

Hornblende as a reaction product between arc magma and its peridotite xenoliths : an example from Iraya volcano, Philippines

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Peridotite xenoliths in calc-alkaline magmas form composite xenoliths with gabbroic rocks. Hornblendite is usually formed along the boundaries between the gabbroic and peridotitic rocks. Some peridotite xenoliths have hornblendite veinlet with or without clinopyroxene and phlogopite. Hornblende is high in Mg# (0.9) within the peridotite and is low in Mg# (0.7) in the selvage, almost equal in chemistry to hornblende phenocrysts in the host andesite. The textural and chemical characteristics suggest that hornblendite can be formed in the deep parts of arc as a reaction product between peridotite and arc magma.