

DAFTAR PUSTAKA

- Alves, R. C., Soares, C. M. D., & Oliveira, M. B. P. P. (2015). Isoflavones In Coffee. In *Coffee in Health and Disease Prevention* (Pp. 143–148). Elsevier. <https://doi.org/10.1016/B978-0-12-409517-5.00016-4>
- Ana Farida, Evi Ristanti, A. C. K. (2013). Coffee Is One of The Most Famous Beverages in The World. Wor D. Coffee Favored Because It Has Unique Taste and Flavor. However, Coffee Contains Excess Acid and Caffeine Which Has Negative Impacts on Healt. Fermentation Is One of The Alternative Meth. *Jurnal Teknologi Kimia Dan Industri*, 2(3), 70–75.
- Aslani, E., & Angraeni, L. (2023). Pengaruh Lama Fermentasi Terhadap Karakteristik Kimia Dan Organoleptik Kopi Arabika (*Coffea Arabica* L) Di Kbq Baburrayyan Aceh Tengah the Effect of Fermentation Time on The Chemical and Organoleptic Characteristics of Arabica Coffee (*Coffea Arabica* L) In Kbq Baburrayyan, Central Aceh. *Jurnal Pertanian Agros*, 25(1).
- Assayuti, M., Fadhil, R., & Erika, C. (2022). Effect Of Fermentation with The Addition of Yeast Tape on The Sensory Quality of Gayo Arabica Coffee. *Iop Conference Series: Earth and Environmental Science*, 1116(1). <https://doi.org/10.1088/1755-1315/1116/1/012022>
- Aurora Kartika, A., Bakti Sunarharum, W., & Mahatmanto, T. (2024). The Impact of Self-Induced Anaerobic Fermentation (Siaf) On Coffee Antioxidants: A Review. *Self-Induced Anaerobic Fermentation (Siaf) On Coffee Antioxidants*, 14(1).
- Bagus Widodo, P., Endy Yulianto, M., Dwi Ariyanto, H., & Paramita, V. (2023). Efficacy Of Natural and Full Washed Post-Harvest Processing Variations on Arabica Coffee Characteristics. *Materials Today: Proceedings*. <https://doi.org/10.1016/J.Matpr.2023.02.376>
- Bantacut, T., & Putri Rahayu, A. (2022). Closed Production for Wet Processing of Arabica Coffee. *International Journal of Advanced Research*, 10(11), 743–753. <https://doi.org/10.21474/IJAR01/15725>
- Bastian, F., Hutabarat, O. S., Dirpan, A., Nainu, F., Harapan, H., Emran, T. Bin, & Simal-Gandara, J. (2021). From Plantation to Cup: Changes in Bioactive Compounds During Coffee Processing. *Foods*, 10(11), 2827. <https://doi.org/10.3390/Foods10112827>



(2018). Characteristics Of Aroma Compounds and Selected Factors in Stability in Food with Reduced Fat Content. *Engineering and Technologies*, 3(30), 9–19. [g/10.15611/Nit.2018.3.01](https://doi.org/10.15611/Nit.2018.3.01)

anda, M. A., Aoyama, H., & Schmidt, F. L. (2023). Study On Coffee Improvement by Self-Induced Anaerobic Fermentation: Microbial

- Diversity and Enzymatic Activity. *Food Research International*, 165, 112528. <https://doi.org/10.1016/j.foodres.2023.112528>
- Calín-Sánchez, Á., & Carbonell-Barrachina, Á. A. (2021). Flavor And Aroma Analysis as A Tool for Quality Control of Foods. In *Foods* (Vol. 10, Issue 2). Mdpi Ag. <https://doi.org/10.3390/Foods10020224>
- Caporaso, N., Whitworth, M. B., Cui, C., & Fisk, I. D. (2018). Variability Of Single Bean Coffee Volatile Compounds of Arabica and Robusta Roasted Coffees Analysed by Spme-Gc-MS. *Food Research International*, 108, 628–640. <https://doi.org/10.1016/j.foodres.2018.03.077>
- Chauhan, A. (2014). Gc-MS Technique and Its Analytical Applications in Science And Technology. *Journal Of Analytical & Bioanalytical Techniques*, 5(6). <https://doi.org/10.4172/2155-9872.1000222>
- Cruz-O'byrne, R., Piraneque-Gambasica, N., & Aguirre-Forero, S. (2021). Microbial Diversity Associated with Spontaneous Coffee Bean Fermentation Process and Specialty Coffee Production in Northern Colombia. *International Journal of Food Microbiology*, 354. <https://doi.org/10.1016/j.ijfoodmicro.2021.109282>
- Da Silva Vale, A., De Melo Pereira, G. V., De Carvalho Neto, D. P., Sorto, R. D., Goés-Neto, A., Kato, R., & Soccol, C. R. (2021). Facility-Specific 'House' Microbiome Ensures the Maintenance of Functional Microbial Communities into Coffee Beans Fermentation: Implications for Source Tracking. *Environmental Microbiology Reports*, 13(4), 470–481. <https://doi.org/10.1111/1758-2229.12921>
- Desmiaty, Y., Nurhidayati, L., Sandhiutami, N. M. D., Hasan, R. M. R., Meynderth, K. A., & Noviasuti, D. A. (2022). The Characteristics of Some Commercial Arabica Coffee Beans in Indonesia. *Jurnal Ilmu Kefarmasian Indonesia*, 20(2), 245. <https://doi.org/10.35814/Jifi.V20i2.1277>
- Dippong, T., Dan, M., Kovacs, M. H., Kovacs, E. D., Levei, E. A., & Cadar, O. (2022). Analysis Of Volatile Compounds, Composition, And Thermal Behavior of Coffee Beans According to Variety and Roasting Intensity. *Foods*, 11(19). <https://doi.org/10.3390/Foods11193146>
- Doležal, M., & Kráľová, K. (N.D.). *Synthesis And Evaluation of Pyrazine Derivatives with Herbicidal Activity*. www.intechopen.com
- El-Gendy, H. A., Elrayes, A. I., & Abdel-Hammed, S. F. (N.D.). Engineering Properties of Some Arabian Coffee Varieties. In *J. Agric. Res* (Vol. 89, Issue 2).
- eroa, J. G. (2022a). Volatile Compound Characterization of Coffee ca) Processed at Different Fermentation Times Using Spme–Gc–s, 27(6). <https://doi.org/10.3390/Molecules27062004>



- Galarza, G., & Figueroa, J. G. (2022b). Volatile Compound Characterization of Coffee (Coffea Arabica) Processed at Different Fermentation Times Using Spme–Gc–Ms. *Molecules*, 27(6). <https://doi.org/10.3390/Molecules27062004>
- Girma, B., & Sualeh, A. (2022). A Review of Coffee Processing Methods and Their Influence on Aroma. *International Journal of Food Engineering and Technology*, 6(1), 7. <https://doi.org/10.11648/J.IJfet.20220601.12>
- Haile, M., & Kang, W. H. (2019). The Role of Microbes in Coffee Fermentation And Their Impact On Coffee Quality. In *Journal of Food Quality* (Vol. 2019). Hindawi Limited. <https://doi.org/10.1155/2019/4836709>
- Hariyadi, T., Nur Salsabila, Z., Maulani, G., & Keryanti. (2022). Uji Kinerja Fermentor Kopi Skala Umkm Dalam Fermentasi Kopi Arabika Untuk Menghasilkan Cultured Coffee. *Fluida*, 15(2), 106–112. <https://doi.org/10.35313/Fluida.V15i2.4391>
- Hariyanto, B., Fanani, F., & Nugroho, S. E. (2022). Rekayasa Fermentasi Kopi An Aerobik Dengan Metode Karbonik Dan Semi Karbonik Maserasi. *Jurnal Pengembangan Potensi Laboratorium*, 1(2), 79–85. <https://doi.org/10.25047/Plp.V1i2.3098>
- Hazar, S., Rahmawati Sadiyah, E., A. Kodir, R., Herawati, L., G. Cahyadi, S., & T. Fauzi, L. (2022). Antioxidant Properties of Coffee Arabica from The Arjasari District That Is Processed Naturally, Semi-Washed And Full-Washed. *Kne Life Sciences*. <https://doi.org/10.18502/Kls.V7i5.12515>
- Janne Carvalho Ferreira, L., De Souza Gomes, M., Maciel De Oliveira, L., & Diniz Santos, L. (2023). Coffee Fermentation Process: A Review. In *Food Research International* (Vol. 169). Elsevier Ltd. <https://doi.org/10.1016/J.Foodres.2023.112793>
- Kesia Maramis, R., Citraningtyas, G., & Wehantouw, F. (2013). Analisis Kafein Dalam Kopi Bubuk Di Kota Manado Menggunakan Spektrofotometri Uv-Vis. In *Pharmakon Jurnal Ilmiah Farmasi-Unsrat* (Vol. 2, Issue 04).
- Kungsuwan, K., Sawangrat, C., Ounjaijean, S., Chaipoot, S., Phongphisutthinant, R., & Wiriyacharee, P. (2023). Enhancing Bioactivity and Conjugation in Green Coffee Bean (Coffea Arabica) Extract Through Cold Plasma Treatment: Insights into Antioxidant Activity and Phenolic–Protein Conjugates. *Molecules*, 28(20). <https://doi.org/10.3390/Molecules28207066>



Li, Z., Zheng, T., Zhao, C., Shen, X., Wang, X., Qiu, M., & Fan, J. (2023). Metabolomics and Proteomics Technologies Provides Insights into Recursor Changes at Different Maturity Stages of Arabica Coffee Beans. *Foods*, 12(7). <https://doi.org/10.3390/Foods12071432>

A. I., De Carvalho Neto, D. P., De Melo Pereira, G. V., Da Silva, J. D. C., De Carvalho, J. C., & Soccol, C. R. (2021). A Critical Review of the Chemical and Physicochemical Analysis of Coffee Processing Utilizing a Modern

- Fermentation System: Implications for Specialty Coffee Production. *Food And Bioproducts Processing*, 125, 14–21.
<https://doi.org/10.1016/j.fbp.2020.10.010>
- Mardjan, S., & Hakim, F. R. (2019). Prediction Shelf Life of Arabica Java Preanger Coffee Beans Under Hermetic Packaging Using Arrhenius Method. *Iop Conference Series: Materials Science and Engineering*, 557(1).
<https://doi.org/10.1088/1757-899x/557/1/012077>
- Martinez, S. J., Simão, J. B. P., Pylro, V. S., & Schwan, R. F. (2021). The Altitude of Coffee Cultivation Causes Shifts in The Microbial Community Assembly and Biochemical Compounds in Natural Induced Anaerobic Fermentations. *Frontiers In Microbiology*, 12. <https://doi.org/10.3389/fmicb.2021.671395>
- Maskum, A., Wijonarko, G., Purbowati, I. S. Mulyo, & Anggriawan, R. (2021). Optimization Of Phenolic Compounds in Robusta Green Beans Coffee Through the Wet Fermentation Process with The Response Surface Methodology. *Agrointek: Jurnal Teknologi Industri Pertanian*, 15(3), 825–832.
<https://doi.org/10.21107/Agrointek.V15i3.10585>
- Melini, F., & Melini, V. (2021). Impact Of Fermentation on Phenolic Compounds and Antioxidant Capacity of Quinoa. *Fermentation*, 7(1), 20.
<https://doi.org/10.3390/Fermentation7010020>
- Mulyara, B., & Rahmadian, Y. (2021). Non-Volatile Compounds of Unwashed Gayo Arabica Coffee (*Coffea Arabica*) With Anaerobic Fermentation Process. *Iop Conference Series: Earth and Environmental Science*, 828(1).
<https://doi.org/10.1088/1755-1315/828/1/012022>
- Mustafa, A., Salengke, S., Laga, A., Bastian, F., Hasizah, A., & Reta, R. (2024). Ohmic-Based Carbonic Maseration of Arabica Coffee Cherries: A Review. *Bio Web Of Conferences*, 96, 01010.
<https://doi.org/10.1051/Bioconf/20249601010>
- Nizori, A., Jayanti, E., Purba, D., & Gusriani, I. (2021). Influence Of Fermentation Conditions on The Antioxidant and Physico-Chemical of Arabica Coffee from Kerinci Region of Indonesia. In *Indonesian Food Science and Technology Journal Ifstj* (Vol. 5).
- Ongo, E. A., Montevecchi, G., Antonelli, A., Sberveglieri, V., & Sevilla, F. (2020). Metabolomics Fingerprint of Philippine Coffee by Spme-Gc-MS for Geographical and Varietal Classification. *Food Research International*, 134. [g/10.1016/j.foodres.2020.109227](https://doi.org/10.1016/j.foodres.2020.109227)
- S., Arsyad, M., Mahyuddin, & Nasaruddin. (2021). Coffee Farming Development: E-Commerce Technology Utilization. *Iop Conference Earth and Environmental Science*, 807(3).
[g/10.1088/1755-1315/807/3/032011](https://doi.org/10.1088/1755-1315/807/3/032011)



- Peñuela-Martínez, A. E., David Zapata-Zapata, A., & Durango-Restrepo, D. L. (N.D.). Performance Of Different Fermentation Methods and The Effect on Coffee Quality (*Coffea Arabica* L.). In *Coffee Science* (Vol. 4).
- Peñuela-Martínez, A. E., Moreno-Riascos, S., & Medina-Rivera, R. (2023). Influence Of Temperature-Controlled Fermentation on The Quality of Mild Coffee (*Coffea Arabica* L.) Cultivated at Different Elevations. *Agriculture*, 13(6), 1132. <https://doi.org/10.3390/Agriculture13061132>
- Piccino, S., Boulanger, R., Descroix, F., & Shum Cheong Sing, A. (2014). Aromatic Composition and Potent Odorants of the “Specialty Coffee” Brew “Bourbon Pointu” Correlated to Its Three Trade Classifications. *Food Research International*, 61, 264–271. <https://doi.org/10.1016/J.Foodres.2013.07.034>
- Rahmawati, A., Program, S., Analis, S., Fakultas, K., Keperawatan, I., & Kesehatan, D. (2017). *Prosiding Seminar Nasional Publikasi Hasil-Hasil Penelitian Dan Pengabdian Masyarakat ‘Implementasi Penelitian Dan Pengabdian Masyarakat Untuk Peningkatan Kekayaan Intelektual’ Pentingnya Pengolahan Basah (Wet Processing) Buah Kopi Robusta (Coffea Robusta Lindl.Ex.De.Will) Untuk Menurunkan Resiko Kecacatan Biji Hijau Saat Coffee Grading*.
- Ridwansyah. (2003). *Pengolahan Kopi*. Universitas Sumatera Utara.
- Ruta, L. L., & Farcasanu, I. C. (2021). Coffee And Yeasts: From Flavor to Biotechnology. In *Fermentation* (Vol. 7, Issue 1). Mdpi Ag. <https://doi.org/10.3390/Fermentation7010009>
- Sahil, K., Prashant, B., Akanksha, M., Premjeet, S., & Devashish, R. (2011). Gas Chromatography-Mass Spectrometry: Applications. In *International Journal of Pharmaceutical & Biological Archives* (Vol. 2, Issue 6). www.ijpba.info
- Sánchez-Hernández, S., Partida-Sedas, J. G., Cruz-Castillo, J. G., Chamorro, E. C., Escamilla-Prado, E., & Valdés-Velarde, E. (2024). Coffee Processing Technologies and Treatment of Liquid Effluents. In *Tropical and Subtropical Agroecosystems* (Vol. 27, Issue 2). Universidad Autonoma De Yucatan. <https://doi.org/10.56369/Tsaes.5099>
- Setyani, S., Subeki, S., & Grace, H. A. (2018). Evaluasi Nilai Cacat Dan Cita Rasa Kopi Robusta (*Coffea Canephora* L.) Yang Diproduksi Ikm Kopi Di Kabupaten Tanggamus [Evaluation of Defect Value and Flavour Robusta Coffee (*Coffea Canephora* L.) Produced by Small and Medium Industri Sector of Coffee In Tanggamus District]. *Jurnal Teknologi & Industri Hasil Pertanian*, 23(2), 103. [g/10.23960/Jtihp.V23i2.103-114](https://doi.org/10.23960/Jtihp.V23i2.103-114)
- Ilasari, D., Subekti, R. J., Karim, M. A., & Purwono, B. (2021). The Coffee Cherry Fermentation on The Properties of Cascara Arabica, West Java. *Iop Conference Series: Materials Science and Engineering*, 1011(1), 012006. <https://doi.org/10.1088/1757-2020/1011/1/012006>



- Sinaga, S. H., & Julianti, E. (2021). Physical Characteristics of Gayo Arabica Coffee with Semi-Washed Processing. *Iop Conference Series: Earth and Environmental Science*, 782(3). <https://doi.org/10.1088/1755-1315/782/3/032093>
- Situngkir, T. P. (2022). *Abstract Financial Feasibility Analysis and Coffee Development Strategy in West Lampung District*.
- Sulaiman, I., Erfiza, N. M., & Moulana, R. (2021). Effect Of Fermentation Media on The Quality of Arabica Wine Coffee. *Iop Conference Series: Earth and Environmental Science*, 709(1). <https://doi.org/10.1088/1755-1315/709/1/012027>
- Sunarharum, W. B., & Farhan, M. (2020). Effect Of Manual Brewing Techniques on The Sensory Profiles of Arabica Coffees (Aceh Gayo Wine Process and Bali Kintamani Honey Process). *Iop Conference Series: Earth and Environmental Science*, 454(1). <https://doi.org/10.1088/1755-1315/454/1/012099>
- Tan, Y., Wu, H., Shi, L., Barrow, C., Dunshea, F. R., & Suleria, H. A. R. (2023). Impacts Of Fermentation on The Phenolic Composition, Antioxidant Potential, And Volatile Compounds Profile of Commercially Roasted Coffee Beans. *Fermentation*, 9(10), 918. <https://doi.org/10.3390/Fermentation9100918>
- Tello, J., Viguera, M., & Calvo, L. (2011). Extraction Of Caffeine from Robusta Coffee (Coffea Canephora Var. Robusta) Husks Using Supercritical Carbon Dioxide. *Journal of Supercritical Fluids*, 59, 53–60. <https://doi.org/10.1016/J.Supflu.2011.07.018>
- Várady, M., Tauchen, J., Fraňková, A., Klouček, P., & Popelka, P. (2022). Effect Of Method of Processing Specialty Coffee Beans (Natural, Washed, Honey, Fermentation, Maceration) On Bioactive and Volatile Compounds. *Lwt*, 172. <https://doi.org/10.1016/J.Lwt.2022.114245>
- Velmourougane, K. (2013). Impact Of Natural Fermentation on Physicochemical, Microbiological and Cup Quality Characteristics of Arabica and Robusta Coffee. *Proceedings Of the National Academy of Sciences, India Section B: Biological Sciences*, 83(2), 233–239. <https://doi.org/10.1007/S40011-012-0130-1>
- Wang, Y., Wang, X., Hu, G., Al-Romaima, A., Peng, X., Li, J., Bai, X., Li, Z., & Qiu, M. (2023a). Anaerobic Germination of Green Coffee Beans: A Novel Strategy to Improve the Quality of Commercial Arabica Coffee. *Current Research in Food Science*, 6. <https://doi.org/10.1016/J.Crfs.2023.100461>



Li, J., Hu, G., Al-Romaima, A., Peng, X., Li, J., Bai, X., Li, Z., & Qiu, M. (2023a). Anaerobic Germination of Green Coffee Beans: A Novel Strategy to Improve the Quality of Commercial Arabica Coffee. *Current Research in Food Science*, 6. <https://doi.org/10.1016/J.Crfs.2023.100461>

- Wibowo, Y., & Palupi, C. B. (2022). Analisis Nilai Tambah Pengolahan Biji Kopi Arabika (Studi Kasus: Rumah Kopi Banjarsengon, Jember). *Jurnal Agroteknologi*, 16(01), 37. <https://doi.org/10.19184/J-Agt.V16i01.28209>
- Yan, Y., Lu, W., Tian, T., Shu, N., Yang, Y., Fan, S., Han, X., Ge, Y., & Xu, P. (2023). Analysis Of Volatile Components in Dried Fruits and Branch Exudates of Schisandra Chinensis with Different Fruit Colors Using Gc-Ims Technology. *Molecules*, 28(19). <https://doi.org/10.3390/Molecules28196865>
- Zakidou, P., Plati, F., Matsakidou, A., Varka, E. M., Blekas, G., & Paraskevopoulou, A. (2021). Single Origin Coffee Aroma: From Optimized Flavor Protocols and Coffee Customization to Instrumental Volatile Characterization and Chemometrics. *Molecules*, 26(15). <https://doi.org/10.3390/Molecules26154609>
- Zavala, J., Tello, P. I., Elizabeth, S., & Sampedro, S. (2022). Making A Fermented Drink with Three Varieties of Coffee Pulp Tea (Coffea Arábica Typica, Sarchymor, And Bourbon Sydra). Espoch Congresses. *The Ecuadorian Journal Of S.T.E.A.M*, 2(1), 87–103. <https://doi.org/10.18502/Espoch.V2i2.11186>



LAMPIRAN

Lampiran 1a. Hasil Statistik Total Padatan Terlarut

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
H1	3	7.9000	.10000	.05774	7.6516	8.1484	7.80	8.00	
H2	3	8.3667	.30551	.17638	7.6078	9.1256	8.10	8.70	
H3	3	8.9000	.10000	.05774	8.6516	9.1484	8.80	9.00	
Total	9	8.3889	.46488	.15496	8.0316	8.7462	7.80	9.00	

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.502	2	.751	19.882	.002
Within Groups	.227	6	.038		
Total	1.729	8			

Duncan^a

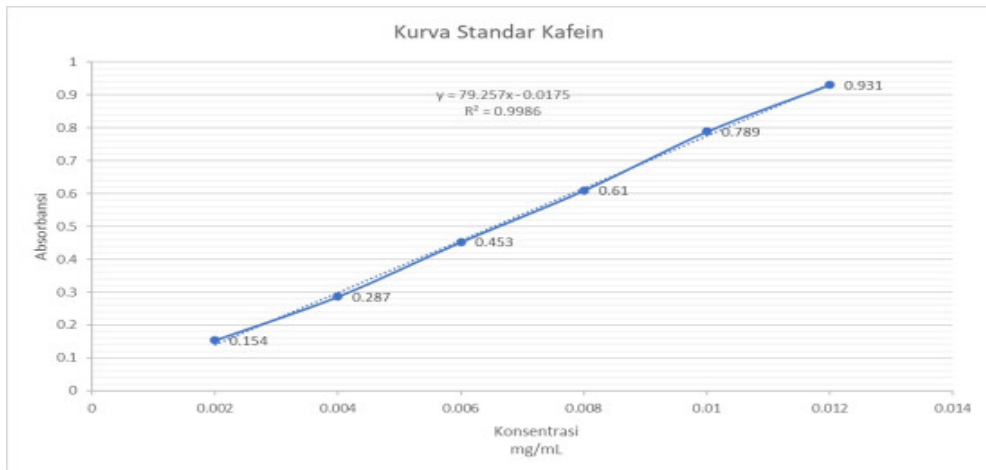
perlakuan	N	Subset for alpha = 0.05		
		1	2	3
H1	3	7.9000		
H2	3		8.3667	
H3	3			8.9000
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.



Lampiran 2a. Gambar Kurva Standar Kafein



Lampiran 2b. Hasil Statistik Kadar Kafein Descriptives

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
A0	3	1,1667	,17474	,10088	,7326	1,6007
A1	3	1,1067	,10017	,05783	,8578	1,3555
A2	3	1,2233	,12662	,07311	,9088	1,5379
A3	3	1,4067	,37859	,21858	,4662	2,3471
Total	12	1,2258	,22383	,06461	1,0836	1,3680

Descriptives

	Minimum	Maximum
A0	1,02	1,36
A1	1,01	1,21
A2	1,11	1,36
A3	1,14	1,84
Total	1,01	1,84

ANOVA

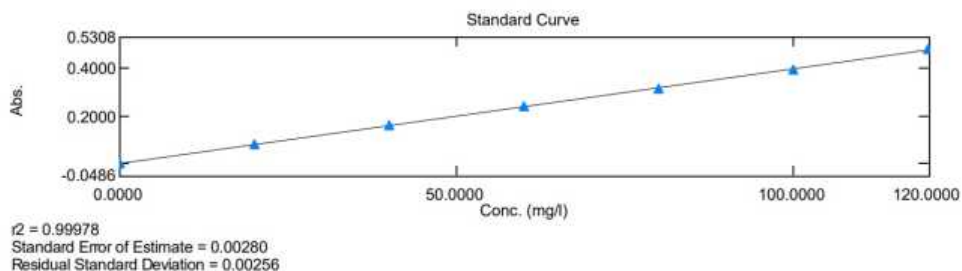


Sum of Squares	df	Mean Square	F	Sig.
,151	3	,050	1,009	,438
,400	8	,050		
,551	11			

Lampiran 3a. Gambar Kurva Standar Total Fenol

Sample Table Report

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Lampiran 3b. Hasil Statistik Total Fenol

Descriptives

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
kontrol	3	55.8417	.03819	.02205	55.7468	55.9365	55.80	55.88
fermentasi 5 hari	3	59.6667	.06292	.03632	59.5104	59.8230	59.60	59.73
fermentasi 10 hari	3	80.1500	.07500	.04330	79.9637	80.3363	80.08	80.23
fermentasi 15 hari	3	64.4500	.06614	.03819	64.2857	64.6143	64.40	64.53
Total	12	65.0271	9.65992	2.78858	58.8895	71.1647	55.80	80.23

ANOVA



Sum of Squares	df	Mean Square	F	Sig.
1026.425	3	342.142	88771.869	.000
.031	8	.004		
1026.456	11			

Duncan^a

lama fermentasi	N	Subset for alpha = 0.05			
		1	2	3	4
kontrol	3	55.8417			
fermentasi 5 hari	3		59.6667		
fermentasi 15 hari	3			64.4500	
fermentasi 10 hari	3				80.1500
Sig.		1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

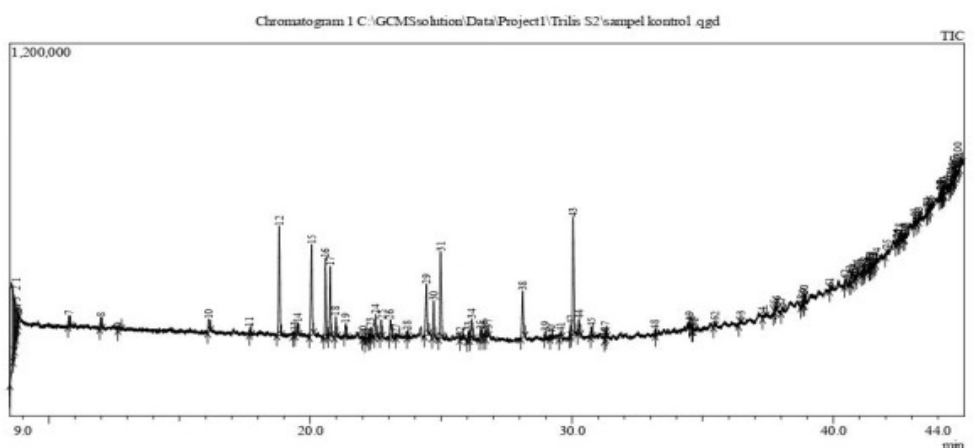
a. Uses Harmonic Mean Sample Size = 3.000.



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Lampiran 4. Hasil GC-MS Ceri Merah Kopi Arabika Hasil Fermentasi Anaerob

Report Sampel Kontrol



Peak#	R. Time	Area	Area%	Height	Height%	Similarity	Base m/z	Name
1	8.566	1999205	11.549	297891	5.85	69	31.95	METHYL D-GLYCOLATE
2	8.645	647668	3.741	222670	4.38	59	31.95	Hydrazinecarbothioamide (CAS)
3	8.735	497597	2.875	131295	2.58	69	43.95	Carbamic acid, methyl ester (CAS)
4	8.785	244105	1.410	75034	1.47	64	31.95	Acetic acid, aminoxy-, hydrazide (CAS)
5	8.815	68507	0.396	46941	0.92	63	31.95	4-dimethylaminobut-2-yn-1-ol
6	8.850	41198	0.238	19716	0.39	60	31.95	1H-1,2,4-Triazole, 1-methyl- (CAS)
7	10.775	91697	0.530	35315	0.69	91	82.95	Methane, oxylbis(dichloro-
8	11.993	89326	0.516	36981	0.73	90	43.00	2,3-Pentanedione (CAS)
9	12.665	43208	0.250	9222	0.18	60	39.95	2,2'-Bioxirane (CAS)
10	16.122	143484	0.829	41249	0.81	93	79.05	PYRIDINE
11	17.700	53266	0.308	24663	0.48	79	31.95	1-Octanol, 2,2-dimethyl- (CAS)
12	18.812	1152918	6.660	352057	6.92	94	94.05	Pyrazine, methyl- (CAS)
13	19.404	44142	0.255	13974	0.27	73	31.95	Stearic acid hydrazide
14	19.509	128506	0.742	39252	0.77	91	45.00	2-Butanone, 3-hydroxy- (CAS)
15	20.048	1053291	6.085	291592	5.73	97	43.00	2-Propanone, 1-hydroxy- (CAS)
16	20.581	802517	4.636	256573	5.04	97	42.00	Pyrazine, 2,5-dimethyl-
17	20.762	678715	3.921	224218	4.41	97	108.10	Pyrazine, 2,6-dimethyl- (CAS)
18	20.976	211439	1.221	67256	1.32	93	107.05	Pyrazine, ethyl-
19	21.357	133326	0.770	41403	0.81	88	67.05	Pyrazine, 2,3-dimethyl- (CAS)
20	22.005	41575	0.240	12093	0.24	64	32.00	1-PROPANOL-1-D1
21	22.095	61689	0.356	12188	0.24	69	32.00	METHYL D-GLYCOLATE
22	22.225	42540	0.246	6020	0.12	58	43.95	Acetamide, N,N-dimethyl- (CAS)
23	22.311	101252	0.585	36404	0.72	81	57.00	1-Hydroxy-2-butanone
24	22.500	199257	1.151	71816	1.41	93	121.05	Pyrazine, 2-ethyl-6-methyl-
25	22.706	156105	0.902	54222	1.07	91	121.05	Pyrazine, 2-ethyl-5-methyl- (CAS)
26	23.057	227364	1.313	57051	1.12	92	42.00	Pyrazine, trimethyl- (CAS)
27	23.286	50554	0.292	12248	0.24	55	31.95	Acrylic acid, 3-[1-hydroxy-N-(3-phenylpropyl)formam
28	23.712	35099	0.203	21629	0.43	73	31.95	UNDECANE, 3,8-DIMETHYL-
29	24.431	664104	3.836	165496	3.25	98	43.00	Acetic acid
30	24.737	367276	2.122	118151	2.32	94	43.00	2-Propanone, 1-(acetyloxy)- (CAS)
31	25.088	956886	5.528	277973	5.46	97	96.05	Furfural
32	25.093	0.289	0.001	11.204	0.22	63	32.00	METHYL D-GLYCOLATE
33	25.093	100412	0.580	30109	0.59	84	39.95	2,5-DIMETHYL-3(2H)FURANONE
34	25.093	138343	1.377	66190	1.30	86	95.00	Ethanol, 1-(2-furyl)-
35	25.093	104755	0.605	29158	0.57	85	57.00	3-Pentanone, 2-methyl- (CAS)
36	25.093	75190	0.434	26742	0.53	85	42.95	2-Butanone, 1-(acetyloxy)-
37	25.093	89451	0.517	26646	0.52	89	81.00	2-Furamethanol, acetate
38	25.093	579853	3.350	150255	2.95	96	110.00	2-Furancarboxaldehyde, 5-methyl-
39	25.093	34813	0.201	20730	0.41	71	43.00	1-Octanol, 2,2-dimethyl-
40	25.093	39668	0.229	13468	0.26	61	32.00	1-Methyl-2-propenylhydrazine
41	25.093	74601	0.431	18600	0.37	69	43.05	Decane, 3,7-dimethyl-
42	25.093	115175	0.665	37997	0.75	83	42.05	2(3H)-Furanone, dihydro- (CAS)
43	25.093	433120	8.279	380369	7.48	97	98.05	2-Furamethanol (CAS)
44	25.093	160088	0.925	47697	0.94	85	60.00	Heptanoic acid (CAS)

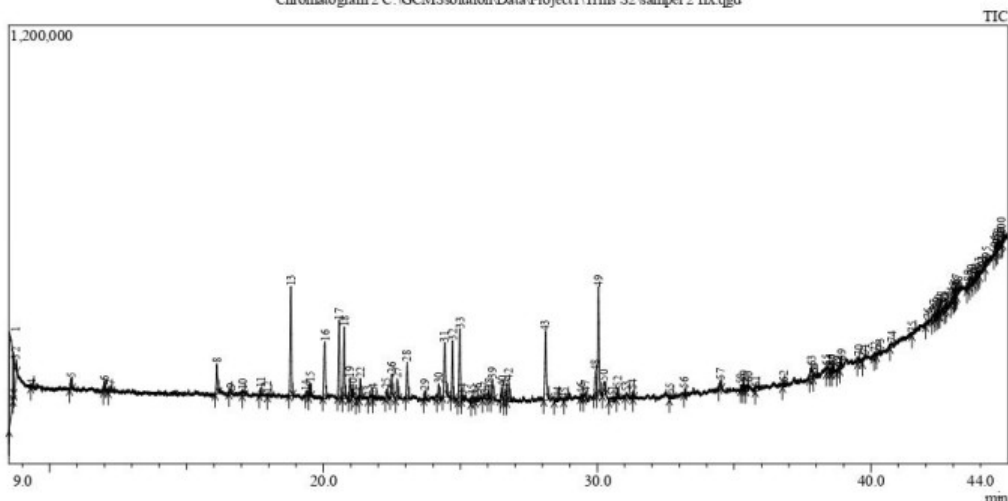


Peak#	R Time	Area	Area%	Height	Height%	Similarity	Base m/z	Name
45	30.741	76322	0.441	31172	0.61	81	57.00	Nonane, 3-methyl-5-propyl-
46	31.255	26870	0.155	9165	0.18	59	39.95	3-Butyn-1-ol
47	31.305	39996	0.231	21517	0.42	59	39.95	1-(6-METHYL-2-PYRAZINYL)-1-ETHANONE
48	33.197	32725	0.189	19093	0.38	70	57.05	1-Hexanol, 2-ethyl-2-propyl- (CAS)
49	34.492	43318	0.250	17561	0.35	56	133.05	1-Phenyl-3-phenylsulfanypropanol
50	34.605	33405	0.193	15753	0.31	63	31.95	3-HYDROXY-3-METHYLBUTANOHYDRAZIDE
51	34.710	30981	0.179	9253	0.18	67	32.00	Cycetacide
52	35.469	30435	0.176	16831	0.33	54	32.00	Stearic acid hydrazide
53	36.441	28804	0.166	8683	0.17	58	32.00	Pentanedioic acid, 3-oxo-, diethyl ester (CAS)
54	37.295	52949	0.306	6849	0.13	58	32.00	N-amino-3,2-hydroxypropanamide
55	37.740	35322	0.204	13091	0.26	68	45.00	Ethanol, 2-(2-butoxyethoxy)- (CAS)
56	37.818	43220	0.250	14639	0.29	60	109.00	Ethanol, 1-(1H-pyrol-2-yl)-
57	38.025	43650	0.252	14572	0.29	62	44.00	1,4,7,10,13,16-Hexaoxacyclooctadecane (CAS)
58	38.750	51564	0.298	8279	0.16	51	39.95	Hydrazinecarboxylic acid, ethyl ester (CAS)
59	38.850	52588	0.304	22604	0.44	53	43.95	BETA-CIS-METHYL-DECENOATE
60	38.894	112676	0.651	30602	0.60	63	31.95	Stearic acid hydrazide
61	39.870	37528	0.217	10656	0.21	58	43.95	1,3-Dioxolane, 4-methyl-
62	40.452	80484	0.465	23230	0.46	61	43.95	1,3-Dioxolane, 4-methyl- (CAS)
63	40.650	25987	0.150	29392	0.58	57	31.95	1,2,3-Butanetriol
64	40.755	154182	0.891	25784	0.51	57	43.95	1,3-Dioxolane, 4-methyl-
65	40.810	50854	0.294	12669	0.25	56	43.95	Propionamide, 3-cyclopentyl-N-methyl-N-propyl-
66	40.905	79959	0.462	25984	0.51	65	32.00	Hydrazinecarboxylic acid, ethyl ester (CAS)
67	41.111	43205	0.250	19542	0.38	57	31.95	2-Ethylhexyl pentenoate
68	41.190	62130	0.359	19526	0.38	63	45.00	Butane, 2-ethoxy-
69	41.290	33547	0.194	8841	0.17	44	31.95	Hydrazine, 2-butenyl- (CAS)
70	41.380	45965	0.266	23256	0.46	51	31.95	1,6-DIAMINOHEXANE-1,1,6,6-D4
71	41.435	62612	0.362	26567	0.52	50	39.95	1-(Methylthio)-2-butene
72	41.494	39248	0.227	18607	0.37	53	45.00	2-Hexanol (CAS)
73	41.550	54684	0.316	10933	0.21	56	31.95	Acetone, ethyl methyl acetal
74	41.650	42771	0.247	19189	0.38	55	31.95	METHYL D-GLYCOLATE
75	42.069	44877	0.259	14272	0.28	65	45.00	2-Propanol, 1,1'-oxybis- (CAS)
76	42.445	48178	0.278	15611	0.31	56	43.00	Decanoic acid, 9-oxo-, methyl ester
77	42.490	38971	0.225	12612	0.25	49	39.95	2(1H)-Pyrimidinone, tetrahydro-4,5-dihydroxy-1,3-dim
78	42.530	106892	0.617	30721	0.60	48	135.00	Benzoic acid, 4-(methylthio)-3-nitro-
79	42.715	34452	0.199	16240	0.32	45	31.00	Butane, 1,4-diethoxy- (CAS)
80	42.770	62111	0.359	18640	0.37	58	45.00	2-Butanone, 4-methoxy-
81	43.099	69883	0.404	26254	0.52	57	88.00	4-Nitro-3-oxobutyric acid, ethyl ester
82	43.190	42583	0.246	10025	0.20	49	31.95	3-Ethyl-1,3-dimethylindazole (cis)
83	43.280	72286	0.418	17991	0.35	67	45.00	ETHANOL, 2-(ETHENYLOXY)-
84	43.604	38529	0.223	20860	0.41	53	89.05	1,2,3-Butanetriol
85	43.625	70638	0.408	13484	0.26	55	45.00	Tetraethylene glycol diethyl ether
86	43.705	59611	0.344	17517	0.34	57	39.95	2(4,5-Dihydro-3-methyl-5-oxo-1-phenyl-4-pyrazolyl)-2
87	44.075	80526	0.465	27981	0.55	63	32.00	2-Ethoxyethyl isobutyl carbonate
88	44.120	36147	0.209	24623	0.48	58	31.95	1-Butoxy-1-ethoxyethane
89	44.160	38048	0.220	25646	0.50	62	32.00	4-Hydroxybutyric acid hydrazide
90	44.205	44773	0.259	28633	0.56	55	31.95	Hydrazine, 2-butenyl- (CAS)
91	44.225	40115	0.232	31561	0.62	58	44.00	4-Hydroxyphenyl 3-nitrobenzoate
92	44.350	163019	0.942	26377	0.52	53	45.00	18-Crown-6, (2-bromophenyl)-
93	44.480	72675	0.420	24249	0.48	52	43.00	3(2H)-Furanone, 4-[(dimethylamino)methylene]dihydro
94	44.500	102836	0.594	30286	0.60	51	43.00	Propanedioic acid, diethyl ester (CAS)
95	44.575	48750	0.282	35707	0.70	50	43.95	NO NAME
96	44.606	64347	0.372	40869	0.80	55	44.00	L-Alanine, N-(N-acetyl-L-alanyl)-, butyl ester (CAS)
97	44.645	89550	0.517	43656	0.86	45	39.95	1,4,7,10,13,16-Hexaoxacyclooctadecane (CAS)
98	44.695	48339	0.279	22503	0.44	66	44.00	1,2,3-Butanetriol
99	44.810	27657	0.160	15211	0.30	64	43.00	Oxirane-2-carboxylic acid, ethyl ester
100	44.856	93564	0.540	31269	0.61	71	45.00	1,4,7,10,13,16-HEXAOXACYCLOOCTADECANE
		17310676	100.000	5088396	100.00			



Report Sampel 2

Chromatogram 2 C:\GCMSSolution\Data\Project1\Trilis S2\sampel 2 fix.qgd



Peak Report TIC

Peak#	R Time	Area	Area%	Height	Height%	Similarity	Base m/z	Name
1	8.531	1814539	11.453	263260	5.92	72	31.95	Methylene chloride
2	8.670	208833	1.318	130078	2.93	61	31.95	Cyacetamide
3	8.715	324138	2.046	84800	1.91	50	43.00	Benzenepropanoic acid, beta-oxo-, ethyl ester (CAS)
4	9.340	36161	0.228	9673	0.22	51	39.95	5-Amino-2H-1,2-oxazol-3-one
5	10.776	83890	0.529	31613	0.71	90	82.90	Chloroform
6	11.994	75661	0.478	27468	0.62	85	43.00	2,3-Pentanedione (CAS)
7	12.231	53283	0.336	18114	0.41	75	31.95	BUTANOIC ACID, 3-METHYL-, ETHYL ESTER
8	16.104	300474	1.897	82429	1.86	96	79.05	PYRIDINE
9	16.625	44348	0.280	13541	0.30	74	39.95	1-Pentanol (CAS)
10	17.045	56620	0.357	14419	0.32	68	31.95	Pyrazine (CAS)
11	17.707	45018	0.284	20506	0.46	84	71.05	Dodecane, 4,6-dimethyl-
12	17.962	39608	0.250	9626	0.22	56	31.95	Stearic acid hydrazide
13	18.808	946901	5.977	297695	6.70	94	94.05	Pyrazine, methyl- (CAS)
14	19.365	51571	0.326	11503	0.26	84	81.00	Furfuryl ethyl ether
15	19.511	114190	0.721	37241	0.84	90	45.00	2-Butanone, 3-hydroxy- (CAS)
16	20.045	618663	3.905	155812	3.51	97	43.00	2-Propanone, 1-hydroxy- (CAS)
17	20.572	670045	4.229	215391	4.85	98	42.00	Pyrazine, 2,5-dimethyl-
18	20.755	605559	3.822	195178	4.39	97	108.05	Pyrazine, 2,6-dimethyl- (CAS)
19	20.970	151269	0.955	55669	1.25	94	107.05	Pyrazine, ethyl-
20	21.066	53190	0.336	20501	0.46	90	45.00	Propanoic acid, 2-hydroxy-, ethyl ester (CAS)
21	21.195	61148	0.386	8592	0.19	56	44.00	GAMMA-D4-HEXAMETHYLENE OXIDE
22	21.346	181722	1.147	57899	1.30	92	108.10	Pyrazine, 2,3-dimethyl- (CAS)
23	21.645	98515	0.622	7684	0.17	57	44.00	Formic acid, ethenyl ester
24	21.810	64672	0.408	13410	0.30	57	39.95	Butyric acid hydrazide
25	22.305	65963	0.416	24078	0.54	85	29.00	1-Hydroxy-2-butanone
26	22.490	176647	1.115	62050	1.40	95	121.10	Pyrazine, 2-ethyl-6-methyl- (CAS)
27	22.698	183066	1.155	56874	1.28	92	121.05	Pyrazine, 2-ethyl-5-methyl-
28	23.051	345441	2.180	98916	2.23	95	42.00	Pyrazine, trimethyl- (CAS)
29	23.699	64881	0.410	24713	0.56	83	71.10	Nonane, 5-methyl-5-propyl-
30	24.214	136912	0.864	42623	0.96	90	135.05	Pyrazine, 3-ethyl-2,5-dimethyl-
31	24.426	608704	3.842	147721	3.32	97	43.00	Acetic acid (CAS)
		87565	3.077	158265	3.56	94	43.00	2-Propanone, 1-(acetyloxy)- (CAS)
		32375	4.623	198708	4.47	96	96.00	Furfural
		39775	0.251	15306	0.34	66	39.95	Pyrazine, tetramethyl- (CAS)
		61700	0.389	20033	0.45	75	57.00	Indecane, 2-methyl-
		48474	0.306	18941	0.43	55	39.95	1H-Pyrrrole, 2,5-dihydro-1-nitroso- (CAS)
		39014	0.246	11273	0.25	63	43.05	1-Butanol, 4-(butylnitrosoamino)-
		50208	0.317	24807	0.56	78	39.95	2-Furanone, 2,5-dihydro-3,5-dimethyl
		88016	1.187	55326	1.25	86	95.00	Ethanone, 1-(2-furanyl)-
		10525	0.698	35568	0.80	86	57.00	3-Pentanone, 2-methyl- (CAS)
		24031	0.783	35408	0.80	89	43.00	2-Butanone, 1-(acetyloxy)- (CAS)
		33063	1.471	59193	1.33	95	81.00	2-Furanmethanol, acetate
		94773	5.016	188613	4.24	96	110.05	2-Furanicarboxaldehyde, 5-methyl-
		58048	0.240	9702	0.22	60	39.95	Ethanedial, dioxime (CAS)



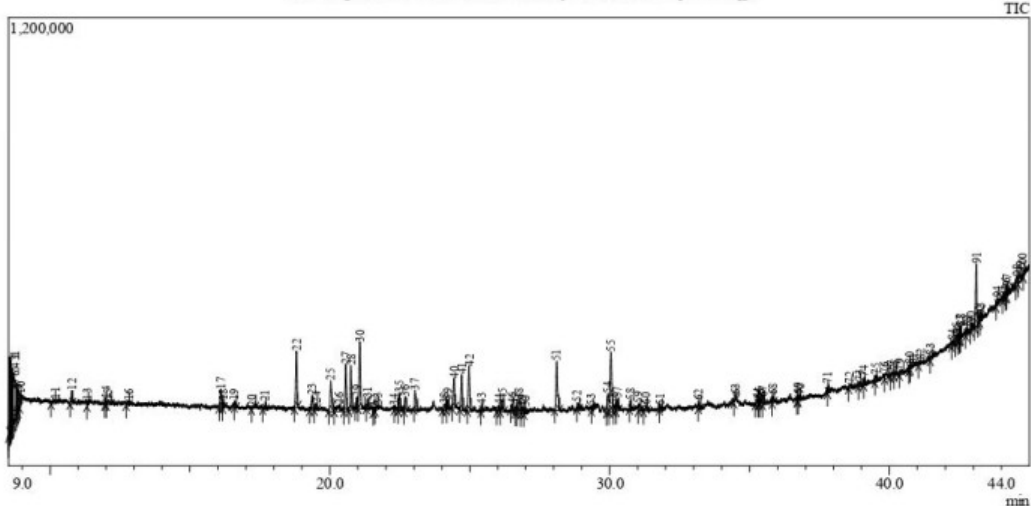
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Peak#	R Time	Area	Area%	Height	Height%	Similarity	Base m/z	Name
45	28.790	46833	0.296	5796	0.13	57	32.00	Hydrazine, (2-methyl-1-propenyl)- (CAS)
46	29.413	39381	0.249	13012	0.29	63	119.05	3-(TETRADECYL-18O-OXY)-1,2-PROPANEDIOL
47	29.584	110097	0.695	22779	0.51	75	42.95	Octane, 2,3,6,7-tetramethyl-
48	29.937	224844	1.419	65156	1.47	93	42.05	Butyrolactone
49	30.048	1099750	6.941	295228	6.64	96	98.05	2-Furamethanol
50	30.261	144665	0.913	35614	0.80	80	43.05	1-Threitol, 2-O-nonyl-
51	30.564	88579	0.559	13210	0.30	56	43.95	BETA-D4-HEXAMETHYLENE OXIDE
52	30.748	79886	0.504	29639	0.67	89	57.05	Octadecane (CAS)
53	31.056	57994	0.366	12931	0.29	63	32.00	2-Nonenal, 8-oxo-
54	31.305	36092	0.228	22654	0.51	58	31.95	SEMICARBAZIDE HYDROCHLORIDE
55	32.654	39354	0.248	12767	0.29	64	32.00	Cyacetamide
56	33.197	48233	0.304	19646	0.44	85	56.95	Tetradecane, 2,6,10-trimethyl- (CAS)
57	34.496	64887	0.410	23058	0.52	70	133.05	6,6-Dimethyl-2-vinylidenebicyclo[3.1.1]heptane
58	35.260	49127	0.310	13864	0.31	60	32.00	Furan, 2-(1,2-dimethoxyethyl)- (CAS)
59	35.354	55905	0.353	22101	0.50	72	31.95	2-Propenamide, 2-methyl-N-phenyl- (CAS)
60	35.503	68096	0.430	21950	0.49	57	39.95	1,2-Epoxy-3-(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)-
61	35.780	86169	0.544	10637	0.24	57	39.95	1-(Methoxymethoxy)-3-methyl-3-hydroxybutane
62	36.798	47138	0.298	13347	0.30	46	39.95	1,3-Dioxolane, 2-ethyl-2-methyl- (CAS)
63	37.819	122437	0.773	33858	0.76	75	94.00	Ethanone, 1-(1H-pyrazol-2-yl)- (CAS)
64	37.900	69909	0.441	12132	0.27	56	31.95	1,4,7,10,13,16-Hexaoxacyclooctadecane (CAS)
65	38.381	86380	0.545	19903	0.45	58	43.95	Carbanic acid, N-methyl-N-butyl-, octyl ester
66	38.552	52583	0.332	18959	0.43	46	57.00	2-(2,2-Diethoxyethyl)cyclohexanone
67	38.627	79146	0.500	21144	0.48	58	31.95	2-Butene ozonide
68	38.820	59063	0.373	10640	0.24	46	43.00	2-Naphthalenemethanol, 1-(dimethylamino)-1,2,3,4,4a-
69	38.936	79358	0.501	20562	0.46	63	32.00	Butyric acid hydrazide
70	39.538	48013	0.303	17245	0.39	50	39.95	Pipendine, 1-nitro- (CAS)
71	39.795	46292	0.292	8802	0.20	47	43.95	TRANS-1,3-CYCLOHEXANDICARBOXAMIDE
72	40.130	45649	0.288	12277	0.28	58	45.00	DL-Lactamide, N,O-dipropyl-
73	40.321	57278	0.362	11829	0.27	50	31.95	3,7-Dimethyl-octa-1,7-dien-3,6-diol
74	40.764	57147	0.361	11805	0.27	57	39.95	4-KETO- ALPHA- IONOL
75	41.500	42710	0.270	5816	0.13	56	44.00	Thiocyanic acid, 5-amino-3-methyl-4-isoxazolyl ester
76	42.088	46268	0.292	12773	0.29	57	45.00	1-Butanol, 4-methoxy- (CAS)
77	42.310	73509	0.464	21240	0.48	52	32.00	2-Hexanol (CAS)
78	42.370	53135	0.335	11360	0.26	58	31.95	Acetic acid, ammonio- hydrazide (CAS)
79	42.417	37920	0.239	20507	0.46	60	45.00	Ethyl 3-methoxyranecarboxylate isomer
80	42.505	41203	0.260	25536	0.57	55	43.95	Thiourea, N,N'-diethyl- (CAS)
81	42.551	108527	0.685	33783	0.76	64	150.05	2-Methoxy-4-vinylphenol
82	42.685	50461	0.319	17354	0.39	54	45.00	Glycylglycine ethyl ester
83	42.748	44020	0.278	18919	0.43	60	45.00	beta-D-Glucopyranose, 4-O-beta-D-galactopyranosyl
84	42.915	72047	0.455	18024	0.41	52	45.00	1-D-(tert-butyl)silyloxyheptane
85	43.030	41786	0.264	18685	0.42	48	31.95	Mercapto-1-oxotetralin
86	43.060	43796	0.276	23112	0.52	53	31.95	Cyacetamide
87	43.105	51366	0.324	31935	0.72	53	69.00	Heptanoic acid, 2,5-diethyl- (CAS)
88	43.205	81125	0.512	16081	0.36	54	43.95	1,1-Cyclobutanedicarboxylic acid (CAS)
89	43.560	65172	0.411	18807	0.42	67	45.00	1,4,7,10,13,16-Hexaoxacyclooctadecane (CAS)
90	43.661	76486	0.483	26352	0.59	60	31.95	Hydrazine, (1,1-dimethylethyl)-
91	43.805	35905	0.227	10551	0.24	50	39.95	Propanamide, 3-cyclopentyl-N-methyl-
92	43.835	56856	0.359	15444	0.35	55	39.95	1-Piperazineethanol (CAS)
93	43.950	54918	0.347	21397	0.48	61	45.00	Butane, 2-ethoxy-
94	44.066	71325	0.450	14288	0.32	61	45.00	Formic acid, 1-methylpropyl ester (CAS)
95	44.200	65122	0.411	24557	0.55	56	39.95	FORMYL GLYOXYL UREA
96	44.515	36087	0.228	22125	0.50	60	45.00	N-Methoxy-2-carbomethoxyazindine
97	44.595	39064	0.247	21782	0.49	47	42.00	2,5-Di-O-acetyl-1,4-anhydro-3-O-methyl-D-xyitol
98	44.625	54023	0.341	31334	0.71	57	45.00	Methyl 5-methoxy-3-oxovalerate
99	44.797	38715	0.244	17918	0.40	60	45.00	2-Propanone, 1-methoxy- (CAS)
100	44.850	42279	0.267	20883	0.47	61	45.00	Ethene, 1,1'-(oxybis(2,1-ethanedioxy))bis-
		15843309	100.000	4443328	100.00			



Report Sampel 3

Chromatogram 3 C:\GCMSsolution\Data\Project1\Trilis S2\sampel 3 fix.qgd



Peak Report TIC

Peak#	R. Time	Area	Area%	Height	Height%	Similarity	Base m/z	Name
1	8.528	734211	5.517	214019	5.03	71	31.95	Methylene chloride
2	8.580	115707	0.869	194672	4.58	46	48.95	2-CHLOROPROPANE-1,1,1,3,3,3-D6
3	8.590	324130	2.436	190242	4.47	53	31.95	16-Hexadecanoyl hydrazide
4	8.640	378405	2.844	158284	3.72	57	31.90	1,2-Hydrazinedicarboxamide
5	8.660	208810	1.569	145600	3.42	62	31.95	2-Pyridinepropanoic acid, alpha-methyl-beta-oxo-, et
6	8.710	658712	4.950	123437	2.90	62	44.00	2-Propananone, N-(1-methylethyl)- (CAS)
7	8.800	164970	1.240	81058	1.91	53	44.00	cis-Aconitic anhydride
8	8.840	131072	0.985	62212	1.46	55	39.95	Isosorbide
9	8.875	157919	1.187	54026	1.27	54	39.95	Allyl fluoroformate
10	8.960	113477	0.853	26210	0.62	66	31.95	4-dimethylaminobut-2-yn-1-ol
11	10.185	59539	0.447	10788	0.25	65	31.95	4-dimethylaminobut-2-yn-1-ol
12	10.781	110266	0.829	35320	0.83	92	82.95	Chloroform
13	11.342	38108	0.286	13534	0.32	64	31.95	1,2-Hydrazinedicarboxamide
14	11.989	37313	0.280	18371	0.43	76	43.00	2,3-Pentanedione (CAS)
15	12.075	62040	0.466	10315	0.24	56	70.95	2-Ethoxytetrahydrofuran
16	12.826	56325	0.423	12852	0.30	45	43.00	1,3-dioxane-5,5-dimethanol 2-methyl-
17	16.100	182378	1.370	49714	1.17	94	79.00	PYRIDINE
18	16.180	44026	0.331	19728	0.46	61	43.95	Carbanic acid, methyl ester (CAS)
19	16.595	48737	0.366	16464	0.39	67	31.95	Hydrazine, 2-butenyl- (CAS)
20	17.215	41814	0.314	6358	0.15	61	39.95	4-BROMO-N-[(6-METHYL-2-PYRIDYL)AMINO]ME
21	17.700	50968	0.383	19944	0.47	75	31.95	Nonane, 3-methyl-5-propyl-
22	18.800	510032	3.833	151441	3.56	94	94.05	Pyrazine, methyl- (CAS)
23	19.366	140541	1.056	39319	0.92	93	81.00	Furfuryl ethyl ether
24	19.503	53349	0.401	17321	0.41	85	45.00	2-Butanone, 3-hydroxy- (CAS)
25	20.040	338100	2.541	81855	1.92	95	43.00	2-Propanone, 1-hydroxy- (CAS)
26	20.340	132020	0.992	17402	0.41	75	45.05	2-Hexanol (CAS)
27	20.567	422687	3.176	127163	2.99	98	42.00	Pyrazine, 2,5-dimethyl-
28	20.749	391616	2.943	119771	2.82	97	108.10	Pyrazine, 2,6-dimethyl- (CAS)
29	20.966	88088	0.662	29559	0.69	93	107.05	Pyrazine, ethyl-
30	21.073	585450	4.399	178649	4.20	98	45.00	PROPANOIC ACID, 2-HYDROXY-, ETHYL ESTER
		82628	0.621	26923	0.63	85	108.10	Pyrazine, 2,3-dimethyl-
		40173	0.302	13111	0.31	52	31.95	Benzo[g]pteridine-2,4(3H,10H)-dione, 10-ethyl-8-hydr
		58025	0.436	13698	0.32	62	95.00	16-Hexadecanoyl hydrazide
		39971	0.300	10802	0.25	61	32.00	Butyraldehyde, 4-methoxy-2,3-dimethyl- (CAS)
		151412	1.138	49109	1.15	90	121.05	Pyrazine, 2-ethyl-6-methyl- (CAS)
		124539	0.936	38414	0.90	94	121.05	Pyrazine, 2-ethyl-5-methyl- (CAS)
		202508	1.522	51799	1.22	92	42.00	Pyrazine, trimethyl- (CAS)
		50699	0.381	16462	0.39	75	43.95	2-Furanmethanol, 5-ethenyltetrahydro-alpha, alpha, 5-
		77372	0.581	26072	0.61	90	135.05	Pyrazine, 3-ethyl-2,5-dimethyl-
		297280	2.234	79588	1.87	97	43.00	Acetic acid
		294239	2.211	94992	2.23	93	43.00	2-Propanone, 1-(acetyloxy)- (CAS)
		412434	3.099	120006	2.82	96	96.05	Furfural
		40810	0.307	19719	0.46	80	57.00	Decane, 2-methyl-
		67544	0.508	17637	0.41	77	68.05	2,5-DIMETHYL-3(2H)FURANONE



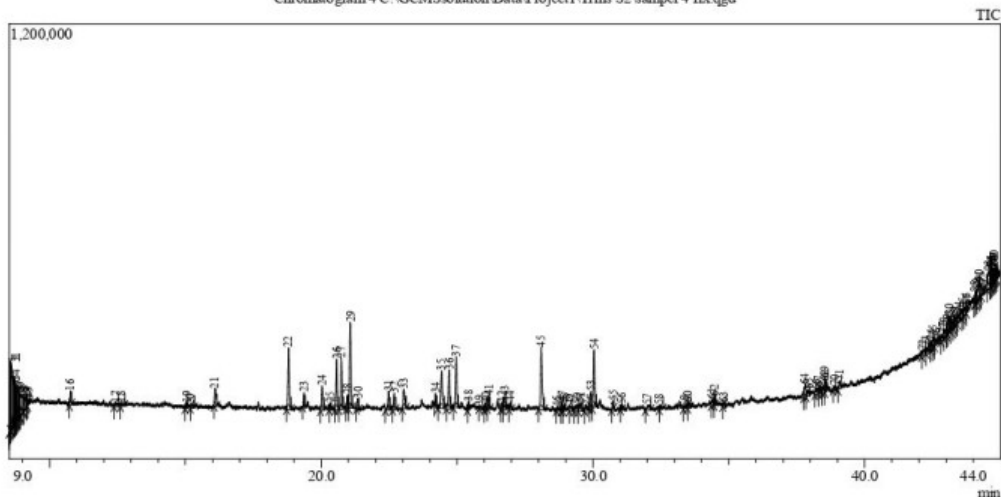
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Peak#	R. Time	Area	Area%	Height	Height%	Similarity	Base m/z	Name
45	26.173	138409	1.040	33438	0.79	87	95.00	Ethanone, 1-(2-furanyl)-
46	26.514	48255	0.363	17036	0.40	82	57.00	3-Pentanone, 2-methyl- (CAS)
47	26.649	62026	0.466	21517	0.51	80	42.95	Undecane (CAS)
48	26.757	168187	1.264	36203	0.85	89	81.05	2-Furanmethanol, acetate
49	26.860	69289	0.521	17323	0.41	58	32.00	Hydrazinecarboxylic acid, ethyl ester
50	26.975	47591	0.358	17677	0.42	56	39.95	Propanedioyl dihydrazide
51	28.108	545270	4.097	130728	3.07	96	110.00	2-Furancarboxaldehyde, 5-methyl-
52	28.851	51613	0.388	17947	0.42	83	42.95	Pentanoic acid, 4-oxo-, ethyl ester (CAS)
53	29.350	49233	0.370	13109	0.31	62	32.00	Stearic acid hydrazide
54	29.931	184799	1.389	49649	1.17	90	42.00	2(3H)-Furanone, dihydro- (CAS)
55	30.046	667823	5.018	160004	3.76	96	98.05	2-Furanmethanol
56	30.150	70644	0.531	17927	0.42	53	39.95	2,3-Dimethyl-6-(4-methoxyphenyl)imidazo[2,1-b]oxaz
57	30.269	125134	0.940	32532	0.76	72	43.05	Tetradecane (CAS)
58	30.743	58995	0.443	24800	0.58	86	57.05	Octadecane
59	31.041	67988	0.511	19881	0.47	64	43.95	1-P-MENTHEN-8-YL ACETATE
60	31.297	63202	0.475	16718	0.39	74	43.00	2-Acetyl-3-methylpyrazine
61	31.815	59344	0.446	12638	0.30	61	39.95	1,2,2-Trimethylcyclopropylamine
62	33.186	56874	0.427	21268	0.50	84	57.05	Octadecane (CAS)
63	34.511	46355	0.348	13246	0.31	63	134.05	10,12-Octadecadienoic acid
64	35.285	45021	0.338	12778	0.30	53	32.00	2H-Pyran, 2-ethoxy-3,4-dihydro- (CAS)
65	35.355	38654	0.290	13946	0.33	61	31.95	Hydrazine, butyl-, oxalate (1:1) (CAS)
66	35.415	55745	0.419	8479	0.20	56	43.95	Acetic acid, trifluoro- (CAS)
67	35.472	63212	0.475	18641	0.44	53	109.00	2H-Pyrryl-2-one, 1,5-dihydro-5-methoxy-3,5-dimethyl-
68	35.817	58293	0.438	20320	0.48	63	45.00	N,N,N'-Methyldynetriformamide
69	36.715	37175	0.279	17012	0.40	60	43.95	3-Piperidinol
70	36.798	60200	0.452	15528	0.37	52	31.95	3-METHYL-6-NITROBENZOTRIAZOLE N-OXIDE
71	37.805	36211	0.272	25275	0.59	54	39.95	2-Octanone (CAS)
72	38.570	49801	0.374	12076	0.28	50	32.00	Butanoic acid, heptafluoro-, methyl ester (CAS)
73	38.928	39573	0.297	13245	0.31	61	57.00	OCTYLITETRAGLYCOL
74	39.098	44997	0.338	20764	0.49	63	31.95	3-HYDROXY-3-METHYLBUTANOHYDRAZIDE
75	39.512	54149	0.407	18221	0.43	71	39.95	2-Pyrrolidinone (CAS)
76	39.835	81799	0.615	13035	0.31	65	31.95	Stearic acid hydrazide
77	40.055	54692	0.411	11007	0.26	55	43.00	Acetamide, N-butyl-
78	40.179	47774	0.359	13058	0.31	50	43.95	Ethanol, 2-bromo-
79	40.370	62615	0.471	10932	0.26	59	31.95	2-Hexanol (CAS)
80	40.730	38069	0.286	14963	0.35	53	32.00	2,8-Diazaspiro[4.5]dec-2-ene, 8-methyl-
81	40.835	36727	0.276	7691	0.18	45	31.95	Pyrolidine, 1-(1-cyclopenten-1-yl)- (CAS)
82	41.119	41498	0.312	11451	0.27	48	28.95	Acetamide, N,N'-1,4-butanediylbis-
83	41.465	35006	0.263	12355	0.29	56	31.95	Decanedioic acid, mono(2-ethoxyethyl) ester (CAS)
84	42.266	41848	0.314	12907	0.30	50	31.95	METHYL D-GLYCOLATE
85	42.420	76941	0.578	19833	0.47	65	74.05	Triacontanoic acid, methyl ester (CAS)
86	42.450	38286	0.288	9801	0.23	35	89.00	4-Chloromethyl-2,2,5,5-tetramethyl-3-imidazoline-1-ox
87	42.520	47859	0.360	35045	0.82	60	39.95	p-Dioxane, methylene-
88	42.548	62164	0.467	36125	0.85	44	89.00	1,3,2-Dioxabornane, 2-(heptyloxy)-4,6-dimethyl-
89	42.745	41933	0.315	19601	0.46	65	43.95	PIPERAZINUMADIPATE
90	42.935	42009	0.316	18946	0.45	58	31.95	Hydrazinecarboxylic acid, ethyl ester
91	43.098	537097	4.036	165666	3.90	94	88.00	HEXADECANOIC ACID, ETHYL ESTER
92	43.225	51267	0.385	14544	0.34	51	43.95	2-Butene ozonide
93	43.275	56449	0.424	16834	0.40	61	43.00	Ethyl 2-sec-butylamino-2-butyramido-3,3,3-trifluoroprop
94	43.860	45922	0.345	20250	0.48	55	45.00	Pentanoic acid, 5-methoxy-, methyl ester
95	44.045	68940	0.518	7392	0.17	52	39.95	2-Hydroxy-2-N-dimethylpropanoic acid amide
96	44.185	40182	0.302	19447	0.46	52	31.95	iso-Butyl aldehyde propylene glycol acetal 2
97	44.225	46378	0.349	24741	0.58	51	43.95	Diglycolic acid, 3-chlorophenyl heptyl ester
98	44.545	88043	0.662	25377	0.60	64	45.00	Ethyl pentan-2-yl carbonate
99	44.669	104567	0.786	23390	0.55	56	45.00	DL-Glycerinaldehyde, dimethyl ether
100	44.795	35117	0.264	14866	0.35	60	32.00	Acetic acid, ammonio-, hydrazide (CAS)
		1330768	100.000	4253143	100.00			



Report Sampel 4

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Peak Report TIC							
Peak#	R Time	Area	Area%	Height	Height%	Similarity	Base m/z Name
1	8.527	523127	3.351	204664	4.21	73	39.95 Methylen chloride
2	8.565	112857	0.723	190689	3.92	55	42.00 ACETONITRILE, 2-[(1-ETHYL-1H-1,2,3,4-TETRAZ
3	8.575	663052	4.248	187858	3.86	46	47.95 2-Butenoic acid, 4-oxo-
4	8.665	500860	3.209	141317	2.91	57	44.00 Hexahydrofuro[3,2-b]furan-3,6-diol
5	8.715	288954	1.851	123499	2.54	58	43.95 Propanedioic acid (CAS)
6	8.740	189096	1.211	113746	2.34	53	39.95 6-Methylhept-5-en-1-nitrile
7	8.785	174034	1.115	99242	2.04	66	31.95 4-dimethylaminobut-2-yn-1-ol
8	8.831	327861	2.100	86584	1.78	58	31.95 PROPANE-1,1,1,3,3,3-D6
9	8.880	107517	0.689	73088	1.50	59	39.95 4-(METHOXYMETHYL)-6-METHYL-2-PHENOXYM
10	8.920	112047	0.718	62557	1.29	55	39.95 6-Methylhept-5-en-1-nitrile
11	9.005	304517	1.951	49453	1.02	58	39.95 4-HYDROXY-3-(2-OXO-2H-1-OXA-3-PHENANTHR
12	9.040	47635	0.305	41167	0.85	66	31.95 Cycetacide
13	9.060	168337	1.078	35959	0.74	60	43.95 (Butylidene)(diethyl)amine
14	9.175	54426	0.349	24405	0.50	62	31.95 GLYCINE-D3
15	9.240	47771	0.306	12891	0.27	67	31.95 2-Isobutyl-4,4-dimethyl-1,3-dioxane
16	10.770	108244	0.693	38228	0.79	93	82.95 Chloroform
17	12.425	55405	0.355	11296	0.23	55	39.95 Propane, 1,1-dethoxy-, (CAS)
18	12.625	48535	0.311	10554	0.22	62	31.95 2-Pyridinepropanoic acid, alpha-methyl-beta-oxo-, et
19	15.056	62182	0.398	15690	0.32	67	101.05 1,3-Dioxepane, 2-pentadecyl-, (CAS)
20	15.190	53791	0.345	7361	0.15	61	39.95 Borane, compd. with carbon monoxide (1:1) (CAS)
21	16.094	183324	1.174	48003	0.99	94	79.00 PYRIDINE
22	18.796	585081	3.748	169147	3.48	93	94.05 Pyrazine, methyl-, (CAS)
23	19.368	109407	0.701	39621	0.81	94	81.00 Furfuryl ethyl ether
24	20.032	273683	1.753	66859	1.37	95	43.00 2-Propanone, 1-hydroxy-, (CAS)
25	20.324	56759	0.364	18876	0.39	80	44.95 Propanoic acid, 2-hydroxy-, methyl ester, (+/-)-
26	20.564	432558	2.771	138766	2.85	98	42.00 Pyrazine, 2,5-dimethyl-,
27	20.741	445856	2.856	141850	2.92	97	108.10 Pyrazine, 2,6-dimethyl-, (CAS)
28	20.965	109653	0.702	37856	0.78	91	107.00 Pyrazine, ethyl-,
29	21.064	727955	4.663	235910	4.85	98	45.00 Propanoic acid, 2-hydroxy-, ethyl ester
30	21.337	101799	0.652	30236	0.62	86	67.00 Pyrazine, 2,3-dimethyl-, (CAS)
31	22.477	184089	1.179	51324	1.06	95	121.05 Pyrazine, 2-ethyl-6-methyl-, (CAS)
32	22.689	148772	0.953	45963	0.95	93	121.00 Pyrazine, 2-ethyl-5-methyl-,
		22481	1.425	53544	1.10	94	42.00 Pyrazine, trimethyl-,
		81107	0.520	33727	0.69	88	135.05 Pyrazine, 3-ethyl-2,5-dimethyl-,
		86029	3.114	103144	2.12	96	43.00 Acetic acid
		76252	2.410	108047	2.22	93	43.00 2-Propanone, 1-(acetyloxy)-, (CAS)
		00090	3.204	139644	2.87	96	96.00 2-Furancarboxaldehyde (CAS)
		62578	0.401	23435	0.48	80	56.95 Octane, 3,4,5,6-tetramethyl-,
		46888	0.300	6010	0.12	61	31.95 Cycetacide
		56844	0.364	20099	0.41	81	39.95 2-Furanone, 2,5-dihydro-3,5-dimethyl
		19844	0.768	35782	0.74	86	95.00 Ethanone, 1-(2-furanyl)-
		57462	0.368	19191	0.39	81	43.00 2-Butanone, 1-(acetyloxy)-, (CAS)
		53651	0.984	35511	0.73	91	81.00 2-Furamethanol, acetate
		64766	0.415	20487	0.42	71	43.05 Hexadecanoic acid (CAS)



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Peak#	R Time	Area	Area%	Height	Height%	Similarity	Base m/z	Name
45	28.099	697201	4.466	171448	3.53	97	110.00	2-Furancarboxaldehyde, 5-methyl-
46	28.670	56524	0.362	9876	0.20	47	39.95	5-Thiomethylfurfural
47	28.858	73335	0.470	23511	0.48	86	43.00	Pentanoic acid, 4-oxo-, ethyl ester (CAS)
48	28.967	55686	0.357	18200	0.37	75	71.10	Hexadecane, 1-iodo- (CAS)
49	29.150	66915	0.429	15288	0.31	61	39.95	4-KETO- ALPHA- IONOL
50	29.420	95157	0.610	18096	0.37	69	119.00	2-(2-Oxocyclooctyl)propanedinitrile
51	29.552	141107	0.904	21789	0.45	73	109.05	1H-Pyrrole-2-carboxaldehyde, 1-methyl-
52	29.710	70323	0.450	13866	0.29	76	42.95	Octane, 2,3,3-trimethyl-
53	29.926	173534	1.112	47175	0.97	93	42.00	Butyrolactone
54	30.044	602194	3.858	158925	3.27	96	98.05	2-Furanmethanol (CAS)
55	30.738	51234	0.328	22455	0.46	88	57.00	Undecane, 3,8-dimethyl-
56	31.057	52517	0.336	16072	0.33	60	43.00	2-Acetyl-3-methylpyrazine
57	32.010	97077	0.622	12794	0.26	65	71.05	Hexadecane, 1-iodo- (CAS)
58	32.450	48704	0.312	10751	0.22	58	39.95	3-Butyn-1-ol (CAS)
59	33.380	58600	0.375	4772	0.10	52	91.05	2-(Benzyloxymethyl)oxirane
60	33.490	66903	0.429	14869	0.31	55	32.00	4-Phenylisemicarbazide
61	34.375	70775	0.453	15691	0.32	73	43.00	2,2,3,3,4,4-HEXADEUTERO OCTADECANAL
62	34.485	73953	0.474	24917	0.51	66	134.05	chavicol
63	34.805	50097	0.321	9483	0.19	68	43.00	2-Propyl-1-pentanol, 2-methylpropionate
64	37.805	121708	0.780	33058	0.68	76	94.00	Ethanone, 1-((1H-pyrazol-2-yl)- (CAS)
65	37.961	106706	0.684	18821	0.39	54	31.95	3-Pentane isothiocyanate
66	38.210	77552	0.497	10850	0.22	54	71.10	Butyramide, 2-chloro-N-pentyl-
67	38.305	71332	0.457	18005	0.37	56	31.95	N-amino-3-hydroxypropanamide
68	38.515	108176	0.693	29377	0.60	48	39.95	8,9,10,10,11-Hexafluoro-4,4-dimethyl-3,5-dioxatetra-
69	38.550	120671	0.773	38497	0.79	57	39.95	1H-Benzocycloheptene, 4,4a,5,6,7,8,9,9a-octahydro-4a-
70	38.876	54500	0.349	11876	0.24	56	43.00	2-ethylhexyl 2-ethylbutyrate
71	39.088	90309	0.579	21090	0.43	77	94.95	1H-Pyrrole-2-carboxaldehyde
72	42.150	81941	0.525	11773	0.24	49	85.05	Bis-trimethylsilyl derivative of biphytanol
73	42.260	55130	0.353	16311	0.34	50	45.00	Ethanol, 2-(2-butoxyethoxy)- (CAS)
74	42.460	69363	0.444	22361	0.46	45	57.05	2,5-Monomethylene-1-rhamnitol
75	42.526	94778	0.607	29497	0.61	56	31.95	1-(2-(((4-Ethoxyphenyl)methyl)sulfonyl)ethyl)guanidin-
76	42.640	101613	0.651	16519	0.34	60	56.95	UNDECANE, 6,6-DIDEUTERO-
77	42.880	59732	0.383	16539	0.34	53	43.95	N-Hydroxy-N-ethylcarbamic acid, 2-(propoxycarbonyl)-
78	42.930	114403	0.733	23903	0.49	51	44.00	BUTANE-1,2,3,4-TETRAOL
79	43.025	74349	0.476	25012	0.51	51	39.95	1,2,4-OXADIAZOLE-3-CARBOTHIOAMIDE
80	43.100	141560	0.907	48086	0.99	70	88.05	Undecanoic acid, ethyl ester
81	43.165	64017	0.410	27967	0.58	51	57.00	octyl 2-methylbutanoate
82	43.300	48569	0.311	22011	0.45	51	31.95	beta-Allyloxypropionic acid
83	43.385	65828	0.422	18794	0.39	49	32.00	Acetamide, N-cyclohexyl-N-ethyl- (CAS)
84	43.475	106108	0.680	22729	0.47	54	44.00	1,3,5-Thiazin-2(1H)-one, 4,6-bis(ethylamino)- (CAS)
85	43.615	56617	0.363	24016	0.49	51	39.95	1-Hydroxyimidazole-3-oxide
86	43.743	115472	0.740	23146	0.48	52	45.00	Ethanedial, dioxime
87	43.770	61130	0.392	18330	0.38	55	31.95	1,6-DIAMINOHEXANE-1,1,6,6-D4
88	44.069	63827	0.409	31498	0.65	53	44.00	Heptaethyleneglycol monododecyl ether
89	44.120	110406	0.707	35091	0.72	58	43.95	1,2,3-Butanetriol
90	44.202	212309	1.360	50142	1.03	53	43.95	2-(4,5-Dihydro-3-methyl-5-oxo-1-phenyl-4-pyrazolyl)-5-
91	44.244	127377	0.816	43268	0.89	47	31.95	Hexanoic acid, 3-hydroxy-, methyl ester (CAS)
92	44.364	96105	0.616	25903	0.53	52	45.00	Propane, 1,1'-oxybis[2-chloro-
93	44.565	241325	1.546	47349	0.97	47	45.00	1-Ethyl-1,2,2-trimethylsilane
94	44.631	72938	0.467	52908	1.09	58	43.95	1,3-Dioxolane, 4-methyl- (CAS)
95	44.675	117001	0.750	44672	0.92	47	29.00	m-Dioxan-4-ol, 2,6-dimethyl-
96	44.701	73564	0.471	47106	0.97	54	43.95	Acetic acid, 2-(((diethylamino)carbonyl)amino)-, N'-[[[
97	44.777	76519	0.490	38453	0.79	48	45.00	2-Deoxy-D-ribose
98	44.805	78027	0.500	44060	0.91	54	32.00	1,2-Hydrazinedicarboxamide
99	44.855	88658	0.568	41190	0.85	50	42.00	alpha-D-Mannopyranoside, methyl 3,6-anhydro- (CAS)
100	44.890	51592	0.331	29616	0.61	46	316.15	Cyclohex-1,4,5-triol-3-one-1-carboxylic acid
		15610224	100.000	4863082	100.00			



Lampiran 5. Hasil Pengamatan Cupping Test



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FR-LP, 5.10.01.02.01-C2

LAPORAN HASIL UJI CITARASA
(Report of Cup Testing)

No. 02.23.1.0543 - C 02.23.1.0543

No. Contoh (Sample number) : 02.23.1.0543
 Tanggal Penerimaan Contoh (Sample received) : 11-12-2023
 Tanggal Pengujian (Date of testing) : 12-12-2023 — 12-12-2023
 Jenis Contoh (Kind of sample) : Biji kopi/green beans Arabica
 Identitas Contoh (Sample identity) : Kopi Arabika A2 Natural Proses.

Karakteristik (Characteristic)	Skor Citarasa (Cup testing Score)*	Karakteristik (Characteristic)	Skor Citarasa (Cup testing Score)*
Fragrance/aroma	8.00	Balance	8.00
Flavor	8.13	Clean cup	10.00
Aftertaste	7.75	Sweetness	10.00
Acidity	7.88	Overall	8.00
Body	8.00	Taint/Defect:	0.00
Uniformity	10.00	Final Score**	85.75
Comments:	Brown Sugar, Honeyed, Brown Sugar, Honey, Tea Like, Chamomile, Lemony.		

* Keterangan skor: 6.00 - 6.75= Good; 7.00 - 7.75= Very good; 8.00 - 8.75= Excellent; 9.00 - 9.75= Outstanding (Score notation)

** Final Score notation: Nilai minimum untuk (Minimum Value for) Specialty Grade = 80

Catatan (Notes):

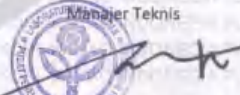
Hasil analisis ini hanya menerangkan atribut mutu berdasarkan contoh yang diuji BUKAN menerangkan atribut nama, jenis atau asal contoh. (This result explains only the attribute of the quality based on the sample tested, NOT explains attributes of name, type and origin of the sample).

Hasil Uji Citarasa ini tidak termasuk dalam lingkup Akreditasi KAN (This Cup Tasting Results is not covered in KAN accreditation)

Hasil analisis ini hanya berlaku selama 3 bulan (This results valid within 3 months).

Jember, 12-12-2023

Manajer Teknis



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LAPORAN HASIL UJI CITARASA
(Report of Cup Testing)

FR-LP, 5.10.01.02.01-C2

No. 02.23.1.0545 - C

02.23.1.0545

No. Contoh (Sample number) : 02.23.1.0545
Tanggal Penerimaan Contoh (Sample received) : 11-12-2023
Tanggal Pengujian (Date of testing) : 12-12-2023 — 12-12-2023
Jenis Contoh (Kind of sample) : Biji kopi/green beans Arabica
Identitas Contoh (Sample identity) : Kopi Arabika A4 Natural Proses.

Karakteristik (Characteristic)	Skor Citarasa (Cup testing Score)*	Karakteristik (Characteristic)	Skor Citarasa (Cup testing Score)*
Fragrance/aroma	8.00	Balance	7.88
Flavor	7.88	Clean cup	10.00
Aftertaste	7.75	Sweetness	10.00
Acidity	8.13	Overall	7.88
Body	7.75	Taint/Defect:	0.00
Uniformity	10.00	Final Score**	85.25
Comments: Tropical Fruit Aroma, Lemony, Dried Fruit, Winey, raisin, Ambarella, Tamarind.			

* Keterangan skor: 6.00 - 6.75= Good; 7.00 - 7.75= Very good; 8.00 - 8.75= Excellent; 9.00 - 9.75= Outstanding (Score notation)

** Final Score notation: Nilai minimum untuk (Minimum Value for) Specialty Grade = 80

Jember, 12-12-2023

Catatan (Notes):

Hasil analisis ini hanya menerangkan atribut mutu berdasarkan contoh yang diuji BUKAN menerangkan atribut nama, jenis atau asal contoh (This result explains only the attribute of the quality based on the sample tested, NOT explains attributes of name, type and origin of the sample).

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LAPORAN HASIL UJI CITARASA
(Report of Cup Testing)

FR-LP. 5.10.01.02.01-C2

No. 02.23.1.0544 - C

02.23.1.0544

No. Contoh (Sample number) : 02.23.1.0544
Tanggal Penerimaan Contoh (Sample received) : 11-12-2023
Tanggal Pengujian (Date of testing) : 12-12-2023 — 12-12-2023
Jenis Contoh (Kind of sample) : Biji kopi/green beans Arabica
Identitas Contoh (Sample identity) : Kopi Arabika A3 Natural Proses.

Karakteristik (Characteristic)	Skor Citarasa (Cup testing Score)*	Karakteristik (Characteristic)	Skor Citarasa (Cup testing Score)*
Fragrance/aroma	7.75	Balance	7.75
Flavor	7.75	Clean cup	10.00
Aftertaste	7.63	Sweetness	10.00
Acidity	8.13	Overall	7.75
Body	7.63	Taint/Defect:	0.00
Uniformity	10.00	Final Score**	84.38
Comments: Tropical Fruit, Jack Fruit Aroma, Dried Fruit, Winey, Raisin, Banana, Astringent			

* Keterangan skor: 6.00 - 6.75= Good; 7.00 - 7.75= Very good; 8.00 - 8.75= Excellent; 9.00 - 9.75= Outstanding (Score notation)

** Final Score notation: Nilai minimum untuk (Minimum Value for) Specialty Grade = 80

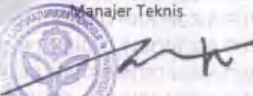
Jember, 12-12-2023

Catatan (Notes):

Hasil analisis ini hanya menerangkan atribut mutu berdasarkan contoh yang diuji BUKAN menerangkan atribut nama, jenis atau asal contoh. (This result explains only the attribute of the quality based on the sample tested, NOT explains attributes of name, type and origin of the sample).

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LAPORAN HASIL UJI CITARASA
(Report of Cup Testing)

FR-LP, 5.10.01.02.01-C2

No. 02.23.1.0542 - C

02.23.1.0542

No. Contoh (Sample number) : 02.23.1.0542
Tanggal Penerimaan Contoh (Sample received) : 11-12-2023
Tanggal Pengujian (Date of testing) : 12-12-2023 — 12-12-2023
Jenis Contoh (Kind of sample) : Biji kopi/green beans Arabica
Identitas Contoh (Sample identity) : Kopi Arabika A1 Natural Proses.

Karakteristik (Characteristic)	Skor Citarasa (Cup testing Score)*	Karakteristik (Characteristic)	Skor Citarasa (Cup testing Score)*
Fragrance/aroma	6.75	Balance	6.75
Flavor	6.63	Clean cup	10.00
Aftertaste	6.63	Sweetness	10.00
Acidity	7.13	Overall	6.63
Body	7.50	Taint/Defect:	0.00
Uniformity	10.00	Final Score**	78.00
Comments: Brown Sugar, Molasses Taste, winey, Vinegar, Dried Fruit, Banana, Fermented.			

* Keterangan skor: 6.00 - 6.75= Good; 7.00 - 7.75= Very good; 8.00 - 8.75= Excellent; 9.00 - 9.75= Outstanding
(Score notation)

** Final Score notation: Nilai minimum untuk (Minimum Value for) Specialty Grade = 80

Catatan (Notes):

Hasil analisis ini hanya menerangkan atribut mutu berdasarkan contoh yang diuji BUKAN menerangkan atribut nama, jenis atau asal contoh (This result explains only the attribute of the quality based on the sample tested, NOT explains attributes of name, type and origin of the sample).

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DOKUMENTASI PENELITIAN

Kegiatan	Dokumentasi
Persiapan bahan baku	
Proses fermentasi	



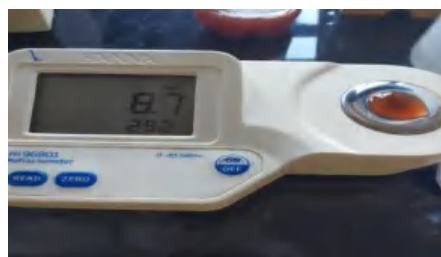
Pengontrolan suhu fermentasi	 
Proses pengeringan	 
Proses pengupasan kulit tanduk	  



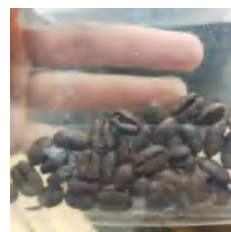
Proses penyortiran green bean



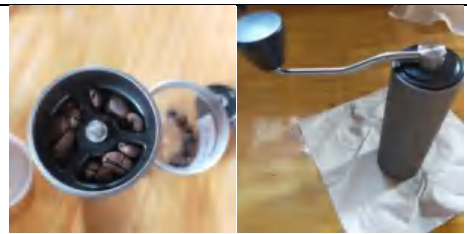
Pengujian total padatan terlarut



Proses *roasting*



Proses grinding



Pengujian kadar kafein



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Pengujian total fenol



Pengujian senyawa volatil



CURRICULUM VITAE

A. Data Pribadi

1. Nama Lengkap : Trilis Oktaviani
2. Tempat, tanggal lahir : Ujung Pandang, 03 Oktober 1995
3. Alamat : BTP Blok A No.564

B. Riwayat Pendidikan

1. TK Frater Bakti Luhur Makassar (2000-2001)
2. SD Frater Bakti Luhur Makassar (2001-2007)
3. SMPN 12 Makassar (2007-2010)
4. SMAN 2 Makassar (2010-2013)
5. Politeknik Negeri Ujung Pandang (2013-2017)

C. Riwayat Organisasi

1. Komisi Pembinaan Persekutuan Siswa Kristen Ujung Pandang (2011-2012)
2. Komisi Persekutuan Siswa Perkantas (2013-2015)
3. Sekretaris Rapat Umum Anggota Pkkpn-up PNUP (2016)
4. Sekretaris dan Bendahara Pengurus Alumni Perkantas Makassar (2022 s/d sekarang)

