Upper mantle processes deduced from peridotite xenoliths; an example from Tallante, Southeastern Spain

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Peridotite xenoliths from Tallante, southeast Spain, included in Pliocene alkali basalts, are spinel and spinel-plagioclase lherzolite. Spinel lherzolite sometimes contains spinel-pyroxene aggregate, possibly of garnet origine. Plagioclase and opx often form thin veinlets. Mineral chemistry suggests decompression of spinel lherzolite with a range of refractoriness, of which more fertoite part has been transformed to plagioclase-bearing peridotite. Plagioclase-opx veinlet shows involvement of a Si-rith melt, possibly from slab. These results mean the decompression from the garnet to plagioclase fields of mantle peridotite, with the melt invasion from slab.