

Analytical technique for the identification of tracers for secondary organic material in atmospheric aerosols

Biogenic emissions are estimated to be a significant source of both primary organic aerosols and, via the oxidation of gases such as isoprene and monoterpenes, secondary organic aerosols (SOA) at global scale (Yu et al,1999). Very few available techniques are able to separate primary from secondary organic material in aerosols, and studies of secondary organic aerosols have mainly been conducted under artificial conditions (smog chamber experiments). Therefore, the development of a new technique to identify tracers of secondary biogenic material in aerosols involving extraction, separation, and analysis using GC- and LC-MS is ongoing. Samples are being collected in three different sites differing in forest type: boreal forests (Aspvreten, Sweden and Hyytiälä, Finland) and tropical rain forest (Manaus, Brazil). Once the analytical process has been determined it is expected to proceed with the field experiment, directly sampling SOA in atmospheric forest environments.

Yu, J., Griffin, R.J., Cocker III, D.R., Flagan, R.C., and Seinfeld, J.H. (1999) *Geophysical Research Letters*, 26, 1145- 1148.