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**Evolution and stability of O isotope reservoirs in the Early Solar System**

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Calcium-Aluminium-rich Inclusions (CAIs) are the first solids to form in the early Solar System and sampled the isotopic reservoirs in which they formed. Most CAIs are surrounded by a rim sequence that formed after the CAI itself [1], thus recording a larger timeframe than inclusions alone.

The O isotope composition of such rims and their host CAIs were measured for one corundum-hibonite (cor-hib) bearing inclusion, 2 fine-grained spinel-rich inclusions, and 3 type A inclusions found in CO, CR and CV meteorites. The results show a discrepancy between core minerals in the cor-hib inclusion and the minerals in its rim, revealing a change in O isotope composition between the environments in which core and rim minerals formed. O isotope compositions in the other studied CAIs and their rims are indistinguishable from the signature recorded in the cor-hib inclusion's rim. This implies that these CAIs and rims formed in a single homogeneous O isotope reservoir that remained until, at least, the end of rim formation and that rims probably formed during a single event.

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[1] Wark, D.A., Lovering, F.J. (1977) PLSC 8, 95-112 .

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