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**Tellurium stable isotopic evidence for heterogeneous late accretion.**

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The origin and nature of the late-accreted material (late veneer) is highly debated. While Os and Ru mass-independent isotope variations indicate a non-carbonaceous (NC) origin [1,2], Se-Te elemental systematics and Se stable isotopes suggest a carbonaceous chondrite-like (CC) late veneer [3,4]. To resolve these contradicting observations, we obtained mass-dependent Te isotopic data for samples of the major chondrite groups and precisely defined the bulk silicate Earth (BSE) composition by analyses of peridotites. Chondrites display a range in Te isotopic compositions, and when combined with their Se/Te ratios only some CC groups overlap with the BSE composition. Consequently, the late veneer cannot have solely consisted of known NC material, but also included CC material. When combined with Ru and Os isotope systematics, Te isotopic data indicate that the late veneer was a mixture of volatile-rich CC and volatile-poor NC material.

[1] Fischer-Gödde M. and Kleine T. (2017) *Nature*, 541, 525–527. [2] Meisel T. et al. (2001) *GCA*, 65, 1311–1323.

[3] Wang Z. and Becker H. (2013) *Nature*, 499, 328–331.

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[4] Varas-Reus M.I. et al. (2019) *Nat Geo*, 12, 779–782.

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