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Separation of mixtures of chiral compounds by their distribution between different phases

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The distribution of mixtures of chiral compounds between phases is characterized by the same diastereomeric like behavior of the enantiomeric and diastereomeric mixtures. The result of the separation is determined by the eutectic composition of the enantiomeric mixtures of chiral molecules which works as memory. The separation is influenced by the nature of the phases and the time of phase-interactions. Separation can be achieved without solvent by crystallization from melt and by distillation. Separation from solvent can be achieved by fractional crystallization, by crystallization from solvate forming solvent, by extraction with supercritical carbon dioxide or without crystallization using non-miscible solvents. In each case, the result of the separation may be influenced by taking into consideration of kinetic or thermodynamic control.

Speaker Biography

Emese Palovics graduated from the University of Technology "Traian Vuia" of Timisoara in 1990 as a chemical engineer. Since 1994, she has been a scientific assistant at the Budapest University of Technology and Economics in a research group of the Hungarian Academy of Sciences at the department of organic chemical technology working on crown ethers and organophosphorus compounds. Since 2004, she has been working with Prof. Elemér Fogassy as senior research fellow in the field of optical resolution. She earned her PhD in 2009, which studied structurally related compounds with common skeleton in the resolution processes. She is the co-author of 45 papers (the majority of which appeared in international journals) and three patents.

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