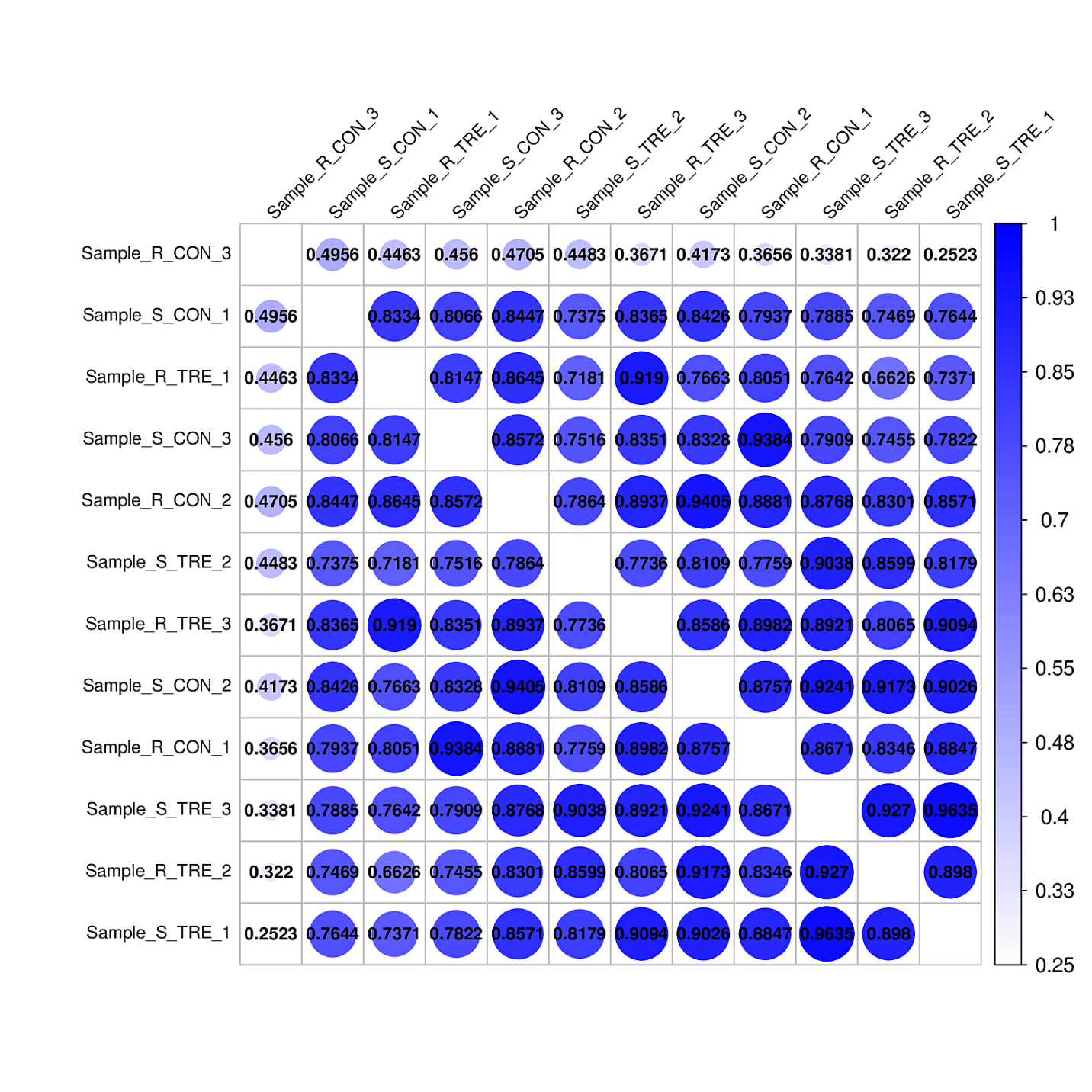
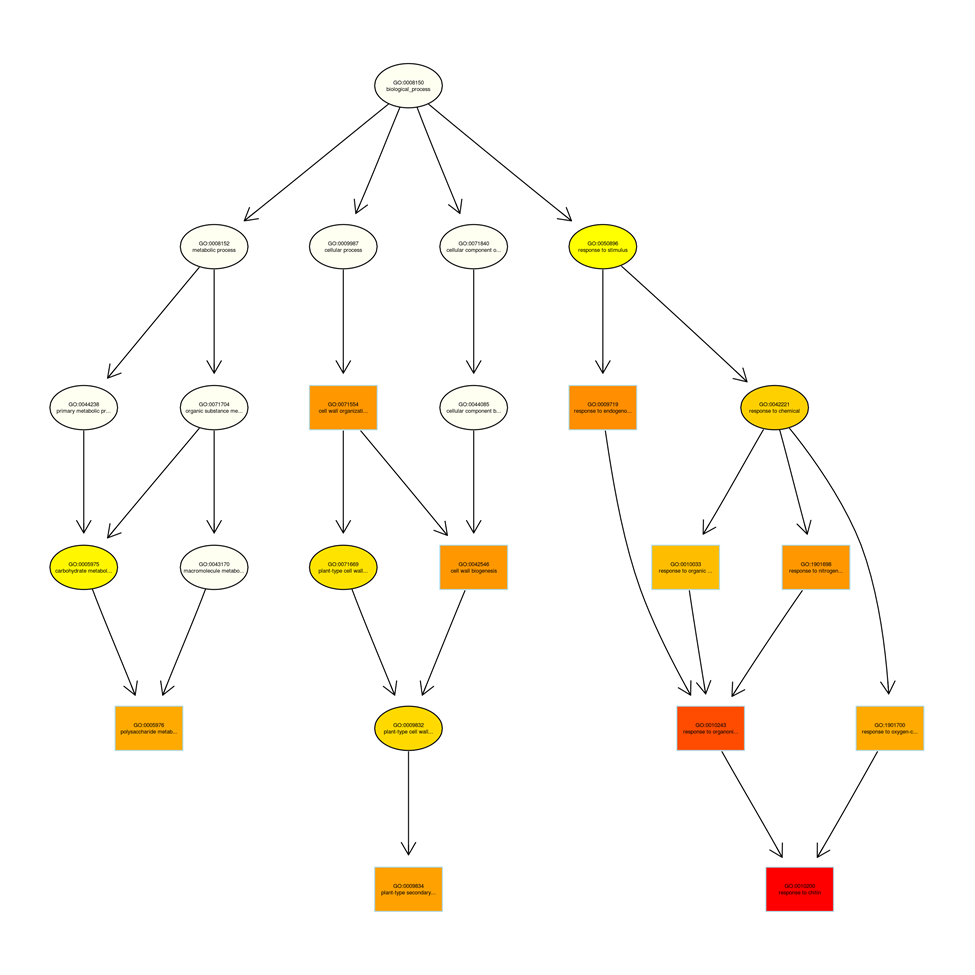


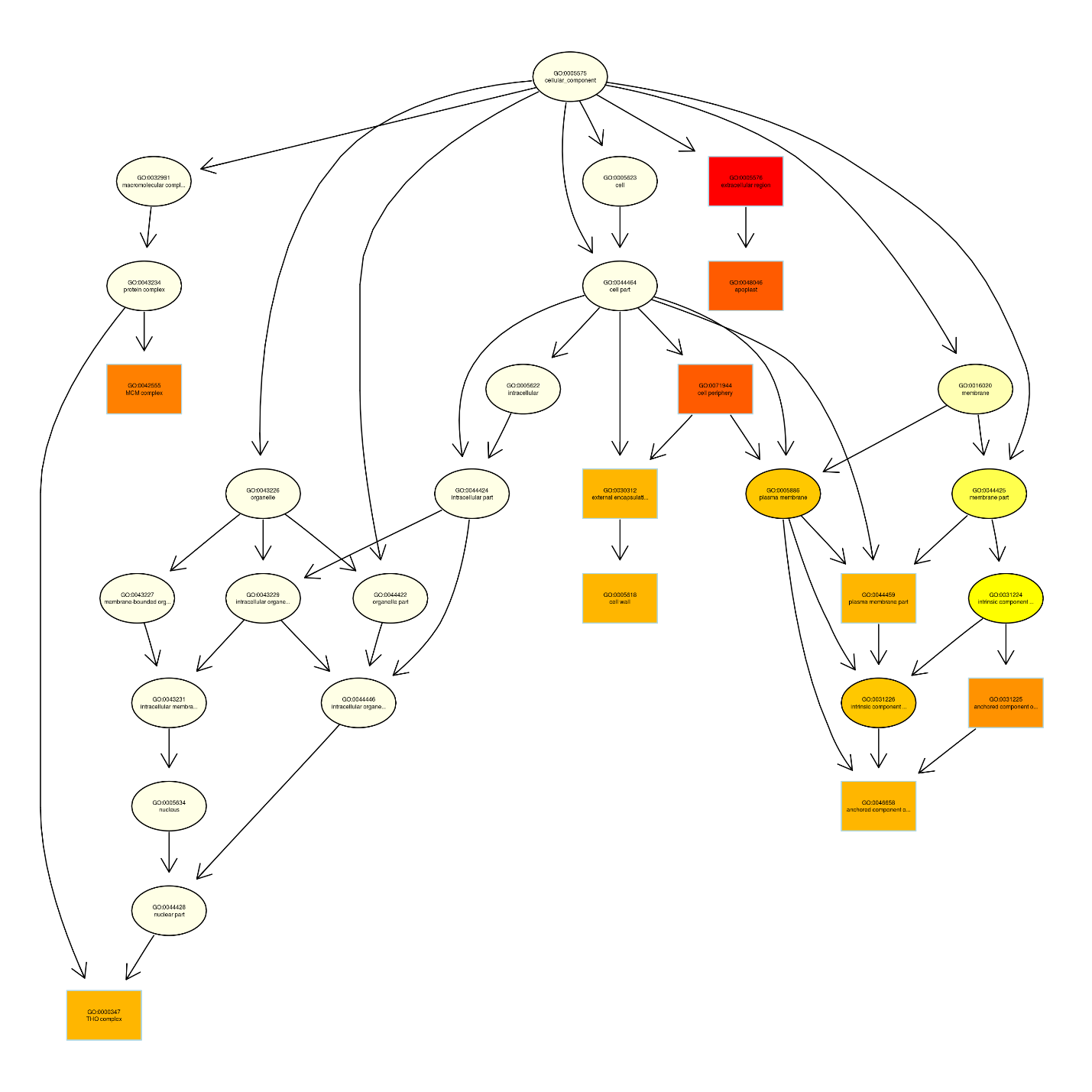
Supplementary Figure 1. The clustering analysis results of each group .Red in the figure indicates a highly expressed gene, and blue indicates a gene with a low expression protein.



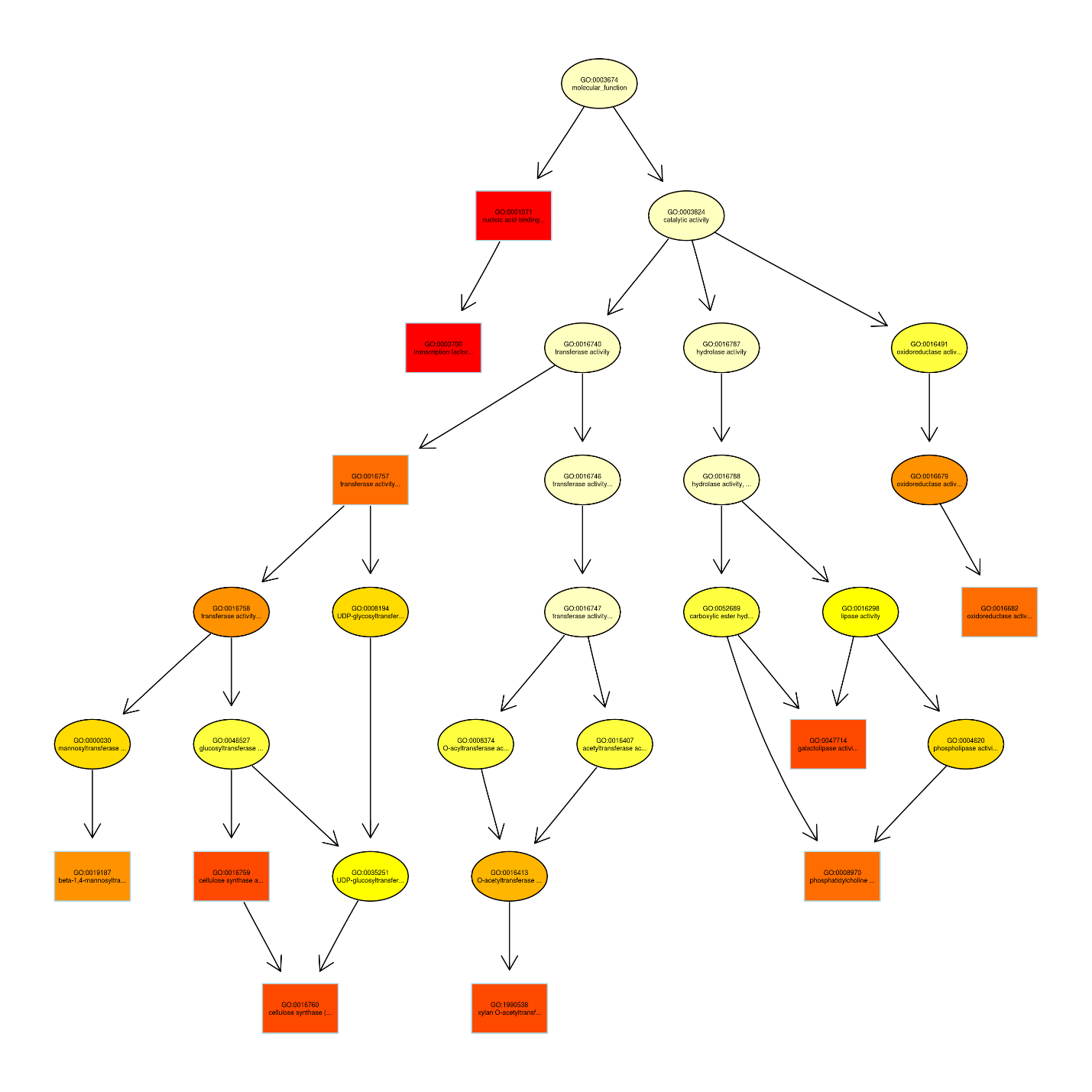
Supplementary Figure 2. Heat map of correlation coefficient between samples.



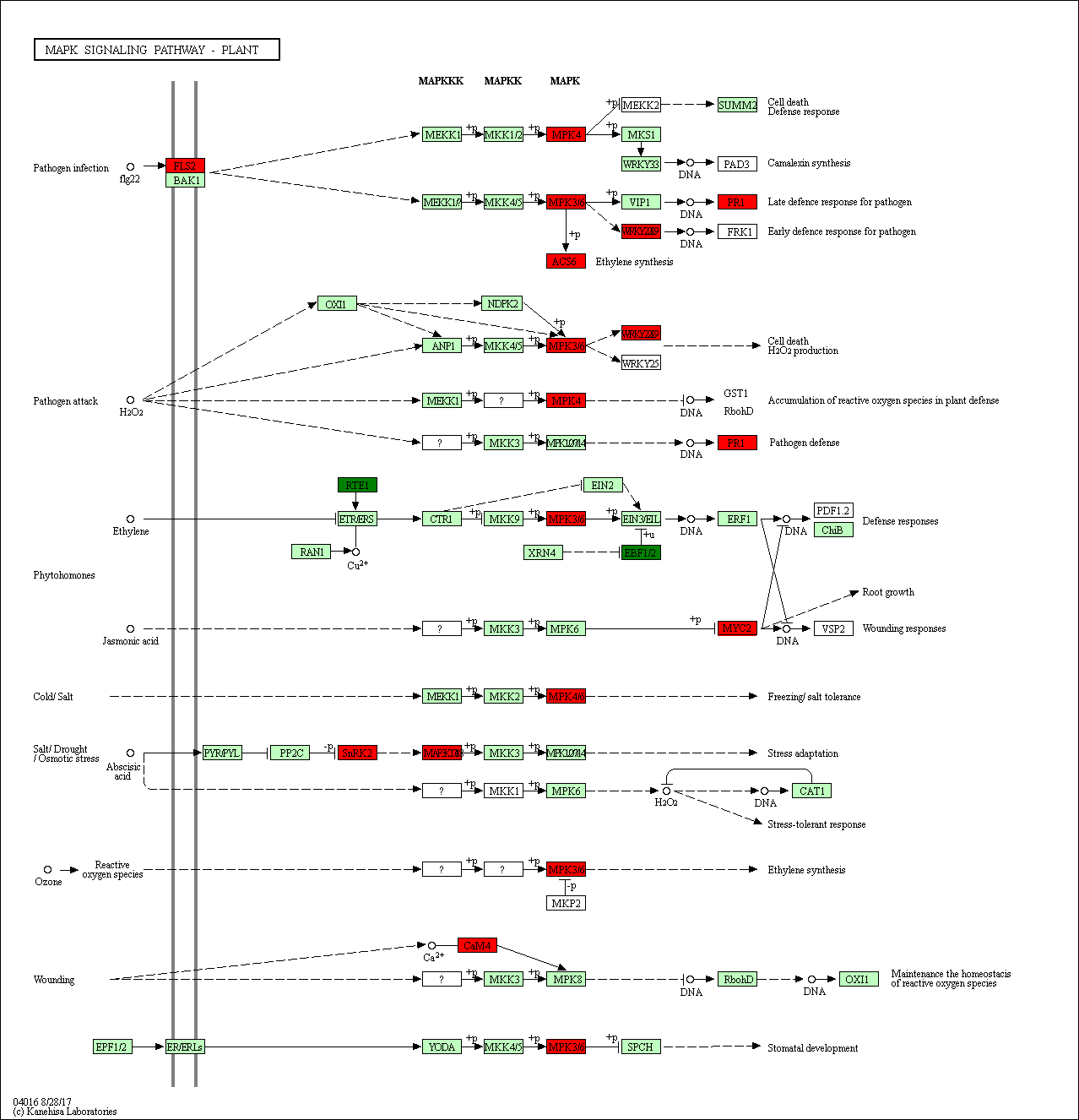
Supplementary Figure 3. Differential gene topGO directed acyclic graph in terms of BP in RT vs RC. The most significant nodes are represented by rectangles. The color of the rectangle represents the saliency of the enrichment, and the saliency from yellow to red is becoming more and more high. The basic information of each node is displayed in the corresponding graphic, which is GO ID and GO term.



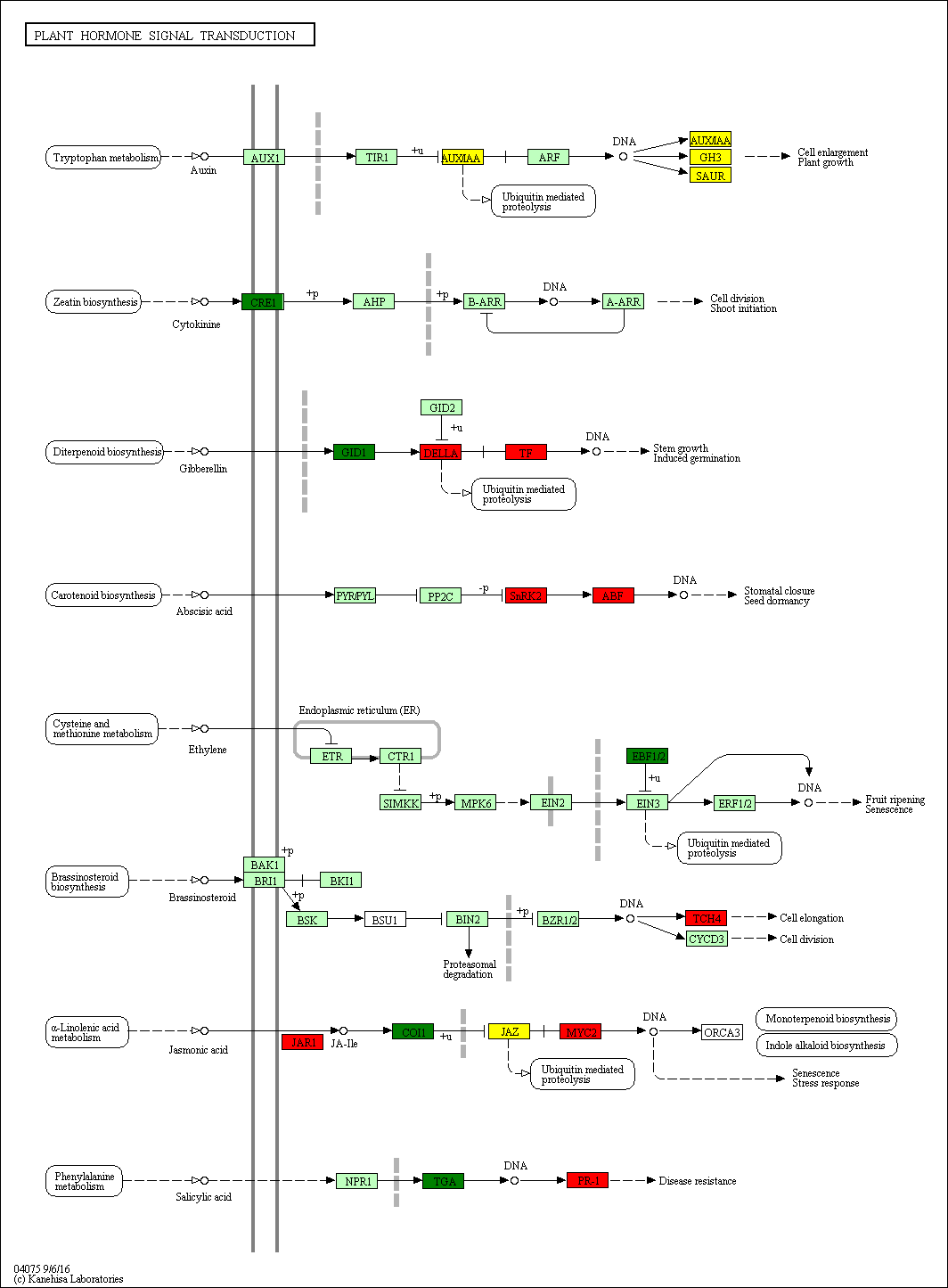
Supplementary Figure 4. Differential gene topGO directed acyclic graph in terms of CC in RT vs RC .The most significant nodes are represented by rectangles. The color of the rectangle represents the saliency of the enrichment, and the saliency from yellow to red is becoming more and more high. The basic information of each node is displayed in the corresponding graphic, which is GO ID and GO term.



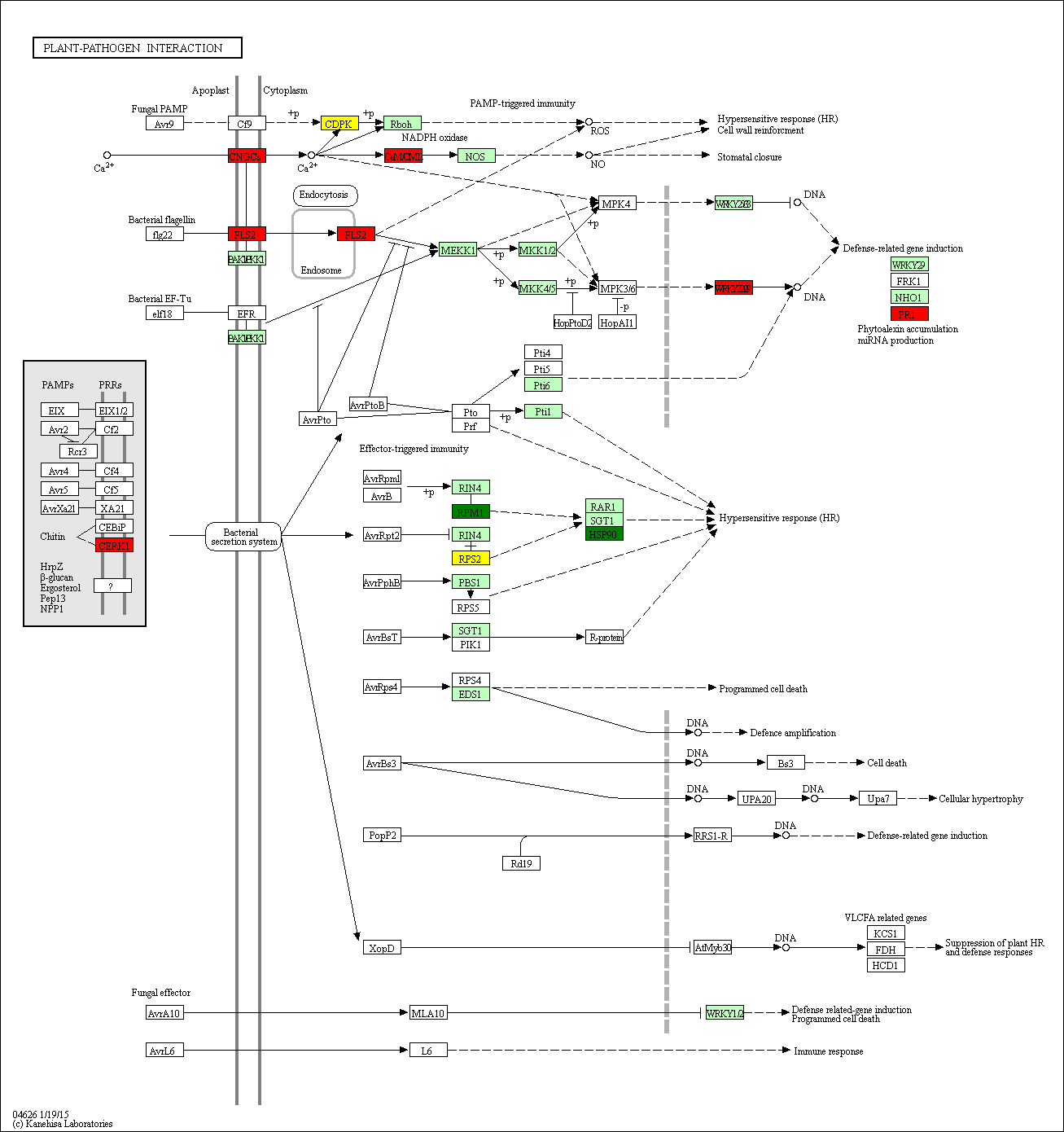
Supplementary Figure 5. Differential gene topGO directed acyclic graph in terms of MF in RT vs RC. The most significant nodes are represented by rectangles. The color of the rectangle represents the saliency of the enrichment, and the saliency from yellow to red is becoming more and more high. The basic information of each node is displayed in the corresponding graphic, which is GO ID and GO term.



Supplementary Figure 6. KEGG map for MAPK signaling pathway. Red on the KEGG pathway map indicates up-regulated genes, green indicates down-regulated genes, and yellow indicates that the corresponding genes are both up-regulated and down-regulated.



Supplementary figure 7. EGG map for plant hormone signal transduction pathway. Red on the KEGG pathway map indicates up-regulated genes, green indicates down-regulated genes, and yellow indicates that the corresponding genes are both up-regulated and down-regulated. auxin-responsive protein IAA, two-component response regulator ARR-A family, ethylene-responsive transcription factor 1, xyloglucosyl transferase TCH4, jasmonate ZIM domain-containing protein and transcription factor MYC2 were found up regulated.



Supplementary Figure 8. KEGG map for plant pathogen interaction. Red on the KEGG pathway map indicates up-regulated genes, green indicates down-regulated genes, and yellow indicates that the corresponding genes are both up-regulated and down-regulated. CDPKs , WRKY33, RPM1-interacting protein 4, putative disease resistance protein At1g50180, disease resistance protein RPS2 were found to be up regulated.

**Supplementary Table 3 showing gene id, names, p-value and fold changes in all four datasets**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Gene\_id** | **pval** | **Fold change (log2fc )in RMSM** | **RT RC**  **RT ST** | | **ST SC** | **Description** | **Pathway** |
| 107947061 | 0.01 |  | 20.0 | 13.8 |  | 1-aminocyclopropane-1-carboxylate synthase-like | path:ghi00270,path:ghi04016 |
| 107949019 | 0.03 |  | 16.3 | 13.7 |  | 1-aminocyclopropane-1-carboxylate synthase-like | path:ghi00270,path:ghi04016 |
| 107913823 | 0.01 |  | 0.272 |  | 0.29 | 4-coumarate--CoA ligase 1-like | path:ghi00130,path:ghi00360,path:ghi00940 |
| 107897473 | 0.009 |  | 0.223 |  | 0.28 | 4-coumarate--CoA ligase 1-like | path:ghi00130,path:ghi00360,path:ghi00940 |
| 107958280 | 0.01 |  | 3.203 |  | 2.2 | 5'-adenylylsulfate reductase 2, chloroplastic-like | path:ghi00920 |
| 107912050 | 0.02 |  | 3.96 | 189 | 0.04 | 60S ribosomal protein L15-like | path:ghi03010 |
| 107897348 | 0.01 |  | 3.18 |  |  | ABC transporter G family member 35-like |  |
| 107916837 | 0.00 |  | 5.02 |  |  | ABC transporter G family member 9-like |  |
| 107900693 | 0.023 |  | 24.5 | 3.20 |  | abscisic acid 8'-hydroxylase 1-like | path:ghi00906 |
| 107929452 | 0.04 |  | 9.68 | 2.8 |  | abscisic acid 8'-hydroxylase 1-like | path:ghi00906 |
| 107904934 | 0.04 |  | 4.81 | 5.9 |  | allene oxide synthase, chloroplastic-like | path:ghi00592 |
| 107910948 | 0.004 |  | 5.11 |  |  | antifungal protein ginkbilobin-2-like |  |
| 107951046 | 0.014 |  | 12.04 | 50.4 |  | auxin-induced protein 22D-like | path:ghi04075 |
| 107941745 | 0.031235 |  | 8.190 | 140 |  | auxin-responsive protein SAUR36-like | path:ghi04075 |
| 107950667 | 0.024 | 3.7 | 0.22 |  |  | beta-galactosidase 1-like |  |
| 107913033 | 0.008 | 5.4 | 0.256 |  |  | beta-galactosidase 3-like |  |
| 107909431 | 0.025 | 2.8 | 0.170 |  |  | beta-galactosidase 3-like |  |
| 107909994 | 0.013 |  | 3.196 |  |  | bZIP transcription factor 53-like |  |
| 107891421 | 0.022 |  | 0.309 |  |  | caffeic acid 3-O-methyltransferase 1-like | path:ghi00940 |
| 107947186 | 0.001 |  | 0.164 |  | 0.29 | caffeic acid 3-O-methyltransferase-like | path:ghi00940 |
| 107953912 | 0.020 |  | 9.535 | 7.77 |  | calcium-binding protein CML24-like | path:ghi04626 |
| 107951788 | 0.025 |  | 7.47 | 5.8 |  | calcium-binding protein PBP1-like |  |
| 107908981 | 0.023 |  | 4.931 |  |  | calcium-dependent protein kinase 26-like | path:ghi04626 |
| 107936545 | 0.016 |  | 5.054 |  |  | calcium-dependent protein kinase 28-like | path:ghi04626 |
| 107898045 | 0.010 |  | 0.098 |  |  | callose synthase 7-like |  |
| 107922616 | 0.010 |  | 6.19 | 3.9 |  | calmodulin-binding protein 25-like |  |
| 107918457 | 0.027 |  | 7.128 | 5.6 |  | calmodulin-binding protein 60 B-like |  |
| 107940246 | 0.015 |  | 3.424 |  |  | cellulose synthase-like protein D3 |  |
| 107959525 | 0.00 |  | 20.65 | 21.7 |  | chaperone protein dnaJ 20, chloroplastic-like |  |
| 107902841 | 0.013 |  | 22.01 | 9.7 |  | chaperone protein dnaJ 49-like | path:ghi04141 |
| 107918520 | 0.024 |  | 3.88 |  |  | cysteine-rich and transmembrane domain-containing protein A-like |  |
| 107935356 | 6.93 |  | 23.81 | 2.64 |  | cysteine-rich repeat secretory protein 38-like |  |
| 107902469 | 0.001 |  | 6.35 |  | 4.1 | cytochrome P450 71A1-like | path:ghi00905 |
| 107931844 | 0.009 |  | 4.735911 | 3.1 |  | cytochrome P450 71A1-like |  |
| 107905468 | 0.025 |  | 23.8 |  |  | cytokinin dehydrogenase 5-like | path:ghi00908 |
| 107904627 | 0.000 | 0 | 149.8 | 79.2 |  | dehydration-responsive element-binding protein 1D-like |  |
| 107936392 | 0.002 |  | 46.41 | inf | 0 | dehydration-responsive element-binding protein 1E-like |  |
| 107931998 | 0.015 |  | 3.733 | 15.6 |  | disease resistance protein RGA2-like |  |
| 107923000 | 0.008 |  | 18.82 | 72.5 |  | ethylene-responsive transcription factor ERF027-like |  |
| 107908908 | 0.040 |  | 8.043 | 34.1 |  | ethylene-responsive transcription factor ERF109-like |  |
| 107920086 | 0.014 |  | 3.228 |  |  | ethylene-responsive transcription factor ERF119 |  |
| 107958202 | 0.016 |  | 0.194 |  |  | expansin-A11-like |  |
| 107905537 | 0.001 |  | 0.050 |  |  | expansin-A11-like |  |
| 107913063 | 0.005 |  | 3.917 |  |  | F-box protein At5g49610-like |  |
| 107957772 | 0.048 |  | 3.636 |  |  | F-box protein FBW2-like |  |
| 107887236 | 0.040 |  | 8.499 |  |  | F-box protein PP2-B13-like |  |
| 107887492 | 0.037 |  | 5.875 | 5.2 |  | flavonoid 3',5'-hydroxylase-like |  |
| 107902198 | 0.003 |  | 4.204 | 2.44 |  | flavonol sulfotransferase-like |  |
| 107940712 | 0.004 |  | 0.246 |  |  | glucan endo-1,3-beta-glucosidase, basic isoform-like |  |
| 107944179 | 0.039 |  | 0.338 |  |  | glucan endo-1,3-beta-glucosidase-like |  |
| 107912779 | 0.011 |  | 0.295 | 3.34 | 0.23 | glucomannan 4-beta-mannosyltransferase 2-like |  |
| 107961976 | 0.020 |  | 18.30 | 12.1 |  | glucose-6-phosphate/phosphate translocator 2, chloroplastic-like |  |
| 107928749 | 0.033 |  | 2.767 |  | 2.32 | glycine-rich RNA-binding protein GRP1A-like |  |
| 107959100 | 0.038 |  | 3.597 | 0.17 | 14.66 | heat shock cognate 70 kDa protein 2-like | path:ghi03040,path:ghi04141,path:ghi04144 |
| 107919928 | 0.043 |  | 0.347 | 0.08 | 5.7 | heat shock cognate protein 80-like | path:ghi04141,path:ghi04626 |
| 107914247 | 0.033 |  | 2.868 |  |  | hypersensitive-induced response protein 1-like |  |
| 107913687 | 0.034 |  | 10.26 | 18.8 |  | inositol-3-phosphate synthase-like | path:ghi00562 |
| 107910306 | 0.023 |  | 4.499 |  | 6.06 | isoflavone 2'-hydroxylase-like |  |
| 107945349 | 0.039 |  | 3.766 |  | 2.8 | isoflavone 3'-hydroxylase-like | path:ghi00943 |
| 107899042 | 0.021 |  | 0.088 |  |  | laccase-4-like |  |
| 107959171 | 0.034 |  | 0.053 |  | 0.11 | laccase-4-like |  |
| 107945088 | 0.009 |  | 19.66 | 50.07 |  | L-ascorbate oxidase homolog |  |
| 107932294 | 0.013 |  | 15.83 | 148.6 |  | L-ascorbate oxidase homolog |  |
| 107944676 | 0.045 |  | 3.811 |  |  | late embryogenesis abundant protein At1g64065-like |  |
| 107916177 | 0.042 |  | 2.801 |  |  | late embryogenesis abundant protein Lea5-D |  |
| 107912744 | 0.023 |  | 5.752 | 4.2 |  | LEAF RUST 10 DISEASE-RESISTANCE LOCUS RECEPTOR-LIKE PROTEIN KINASE-like 2.7 |  |
| 107891371 | 0.038 |  | 3.422 |  |  | leucine-rich repeat receptor-like tyrosine-protein kinase PXC3 |  |
| 107915240 | 0.005 |  | 21.00 | 9 |  | linoleate 13S-lipoxygenase 3-1, chloroplastic-like | path:ghi00591,path:ghi00592 |
| 107904213 | 0.011 |  | 12.41 | 6.4 |  | linoleate 13S-lipoxygenase 3-1, chloroplastic-like | path:ghi00591,path:ghi00592 |
| 107953199 | 0.010 | 0.03 | 12.85 |  |  | LRR receptor-like serine/threonine-protein kinase GSO1 |  |
| 107945304 | 0.017 |  | 9.166 | 11.1 |  | mitogen-activated protein kinase 8-like |  |
| 107944011 | 0.032 |  | 3.238 |  |  | mitogen-activated protein kinase kinase kinase 3-like |  |
| 107927033 | 0.009 |  | 4.254 |  |  | mitogen-activated protein kinase kinase kinase NPK1-like |  |
| 107897904 | 0.000 |  | 94.95 |  |  | mitogen-activated protein kinase kinase kinase YODA-like |  |
| 107892581 | 0.001 |  | 12.30 |  |  | mitogen-activated protein kinase kinase kinase YODA-like |  |
| 107909573 | 0.039 |  | 44.94 |  |  | MLP-like protein 31 |  |
| 107961673 | 0.020 |  | 0.318 | 7.1 |  | MLP-like protein 423 |  |
| 107913620 | 0.013 |  | 5.469 |  |  | myb-like protein Q |  |
| 107887014 | 0.004 |  | 24.27 | 8.7 |  | myb-related protein A-like |  |
| 107898929 | 0.003 |  | 78.84 | 26.3 |  | myb-related protein Myb4-like |  |
| 107930250 | 0.049 |  | 3.751 | 4.6 |  | NAC domain-containing protein 62-like |  |
| 107935822 | 0.036 |  | 7.679 |  |  | NAC domain-containing protein 83-like |  |
| 107894112 | 0.000 |  | 6.199 | 3.6 |  | NADH-ubiquinone oxidoreductase chain 5-like | path:ghi00190 |
| 107907485 | 0.025 |  | 2.923 | 3 |  | NADPH--cytochrome P450 reductase 2-like |  |
| 107926776 | 0.005 |  | 10.12 | 7.11 |  | pathogenesis-related protein PR-4-like |  |
| 107896971 | 0.004 |  | 4.12 | 5.3 |  | pectinesterase-like | path:ghi00040 |
| 107932995 | 0.032 |  | 28.86 |  |  | peroxidase 45-like | path:ghi00940 |
| 107927057 | 2.86 |  | 9.067 |  |  | peroxidase 4-like | path:ghi00940 |
| 107923041 | 0.046 |  | 8.824 |  |  | phospholipase A1-Ibeta2, chloroplastic-like |  |
| 107912207 | 0.030327 |  | 6.676393 |  |  | phospholipase A1-Ibeta2, chloroplastic-like |  |
| 107936609 | 0.011 |  | 8.371 |  |  | probable calcium-binding protein CML23 | path:ghi04626 |
| 107961056 | 0.004 |  | 23.05 |  |  | probable disease resistance protein At1g12280 |  |
| 107928900 | 0.028 |  | 2.767 |  |  | probable disease resistance protein At5g63020 | path:ghi04626 |
| 107927711 | 4.20 |  | 20.52 |  | 5.97E+01 | probable glutathione S-transferase | path:ghi00480 |
| 107918871 | 0.015 |  | 15.69 |  |  | probable glutathione S-transferase | path:ghi00480 |
| 107928106 | 0.011 |  | 3.552 |  |  | probable LRR receptor-like serine/threonine-protein kinase At1g53430 |  |
| 107913242 | 0.00 |  | 88.31 | 26.4 |  | probable serine/threonine-protein kinase DDB\_G0284251 |  |
| 107948975 | 0.007251 |  | 7.299611 |  |  | probable WRKY transcription factor 33 | path:ghi04016,path:ghi04626 |
| 107899596 | 0.01 |  | 7.25 |  |  | probable WRKY transcription factor 33 | path:ghi04016,path:ghi04626 |
| 107929964 | 0.027 |  | 17.6 | 14 |  | probable WRKY transcription factor 50 |  |
| 107953898 | 0.036 |  | 8.634 | 16 |  | probable WRKY transcription factor 50 |  |
| 107946476 | 0.025 |  | 3.08 |  |  | proline-rich receptor-like protein kinase PERK9 |  |
| 107938246 | 0.03 |  | 2.987 |  |  | proline-rich receptor-like protein kinase PERK9 |  |
| 107928615 | 0.045 |  | 3.30 |  |  | protein NDR1-like |  |
| 107962565 | 0.000 |  | 82.0 |  |  | protein SRG1-like |  |
| 107962563 | 0.035 |  | 8.27 |  |  | protein SRG1-like |  |
| 107951092 | 0.017 |  | 9.78 | 6.2 |  | protein TIFY 10A-like | path:ghi04075 |
| 107907089 | 0.003 |  | 10.3 |  |  | protein TIFY 10B-like | path:ghi04075 |
| 107891180 | 0.027 |  | 5.77 |  |  | protein YLS9-like |  |
| 107906200 | 0.04 |  | 3.67 |  |  | protein YLS9-like |  |
| 107923955 | 0.04 |  | 4.55 |  |  | putative disease resistance protein At1g50180 | path:ghi04626 |
| 107929292 | 0.022 |  | 3.2 |  |  | putative disease resistance protein RGA3 |  |
| 107894328 | 0.041 |  | 3.1 |  |  | putative disease resistance protein RGA3 |  |
| 107910359 | 0.00 |  | 76.8 | 83.8 |  | putative wall-associated receptor kinase-like 16 |  |
| 107910353 | 0.031 |  | 7.4 | 7.6 |  | putative wall-associated receptor kinase-like 16 |  |
| 107938972 | 0.041 |  | 5.1 | 4.6 |  | receptor-like protein 12 |  |
| 107932019 | 0.01 |  | 16.4 | 8.3 |  | RING-H2 zinc finger protein RHA1a-like |  |
| 107944088 | 0.020 |  | Inf |  |  | RNA-binding protein 38-like |  |
| 107891984 | 0.017 |  | 3.1 | 2.7 |  | rust resistance kinase Lr10-like |  |
| 107940019 | 0.010 |  | 11.0 |  |  | scarecrow-like protein 21 |  |
| 107917917 | 0.028 |  | 5.292 |  |  | scarecrow-like protein 21 |  |
| 107892240 | 0.027 | 4 | 0.245 | 2.8 | 0.35 | terpene synthase 10-like | path:ghi00902 |
| 107929715 | 0.017 |  | 11.18 |  |  | TMV resistance protein N-like |  |
| 107934976 | 0.043 |  | 4.153 |  |  | TMV resistance protein N-like |  |
| 107935247 | 0.006 |  | 23.60 |  |  | transcription factor bHLH18-like |  |
| 107929084 | 6.27 |  | 389.1 | 5.57E+01 |  | transcription factor bHLH92-like |  |
| 107926867 | 0.000 |  | 114.8 | 28.9 |  | transcription factor MYB108-like |  |
| 107940677 | 0.003 |  | 29.45 | 28 |  | transcription factor MYB44-like |  |
| 107933572 | 0.021 |  | 5.009 | 3.88 |  | transcription factor MYC2-like | path:ghi04016,path:ghi04075 |
| 107961973 | 0.006 |  | 44.20 | 9 |  | tryptophan synthase beta chain 1-like | path:ghi00260,path:ghi00400 |
| 107911835 | 0.023 |  | 0.254 |  | 0.29 | UDP-glycosyltransferase 83A1-like |  |
| 107901404 | 0.022 |  | 31.9 |  |  | WAT1-related protein At4g08300-like |  |
| 107935490 | 0.011 |  | 9.475 |  |  | WAT1-related protein At5g07050-like |  |
| 107960336 | 0.027 |  | 10.05 | Inf | 0 | xyloglucan endotransglucosylase/hydrolase protein 22-like | path:ghi04075 |
| 107892234 | 0.028 |  | 9.074 | 57 |  | xyloglucan endotransglucosylyase/hydrolase protein 22-like | path:ghi04075 |
| 107886817 | 0.017 |  | 3.071 |  |  | zinc finger protein CONSTANS-LIKE 3-like |  |
| 107920914 | 0.005 |  | 15.92 | 2.7 |  | zinc finger protein ZAT10-like |  |