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The Key Influence of Fluid in Metamorphic Rock Preserves, Mineral Assemblages, Compositions and Structures: Study from High-Pressure Eclogite and Its Amphibolization in the Western Dabie Mountains, Central China

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The most of high/ultrahigh-pressure (HP/UHP) terranes of the world are characterized by the occurrence of numerous pods, lenses or layered blocks of eclogite and amphibolites (e.g. O'Brien, 1997; Elvevold and Gilotti, 2000; Zhang et al., 2003; and references there in). Field and petrological features suggest that amphibolites should

have retrograded from eclogites (Zhang and Liou, 1994; Eide and Liou, 2000; Song et al., 2003; Liu et al., 2004), but the textural evidence of transformation from eclogite to amphibolite has not been observed from most of them.

Pseudosection modeling for the garnet amphibolite samples (Fig.1) from the Western Dabie Mountains show

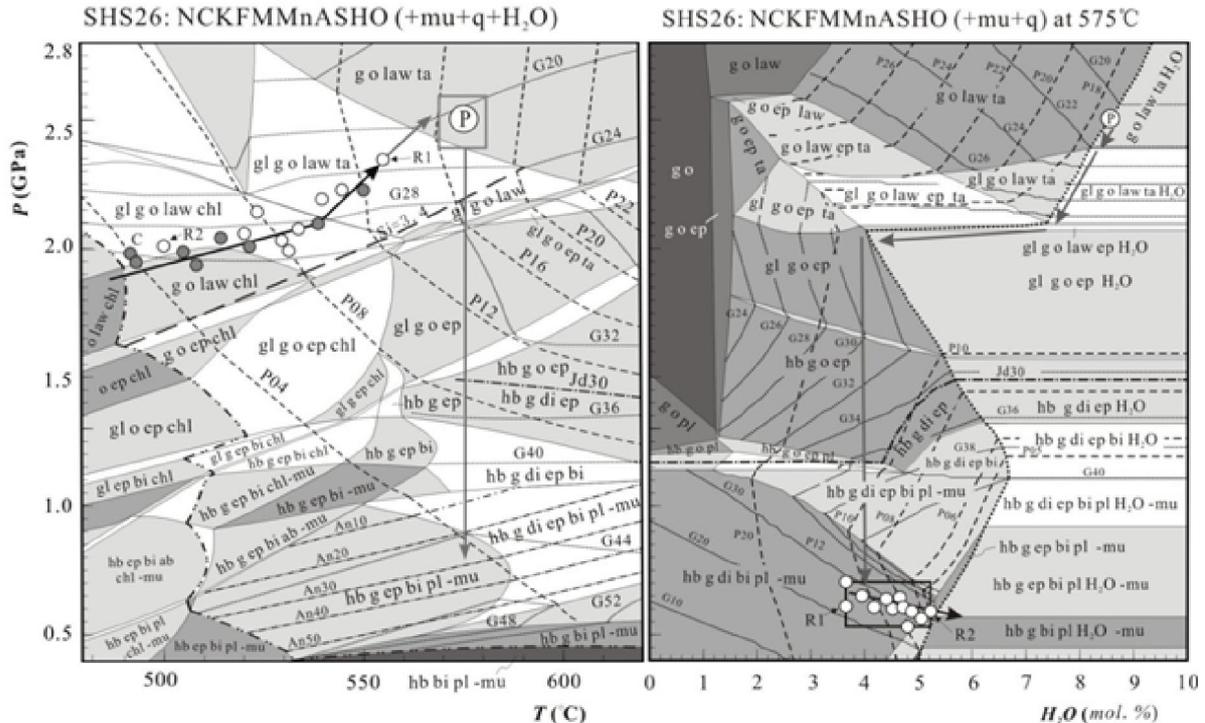


Fig.1 P-T pseudosection for garnet amphibolite sample SHS26 from the Western Dabie Mountains (modified after Lou et al., 2013). The di- and trivariant fields are unshaded, and for the higher variance fields, the darker the color is shaded the higher the variance is. The bold dotted line in right picture refers to the water saturation line. Projection of the garnet core-mantle and rim compositions is shown as dark and white circles. The bold and dashed arrow lines represent the metamorphic paths determined by garnet compositions. The point P refers to the probable peak P-T.

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