

Cluster	GO term (p-value)
1	<p>response to wounding (6.2×10^{-4})</p> <p>cellular amino acid and derivative metabolic process (1.12×10^{-3})</p> <p>lignin biosynthetic process (1.72×10^{-3})</p> <p>trans-cinnamate 4-monooxygenase activity (2.22×10^{-3})</p> <p>quercetin 3-O-methyltransferase activity (2.22×10^{-3})</p> <p>myricetin 3'-O-methyltransferase activity (2.22×10^{-3})</p> <p>ferulate 5-hydroxylase activity (2.22×10^{-3})</p> <p>caffeate O-methyltransferase activity (2.22×10^{-3})</p> <p>response to stimulus (5.05×10^{-3})</p> <p>response to radiation (1.62×10^{-2})</p> <p>beta-fructofuranosidase activity (2.43×10^{-2})</p> <p>cell wall (2.57×10^{-2})</p> <p>4-coumarate-CoA ligase activity (2.65×10^{-2})</p> <p>catalytic activity (3.92×10^{-2})</p> <p>flavonol biosynthetic process (4.89×10^{-2})</p>
2	acyl-CoA thioesterase activity (4.34×10^{-2})
3	<p>protein disulfide isomerase activity (1.43×10^{-4})</p> <p>intramolecular oxidoreductase activity (1.28×10^{-3})</p> <p>cell wall (1.69×10^{-3})</p> <p>cyclic-nucleotide phosphodiesterase activity (6.04×10^{-3})</p> <p>lytic vacuole within protein storage vacuole (7.45×10^{-3})</p> <p>storage vacuole (2.98×10^{-2})</p>
4	<p>electron carrier activity (3.99×10^{-4})</p> <p>chitinase activity (6.02×10^{-3})</p> <p>intracellular ligand-gated ion channel activity (1.51×10^{-2})</p> <p>multi-organism process (2.21×10^{-2})</p> <p>apoplast (2.60×10^{-2})</p> <p>response to bacterium (2.76×10^{-2})</p> <p>ligand-gated channel activity (3.22×10^{-2})</p> <p>endomembrane system (3.27×10^{-2})</p> <p>cell wall (4.45×10^{-2})</p>
5	<p>extracellular matrix structural constituent (1.05×10^{-2})</p> <p>shikimate O-hydroxycinnamoyltransferase activity (1.05×10^{-2})</p> <p>quinic acid O-hydroxycinnamoyltransferase activity (1.05×10^{-2})</p> <p>hydroxycinnamoyltransferase activity (3.15×10^{-2})</p>
6	<p>phosphate transport (1.46×10^{-3})</p> <p>carbohydrate transmembrane transporter activity (2.26×10^{-3})</p> <p>solute:cation symporter activity (2.32×10^{-3})</p> <p>anion transport (3.45×10^{-2})</p> <p>sugar:hydrogen symporter activity (3.77×10^{-2})</p>
7	<p>response to stimulus (7.93×10^{-3})</p> <p>endoplasmic reticulum lumen (1.28×10^{-2})</p> <p>nitrate transmembrane transporter activity (1.57×10^{-2})</p> <p>protein amino acid phosphorylation (2.3×10^{-2})</p>

- 8 chloroplast (6.11×10^{-6})
chloroplast thylakoid membrane (1.83×10^{-4})
thylakoid membrane (2.33×10^{-4})
anchored to plasma membrane (2.62×10^{-4})
plant-type cell wall (4.63×10^{-4})
plastid thylakoid (5.38×10^{-4})
chloroplast stroma (1.39×10^{-3})
cytoplasm (5.16×10^{-3})
external encapsulating structure (1.72×10^{-2})
organelle part (2.34×10^{-2})
unfolded protein binding (3×10^{-2})
intracellular membrane-bounded organelle (4.3×10^{-2})
- 9 oligopeptide transporter activity (3.17×10^{-3})
cellular metal ion homeostasis (5.91×10^{-3})
pectinesterase inhibitor activity (6.63×10^{-3})
oligopeptide transport (9.39×10^{-3})
cellular ion homeostasis (10×10^{-3})
polygalacturonase activity (1.01×10^{-2})
cation homeostasis (1.01×10^{-2})
chemical homeostasis (1.26×10^{-2})
cellular homeostasis (1.80×10^{-2})
enzyme regulator activity (3.57×10^{-2})
- 10 chloroplast (5.03×10^{-3})
chloroplast thylakoid membrane (3.61×10^{-2})
thylakoid membrane (4.02×10^{-2})
low affinity phosphate transmembrane transporter activity (4.68×10^{-2})
- 11 photosynthetic electron transport in photosystem II ($NaN \times 10^{-Inf}$)
protein import into chloroplast thylakoid membrane ($NaN \times 10^{-Inf}$)
thylakoid membrane organization ($NaN \times 10^{-Inf}$)
electron transport chain ($NaN \times 10^{-Inf}$)
photosynthesis, light reaction ($NaN \times 10^{-Inf}$)
membrane organization ($NaN \times 10^{-Inf}$)
plastid organization ($NaN \times 10^{-Inf}$)
protein targeting ($NaN \times 10^{-Inf}$)
cellular protein localization ($NaN \times 10^{-Inf}$)
protein transport ($NaN \times 10^{-Inf}$)
macromolecule localization ($NaN \times 10^{-Inf}$)
intracellular transport ($NaN \times 10^{-Inf}$)
signal recognition particle, endoplasmic reticulum targeting (1.06×10^{-2})
- 12
- 13 6-phosphogluconolactonase activity (1.96×10^{-2})
omega-3 fatty acid desaturase activity (3.92×10^{-2})
water homeostasis (3.97×10^{-2})
cellular potassium ion homeostasis (4.96×10^{-2})
- 14 protein heterodimerization activity (2.35×10^{-3})

autophagic vacuole (1.94×10^{-2})
detection of fungus (2.43×10^{-2})
15 cell-cell signaling (1.70×10^{-2})
signal transducer activity (3.65×10^{-2})
16 jasmonic acid biosynthetic process (6.77×10^{-3})
oxylin metabolic process (8.6×10^{-3})
immune response (1.64×10^{-2})
allene-oxide cyclase activity (3.32×10^{-2})
cytokinin dehydrogenase activity (4.98×10^{-2})
17 transcription factor activity (3.15×10^{-2})
18 response to chitin (2.17×10^{-4})
response to organic substance (2.95×10^{-3})
defense response to virus (7.87×10^{-3})
response to wounding (1.68×10^{-2})
NAD+ ADP-ribosyltransferase activity (4.88×10^{-2})
19 sphingolipid delta-4 desaturase activity (1.53×10^{-2})
20 cellular response to sucrose starvation (4.05×10^{-3})
aromatic amino acid transmembrane transporter activity (6.64×10^{-3})
asparagine synthase (glutamine-hydrolyzing) activity (9.96×10^{-3})
sinapate 1-glucosyltransferase activity (1.33×10^{-2})
NAD+ ADP-ribosyltransferase activity (1.99×10^{-2})
fatty acid (omega-1)-hydroxylase activity (2.32×10^{-2})
neutral amino acid transmembrane transporter activity (2.65×10^{-2})
response to fructose stimulus (4.45×10^{-2})
pyruvate kinase activity (4.64×10^{-2})
response to absence of light (4.85×10^{-2})
21 zinc ion binding (1.21×10^{-3})
cation binding (1.31×10^{-2})
metal ion binding (2.07×10^{-2})
22 prephenate dehydratase activity (8.15×10^{-3})
arogenate dehydratase activity (8.15×10^{-3})
beta-amylase activity (1.22×10^{-2})
response to wounding (3×10^{-2})
L-phenylalanine biosynthetic process (4.64×10^{-2})
23 response to wounding (2.34×10^{-7})
response to jasmonic acid stimulus (1.56×10^{-4})
jasmonate O-methyltransferase activity (1.05×10^{-2})
jasmonic acid biosynthetic process (1.46×10^{-2})
oxylin metabolic process (1.85×10^{-2})
defense response (2.18×10^{-2})
jasmonic acid mediated signaling pathway (2.45×10^{-2})
1,2-diacylglycerol 3-beta-galactosyltransferase activity (3.15×10^{-2})
24 response to water deprivation (3.18×10^{-6})
protein serine/threonine phosphatase complex (1.97×10^{-5})
response to endogenous stimulus (1.75×10^{-4})
negative regulation of abscisic acid mediated signaling (3.42×10^{-4})

negative regulation of cell communication (4.97×10^{-4})
 protein serine/threonine phosphatase activity (8.45×10^{-4})
 protein amino acid dephosphorylation (1.90×10^{-3})
 phosphatase activity (9.75×10^{-3})
 response to abiotic stimulus (1.11×10^{-2})
 25 trans-zeatin O-beta-D-glucosyltransferase activity (1.01×10^{-3})
 cis-zeatin O-beta-D-glucosyltransferase activity (1.01×10^{-3})
 glucuronosyltransferase activity (1.41×10^{-3})
 UDP-glycosyltransferase activity (1.75×10^{-2})
 glucosyltransferase activity (2.05×10^{-2})
 transferase activity (3.09×10^{-2})
 26 glutamate dehydrogenase activity (2.27×10^{-3})
 glutamate dehydrogenase [NAD(P)+] activity (4.53×10^{-3})
 nitrate reductase activity (4.53×10^{-3})
 nitric oxide biosynthetic process (1.64×10^{-2})
 ER body (1.72×10^{-2})
 nitrate assimilation (3.28×10^{-2})
 27 secondary metabolic process (1.54×10^{-3})
 28
 29 acyl-[acyl-carrier-protein] hydrolase activity (1.99×10^{-2})
 bis(5'-adenosyl)-pentaphosphatase activity (2.99×10^{-2})
 cell plate formation involved in plant-type cell wall biogenesis (4.1×10^{-2})
 para-aminobenzoic acid metabolic process (4.1×10^{-2})