University of New Orleans
ScholarWorks@UNO

Chemistry Faculty Publications | Department of Chemistry

12-1-1977

Erratum: A comparison of the rough sphere rotational diffusion model with experimental results for liquid methyl iodide

Scott Whittenburg
University of New Orleans, swhitten@uno.edu

Follow this and additional works at: http://scholarworks.uno.edu/chem_facpubs

Part of the Chemistry Commons

Recommended Citation
Dane R. Jones, S. L. Whittenburg, and C. H. Wang. "Erratum: A comparison of the rough sphere rotational diffusion model with experimental results for liquid methyl iodide." Journal of Chemical Physics 67 (11): 5414.

This Article is brought to you for free and open access by the Department of Chemistry at ScholarWorks@UNO. It has been accepted for inclusion in Chemistry Faculty Publications by an authorized administrator of ScholarWorks@UNO. For more information, please contact scholarworks@uno.edu.

Erratum: Unitary approach to capillary condensation and adsorption [J. Chem. Phys. 66, 5069 (1977)]

J. R. Philip

CSIRO Division of Environmental Mechanics, Canberra City, A.C.T. 2601, Australia

Four corrigenda are noted:

In the abstract 0.98 should be 0.99.

In Eq. (8), $F(y) - \Psi_*$ should be $\Psi_* - F(y)$.

In Eq. (20), $+\frac{r''}{[1+(r')^2]^{3/2}}$ should be $-\frac{r''}{[1+(r')^2]^{3/2}}$.

On p. 5074, line 3, 10^{-6}m should be 10^{-8}m.

Erratum: A comparison of the rough sphere rotational diffusion model with experimental results for liquid methyl iodide [J. Chem. Phys. 65, 2033 (1976)]

Dane R. Jones,[a] S. L. Whittenburg, and C. H. Wang

Department of Chemistry, University of Utah, Salt Lake City, Utah 84112

The theoretical values of τ_1 and τ_2 for $\tau_\omega < 1.5 \times 10^{-13}$ s shown in Fig. 1 are in error. The corrected figure is given below. For $\tau_\omega \simeq 4 \times 10^{-14}$ s, the theoretical τ_1 and τ_2 values are in agreement with the experimental infrared and Raman relaxation times. This τ_ω is an order of magnitude closer to the experimental angular momentum relaxation time but is still a factor of three too small. This τ_ω value also yields more physically reasonable values for the packing fraction and roughness. For a perfectly rough sphere of diameter 5.05 Å, the corresponding packing fraction is 0.68. The paper should conclude that Chandler's rough sphere rotational diffusion model gives a reasonable explanation of the motion of liquid methyl iodide.

We thank R. E. D. McClung of the University of Alberta for questioning our results.

[a]Present address: Department of Chemistry, California Polytechnic State University, San Luis Obispo, California 93407.

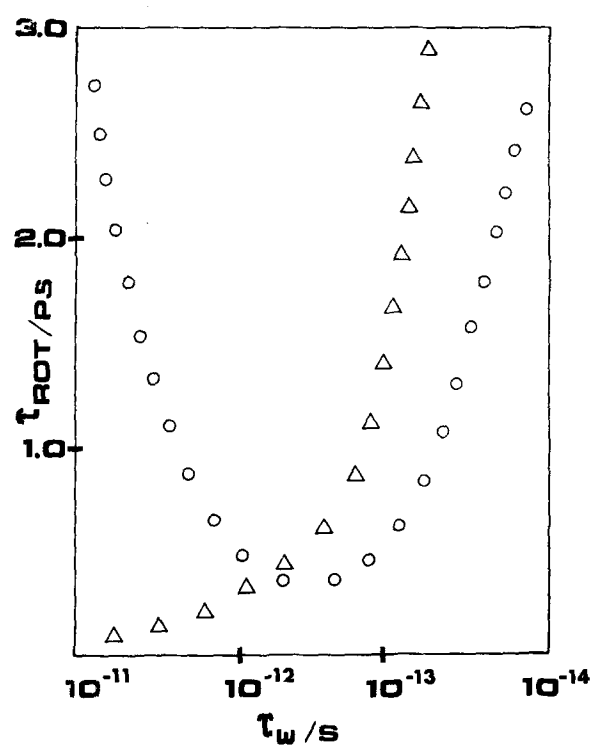

FIG. 1. Rotational relaxation times vs angular momentum relaxation time for methyl iodide at 283.7 K: △, τ_1 (infrared); ○, τ_2 (Raman).

 Copyright © 1977 American Institute of Physics

Downloaded 09 Aug 2010 to 137.30.216.119. Redistribution subject to AIP license or copyright; see http://jcp.aip.org/jcp/copyright.jsp