

1 **Supporting Information**

2 Article Title: "SOA Formation Potential of Emissions from Soil and Leaf Litter"

3 Authors: Celia L. Faiola, Graham S. VanderSchelden, Miao Wen, Farah C. Elloy, Douglas R.
4 Cobos, Richard J. Watts, B. Thomas Jobson, and Timothy M. VanReken

5

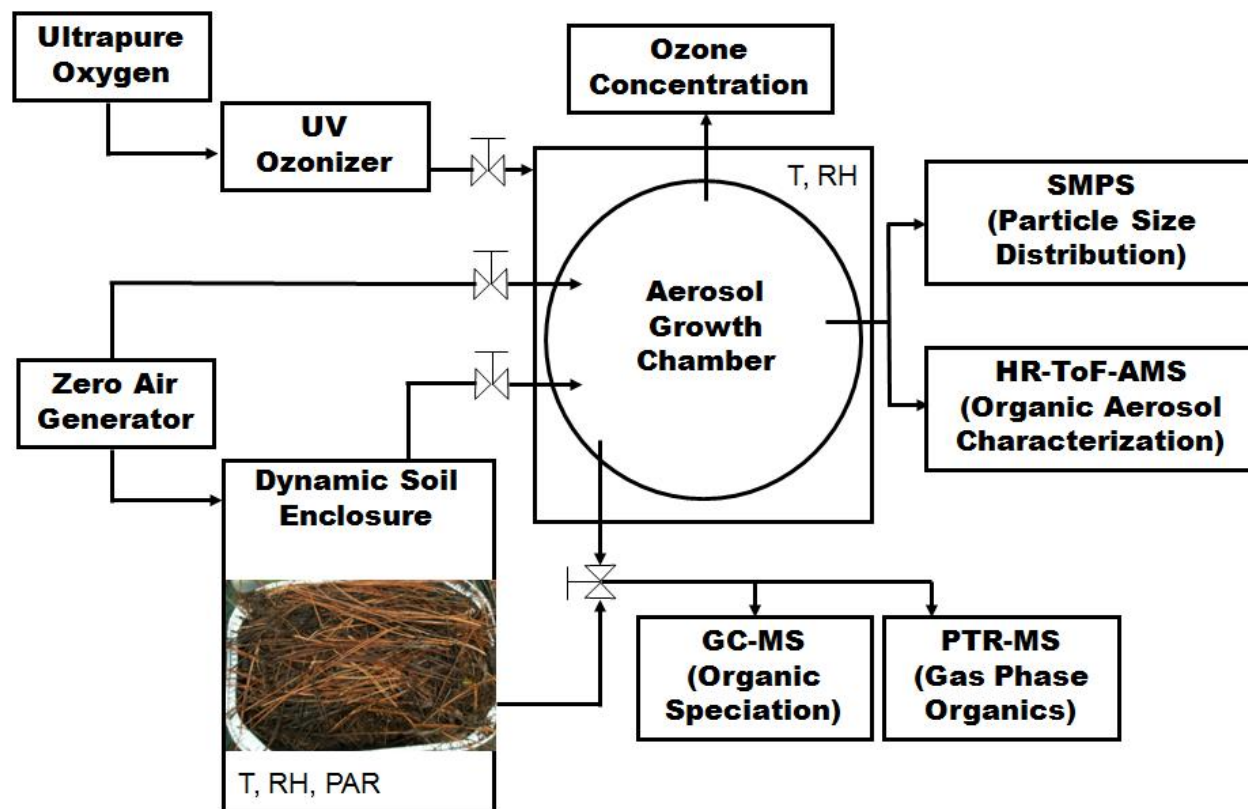
6 This supporting information contains three figures on three pages.

7

7

8

9 **Figure S1:** Dual Chamber System Schematic. Schematic of the dual chamber system used
10 to conduct the soil and litter SOA experiments. The soil enclosure was operated
11 dynamically as a continuously stirred tank reactor with a flow of $9.5 \text{ standard L min}^{-1}$. The
12 aerosol growth chamber was operated in batch mode. Refer to the main text for details of
13 instrumentation.



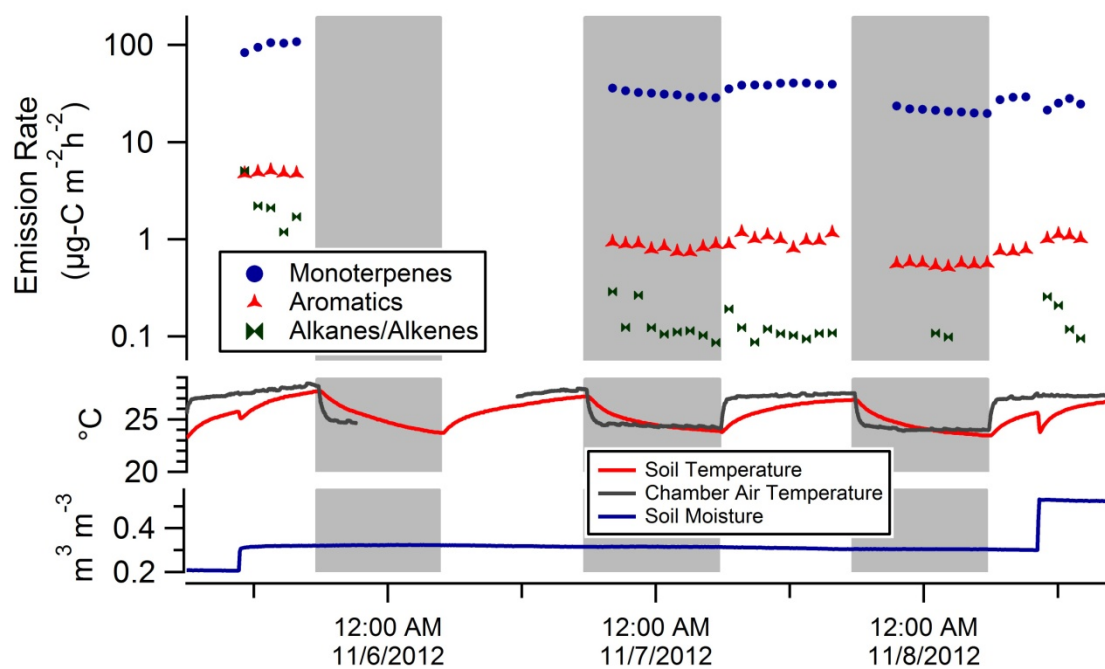
14

15

16

16

17 **Figure S2:** VOC time series of soil sample set 1 (“proof-of-concept experiments”). Two
18 chamber experiments were performed with sample set 1—November 5th, 2012 and
19 November 8th, 2012. The soil moisture indicates that the soil was watered prior to both
20 chamber experiments. The VOC emission rates measured from soil set 1 were the same
21 order of magnitude as those measured from soil set 2.

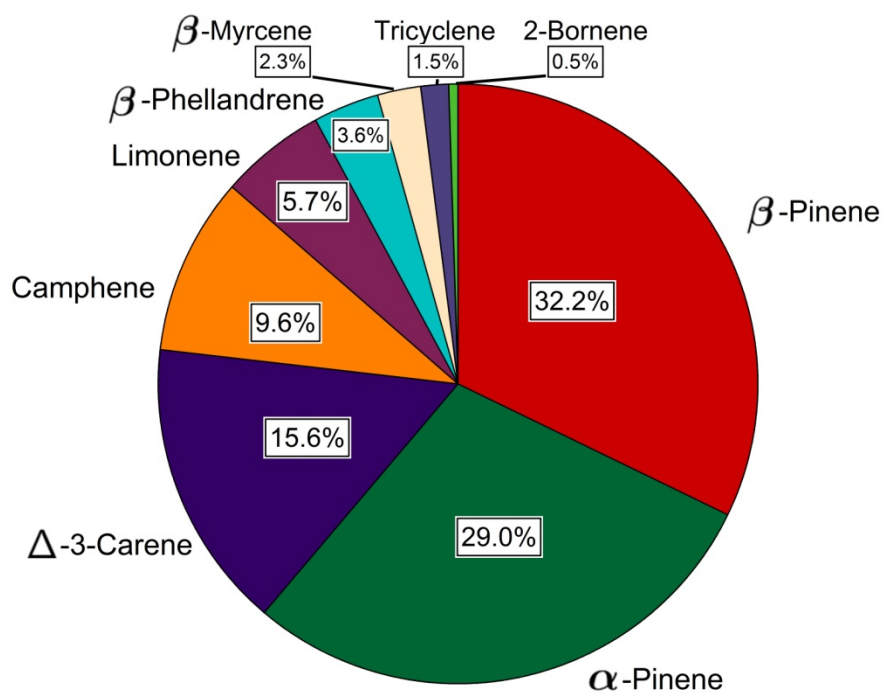


22

23

24 **Figure S3:** The monoterpene profile while the chamber was being loaded for the
25 experiment the included AMS composition measurements. The monoterpene profile for
26 this experiment was consistent with the profile presented in Figure 2. No PTR-MS data was
27 available for this experiment so only GC-MS-FID data is shown.

28



29

30