Errata – * indicates changes since the Dover printing
Chemical Kinetics and Reaction Dynamics
by Paul Houston
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p 36, After Eq (2.3), ... the rate constant will have units of time^{-1} concentration$^{-(q-1)}$

p 59, Example 2.5, third sentence: change to "Assume that the principal destruction mechanism for ozone ..."

*p 60, Example 2.5, last equation: the second term in the denominator should be $k_{-1}[O_2][M]$.

p 62, next to last line: replace kT with RT

p 63, eq. 2.73: relace kT with RT (twice)

p 99: In equation 3.7 replace v_r with $\langle v_r \rangle$

p 99, Figure 3.8 at the second level should be $\sigma(\epsilon_r)$ rather that $\epsilon(\sigma_r)$.

p 100, Example 3.1, eq. 3.9: 3.6 x 10^{10} m should be 3.6 x 10^{-10} m

p 109, Equation 3.25: replace $H^{\ddagger}$ by $\Delta H^{\ddagger}$

*p109, Equation 3.27 is correct as written but is for the case when the reaction takes place in the condensed phase, where $\Delta(PV)=0$. In this case $\Delta H^{\ddagger} = \Delta E^{\ddagger} = E_a$ - RT. [This last equation can be derived by taking the derivative of the ln of (3.18) with respect to T and comparing the result to the derviative of the Arrhenius equation with respect to T] For gas phase reactions, $\Delta n^{\ddagger} = -1$, and 3.27 should read $A = \exp(2)\,(kT/h)\exp(\Delta S^{\ddagger}/R)$.

p 112, first line. There should be a close bracket after the ϵ^* on this line.

p 121, one line after Equation 4.4: replace "was performed in **equation 1.31**" by "was performed in deriving **equation 1.31**"

p 121, two lines before equations 4.5
$1/4\pi\langle v \rangle$ should be $(1/4\pi)\langle v \rangle$

p 126, two lines under equation 4.14: replace "so that $n_2^*=n^*$" with "so that $n_1^*=n^*$"

p 136, example 4.8, Method: replace "example 4.43" with "equation 4.43"

p 143, problem 4.18, part b, first equation: both ½ in the denominator should be replaced by (1/2).

p 149, eq. 5.14 should read

$$J_{A-B} = (J_A + J_B) = -(D_A + D_B)\nabla B(r, \theta, \varphi).$$

p 150, eq. 5.15: insert minus sign before (D_A+D_B)... on rhs.

p 150, eq. 5.17: replace $\partial^2\theta$ by $\partial\theta^2$

*p155, , last line: replace (D^+A^+) by (D^+A^-)

*p165, Eq. 5.35: the lhs should read $\log_{10}k$ rather than $\log_{10}k_0$

*p 176, footnote c: The page number for the first article should be 2221.

p 184, three lines from bottom: replace $D = \frac{1}{2}x_{rms}^2/t$ with $D_0 = \frac{1}{2}x_{rms}^2/t$

p 185, Solution to Example 6.4: The correct answer is not 0.7×10^{-6} m^2 s^{-1} but rather 5.9×10^{-16} m^2 s^{-1}.

p 192, Equation 6.24, second line: should be "A-S → S + P" with rate constant k over the arrow.

p. 193, line after Equation 6.26 should read "From the equation $S(t) = kC(t)$, we obtain $s(\omega)=kc(\omega)$, so" ($s(\omega)$ and $c(\omega)$ should be lower case)

p. 193, figure 6.18: the hypotenuse of the triangle should be labeled $a(\omega)/s_0$

p 199, Add at the end of Problem 6.7: "Even though it actually dissociatively adsorbs, for this problem assume the H_2 adsorbs molecularly."

*p 200, third line of Problem 6.12: change "adsorption of the H atom" to "adsorption of the D atom"

p 206, just below equation 7.10: Replace sentence with "The density of light in a particular interval, $\rho(\nu)d\nu$, times its speed, c, is the intensity in that interval: $\rho(\nu)cd\nu = I(\nu)d\nu$.

p 207, Eq. 7.13: the exponent of π in the numerator should be 4 rather than 2.

p 224, chemical equations: the product of ClOO + M should be $Cl + O_2 + M$

p 225, the right-hand axis of Fig. 7.17 should have the numbers 1000, 2000, 3000 rather than 1000, 1000, 1000

p 262, Example 8.1 Objective line 4: replace equal sign by times sign

p 262, Example 8.1 third line from bottom: insert v_r after $\int\pi d^2$

p 266, line 2: m_1m2/M should be m_1m_2/M

p 267, two lines before Fig. 8.9: $d^3\sigma(v_r,\theta)/d^2\omega dv_r'$ should be $d^3\sigma(v_r',\theta)/d^2\omega dv_r'$

p 269, three lines before eq. 8.12 and, again, five lines after eq. 8.12: $d^2\sigma(v_r,\theta)/d^2\omega dv_r'$

should be $d^3\sigma(v_r',\theta)/d^2\omega dv_r'$ (two mistakes each); a dv_r' is missing at the end of Eq. 8.12.

p 286, line 6: delete “that do react”

p 288, Equation 8.27, the exponent should be $-i(E_i-E_f)t/\hbar$

p 289, fourth line after Eq. 8.30: “give by **equation 8.29**" should be replaced by “given by **equation 8.30**"

p 291, Equation 8.34, the exponent of the first term in the square brackets should be 12 rather than ½

*p 293, Figure 8.29, in the interior caption to the figure, replace “HCI” by “HCl” twice

p 295, example 8.4, method: replace “be considering” with “by considering”

*p 305, Figure 8.38, in the interior caption to the figure, the second line for the products should read “OH +HD” rather than “OD + HD”

Solution Manual
Problem 1.14 on pages 12 and 13: on page 13 relacce V_s with v_s, and on page 14 replace V_{walk} with v_{walk}.

Problem 3.12 on page 74: the exponent of $(8kT/\pi\mu)$ should be ½ in both numerator and denominator in the first equation on this page.

Problem 4.2, last line. Should read “κ and D vary as $1/\sqrt{m}$, whereas η varies as $\sqrt{m}$. Why?”

Problem 4.14 on the bottom of page 85: the rhs of the equation should be raised to the ½ power.

Problem 7.21, page 134, solution: the number 3.1×10^{-4} should be 7.2×10^{-4} (two changes), and the final answer should be 9.0×10^{12}.