

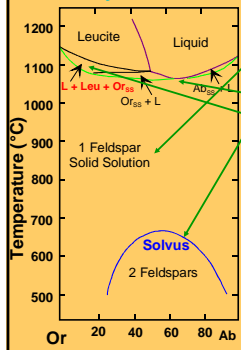
Albite - Orthoclase System

- Important in the study of granitic rocks, with the addition of quartz, first approximation of a true granite
- the appearance or topology of the system changes with pressure
- the first petrologic system to be studied in detail (Tuttle and Bowen 1958)

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The Ab-Or System

"Dry" Conditions



At low pressures ("Dry" Conditions):

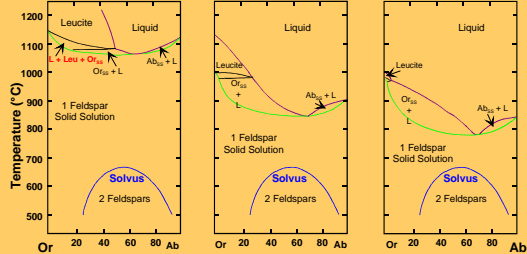
- 1) System displays complete solid solution between Or and Ab.
- 2) System displays a solvus, below which the feldspar solid solution 'unmixes'.
- 3) System has a minimum, no eutectic.
- 4) The system is pseudo-binary, with Leucite appearing on the liquidus as a primary phase.

The pseudo-binary nature comes from the fact that the composition of Leucite ($KAlSi_3O_8$) cannot be represented in terms of the two end member components Or ($KAlSi_3O_8$) and Ab ($NaAlSi_3O_8$) and the presence of the three phase field $L + Leu + Or_{ss}$.

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The effects of increased pressure on the Ab-Or System

"Dry" Conditions



- 1) Disappearance of Leucite
- 2) Lower melting temperature of end member components
- 3) Nature of the phase diagram changes, minimum disappears and is replaced by a eutectic.

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