Supporting information: **On calcium-to-alkalinity anomalies in the North Pacific, Red Sea, Indian Ocean and Southern Ocean**

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**Fig. s1:** Calculated excess calcium profiles of the five open water North Pacific stations from this study. Error bars mark ±1σ SD of the precision of the measurements and calculations. The vertical dashed lines mark Caex = 0.

**Table s1:** Error introduced in calculation of potential alkalinity by normalization to salinity of 35 g kg−1 when 150 µmol kg−1 alkalinity is added/removed by dissolution/calcification of calcium carbonate. Detailed calculations of the introduced error are provided in the excel file appendix 1.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Absolute salinity (g kg−1) | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 40 |
| PA error introduced (µmol kg−1) | 14 | 9 | 4 | 0 | -4 | -8 | -12 | -19 |