PME O2 sensor calibration 2022/08/04

Both O2 sensors were placed in a bucket of air-equilibrated water on 8/3 in the evening. Logging once per minute.

On 8/4 at 1:50 pm local time we added lead weights so that they sit at the bottom of the bucket.

Starting at 14:12 until 14:20, we withdrew water into 6 Winkler sample flasks.

Water temperature read by high-precision thermometer is 21.18 degC.

Flask numbers: 02, 08, 09, 11, 12, 15

At approx 14:25, added some warm tap water. Temperature up to 31.5 degC on high-precision thermometer and then dropping.

At approx 14:35, added 12 g of sugar and 1 packet of baker’s yeast. Temperature about 30.5 degC. Covered with bubble wrap to limit gas exchange.

Started sampling at 15:02

Flask 19 at 15:03

Flask 21 at 15:08 - lids switched

Flask 23 at 15:10 - lids switched

Flask 4 at 15:11

Flask 14 at 15:15

Flask 17 at 15:17

Dumped out water at 15:33 and washed sensors

See 20220804 titrations spreadsheet for the results of air-equilibrated samples. For air-equilibrated samples the concentration was around 268 umol/kg plus or minus 2, which is around 97% saturation.

[20220804 titrations](https://docs.google.com/spreadsheets/d/1_4SmnwEYNo2bLO7dyZLlBDlZywgL5OoFBQ-HAfT8ZEA/edit?usp=sharing)

See 20220808 titrations spreadsheet for the results of the near-zero samples

All samples had zero O2 concentration (current was 0.00 at start of titration)

Interestingly, the sensor serial number 383325 was reading 0.3 mg/L in the zero O2 condition whereas the sensor serial number 364333 was reading <0.1 mg/L in the zero O2 concentration.