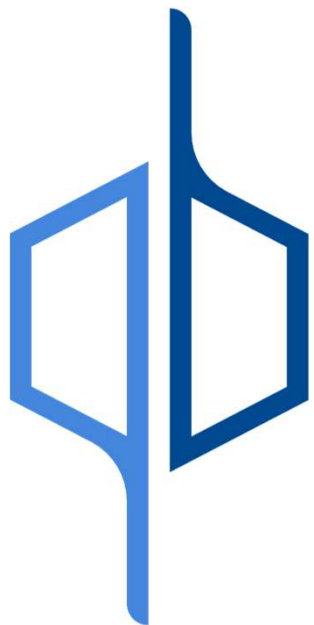


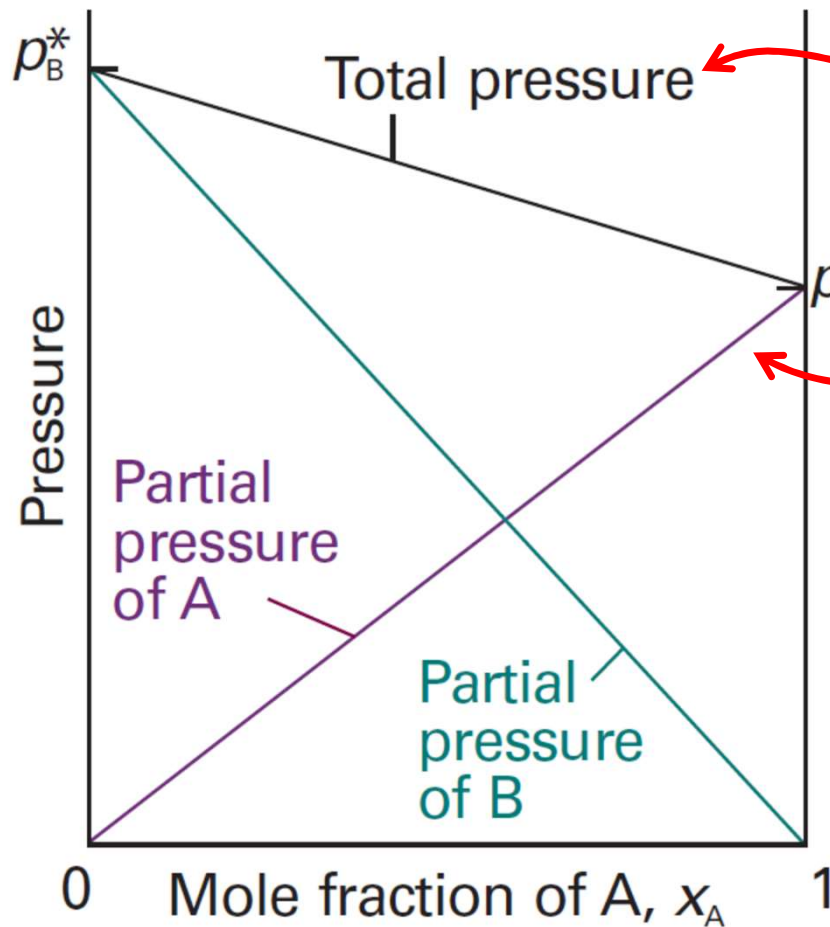


Universidade de São Paulo
Instituto de Química

Prof. Dr. Thiago C. Correra

Equilíbrio de fases II – Líquido/Líquido e Líquido/Sólido

Pressão de vapor de misturas



$$P = P_B^* + (P_A^* - P_B^*)x_A$$

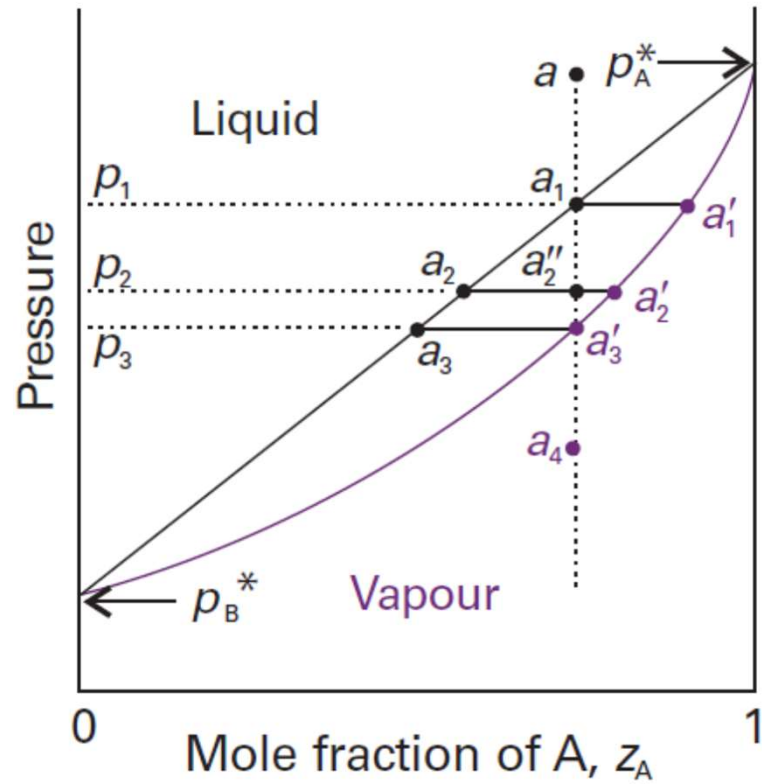
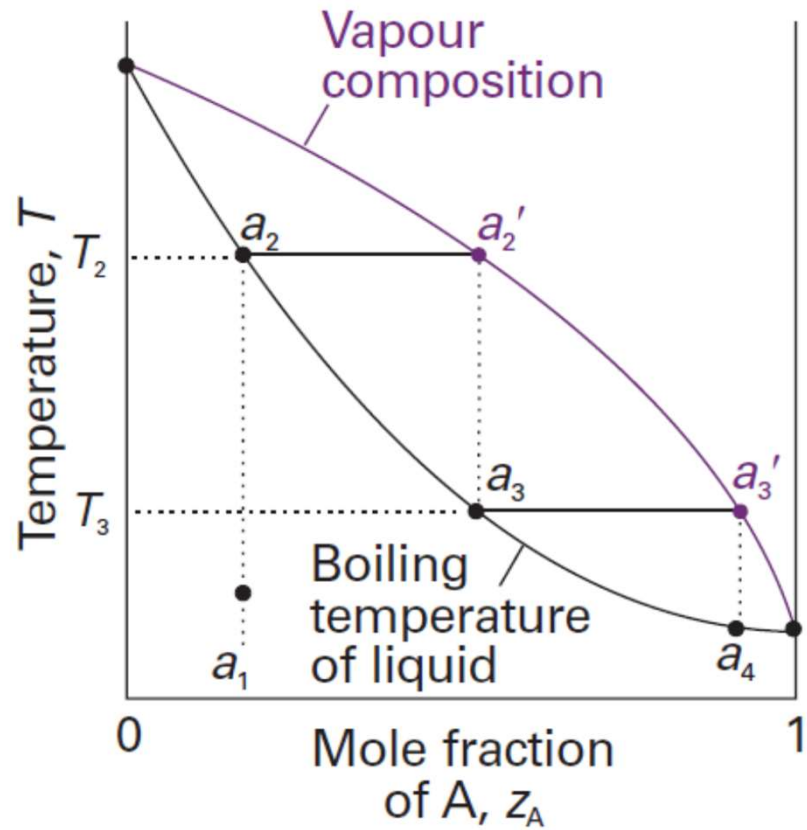
$$P_i = x_i P_i^*$$

Lei de Raoult

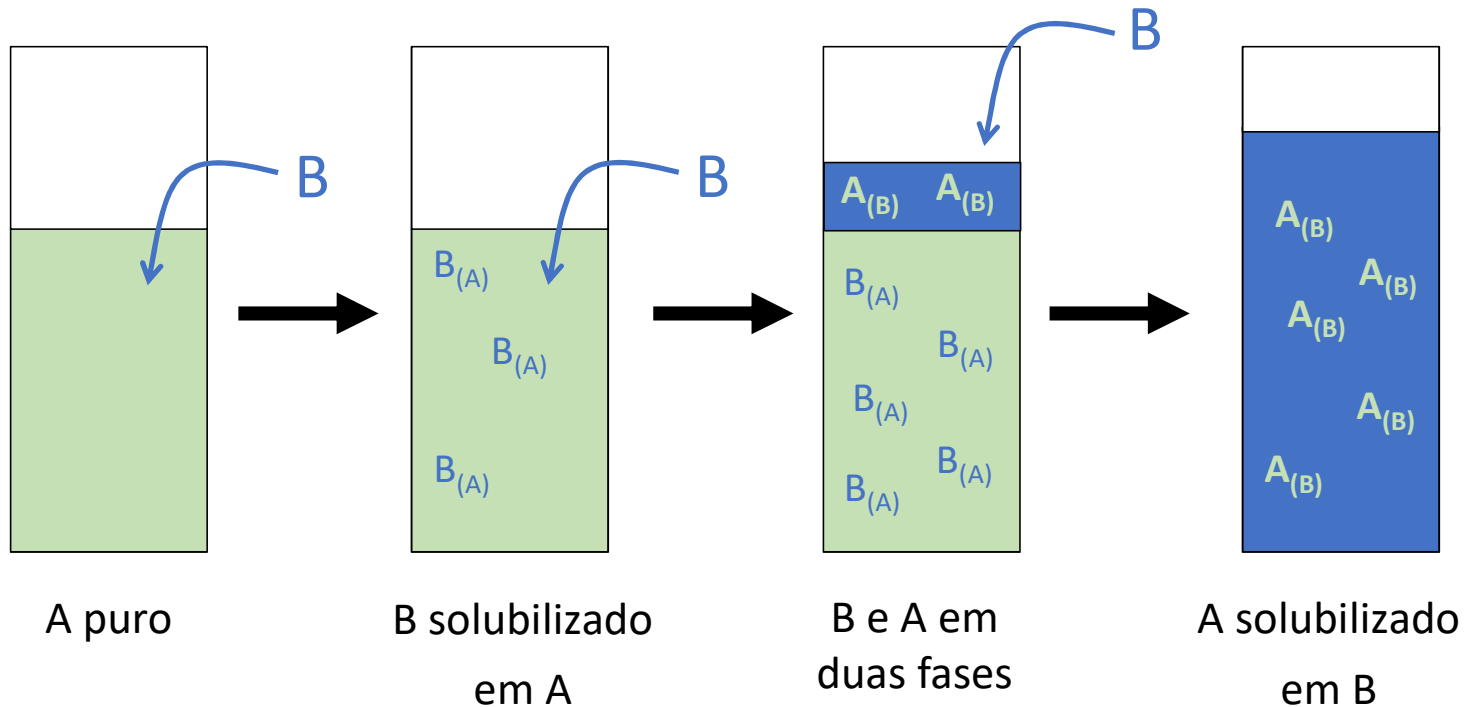
$$P = \sum_{i=1}^n P_i$$

Lei de Dalton

Diagrama de fases

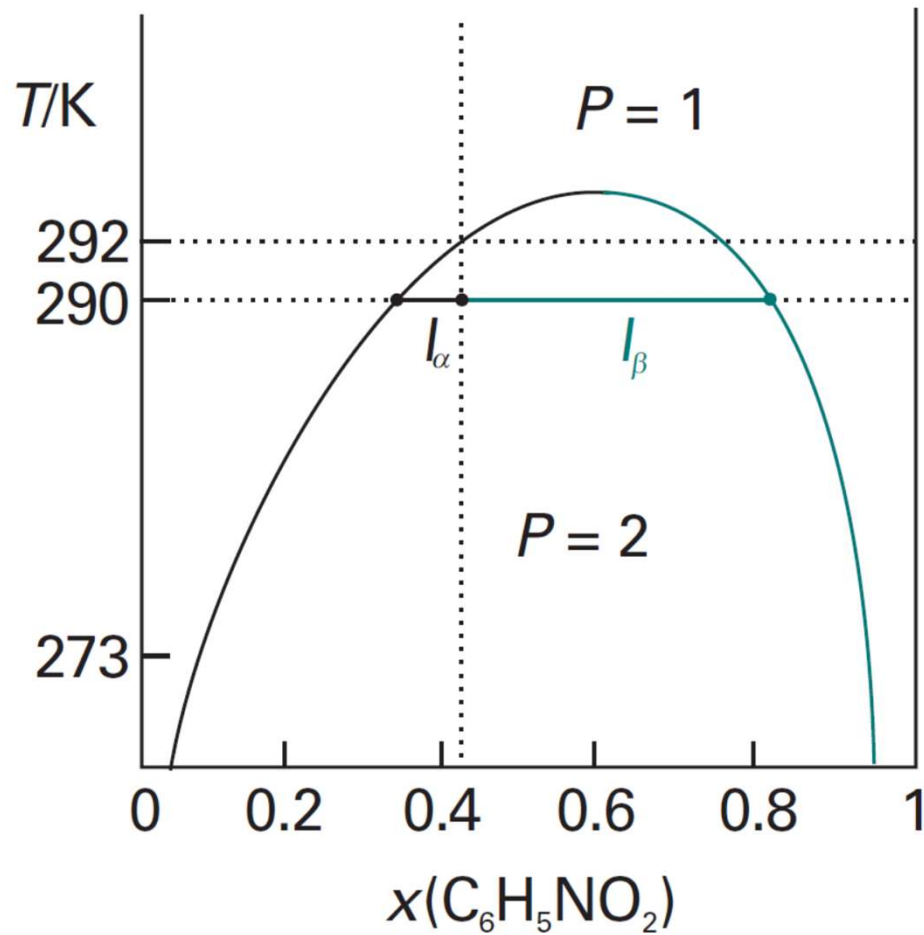


Líquidos parcialmente miscíveis



Qual a quantidade máxima de B que pode ser adicionada antes que ocorra separação de fase?

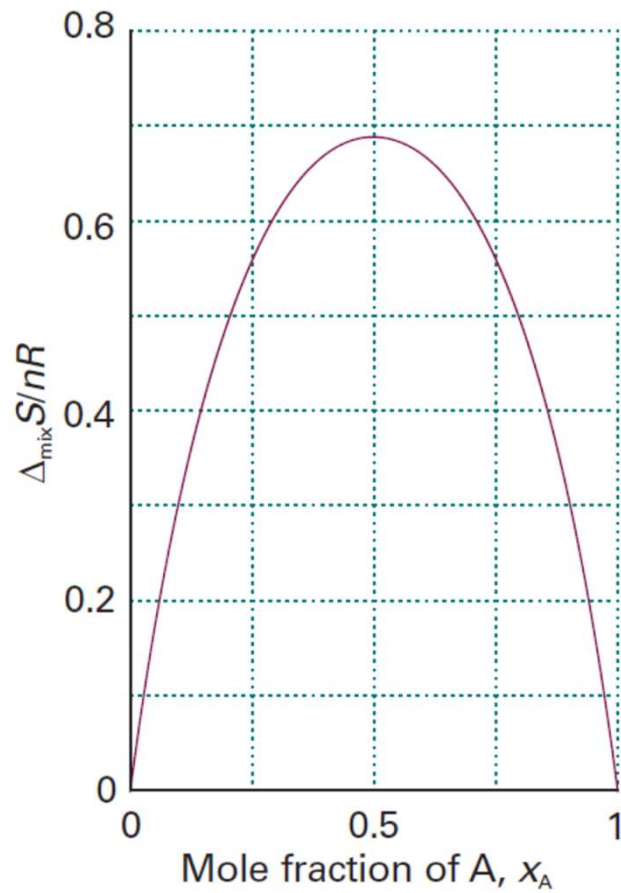
Diagramas líquido-líquido



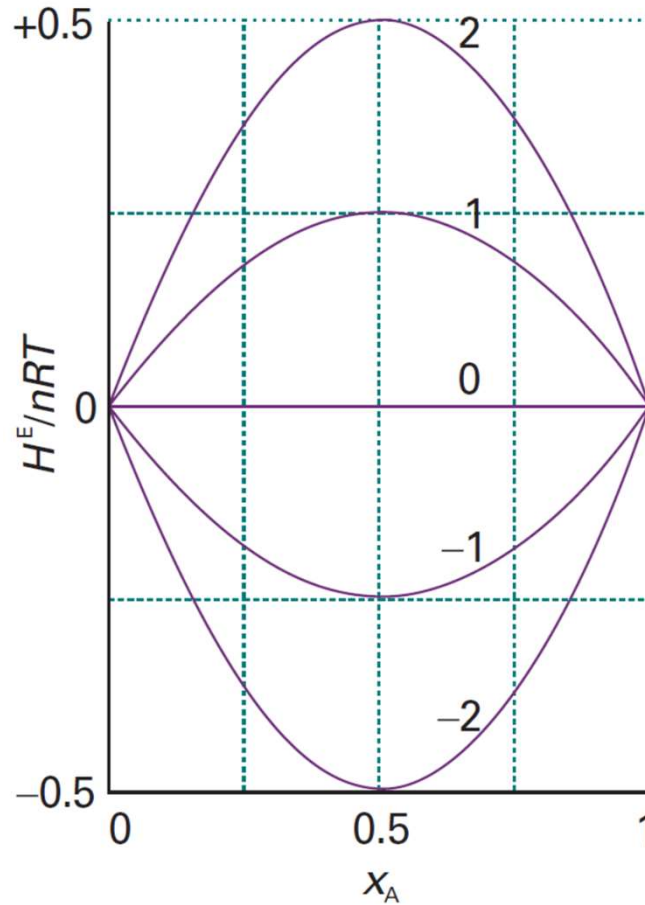
hexane/nitrobenzene at 1 atm

Interpretação termodinâmica

$$\Delta_{mix}S > 0$$

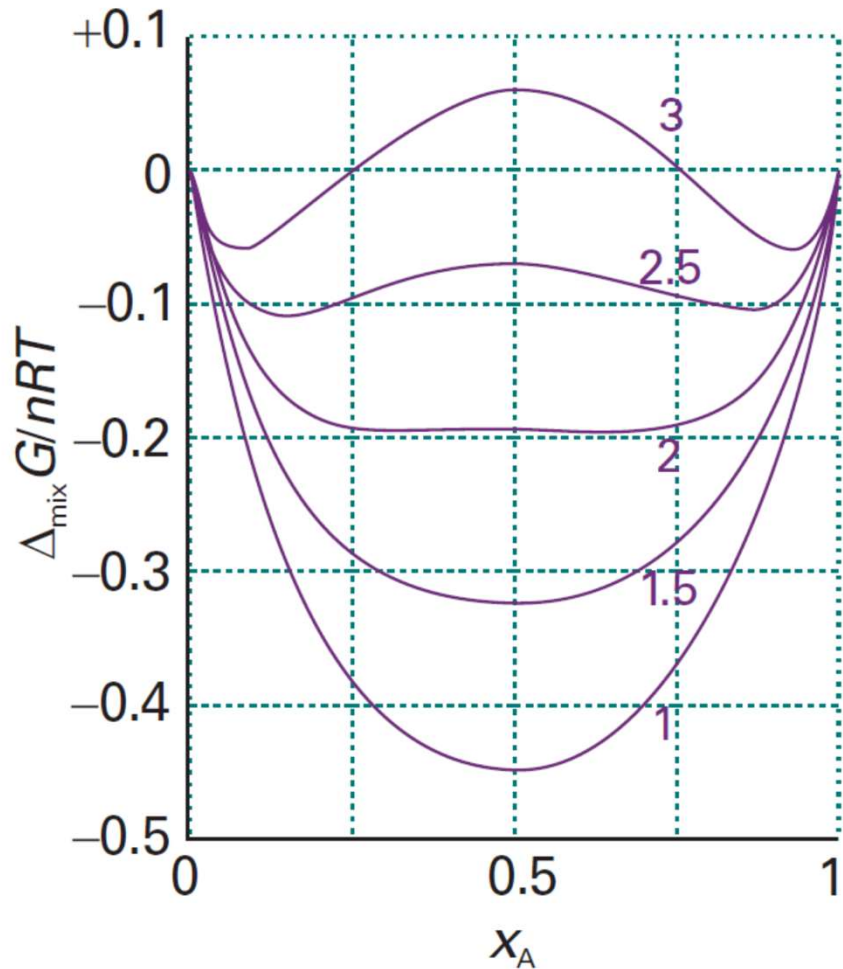


$$H^E = n\beta RTx_Ax_B$$



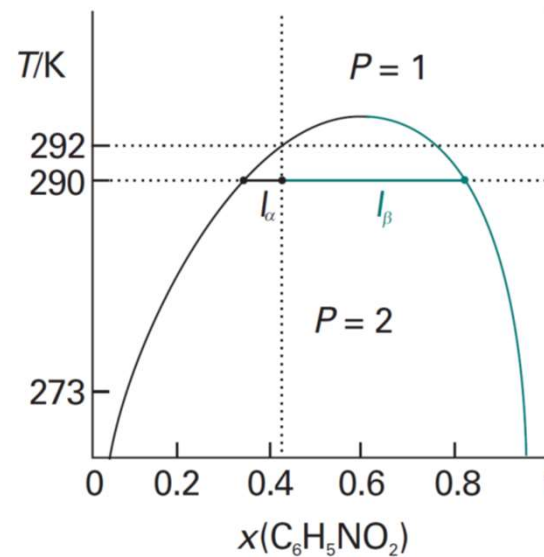
Interpretação termodinâmica

$$G = H - TS$$

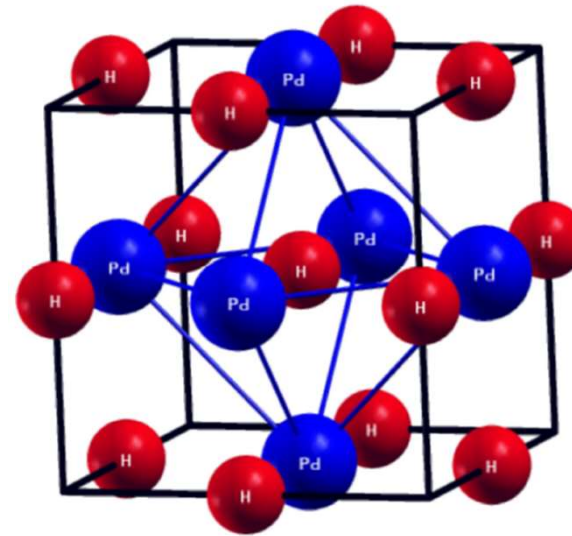
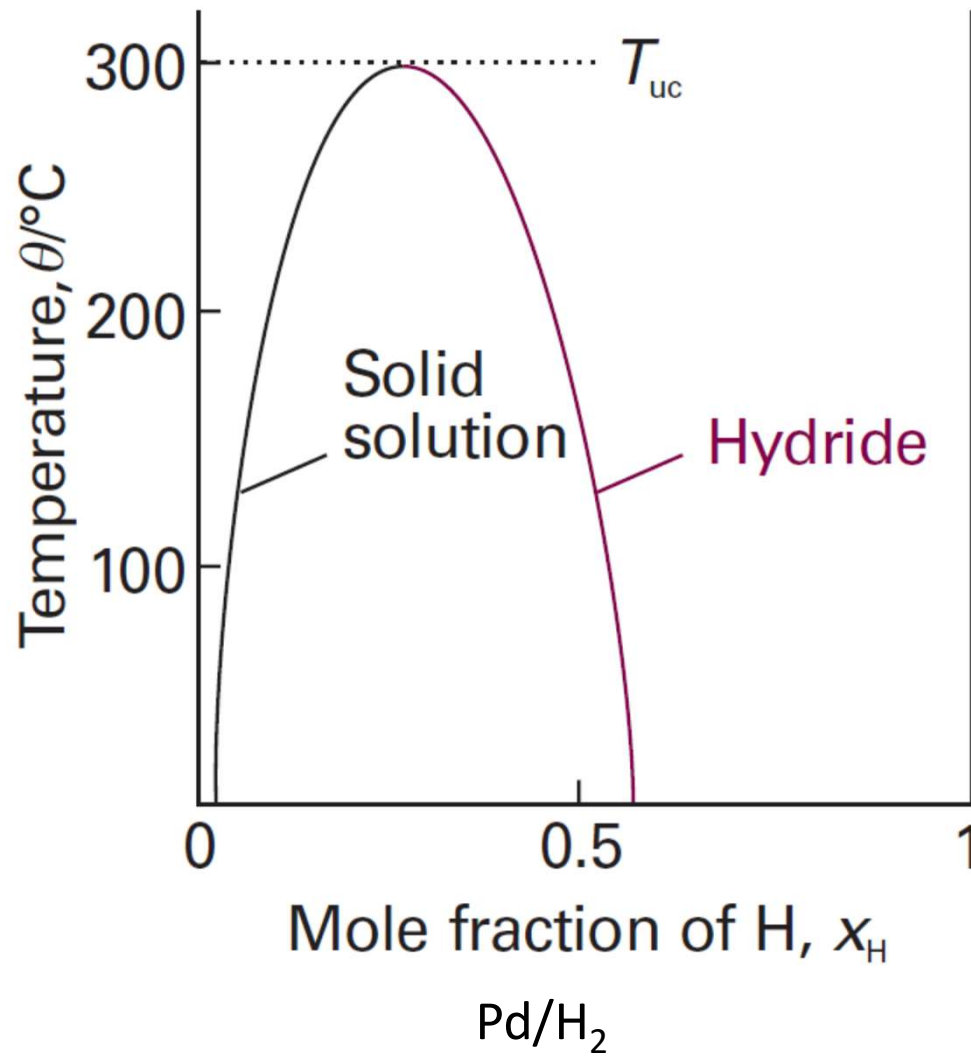


$$\beta \propto \frac{AB_{int}}{RT}$$

Se AB_{int} é baixa em comparação AA_{int} e BB_{int} as espécies tendem a separar fases

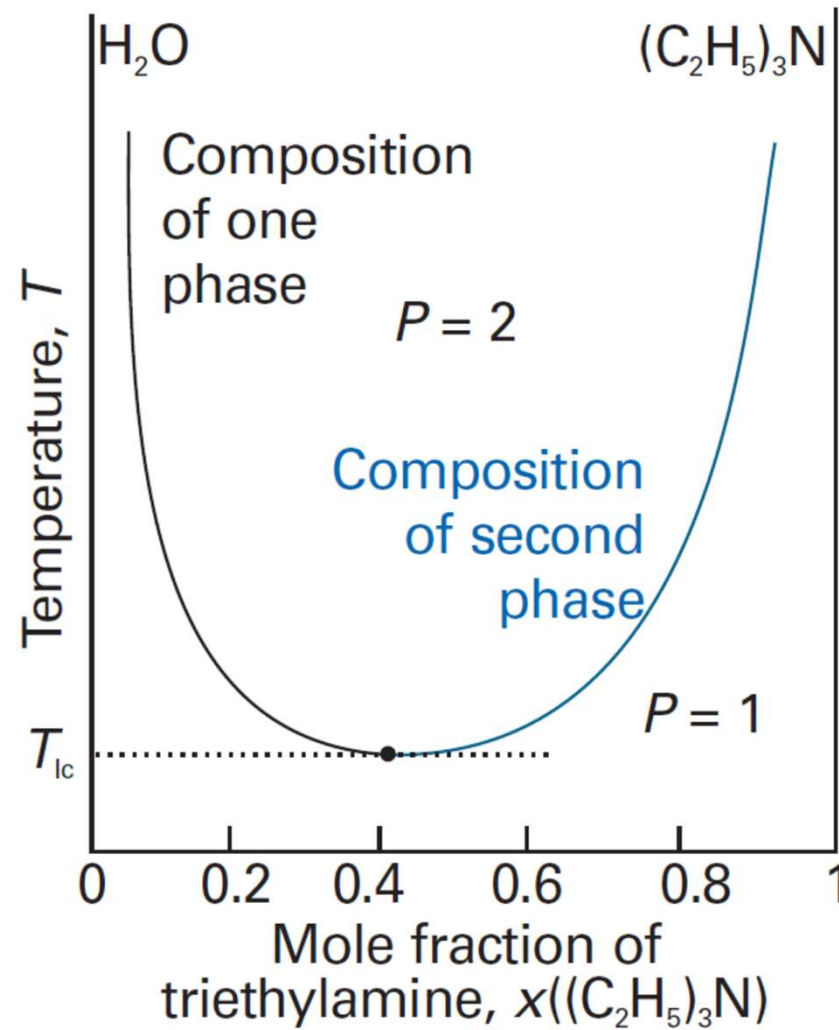


Soluções sólidas



Armazenamento
de hidrogênio

Misturas estáveis a baixas temperaturas



Temperatura crítica superior e inferior

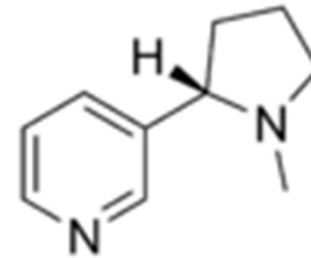
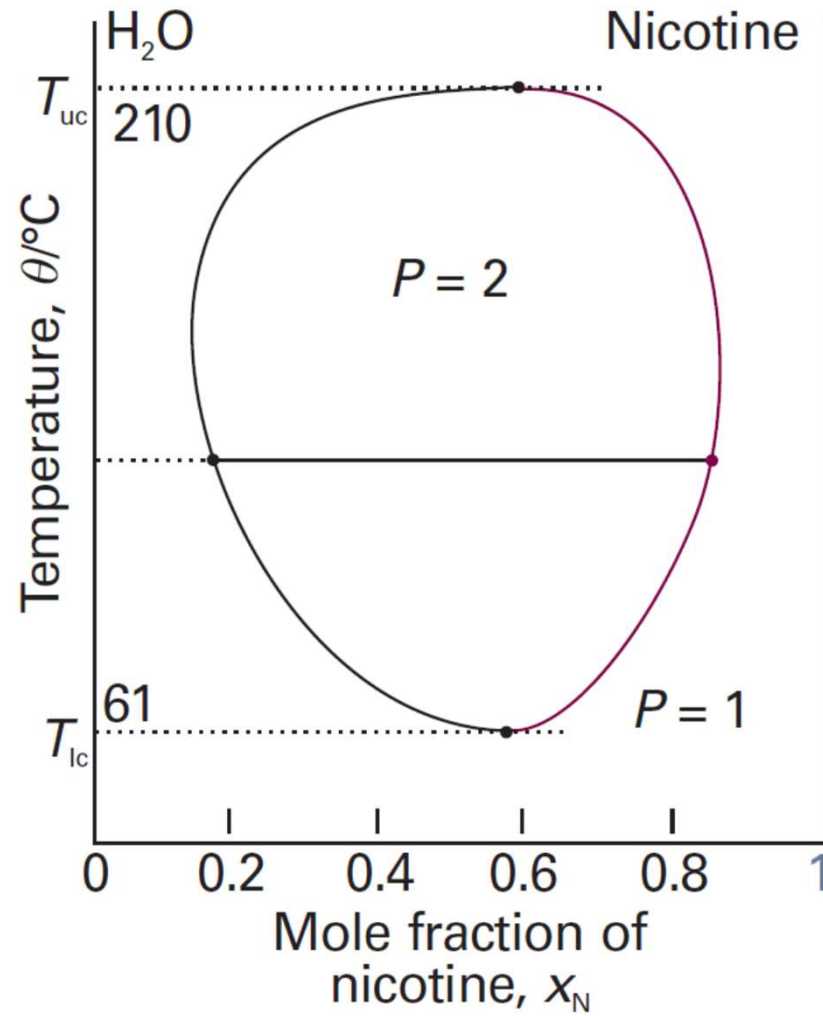
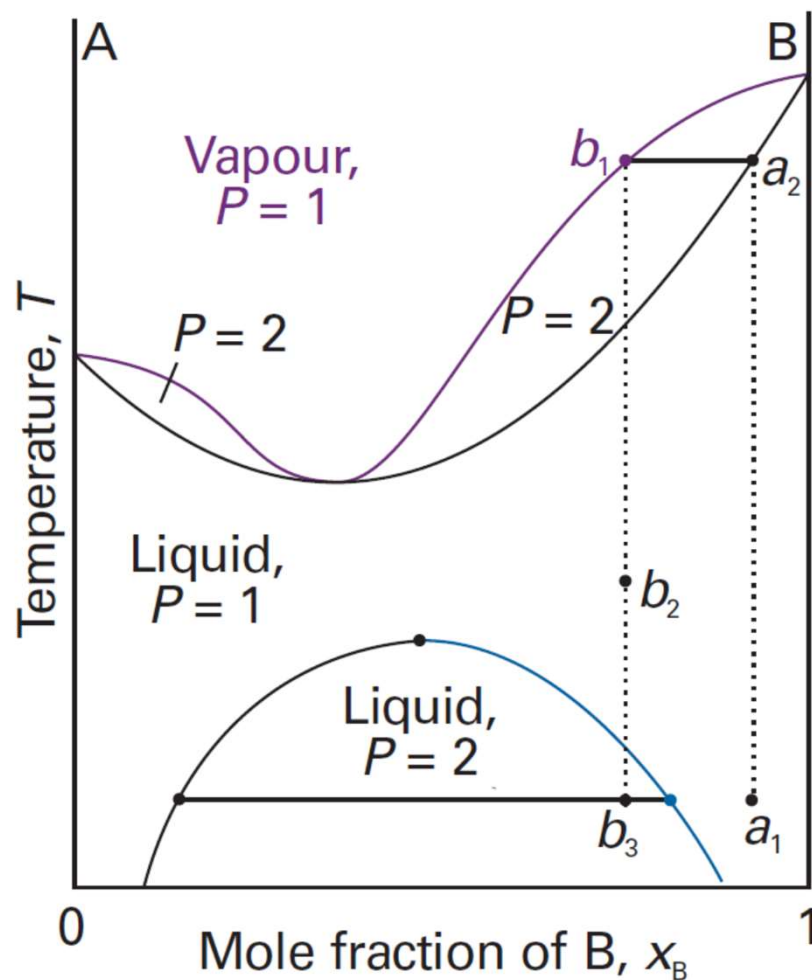
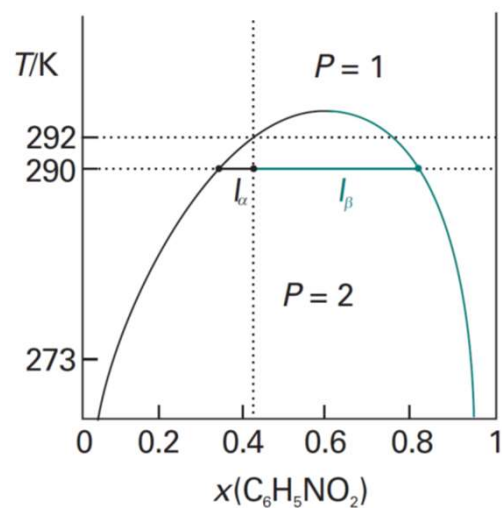
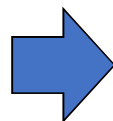
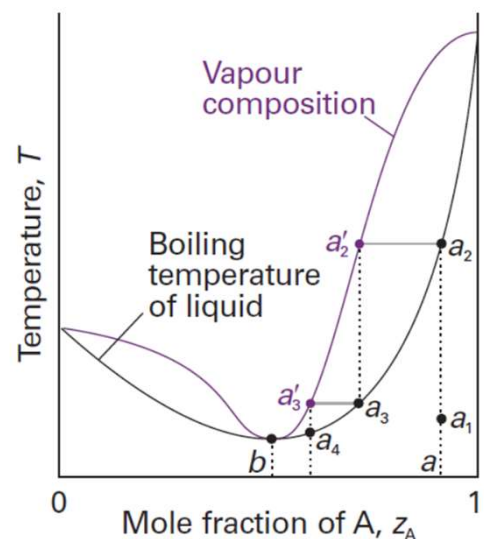


Diagrama líquido-líquido-vapor



Ebulição menor que temperatura crítica

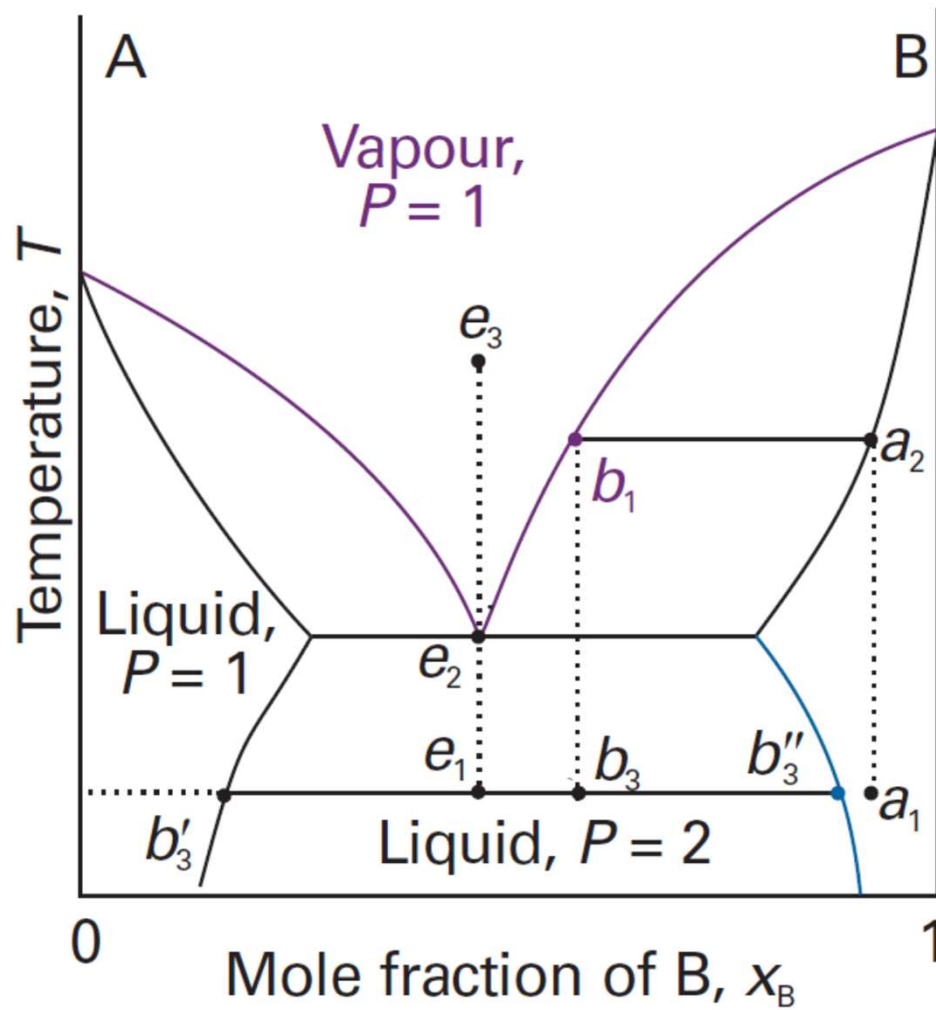
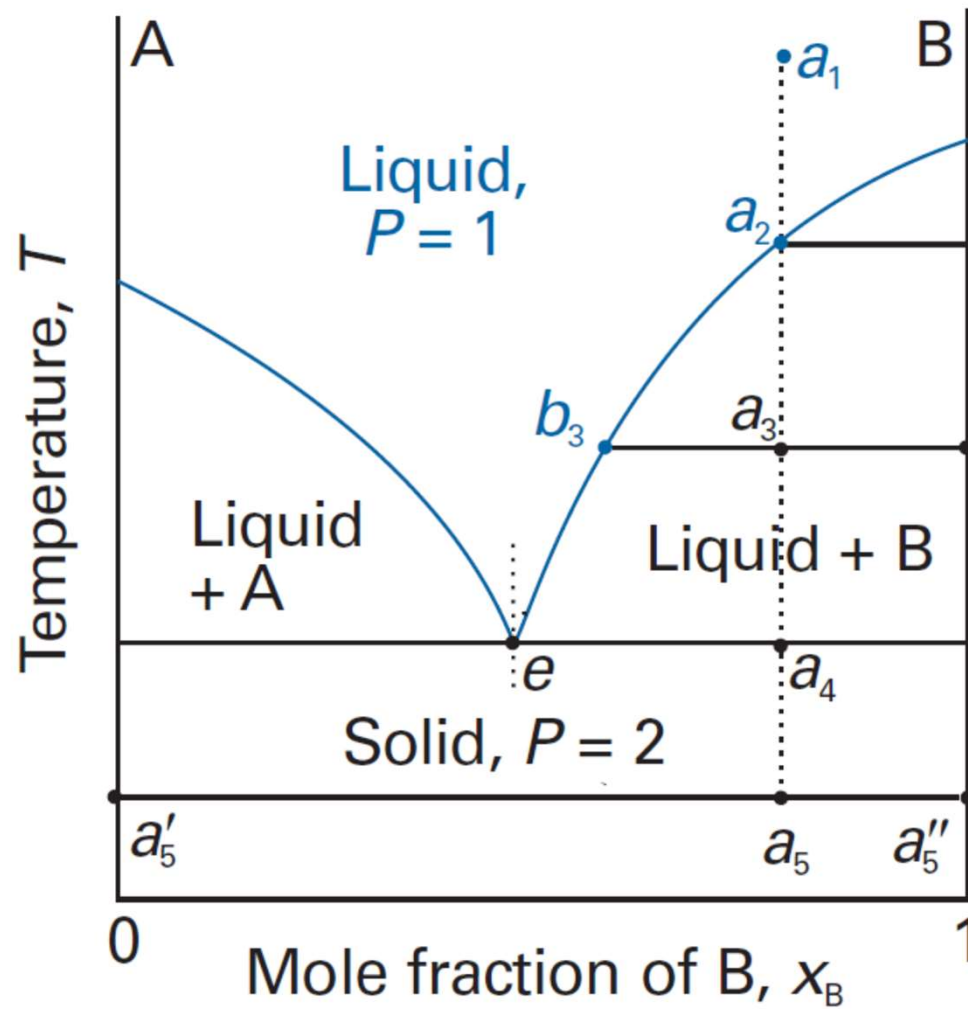


Diagrama sólido-líquido



Sistemas reativos

