

Figure S1

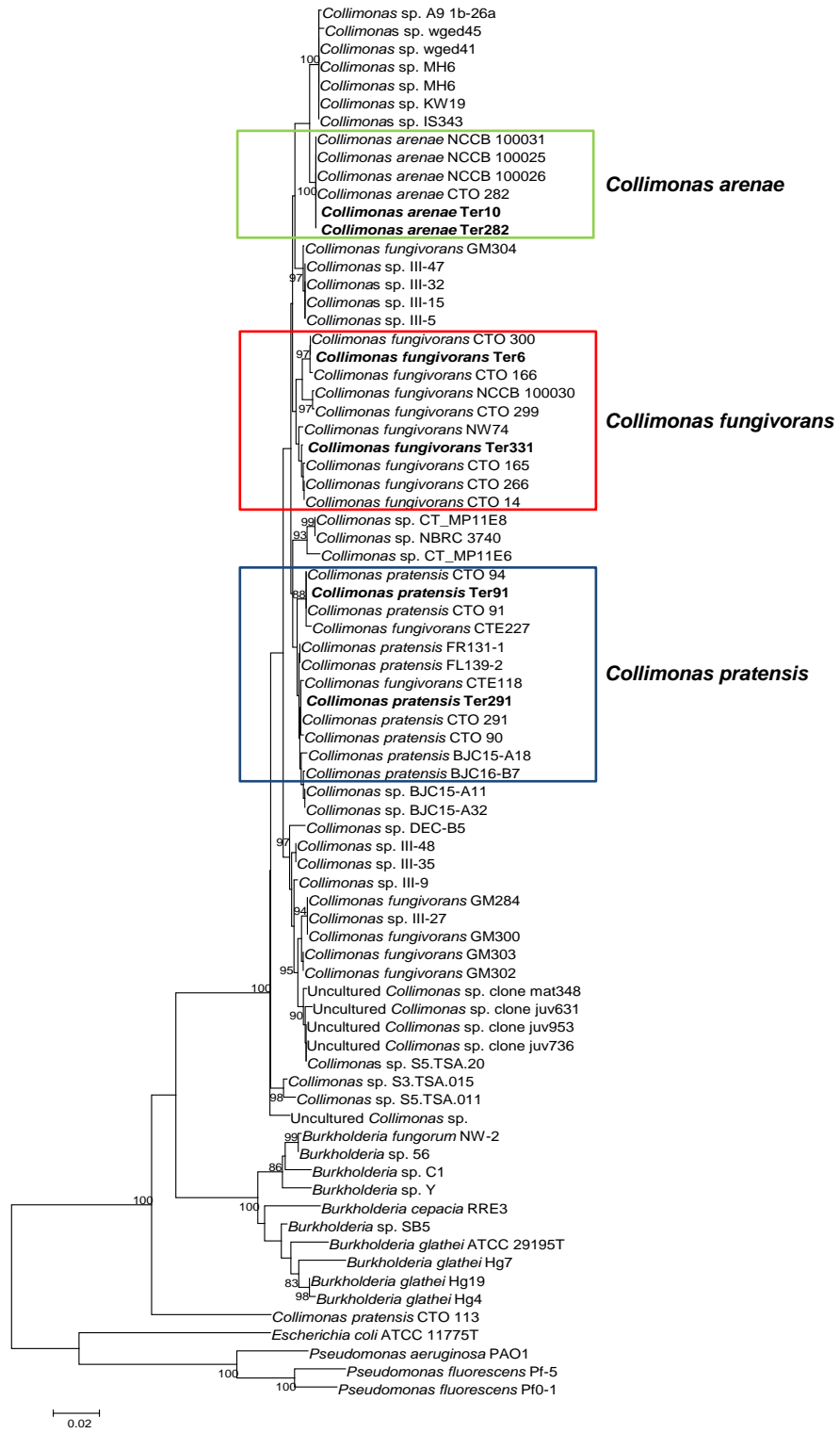


Figure S2

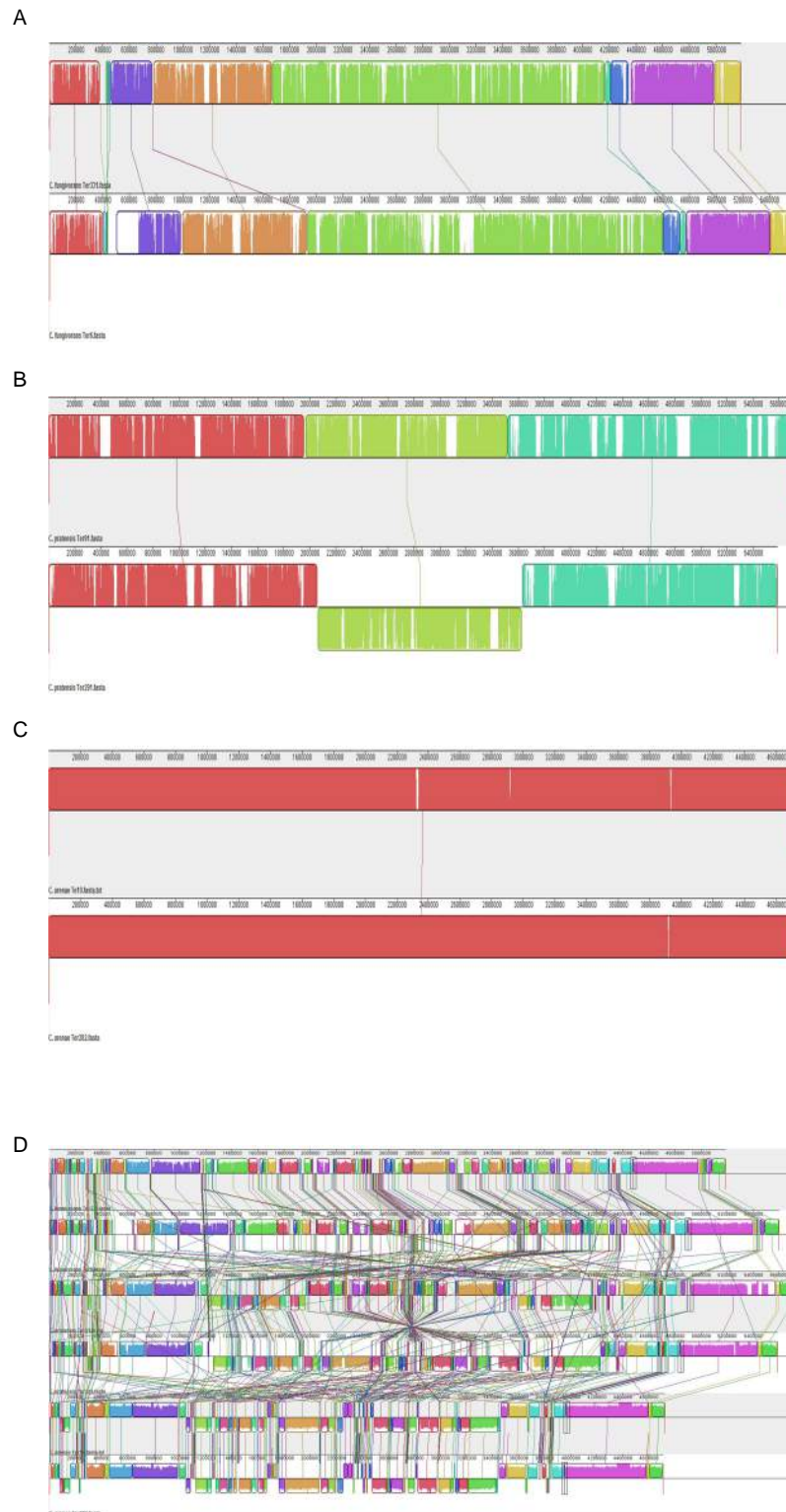
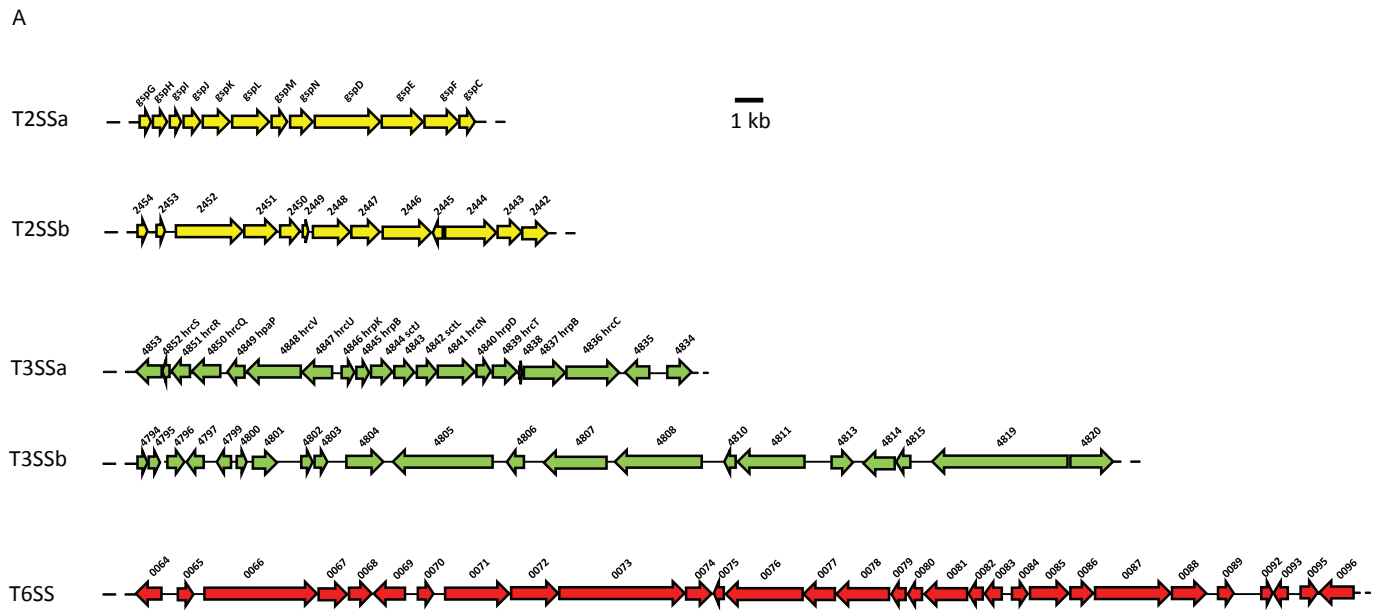
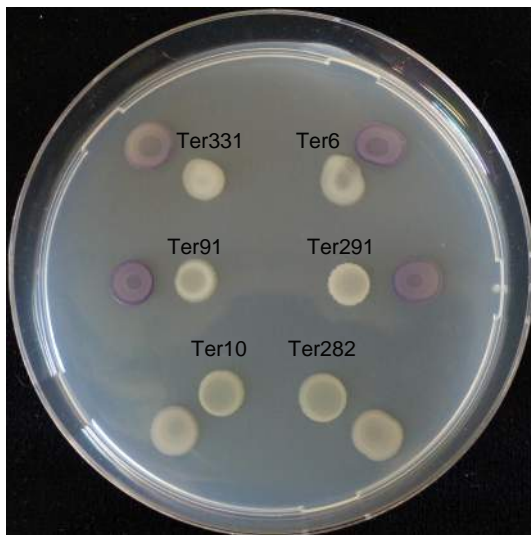


Figure S3



B



C

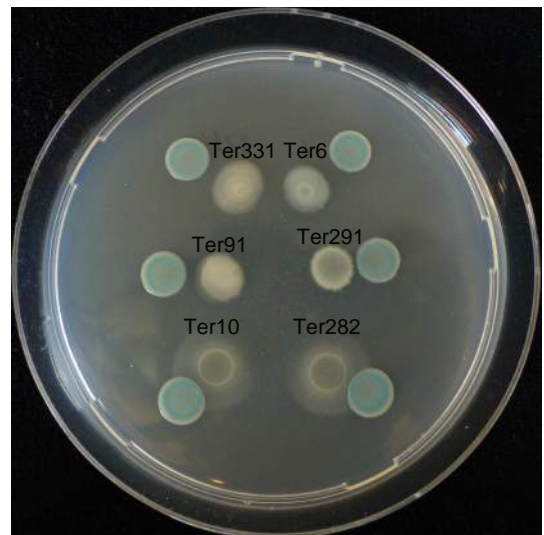


Figure S4

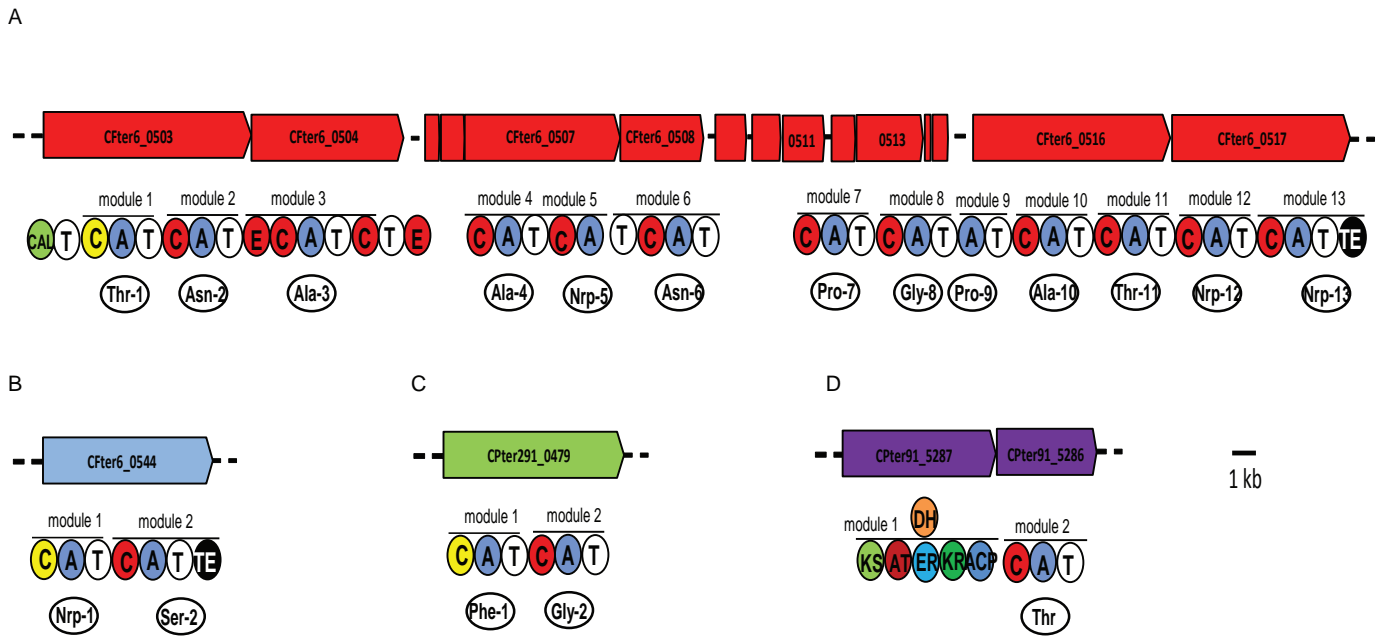
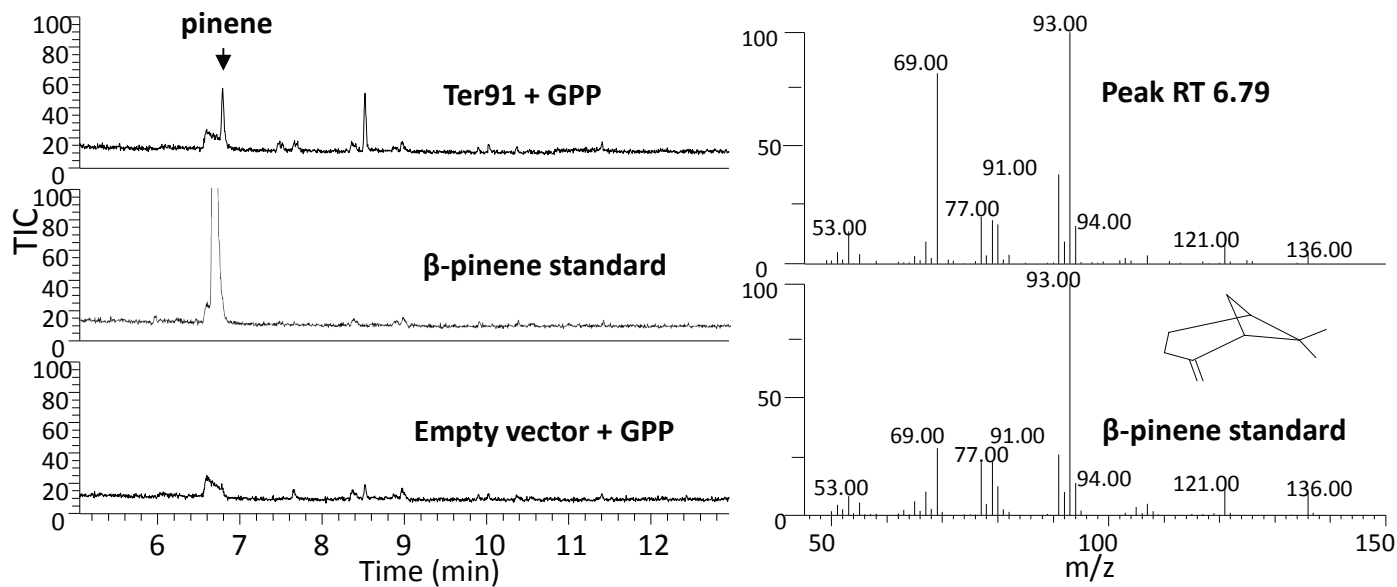


Figure S5

	10	20	30	40	50	60
CPter91_2617
CPter291_2730	-----	---MLTTFERP	EFVLPFHAHT	NPHQ-AIAGA	NARRWLLSTG	LIGADQLAQA
Se_pentalenene	-----	-----MPQDV	DFHIPLPGRQ	SPDH-ARAEA	EQLAWPRSLG	LIRSDAAAER
Sc_geosmin_366AA	-----	-MTQQPFQLP	HFYLPHPARL	NPHL-DEARA	HSTTWAREMG	MLEGSGVWEQ
Sr_epicubenol	----	MGTTTT	HKFDRPLRLP	PLPCFPFSEV	NPYV-EQVDK	ETLEWLIDSE
Sa_avermitilol	-----	-----MPQDI	DFGLPAPAGI	SPGL-EATRR	HNLGWVRLG	LVGDGPSLAW
Scl_cineole	-----	-----MPAGHE	EFDIPFPSRV	NPFH-ARAED	RHVAVMRAMG	LITGDAAEAT
Pf_methylenebornane	-----	MNQSSSARTP	RSATAPFIVR	AVRCPPPTRI	DEALGQEVNE	RLMEWISNIG
	70	80	90	100	110	120
CPter91_2617
CPter291_2730	G--NER-YDE	LLAKMYPHAG	VLE-LEVAIC	WLTWYFML	DD FLDK---	QDIHS-----A
Se_pentalenene	H--LRGGYAD	LASRFYPHAT	GAD-LDLGVD	LMSWFFLF	DD LF	DGPRGENP
Sc_geosmin_366AA	SDLEAHDYGL	LCAYTHPDCD	GPA-LSLITD	WYVWVFFF	DD HFLE	EKYKRSQ
Sr_epicubenol	Y--RQAKYGW	LSARTYPYAE	HHT-LRLVSD	WCVWLF	DD AFCE	SDRRAA
Sa_avermitilol	Y--TSWDMPR	LAACGFPHAR	GAA-LDLCAD	AMAFFVVF	DD QF	DGPLGRDP
Scl_cineole	Y--RRWSPAK	VGARWFYLAQ	GED-LDLGCD	IFGWFFAY	DD HF	DGTGTDP
Pf_methylenebornane	A---SDFGR	YAMLCHADTN	NPDRLLLVAQ	CFAALFAV	DD HYCD	DQSLGG
						acidic amino acid-rich motif
	130	140	150	160	170	180
CPter91_2617
CPter291_2730	RDTVRSITGQ	IHGDTQARIE	P---DGMMAI	LWSALWIRIA	AAASPRSQR	FLLAQRDALL
Se_pentalenene	KQLTDQVAAA	LDGPLPDT--	----APPIAH	GFADIWRRTC	EGMTPAWCAR	SARHWRNYFD
Sc_geosmin_366AA	AGKAHLDRLP	LFMPLDDAAG	MPEPRNPVEA	GLADLWTRTV	PAMSADWRRR	FAVATEHLLN
Sr_epicubenol	RALPQLYAVL	EDLDVGSEV-	----DDVFAK	SLLEIKGRIA	AYGDDEQLDR	WRNVTKDYLF
Sa_avermitilol	ARVCRRLTGI	VHGAGPGPG-	----ADACSA	AFADVWARST	DGAHPGWWAR	TAHEWEYYFA
Scl_cineole	AAFVNRTVAM	LDPRADPTG-	----EHPLNI	AFHDLWQRES	APMSPLWQRR	AVDHWYQYLT
Pf_methylenebornane	FALTAIDPVY	LPSPFDKELL	KQQMCDPVIR	GLLAYMKRVA	QFCTPSQVAR	VRQITIAMFV
	190	200	210	220	230	240
CPter91_2617
CPter291_2730	SNLQEIENRM	ERRIPD-LFS	FVALRRLSGG	MRTVFLFNGY	ADHIELPAAF	ERHPLHMALS
Se_pentalenene	GYVDEAESRF	WNAPCDSAAQ	YLAMRRHTIG	VQPTVDLAER	AGRFEVPHRV	FDSAVMSAML
Sc_geosmin_366AA	ESMWELSNIN	EGRVAN-PVE	YIEMRRKVG	APWSAGLVEY	AT-AEVPAAV	AGTRPLRVLM
Sr_epicubenol	AQVWEAANRE	DEVVPS-LED	YIFMRRRTGA	MLTVFALIDV	ASGRSLSADE	WRHPGMRAIT
Sa_avermitilol	AQAHEAINRL	RGTPGD-MES	YLQVRRGIAG	TDLPLSLGER	AAGITVPAAA	FHSPQLRIMR
Scl_cineole	AHITEATNRT	RHTSPT-IAD	YLELRHRTGF	MPPLLDLIER	VWRAEIPAPV	YTTPEVQTLT
Pf_methylenebornane	TMAAEGPWRL	YGTQPT-VAE	YLASR-QVNS	FWPCLVLIDL	IGGYEVPANT	YSRPDIHHTV
	250	260	270	280	290	300
CPter91_2617
CPter291_2730	DAANDVACIT	NDILSFDKEA	ANGET-NNYV	IVVQHMHSGS	IRQAVDFLHH	LQAARIEAYL
Se_pentalenene	QIAVDVNL	NDIASLEKEE	ARGEQ-NNMV	MILRREHGWS	KRSVSHMQN	EVRARLEQYL
Sc_geosmin_366AA	ETFSDAVHLR	NDLFSYQREV	EDEGELSNV	LVLETFFGCT	TQEAADLVND	VLTSRLHQFE
Sr_epicubenol	ESANDVVVWD	NDLISYAKES	NSGNSRNNLV	NVLAEHRHYS	RQEAMEEIGE	MRNQAIADMV
Sa_avermitilol	EAAIDVTLMC	NDVYSLEKEE	ARGDM-DNLV	LVIEHARRCT	RDEAVTAARG	EVARRVIRFE
Scl_cineole	HTTNQNINIV	NDVLSLEKEE	AHGDP-HNLV	LVIQHERQST	RQQAATARR	MIDEWTDTFI
Pf_methylenebornane	ALASLATTLV	NDLYSAYKEH	LNETGDFKLP	YLLAARHNCS	LQEALDLAAD	IHDAVMEEYE
						NSE triad
	310	320	330	340	350	360
CPter91_2617
CPter291_2730	HAKK-QLPQV	FRQLHLPPAQ	QVRAIQYLR-	GVEDALSGLL	DWSLQTPRYG	GTAVAHNRQE
Se_pentalenene	LLES-CLPKV	GEIYQLDTAE	REALERYRTD	AVRTVIRGSY	DWHRSSGRYD	-AEFALAAGA
Sc_geosmin_366AA	HTAFTEVPAV	ALEKGLTPLE	VAAVGAYTK-	GLQDWQSGGH	EWHRSSRYM	NKGERPLAGW
Sr_epicubenol	AVRP-SLEAL	G-----	SDAVLAYVR-	GLEFWISGSV	DYSLTSSRYT	DAWRTARQPS
Sa_avermitilol	QLAR-EVPAL	CAQLGLSAVE	RAHVDTYLG-	VMEAWMSGYH	AWQTQTRRYT	GAPHVLPSTG
Scl_cineole	RTEP-RLPAL	CGRLGIPLAD	RTSLYTAVE-	GMRAAIRGNY	DWCAETNRYA	VHRPTGTGRA
Pf_methylenebornane	RLHATLMKGT	R-----	SPVLRRYLT-	GLSTWIGGNL	EWHKHSARYH	I-----

Figure S6

A



B

