In search for the Earth's building blocks: Hf and W composition of chondrite leachates and residues

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The stepwise dissolution of primitive chondritic meteorites allows to reveal nucleosynthetic anomalies that are otherwise hidden in the bulk rock mix. Here, we present combined Hf and W isotope data for acid leachates of several primitive chondrites, including some sufficiently precise analyses of p-process ^{174}Hf and ^{180}W.
First data for Hf isotopes reveal anomalous s- and r-process isotope patterns, consistent with results of [1]. In case of W isotopes, only one sample shows a resolvable anomaly in ^{183}W, similar to the results of [2]. In terms of p-process isotopes, no resolvable anomalies in ^{174}Hf were found, whereas both positive and negative ^{180}W anomalies relative to the terrestrial standard are resolved for most of the leachates and residues. The origin of the apparent decoupling between ^{174}Hf and ^{180}W is presently ambiguous, but possibly point towards different carrier phases for p-process Hf and W.

[1] Qin L. et al. (2011) *GCA, 75,* 7806-7828. [2] Burkhardt C. et al. (2012) *AJL, 753*, L6.