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## ***Interactive comment on* “Technical Note: Maximising accuracy and minimising cost of a potentiometrically regulated ocean acidification simulation system” by C. D. MacLeod et al.**

### **Anonymous Referee #2**

Received and published: 19 September 2014

This paper makes a valuable contribution in enabling our ability to understand the impact of changing seawater chemistry on marine biota. This study not only contributes to the community by providing a less expensive alternative to conduct these important studies but it highlights key aspects in experimental design which challenge cross-study comparisons. The researchers have done a great job in surveying the users' reliance on electrodes instead of spectrophotometry for pH measurements by examining a special issue on the biological effects of ocean acidification. They model the best technique for CO<sub>2</sub> manipulation (CO<sub>2</sub> injection) in their study and they effectively advise users on sound practices of electrode calibration (i.e. matching salinity and ionic strength to reduce liquid junction potential errors; two point calibration to deter-

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mine slope of the electrode; and use of the recommended total pH scale). They have effectively assessed their user base priorities (common practices) and have provided insight into experimental design which will greatly enhance the quality and reproducibility of experiments. The experimental design was well-implemented. It was effective to incorporate the use of DIC/TA checks to confirm the validity of the pH data. This is an important and timely document providing a wealth of detail on how to effectively conduct well-executed and cost efficient experiments on changing ocean chemistry and temperature.

Minor revisions: Atomically balance equations R1-R3 (hydrogens and carbons) – could use (aq) as a subscript to imply the water in the system. (page 7661)

Place a space between 80 and L (page 7666, line 17).

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Interactive comment on Biogeosciences Discuss., 11, 7659, 2014.

**BGD**

11, C5227–C5228, 2014

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