

**Supplementary Materials:** The following are available online at [www.mdpi.com/xxx/s1](http://www.mdpi.com/xxx/s1), **Table S1.** (A) List of total metabolites obtained in three biological replicates of *Q. ilex* leaf seedlings under drought conditions at two sampling times (days 17 and 24), showing the mass-to-charge ratio ( $m/z$ ), retention time, and abundance. (B) List of annotated variable metabolites ( $p\text{-value} < 0.05$  in Kruskal-Wallis's test) showing the ID, neutral mass (Da), retention time (min) and description.

**Excel document attached.**

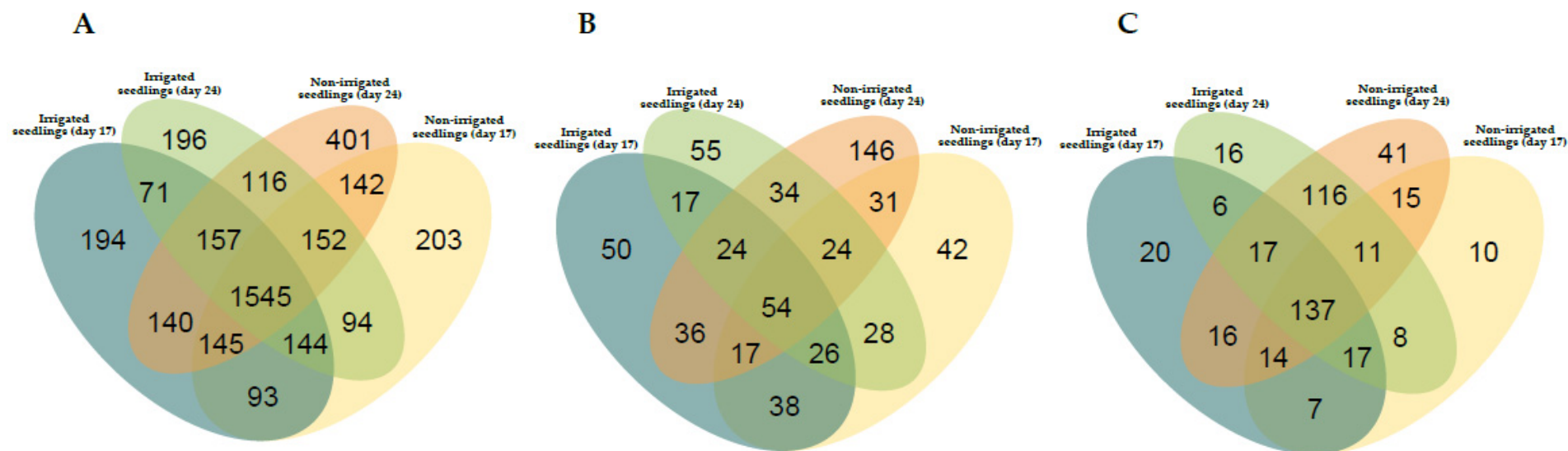
**Table S2.** List of enzymes involved in the phenolics metabolism identified at the transcriptomic, proteomic and metabolomic levels in *Q. ilex*. The presence of the enzyme is shown with a “x”.

	EC	Transcript		Protein		Susbtrate	
		Day 17	Day 24	Day 17	Day 24	Day 17	Day 24
Phenylpropanoids and derivatives							
Phenylalanine ammonia-lyase	4.3.1.24	x	x	x	x		
4-coumarate CoA ligase	6.2.1.12	x	x	x	x		
Caffeic acid 3-O-methyltransferase	2.1.1.68	x	x	x	x		
Ferulate 5-hydroxylase	1.14.-.-	x	x				
Caffeoyl-CoA O-methyltransferase	2.1.1.104	x	x				
Cinnamate 4-hydroxylase	1.14.14.91	x	x	x	x		
Coumarate 3-hydroxylase	1.14.13.-	x	x	x			
Shikimate O-hydroxycinnamoyltransferase	2.3.1.133	x	x				
p-coumaroyl ester 3'-hydroxylase	1.14.14.96	x	x			x	x
Caffeoylshikimate esterase	3.1.1.-	x	x				
Eugenol synthase	1.1.1.318	x	x			x	x
Isoeugenol synthase	1.1.1.139	x	x				
Cinnamate beta-D-glucosyltransferase	2.4.1.177	x	x				
Lignins							
Cinnamoyl-CoA reductase	1.2.1.44	x	x	x	x	x	
Cinnamyl alcohol dehydrogenase	1.1.1.195	x	x	x	x		
Coumarins							
Scopoletin glucosyltransferase	2.4.1.128	x	x	x	x		
Feruloyl CoA ortho-hydroxylase	1.14.11.61	x	x				
Stilbenoids							
Trans-resveratrol di-O-methyltransferase	2.1.1.240	x	x			x	x
Flavonoids							
Chalcone synthase	2.3.1.74	x	x	x	x	x	
NAD(P)H-dependent 6'-deoxychalcone synthase	2.3.1.170	x	x				
Chalcone isomerase	5.5.1.6	x	x	x	x		
Flavonoid 3'-hydroxylase	1.14.14.82	x	x	x	x		
Flavonoid 3',5'-hydroxylase	1.14.14.81	x	x				
Flavanone-3-hydroxylase	1.14.11.9	x	x	x	x		
Flavonol synthase	1.14.20.6	x	x				
Dihydroflavonol reductase	1.1.1.219	x	x	x	x		
Leucoanthocyanidin reductase	1.17.1.3	x	x	x	x	x	x
Anthocyanidin synthase	1.14.20.4	x	x	x	x		
Anthocyanidin reductase	1.3.1.77	x	x	x	x		
Flavonoid 3',5'-methyltransferase	2.1.1.267	x	x				
Flavonol 3-O-glucosyltransferase	2.4.1.91	x	x				
Anthocyanidin 3-O-glucosyltransferase	2.4.1.115	x	x	x	x		
Anthocyanin 5-aromatic acyltransferase	2.3.1.153	x	x	x	x		
Anthocyanidin 3-O-glucoside 2''-O-glucosyltransferase	2.4.1.297	x	x				
Isoflavonoids							
2-hydroxyisoflavanone dehydratase	4.2.1.105	x	x				

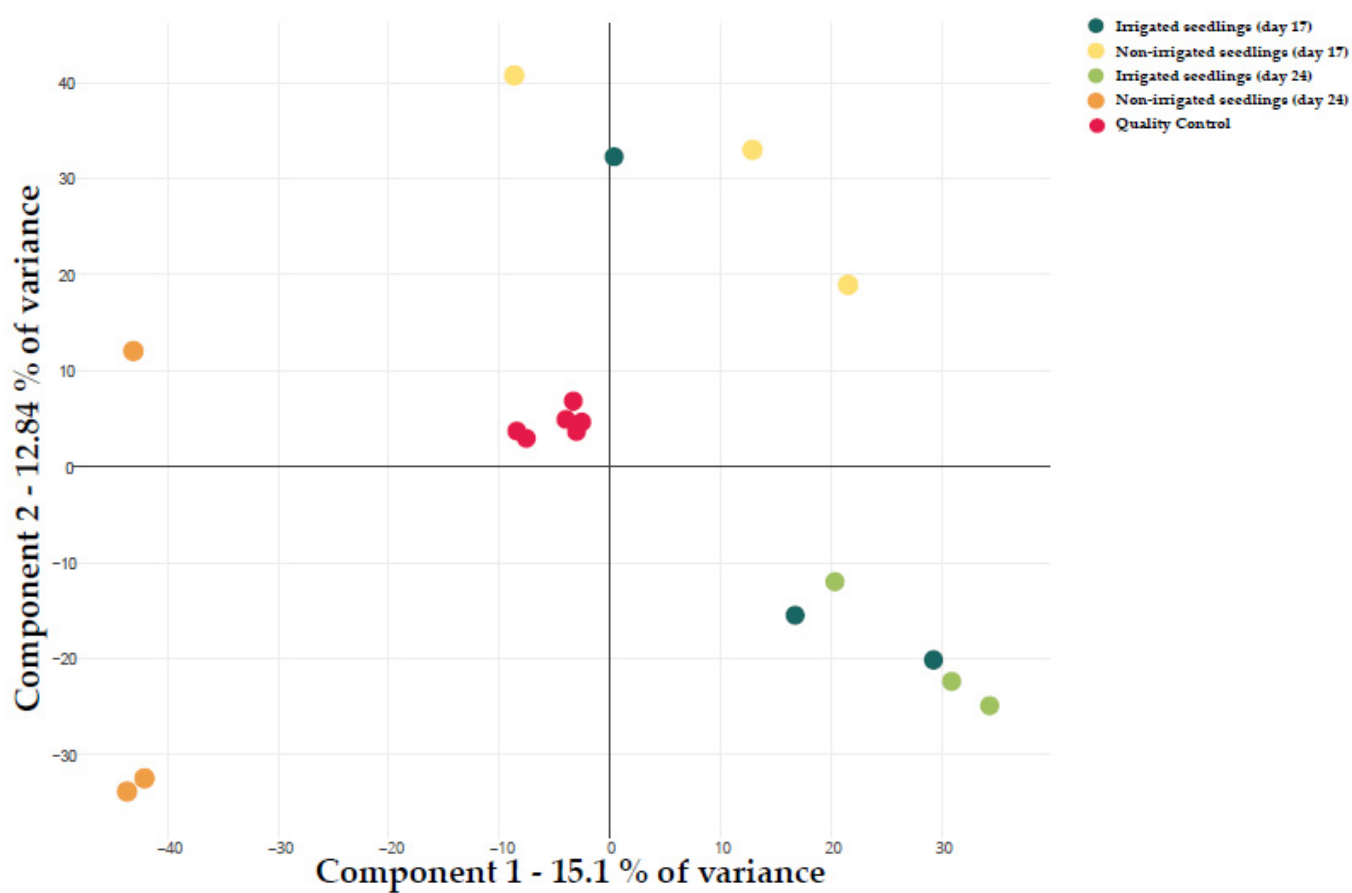
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Isoflavone 2'-hydroxylase	1.14.14.90	x	x		
Isoflavone reductase	1.3.1.45	x	x	x	x
3,9-dihydroxypterocarpan 6A-monooxygenase	1.14.14.93	x	x		

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**Figure S1.** Venn diagrams of the total 3934 (A), and 616 variable (B) features, and 342 annotated compounds (C) in irrigated and non-irrigated *Q. ilex* leaf seedlings at both sampling times (days 17 and 24).



**Figure S2.** PCA analysis of the total dataset of metabolites including the quality control mix (QC).