**Table S3:**

**The markedly differentially expressed over-dominant genes in the flag leaves of II YOU 838 rice after heat treatment.**

|  |  |  |  |
| --- | --- | --- | --- |
| No. | Gene ID | log2 FC | Functional annotation |
|  |  | 24 h/0 h | 72 h/0 h | 120 h/0 h |  |
| 1 | MH01g0081900 | 17.1  | 15.5  | 17.7  | Galactinol--sucrose galactosyltransferase |
| 2 | MH01g0123900 | 18.2  | 13.8  | 16.4  | E3 ubiquitin-protein ligase ATL41 |
| 3 | MH01g0226600 | 17.8  | 0.0  | 12.5  | hypothetical protein |
| 4 | MH01g0323300 | 17.6  | 12.5  | 0.0  | hypothetical protein OsI\_02060 |
| 5 | MH01g0328200 | 17.2  | 13.5  | 14.5  | hypothetical protein OsI\_02069 |
| 6 | MH01g0365400 | 16.1  | 16.1  | 17.0  | unnamed protein product |
| 7 | MH01g0445400 | 16.5  | 16.6  | 17.8  | hypothetical protein |
| 8 | MH01g0458600 | 17.2  | 0.0  | 0.0  | Vacuolar amino acid transporter 1 |
| 9 | MH01g0488800 | 16.9  | 14.3  | 14.3  | Serine carboxypeptidase-like 50 |
| 10 | MH01g0492100 | -15.1  | 1.3  | 2.0  | Receptor-like protein kinase |
| 11 | MH01g0546600 | 16.9  | 13.1  | 14.1  | MAP3K A  |
| 12 | MH01g0581100 | 16.6  | 15.5  | 17.2  | WRKY transcription factor 65 |
| 13 | MH01g0589100 | 17.6  | 12.5  | 15.6  | retrotransposon protein |
| 14 | MH01g0665600 | 3.7  | 2.5  | -13.1  | Pentatricopeptide repeat-containing protein |
| 15 | MH01g0671400 | -15.1  | 1.1  | 2.1  | hypothetical protein OsI\_04255 |
| 16 | MH01g0684800 | 16.9  | 15.1  | 16.6  | ZAT8-C2H2 zinc finger protein |
| 17 | MH01g0704500 | 17.6  | 12.5  | 0.0  | hypothetical protein OsI\_04531 |
| 18 | MH01g0704800 | 16.7  | 0.0  | 15.8  | MYB family transcription factor |
| 19 | MH01g0791000 | 15.0  | 16.6  | 17.4  | Glutathione S-transferase |
| 20 | MH01g0800100 | 15.6  | 15.8  | 18.5  | Abscisic stress-ripening protein 1 |
| 21 | MH02g0026100 | 15.1  | 14.7  | 17.3  | Serine/threonine-protein kinase HT1 |
| 22 | MH02g0084000 | 16.8  | 13.1  | 12.5  | Uncharacterized protein L728 |
| 23 | MH02g0282700 | 17.6  | 13.5  | 14.8  | Retrovirus-related Pol polyprotein from transposon TNT 1-94 |
| 24 | MH02g0300700 | 17.3  | 14.1  | 13.1  | F-box/kelch-repeat protein |
| 25 | MH02g0392300 | 16.5  | 15.1  | 16.9  | Transcription factor RF2a |
| 26 | MH02g0392700 | 16.9  | 12.5  | 14.6  | Hypothetical protein |
| 27 | MH02g0427800 | 2.6  | 1.6  | -14.5  | Hypothetical protein |
| 28 | MH02g0469800 | 17.2  | 14.8  | 15.4  | Protein phosphatase 2C 16 |
| 29 | MH02g0493300 | 17.8  | 0.0  | 0.0  | Phenylalanine ammonia-lyase |
| 30 | MH02g0493600 | 18.6  | 0.0  | 0.0  | Phenylalanine ammonia-lyase OsPAL4 |
| 31 | MH02g0561400 | 17.2  | 13.1  | 13.1  | Peptide transporter PTR2 |
| 32 | MH02g0595700 | 16.9  | 0.0  | 0.0  | Transcription factor BIM1, bHLH |
| 33 | MH02g0661300 | 17.4  | 0.0  | 0.0  | 18.6 kDa Hsp class III  |
| 34 | MH03g0137000 | 17.2  | 13.8  | 14.1  | U-box domain-containing protein 21 E3U-box |
| 35 | MH03g0172200 | -18.0  | 0.2  | 2.4  | Cysteine-rich repeat secretory protein 55 |
| 36 | MH03g0235900 | 4.1  | 0.4  | -13.1  | hypothetical protein OsI\_11577 |
| 37 | MH03g0259100 | 4.2  | 1.8  | -12.5  | expressed protein |
| 38 | MH03g0358500 | 18.9  | 0.0  | 14.1  | Zinc finger protein 1 |
| 39 | MH03g0408700 | 16.8  | 0.0  | 13.5  | Transposon Ty3-I Gag-Pol polyprotein |
| 40 | MH03g0687400 | 17.8  | 14.1  | 14.3  | hypothetical protein OsI\_13728 |
| 41 | MH03g0745800 | 16.7  | 13.8  | 13.1  | hypothetical protein |
| 42 | MH03g0749700 | 17.0  | 14.1  | 15.2  | Anthocyanidin 5,3-O-glucosyltransferase |
| 43 | MH04g0010600 | 16.9  | 0.0  | 0.0  | protein phosphatase 2C-like |
| 44 | MH04g0555500 | 16.7  | 14.9  | 15.1  | Homeobox-leucine zipper protein HOX22 |
| 45 | MH04g0590800 | 16.8  | 14.3  | 15.6  | Aminocyclopropane-1-carboxylate synthase |
| 46 | MH04g0645800 | 17.6  | 12.5  | 15.3  | hypothetical protein OsJ\_16307 |
| 47 | MH05g0063600 | 12.6  | 16.9  | 20.2  | Peroxidase 1 |
| 48 | MH05g0361700 | 17.3  | 12.5  | 13.8  | Pre-mRNA-splicing factor ATP-dependent RNA helicase mog-4 |
| 49 | MH05g0368900 | 16.7  | 14.3  | 14.8  | Kinesin-4 |
| 50 | MH05g0399700 | 19.8  | 13.5  | 0.0  | Phenylalanine ammonia-lyase |
| 51 | MH05g0427800 | 16.9  | 13.5  | 14.3  | MYB family transcription factor 3R-1 |
| 52 | MH05g0463700 | 14.1  | 13.5  | 16.6  | OSJNBa0038P21.8 |
| 53 | MH05g0465000 | 17.2  | 12.5  | 14.3  | unnamed protein product |
| 54 | MH06g0146900 | 17.0  | 12.5  | 12.5  | 26.2 kDa Hsp |
| 55 | MH06g0492400 | 16.8  | 13.5  | 13.8  | Tetrahydrocannabinolic acid synthase |
| 56 | MH06g0583000 | -13.5  | 2.1  | 3.7  | unknown protein |
| 57 | MH06g0689400 | 18.1  | 13.5  | 15.2  | Activator of 90 kDa heat shock protein ATPase homolog 2 |
| 58 | MH07g0015600 | 4.3  | 0.5  | -12.5  | Dirigent protein 1 |
| 59 | MH07g0428300 | 5.6  | 1.5  | -12.5  | Alternative NAD(P)H dehydrogenase 1 |
| 60 | MH07g0434600 | 16.8  | 13.1  | 13.5  | L-type lectin-domain containing receptor kinase IX.1 |
| 61 | MH07g0501100 | 3.8  | -13.1  | -0.6  | CBL-interacting protein kinase 21 |
| 62 | MH08g0051700 | 17.3  | 0.0  | 12.5  | Phospholipase A1-Ibeta2 |
| 63 | MH08g0529300 | 16.9  | 15.2  | 15.6  | Transcription initiation factor IIB 1 |
| 64 | MH09g0309700 | 17.2  | 14.7  | 15.2  | MYB family transcription factor |
| 65 | MH09g0352600 | 6.2  | -12.5  | 2.6  | GAMETE EXPRESSED 1 |
| 66 | MH09g0354400 | 18.2  | 16.0  | 18.0  | plant viral-response family protein-like |
| 67 | MH10g0061500 | 17.6  | 0.0  | 13.5  | retrotransposon protein |
| 68 | MH10g0188800 | 17.6  | 0.0  | 13.8  | hypothetical protein |
| 69 | MH10g0331700 | 15.3  | 16.1  | 18.6  | Beta-amylase 1 |
| 70 | MH10g0392800 | 17.1  | 14.1  | 16.4  | Glutathione S-transferase GSTU6 |
| 71 | MH11g0017000 | 2.8  | -13.8  | -0.4  | PRA1 family protein B5 |
| 72 | MH12g0067800 | 16.7  | 16.0  | 13.5  | Hypothetical protein |
| 73 | MH12g0101700 | 0.0  | 14.9  | 19.4  | Carboxyvinyl-carboxyphosphonate phosphorylmutase |