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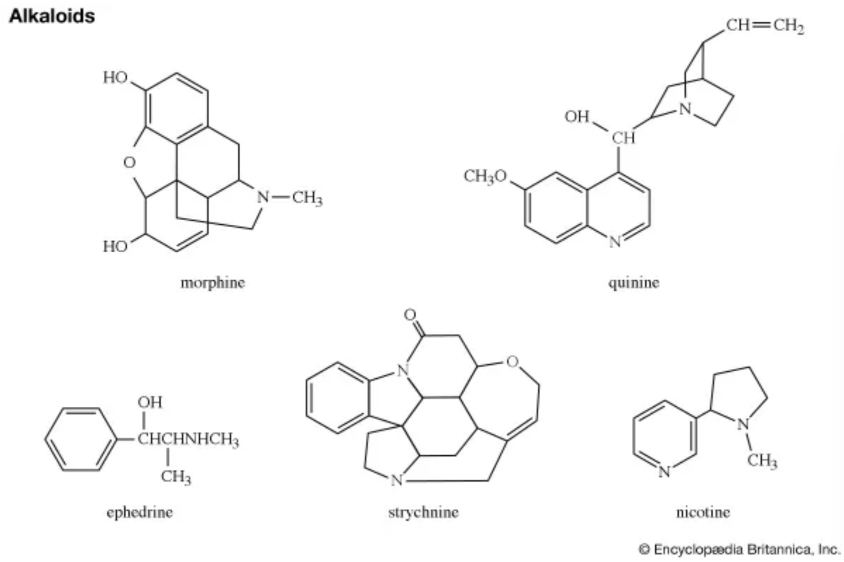
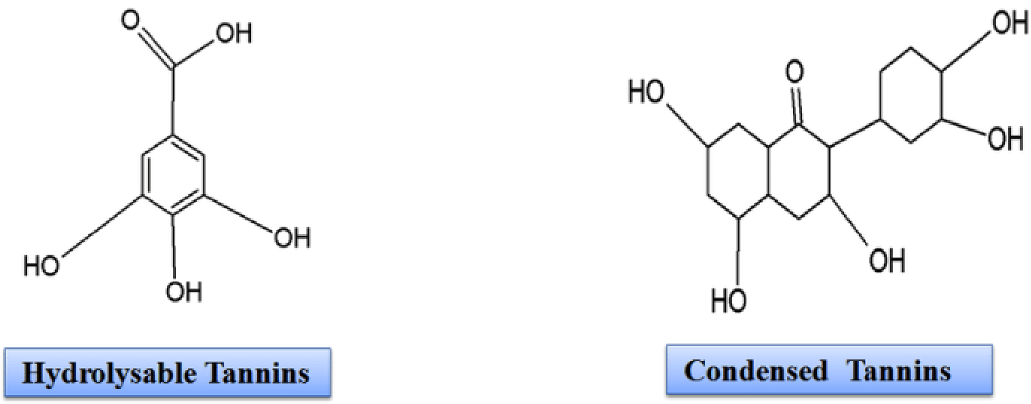
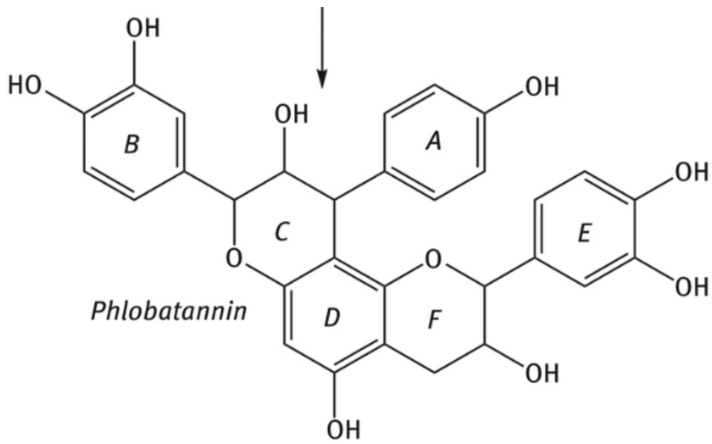
APPENDICES



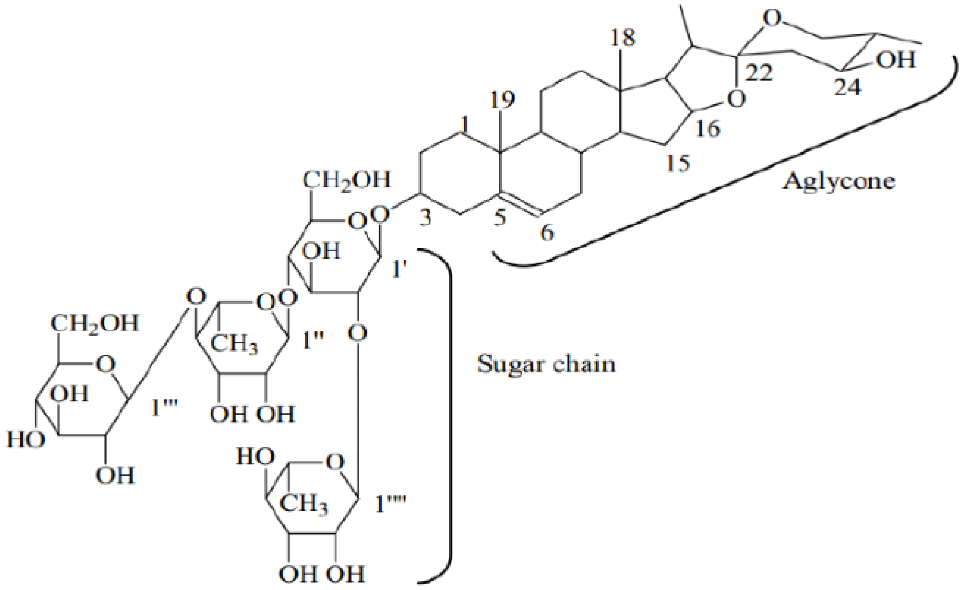
Appendix 1.Chemical structure of some alkaloids



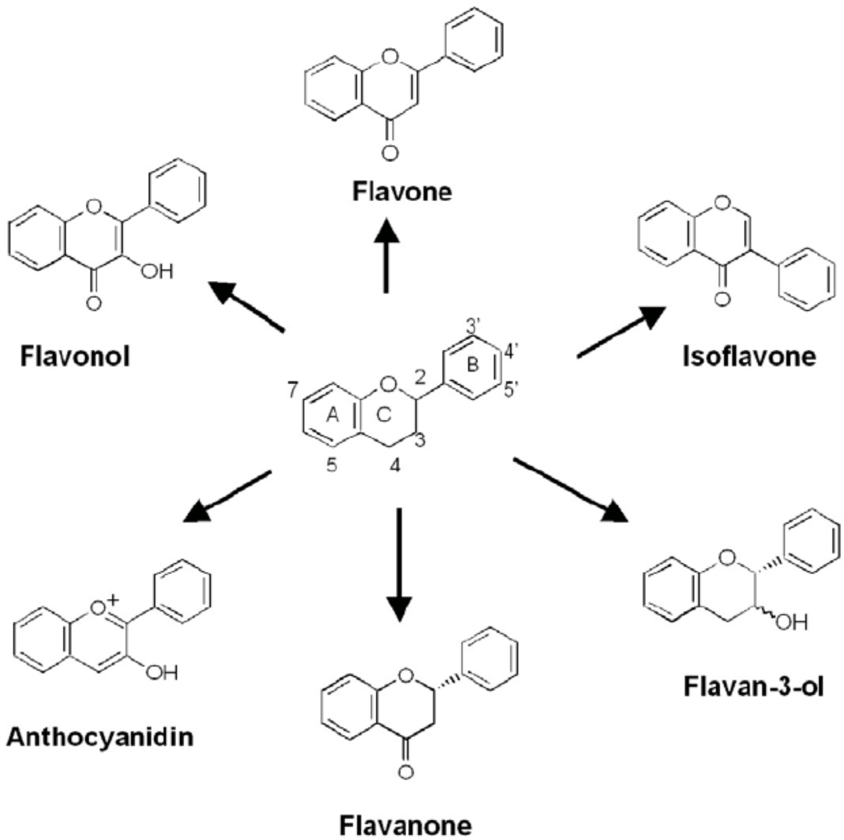
Appendix 2. Chemical structure of hydrolysable tannins (derived from gallic acid) and condensed tannins (resulted from condensation of phenolic compounds)



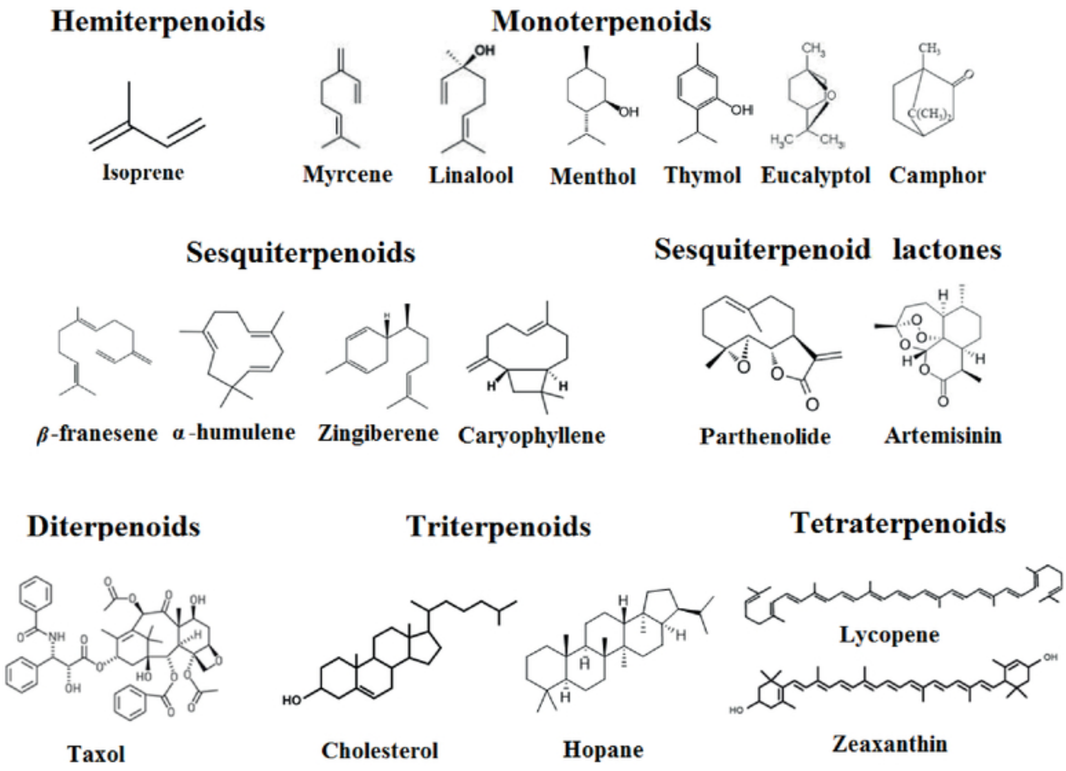
Appendix 3. Chemical structure of phlobatannin



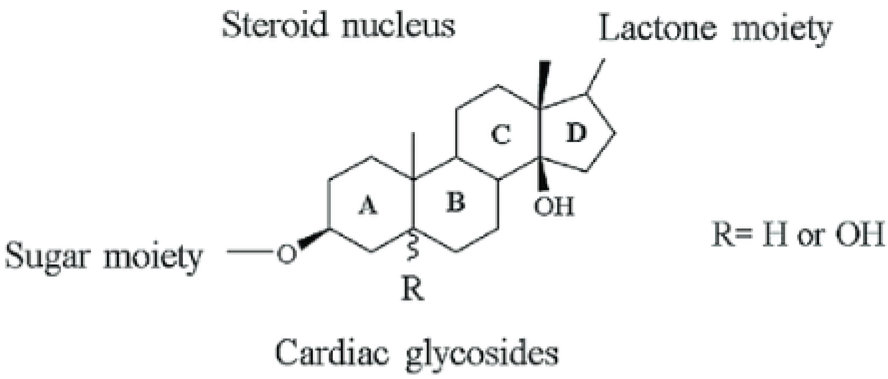
Appendix 4. Chemical structure of saponin



Appendix 5. Basic chemical structure of flavonoids along with chemical structure from its subgroups



Appendix 6. Chemical structure of different classes of terpenoids



Appendix 7. Chemical structure of cardiac glycosides

Concentration (ppm)	Ascorbic Acid					
	First biological replicate			Second biological replicate		
3.90625	0.1478	0.1477	0.151			
7.8125	0.1443	0.1453	0.1438	0.1885	0.1966	0.195
15.625	0.1321	0.1323	0.1354	0.1763	0.1908	0.175
31.25	0.1007	0.1116	0.1115	0.1628	0.1668	0.1675

62.5	0.0691	0.0695	0.0698	0.111	0.1031	0.1108
125	0.0587	0.0574	0.0572	0.0736	0.0721	0.0719
250	0.0494	0.049	0.0494	0.0665	0.0652	0.068
500	0.0525	0.0505	0.0508	0.0617	0.0622	0.061
1,000	0.0479	0.0484	0.0485	0.0544	0.0552	0.0538
Blank	0.1598	0.1597	0.1594	0.1976	0.1977	0.1976

Appendix 8. Raw data for DPPH assay of Ascorbic Acid (First and second biological replicates)

Concentration (ppm)	Methanol					
	First biological replicate			Second biological replicate		
19.53125	0.1917	0.1904	0.1888	0.1736	0.1718	0.1768
39.0625	0.1736	0.167	0.1751	0.166	0.1653	0.1705
78.125	0.1635	0.1543	0.1558	0.1312	0.1513	0.1463
156.25	0.1253	0.1392	0.131	0.1094	0.1116	0.1098
312.5	0.1178	0.1236	0.1118	0.1013	0.1077	0.107
625	0.0878	0.0928	0.091	0.0952	0.1013	0.0951
1250	0.061	0.0649	0.0605	0.0842	0.801	0.0859
2500	0.0535	0.0557	0.0544	0.0679	0.0651	0.0704
Blank	0.194	0.1943	0.1942	0.1768	0.1767	0.1767

Appendix 9. Raw data for DPPH assay of "Kamlowelen" methanol extract (First and second biological replicates)

Concentration (ppm)	Ethyl acetate					
	First biological replicate			Second biological replicate		
156.25	0.1619	0.1664	0.1661	0.1726	0.175	0.173
312.5	0.1645	0.1623	0.1655	0.1679	0.1646	0.1649
625	0.1567	0.1593	0.1563	0.1461	0.1657	0.1746
1,250	0.1527	0.1526	0.1545	0.1574	0.157	0.1584
2,500	0.146	0.1503	0.1454	0.1476	0.1473	0.141

5,000	0.1367	0.1357	0.1389	0.1473	0.1406	0.147
10,000	0.1235	0.1214	0.1207	0.1235	0.1206	0.1344
20,000	0.1019	0.1014	0.1025	0.0921	0.0773	0.0773
Blank	0.1671	0.1669	0.1666	0.1761	0.1760	0.1765

Appendix 10. Raw data for DPPH assay of "Kamlowelen" ethyl acetate extract (First and second biological replicates)

Concentration (ppm)	**Chloroform**					
	First biological replicate			**Second biological replicate**		
156.25	0.1564	0.1546	0.1584	0.1351	0.1538	0.1453
312.5	0.1167	0.123	0.1242	0.1432	0.1495	0.139
625	0.1122	0.1126	0.1157	0.1267	0.1245	0.1279
1,250	0.1053	0.1036	0.1039	0.1095	0.0938	0.1167
2,500	0.0845	0.088	0.0878	0.0976	0.0936	0.1005
5,000	0.0786	0.0792	0.0834	0.0894	0.0931	0.0836
10,000	0.0754	0.0752	0.0726	0.0808	0.0808	0.0824
20,000	0.0595	0.063	0.0594	0.0645	0.0637	0.0622
Blank	0.1591	0.1590	0.1589	0.1593	0.1593	0.1592

Appendix 11. Raw data for DPPH assay of "Kamlowelen" chloroform extract (First and second biological replicates)

Concentration (ppm)	**Acetone**					
	First biological replicate			**Second biological replicate**		
156.25	0.127	0.1254	0.1265	0.1426	0.1419	0.1423
312.5	0.1257	0.1266	0.1234	0.1325	0.1321	0.1388
625	0.1233	0.1231	0.1242	0.1193	0.1148	0.1127
1,250	0.1138	0.1173	0.1159	0.1112	0.117	0.1153
2,500	0.0934	0.0925	0.0948	0.096	0.0919	0.0981
5,000	0.0804	0.0836	0.0777	0.0881	0.089	0.0895

10,000	0.0786	0.0815	0.0786	0.069	0.0673	0.07
20,000	0.0533	0.0543	0.0533	0.0597	0.0607	0.0642
Blank	0.1271	0.1270	0.1271	0.1448	0.1448	0.1448

Appendix 12. Raw data for DPPH assay of "Kamlowelen" acetone extract (First and second biological replicates)

Concentration (ppm)	Hexane					
	First biological replicate			Second biological replicate		
156.25	0.1789	0.1809	0.1804	0.1758	0.1763	0.1754
312.5	0.1711	0.176	0.1793	0.1722	0.1708	0.1734
625	0.1669	0.1674	0.1625	0.1694	0.1661	0.1757
1,250	0.157	0.1598	0.1539	0.1662	0.1683	0.1657
2,500	0.144	0.1432	0.1485	0.1677	0.1603	0.1605
5,000	0.1089	0.1103	0.107	0.1473	0.1496	0.1494
10,000	0.1088	0.116	0.1056	0.1366	0.1379	0.1375
20,000	0.0624	0.0717	0.0565	0.1243	0.1234	0.1118
Blank	0.1816	0.1815	0.1814	0.1767	0.1766	0.1763

Appendix 13. Raw data for DPPH assay of "Kamlowelen" hexane extract (First and second biological replicates)

Extract	IC50 value
Methanol	496.50 ± 60.29
Ethyl acetate	32777.98 ± 1384.65
Chloroform	5623.23 ± 926.18
Acetone	15218.77 ± 1462.48
Hexane	12132.26 ± 1525.42

Appendix 14. DPPH radical scavenging capabilities of "Kamlowelen" extracted with various solvent in the form of IC50 values

Concentration (ppm)	Methanol					
	First biological replicate			Second biological replicate		
156.25	0.1235	0.1319	0.1269	0.1781	0.1828	0.1848
312.5	0.1232	0.1249	0.1259	0.1703	0.1732	0.1787
625	0.1182	0.1188	0.1247	0.1669	0.1644	0.1658
1,250	0.1025	0.1016	0.107	0.153	0.1543	0.1564
2,500	0.0976	0.0996	0.0951	0.1255	0.1299	0.1264
5,000	0.0683	0.0693	0.0661	0.0982	0.1014	0.1045
10,000	0.0521	0.0563	0.0557	0.0769	0.0803	0.0793
20,000	0.0489	0.0509	0.0527	0.0542	0.0577	0.0578
Blank	0.2148	0.2148	0.2149	0.3245	0.3246	0.3248

Appendix 15. Raw data for DPPH assay of "Kayu Bawang" methanol extract (First and second biological replicates)

Concentration (ppm)	Ethyl acetate					
	First biological replicate			Second biological replicate		
156.25	0.1746	0.1794	0.1807	0.2123	0.2137	0.2135
312.5	0.152	0.1644	0.159	0.1941	0.1948	0.1936
625	0.1493	0.153	0.1519	0.194	0.1877	0.1923
1,250	0.1371	0.1437	0.1332	0.1792	0.1824	0.181
2,500	0.126	0.127	0.127	0.1736	0.1726	0.1777
5,000	0.117	0.1189	0.1128	0.1737	0.1733	0.1711
10,000	0.0695	0.0674	0.0673	0.1459	0.1499	0.1498
20,000	0.0524	0.052	0.0527	0.0965	0.101	0.1011
Blank	0.2193	0.2194	0.2192	0.3183	0.3187	0.3182

Appendix 16. Raw data for DPPH assay of "Kayu Bawang" ethyl acetate extract (First and second biological replicates)

Concentration (ppm)	Chloroform					
	First biological replicate			Second biological replicate		
156.25	0.1497	0.1514	0.151	0.1912	0.1886	0.1945
312.5	0.1361	0.1462	0.147	0.1811	0.1888	0.1877
625	0.1317	0.131	0.1352	0.1739	0.1715	0.1715
1,250	0.1238	0.1285	0.1255	0.1585	0.1605	0.1628
2,500	0.116	0.1178	0.1223	0.145	0.1539	0.1408
5,000	0.0981	0.1005	0.0988	0.1171	0.1398	0.1419
10,000	0.0927	0.0979	0.095	0.1246	0.1292	0.1225
20,000	0.068	0.0795	0.0728	0.1226	0.1246	0.0675
Blank	0.2225	0.2225	0.2228	0.3148	0.3147	0.315

Appendix 17. Raw data for DPPH assay of “Kayu Bawang” chloroform extract (First and second biological replicates)

Concentration (ppm)	Acetone					
	First biological replicate			Second biological replicate		
156.25	0.2205	0.2212	0.2201	0.1869	0.1816	0.1764
312.5	0.177	0.1767	0.1753	0.1934	0.1842	0.1636
625	0.1634	0.1718	0.1709	0.1726	0.174	0.1691
1,250	0.1527	0.162	0.1588	0.1719	0.1682	0.1583
2,500	0.1437	0.1534	0.1544	0.1575	0.1628	0.1616
5,000	0.1369	0.1311	0.1296	0.1158	0.1299	0.1252
10,000	0.0927	0.0933	0.0957	0.1065	0.1041	0.1062
20,000	0.0783	0.0776	0.0773	0.1081	0.105	0.1009
Blank	0.2311	0.2311	0.2311	0.2958	0.2957	0.2955

Appendix 18. Raw data for DPPH assay of “Kayu Bawang” acetone extract (First and second biological replicates)

Concentration (ppm)	Hexane					
	First biological replicate			Second biological replicate		
156.25	0.2219	0.2208	0.2245	0.2111	0.223	0.2199
312.5	0.2164	0.2152	0.2211	0.1974	0.1985	0.1949
625	0.2146	0.2104	0.2156	0.1983	0.1964	0.185
1,250	0.2132	0.2133	0.2143	0.1907	0.1899	0.18
2,500	0.1046	0.2092	02031	0.1897	0.188	0.1743
5,000	0.2042	0.203	0.1981	0.1879	0.1877	0.1709
10,000	0.185	0.1856	0.1871	0.183	0.1857	0.1705
20,000	0.12	0.1482	0.1563	0.1767	0.1753	0.1694
Blank	0.2251	0.2252	0.2255	0.3139	0.314	0.3136

Appendix 19. Raw data for DPPH assay of "Kayu Bawang" hexane extract (First and second biological replicates)

Extract	IC50 value
Methanol	1166.08 ± 71.75
Ethyl acetate	4296.23 ± 386.92
Chloroform	3514.16 ± 87.74
Acetone	12614.57 ± 2307.03
Hexane	34141.18 ± 12926.17

Appendix 20. DPPH radical scavenging capabilities of "Kayu Bawang" extracted with various solvent in the form of IC50 values

Concentration (ppm)	Absorbance		Total Phenolic Content (mg GAE / g)	
	(1st replicate)	(2nd replicate)	(1st replicate)	(2nd replicate)
GA 1.171875	0.069	0.062		
GA 2.34375	0.083	0.127		
GA 4.6875	0.111	0.11		
GA 9.375		0.166		

GA 18.75	0.332	0.293		
GA 37.5	0.535	0.517		
GA 75	0.952	0.924		
GA150	1.634	1.505		
GA 300	3.13	2.884		
KKM 1 625	0876	0.747	142.49 ± 33.95	115.08 ± 4.51
KKM 2 625	0.91	0.8		
KKM 3 625	1.265	0.77		
KKE 1 20,000	0.953	0.895	4.32 ± 0.31	4.33 ± 0.08
KKE 2 20,000	1.062	0.927		
KKE 3 20,000	0.954	0.912		
KKC 1 1250	1.179	1.114	83.03 ± 4.14	79.54 ± 6.02
KKC 2 1250	1.212	1.007		
KKC 3 1250	1.109	0.976		
KKA 1 5,000	0.861	0.788	14.78 ± 0.33	14.33 ± 1.08
KKA 2 5,000	0.881	0.712		
KKA 3 5,000	0.848	0.809		
KKH 1 20,000	0.427	0.453	1.68 ± 0.19	2.16 ± 0.34
KKH 2 20,000	0.437	0.477		
KKH 3 20,000	0.499	0.573		

Appendix 21. Raw data for Total Phenolic Content analysis of "Kamlowelen" along with Gallic Acid as the standard

Parameter	**Value (1st replicate)**	**Value (2nd replicate)**
R^2	0.9969	0.9955
Equation	Y = 0.01026*X + 0.08868	Y = 0.009426*X + 0.09437

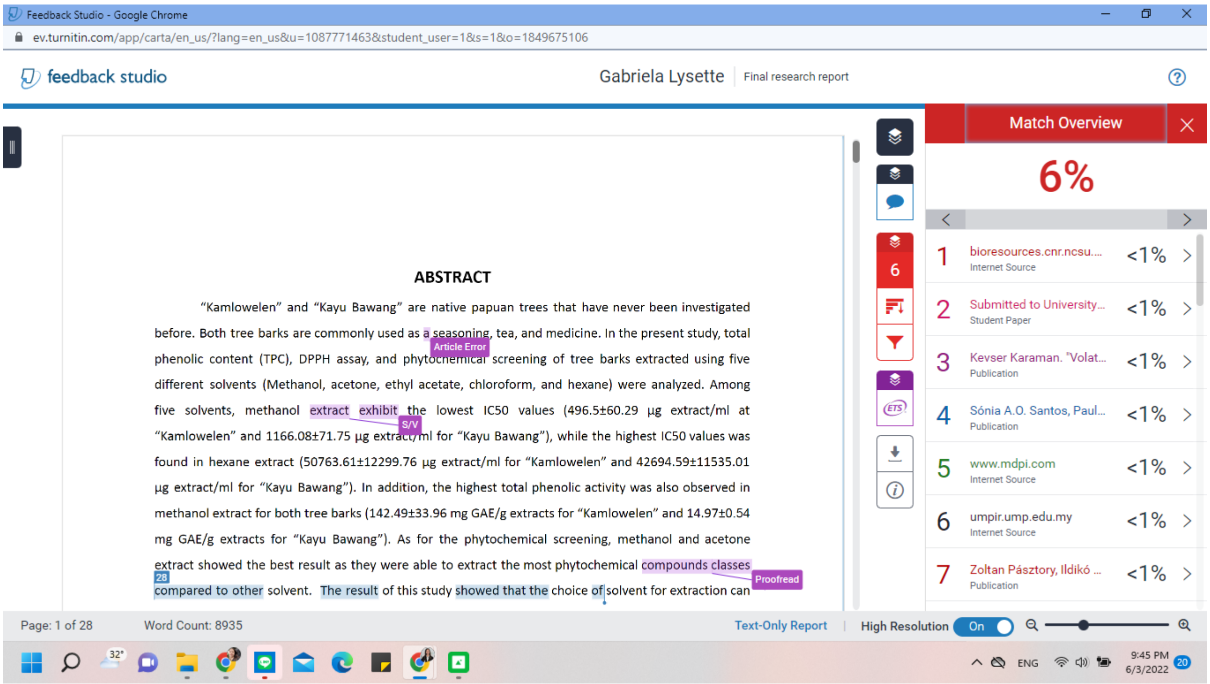
Appendix 22. R squared and equation from TPC analysis of "Kamlowelen" along with Gallic Acid as the standard

Concentration (ppm)	Absorbance		Total Phenolic Content (mg GAE / g)	
	(1st replicate)	(2nd replicate)	(1st replicate)	(2nd replicate)
GA 1.171875	0.069	0.062		
GA 2.34375	0.083	0.127		
GA 4.6875	0.111	0.11		
GA 9.375		0.166		
GA 18.75	0.332	0.293		
GA 37.5	0.535	0.517		
GA 75	0.952	0.924		
GA150	1.634	1.505		
GA 300	3.13	2.884		
KBM 1 20,000	3.072	2.845	14.44 ± 0.15	14.97 ± 0.54
KBM 2 20,000	3.016	2.872		
KBM 3 20,000	3.067	3.033		
KBE 1 20,000	0.703	0.32	3 ± 0.56	1.01 ± 0.21
KBE 2 20,000	0.59	0.242		
KBE 3 20,000	0.819	0.293		
KBC 1 20,000	0.229	0.232	0.61 ± 0.12	0.69 ± 0.08
KBC 2 20,000	0.226	0.207		
KBC 3 20,000	0.185	0.32		
KBA 1 20,000	1.741	2.371	8.15 ± 0.16	11.89± 0.21
KBA 2 20,000	1.801	2.291		
KBA 3 20,000	1.744	2.343		
KBH 1 20,000	0.149	0.149	0.43 ± 0.18	0.27 ± 0.04
KBH 2 20,000	0.165	0.151		
KBH 3 20,000	0.22	0.136		

Appendix 23. Raw data for TPC analysis of “Kayu Bawang” along with Gallic Acid as the standard

Parameter	Value (1st replicate)	Value (2nd replicate)
R^2	0.9969	0.9955
Equation	Y = 0.01026*X + 0.08868	Y = 0.009426*X + 0.09437

Appendix 24. R squared and equation from TPC analysis of "Kayu Bawang" along with Gallic Acid as the standard



Appendix 25. Plagiarism checker of final thesis report