

Interactive comment on “The stoichiometric ratio during biological removal of inorganic carbon and nutrient in the Mississippi River plume and adjacent continental shelf” by W.-J. Huang et al.

Anonymous Referee #1

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Comments on bg-2012-31 by Hung et al 1. A big assumption in the MS is that S, TA and TA+NO₃ act as conservative tracers in the studied area. One should justify. Are the effects of evaporation/precipitation of water and precipitation/dissolution of carbonate minerals minor or negligible? 2. It will be helpful to have a plot of S versus TA+NO₃ to demonstrate the three-end-member mixing. 3. Giving two CM values in Table 1 and Figure 2f for the year 2004 data is confusing. From Figure 2f, one may simply say that the CM with high TA is an effective end member value, and redraw the M-S mixing line upward (similarly in Figure 3c). There is no reason to restrict the model to only the data with S >24 per mil. The footnotes 4 and 5 in Table 1 do not make sense (a mixed-up?). 4. In the caption of Figure 4, spell out what

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LSiLN and HSiLN stand for. Also what is the difference between S<24 and S>24 HSiLN? 5. In Table 2, the C/Si/N/P ratios were obtained by assuming N=16 with no error. My calculations give $(91 \pm 5)/(8.0 \pm 1.6)/16/(0.32 \pm 0.06)$ for 2003 data and $(80 \pm 18)/(19 \pm 6)/16/(0.62 \pm 0.17)$ for 2004 data. It will be helpful to provide the uncertainties in Table 1. 6. The paper by Li and Peng (2002) used three end member mixing model, not two end member mixing as authors suggested.

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