Supplemental Materials

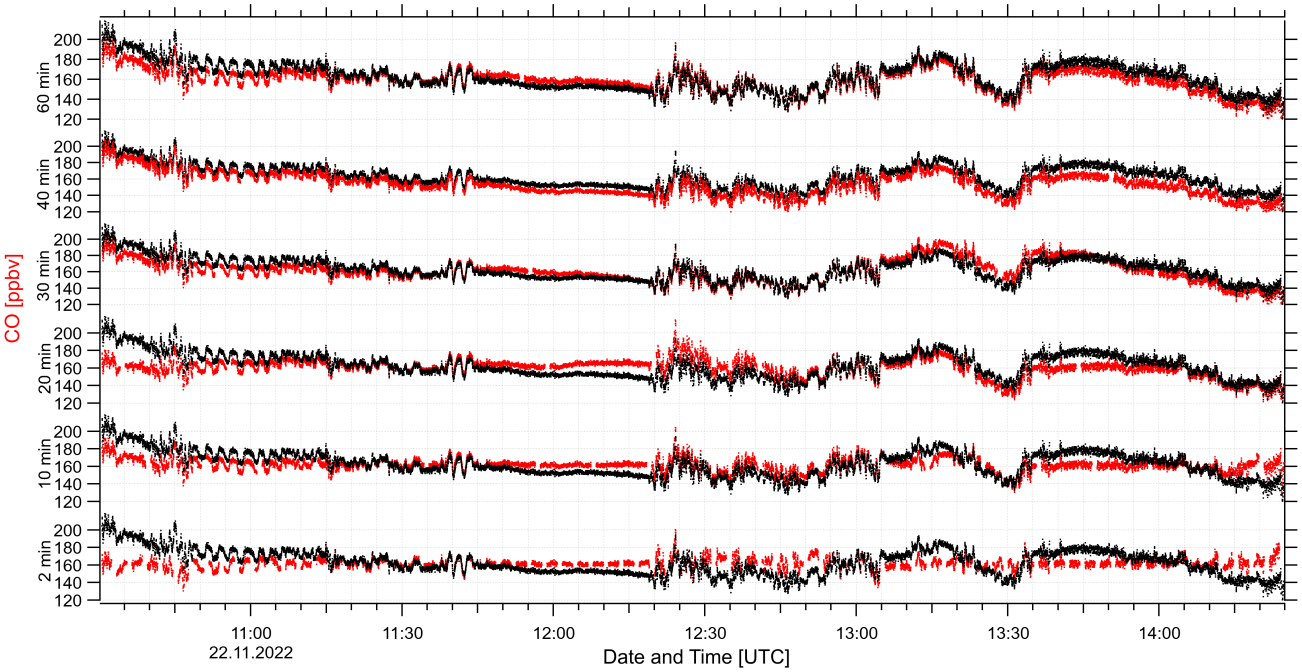

Figure S1. Comparison of calibration frequencies of CO with data from the test flight on the 22nd of November 2022. Black lines indicate measurements of constant calibration gas processed with only one virtual calibration before the flight of 60 seconds length. In red the same measurements are shown processed and drift-corrected with virtual calibrations set every 2, 10, 20, 30, 40 and 60 minutes from bottom to top, accordingly. The volume mixing ratio of CO which is supposed to be measured is 161 ppbv.

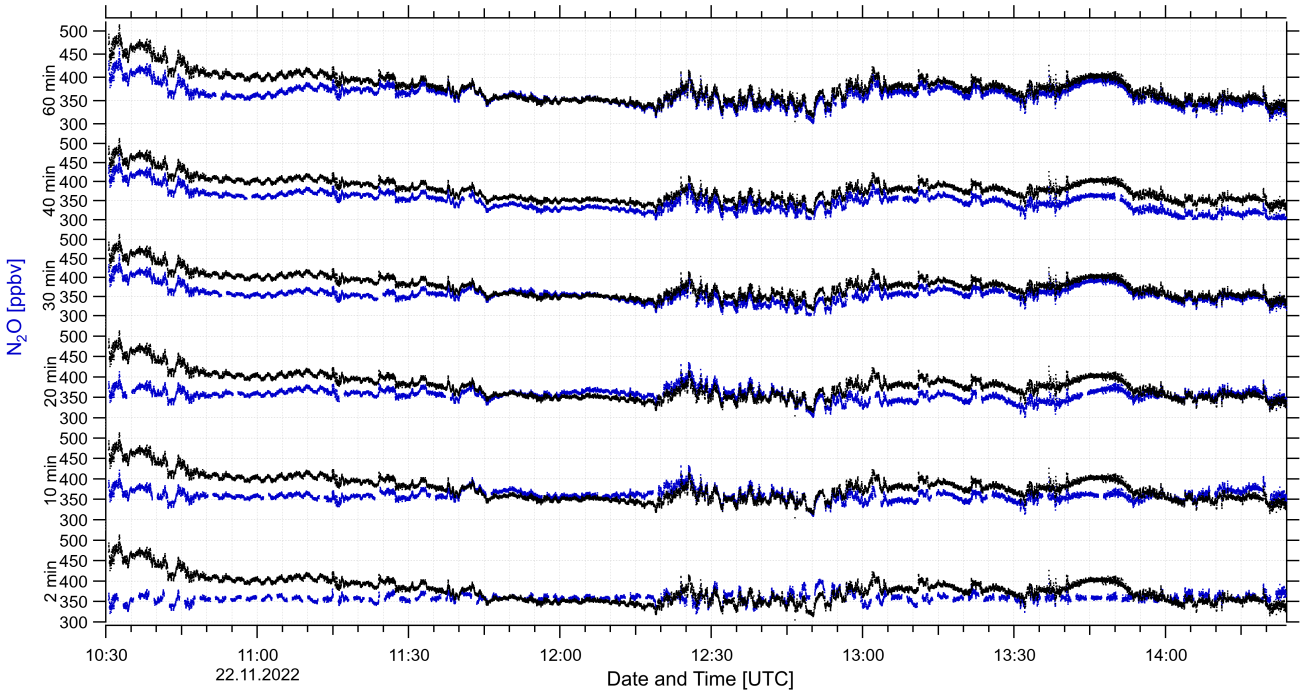

Figure S2. Comparison of calibration frequencies of N_2O with data from the test flight on the 22nd of November 2022. Black lines indicate measurements of constant calibration gas processed with only one virtual calibration before the flight of 60 seconds length. In red the same measurements are shown processed and drift-corrected with virtual calibrations set every 2, 10, 20, 30, 40 and 60 minutes from bottom to top, accordingly. The volume mixing ratio of N_2O which is supposed to be measured is 358 ppbv.

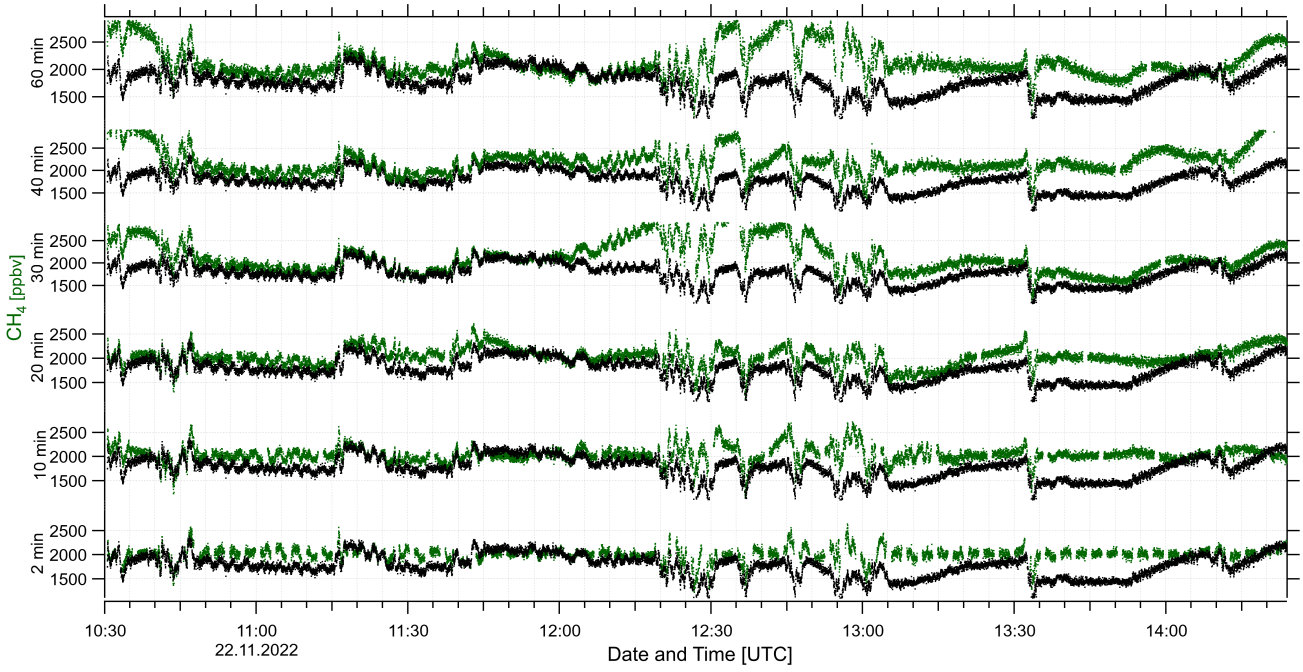

Figure S3. Comparison of calibration frequencies of CH_4 with data from the test flight on the 22nd of November 2022. Black lines indicate measurements of constant calibration gas processed with only one virtual calibration before the flight of 60 seconds length. In red the same measurements are shown processed and drift-corrected with virtual calibrations set every 2, 10, 20, 30, 40 and 60 minutes from bottom to top, accordingly. The volume mixing ratio of CH_4 which is supposed to be measured is 2025 ppbv.

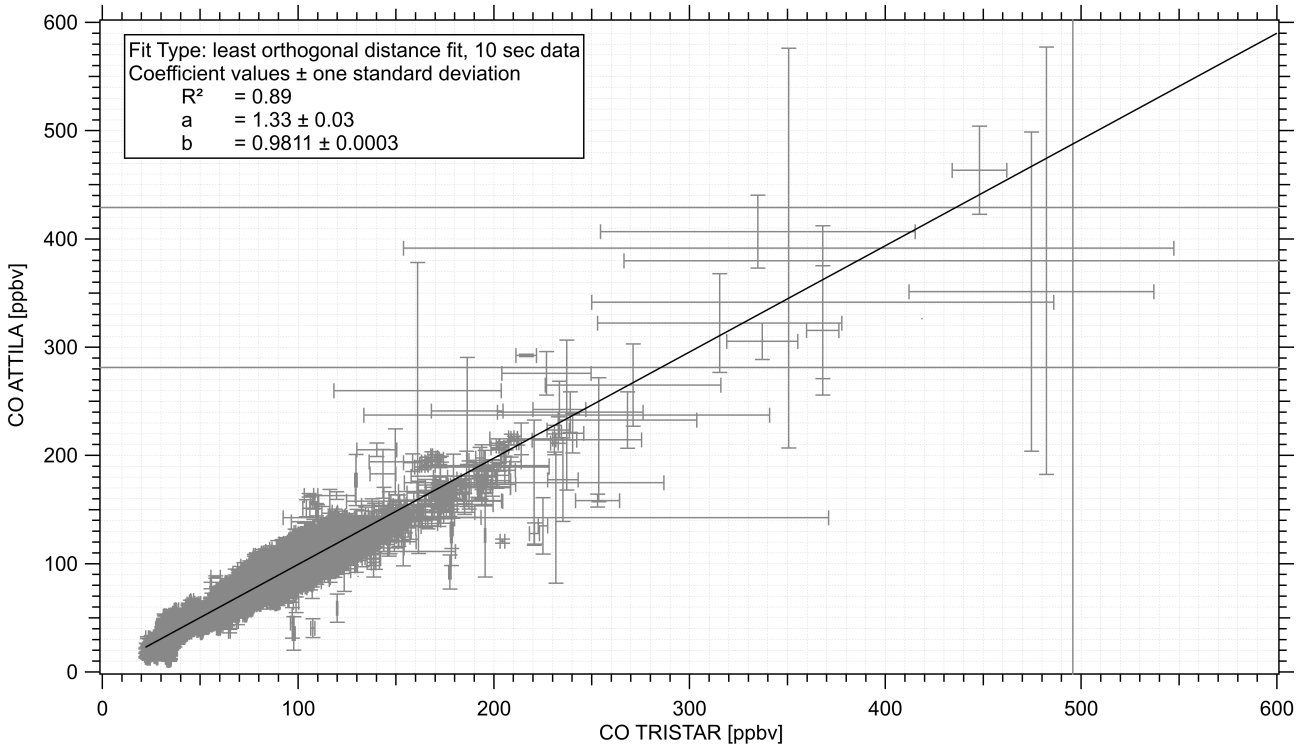

Figure S4. Correlation of all 10 seceonds averaged CO ambient measurements from ATTILA on the y-axis and from TRISTAR on the x-axis over the whole CAFE-Brazil campaign, excluding the two test flights. The data has been fully processed and corrected. A least orthogonal distance fit has been performed, including the standard deviation of the averaged data.