

Pressure effect on element partitioning between minerals and silicate melt

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High pressure melting experiments on Ca-bearing materials were performed at 3 - 22 GPa by using multi-anvil high pressure apparatus. Composition of the recovered specimens were measured by EPMA, and partition coefficients between silicate melt and Ca-Perovskite, or Merwinite were measured. In the case of the minerals whose cation sites are smaller than Na ion, it have been observed that partition coefficient of Na is generally increase with increase in pressure. However, observed partition coefficients of Na in the present experiments were slightly decreased with increase in pressure. These observations suggest that size of Na ion is relatively decreased with increase in pressure.