophilicity relationships and compared with data obtained from seven calculation programs.

Keywords:

Lipophilicity parameters | R_{M0} | LogP | Azaphenothiazines | Reversed-phase | TLC

Notes

†Part XCI in the series of Azinyl Sulfides.

Related Research Data

Calculation Procedures for Molecular Lipophilicity: a Comparative Study
Source: Quantitative Structure-Activity Relationships
Calculating log Poct from structures
Source: Chemical Reviews
SYNTHESIS AND PROPERTIES OF 14-SUBSTITUTED 1,4- THIAZINODIQUINOLINES
Source: Phosphorus Sulfur and Silicon and the Related Elements
Quantitative correlations between albumin binding constants and chromatographic RM values of phenothiazine derivatives
Source: Journal of Medicinal Chemistry
Lipophilicity of Some N- and O-Substituted Alkanoic Acids of 1,2-Benzisothiazol-3(2H)-one Determined by Reversed-Phase Thin Layer Chromatography
Source: Journal of Liquid Chromatography & Related Technologies
Synthesis of new pentacyclic diquinothiazines
Source: Journal of Heterocyclic Chemistry
Relationship between the ability of some neuroleptics to enhance striatal

Related research

Recommended articles | Cited by 19

Applying machine learning on high-performance thin-layer chromatography using the complementary developing solvents concept ›

Thi Kieu Tiên Do et al.
Journal of Liquid Chromatography & Related Technologies
Published online: 24 Nov 2023

The evaluation of the antioxidant activity of selected Eryngium species based on thin-layer chromatography fingerprints using chemometric tools >

Anna Hawryl et al.
Journal of Liquid Chromatography & Related Technologies
Published online: 11 Jul 2024

Recent advances and application of liquid chromatography in pharmaceutical industry >

Poonam Dhull et al.
Journal of Liquid Chromatography & Related Technologies
Published online: 13 Jan 2025

View more

Information for

Authors

R&D professionals

Editors

Librarians

Societies

Open access

Overview

Open journals

Open Select

Dove Medical Press

F1000Research

Opportunities

Reprints and e-prints

Advertising solutions

Accelerated publication

Corporate access solutions

Help and information

Help and contact

Newsroom

All journals

Books

Keep up to date

Register to receive personalised research and resources by email

Sign me up

Copyright © 2026 Informa UK Limited Privacy policy

Cookies Terms & conditions Accessibility

Registered in England & Wales No. 01072954
5 Howick Place | London | SW1P 1WG

Taylor & Francis by informa