

KPU - AGC Hops Service

Certificate of Analysis

Report Number:

41-GS

Customer:	Guy Shepherd
Date of Arrival:	Nov.17, 22
Date of Analysis:	Nov.22, 22
Date of Report:	Nov.23, 22
Hop/Sample Name:	Blend #4
Sample Form:	Pellet
Mass of Hops (g):	214



Applied
Genomics
Centre

Kwantlen Polytechnic University
12666 72nd Ave
Surrey, BC
V3W 2M8

Alpha/Beta Acid Analysis - ASBC Hops-14 Method

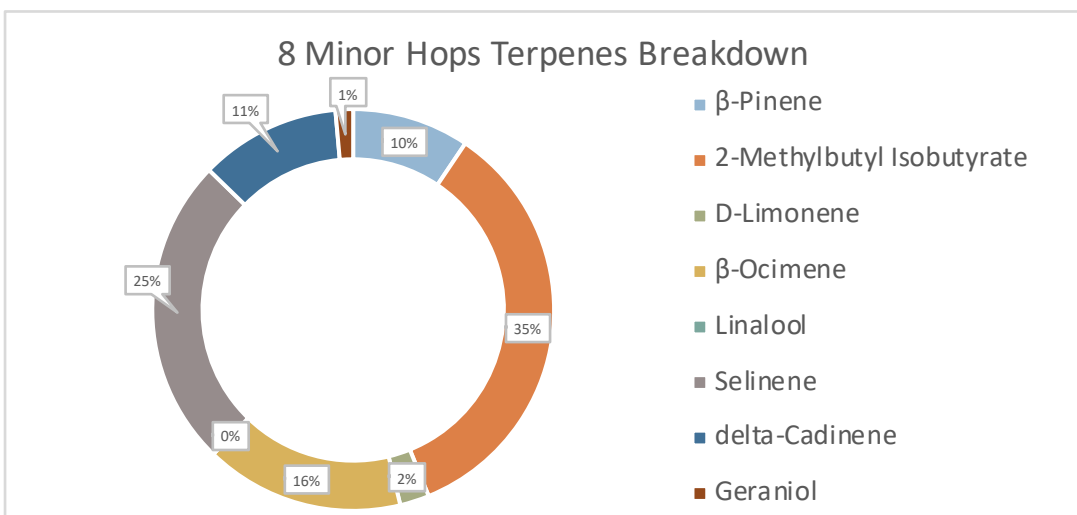
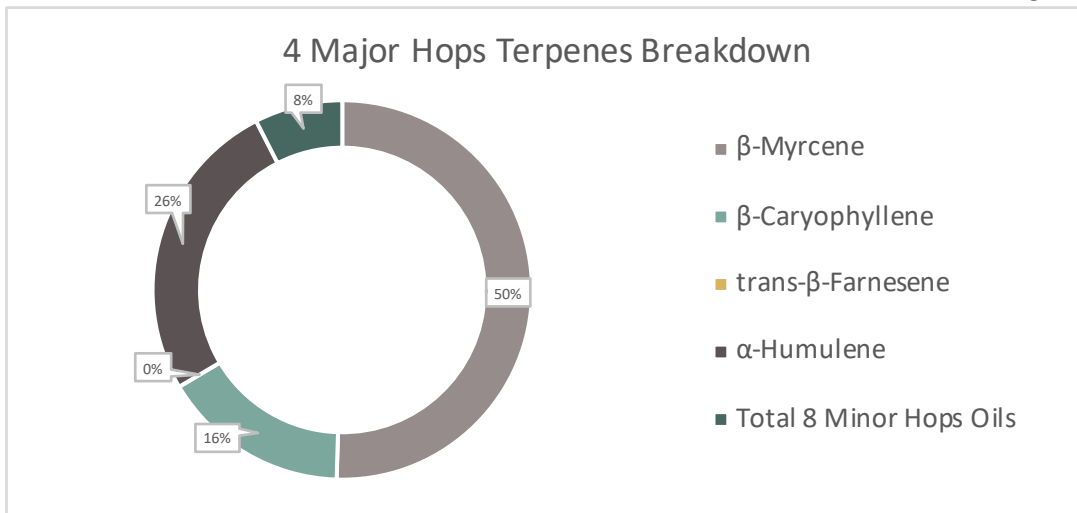
Percent (%) by Mass

Alpha Acids	
Cohumulone	2.00
n+Adhumulone	5.77
Total Alpha Acids	7.77
Beta Acids	
Colupulone	2.24
n+Adlupulone	2.97
Total Beta Acids	5.21
HSI	0.21

Essential Oil Analysis - EBC 7.12 Method

	µg per g of Hops	Percent (%) by Hops Mass
β-Myrcene	1426	0.14
β-Caryophyllene	452	0.05
trans-β-Farnesene	0	0.00
α-Humulene	735	0.07
Total 4 Major Hops Oils	2613	0.26

Relative Conc. of 8 "Other" Oils to β-Myrcene	µg per g of Hops	Percent (%) by Hops Mass
β-Pinene	20	0.002
2-Methylbutyl Isobutyrate	73	0.007
D-Limonene	5	0.001
β-Ocimene	34	0.003
Linalool	0	0.000
Selinene	53	0.005
delta-Cadinene	24	0.002
Geraniol	3	0.000
Total 8 Minor Hops Oils	212	0.02



Analytical methods as noted in link below:

https://www.kpu.ca/sites/default/files/Applied%20Genomics%20Centre/KPU_Hops_Testing_Info.pdf

Terms and Conditions:

https://www.kpu.ca/sites/default/files/Applied%20Genomics%20Centre/KPU_Hops_Testing_Services_Terms_and_Conditions.pdf

Samples kept for 1 month post-testing

Data reviewed by:

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 Director of Hops Research and Development
 KPU Applied Genomics Center