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MOVI-HRToF-CIMS results from BEACHON-RoMBAS field study

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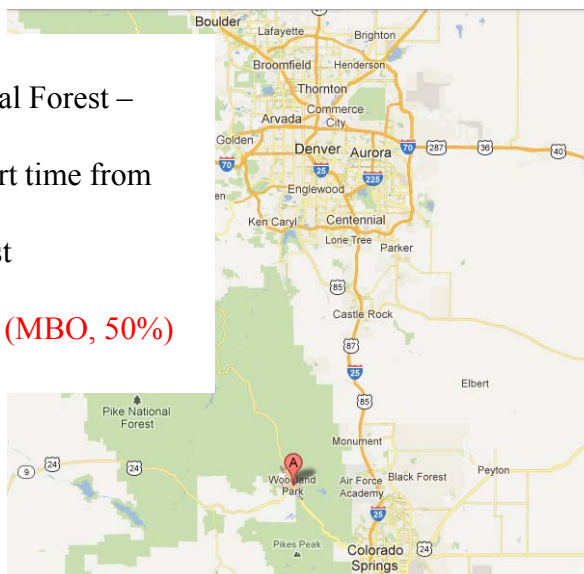


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BEACHON-RoMBAS field study

- July-August 2011
- Manitou Experimental Forest – Colorado
 - Air mass transport time from Denver ~ 5 hr
- Ponderosa Pine forest
- Biogenic emissions

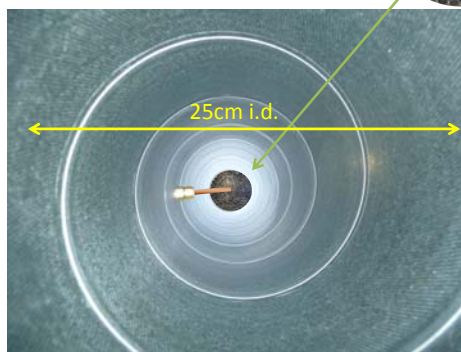
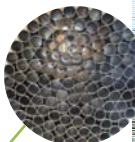
2-methyl-3-butene-1-ol (MBO, 50%)
Monoterpenes (34%)



<http://tinyurl.com/BEACHON-RoMBAS>

Inlet for simultaneous gas and particle sampling

- laminar flow (~30 cm/sec)
- "flow straightener" on top to break up eddies
- Sampling from duct center



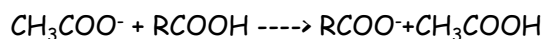
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MOVI-HRToF-CIMS

Micro orifice volatilization impactor chemical Ionization high resolution time-of-flight mass spectrometer

MOVI: Simultaneous gas analysis & particle collection. Thermal desorption

Acetate reagent ion: Selectively ionizes acids (Veres et al. *IJMS* 2008)



HR-TOFMS

(Same TOFMS used in HR-ToF-AMS by DeCarlo, *Anal. Chem.* 2006; APi-ToF by Junninen, *Atmos. Meas. Tech.* 2010)

(Yatavelli et al., *AS&T* 2010; 2012)

