Chemical Thermodynamics

Phase diagram, P-X

Ideal solution of benzene and toluene.

Mole fraction of toluene in the vapor phase?

Phase Diagram, T_b - X

- Vapor phase is enriched in more volatile component.
- Basis of fractional distillation.

What is the composition of liquid that boils at 95°C or 368 K.

Fractional Distillation

 Doesn't take many steps before the condensate is effectively pure.

Thermodynamics

- Other thermodynamics properties of mixing solutions.
- $\Delta_{\mathsf{mix}}\mathsf{G}$

Thermodynamics

- Other thermodynamics properties of mixing solutions.
- $\Delta_{\mathsf{mix}}\mathsf{S}$

 $\Delta_{\mathsf{mix}}\mathsf{H}$: