ERRATUM

Air-Water Partition Coefficient - Chapter 8
Concepts and Theory of Chemical Property Estimation - Chapter 2
Diffusivity - Chapter 12
Octanol-Water Partition Coefficient - Chapter 9
Soil and Sediment Sorption Coefficient - Chapter 10

CONCEPTS AND THEORY OF CHEMICAL PROPERTY ESTIMATION - CHAPTER 2
Page 11, paragraph 1, line 4, Eqn. 2.2
Now reads \( \Delta G = \Delta H + T \Delta S \)
It should read \( \Delta G = \Delta H - T \Delta S \)

AIR WATER PARTITION COEFFICIENT - CHAPTER 8
Page 123, paragraph 1, line 10
Now reads .....where \( V_m \) (mol/m³) is the molar volume....
It should read .....where \( V_m \) (m³/mol) is the molar volume...

Page 130, paragraph 1, line 4, Eqn 8.10
Now reads \( \log K_{AW} = \sum a_i g_i + \sum b_j F_j \)
It should read \( \log \gamma = \sum a_i g_i + \sum b_j F_j; \quad 1/\gamma = K_{AW} \)

Meylan and Howard model directly estimates \( 1/K_{AW} \).

Page 130, Example
Now reads \( \log K_{AW} = \sum a_i g_i + \sum b_j F_j \)
= (7)(-0.1197)+(2)(0.2326)+(1)(1.0855)+(1)(3.2301)+(1)(-0.20).....
It should read .....\( \log \gamma = \sum a_i g_i + \sum b_j F_j \)
= (7)(-0.1197)+(2)(0.1163)+(1)(1.0855)+(1)(3.2301)+(1)(-0.20)
= 3.5112
The measured value of \( \log \gamma = \log 1/K_{AW} \) is 3.55.........

Page 131, Table 8.2
The title now reads Bond Contribution to \( \log K_{AW} \) at 25°C
It should read Bond Contribution to \( \log \gamma \) at 25°C. See Equation 8.10

Page 132, Table 8.3
The title now reads Correction Factors for \( \log K_{AW} \) at 25°C
It should read Correction Factors for \( \log \gamma \) at 25°C. See Equation 8.10

OCTANOL-WATER PARTITION COEFFICIENT - CHAPTER 9
Page 139, Example
Now reads
1. Identify the significant fragments found in the molecular structure.
   The structure contains four CH3, two CH2, two -C*H<, one >C*<......

*It should read*
1. Identify the significant fragments found in the molecular structure.
   The structure contains four CH3, two CH2, three -C<, three =C<......

**Page 142, Example**

*Now reads*  
\[ \log K_{\text{OW}} = a + \sum_i b_i B_i + \sum_j c_j C_j \]
\[ = -0.703 + (4)(0.661) + (2)(0.415) + (2)(0.104) + (3)(0.380) + (1)(0.129) + (1)(0.135) \]
\[ = 4.25 \]

The measured value of \( \log K_{\text{OW}} \) is 4.36. The estimate error is 2.6%....

*It should read*  
\[ \log K_{\text{OW}} = a + \sum_i b_i B_i + \sum_j c_j C_j \]
\[ = -0.703 + (4)(0.661) + (2)(0.415) + (2)(0.104) + (3)(0.380) + (3)(0.129) + (1)(0.135) \]
\[ = 4.51 \]

The measured value of \( \log K_{\text{OW}} \) is 4.36. The estimate error is 3.4%.....

**Page 197, Example**

3. If we assume that sorption is a linear function of solute concentration, \( K_P = K_d = f_{OC} \delta_{OC} \)
   or \( K_{OC} = K_P \delta_{OC} \)
   \[ \log K_{OC} = \log K_P - \log f_{OC} \]
   \[ = 3.21 - \log 0.0270 \]
   \[ = 4.78 \]

**Page 200, paragraph 1**

This paragraph concerns \( K_P \) values, not \( K_{OC} \) values. *It should read* A......The estimate of \( K_P \) is in error by 40%. However, the \( K_P \) value of pentachlorophenol...

**DIFFUSIVITY - CHAPTER 12**

**Page 250, Example**

*Now reads*  
Estimate the diffusivity in air of carbon tetrachloride, CCl4, at 25°C and 1 atm pressure....

*It should read*  
Estimate the diffusivity in air of carbon tetrachloride, CCl4, at 25°C and 1 bar pressure...