

Identification and Quantification of Gaseous Organic Compounds Emitted from Biomass Burning using Two-Dimensional Gas Chromatography/Time-of-Flight Mass Spectrometry

Supplementary Information

L.E. Hatch¹, W. Luo¹, J.F. Pankow¹, R.J. Yokelson², C.E. Stockwell², and K.C. Barsanti¹

[1][Department of Civil and Environmental Engineering, Portland State University, Portland, Oregon]

[2][Department of Chemistry, University of Montana, Missoula, Montana]

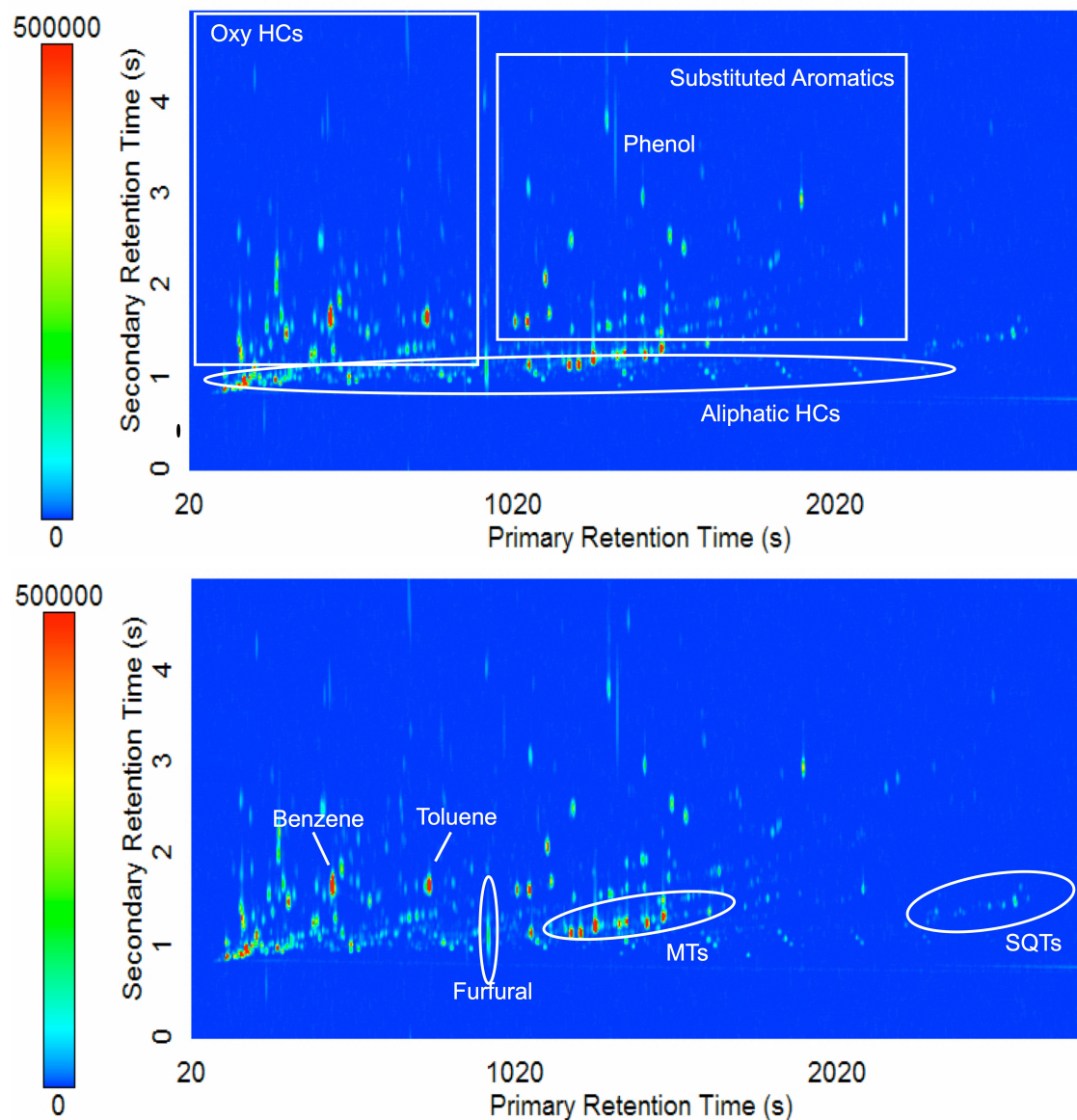


Figure S1. GCxGC/TOFMS chromatogram from a black spruce fire, displaying general compound groupings (HCs = hydrocarbons, MTs = monoterpenes, SQTs = sesquiterpenes)

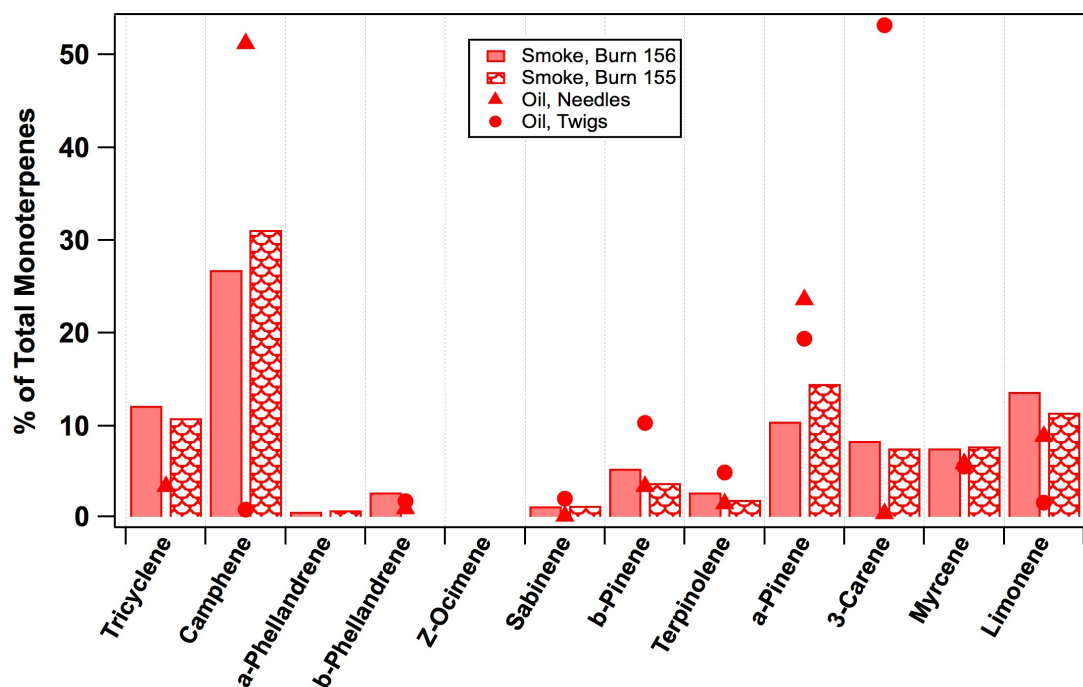


Figure S2. Distribution of the monoterpenes observed in smoke from two black spruce fires, as a percentage of the total monoterpene emission factor. Markers represent the percentage of each monoterpene measured in the essential oils of black spruce needles and twigs (von Rudloff, 1975). Burn 156 is the BS fire discussed in the main text. The MCEs for each were very similar (Burn 155, 0.936 and Burn 156, 0.933).

References:

von Rudloff, E.: Seasonal Variation in the Terpenes of the Foliage of Black Spruce, *Phytochemistry*, 14, 1695-1699, 1975.