Questions from the "PAL Prüfungsbuch"
Matter Constants and Physical Values

384: The Nernst partition law is expressed by the formula $\frac{C_1}{C_2} = K.$. Which statement is correct?

1) *K* is not dependent on temperature
2) *K* is dependent on pressure
3) *K* is dependent on the concentration of the substance in the initial solution
4) It is only possible to specify *K* for the distribution of a substance between to different liquids that are not soluble in each other
5) In analytically utilized mixtures *K* needs to be as small as possible

385: The Nernst partition coefficient of an analyte between extraction and raffinate phase is *K* = 3.0. How does the analyte spread in equilibrium (amount of substance concentration ratio)?

1) Raffinate/ Extract = 3 : 1
2) Extract/ Raffinate = 3 : 1
3) Raffinate/ Extract = 1 : 1
4) Raffinate/ Extract = 1 : 2
5) Extract/ Raffinate = 1.5 : 4,5

386: Which statement about gas chromatography is *wrong*?

1) With gas chromatography qualitative or quantitative analysis can be carried out
2) For a qualitative analysis the retention times of the chromatogram are evaluated
3) The peak areas are very well reproducible in case of manual multiple injections
4) For a quantitative analysis the peak areas or the peak heights are evaluated
5) As carrier gas helium, nitrogen or hydrogen are used

387: Which statement results from the Lambert-Beer law?

1) Absorbance equals transmission
2) Absorbance and concentration are in a ratio of integral numbers to each other
3) Absorbance is inversely proportional to concentration
4) Absorbance is directly proportional to concentration
5) Absorbance is the negative logarithm (base 10) of the concentration

388: In photometric measuring often the absorption spectrum of the substance to be examined is recorded. What is the purpose of this measurement?

1) To estimate the blank
2) To define limits of error
3) To choose a suitable wavelength
4) To create the calibration curve
5) To calculate the calibration curve

This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.