

ERRATA for 'CONSTITUTIVE EQUATIONS FOR POLYMER MELTS AND SOLUTIONS'

p.6, fifth line from the bottom should have 'always positive' replaced by 'usually positive'.

p. 31, second line, replace 'is called' with 'is closely related to'

p. 33, Eqn. (2-11) should include ' $\beta^2$ ' after ' $\nu k$ '.

p. 41, starting at the fourth line from the bottom, delete the phrase beads and the solvent dragged by the beads is negligible'.

p. 43, second line, the phrase 'where m is the mass of a bead' should be added after 'seconds or less'.

p. 46, Eqn. (2-50); the summation should begin at  $j=1$ , not  $i=j$

p. 47, Eqn. (2-55) should have  $= 0$  on the right side.

p.51, Caption to Fig. 2-7 should include ' $G''_R$ ' after ' $G'_R$  and'.

p.66, Eqn. (3-20): the two minus signs should be changed to pluses.

p.67, Eqns. (3-26) and (3-27) should contain ' $e^{(t-t)/\lambda}$ ' instead of ' $e^{t-t}$ '.

p.69, second full sentence after Eqn. (3-36) should have ' $f = -\lambda^{-1}(\underline{\underline{\sigma}} - 2\underline{\underline{\eta}}_0 D)$ ' instead of ' $f = \lambda^{-1}(\underline{\underline{\sigma}} - 2\underline{\underline{\eta}}_0 D)$ '.

p.69, in Eqn. (3-38) there should be a dot over the second  $\underline{\underline{\sigma}}$ ; i.e., the equation should read ' $\underline{\underline{\sigma}}^0 \equiv \underline{\underline{\dot{\sigma}}} - \underline{\underline{\omega}}^T \cdot \underline{\underline{\sigma}} - \underline{\underline{\sigma}} \cdot \underline{\underline{\omega}}$ '.

p.78, third line after Eqn. (3-69) should read ' $\underline{\underline{\sigma}} = \underline{\underline{G}} \underline{\underline{C}}^{-1}$ ' instead of ' $\underline{\underline{\sigma}} = 2\underline{\underline{G}} \underline{\underline{C}}^{-1}$ '.

p.78, in Eqn. (3-72) the minus sign should be a plus sign.

p.78, second line from the bottom should say ' $\phi \equiv 2(\partial u / \partial I_1 + \partial u / \partial I_2)$ ' instead of ' $\phi \equiv (\partial u / \partial I_1 - \partial u / \partial I_2)$ '

p. 79, in Eqn. (3-75) the lower and upper limits of the first integral should be  $-\infty$  and 0, respectively; while the lower and upper limits of the second integral should be t and  $\infty$ , respectively.

p.85, in Eqn. (3-90), the diagonal elements of the tensor should be  $\hat{\sigma}_1$ ,  $\hat{\sigma}_2$ , and  $\hat{\sigma}_3$ .

p.96, the term  $+(1/3)N_K \delta$  should be added to the right side of Eqn. (4-7).

p.100, the labels of the abscissa and ordinate of Fig. 4-2 should be interchanged.

p.101, line 10 should read  $G'' = \sqrt{3}G'$  instead of  $G'' = \sqrt{3} = G'$ .

p.106, in Eqn. (4-12),  $\lambda^2$  should be  $\lambda_1$ .

p.106, 8th line from the bottom; the sentence beginning with 'It therefore diffuses...' should be removed.

p.110, in Eqn. (4-20), the right side should be  $|u' \cdot F^{-1}|^{-3} \psi_0(u')$  instead of  $|u' \cdot F^{-1}|^{-3}$ .

p.111, in the third line from the bottom, 'before and after' should be replaced by 'after and before'.

p.112 on the left side of Eqn. (4-27),  $P_{t',t}$  should be multiplied by  $G_N^0$

p.112 in Eqn. (4-28), the two expressions to the right of the first '=' should both be multiplied by  $dt'$ .

p.112 on the right side of Eqn. (4-29)

p.113, in Eqn. (4-30),  $G_N^0$  should be placed in front of the integral.

p.120, second line from the bottom should contain '-0.05 to -0.30' instead of '-0.05 to -0.14.'

p.135, in the first sentence after heading 5.3.2,  $\tau \equiv \sigma - G\delta$  should be replaced by  $\tau \equiv \sigma - \frac{G}{a}\delta$ .

p.144, in Eqn. (5-42),  $\frac{1}{\lambda}$  should be replaced by  $-\frac{1}{\lambda}$ .

p.144, the last line should read  $\eta \propto \dot{\gamma}^{-4/3}$ ,  $\Psi_1 \propto \dot{\gamma}^{-2}$ .

p.161, fourth line from the bottom should read  $W = \frac{1}{2}G(I_1-3)$  instead of  $W = \frac{1}{2}I_1$ .

p.178, In Eqn. (6-51),  $G\delta$  should be replaced by  $\frac{G}{\lambda}\delta$ .

p.180, Caption to Fig. 6-8: ref. 39 should be changed to ref. 36.

p.201-206, in the captions to Figs. 7-4 through 7-9, the year 1978 should be changed

to 1987.

p.203-4, the term ' $1/\lambda_i$ ' in Eqns. (7-18) and (7-19) should be changed to ' $\frac{1}{\lambda_i} \tau_i$ '.

p.213, in the second line from the top,  $\psi_2$  should be replaced by  $\phi_2$ .

p.217, ref. 22 should read 'S. Chatrei, C.W. Macosko, and H.H. Winter, J. Rheol.' instead of 'S. Chatrei and C.W. Macosko'.

p.227, in Eqn. (8-17) ' $\frac{kT}{\zeta}$ ' should be replaced by ' $\frac{1}{\zeta}$ '.

p.227, Eqn. (8-18) should contain '= 0' on the right hand side.

p.235, the end of the first line should omit the word 'for.'

p.236, fourteenth line, the phrase 'longest mode' should be replaced by 'overall shape'.

p.238, fourth line from the bottom should read 'decreases' instead of 'increases'.

p.239, Eqn. (8-31) should contain ' $2\phi$ ' instead of ' $\phi$ ', and there should be an ' $R$ ' in front of ' $\nabla_v$ '.

p.242, Eqn. (8-38) should contain '4' rather than '2' in the denominator.

p.243, Eqn. (8-40) should contain ' $8kT\beta^2$ ' instead of ' $8kT$ '.

p.243, Eqn. (8-41) should contain ' $\beta^2 nkT$ ' instead of ' $nkT$ '.

p.247, Eqn. (8-60): ' $\psi$ ' should appear after ' $\nabla_v$ ' and after ' $H(R^2)R$ '. The final '-' sign should be '+'.

p.248, in Eqn. (8-62), after the second equal sign the ' $\zeta$ ' should be in the numerator, not the denominator.

p.249, the first line should contain ' $\varepsilon \equiv 2 \phi/\zeta$ ' instead of ' $\varepsilon \equiv \phi/\zeta$ '.

p.251, 7th line from the bottom: 'nonviscous' should read 'low viscosity'.

p.252, in the first line after Eqn. (8-70), 'vector vector' should be replaced by 'vector.'

p.252, in Eqn. (8-71), ' $\frac{1}{2}\lambda$ ' should be replaced by ' $\frac{1}{2\lambda}$ '.

p.254  $3\eta_s$  should be subtracted from the numerator, ' $\bar{\eta}_u$ ', and denominator, ' $3\eta_0$ ' of

the label on the ordinate of Fig. 8-13.

p.259, 6th line from the bottom: ref. 2 should be ref. 11.

p.260, in the last line before Eqn. (8-83), ref. 2 should be ref. 11.

p.263, Fig. 8-19, the ordinate should be labelled  $(\eta - \eta_s)/(\eta_0 - \eta_s)$ .

p.265, on the left side of Eqn. (8-91), ' $R$ ' should be ' $\tilde{R}$ '.

p.265, The first citation in Section 8.7.2.3 should be to ref. 61, not ref. 60.

p. 270, reference 61 should include 'J. Fluid Mech.' after 'Leal'.

p.273, in the first line after Eqn. (9-3), ' $II_D = \dot{\gamma}$ ' should be ' $II_D = \dot{\gamma}^2$ '.

p.278, in Eqns. (9-22a)—(9-22d), ' $\eta\dot{\epsilon}$ ' should be replaced by ' $\eta$ ', and ' $\dot{\epsilon}^2$ ' should be replaced by ' $\dot{\epsilon}$ ' in every term on the right sides of all four equations.

p.279, the first three lines after Eqn. (9-23) should be changed to 'where the  $\underline{\underline{A}}$  tensors are defined by the recursion relation  $\underline{\underline{A}}_{(i)} \equiv \underline{\underline{A}}_{(i-1)}^\nabla$ , with  $\underline{\underline{A}}_{(1)} = 2D$ . The  $\underline{\underline{A}}_{(i)}$  tensors are analogous, but not identical, to the Rivlin-Ericksen tensors.<sup>3</sup> One hopes that as'.

p.288, first line from the top: 'converges' should be 'convergent'.

p.303, Eqn. (10-4) ' $du^2$ ' should be ' $du'^2$ '

p.307, Eqn. (10-17) should contain ' $D_r^2$ ' instead of ' $D_r$ ' in the denominator of the expression for  $\Psi_{1,0}$

p.307, Eqn. (10-17) should contain ' $\Psi_{2,0}/\Psi_{1,0} = -2/7$ ' instead of ' $\Psi_{2,0}/\Psi_{1,0} = -1/7$ '.

p.308, fifth line should omit 'and extinction angle.'

p.319, the last term on the left side of Eqn. (10-51) should be multiplied by U.

p.319, in the second to last line in the footnote, the second 'qualitatively' should be omitted.

p.325, Eqn. (10-62): the first term should contain ' $\underline{\underline{\nabla}} \cdot \underline{\underline{n}}$ ' instead of ' $\underline{\underline{\nabla}} n$ '.

p.327, Eqn. (10-71) should contain a minus sign in front of ' $\tau_{ij}^d$ ', and ' $\tau_{ij}^d$ ' should be changed to ' $\tau_{jk}^d$ '.

p.332, Eqn. (10-83) should have ' $\underline{= 0}$ ' on the right side.

p.337,348,352, 'Tarantuta' should be changed to 'Taratuta.'

p.338, section 10.6.2.4: In the second line, ' $\alpha_2$ ' should be ' $\alpha_3$ '. In the fourth line, ' $\alpha_3$  is negative' should be ' $\alpha_2$  is negative'. In the footnote, ' $\alpha_2$ ' should be ' $\alpha_3$ '.

p.339 after Eqn. (10-108) add 'where we have used the Doi-theory predictions that  $S = 1/2$  at  $v = v^*$ , and  $S \rightarrow 1$  as  $v \rightarrow \infty$ .'

p.340, in Eqn. (10-109), the numerator should read ' $3(1+S/2)^2$ ' instead of ' $3S(1+S/2)^2$ '.

p.348, ref. 41 should read 'Katholiecke' instead of 'Katholicke'.

p.350 'Huigol' is a misspelling; it should be 'Huilgol'.

IF YOU FIND OTHER ERRORS, PLEASE REPORT THEM TO:

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