Oxygen isotopic distributions of Type A CAIs in Allende meteorite

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For the purpose of understanding the formation processes of compact Type A CAIs, we study the petrographic observation with SEM-EDS and the oxygen isotopic distributions with SIMS for each mineral in compact Type A CAIs from Allende CV3 chondrites. The crystallization sequences expected from the oxygen isotopic distribution consist with those from the petrographic observation. Those results indicate that the 16O-rich melilite grains close to the 16O-poor melilite grains enclose the spinel grains crystallized in the 16O-rich environment. Therefore, we suggest that compact Type A CAIs (A7) have formed with two times or more melting events.