Supplementary material

Table S1 Assumed basal emission factors E_0 for sesquiterpenes (SQT) at 30°C and temperature coefficients β_{SQT} of the individual tree species considered [45-47, S1-S5].

Tree species (lat.)	Tree species (engl.)	$E_{0,SQT}$ [μg/g(dw)/h]	β_{SQT} [K^{-1}]
Alnus spp.	Alder	0.0044	0.0044
Fraxinus excelsior	European ash	0.0011	0.0011
Fagus sylvatica	European beech	0.004	0.004
Betula spp.	Birch	0.31	0.31
Robinia pseudoacacia	Black locust	0.0089	0.0089
Pseudotsuga menziesii	Douglas fir	0*	0*
Carpinus betulus	Hornbeam	0.011	0.011
Larix decidua	European larch	1.21	1.21
Tilia spp.	Lime	0.0067	0.0067
Acer spp	Maple	0*	0*
Quercus spp.	Oak	0.6	0.6
Pinus sylvestris	Scots pine	0.023	0.023
Populus spp.	Poplar	0*	0*
Abies alba	Silver fir	0.025	0.17
Picea abies	Norway spruce	1	0.04

*no literature data on those species.

References

S1. Hakola, H.; Laurila, T.; Lindfors, V.; Hellén, H.; Gaman, A.; Rinne, J. Variation of the VOC emission rates of birch species during the growing season. *Boreal. Environ. Res*., 2001, **6**, 237-249, ISSN: 1239-6095.

S2. Hakola, H.; Tarvainen, V.; Bäck, J.; Ranta, H.; Bonn, B.; Rinne, J.; Kulmala, M. Seasonal variation of mono- and sesquiterpene emission rates of Scots pine. *Biogeosciences*, 2006, **3**, 93–101.

S3. Ruuskanen, T.M.; Hakola, H.; Kajos, M.K.; Hellén, H.; Tarvainen, V.; Rinne, J. Volatile organic compound emissions from Siberian larch. *Atmos. Environ.*, 2007, **41**, 5807–5812, doi: 10.1016/j.atmosenv.2007.05.036.

S4. van Meeningen, Y.; Schurgers, G.; Rinnan, R.; Holst, T. BVOC emissions from English oak (*Quercus robur*) and European beech (*Fagus sylvatica*) along a latitudinal gradient. *Biogeosciences*, 2016, **13**, 6067-6080, doi: 10.5194/bg-13-6067-2016.

S5. Bourtsoukidis, E.; Bonn, B.; Dittmann, A.; Hakola, H.; Hellén, H.; Jacobi, S. Ozone stress as a driving force of sesquiterpene emissions: a suggested parameterization. *Biogeosciences*, 2012, **9**, 4337–4352, doi:10.5194/bg-9-4337-2012.