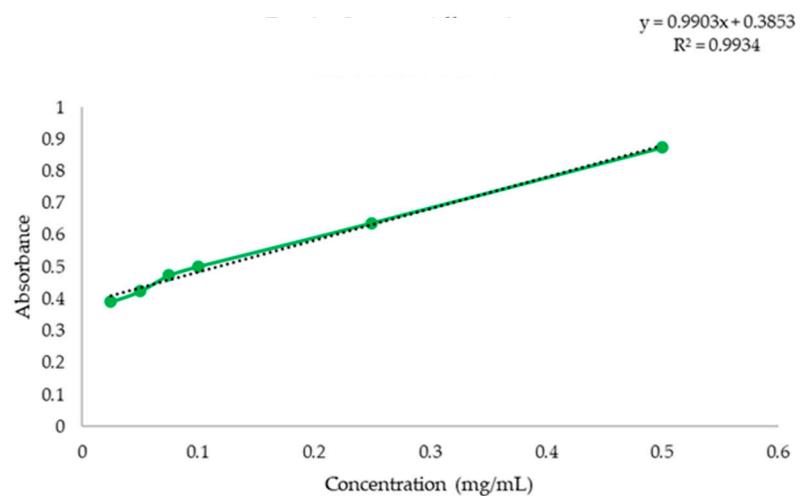
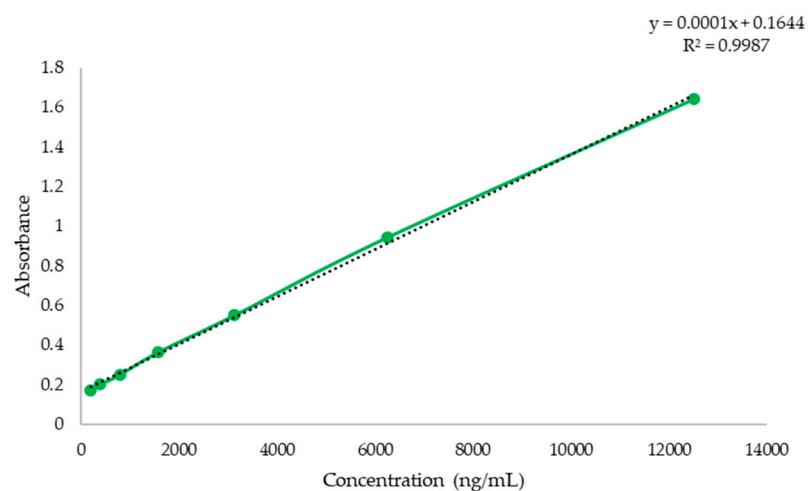


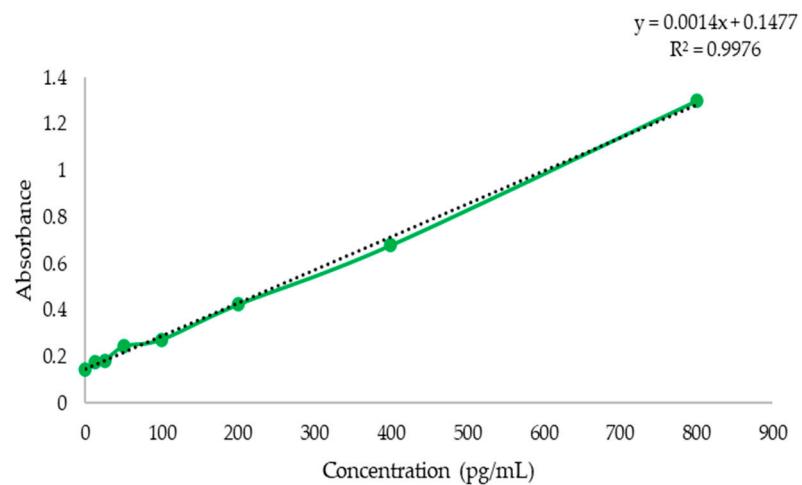
Supplementary material



**Figure S1:** Calibration curve for bovine serum albumin for protein content.



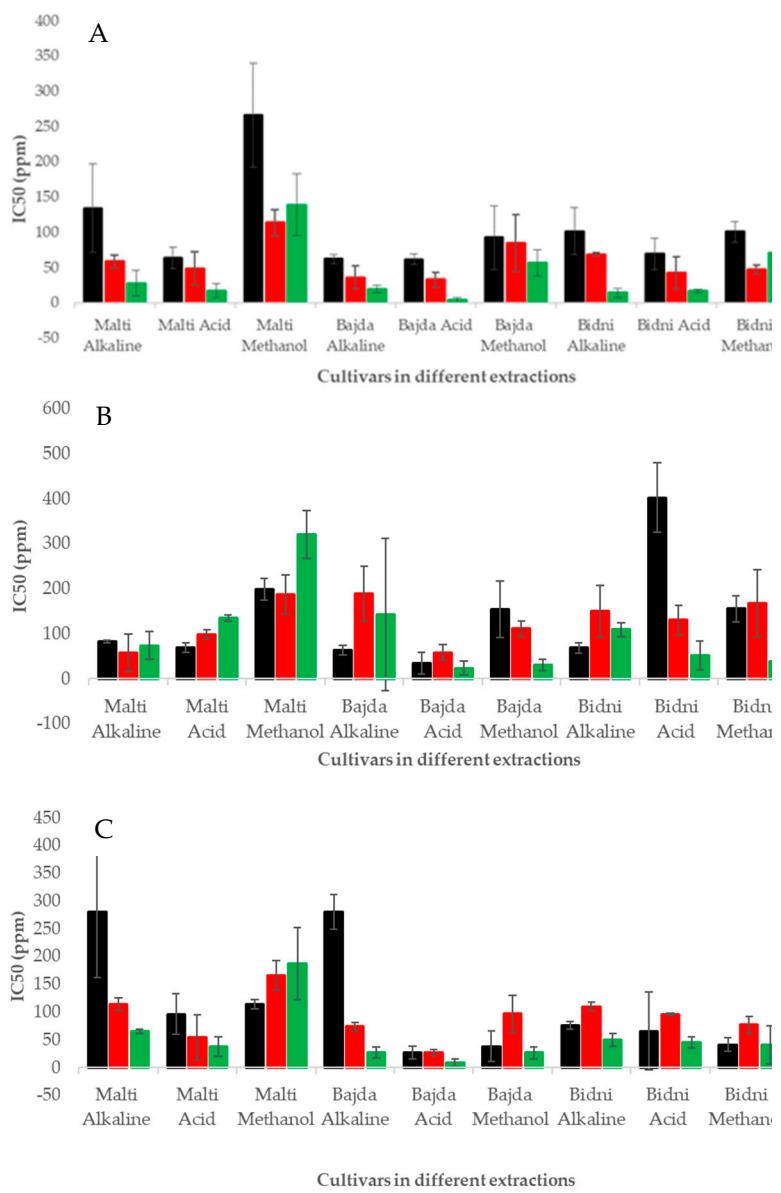
**Figure S2:** Calibration curve for BCL-2.



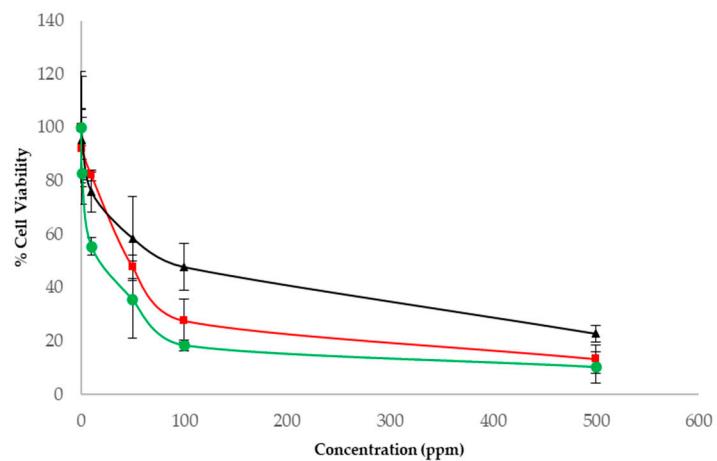
**Figure S3: Calibration curve for BAX.**

**Table S1: Standards used for the identification of phenolic compounds in olive mill waste extracts.**

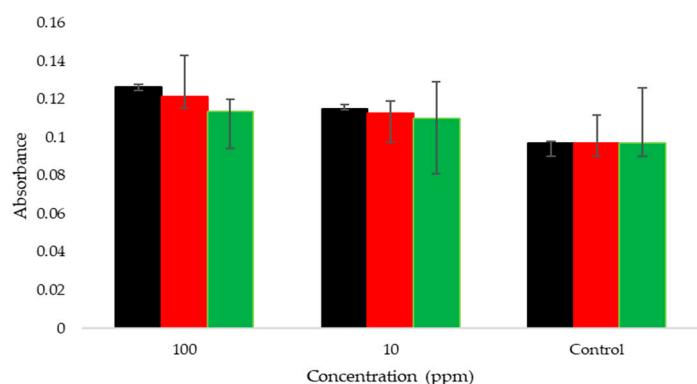
Compound	RRT	Regression Equation	Standards				
			R <sup>2</sup>	Range µg/ml	LOD µg/ml	LOQ µg/ml	% Recovery
5,7-dihydroxy flavone	3.78	y = 6343x + 71.913	0.9969	0.5-20	0.35	0.80	95.33
Quercetin	3.05	y = 68130x - 133639	0.9983	0.5-20	0.39	1.19	94.31
3',4,5,7-tetrahydroxy flavone	2.96	y = 82255x - 289662	0.9985	0.5-20	0.42	1.27	86.73
Ligstorside	2.92	y = 17918x - 2974.1	0.9996	0.5-20	0.31	0.93	86.43
Oleocanthal	2.94	y = 2384.5x - 845.48	0.9980	0.5-20	0.10	0.71	85.44
Oleuoside	2.85	y = 4579x - 3169.1	0.9973	0.5-20	0.15	0.45	92.87
Oleuropein	2.69	y = 14833x - 5282.3	0.9993	0.5-20	0.14	0.35	96.88
Oleacein	2.54	y = 2641.1x - 700.45	0.9997	0.5-20	1.56	2.16	93.30
Salicylic acid	2.44	y = 12405x + 9607	1.000	0.5-20	0.21	1.07	85.18
Apigenin 7-glucoside	2.41	y = 26819x - 23144	0.9977	0.5-20	0.52	1.69	94.92
Luteolin 7-glucoside	2.34	y = 20573x - 7756.4	0.9989	0.5-20	0.52	1.57	90.33
Ellagic acid	2.22	y = 105392x - 18766	0.9998	0.5-20	0.17	0.52	90.50
2-hydroxy-cinnamic acid (trans)	2.19	y = 142725x - 13588	0.9996	0.5-20	0.19	0.71	93.13
Ferulic acid	1.91	y = 29993x - 6501.2	0.9997	0.5-20	0.28	0.86	86.75
3-methoxy-4-hydroxy cinnamic acid	1.78	y = 65581x - 16482	0.9999	0.5-20	0.17	0.51	89.78
p-coumaric acid	1.44	y = 85755x - 34844	0.9996	0.5-50	0.32	0.98	89.94
Vanillin	1.22	y = 117082x - 469630	0.9973	0.5-20	0.10	0.30	89.45
2,4 dihydroxy benzoic acid	0.82	y = 28900x - 20637	0.9988	0.5-20	0.48	1.15	96.75
Vanillic acid	0.78	y = 49621x - 52631	0.9931	0.5-20	0.45	1.12	88.49
Catechin	0.66	y = 5883.3x - 15172	0.9944	0.5-20	0.88	2.65	90.57
4-hydroxy-benzoic acid	0.54	y = 40721x + 91209	0.9994	0.5-20	0.40	1.23	98.88
2-(4-hydroxy phenyl) ethanol	0.51	y = 28088x + 75468	1.000	0.5-100	0.37	1.13	99.99
3 Hydroxytyrosol	0.31	y = 20898x - 4825.5	0.9996	0.5-200	0.26	0.78	90.16
Gallic Acid	0.26	y = 30973x - 13376	0.9976	0.5-20	0.12	0.45	98.46



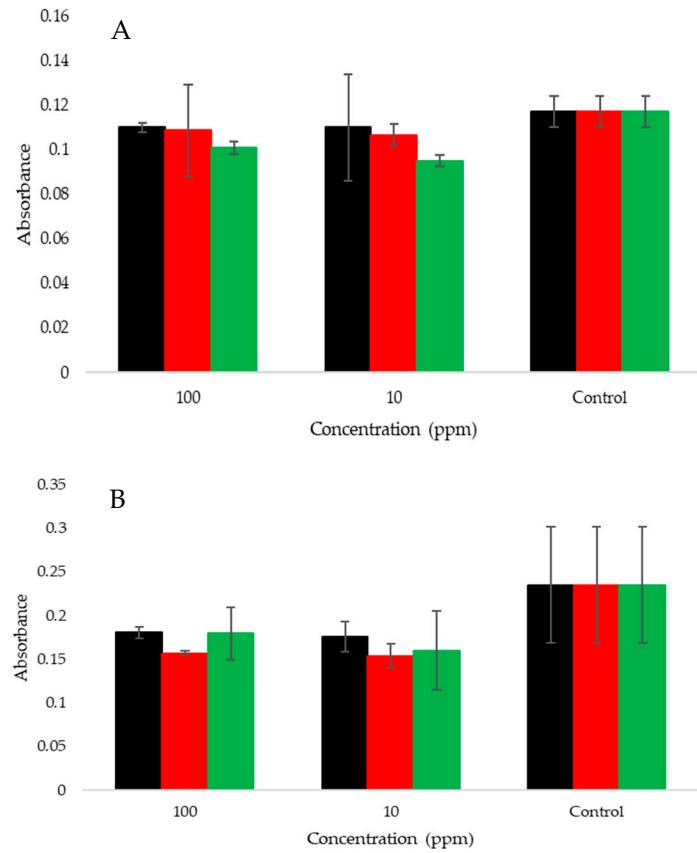
**Figure S4:** IC<sub>50</sub>'s of (A) NB4r2, (B) HL-60 and (C) KG-1a cell lines treated with olive mill waste extracts at 24 (black), 48 (red) and 72 (green) h of exposure.



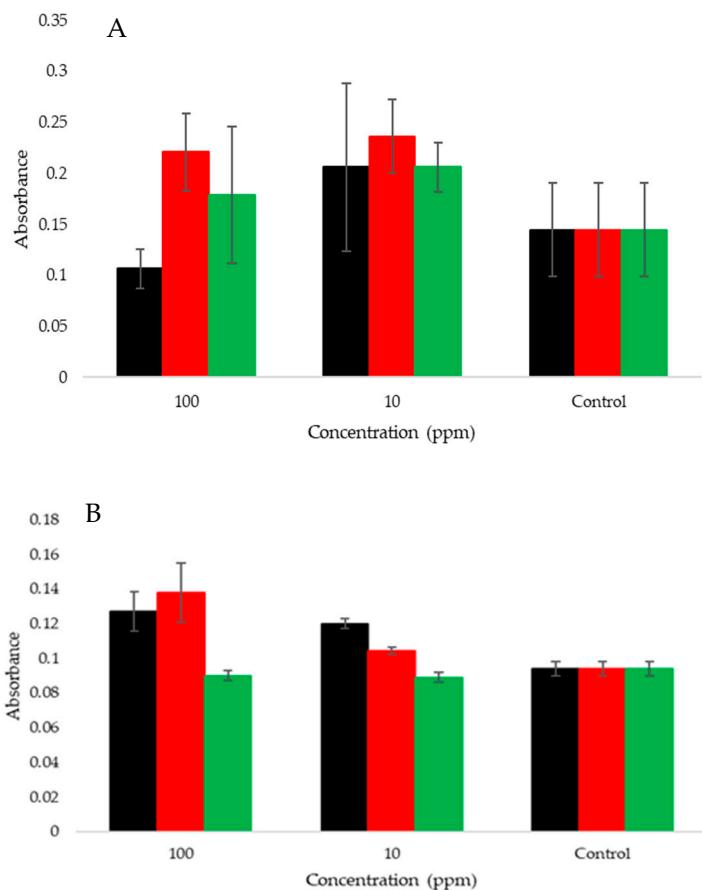
**Figure S5:** The percentage cell viability against concentration graph of 'Bajda' cultivar acid (red), methanol (black) and alkaline (green) extraction on NB4r2 cell line at 48 hours of exposure.



**Figure S6:** Caspase-3 activity on KG-1a cell lines after 24 h of exposure using different concentrations (100 and 10 ppm) for 'Bidni' (black), 'Bajda' (red) and 'Malti' (green) extracts with the addition of a control.



**Figure S7: BCL-2 content on KG-1a cell lines after 24 hours (A) and 48 hours (B) of exposure using different concentrations for 'Bidni' (black), 'Bajda' (red) and 'Malti' (green) extracts with the addition of a control.**



**Figure S8: BAX content on KG-1a cell lines after 24 hours (A) and 48 hours (B) of exposure using different concentrations for 'Bidni' (black), 'Bajda' (red) and 'Malti' (green) extracts with the addition of a control.**

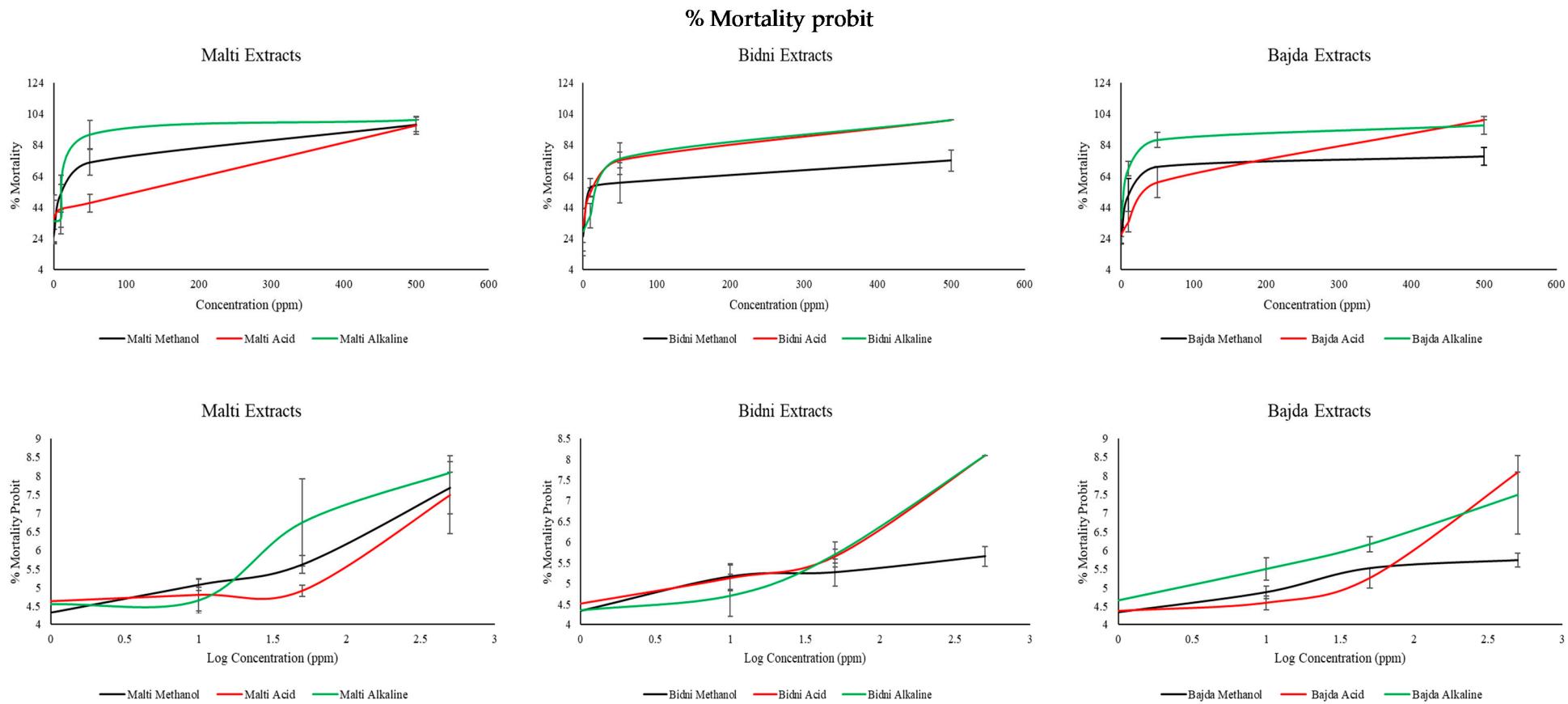
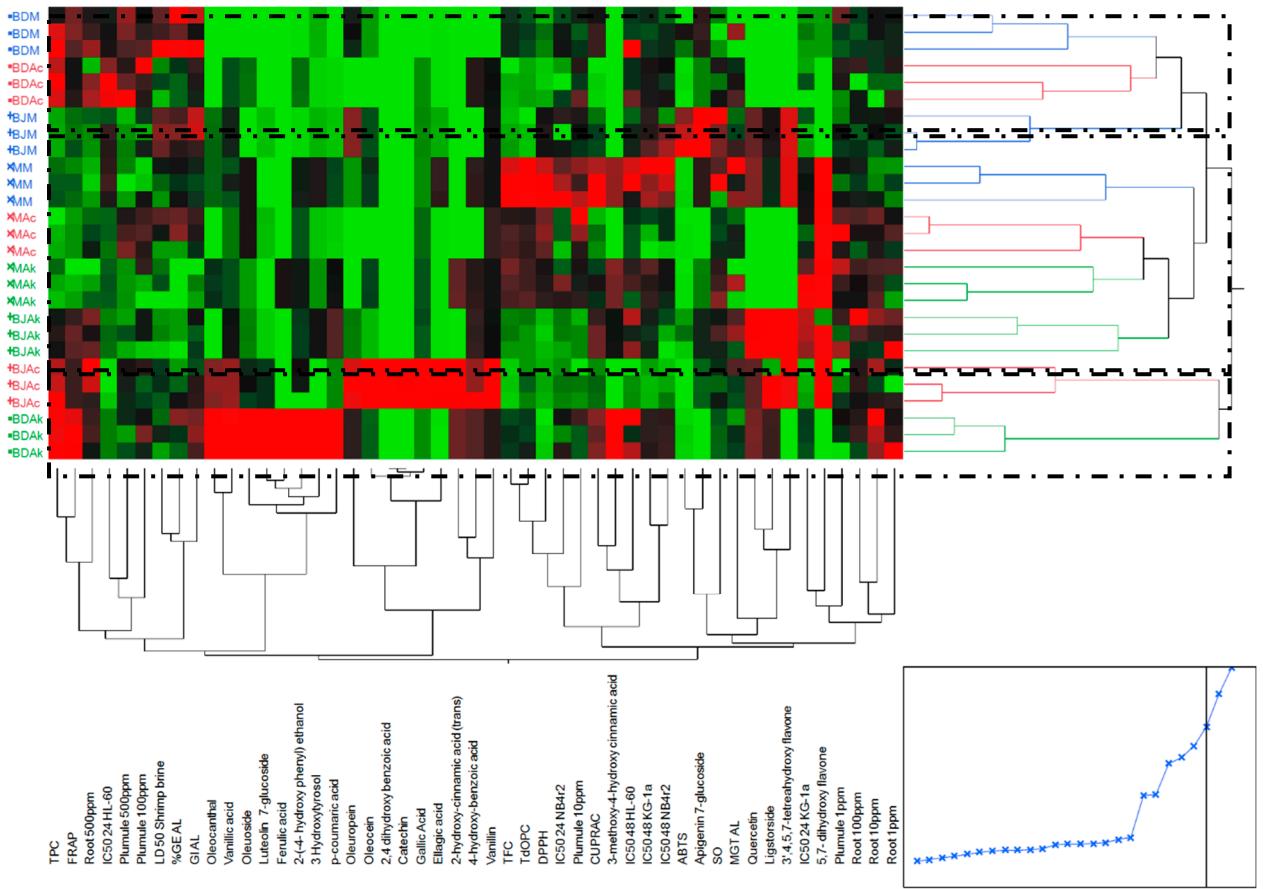


Figure S9: The percentage mortality probit of olive mill waste extracts at different extraction procedures.



**Figure S10:** Two-way cluster analysis, utilizing Ward's method, reveals three distinct clusters with 'Bidni' extracts dominating the first cluster's biochemical profile.