

Supplemental Figures for:
**Comparison of Ozone Measurement Methods in Biomass Burning Smoke: An evaluation
under field and laboratory conditions**

Russell W. Long¹, Andrew Whitehill¹, Shawn Urbanski³, Hannah Halliday¹, Maribel Colón¹, Surender Kaushik¹, Andrew Habel², Matthew S. Landis¹

¹Center for Environmental Measurement and Modeling, Office of Research and Development, United States Environmental Protection Agency, Research Triangle Park, North Carolina, United States of America

²Jacobs Technology Inc., Research Triangle Park, North Carolina, United States of America

³U.S. Forest Service, Rocky Mountain Research Station, Missoula, MT, USA

Correspondence to: Russell W. Long (919-541-7744; long.russell@epa.gov)

Figures.

Figure S1. Time series of O₃, CO, and NO₂ for the four March 2017 Kansas burn days.

Figure S2. Time series of O₃, CO, and NO₂ for the October 2017 Sycan Marsh (Oregon) burn day.

Figure S3. Time series of O₃, CO, and NO₂ for the November 2017 Kansas burns. The November 10 burn occurred at Konza Prairie and the November 13 and 15 burns were conducted at Tallgrass Prairie.

Figure S4. Time series of O₃, CO, and NO₂ for the 2018 USFS chamber burns in Missoula, MT.

Figure S5. Time series of O₃, CO, and NO₂ for the 2019 USFS chamber burns in Missoula, MT.

Figure S6. Time series of the UV-C positive O₃ analytical artifact ($\Delta O_{3(UV-C)}$) and CO comparison from the three prescribed burning periods. Top-Konza Prairie (KS) March 2017; middle-Sycan Marsh (OR) October 2017; and bottom-Konza Prairie and Tallgrass Prairie (KS) November 2017.

Figure S7. Scatter plots between O₃ differences and the THC measurements within the grassland fires smoke plumes.

Figure S8. Scatter plots between ΔO_3 and the CAPS NO₂ measurements within the grassland fires smoke plumes.

Figure S9. Scatter plots between FRM and FEM O₃ differences and CO, NO₂, and THC for all in-plume measurements made during the 2018 and 2019 Missoula Fire Chamber studies. Observation points have been colored by the O₃ instrument. Over all observations there is little correlation between the O₃ instrument differences, but straight line structures within the overall scatters indicate that individual burn events measured in the chamber have good correlations with distinct ratios.

Figure S10. Scatter plots between FRM and FEM O₃ differences and CO, NO₂, and THC for measurements collected in-plume during a single burn event during the 2018 and 2019 Missoula Fire Chamber campaigns. Observation points have been colored by the O₃ instrument. In Figure S9, the regressions had low overall correlation over all in-smoke points, individual burn events measured in the chamber have good correlations with distinct ratios.

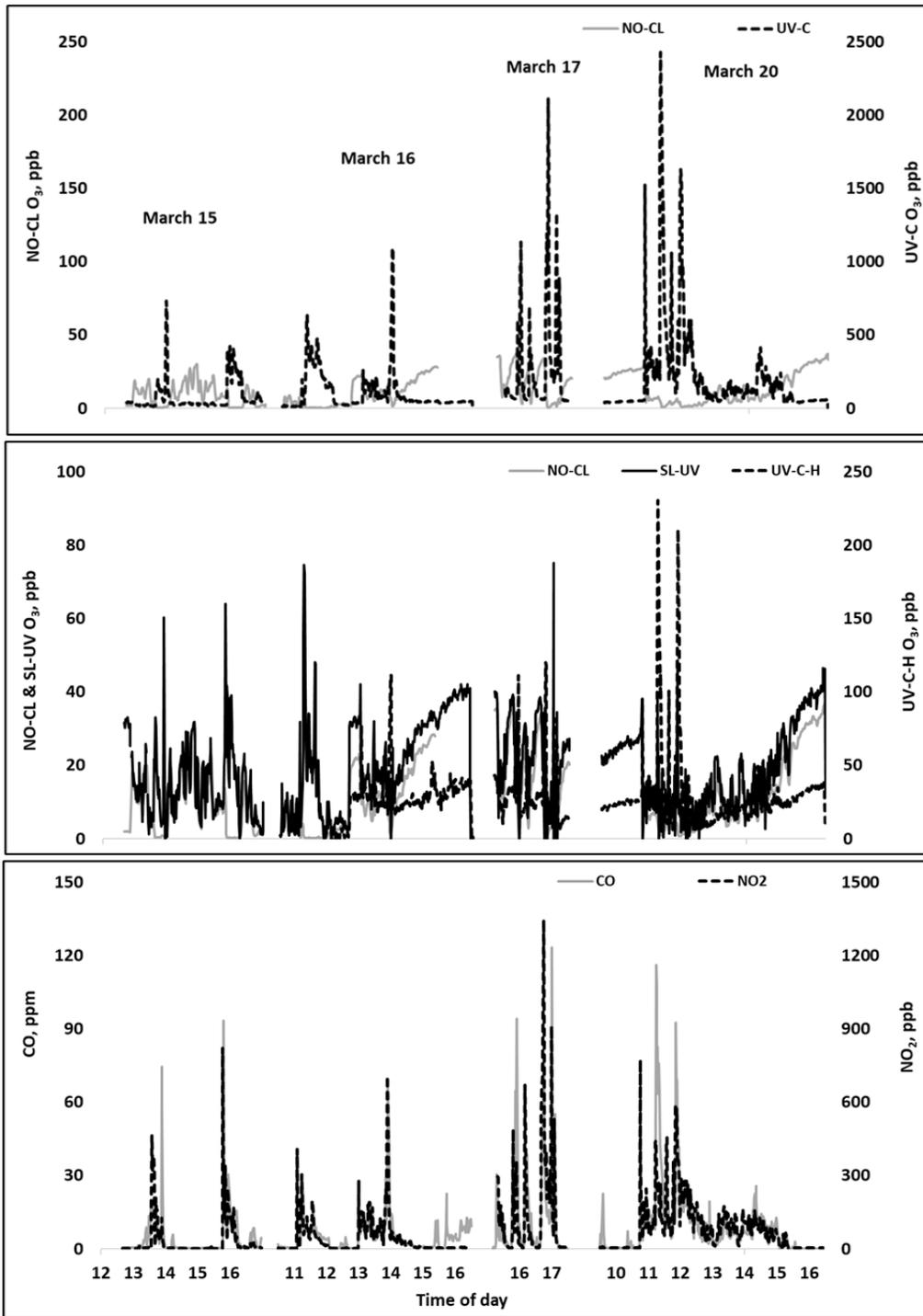


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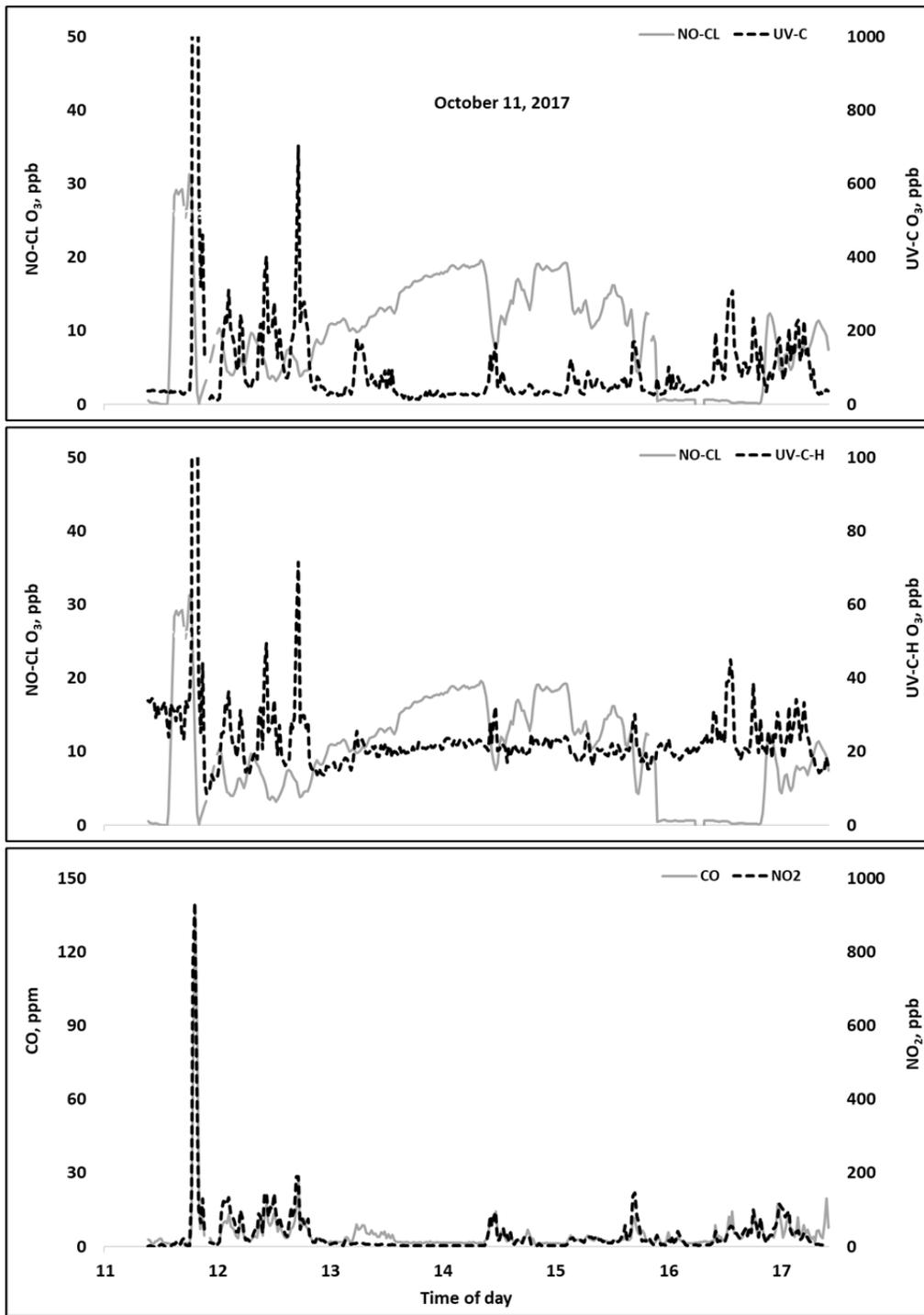


Figure S2. Time series of O₃, CO, and NO₂ for the October 2017 Sycan Marsh (Oregon) burn day.

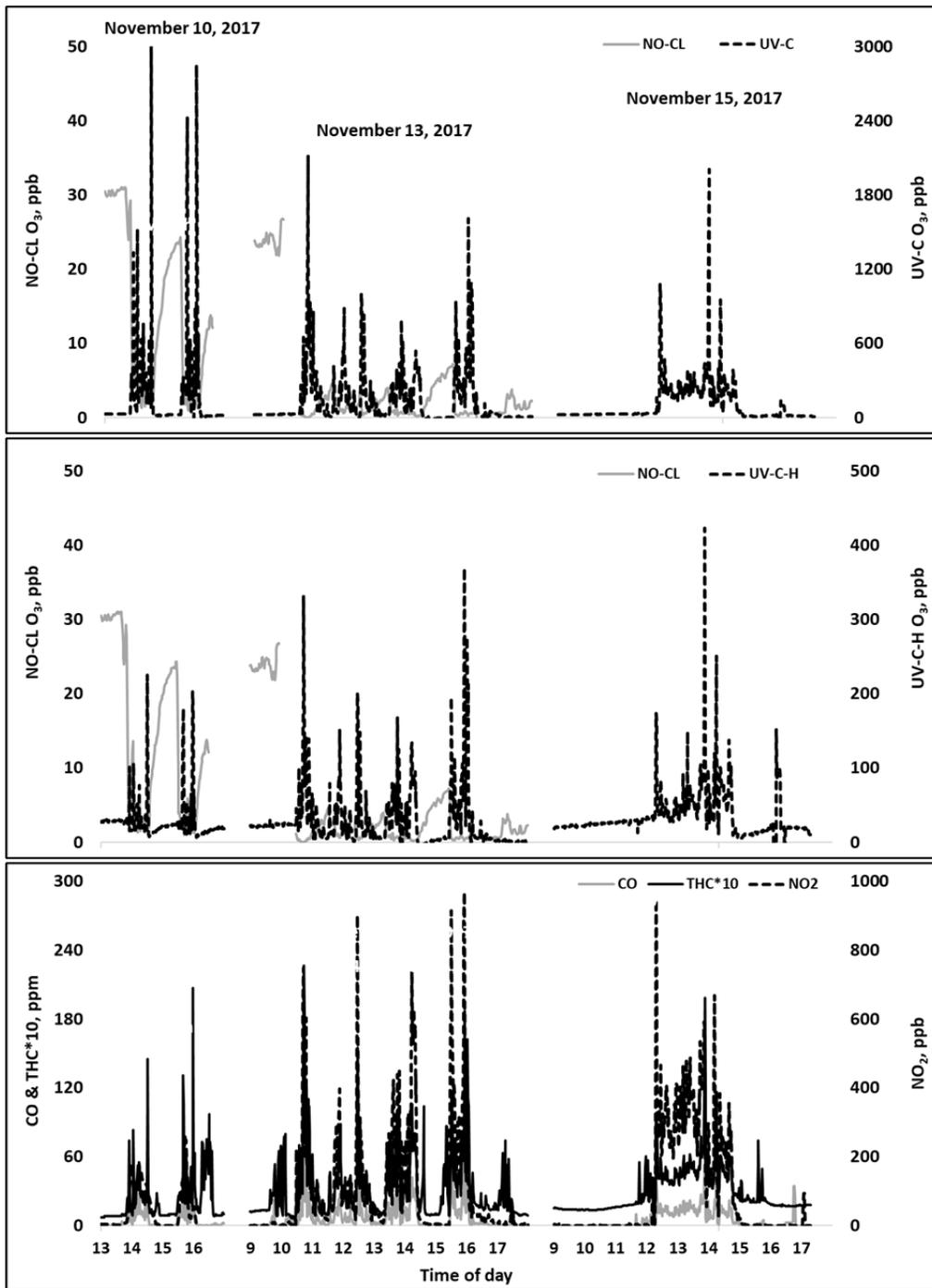


Figure S3. Time series of O₃, CO, and NO₂ for the November 2017 Kansas burns. The November 10 burn occurred at Konza Prairie and the November 13 and 15 burns were conducted at Tallgrass Prairie.

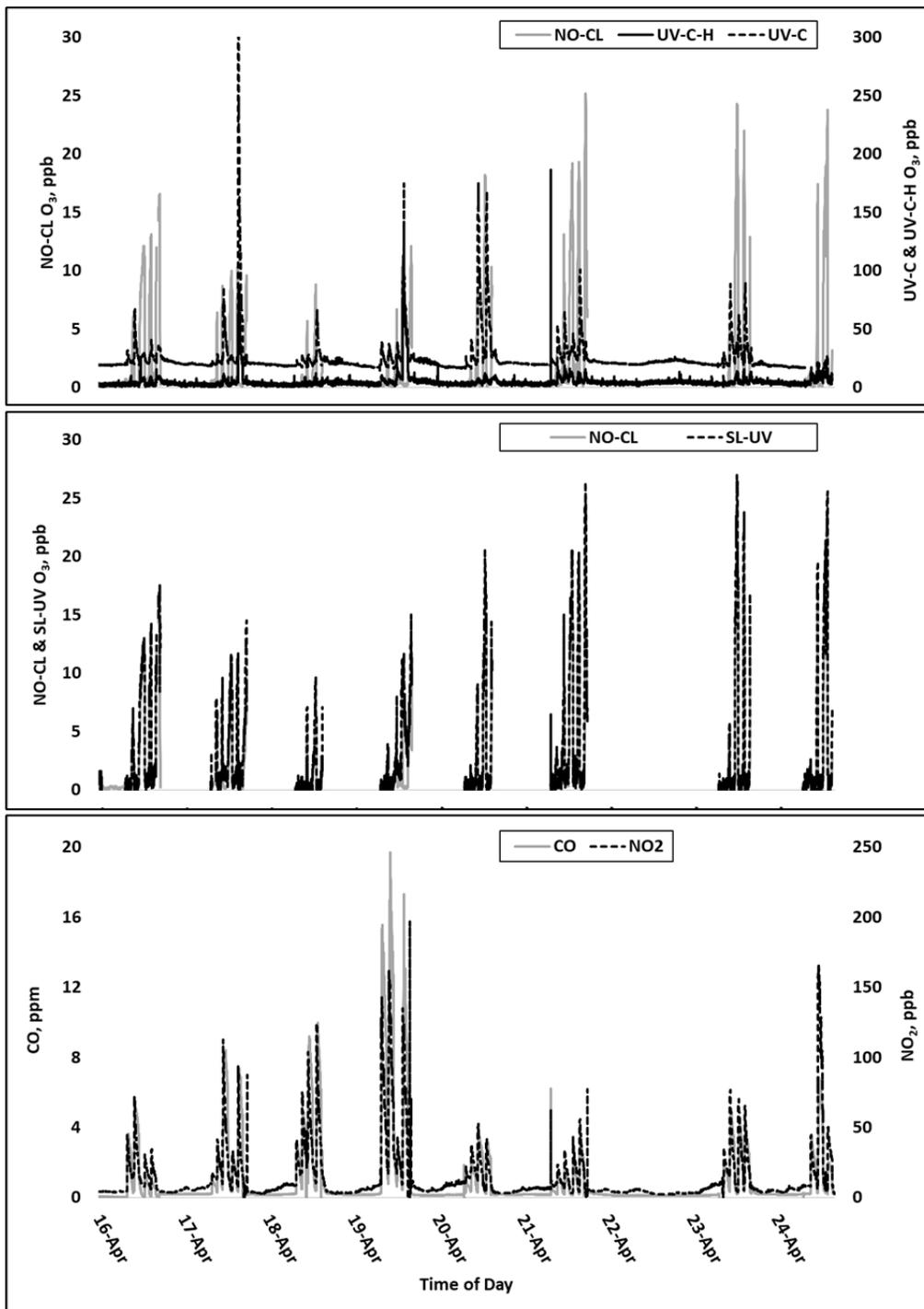


Figure S4. Time series of O₃, CO, and NO₂ for the 2018 USFS chamber burns in Missoula, MT.

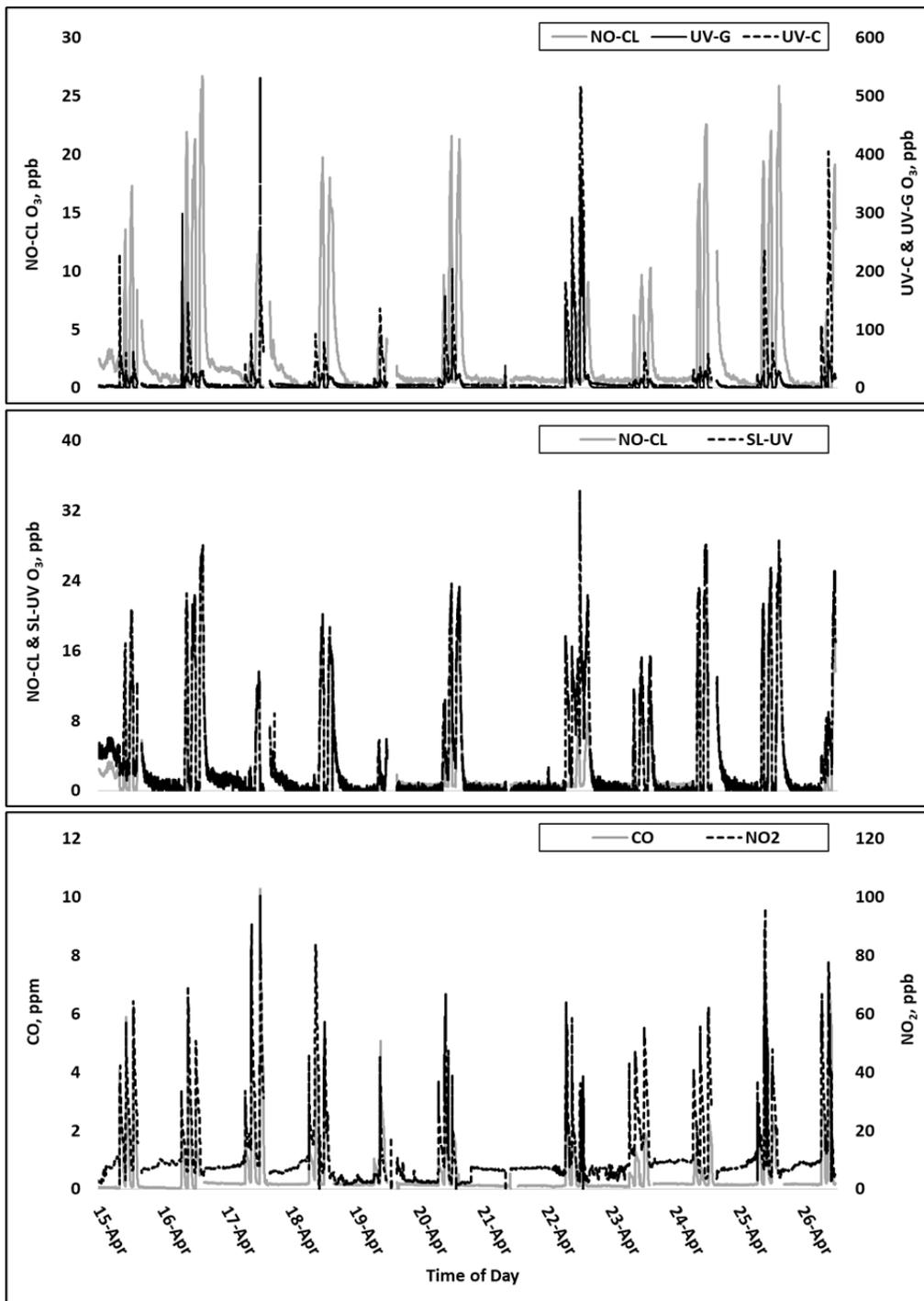


Figure S5. Time series of O₃, CO, and NO₂ for the 2019 USFS chamber burns in Missoula, MT.

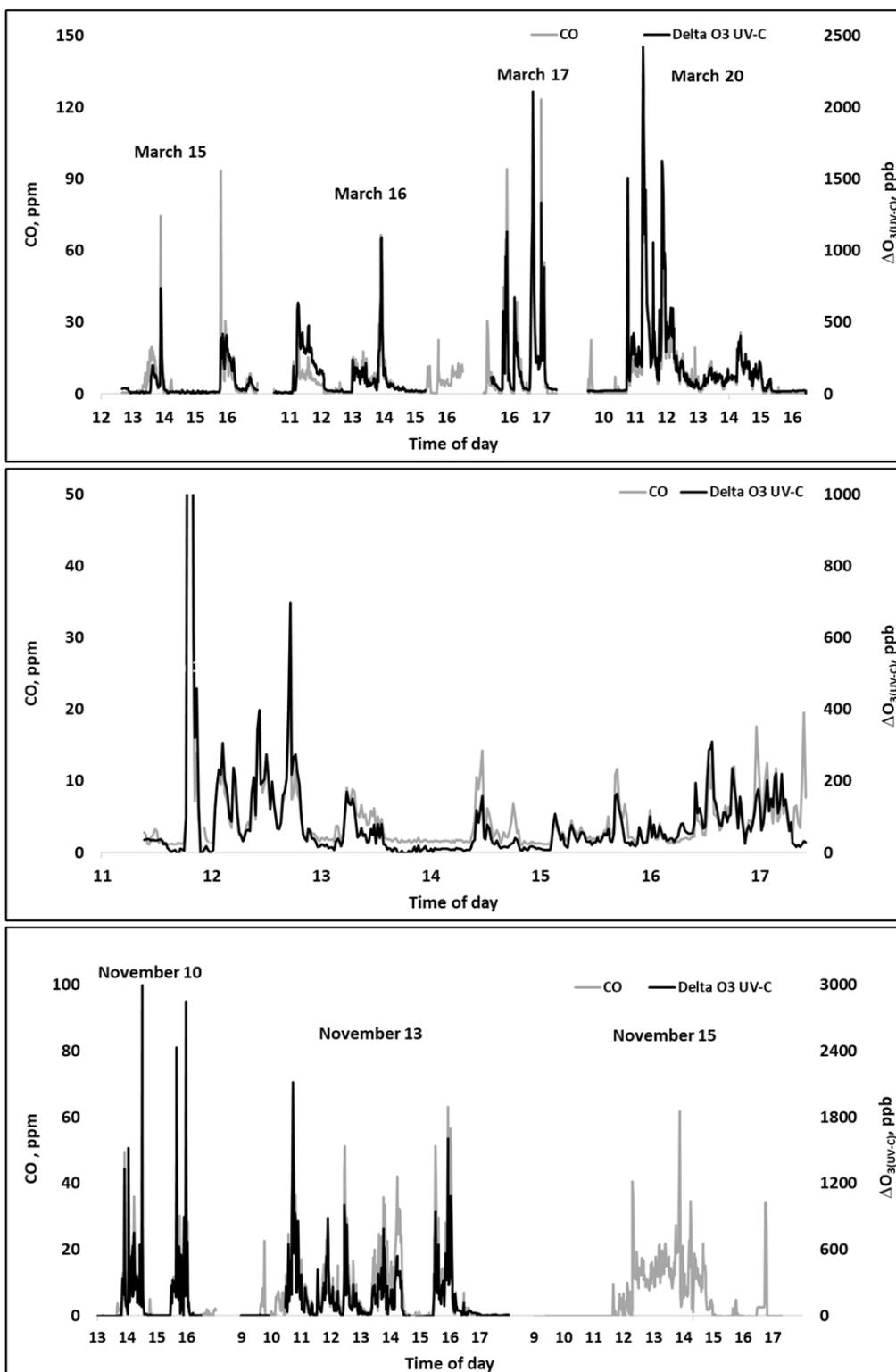


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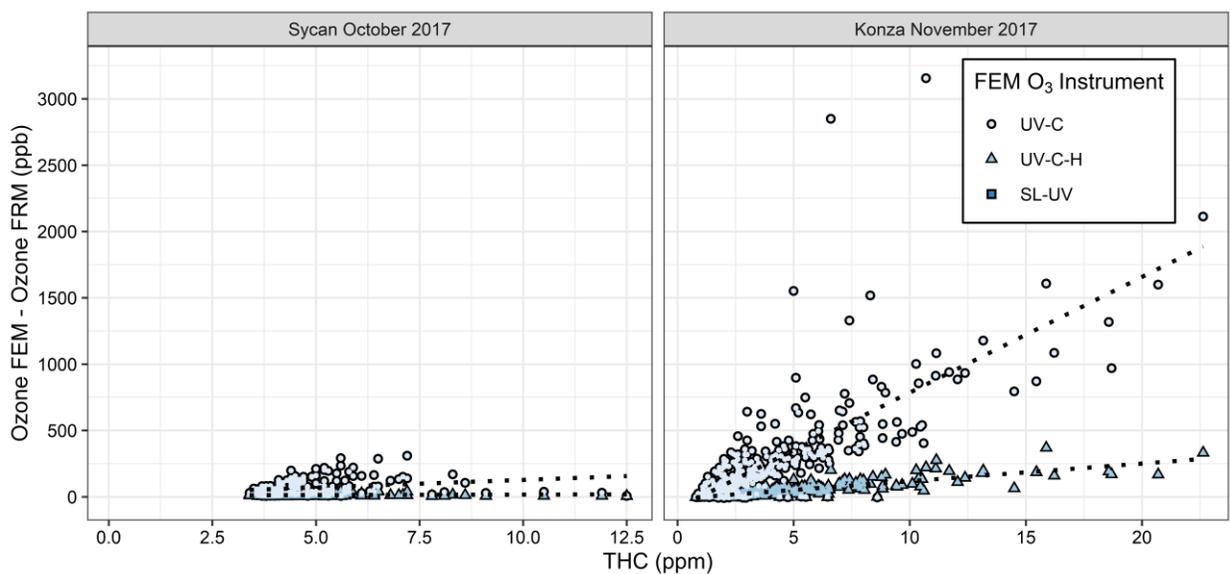


Figure S7. Scatter plots between Ozone differences and the THC measurements within the grassland fires smoke plumes.

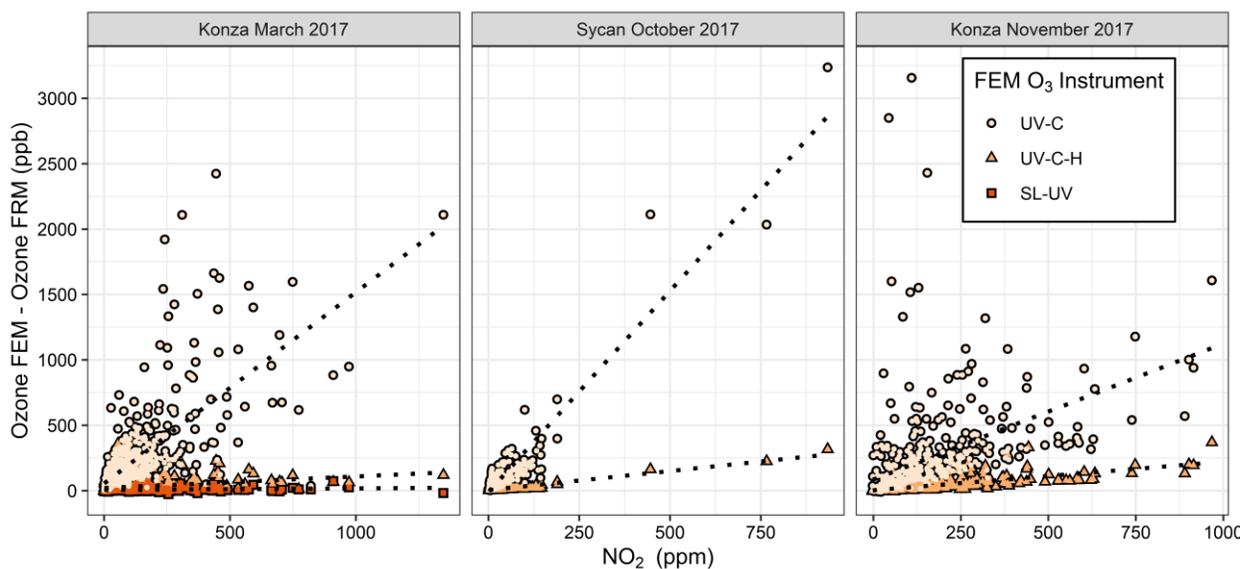


Figure S8. Scatter plots between ΔO_3 and the CAPS NO₂ measurements within the grassland fires smoke plumes.

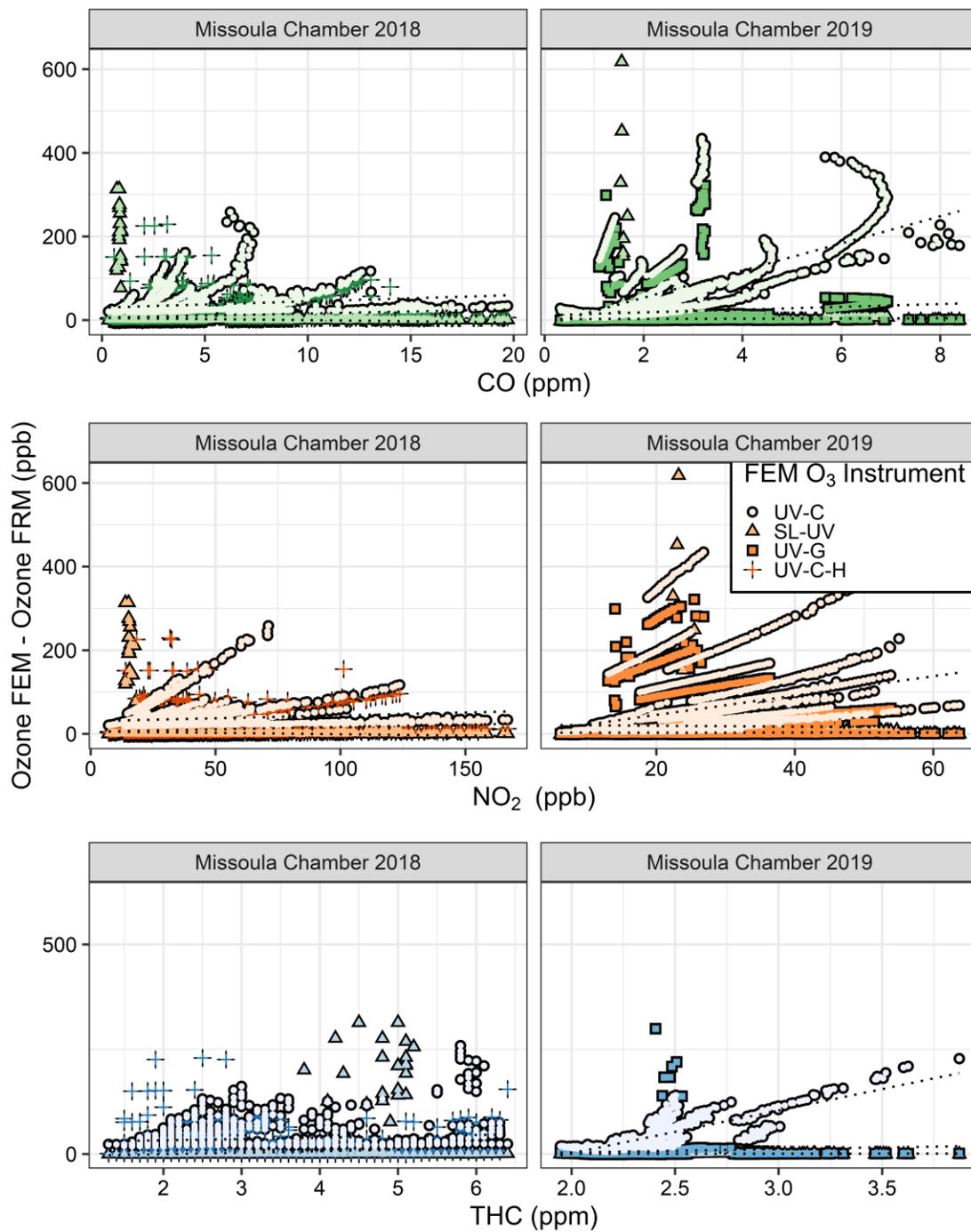


Figure S9. Scatter plots between FRM and FEM O₃ differences and CO, NO₂, and THC for all in-plume measurements made during the 2018 and 2019 Missoula Fire Chamber studies. Observation points have been colored by the O₃ instrument. Over all observations there is little correlation between the O₃ instrument differences, but straight line structures within the overall scatters indicate that individual burn events measured in the chamber have good correlations with distinct ratios.

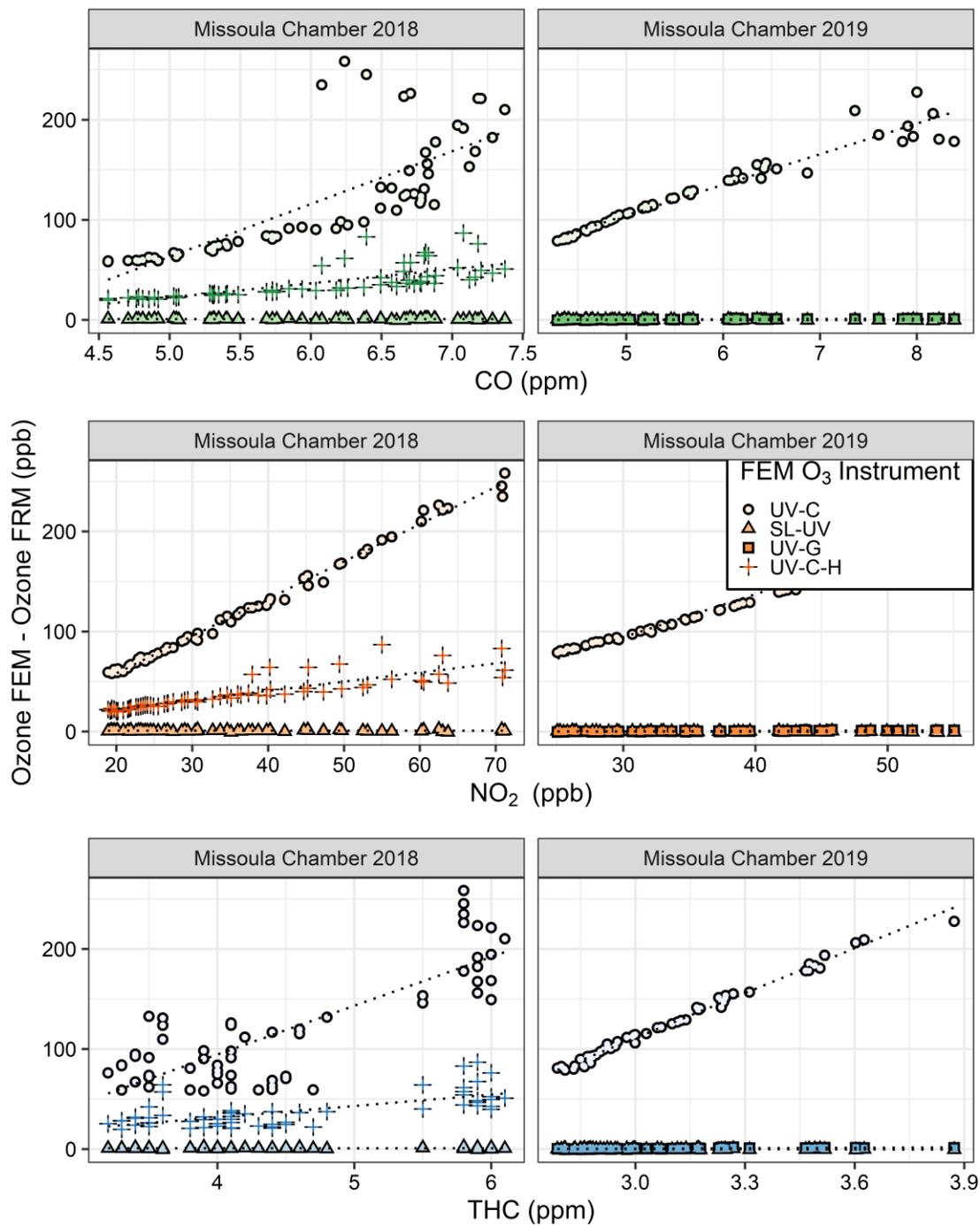


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