

Table S6. NCBI Accession numbers of the amino acid sequences used for phylogenetic analysis of functionally characterized conifer monoterpene synthases

Species	Abbreviation	Function	Accession #	Reference
<i>Abies grandis</i> (Ag)	AgTPS-myr	myrcene synthase	AAB71084	Bohlmann et al., 1997
	AgTPS-(-)-lim	(-)-limonene synthase	AAB70907	Bohlmann et al., 1997
	AgTPS-(-) α / β pin	(-)- α / β -pinene synthase	AAB71085	Bohlmann et al., 1997
	AgTPS-(-)camp	(-)-camphene synthase	AAB70707	Bohlmann et al., 1997
	AgTPS-(-) β phell	(-)- β -phellandrene synthase	AAF61453	Bohlmann et al., 1999
	AgTPS-terpinolene	terpinolene synthase	AAF61454	Bohlmann et al., 1999
	AgTPS-(-) α pin/(-)lim	(-)- α -pinene/(-)-limonene synthase	AAF61455	Bohlmann et al., 1999
<i>Picea abies</i> (Pa)	PaTPS-(+)3car	(+)-3-carene synthase	AAO73863	Fäldt et al., 2003
	PaTPS-(-) α / β pin	(-)- α / β -pinene synthase	AAS47692	Martin et al., 2004
	PaTPS-(-)lin	(-)-linalool synthase	AAS47693	Martin et al., 2004
	PaTPS-(-)lim	(-)-limonene synthase	AAS47694	Martin et al., 2004
	PaTPS-myr	myrcene synthase	AAS47696	Martin et al., 2004
<i>Picea glauca</i> (Pg)	PgTPS-(+)3car	(+)-3-carene synthase	ACM04452	Hamberger et al., 2009
	PgTPS-1,8cin	1,8-cineole synthase	ADZ45498	Keeling et al., 2011
	PgTPS-(-)lin	(-)-linalool synthase	ADZ45500	Keeling et al., 2011
	PgTPS-(-) α / β pin1	(-)- α / β -pinene synthase1	ADZ45507	Keeling et al., 2011
	PgTPS-(-) α / β pin2	(-)- α / β -pinene synthase2	ADZ45508	Keeling et al., 2011
<i>Picea engelmannii</i> <i>x Picea glauca</i> (PexPg)	Pe x PgTPS-1,8cin	1,8-cineole synthase	ADZ45497	Keeling et al., 2011
	Pe x PgTPS-(+)3car	(+)-3-carene synthase	ADZ45510	Keeling et al., 2011
<i>Pinus contorta</i> (Pc)	PcTPS-(+) α pin1	(-)- α -pinene synthase1	JQ240295	This study
	PcTPS-(-) α pin1	(-)- α -pinene synthase1	JQ240303	This study
	PcTPS-(-) β pin1	(-)- β -pinene synthase1	JQ240293	This study
	PcTPS-(+)3car1	(+)-3-carene synthase1	JQ240307	This study
	PcTPS-(-)camp/(+) α pin1	(-)-camphene/(+)- α -pinene synthase1	JQ240299	This study

	PcTPS-(-)βphell1	(-)-β-phellandrene synthase1	JQ240301	This study
	PcTPS-(-)βphell2	(-)-β-phellandrene synthase2	JQ240300	This study
	PcTPS-aterp/1,8cin	(+)-α-terpineol/1,8 cineole synthase	JQ240309	This study
	PcTPS-monoTPS1	monoterpene synthase like1	JQ240294	This study
<i>Pinus banksiana</i> (Pb)	PbTPS-(-)α/βpin1	(-)-α/β-pinene synthase1	JQ240290	This study
	PbTPS-(+)αpin1	(+)-α-pinene synthase1	JQ240298	This study
	PbTPS-(-)αpin1	(-)-α-pinene synthase1	JQ240304	This study
	PbTPS-(-)βpin1	(-)-β-pinene synthase1	JQ240291	This study
	PbTPS-(-)βpin2	(-)-β-pinene synthase2	JQ240292	This study
	PbTPS-(+)3car1	(+)-3-carene synthase1	JQ240305	This study
	PbTPS-(+)3car2	(+)-3-carene synthase2	JQ240306	This study
	PbTPS-(-)βphell1	(-)-β-phellandrene synthase1	JQ240302	This study
	PbTPS-aterp	(+)-α-terpineol synthase	JQ240308	This study
	PbTPS-mono1	monoterpene synthase like1	JQ240296	This study
	PbTPS-mono2	monoterpene synthase like1	JQ240297	This study
	<i>Pinus sabiana</i> (Psab)	PsabTPS-MBO1	2-methyl-3-buten-2-ol synthase	AEB53064
<i>Pinus taeda</i> (Pt)	PtTPS-(-)αpin	(-)-α-pinene synthase	AAO61225	Phillips et al., 2003
	PtTPS-(-)αterp	α-terpineol synthase	AAO61227	Phillips et al., 2003
	PtTPS-(+)αpin	(+)-α-pinene synthase	AAO61228	Phillips et al., 2003
<i>Picea sitchensis</i> (Ps)	PsTPS-(-)lim	(-)-limonene synthase	ABA86248	Byun-McKay et al., 2006
	PsTPS-(-)αpin	(-)-α-pinene synthase	AAP72020	Byun-McKay et al., 2006
	PsTPS-1,8cin	1,8-cineole synthase	ADZ45499	Keeling et al., 2011
	PsTPS-(-)lin1	(-)-linalool synthase1	ADZ45501	Keeling et al., 2011
	PsTPS-(-)lin2	(-)-linalool synthase2	ADZ45502	Keeling et al., 2011
	PsTPS-(-)βphell1	(-)-β-phellandrene synthase1	ADZ45503	Keeling et al., 2011
	PsTPS-(-)βphell2	(-)-β-phellandrene synthase2	ADZ45504	Keeling et al., 2011

	PstPS-(-)βphell3	(-)-β-phellandrene synthase3	ADZ45505	Keeling et al., 2011
	PstPS-(-)βphell4	(-)-β-phellandrene synthase4	ADZ45506	Keeling et al., 2011
	PstPS-(-)α/βpin	(-)-α/β-pinene synthase	ADZ45509	Keeling et al., 2011
	PstPS-(+)3car	(+)-3-carene synthase	ADZ45511	Keeling et al., 2011
	PstPS-(+)3car1R	(+)-3-carene synthase1(R)	HQ336798	Hall et al., 2010
	PstPS-(+)3car1S	(+)-3-carene synthase1(S)	HQ336799	Hall et al., 2010
	PstPS-(+)3car2R	(+)-3-carene synthase2(R)	HQ336800	Hall et al., 2010
	PstPS-(+)3car3R	(+)-3-carene synthase3(R)	HQ336801	Hall et al., 2010
	PstPS-(+)3car3S	(+)-3-carene synthase3(S)	HQ336802	Hall et al., 2010
	PstPS-(+)sabR	(+)-sabinene synthase(R)	HQ336803	Hall et al., 2010
	PstPS-(+)sabS	(+)-sabinene synthase(S)	HQ336804	Hall et al., 2010
<i>Pseudotsuga menziesii</i> (Pm)	PmTPS-terpinolene	terpinolene synthase	AAX07264	Huber et al., 2005
	PmTPS-(-)αpin/(-)camp	(-)-α-pinene/(-)-camphene synthase	AAX07267	Huber et al., 2005
Outgroup: <i>Physcomitrella patens</i>	PpTPS-entKS	ent-kaurene synthase	BAF61135	Hayashi et al., 2006
