

Carbon isotopic measurements in silicate melt inclusions and the $\delta^{13}\text{C}$ value of Earth's upper mantle

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Knowledge of the $\delta^{13}\text{C}$ signature of the mantle source region of mid-ocean ridge basalts is key to understanding the origin of Earth's carbon and its cycling on a planetary scale. Here I will present recent analytical advances in the measurement of $\delta^{13}\text{C}$ in silicate glasses by secondary ion mass spectrometry and its application to the study of rare CO_2 -undersaturated melts that preserve the $\delta^{13}\text{C}$ signature of the upper mantle.