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Global biogenic volatile organic compound emissions in the ORCHIDEE and MEGAN models and sensitivity to key parameters

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Supplementary material

Tables S1 to S10 list the values selected from the literature on which we relied to choose the EFs, as described in the point c) of section 2.2.1. Each table is related to one emitted compound. We report, in the first two rows, the EFs also presented in Table 3. In particular, the first row is related to new EFs proposed in the present work, while in second row, the previous EFs of ORCHIDEE (Lathière et al., 2006). In brackets we give the range of variability obtained from the error measurement (when available) or from the maximum and minimum values, if EF comes from an average.

In ORCHIDEE, shrubs are not represented by one particular PFT but are included partly in the PFTs 10 and 11 related to grasses (C3Gr and C4Gr). In order to determine the EF for grass, we collect the data available for shrub plant species. We group them following the same categories as presented in MEGAN: deciduous and evergreen temperate shrub, and evergreen boreal shrub (TeSbEv, TeSbDe, BoSbDe).

Table S1. Isoprene Emission Factors (EFs, μgC g^{-1} h^{-1}) averaged and range of variability for each ORCHIDEE PFT.

Isoprene															
Referenences	**TrBrEv**	**TrBrDe**	**TeNeEv**	**TeBrEv**	**TeBrDe**	**BoNeEv**	**BoBrDe**	**BoNeDe**	**C3Gr**	**C4Gr**	**C3Ag**	**C4Ag**	**TeSbEv**	**TeSbDe**	**BoSbDe**
This work	**24.0**	**24.0**	**8.0**	**16.0**	**45.0**	**8.0**	**18.0**	**0.5**	**12.0**	**18.0**	**5.0**	**5.0**	-	-	-
Lathière et al. (2006)	24.0	24.0	8.0	16.0	45.0	8.0	8.0	8.0	16.0	24.0	5.0	5.0	-	-	-
Guenther et al., (2012)	24.77	17.34	1.24	20.64	30.96	6.19	22.70	0.002	2.15	0.50	0.002	0.002	4.95	9.91	9.91
Guenther et al., (2006)	23.53	23.53	1.68	28.01	42.02	8.40	30.81	0.003	3.56	1.48	0.15	0.15	5.93	11.86	11.86
Karl et al. (2007) [a]	12.25 (12.5-12.0)	12.25 (12.5-12.0)													
Karl et al. (2009); Steinbrecher et al. (2009) [b]			2.6 (0.0-4.2)	8.8 (0.0-61.8)	26.5 (0.0-61.8)			0.44 [c]	0.44		0.44		2.6 (0.0-4.2)	3.8 (0.0-39.7)	
Bracho-Nunez et al. (2011) [d]													8.40 (0.00-29.12) 11.07 (0.00-24.95)		
Stewart et al. (2003)[e]			1.92 (0.00-2.89)		33.93 [f]	1.92 (0.00-2.89)	33.93 [f]		0.05 (0.00-2.83)		0.003 (0.000-0.088)				
Geron et al. (2006) [g]													2.5 (0.0-14.0)	5.8 (0.0-45.0)	
Smiatek and Steinbrecher (2006) [h]			0.42 (0.00-0.87)		18.80 (0.10-60.00)	0.42 (0.00-0.87)	18.80 (0.10-60.00)	0.10							

He et al. (2000)	30.95 (4.68-60.44)				30.95 (4.68-60.44)										
Bai et al. (2006)									2.2 (0.5-5.0)						
Klinger et al. (2002)	19.96 (4.64-42.92)	19.96 (4.64-42.92)	12.08 (5.09-22.11)	17.30 (4.64-42.92)	26.99 (12.31-42.92)			2.23 [i]							
Padhy and Varshney (2005)	5.1 (2.4-8.7)	5.5 (1.9-9.0)													
Tsui et al. (2009)	5.3 (2.5-10.0)	20 (17.6-22.4) [i]													
Leung et al. (2010)				0.08 (0.04-0.10)									0.03 (0.01-0.09)	1.83 (1.66-1.99)	

[a] To calculate the range, we use the errors stated in the paper. [b] The values come from Table 5 in Karl et al. (2009) that are based on the supplementary material of Steinbrecher et al., (2009); we calculate the minimum and maximum EF considering the plant composition provided in Table 5 (Karl et al., 2009) and the EFs per plant in Table 2 in the supplementary material of Steinbrecher et al. (2009). [c] Only *Larix decidua*. [d] The first row is related to few day leaves and the second row to leaves older than 1 year. [e] Average performed by weighting by the plant cover areas that are provided for Great Britain. [f] Only for *Quercus* spp. [g] To calculate the value ranges, we consider the minimum and maximum measured values and the standard error provided in the paper. [h] To calculate the EF average, we consider the following plant composition: fir, pine, spruces and dgl. fir for TeNeEv and BoNeEv; larch for BoNeDe; oak, beech, birch, aspen, willow, maple, ash, hornbeam, and chestnut for TeBrDe. [i] Only *Bauhinia variegata candida*.

Table S2. The same as Table S1, but for monoterpenes.

Monoterpenes															
References	**TrBrEv**	**TrBrDe**	**TeNeEv**	**TeBrEv**	**TeBrDe**	**BoNeEv**	**BoBrDe**	**BoNeDe**	**C3Gr**	**C4Gr**	**C3Ag**	**C4Ag**	**TeSbEv**	**TeSbDe**	**BoSbDe**
This work	**2.000**	**2.000**	**1.800**	**1.400**	**1.600**	**1.800**	**1.400**	**1.800**	**0.800**	**0.800**	**0.220**	**0.220**	-	-	-
Lathière et al. (2006)	0.800	0.800	2.400	1.200	0.800	2.400	2.400	2.400	0.800	1.200	0.200	0.200	-	-	-
Guenther et al. (2012)	2.564	2.564	2.260	1.601	2.402	2.260	1.601	1.971	0.024	0.024	0.024	0.024	1.289	2.137	
Karl et al. (2007) [a]	2.491 (2.284-2.699)	2.491 (2.284-2.699)													
Karl et al. (2009); Steinbrecher et al. (2009) [b]			4.412 (1.324-5.294)	9.265 (0.265-37.941)	0.882 (0.265-18.618)			7.059 [c]	0.882		0.882		4.412 (0.088-37.94)	4.412 (0.09-37.94)	
Bracho-Nunez et al. (2011) [d]			1.72 (1.22-2.22) 2.43 (1.60-3.26)	1.40 (0.30-2.51) 4.04 (1.07-7.01)	0.40 (0.31-0.48) 0.32 (0.10-0.54)						1.37 (0.92-1.82) 1.74 (0,54-2.94)		1.10 (0.37-2.38) 0.26 (0.0-0.66)		
Helmig et al. (2007)			0.84 (0.00-1.93)			0.84 (0.00-1.93)									
Hakola et al. (2006)			0.714 (0.129-1.290)			0.714 (0.129-1.290)									
Janson and De Serves (2001)			0.900 (0.260-1.540)			0.900 (0.260-1.540)									
Karl et al. (2004) [a]		0.217 (0.174-0.260)													
Hayward et al. (2004)			2.62 (0.12-5.60)			2.62 (0.12-5.60)									
Kim et al. (2010)			2.12			2.12									
Stewart et al. (2003) [e]			3.57 (0.32-5.69)		0.83 [f]	3.57 (0.32-5.69)	0.83 [f]		0.34 (0.00-3.53)		0.14 (0.00-3.88)				
Geron et al. (2006) [g]													0.81 (0.26-2.48)	2.66 (0.27-11.3)	
Smiatek and Steinbrecher (2006) [h]			2.21 (1.32-3.11)		3.42 (0.09-13.24)	2.21 (1.32-3.11)		1.32							

He et al. (2000)	2.14 (0.35-4.77)						
Bai et al. (2006)					0.009 (0.001-0.019)		
Fares et al. (2011)	2.082 (0.022-7.800)		2.082 (0.022-7.800)				
Ortega et al. (2008)		0.86 (0.05-4.02)		0.63 (0.00-4.78)	0.56 (0.00-5.60)	2.10 (0.04-4.17)	2.10 (0.04-4.17)

[a] To calculate the range, we use the errors stated in the paper. [b] The values come from Table 5 in Karl et al. (2009), that are based on the supplementary material of Steinbrecher et al. (2009); we calculate the minimum and maximum EF considering the plant composition provided in Table 5 (Karl et al., 2009) and the EFs per plant in Table 2 in the supplementary material of Steinbrecher et al. (2009). [c] Only *Larix decidua*. [d] The first row is related to few day leaves and the second row to leaves older than 1 year. [e] Average performed by weighting over the plant cover area that in this paper is provided for Great Britain. [f] Value range is not provided. [g] To calculate the value ranges, we consider the minimum and maximum measured values and the standard error provided in the paper. [h] To calculate the EF average, we consider the following plant composition: fir, pine, spruces and dgl. fir for TeNeEv and BoNeEv; larch for BoNeDe; oak, beech, birch, aspen, willow, maple, ash, hornbeam, and chestnut for TeBrDe.

Table S3. The same as Table S1, but for sesquiterpenes.

Sesquiterpenes															
References	**TrBrEv**	**TrBrDe**	**TeNeEv**	**TeBrEv**	**TeBrDe**	**BoNeEv**	**BoBrDe**	**BoNeDe**	**C3Gr**	**C4Gr**	**C3Ag**	**C4Ag**	**TeSbEv**	**TeSbDe**	**BoSbDe**
This work	**0.450**	**0.450**	**0.130**	**0.300**	**0.360**	**0.150**	**0.300**	**0.250**	**0.600**	**0.600**	**0.080**	**0.080**	-	-	-
Lathière et al. (2006)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Guenther et al. (2012)	0.467	0.467	0.389	0.292	0.437	0.389	0.292	0.389	0.012	0.012	0.019	0.019	0.467	0.467	0.389
Karl et al. (2009); Steinbrecher et al. (2009) [a]			0.088	0.088	0.088				0.088		0.088				
Bracho-Nunez et al. (2011) [b]			0.07 (0.00-0.19) -	0.12 (0.00-0.25) 0.05 (0.03-0.08)	- -					- -			0.73 (0.00-2.94) 0.15 (0.00-0.56)		
Helmig et al. (2007)			0.10 (0.01-0.19)			0.10 (0.01-0.19)									
Hakola et al. (2006)			0.069 (0.002-0.421)			0.069 (0.002-0.421)									
Kim et al. (2010)			0.019			0.019									
Fares et al. (2011)	0.940 (0.000-3.200)			0.940 (0.000-3.200)											
Ortega et al. (2008)			0.07 (0.00-0.35		0.13 (0.00-1.20)						0.24 (0.00-1.15)		0.22 (0.00-0.44)	0.22 (0.00-0.44)	
Duhl et al. (2008) [c]			0.256 (0.000-0.618)	1.244 (0.000-3.185)	1.244 (0.000-3.185)	0.256 (0.000-0.618)	1.244 (0.000-3.185)	0.256 (0.000-0.618)			0.168 (0.000-0.547)	0.168 (0.000-0.547)	6.229 (0.203-12.256)	6.229 (0.203-12.256)	6.229 (0.203-12.256)
Matsunaga et al. (2009)	0.095 (0.510-0.171)		0.020	0.095 (0.510-0.171)	0.877 (0.025-3.238)	0.020 (0.000-0.056)	0.575 (0.025-1.605)		0.400 (0.057-0.742)				0.036 (0.018-0.055)	0.036 (0.018-0.055)	0.036 (0.018-0.055)

[a] They use the same value for all PFTs. [b] The first row is related to few day leaves and the second row to leaves older than 1 year. [c] To calculate the range, we use the associated errors or standard deviation provided in the paper.

Table S4. The same as Table S1, but for methanol.

Methanol															
References	**TrBrEv**	**TrBrDe**	**TeNeEv**	**TeBrEv**	**TeBrDe**	**BoNeEv**	**BoBrDe**	**BoNeDe**	**C3Gr**	**C4Gr**	**C3Ag**	**C4Ag**	**TeSbEv**	**TeSbDe**	**BoSbDe**
This work	**0.800**	**0.800**	**1.800**	**0.900**	**1.900**	**1.800**	**1.800**	**1.800**	**0.700**	**0.900**	**2.000**	**2.000**	-	-	-
Lathière et al. (2006)	0.600	0.600	1.800	0.900	0.600	1.800	1.800	1.800	0.600	0.900	2.000	2.000	-	-	-
Guenther et al. (2012)	0.531	0.531	0.796	0.796	1.194	0.796	0.796	0.796	0.531	0.531	0.955	0.955	0.955	0.955	0.955
Karl et al. (2009); Steinbrecher et al. (2009) [a]			0.397	0.397	0.397				0.397		0.397				
Bracho-Nunez et al. (2011) [b]			2.14 (1.92-2.35) 1.11 (1.07-1.14)	0.95 (0.58-1.32) 0.34 (0.30-0.39)	5.34 (3.31-7.36) 1.50 (1.02-1.99)				7.99 (4.20-11.78) 0.76 (0.53-0.99)				5.62 (0.63-11.01) 2.48 (0.39-5.05)		
Karl et al. (2004) [c]		0.142 (0.113-0.170)													
Hayward et al. (2004)			0.29 (0.01-0.90)			0.29 (0.01-0.90)									
Smiatek and Steinbrecher (2006) [d]			0.29 (0.04-0.38)		1.22 (0.38-3.75)	0.29 (0.04-0.38)		0.38							
Fares et al. (2011)	0.398 (0.140-0.880)			0.398 (0.140-0.880)											
Schade and Goldstein (2001) [e]			5.60			5.60									
Karl et al. (2005) [d]			8.10 (6.48-9.72)												
Harley et al. (2007)	3.36 (2.36-4.35)		0.17 (0.05-0.46)	3.36 (2.36-4.35)	4.10 (0.53-9.56)				0.64 [f]			2.06 (1.69-2.44)			
Geron et al. (2002)		1.0 [f]													

[a] They use the same value for all PFTs. [b] The first row is related to few day leaves and the second row to leaves older than 1 year. [c] To calculate the range, we use the associated errors or standard deviation provided in the paper. [d] To calculate the EF average we consider the following plant composition: fir, pine, spruces and dgl. fir for TeNeEv and BoNeEv; larch for BoNeDe; oak, beech, birch, aspen, willow, maple, ash, hornbeam, and chestnut for TeBrDe. [e] Only one value per EF is provided. [f] Error or values range is not provided.

Table S5. The same as Table S1, but for acetone.

Acetone															
References	**TrBrEv**	**TrBrDe**	**TeNeEv**	**TeBrEv**	**TeBrDe**	**BoNeEv**	**BoBrDe**	**BoNeDe**	**C3Gr**	**C4Gr**	**C3Ag**	**C4Ag**	**TeSbEv**	**TeSbDe**	**BoSbDe**
This work	**0.250**	**0.250**	**0.300**	**0.200**	**0.300**	**0.300**	**0.250**	**0.250**	**0.200**	**0.200**	**0.080**	**0.080**	-	-	-
Lathière et al. (2006)	0.290	0.290	0.870	0.430	0.290	0.870	0.870	0.870	0.290	0.430	0.070	0.070	-	-	-
Guenther et al. (2012)	0.274	0.274	0.229	0.229	0.343	0.229	0.229	0.229	0.091	0.091	0.091	0.091	0.274	0.274	0.274
Karl et al. (2009); Steinbrecher et al. (2009) [a]			0.131	0.131	0.131				0.131		0.131				
Bracho-Nunez et al. (2011) [b]			0.29 (0.03-0.55) 0.06 (0.00-0.11)	- 0.03 (0.00-0.07)	0.41 (0.31-0.51) 0.20 (0.09-0.11)								0.08 (0.00-0.33) 0.09 (0.00-0.38)		
Janson and De Serves (2001)			0.568 (0.870-0.265)			0.568 (0.870-0.265)									
Karl et al. (2004) [c]		0.247 (0.173-0.320)													
Smiatek and Steinbrecher (2006) [a]			0.062		0.062	0.062		0.062							
Fares et al. (2011)	0.183 (0.050-0.500)			0.183 (0.050-0.500)											
Schade and Goldstein (2001) [d]			1.20			1.20									
Karl et al. (2005) [c]			4.692 (3.799-5.586)												
Villanueva-Fierro et al. (2004) [c]			0.112 (0.056-0.168)		0.340 (0.073-0.607)										

[a] They use the same value for all PFTs. [b] The first row is related to few day leaves and the second row to leaves older than 1 year. [c] To calculate the range, we use the associated errors stated in the paper. [d] Only one value per EF is provided.

Table S6. The same as Table S1, but for acetaldehyde.

Acetaldehyde															
References	**TrBrEv**	**TrBrDe**	**TeNeEv**	**TeBrEv**	**TeBrDe**	**BoNeEv**	**BoBrDe**	**BoNeDe**	**C3Gr**	**C4Gr**	**C3Ag**	**C4Ag**	**TeSbEv**	**TeSbDe**	**BoSbDe**
This work	**0.200**	**0.200**	**0.200**	**0.200**	**0.250**	**0.250**	**0.160**	**0.160**	**0.120**	**0.120**	**0.035**	**0.022**	-	-	-
Lathière et al. (2006)	0.100	0.100	0.300	0.150	0.100	0.300	0.300	0.300	0.100	0.150	0.025	0.025	-	-	-
Guenther et al. (2012)	0.201	0.201	0.167	0.167	0.251	0.167	0.167	0.167	0.020	0.020	0.020	0.020	0.032	0.201	0.201
Karl et al. (2009); Steinbrecher et al. (2009) [a]			0.106	0.106	0.106				0.106		0.106				
Karl et al. (2004) [b]		0.144 (0.101-0.188)													
Hayward et al. (2004)			0.20 (0.02-0.29)			0.20 (0.02-0.29)									
Smiatek and Steinbrecher (2006) [c]			0.040 (0.027-0.076)		0.020 (0.000-0.027)	0.040 (0.027-0.076)		0.027							
Fares et al. (2011)	0.481 (0.016-1.700)			0.481 (0.016-1.700)											
Schade and Goldstein (2001) [d]			0.57			0.57									
Karl et al. (2005) [b]			0.084 (0.022-0.180)												
Villanueva-Fierro et al. (2004) [b]			0.136 (0.033-0.240		0.649 (0.000-1.391)										
Kesselmeier et al. (1997) [b]			0.493 (0.247-0.854)	0.377 (0.245-0.508)											

[a] They use the same value for all PFTs. [b] To calculate the range, we use the associated errors stated in the paper. [c] To calculate the EF average, we consider the following plant composition: fir, pine, spruces and dgl. fir for TeNeEv and BoNeEv; larch for BoNeDe; oak, beech, birch, aspen, willow, maple, ash, hornbeam, and chestnut for TeBrDe. [d] Only one value per EF is provided.

Table S7. The same as Table S1, but for formaldehyde.

Formaldehyde															
References	**TrBrEv**	**TrBrDe**	**TeNeEv**	**TeBrEv**	**TeBrDe**	**BoNeEv**	**BoBrDe**	**BoNeDe**	**C3Gr**	**C4Gr**	**C3Ag**	**C4Ag**	**TeSbEv**	**TeSbDe**	**BoSbDe**
This work	**0.040**	**0.040**	**0.080**	**0.040**	**0.040**	**0.040**	**0.040**	**0.040**	**0.025**	**0.025**	**0.013**	**0.013**	-	-	-
Lathière et al. (2006)	0.070	0.070	0.200	0.100	0.070	0.200	0.200	0.200	0.070	0.100	0.017	0.017	-	-	-
Guenther et al. (2012)	0.029	0.029	0.025	0.025	0.037	0.025	0.025	0.025	0.012	0.012	0.012	0.012	0.005	0.029	0.029
Karl et al. (2009); Steinbrecher et al. (2009) [a]			0.014	0.014	0.014				0.014		0.014				
Smiatek and Steinbrecher (2006) [b]			0.012[c]		0.09 (0.000-0.012)	0.012[c]		0.012							
Villanueva-Fierro et al. (2004) [d]			0.200 (0.040-0.360)		1.628 (0.200-3.056)										
Kesselmeier et al. (1997) [d]			0.222 (0.052-0.380)	0.180 (0.113-0.304)											
Janson et al. (1999)			0.071 (0.000-0.211)			0.071 (0.000-0.211)									
Chang et al. (2009)											0.028 [e]	0.028 [e]			

[a] They use the same value for all PFTs. [b] To calculate the EF average, we consider the following plant composition: fir, pine, spruces and dgl. fir for TeNeEv and BoNeEv; larch for BoNeDe; oak, beech, birch, aspen, willow, maple, ash, hornbeam, and chestnut for TeBrDe. [c] They use the same value for all the plant species. [d] To calculate the range, we use the associated errors stated in the paper. [e] Only one value is provided.

Table S8. The same as Table S1, but for acetic acid.

Acetic Acid															
References	**TrBrEv**	**TrBrDe**	**TeNeEv**	**TeBrEv**	**TeBrDe**	**BoNeEv**	**BoBrDe**	**BoNeDe**	**C3Gr**	**C4Gr**	**C3Ag**	**C4Ag**	**TeSbEv**	**TeSbDe**	**BoSbDe**
This work	**0.025**	**0.025**	**0.025**	**0.022**	**0.080**	**0.025**	**0.022**	**0.013**	**0.012**	**0.012**	**0.008**	**0.008**	-	-	-
Lathière et al. (2006)	0.002	0.002	0.006	0.003	0.002	0.006	0.006	0.006	0.002	0.003	0.001	0.001	-	-	-
Guenther et al. (2012)	0.022	0.022	0.018	0.018	0.028	0.018	0.018	0.018	0.009	0.009	0.009	0.009	0.004	0.022	0.022
Karl et al. (2009); Steinbrecher et al. (2009) [a]			0.014	0.014	0.014				0.014		0.014				
Smiatek and Steinbrecher (2006) [b]			0.008[c]		0.011 (0.008-0.12)	0.008 [c]		0.08							
Villanueva-Fierro et al. (2004) [d]			0.068 (0.000-0.140)		0.188 (0.000-0.404)										
Kesselmeier et al. (1997) [d]			0.074 (0.040-0.106)	0.051 (0.000-0.136)											
Kesselmeier et al. (1998)			0.014	0.021	0.061 (0.030 -0.116)	0.014	0.061 (0.030 -0.116)								
Staudt et al. (2000) [d]	0.028 (0.017-0.038)			0.028 (0.017-0.038)											

[a] They use the same value for all PFTs. [b] To calculate the EF average, we consider the following plant composition: fir, pine, spruces and dgl. fir for TeNeEv and BoNeEv; larch for BoNeDe; oak, beech, birch, aspen, willow, maple, ash, hornbeam, and chestnut for TeBrDe. [c] They use the same value for all the plant species considered. [d] To calculate the range, we use the associated errors stated in the paper.

Table S9. The same as Table S1, but for formic acid.

Formic Acid															
References	**TrBrEv**	**TrBrDe**	**TeNeEv**	**TeBrEv**	**TeBrDe**	**BoNeEv**	**BoBrDe**	**BoNeDe**	**C3Gr**	**C4Gr**	**C3Ag**	**C4Ag**	**TeSbEv**	**TeSbDe**	**BoSbDe**
This work	**0.015**	**0.015**	**0.020**	**0.020**	**0.025**	**0.015**	**0.015**	**0.015**	**0.010**	**0.010**	**0.008**	**0.008**	-	-	-
Lathière et al. (2006)	0.010	0.010	0.030	0.015	0.010	0.030	0.030	0.030	0.010	0.015	0.0025	0.0025	-	-	-
Guenther et al. (2012)	0.014	0.014	0.012	0.012	0.018	0.012	0.012	0.012	0.006	0.006	0.006	0.006	0.002	0.014	0.014
Karl et al. (2009); Steinbrecher et al. (2009) [a]			0.009	0.009	0.009				0.009		0.009				
Smiatek and Steinbrecher (2006) [b]			0.003 (0.003-0.005)		0.007 (0.003-0.008)	0.003 (0.003-0.005)		0.003							
Villanueva-Fierro et al. (2004) [c]			0.055 (0.000-0.110)		0.081 (0.003-0.159)										
Kesselmeier et al. (1997) [c]			0.087 (0.053-0.118)	0.076 (0.037-0.134)											
Chang et al. (2009)											0.008	0.008			
Kesselmeier et al. (1998)			0.014	0.014	0.099 (0.015 -0.212)	0.014									
Staudt et al. (2000) [c]	0.032 (0.019-0.045)			0.032 (0.019-0.045)											

[a] They use the same value for all PFTs. [b] To calculate the EF average, we consider the following plant composition: fir, pine, spruces and dgl. fir for TeNeEv and BoNeEv; larch for BoNeDe; oak, beech, birch, aspen, willow, maple, ash, hornbeam, and chestnut for TeBrDe. [c] To calculate the range, we use the associated errors stated in the paper.

Table S10. The same as Table S1, but for MBO.

MBO															
References	**TrBrEv**	**TrBrDe**	**TeNeEv**	**TeBrEv**	**TeBrDe**	**BoNeEv**	**BoBrDe**	**BoNeDe**	**C3Gr**	**C4Gr**	**C3Ag**	**C4Ag**	**TeSbEv**	**TeSbDe**	**BoSbDe**
This work	**0.00002**	**0.00002**	**1.4**	**0.00002**	**0.00002**	**0.14**	**0.00002**	**0.00002**	**0.00002**	**0.00002**	**0.00002**	**0.00002**	-	-	-
Lathière et al. (2006)	0.000	0.000	20.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	-	-
Guenther et al. (2012)	0.00002	0.00002	1.142	0.00002	0.00002	0.098	0.003	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002
Hakola et al. (2006)			0.035 (0.012-0.111)			0.035 (0.012-0.111)									
Kim et al. (2010)			2.73			2.73									
Tarvainen et al. (2005)			0.023 (0.000-0.064)			0.023 (0.000-0.064)									
Chang et al. (2009)			2.79 [a]			2.79 [a]									

[a] Only one value is provided.