**Elemental and isotopic characterization**

Samples (typically 4-8 mg) were weighed into tin capsules (9 x 10 mm; Costech), which were carefully folded and submitted for analysis to the University of California, Davis, Stable Isotope Facility (<http://stableisotopefacility.ucdavis.edu/> ). A description of the instruments and handling protocols can be found at: (<http://stableisotopefacility.ucdavis.edu/13cand15n.html> ). Each sample was run in triplicate with numerous sample blanks (folded tin capsules with no sample inside) interspersed throughout the analysis. In all cases, carbon and nitrogen in blanks were below the limit of detection. The freeze-dried samples were 30% by weight carbon with C/N of 13.1, 13C = -21.68‰, and 15N = 6.88‰.