Review # 1:

Reviewer: I would like to know some basic results from ecological and micropalaeontological point of view. How about survival rates, cell colors and symbiosis of each condition?

Response: the following sentences were added to the manuscript: P17468 L 4:

Changes: "Dead specimens were identified by a change in color from brownish/greenish to pale/white, due to their loss of symbionts. Survival rates were high (ca. 95%) and not correlated with any measured parameter. Dead specimens were removed from culture".

Reviewer: The study changes calcium concentrations of culture media. Normally, too much calcium is toxic for biology. This study itself also indicates foraminiferal populations show no growth at the highest calcium condition. I wonder their survivorship at extreme calcium conditions. The information must be valuable when the adaptation possibility of recent foraminifera is considered through geologic time.

Response: This is not completely true. The study indicates that foraminifers do not grow at lowest calcium concentration. At highest calcium concentrations foraminifers still grow, however their growth rates are reduced (compare Fig. 1 and P 17470, L16-19). As mentioned before and added to the manuscript, P17468 L 4, death happened rarely and was not higher in the extreme calcium condition compared to the other treatments.

Reviewer: Further, I would like to see SEM photos of foraminiferal from each condition. The authors already indicate size normalized weight for test wall thickness. I think visual material like SEM or optical microscopic-photo with description of test morphology and test surfaces' structures bring invaluable information to an audience.

Response: We used our test material for further isotope analyzes. Therefore it is unfortunately not possible to add SEM pictures to this manuscript.

Reviewer: The latter part of section 4.2 would be one of the key feature of this study (mainly in P.17475). I support there are species specific TMT fractionation in foraminifera than coccolithophore. The discussion would be much generalized to predict specific TMT fractionation among species like solver system.

Response: We do not completely understand what the reviewer wants us to do, and the meaning of "solver system" is unclear to us. However, we take it that the reviewer alludes to the value for TMT fractionation we use. As stated in the text **(**P.17475, L. 4-8) this value is unknown, and our chosen number falls well within the range of reasonable Ca channel fractionations **(**P.17475, L. 4-

8). We do not wish to further speculate on species-specific TMT fractionations, as the reviewer seems to suggest we should do, because we feel that the high uncertainty inherently attached to such a speculation would preclude any benefit the reader might get from it.

Reviewer: P17464 L16 telative -> relative?

Response: telative was changed to relative

Reviewer: P17466 L16 No authigenic crystals are precipitated during stock?

Response: No authogenic crystals were found when culture media were observed under the microscope. In addition we determined alkalinity of the stock solution at the beginning of the experiment, once a week during the experiment and at the end of the experiment (compare P 17568 L 7-9). Alkalinity was constant during the experiment, therefore no inorganic precipitation took place.

Reviewer: P17468 L3 Why the culture dish is changed so frequently even there are risks of lost?

Response: Foraminifers were feed with *Dunaliella salina* during the culture experiment. However not all *D. salina* cells were consumed by the foraminifers. To keep foraminifers free from bacteria and putrefaction they were transferred to clean petri dishes once a week.

Changes: P 17468, L 3: "To prevent bacterial colonialization of petri dishes due to left-over food, all specimens were transferred to a clean petri dish once every week. This resulted in an occasional loss of some specimens."

Reviewer: P17469 L6 weight [ug]? Could you check the unit?

Response: yes, the unit was incorrect

Changes: weight [µm] was changed to [µg]