

Factors controlling the carbon isotopic composition of bacterial biomarkers

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In order to interpret carbon isotopic records of bacterial biomarkers in sediments, it is necessary to predict the isotopic compositions of biomarkers produced by putative organisms. The isotopic composition of a biomarker depends not only on that of source carbon on which the organism grew, but also on the isotopic fractionations associated with the assimilation of carbon and with the biosynthesis of the compound. I will review previous studies on various bacteria with respect to the magnitudes, the difference between species, and the control factors of these parameters.