Element partitioning between garnet structured minerals and silicate melt under high pressure

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In order to investigate partitioning of elements between garnet structured minerals and silicate melt, high pressure melting experiments on basalt and peridotite were performed at 5 - 23 GPa by using multi-anvil high pressure apparatus. Composition of the recovered specimens were measured by EPMA, and partition coefficient, D, was calculated. Absolute values of observed D were considerably different in garnet and majorite, but the D-patterns appeared in PC-IR diagram show the same profile. Although it was found that D of Na increased and D of Ti decreased with increase in pressure, no remarkable pressure dependence was found in the D of other elements.