Supplemental Figures

Time-resolved, integrated multi-omic analysis reveals central role of amino acids for defense responses in *Arabidopsis thaliana*

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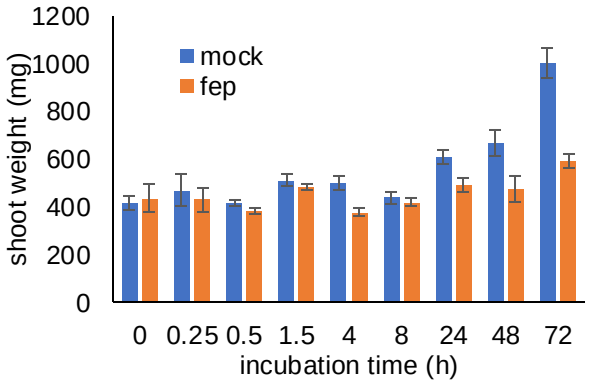
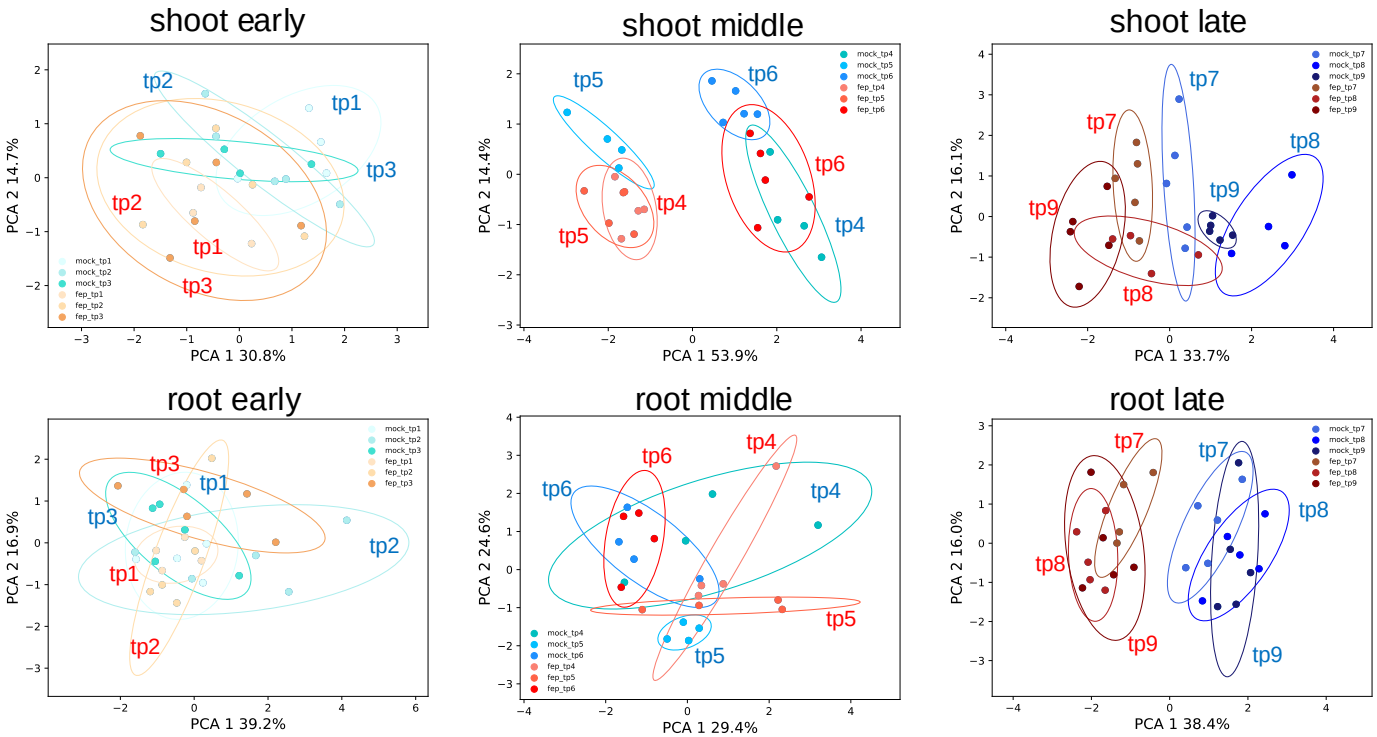
Supplemental Figure 1:

A Shoot weights per jar



tp1:	0 min	early
tp2:	10 min	
tp3:	30 min	
tp4:	1.5 h	middle
tp5:	4 h	
tp6:	8 h	
tp7:	1 d	late
tp8:	2 d	
tp9:	3 d	
mock:	control	
fep:	immune-stimulated	

B PCAs of roots and shoots for grouped timepoints

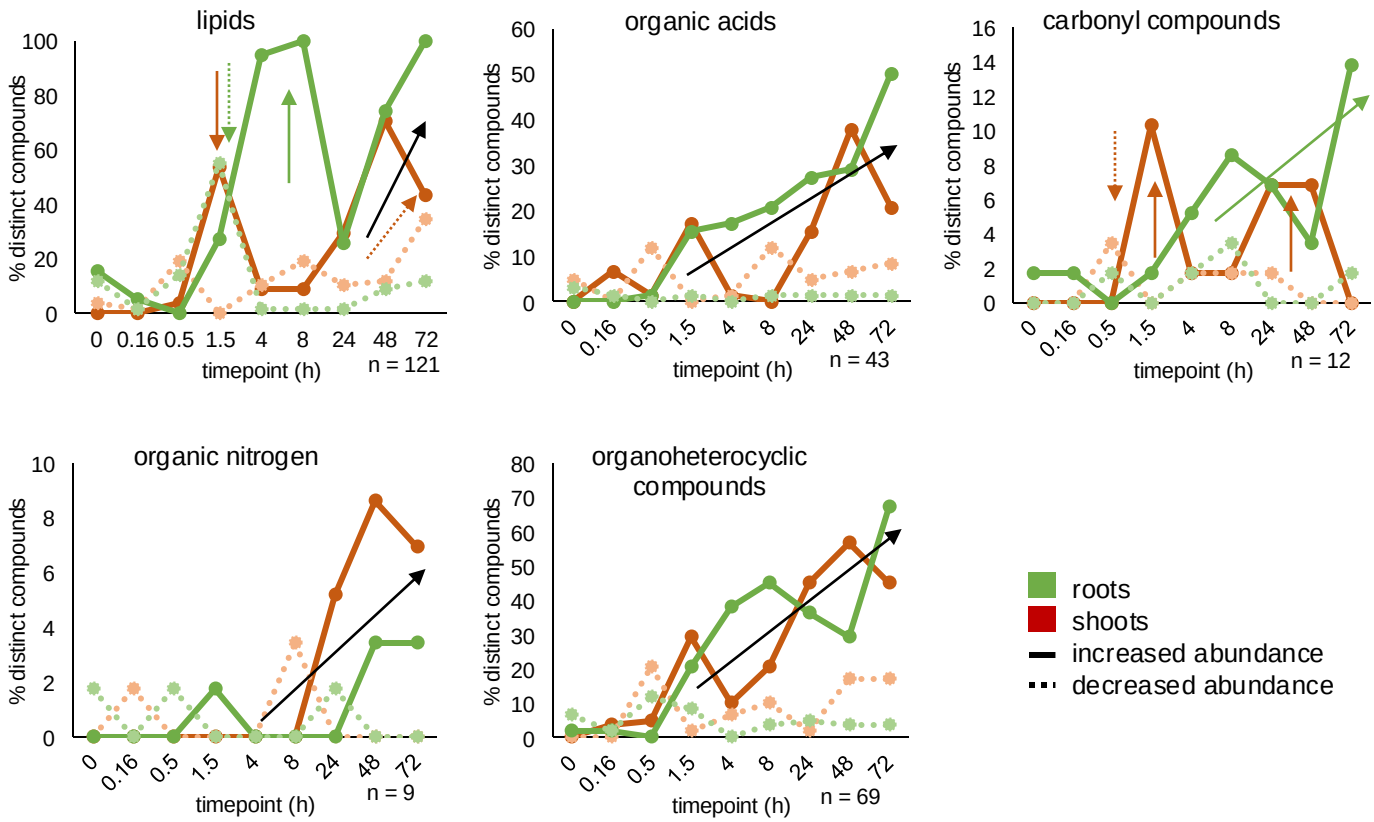


Supplemental Figure 2:

A Chemical classes total and significant number of metabolites

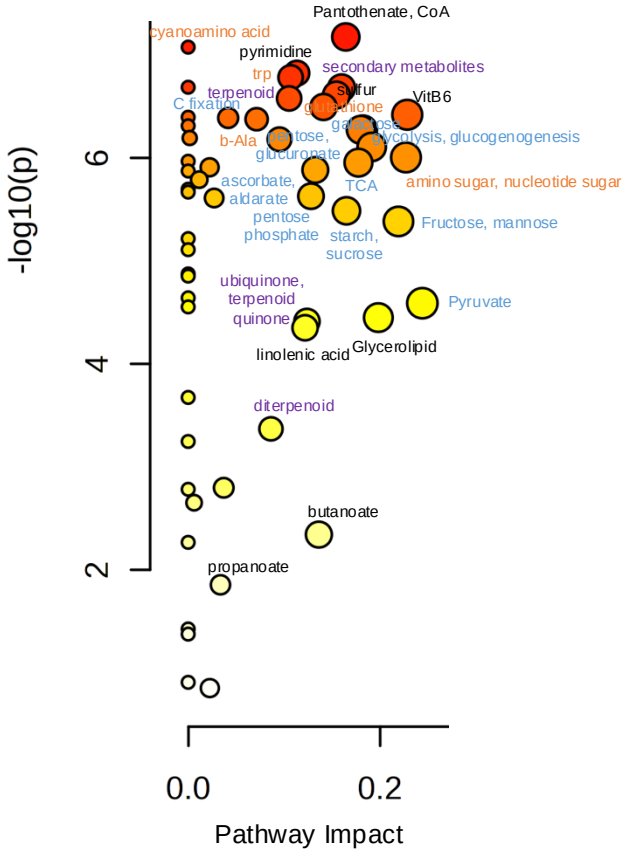
Chemical classes	All metabolites in dataset				Significantly distinct metabolites			
	Roots		Shoots		Roots		Shoots	
	absolute	%	absolute	%	absolute	%	absolute	%
Lipids and lipid-like molecules	129	26	129	26	79	21	118	27
Organoheterocyclic compounds	70	14	68	14	63	17	59	14
Amino acids, peptides, and analogues	61	12	61	12	50	13	55	13
Benzenoids	46	9	50	10	36	10	43	10
Organic acids and derivatives	45	9	45	9	40	11	40	9
Phenylpropanoids and polyketides	41	8	41	8	36	10	37	9
Carbohydrates and carbohydrate conjugates	39	8	40	8	30	8	33	8
Carbonyl compounds	13	3	13	3	8	2	11	3
Alcohols and polyols	11	2	11	2	9	2	9	2
Organic nitrogen compounds	9	2	9	2	6	2	6	1
other	14	3	13	3	10	3	10	2
Nucleosides, nucleotides, and analogues	4	1	4	1	4	1	4	1
Alkaloids and derivatives	2	0	2	0	2	1	2	0
Lignans, neolignans and related compounds	2	0	1	0	1	0	0	0
Organic 1,3-dipolar compounds	2	0	2	0	1	0	1	0
Organic oxygen compounds	2	0	2	0	1	0	1	0
Hydrocarbon derivatives	1	0	1	0	0	0	1	0
Organosulfur compounds	1	0	1	0	1	0	1	0
total number of compounds / percent	492	100	493	100	377	100	431	100

B Chemical classes changing in tissues

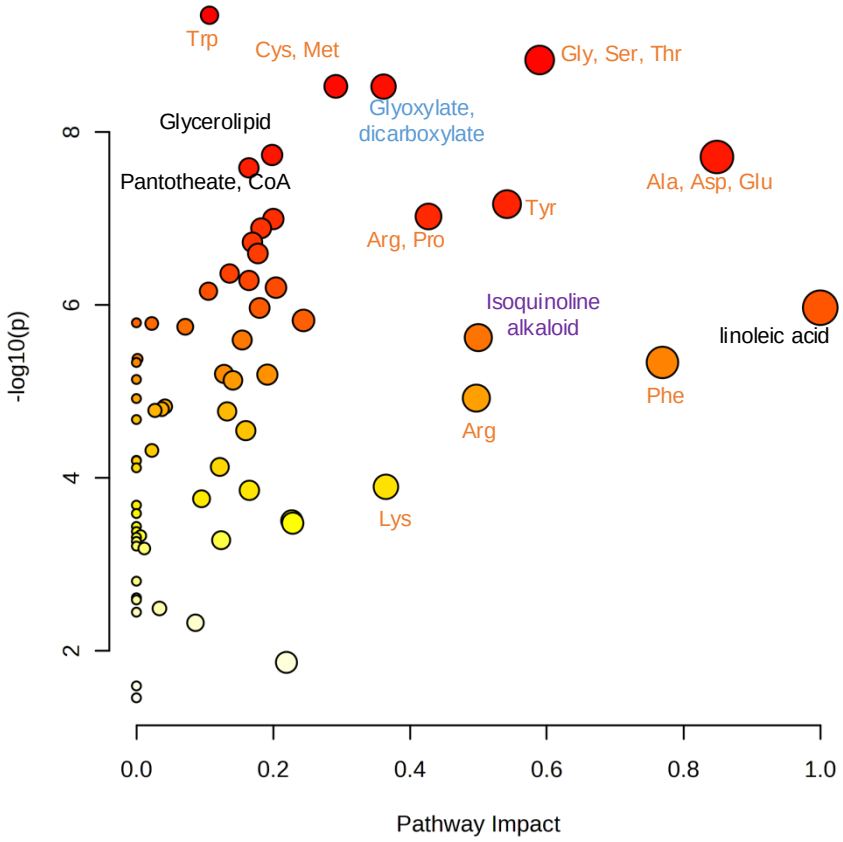


Supplemental Figure 3:

A Root metabolite pathways closeup

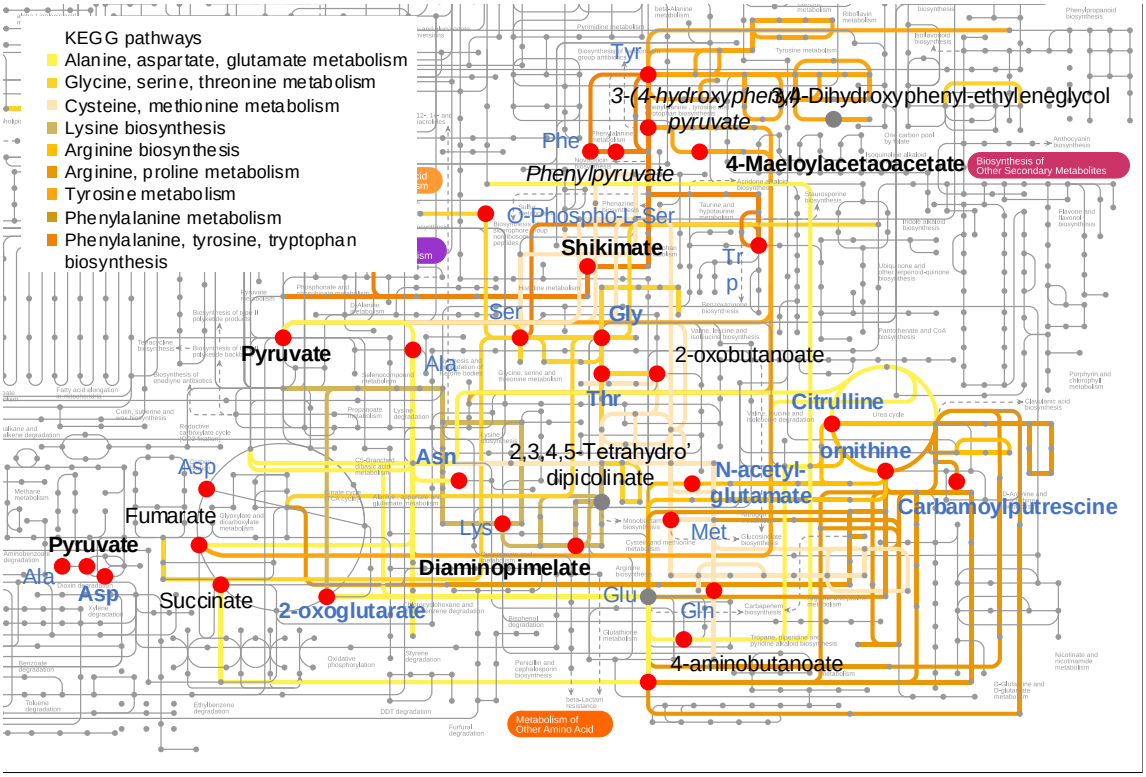


B Shoot metabolite pathways

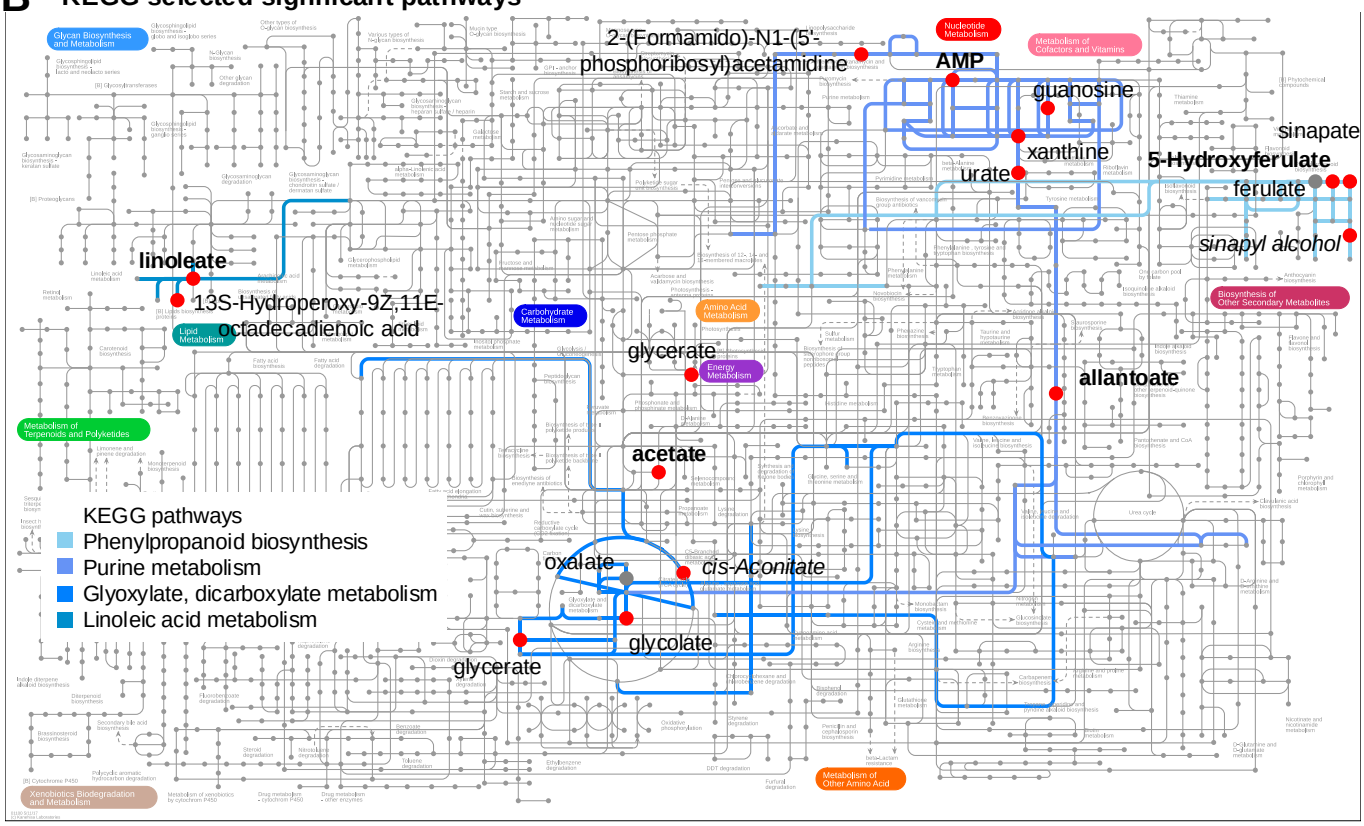


Supplemental Figure 4:

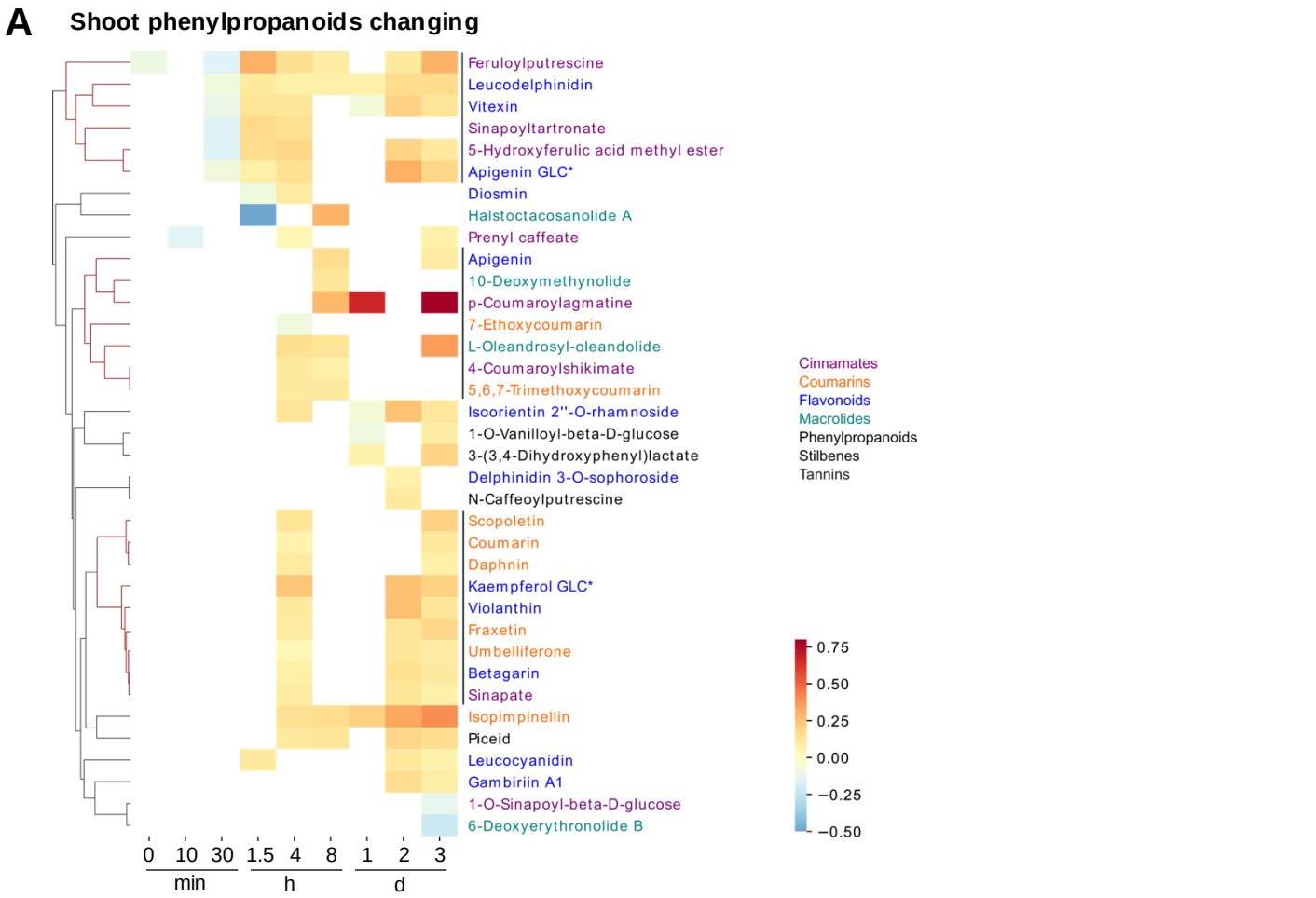
A KEGG map amino acids

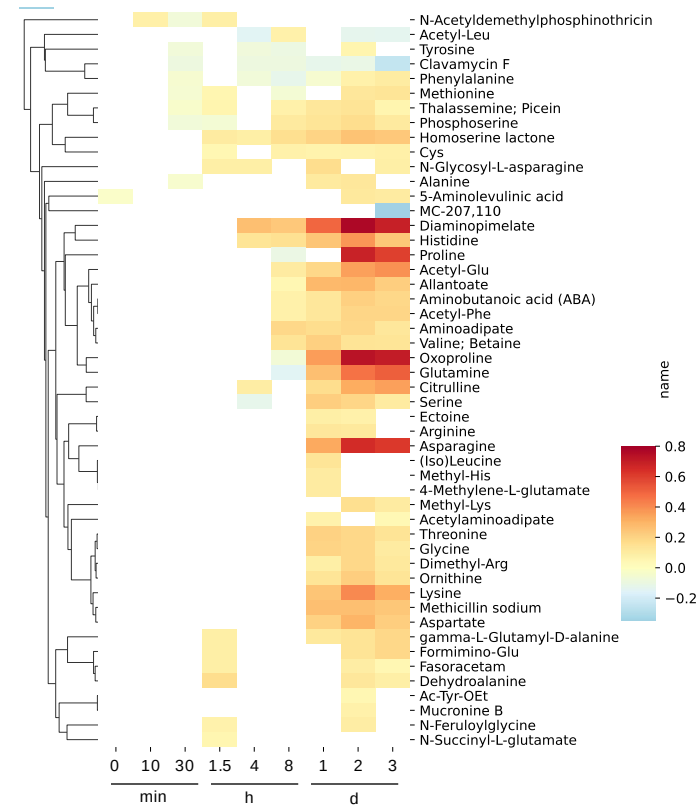


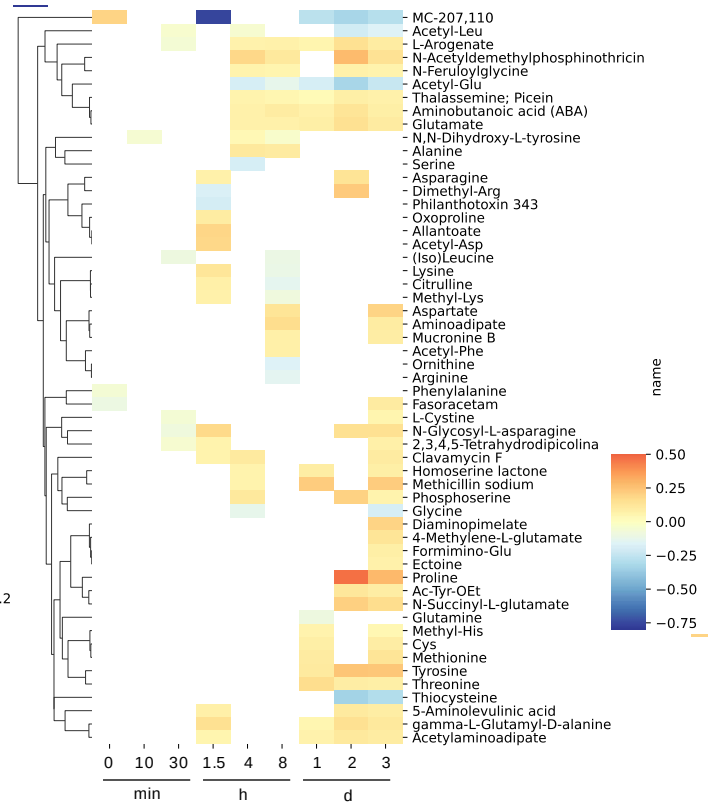
B KEGG selected significant pathways



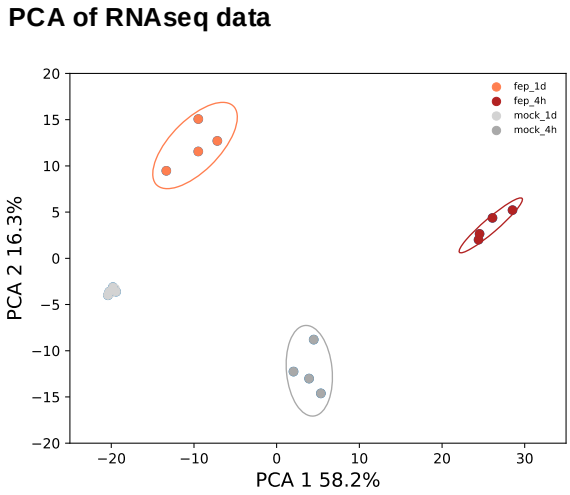
Supplemental Figure 5:







Supplemental Figure 6:

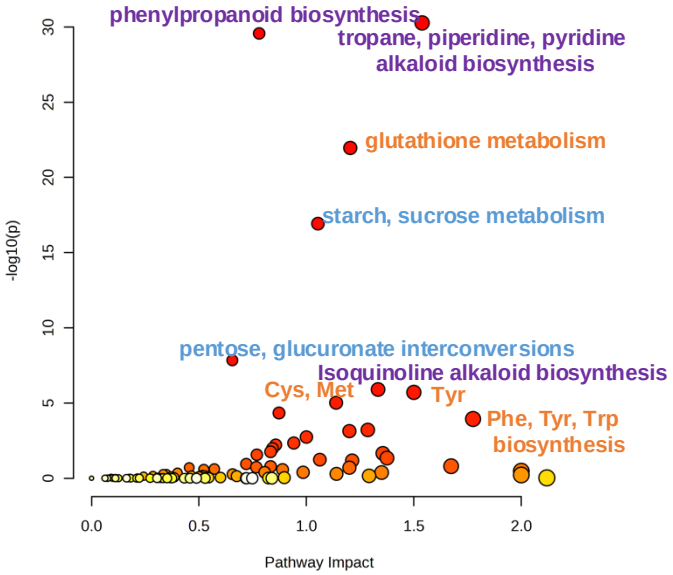


Supplemental Figure 7:

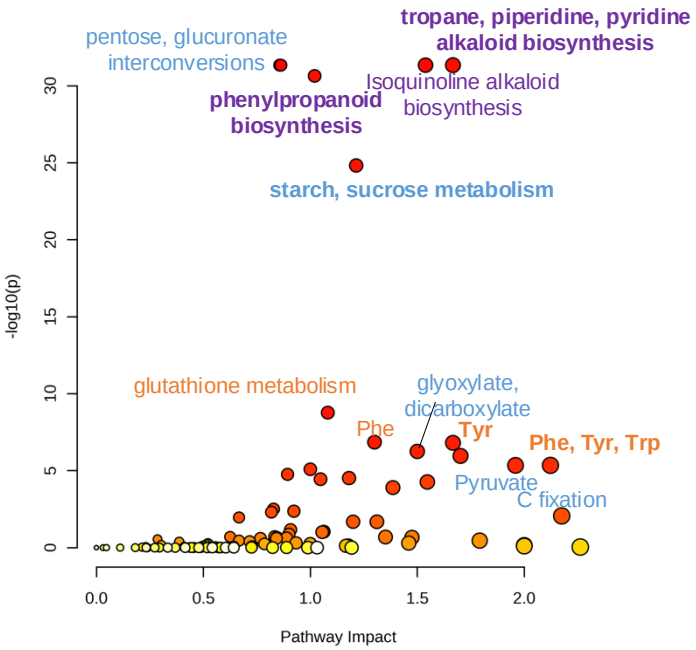
A Roots 1 d

	Match status	% match
Tropane, piperidine and pyridine alkaloid biosynthesis	14/14	100
Isoquinoline alkaloid biosynthesis	12/13	92
Glutathione metabolism	45/50	90
Starch and sucrose metabolism	46/57	81
Phenylpropanoid biosynthesis	81/101	80
Pentose and glucuronate interconversions	23/30	77
Biosynthesis of secondary metabolites - unclassified	6/8	75
Linoleic acid metabolism	5/7	71
Tyrosine metabolism	21/31	68
Phenylalanine metabolism	13/21	62
Nitrogen metabolism	14/25	56
Cyanoamino acid metabolism	26/48	54
Phenylalanine, tyrosine and tryptophan biosynthesis	25/50	50
Indole alkaloid biosynthesis	3/6	50
Glyoxylate and dicarboxylate metabolism	27/57	47
Lysine biosynthesis	8/17	47
Cysteine and methionine metabolism	44/95	46
beta-Alanine metabolism	16/35	46
Monobactam biosynthesis	5/12	42
Glycolysis or Gluconeogenesis	24/58	41
Alanine, aspartate and glutamate metabolism	19/46	41
Taurine and hypotaurine metabolism	4/10	40
Tryptophan metabolism	21/53	40

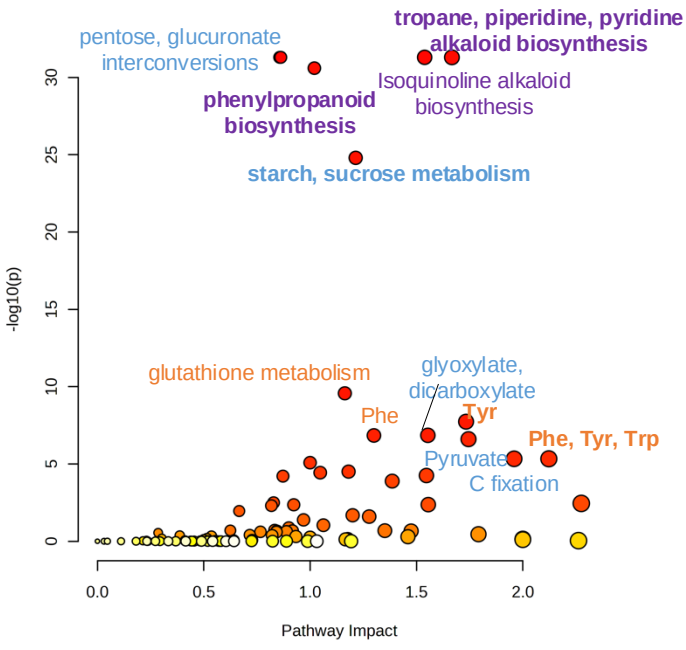
B Shoots 1 d



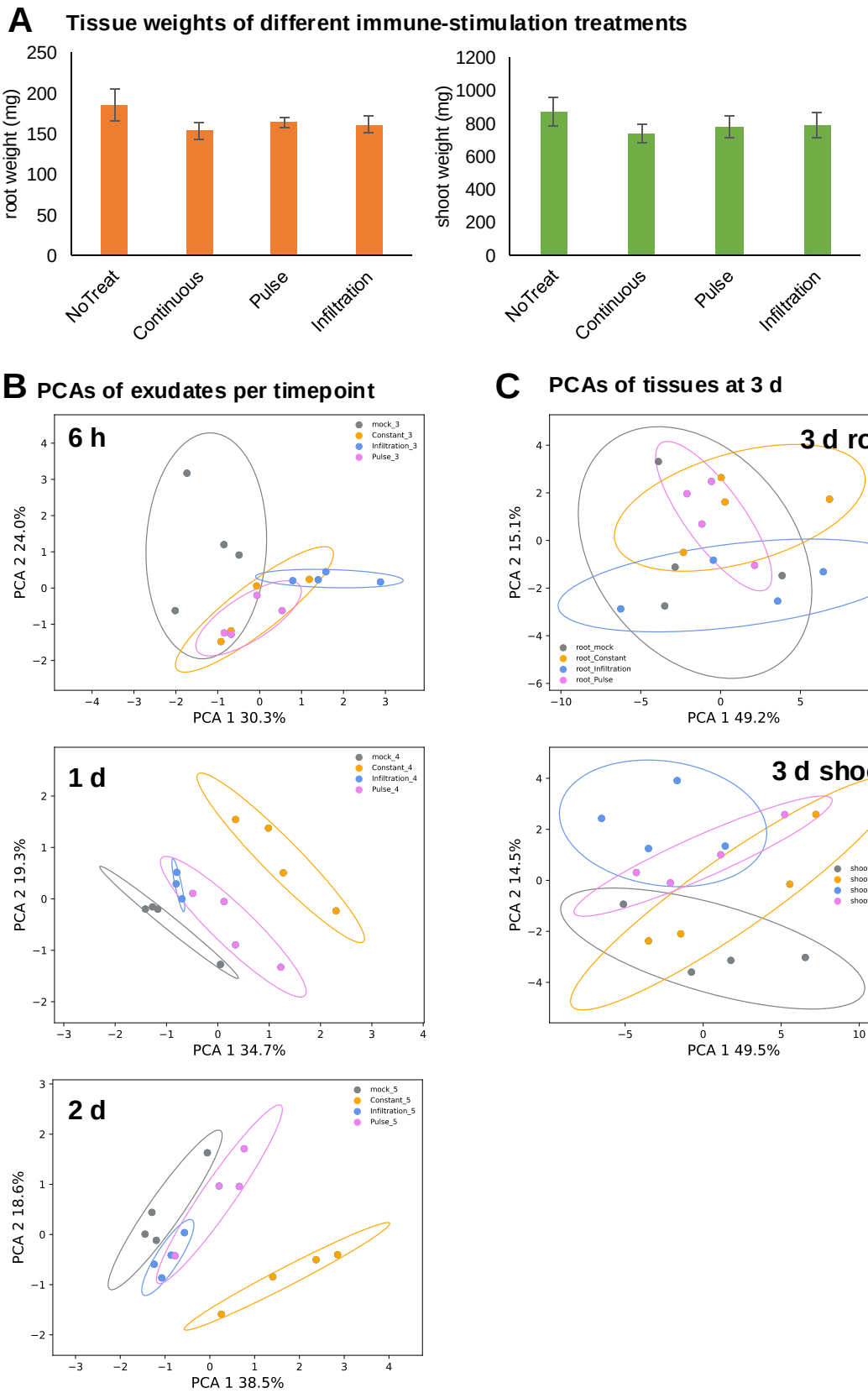
C Roots 4 h



D Shoots 4 h



Supplemental Figure 8:

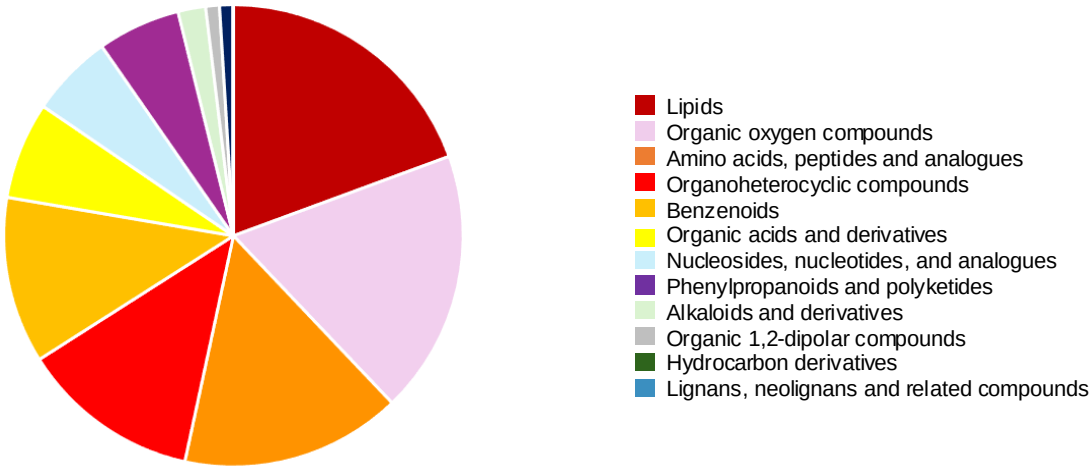


Supplemental Figure 9:

Chemical class distribution for exudates, roots, and shoots

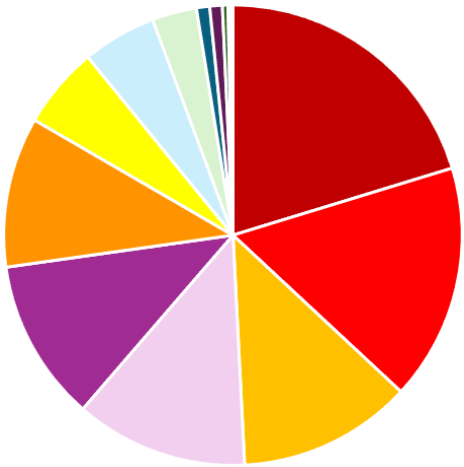
A

Exudates



B

Roots



C

Shoots