Subgenus	Bombus sensu stricto													Alpigenobombus	Bombias	Cullumanobombus							Melanobombus	Sibiricobombus			Megabombus				Subterraneobombus		Thoracobombus																	Alpinobombus					Pyrobombus					Kallobombus	Psithyrus										
Bombus species / Compound	B. terrestris	B. cryptarum	B. lucorum	B. magnus	B. pratorum	B. soroeensis	B. hypnorum	B. gerstaecki	B. veteranus	B. wurfeni	B. monticola	B. lucoruminis	B. lucorum	B. wurfeyi	B. confusus	B. californicus	B. semenovianus	B. rufofasciatus	B. hortulanus	B. melanobasis	B. morrisoni	B. sylvicondula	B. gnaphodes	B. kashevarovi	B. niveatus	B. sylloreus	B. torjanicus	B. opsisbombus	B. cullenatus	B. dimorsus	B. subterraneus	B. distinguendus	B. pascuorum	B. humilis	B. mastrucatus	B. cullumanus	B. sylvarum	B. velucinus	B. leucopalleus	B. atrocinctus	B. arcticus	B. dubiosoides	B. ussuricus	B. asiae	B. fervidus	B. ruderatus	B. alpinus	B. hypnorum	B. jonellanus	B. mendacus	B. polyzonus	B. rupestris	B. monticola	B. hypnorum	B. hypnorum	B. gratianum	B. turoli	B. jonellus	B. cingulatus	B. lemicustulatus	B. konoiki	B. paynesus	B. arbens	B. mastrelenus	B. sporadon	B. vestalis	B. jeneri	B. lucorumlucorum	B. speciosus	B. campestris	B. sylvestris	B. gerstaecker	B. norvegicus	B. flavidus	B. muscorum	B. mastrillosus	B. barbutellus
Isoprenoids																																																																										
Citronellol																																																																									
Citronellal																																																																									
Citronellyl acetate																																																																									
Geraniol																x																																																				
Geranyl acetate																x																																																				
Farnesene																																																																									
Farnesol										5.9																	17				14.8																																									1.5	0.1
Farnesyl acetate																x			1.5																																																	25.1	16.6
3,3-Dihydrofarnesol	58							20.6		5	23.6																																						xx																						
3,3-Dihydrofarnesal								47.4																																									x																						
3,3-Dihydrofarnesyl acetate	x																																																																								
2,3-Dihydrofarnesyl dodecanoate											4.8																																																												
2,3-Dihydrofarnesyl tetradecanoate										1.2																																																													
2,3-Dihydrofarnesyl hexadecanoate										2.5																																																													
Geranylgeraniol		x								6.5						x									13.5																										14																						
Geranylgeranal																											21	3				96																																										
Geranylgeranyl acetate		x													50	1.7	87.1	47.8	91.8	82.9	38.4	82.2	78.8	xxx		74	80																									57.5					x	xx				31.6					xxx	1.4			38.5							
Geranylgeranyl dodecanoate																																																																									
Geranylcitronellol	13.3									5.7						29.9																																	x	xx					71.3	xxx							xxx						15.3	18.8		x					xxx	5.7	3.3
Geranylcitronellal																																100																																									
Geranylcitronellyl acetate																																																																										1	
Geranylcitronellyl hexanoate																1.6																																																						
Geranylcitronellyl octanoate																2.9																																																					
Geranylcitronellyl decanoate																2.8																																																					
Geranylfarnesol																																4																																								
alfa-springene																						2.4	1.5																																																
beta-springene																					1.4	6.7	3.8	x																																															
Aliphatic alcohols																																																																										
Dodecan-1-ol																																																																										
Tetradecan-1-ol	x																								x								x																																						
Tetradecen-1-ol																																																																										
Hexadecan-1-ol	1.6		3.6						1	2.1				1			3.3								4.4																																															
Hexadecen-1-ol																									20.3 Δ9									20 Δ7	44 Δ9		67 Δ9	26 Δ7	65	25 Δ7, 7.5 Δ9			37.6 Δ7	4.1 Δ9						83.2 Δ9					2.7 Δ9	37.8 Δ9	x Δ9		x Δ9					1.8 Δ7		xx Δ9						64.8 Δ11	xxx		48.6 Δ11		xx	xxx			
Hexadecadien-1-ol															3																																		x																						
Octadecan-1-ol																							6.5 Δ9				7.4 Δ9	1					2 Δ9	8 Δ11	20.5 Δ9	9 Δ9	2	15	17.7 Δ11	37.6 Δ11	74 Δ9, 4.7 Δ11	47.1 Δ11	1.4 Δ9	16.7 Δ9, 5 Δ11	10.6 Δ11	63.5 Δ11	51.5 Δ9	38.8 Δ11		20.0 Δ11		38.4 Δ11			42.3 Δ9						xx Δ11	xxx Δ11															0.8 Δ13		7.3 Δ11	x	xx	xxx		xxx Δ11	14.2 Δ11	16.2
Octadecadien-1-ol																																																	x																									
Octadeca-9,12,15-trien-1-ol	1.8		1.3	1.1						3.3	3.3																																																											
Icosen-1-ol	6.1	x									1.4 Δ15																		16.4 Δ15					6									4.2 Δ11			46.4 Δ11			8.4 Δ11	36.5 Δ11																									2.8 Δ15		1.3 Δ15		16.9 Δ11				4.7 Δ11	
Icosadien-1-ol																																																																								
Docosen-1-ol		x																																																																							
Aldehydes and ketones																																																																										
Tetradecanal						x																																																																	
Tetradecenal																																																																										
Hexadecanal									1.8	3.1				1																			x																																						
Hexadecenal			1.6 Δ7						1.5 Δ7	2.6																							27 Δ7	4 Δ9								2.1 Δ9											42.7 Δ9																									
Octadecanal																																		32 Δ11						2.4 Δ11		3.4 Δ9				4.8 Δ9																									0.4 Δ11		2.0 Δ11		26.6 Δ11					
Icosenal										3.5 Δ13																								3																																					
Icosadienal																																																																									
Henicosenal									3.3																																																												
Pentadecan-2-one														1																																																							
Heptadecan-2-one														37																																																						
Acids																																																																									
Hexanoic acid																2.5																																																						
Dodecanoic acid				9.2							1.9		1.1																																																										
Tetradecanoic acid			2.5																																																																				
Hexadecanoic acid																	2.4			3													2									1.4																														
Hexadecenoic acid																	6.5 Δ9							12 Δ9									7									4.2 Δ9																														
Octadecanoic acid																	1.7 Δ9			21.4 Δ11				2.4 Δ9									4									8.7 Δ9, 1.1 Δ11																															
Acetates and butyrates																																																																									
Dodecyl acetate																																																																									
Dodecyl butyrate																																																																									
Tetradecyl acetate						xxx													1.5					xxx																																														
Tetradecyl butyrate																																																																									
Hexadecyl acetate			x			x			2.3													1.3		xx																																														
Hexadecenyl acetate																			9.4 Δ9	23.5 Δ9				1.4									3	3			65 Δ7	15	5.4 Δ7									x																									3.3 Δ9							
Octadecyl acetate																																																																								x	
Octadecenyl acetate																47.7 Δ9				2.1 Δ9															65.4 Δ9			S	14.4 Δ11	5.4 Δ11	1.2 Δ9			66.2 Δ9			10.8 Δ9																															1.4 Δ11	
Octadecenyl butyrate																																																1.4																									
Octadecadienyl acetate																																																																									
Icosyl acetate		x																																																																						
Icosenyl acetate																																																																									
Icosadienyl acetate																																																																									
Docosyl acetate		x																																																																						
Tetracosyl acetate														2																																																								
Tetracosenyl acetate																								x																																															
1,3-Diacetyl-2-decanoylglycerol																																																																									1.7	
1,3-Diacetyl-2-dodecanoylglycerol																																																																									24.7	25.1
1,3-Diacetyl-2-tetradecanoylglycerol																																																																									1.1	
Ethyl and methyl esters																																																																										
Ethyl decanoate	x	x					1.1																																																															
Ethyl dodecanoate	14.4	xxx	5.9	22.1	xxx	x	96.4		4		30.7	94.8	92.3	91.9																																																								
Ethyl tetradecanoate	x	x	1.8																																																																				
Ethyl tetradecenoate	x Δ9	x Δ9	52.9 Δ9						23.8 Δ9																																																														
Ethyl hexadecanoate	x	x	3.6 Δ9																																																																					
Ethyl hexadecadienoate			x																					x																																															
Ethyl hexadecatrienoate		x	x																																																																				
Ethyl octadecanoate		x																																																																						
Ethyl octadecenoate		x	1.8 Δ9	6.5					5.5 Δ9		14.5 Δ9																																																												
Ethyl octadecadienoate		x																																																																						
Ethyl octadecatrienoate		x	x																																																																					
Methyl octadecenoate																1.7 Δ9																																																											
Wax esters																																																																										
Dodecyl octanoate																																																																									
Dodecyl decanoate																	1.2																																																					
Dodecyl dodecanoate																	4.8																																																				
Dodecyl tetradecanoate																	1.2																																																				
Dodecyl hexadecanoate																	7.6									4	2.9																																												
Dodecyl hexadecenoate																	9.0 Δ9																							1.5 Δ7																																		
Dodecyl octadecanoate																																																																							
Dodecyl octadecenoate																																																																									
Dodecyl icosenoate																																																																									
Hexadecyl dodecanoate									2.1													4.5																																																
Hexadecyl tetradecanoate			5.3						15.6																																																												
Hexadecyl hexadecanoate										9.7							2.9 Δ9								5.1																																														
Hexadecyl hexadecenoate										13.5																																	2.2 Δ9																													
Hexadecenyl hexadecanoate																																											2.1 Δ9																													
Hexadecenyl hexadecenoate										22.1																							8									6.8																												
Hexadecenyl octadecenoate																																											3																									
Hexadecenyl octadecatrienoate																									1.4																																													
Octadecenyl dodecanoate																																																																								1.7	3.6
Octadecenyl hexadecanoate																																																	1																									
Octadecenyl octadecanoate																																								2.2																																		
Octadecenyl octadecenoate																																												5	1.2			1.1																						
Octadecenyl octadecatrienoate																																												2.7	1.2																									
Octadecadienyl dodecanoate				15.2																																																																	
Octadecadienyl tetradecanoate									1.4																																																											
Octadecadienyl octadecenoate																																												1.9																									
Octadecatrienyl dodecanoate				10.5																																																																	
Octadecatrienyl tetradecanoate			1.8						1.9																																																												
Icosenyl dodecanoate		x		3.9																																																																
Docosenyl dodecanoate		x																																																																							
Docosenyl octadecenoate																																																																									
Hydrocarbons																																																																										
nonadecene																											55 Δ9	96 Δ9	78 Δ9																																																		
Heneicosene		x	x	3.6						2.5								3.8																															x	x																						
Heneicosene										2																																					x																							
Tricosane		xx	5.4	16.5					7.5	9		2	2		5	3.1					1.1			x	2.2		4.8			3.1			3			3	2			8.7		1.9	3.5	2.3	2.1	1.5	4.6	2.8	2.6	2.9	x	x	x					xx			x					x			4.7	9.7	2.2		8.7	6.3			xx		6.2
Tricosene		x	x	1.5					1.1 Δ9	2.1 Δ9					1																			13	1					17.8 Δ9, 4.1 Δ7							1.9 Δ9				x	x	x					x																							
Tetracosane										2.5																													2.9 Δ9																																			
Pentacosane		x	1.7	2.3					4	1.5						1.3	2.3	2.1			1.5			xx	3.6	2.6	3.5						3			1	2			2.6		1.8	3.6	1	3	1.8	4.6	2.7	1	1.1			x					x			x					x			1.8	3.4	xx	11.6	2.6	2.4				x		2
Pentacosene		xx	3.9 Δ9	1					3.1 Δ9						1	1.1 Δ7									3.1 Δ7		2.5 Δ9						5 Δ9			7	2					2.1 Δ9	2.1 Δ9, 2.4 Δ7		3.9 Δ9		2.7 Δ9	2.7 Δ9	3.7 Δ9	1.7 Δ9																														
Hexacosane										2.2																														1.7																																			
Heptacosane		x							1								1.2	1			1.1					1.6																	2.9	1			1.2	1.4											x						1.6	2.5	x	10.1	1	2.2					1.1
Heptacosene									4.8 Δ9	1.8 Δ9							5.2 Δ7										1.1 Δ7															1.6 Δ9, 2.6 Δ7					1.4 Δ9	1.2 Δ9										x Δ7									1.4 Δ7										
Nonacosane																																												1																											
Nonacosene									2.1 Δ9																																								1.7 Δ9																							
Literature	44,61,65,70, 75,93-96	75,93,96, 97	75,82,93,98	94	44	44	89	89	9	9	99	100	100	100	101	80	44,75,81	81	80	80	86	102	102	103	44,75,104	91	91	44,105	105	8,106	89	100	105	10,44,98, 105,107	92,105	44,92	87,105,108	87,105,108	105	87	86	86	92	92	92	109	109	109	94,109	109	109	87,114	87,114,115	114	115	115	115	75,78,110	75,78,110	44,75,111	44,75,111	54	44,111	111	78	78	112	88	113	44,75	85,116,117	118	44,79,83, 118	44,79,83	44,79,83	44,79,83	44,79	79	79	54	83	44,79,119
Note																																in older literature identified incorrectly as pentyl-pentadi			ref 92 and 105 differ substantially in the proportions of main components																															in ref. 116 nonadiene incorrectly identified as heptacosadiene			in ref. 44 is geranylcitronellol as main component, in ref. 79 is hexadecan-8 as main component													

Strana 1