Thermobaric structure of the Sangun Metamorphic Belt in Kashii-Inunaki area, northern Kyushu, based on relative geothermobarometry

Hiroshi Matsumoto[1]; Takeshi Ikeda[2]
[1] Earth and Planetary Sci., Kyushu Univ.; [2] Earth and Planetary Sci., Kyushu Univ

An assemblage of amphibole, epidote, chlorite, albite and quartz with or without hematite is common in basic schists of the Sangun Metamorphic Rocks in Kashii-Inunaki area, northern Kyushu. The lack of geothermobarometer applicable to this assemblage has prevented from revealing the thermobaric structure of the study area. This study estimated pressure and temperature of the basic schists as a difference from a reference condition based on thermodynamic calibration of the follwing reactions,

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tremolite + albite = edenite + quartz
tremolite + clinozoisite + clinochlore +quartz = tschermakite + H2O
tremolite + clinochlore + albite = glaucophane + clinozoisite + quartz + H2O
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Thermobaric structure of the study area shows a southward increase in temperature by ca. 100 oC. Pressure variation is not clear because of large uncertainties of the calibration.