limits or ranges of log *P*. The fundamental factors governing lipophilicity are compared to those involved in phospholipophilicity, assessed by immobilized artificial membrane chromatography (IAM). Finally, the contribution of biomimetic properties to assess plasma protein binding is evaluated. Expert opinion: Lipophilicity and biomimetic properties have important distinct and overlapping roles in supporting the drug discovery process. Lipophilicity is unique in early drug design for library screening and for the identification of the most promising compounds to start with, while biomimetic properties are useful for the experimentally-based evaluation of ADME properties for the synthesized novel compounds, supporting the prioritization of drug candidates and guiding further synthesis.

Wei, W. et al. (2018). "Influence of indoor environmental factors on mass transfer parameters and concentrations of semi-volatile organic compounds." *Chemosphere* 195:223–235.

Semivolatile organic compounds (SVOCs) in indoor environments can partition among the gas phase, airborne particles, settled dust, and available surfaces. The mass transfer parameters of SVOCs, such as the mass transfer coefficient and the partition coefficient, are influenced by indoor environmental factors. Subsequently, indoor SVOC concentrations and thus occupant exposure can vary depending on environmental factors. In this review, the influence of six environmental factors, i.e., indoor temperature, humidity, ventilation, airborne particle concentration, source loading factor, and reactive chemistry, on the mass transfer parameters and indoor concentrations of SVOCs was analyzed and tentatively quantified. The results show that all mass transfer parameters vary depending on environmental factors. These variations are mostly characterized by empirical equations, particularly for humidity. Theoretical calculations of these parameters based on mass transfer mechanisms are available only for the emission of SVOCs from source surfaces when airborne particles are not present. All mass transfer parameters depend on the temperature. Humidity influences the partition of SVOCs among different phases and is associated with phthalate hydrolysis. Ventilation has a combined effect with the airborne particle concentration on SVOC emission and their mass transfer among different phases. Indoor chemical reactions can produce or eliminate SVOCs slowly. To better model the dynamic SVOC concentration indoors, the present review suggests studying the combined effect of environmental factors in real indoor environments. Moreover, interactions between indoor environmental factors and human activities and their influence on SVOC mass transfer processes should be considered.

Wong, T. W. (2014). "Electrical, magnetic, photomechanical and cavitational waves to overcome skin barrier for transdermal drug delivery." *J Control Release* 193:257–269.

Transdermal drug delivery is hindered by the barrier property of the stratum corneum. It limits the route to transport of drugs with a log octanol–water partition coefficient of 1–3, molecular weight of less than 500 Da and melting point of less than 200 degrees C. Active methods such as iontophoresis, electroporation, sonophoresis, magnetophoresis and laser techniques have been investigated for the past decades on their ability, mechanisms and limitations in modifying the skin microenvironment to promote drug diffusion and partition. Microwave, an electromagnetic wave characterized by frequencies range between 300 MHz and 300 GHz, has recently been reported as the potential skin permeation enhancer. Microwave has received a