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Dr. Frank J. Millero
Editor-in-Chief, Marine Chemistry
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Dr. Millero:

Please find enclosed two copies of the manuscript "Determination of gas bubble fractionation rates in the deep ocean by laser Raman spectroscopy" by White, Brewer & Peltzer which we would like to submit for publication in Marine Chemistry. A CD is also enclosed with the manuscript in PDF format.

This paper describes the use of our newly developed deep-sea laser Raman spectrometer to analyze the composition of a 50%-50% CO₂-N₂ gas mixture as CO₂ is preferentially dissolved into seawater over time at 300 m depth in the ocean. These experiments address the feasibility of a proposed method of CO₂ injection into the deep ocean for long-term sequestration. We show the usefulness of laser Raman spectroscopy for *in situ* observations of changing processes in the ocean and compare our observations with theoretical gas flux calculations.

The Marine Chemistry "Guide to Authors" does not mention the need to suggest reviewers for the manuscript, but we would be happy to provide such a list if you wish. Please let us know if you have any questions regarding this submission.

Sincerely,

Sheri N. White

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