**Supplementary Table S2.** Pathway enrichment analysis of genes in the co-expression modules.

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| --- | --- | --- | --- | --- |
| Module color | Pathway id | Pathway name | No. of genes | P-value |
| Black | osa00195osa00196osa00760osa00906osa00220 | PhotosynthesisPhotosynthesis - antenna proteinsNicotinate and nicotinamide metabolismCarotenoid biosynthesisArginine biosynthesis | 31111 | 6.01e-050.02700.03400.04630.0498 |
| Blue | osa03010osa03008osa00260 osa00941osa00944 | RibosomeRibosome biogenesis in eukaryotesGlycine, serine and threonine metabolismFlavonoid biosynthesisFlavone and flavonol biosynthesis | 814121 | 2.80e-1120.00400.00850.01110.0417 |
| Brown | osa00710osa00630osa04146 osa04016 osa03410osa00053osa00460osa01200 | Carbon fixation in photosynthetic organismsGlyoxylate and dicarboxylate metabolismPeroxisomeMAPK signaling pathway - plant Base excision repairAscorbate and aldarate metabolismCyanoamino acid metabolismCarbon metabolism | 33112224 | 0.00380.00410.00450.00450.01280.01550.02070.0250 |
| Green | osa01110osa00053osa00260osa00592 osa00730 osa00630osa00480osa01200osa01100 | Biosynthesis of secondary metabolitesAscorbate and aldarate metabolismGlycine, serine and threonine metabolismalpha-Linolenic acid metabolismThiamine metabolismGlyoxylate and dicarboxylate metabolismGlutathione metabolismCarbon metabolismMetabolic pathways | 13331133516 | 0.00090.00110.00270.00480.00480.00480.00650.00650.0100 |
| Red | osa04070 osa01040 osa00480 osa01110osa01100osa00630osa00270osa00010 | Phosphatidylinositol signaling systemBiosynthesis of unsaturated fatty acidsGlutathione metabolismBiosynthesis of secondary metabolitesMetabolic pathwaysGlyoxylate and dicarboxylate metabolismCysteine and methionine metabolismGlycolysis / Gluconeogenesis | 111811222 | 0.00280.00280.00280.00570.00810.01640.02990.0452 |
| Turquoise | osa00290osa03040osa00760osa03013osa00998osa01110osa00650osa00770 | Valine, leucine and isoleucine biosynthesisSpliceosomeNicotinate and nicotinamide metabolismRNA transportBiosynthesis of various secondary metabolites - part 2Biosynthesis of secondary metabolitesButanoate metabolismPantothenate and CoA biosynthesis | 262512022 | 0.02060.02220.02550.02810.03900.04200.04560.0456 |
| Yellow | osa04141osa01200osa00710osa00640 osa00750 osa01100osa01110osa01230osa00010osa00330osa00030osa00260osa00051osa04145osa00261osa00300osa00480 | Protein processing in endoplasmic reticulumCarbon metabolismCarbon fixation in photosynthetic organismsPropanoate metabolismVitamin B6 metabolismMetabolic pathwaysBiosynthesis of secondary metabolitesBiosynthesis of amino acidsGlycolysis / GluconeogenesisArginine and proline metabolismPentose phosphate pathwayGlycine, serine and threonine metabolismFructose and mannose metabolismPhagosomeMonobactam biosynthesisLysine biosynthesisGlutathione metabolism | 6631115104322222112 | 7.79E-050.00080.00360.00450.00450.01170.01340.01480.01770.01800.02430.02770.03040.04330.04380.04810.0486 |