Equilibrium partitioning of organic compounds

- Some fundamentals ...
- Summary and further information
  - A kinetic view on EP
  - EP in quantitative terms
  - EP and the free energy of partitioning
  - **Other remarks**
- Self test
- Problems
- Advanced problems
- FAQ

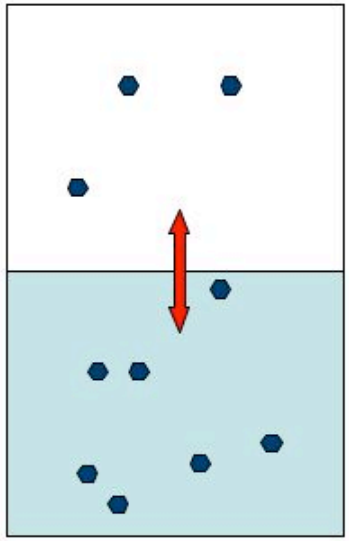
Other remarks:

Be sure to read Box 1 in the script about the 'units of partition constants'. Reading the box will save you a lot of time (and frustration) when it comes to the calculations in chapter 3.
Here are two examples of costly mistakes due to wrong unit conversion: http://jittdl.physics.iupui.edu/jitt/sampler/chemistry/goodfors/goodformathskills.html and another one for problems with different reference systems: meereshoehe.pdf (in German).

Link to an unit conversion calculator: http://www.digitaldutch.com/unitconverter/

There is one more important thing you should be aware of: the difference between a **thermodynamic equilibrium** and a **dynamic equilibrium**! Both equilibria represent steady state conditions, i.e., there are no net changes in concentrations in each phase over time. However, whereas in thermodynamic equilibrium the system boundaries are closed, a dynamic equilibrium is characterized by open system boundaries across which the rate of outflow (or loss, consumption) equals the rate of inflow (or production).

Thermodynamic Equilibrium:
An equal number of molecules is passing per time through the interface between both phases in both directions
=> the concentrations do not change with time



Steady state:
The inflow equals the outflow
=> the waterlevel stays constant