ADDITIONS AND CORRECTIONS

2002, Volume 106B

Takeshi Hasegawa: A Novel Measurement Technique of Pure Out-of-Plane Vibrational Modes in Thin Films on a Nonmetallic Material with No Polarizer

Page 4115. Equation 5 for the molecular orientation analysis should be corrected in the following way:

$$\varphi = \tan^{-1}\left(\sqrt{2\frac{I_{IP}}{I_{OP}}}\right)$$

The infrared absorption-intensity ratio in the equation represents the ratio of the absorption index (k) in the in-plane and out-of-plane directions. The absorption index of a direction is proportional to the probability of vibrational transition per unit of time, which is also proportional to $\langle\phi_f|\mu_j E_j|\phi_i\rangle^2$ where μ_j and E_j are the dipole moment and electric field in the j direction, respectively, and ϕ_f and ϕ_i are the wave functions of the initial and final vibrational states via the interaction with the dipole moment, respectively. When we discuss the orientation of a dipole, therefore, the square root of the ratio of absorbance intensities must be calculated before applying the inverse tangent function. This is also mentioned in a different way by Chollet et al.[1]

References and Notes

(1) Chollet, P.-A.; Messier, J.; Rosillio, C. *J. Chem Phys.* **1976**, *64*, 1042.

10.1021/jp0306040
Published on Web 06/13/2003