

Accepted Manuscript

Volume-related properties of thiophene and furan-2-carboxaldehyde phenylhydrazones in DMSO: A discussion about non-intrinsic contribution

Ysaías J. Alvarado, Alfonso Ballestas-Barrientos, Jelem Restrepo, Joan Vera-Villalobos, Gladys Ferrer-Amado, Patricia Rodríguez-Lugo, Atilio Ferrebuz, Miguel Infante, Néstor Cubillán

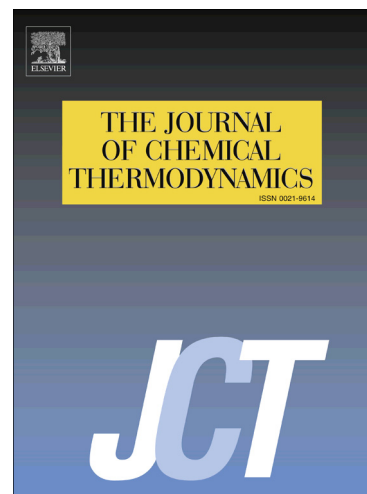
PII: S0021-9614(15)00029-4
DOI: <http://dx.doi.org/10.1016/j.jct.2015.01.016>
Reference: YJCHT 4145

To appear in: *J. Chem. Thermodynamics*

Received Date: 12 June 2014
Revised Date: 23 January 2015
Accepted Date: 31 January 2015

Please cite this article as: Y.J. Alvarado, A. Ballestas-Barrientos, J. Restrepo, J. Vera-Villalobos, G. Ferrer-Amado, P. Rodríguez-Lugo, A. Ferrebuz, M. Infante, N. Cubillán, Volume-related properties of thiophene and furan-2-carboxaldehyde phenylhydrazones in DMSO: A discussion about non-intrinsic contribution, *J. Chem. Thermodynamics* (2015), doi: <http://dx.doi.org/10.1016/j.jct.2015.01.016>

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.



Volume-related properties of thiophene and furan-2-carboxaldehyde phenylhydrazone derivatives in DMSO: A discussion about non-intrinsic contribution

Ysaías J. Alvarado^{a,*}, Alfonso Ballestas-Barrientos^{c,b}, Jelem Restrepo^a,
Joan Vera-Villalobos^a, Gladys Ferrer-Amado^a, Patricia Rodríguez-Lugo^a,
Atilio Ferrebuz^a, Miguel Infante^a, Néstor Cubillán^{c,*}

^a*Centro de Investigación y Tecnología de los Materiales (CITeMA), Laboratorio de Caracterización Molecular y Biomolecular (LCMB) Instituto Venezolano de Investigaciones Científicas (IVIC), Av. 8, calle 80, frente a colegio los maristas Chiquinquirá, Maracaibo, Estado Zulia, República Bolivariana de Venezuela*

^b*Department of Chemistry, University of Central Florida, P.O. Box 162366, Orlando, FL 32816-2366, USA*

^c*Laboratorio de Electrónica Molecular (LEM), Departamento de Química, Facultad Experimental de Ciencias, La Universidad del Zulia, Ap. 526, Grano de Oro, Módulo No.2, Maracaibo, Estado Zulia, República Bolivariana de Venezuela.*

Abstract

An analysis of the experimental and theoretical non-intrinsic contribution to the limiting partial molar volume, $\langle\theta\rangle$, of thiophene- and furan-2-carboxaldehyde phenylhydrazone, 4-nitrophenylhydrazone and 2,4-dinitrophenylhydrazone derivatives – henceforth referred as PHT, NHT, DHT, PHF, NHF and DHF, respectively – in dimethylsulfoxide is presented. A refractometric method to determine $\langle\theta\rangle$ was proposed, which was able to successfully reproduce the method based on high-precision densitometry measurements at 293.15 K. No general trend of $\langle\theta\rangle$ with the molecular size was observed. The theoreti-

*Corresponding author

Email addresses: yalvarad@ivic.gob.ve, yalvaradofec@yahoo.com (Ysaías J. Alvarado), ncubillan@fec.luz.edu.ve (Néstor Cubillán)

Download English Version:

<https://daneshyari.com/en/article/6660582>

Download Persian Version:

<https://daneshyari.com/article/6660582>

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