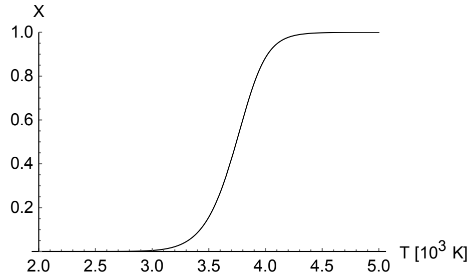
Corrections *Thermodynamics* **by R. Hentschke** (June 22, 2022)

	incorrect	*corrected*
p. 31 (above Eq. (2.21))	$\Delta p_z = 2m\Delta z/\Delta t$	Δp_z
p. 33 (Eq. (2.28))	$E = \ldots$	$E = N\ldots$
p. 33 (Eq. (2.29))	$P = \ldots$	$P = N\ldots$
p. 34 (Eq. (2.31))	$\ldots - d\ln V)$	$\ldots + d\ln V)$
p. 57 (above Eq. (2.124))	$2\pi R\vec{\gamma}\cos\theta = \vec{\gamma}_{TA} - \vec{\gamma}_{TL} = m\vec{g}$	$2\pi R(\vec{\gamma}_{TA} - \vec{\gamma}_{TL}) = m\vec{g}$ with $\gamma\cos\theta = \gamma_{TA} - \gamma_{TL}$
p. 57 (below Eq. (2.124))	Nobel Prize in chemistry	Nobel Prize in physics
p. 65 (line above Eq. (2.149))	$\ldots - T\frac{\partial P}{\partial V}\Big\vert_T \frac{\partial V}{\partial T}\Big\vert_P$	$\ldots - T\frac{\partial P}{\partial V}\Big\vert_T \left(\frac{\partial V}{\partial T}\Big\vert_P\right)^2$
p. 66 (Eq. (2.152))	$\ldots \underbrace{\frac{\partial T}{\partial S}\Big\vert_P}_{\overset{(2.147)}{=}} \frac{T}{C_P}\ldots$	$\ldots \underbrace{\frac{\partial T}{\partial S}\Big\vert_P}_{\overset{(2.147)}{=}\frac{T}{C_P}} \ldots$
p. 100 (in example)	Typo-Amphiphilic	Amphiphilic
p. 105 (in figure caption)	...(4.102)...	...(3.102)...
p. 115 middle	$\ldots e^{(o)}_{1s} - e^{(o)}_p - e^{(o)}_e \ldots$	$\ldots - e^{(o)}_{1s} + e^{(o)}_p + e^{(o)}_e \ldots$
ibid. (2nd eqn. from bottom)	$\ldots \mu_i \ldots$	$\ldots \mu_i/R \ldots$
p. 116 middle	$\ldots 1.75\cdot 10^{-24}\ldots$	$\ldots 1.75\cdot 10^{-24}T^3\ldots$
Fig. 3.18		see below
p. 144 (Eq. (4.46))	$\ldots \overset{(3.107)(3.165)}{=} \ldots$	$\ldots \overset{(2.105)(2.165)}{=} \ldots$
p. 182 (sentence above Eq. (5.33))	... free energy ...	... differential free energy ...
p. 182 (Eq. (5.33))	$f = -Ts + \frac{1}{2}\sigma_{\alpha\beta}u_{\alpha\beta}$	$df = -sdT + \sigma_{\alpha\beta}du_{\alpha\beta}$
p. 184 (below Eq. (5.43))	$\ldots\sigma_x^2 = \sigma_x^2 = \sigma_x^2 = \ldots$	$\ldots\sigma_x^2 = \sigma_y^2 = \sigma_z^2 = \ldots$
p. 192 (Eq. (5.77))	$\ldots = \frac{\partial}{\partial T}\langle E\rangle\ldots$	$\ldots = \frac{1}{k_B}\frac{\partial}{\partial T}\langle E\rangle\ldots$
p. 195 (3rd line from bottom)	$\ldots\ln Q^{rot}\ldots$	$\ldots T\ln Q^{rot}\ldots$
p. 238 (last paragraph)	... Chaperon ...	... Clapeyron ...

	incorrect	*corrected*
ibid.	... Kofta ...	... Kofke ...
throughout chapter 7	$\ldots \stackrel{(n.xy)}{=} \ldots$	$\ldots \stackrel{(n-1.xy)}{=} \ldots$
p. 243 (unnum. equation)	$\ldots - \int d\{\Delta x\} \ldots$	$\ldots - k_B \int d\{\Delta x\} \ldots$
p. 245 (Eq. (7.27))	$\ldots \frac{\Delta x_j}{dt}$	$\ldots \frac{d\Delta x_j}{dt}$
p. 246 (Eq. (7.31))	$\ldots Big\|^{o}_{E_\nu, q_\nu}$	$\ldots \Big\|^{o}_{E_\nu, q_\nu}$
p. 248 (line above Eq. (7.44))	... Eq. (7.41) ...	... Eq. (7.42) ...
p. 251 (Eq. (7.61))	$\ldots \Delta X_j \Delta X_j \geq 0$	$\ldots \Delta X_j \Delta X_{j'} \geq 0$
p. 252 (eqn. above (7.63))	$\ldots \Delta X_j \Delta X_j' \ldots$	$\ldots \Delta X_j \Delta X_{j'} \ldots$
p. 256 (3rd line from top)	$\ldots \vec{A} \ldots$	$\ldots d\vec{A} \ldots$
ibid.	... is an ...	... is a ...
p. 256 (above Eq. (7.78))	... (8.77) ...	... (7.77) ...
p. 257 (sentence below (7.86))	... the velocity ... relative ...	is the velocity ... relative to ...
p. 259 (line above (7.103))	... cf. (1.51) ...	... cf. (1.51), ...
p. 260 (2nd eqn. from top)	$\ldots \stackrel{(8.94)}{=} \ldots$	$\ldots \stackrel{(7.94)}{=} \ldots$
ibid. (4th eqn. from top)	$\ldots \stackrel{(8.94)(8.95)(8.96)}{=} \ldots$	$\ldots \stackrel{(7.87)(7.95)(7.99)}{=} \ldots$
ibid. (Eq. (7.104))	$\ldots \stackrel{(8.77)(8.100)}{=} \ldots$	$\ldots \stackrel{(7.77)(7.100)}{=} \ldots$
ibid. (Eq. (7.104))	$\ldots \stackrel{(8.83}{=} \ldots$	$\ldots \stackrel{(7.83)}{=} \ldots$
ibid. & Table 7.2	μ_i	μ_i/m_i
p. 261 (Example)	$\frac{d\xi'^{(..)}}{dt} = \nu_{..} \frac{dn_{..}/V}{dt}$	$\frac{d\xi'^{(..)}}{dt} = \nu_{..}^{-1} \frac{dn_{..}/V}{dt}$
ibid.	$\ldots(\nu_A^2 \mu_A + \nu_X^{(1)} \nu_A \mu_X) \ldots$ $\ldots(\nu_X^{(2)} \nu_B \mu_X + \nu_B^2 \mu_B) \ldots$	$\ldots(\mu_A + \nu_X^{(1)} \nu_A^{-1} \mu_X) \ldots$ $\ldots(\nu_X^{(2)} \nu_B^{-1} \mu_X + \mu_B) \ldots$
p. 262	$\ldots \rho[m_A] \ldots$ and $\ldots \rho[m_B] \ldots$	$\ldots \rho[m_A]/m_A \ldots$ and $\ldots \rho[m_B]/m_B \ldots$
p. 267 (8 lines above (7.131))	... less than one ...	... greater than one ...
p. 274 (3 $\times$)	RNS	RNA

	incorrect	*corrected*
p. 275 (sentence above (7.141))	According to Eq. (7.139)...	According to Eq. (7.140)...

corrected Fig. 3.18:



Comments

p. 185 The first paragraph contains the sentence: In addition we may identify δL in Eq. (5.38) with δR in Eq. (5.45). As the next sentence points out, we do not stretch a single polymer chain however. We deform many chains inside a macroscopic sample. A more detailed calculation shows that in the case of a rubber sample, whose volume to very good approximation is constant during the deformation, we obtain $\delta S/\delta L|_T \approx -3k_B N_c \delta L/L_o^2$ in the limit of small strain. Here N_c is the number of chains in the sample. In particular we notice that the dependence on the segment length a has disappeared - which is important! Readers familiar with polymer physics probably know that a in molecular theories of single polymer conformation does depend on temperature as well as on the specific polymer.