

Electronic supplement

Burkhardt et al.: Origin of isotopic heterogeneity in the solar nebula by thermal processing and mixing of nebular dust

Figure S1. Comparison to other isotope anomalies

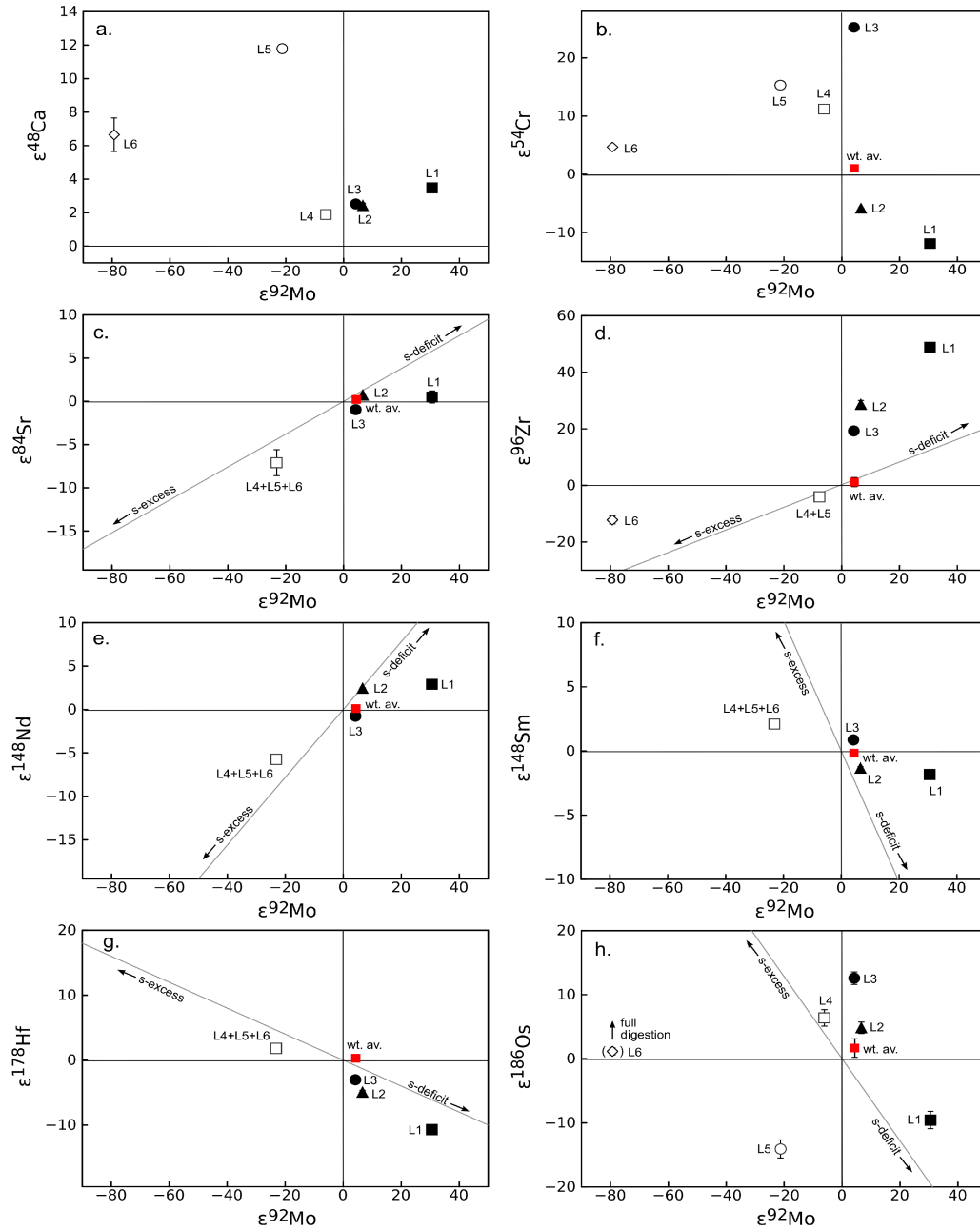


Fig. S1. (a) $\epsilon^{48}\text{Ca}$ – $\epsilon^{92}\text{Mo}$, (b) $\epsilon^{54}\text{Cr}$ – $\epsilon^{92}\text{Mo}$, (c) $\epsilon^{84}\text{Sr}$ – $\epsilon^{92}\text{Mo}$, (d) $\epsilon^{96}\text{Zr}$ – $\epsilon^{92}\text{Mo}$, (e) $\epsilon^{148}\text{Nd}$ – $\epsilon^{92}\text{Mo}$, (f) $\epsilon^{148}\text{Sm}$ – $\epsilon^{92}\text{Mo}$, (g) $\epsilon^{178}\text{Hf}$ – $\epsilon^{92}\text{Mo}$, and (h) $\epsilon^{186}\text{Os}$ – $\epsilon^{92}\text{Mo}$ plots for different leach steps of Murchison. Gray lines are mixing lines between terrestrial compositions and a presumed s -process component, whose composition is taken from Arlandini et al. (1999). Note that the slopes of the mixing lines depend on the curvature coefficient (see main text). No obvious correlation exist between Ca and Mo (a.), Cr and Mo (b.) and Os and Mo (h.) isotope anomalies, suggesting that these anomalies are hosted in different carriers. In contrast, Sr (c.), Zr (d.), Nd (e.), Sm (f.), Hf (g.) and W (see Fig. 4 main text) and Mo isotope anomalies are correlated in the leachates as expected from s -process nucleosynthetic theory in that early leachates show s -deficits while later leachates and the residues exhibit s -enrichments. This suggests that these anomalies are hosted in the same carriers. Data sources are: Ca (Chen et al. 2011), Cr (Papanastassiou et al., 2010), Sr, Nd, Sm, Hf (Qin et al., 2011; from leaching of a different fragment of Murchison but following a protocol similar to the one adopted here), Zr (Schönbächler et al. 2005; from leaching of a different fragment of Murchison but following a protocol similar to the one adopted here), Os (Reisberg et al., 2009; L6 may have not been fully digested in this study).

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