

UC Davis Chem 110C Physical Chemistry III

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#### UC Davis Chemistry Chemistry 110C

#### *Physical Chemistry III: Thermodynamics, Equilibria and Kinetics*

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Phase equilibrium is the state of balance between multiple phases of a system. It a dynamic process that occurs when the transfer of matter or thermal energy from one phase to another phase is equal to the reverse direction rates.

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### 23: Phase Equilibria

Phase equilibria is the term used to describe with two or more phases co-exist (in equilibrium). The stability of phases can be predicted by the chemical potential, in that the most stable form of the substance will have the minimum chemical potential at the given temperature and pressure. A key tool in exploring phase equilibria is a phase diagram which is used to show conditions (pressure, temperature, volume, etc.) at which thermodynamically distinct phases (such as solid, liquid or gaseous states) occur and coexist at equilibrium.

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Chemical equilibrium is the state in which both reactants and products are present in concentrations which have no further tendency to change with time. Usually, this state results when the forward reaction proceeds at the same rate as the reverse reaction.

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[26B: Statistic Description of Chemical Equilibria](#)

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Topic hierarchy

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Topic hierarchy

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Chemical reaction kinetics deals with the rates of chemical processes.

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