

Interactive comment on “Stable carbon isotope biogeochemistry of lakes along a trophic gradient” by A. de Kluijver et al.

Anonymous Referee #2

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Review of de Kluijver et al. (Stable carbon isotopoe biogeochemistry of lakes along a trophic gradient)

Authors have analyzed or recalculated isotopic composition of carbons pools (DIC, DOC, POC, Phytoplankton, Zooplankton, Bacteria, detritic fraction) of 22 North American lakes displaying various trophic status. They try to link isotopic composition to allochthonous vs. autochthonous contribution to carbon pool and to trophic status. I have found this paper very good, well written, bringing new insight on carbon metabolism and cycle in lakes. I like the multi-approach concerning stable isotopes methodology (bulk measurement, GC and LC-Irms measurement, calculation of sources contribution using mixing model). I am impressed by the amount and the quality of the isotopic data. I do not have any major comment on this ms and recommend its publication

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like this. Very minor comment: Accordingly to Fry (2006), I do not like the use of the term “isotopic signature”. For me, a signature is invariable and always allow to distinguish between two things (persons for examples). It is not the case of stable isotopes composition which are variable and, unfortunately, are not always unique to a pool/sources,etc.

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