

Interactive comment on “Distinct bacterial production–DOC–primary production relationships and implications for biogenic C-cycling in the South China Sea shelf” by C.-C. Lai et al.

C.-C. Lai et al.

fkshiah@rcec.sinica.edu.tw

Received and published: 15 August 2013

1. Unfortunately the nitrate samples were lost, so phosphate concentrations were used for inorganic nutrients, due to the tight regression between the two shown in Fig. 2. However, we do not know that the ratio of bacterial production to primary production would behave exactly the same way with nitrate as with phosphate (Fig. 8), especially because nitrate is likely the limiting nutrient which is close to zero while a small concentration of phosphate remains (Fig. 2). The ratio of the two is also less than 16 to 1, suggesting that nitrate will be limiting nutrient for primary production.

C4315

Please be kindly noted that only the nitrate (NO₃) samples of the PRD survey were ruined. The nitrate data of the shelf-mapping study was still available, and it showed a good correlation with PO₄ (Fig. 2). Figure 8 was constructed based on the data of the shelf-mapping study. Therefore, the patterns of IBP/IPP ratios vs. INO₃ behaved exactly the same as those of IBP/IPP ratios vs. IPO₄. The r² (coefficient of determination) value for IBP/IPP ratios vs. INO₃ in the inner-shelf area was 0.55 (n=16, p<0.01). We will add this in the revised version. The implication of the slope (13.72±0.27) shown in Fig.2 will be mentioned in the revised version.

2. Many of the comments in the results are rather obvious, for instance that salinity and Sigma-t increased seaward and with depth. These comments could be removed or made more substantial.

The sentence “. . . were lower near the coast and in the surface-waters, and then increased seaward and with depth” (page 9076, pages 4~5 of the original version) will be deleted as suggested.

3. The manuscript needs to be closely reviewed for proper English usage, there are numerous places where word usage is incorrect. English editing will be done in the revised version.

Interactive comment on Biogeosciences Discuss., 10, 9069, 2013.

C4316