

Fig. S1 Pearson's correlation coefficients for three biological replicates in different floral organ in *Nelumbo nucifera*.

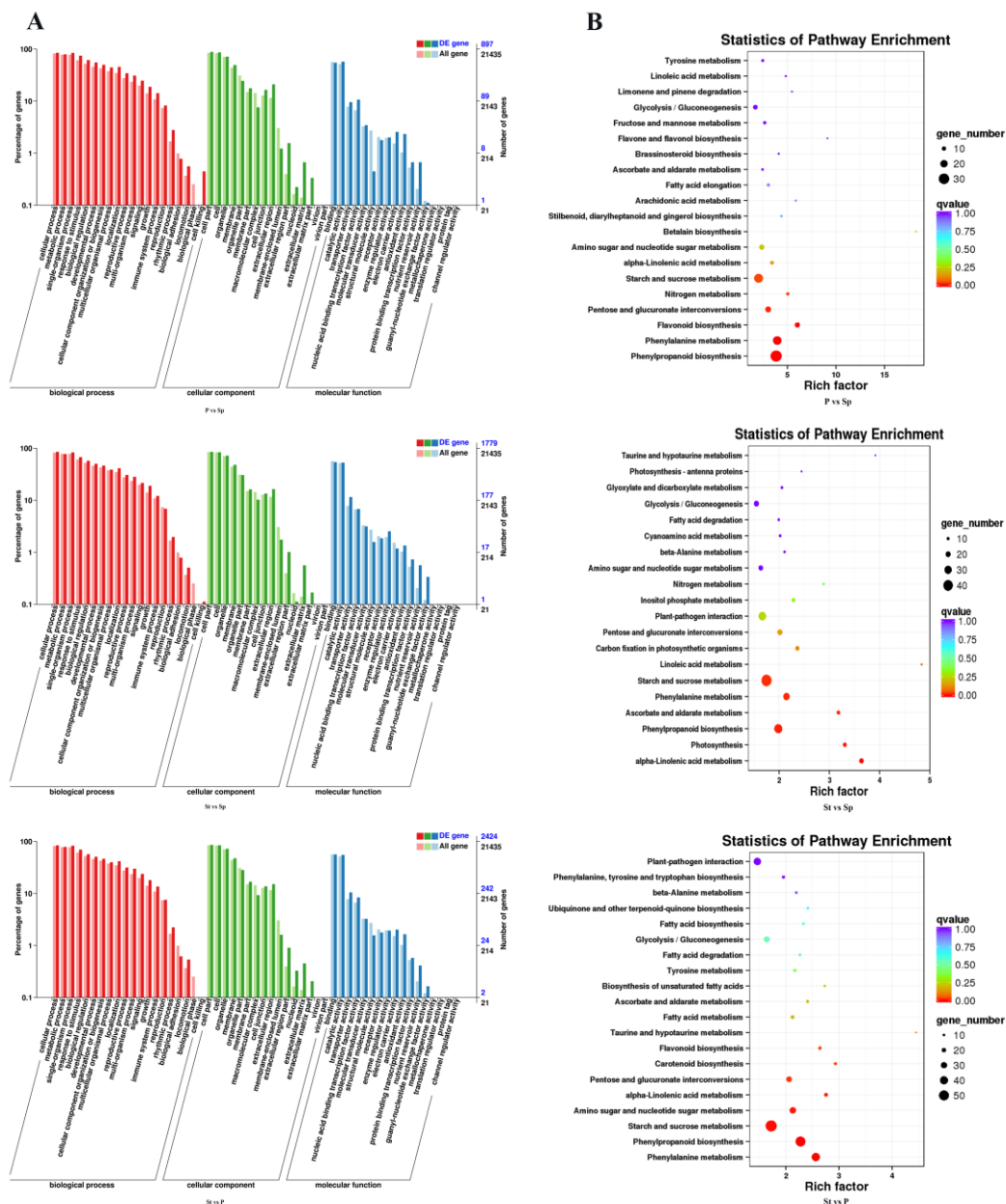


Fig. S2 GO terms (A) and KEGG pathways (B) significantly enriched in DEGs in comparisons of P, Sp and St.

Plant hormone signal transduction

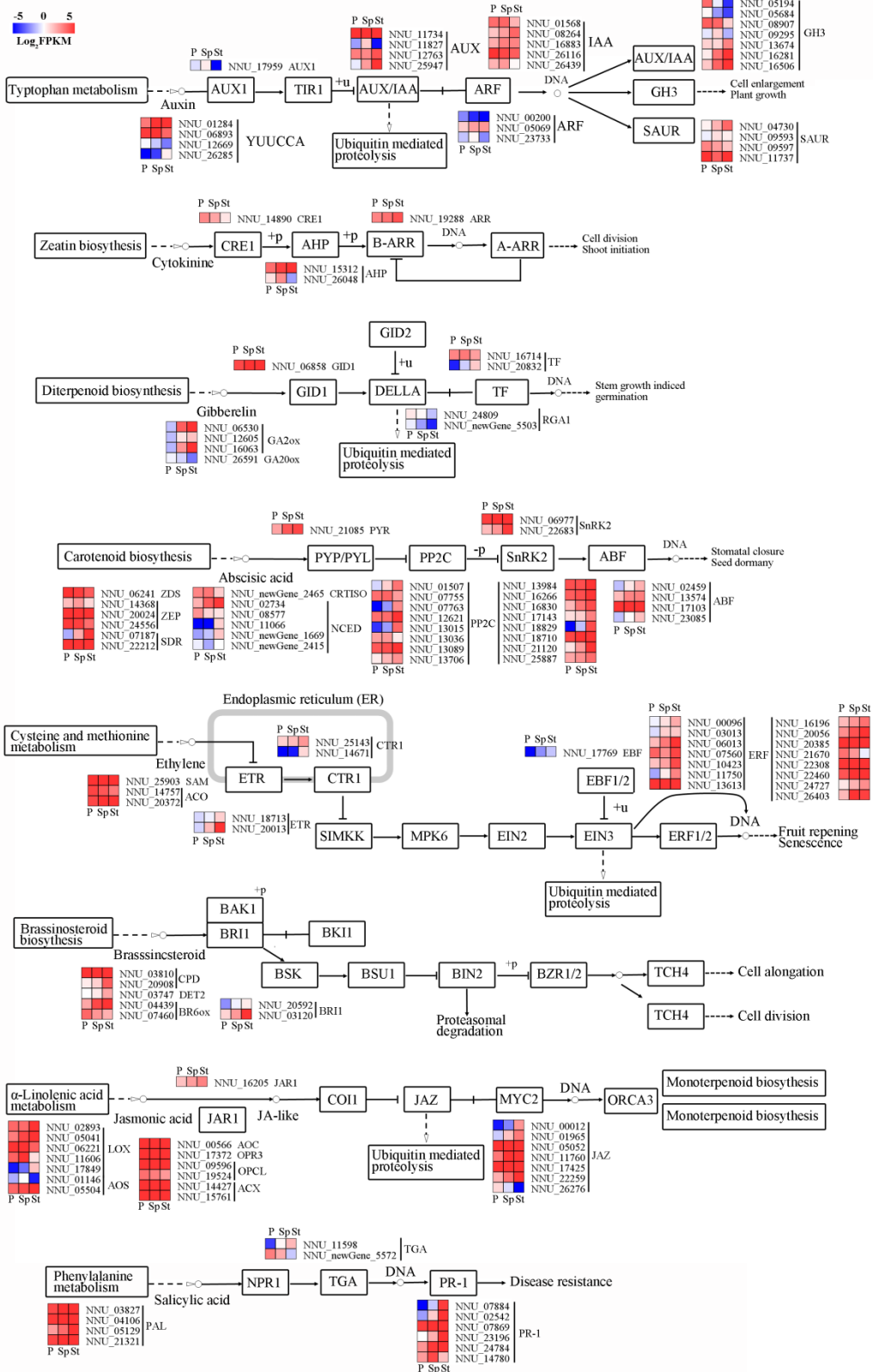


Fig. S3 Heat maps of phytohormone related genes in the three floral organs of *Nelumbo nucifera*.

The figure was revised from ko04075.

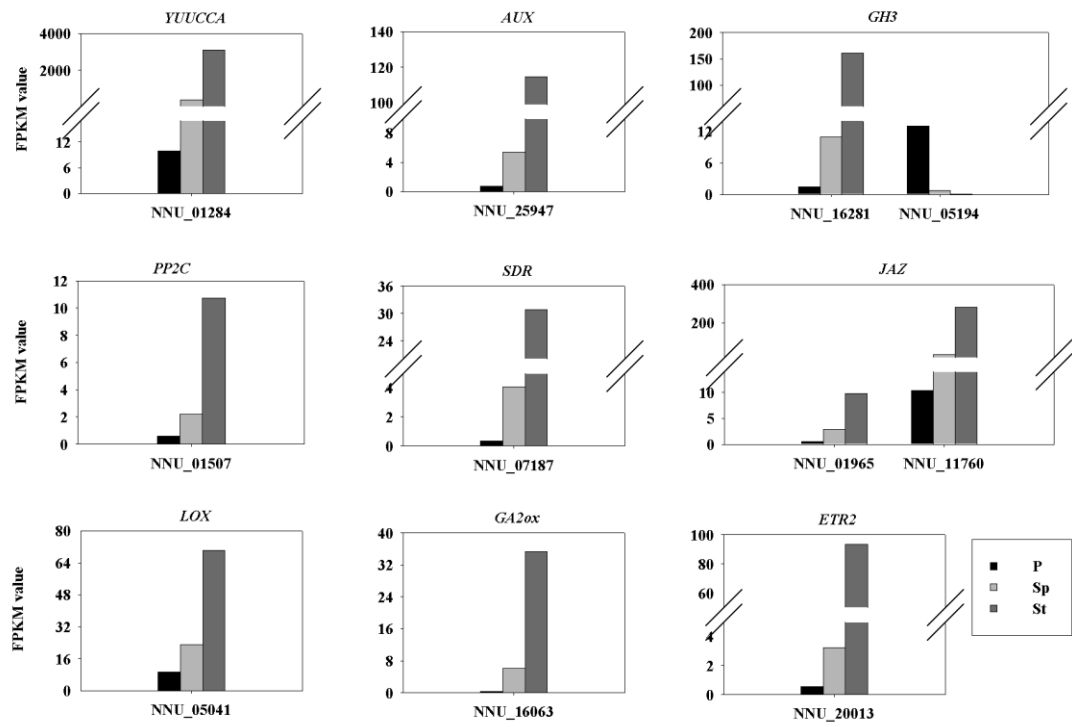


Fig. S4 Eleven phytohormone related genes.

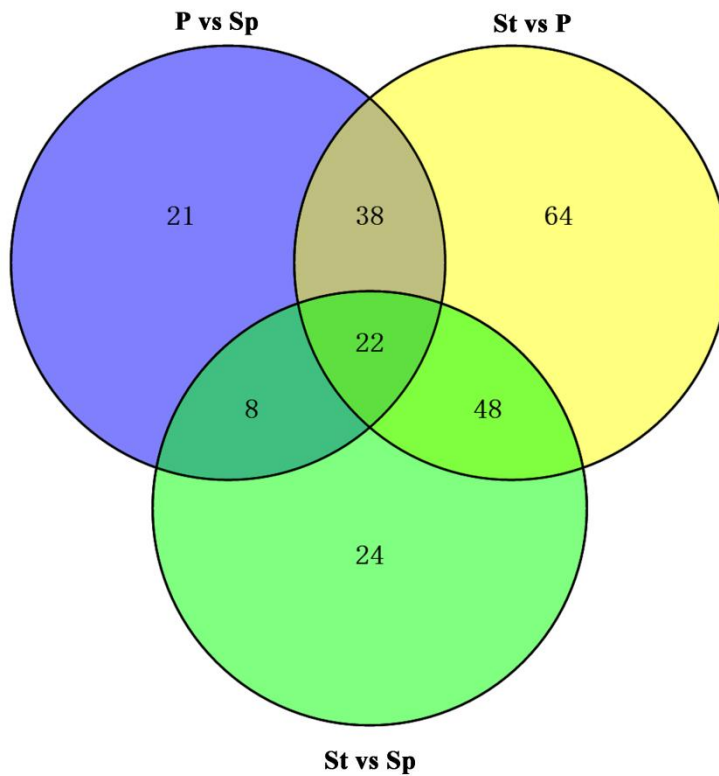


Fig. S5 The venn diagram of TFs in three pair comparison.

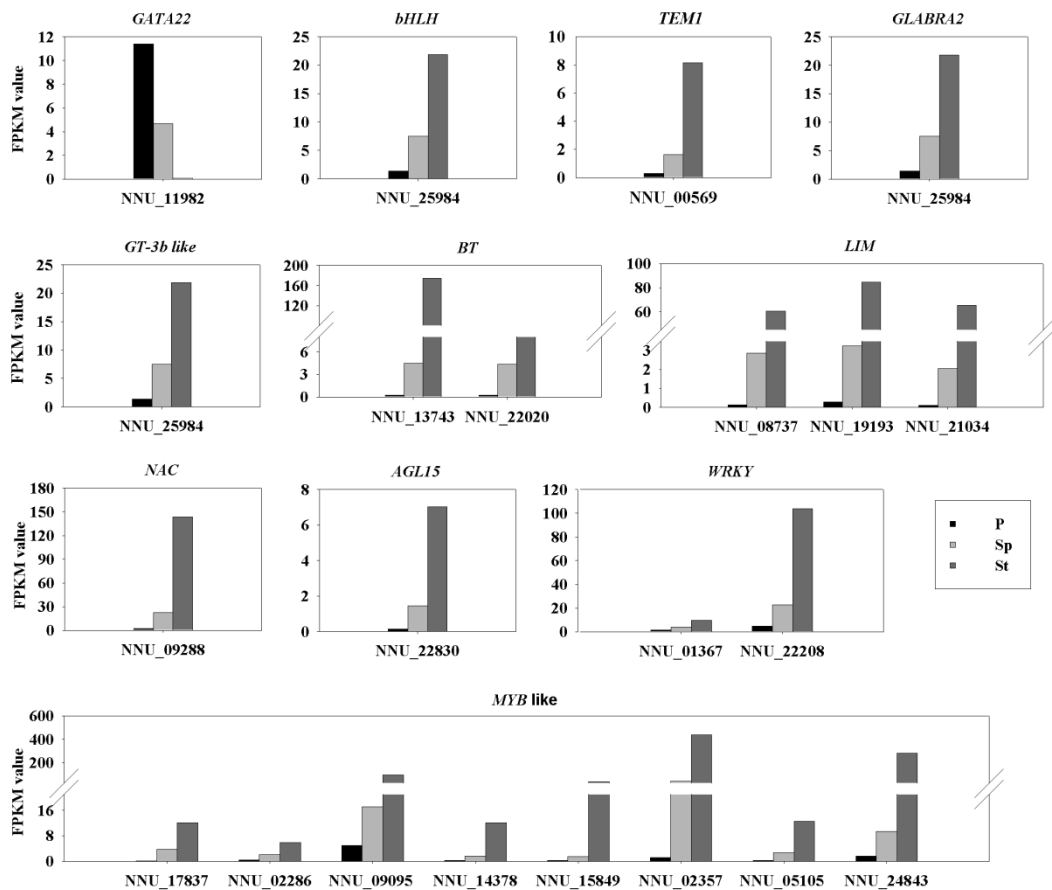


Fig. S6 22 transcription factors.

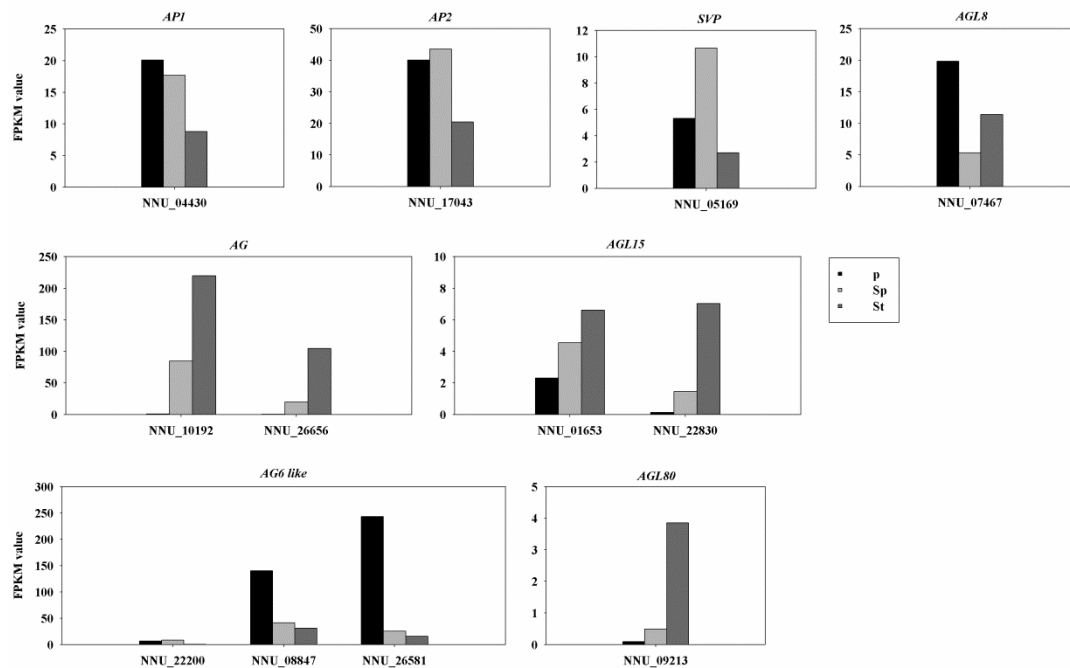


Fig. S7 Twelve floral homeotic genes.

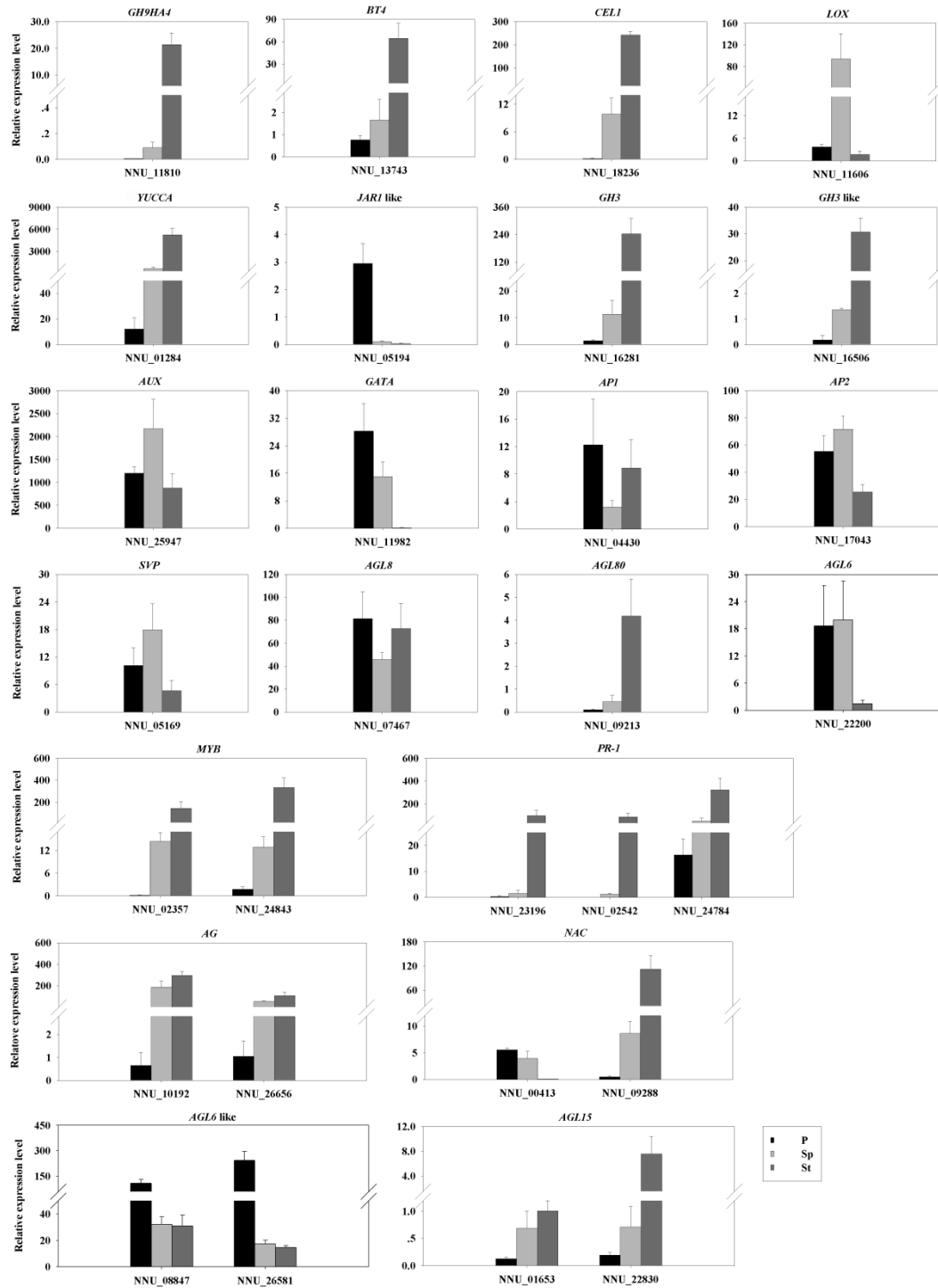


Fig. S8 Quantitative real-time PCR confirmation of 29 candidate genes at petal, stamen petaloid stamen in lotus. Relative gene expressions were normalized by comparison with the expression of lotus β -actin (NNU_24864), and using the $2^{-\Delta\Delta CT}$ method. Each gene used three biological replicates,

with three technical replicates per experiment in all qRT-PCRs. The Error bars represented the SD for three biological replicates.

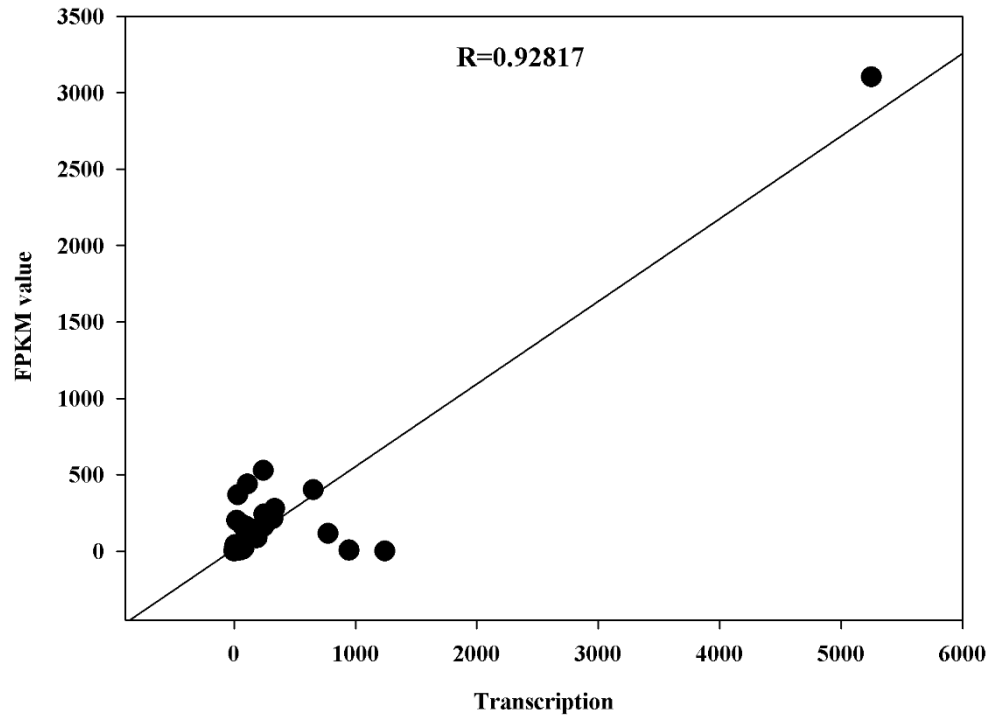


Fig. S9 The correlation between qRT-PCR result and RNA-Seq data.

Table S1. The novel transcripts annotation

Annotated Database	Annotated Number	300<=length<1000	length>=1000
COG Annotation	321	29	291
GO Annotation	758	122	629
KEGG Annotation	493	76	413
Swissprot Annotation	923	119	798
Nr Annotation	1835	300	1527
All Annotated	1836	300	1528

Table S2 Primers used to assay gene expression by qRT-PCR

Gene name	Gene ID	Forward primer (5'→3')	Reverse primer (5'→3')
<i>β-actin</i>	NUU_24864	GATGCCCTGATGAAGATCC	CCACTCAGCACAATGTTTCC
AUX	NUU_25947	AGGAGTGTGTTCAACCCCG	CACCGCTGTAGAGCCAGTCAT
BT4	NUU_13743	GTTGAGAGTTCCAGGGGTTG	TCATCGGAGTTGGCACAGAGG
CEL1	NUU_18236	ACTCGCAGCCTCCTCCTT	CTCCCCATAACAGTTCGTCAT
GATA	NUU_11982	TCAGCGAGGTGGATGTCTTC	CAGTGATGTTGCTATTGTTGGA
GH3.1	NUU_16281	GCCTGTGATGAACCTTTAC	GCGTCTTTGTCTCGGATT
GH3	NUU_16506	CGTTGTTTTGAGCATAGATTCG	CCAGATGATTGGTGGCGTTT
GH9A4	NUU_11810	GTAAACTCCTCAACAAGGCAAAAG	CAGAATAAGAGCAATAGAATGGGC
JAR1	NUU_05194	GGTGCCGCTCTCTCAAGTTAC	ACCACATCCCCTAACCTGTATCT
LOX	NUU_11606	ACCACATCCCCTAACCTGTATCT	TGACTACTATCATCTGGGTTGCC
MYB	NUU_02357	CGAAAACACATCAAGGAAGCAG	GTCGTTAGATTCAGTGGGCAAA
MYB	NUU_24843	GACGAACACGGTAACAAGCG	GTGATGGTTTCCTCTGTCTTTG
NAC	NUU_09288	TGGGTCTTATGCCGAATCTAC	GTCAGTTTCAAGCAACGAGCC
PRB1	NUU_02542	TGGGATGATGACTGCGTTAGC	TTCTTGTCTTCCTGGTTCGG
PRP1	NUU_24784	AAGGAGATGGTGGCGTCG	CTGGTAGGATGGAGGGCAAT
STH21	NUU_23196	GCTGAAATCTGCTTGCTACGAG	ACATTCCAGTCATCCCATCCTT
YUCCA10	NUU_01284	ATCTCCCCTACTTCGCCGTG	CGATGATTGGATACTTGCCGT
AG	NUU_10192	TGGAGGGTAGATTGGAGAAAGG	TGGCGAGAGTAATGGTGGTTG
AG	NUU_26656	GCAGAAAAGGGAGATTGAGTTA	GTGGTTGGGTTCCAGTAGATT
AGL6	NUU_22200	TACCAGTTTGCCAATCCCG	ATGCCTGTGCCTTGCCCTC
AGL6 like	NUU_26581	ATGGGAAGAGGACGAGTAGAG	GTCGCAGAGCACAGAAAGC
AGL6 like	NUU_08847	TTTCTTTCTCGTGGTCCGGCTAT	AACCGTTCCTCCGCTTGG
AGL8	NUU_07467	AAGCGGAGGAACGGATTGC	CCCTTGGTGGAGAAGACGAT
AGL15	NUU_01653	CGGCGGATGATGGGTAAAG	CAATCGGAGATAAGGTGGCA
AGL15	NUU_22830	AGAGGGAAGATTGAAATAAAGAGG	CACTGCTGGAAAAGATAATGAGAG
AGL80	NUU_09213	AATAGCAGTGCCGTGTTCC	ATTGATTTCCGCTTGGGTTA
AP1	NUU_04430	TAGCACAAGAACGAGGATGG	CAGTTTGGACAATGAAGGGA
AP2	NUU_17043	CATACGACAGAGCAGCCATAA	GAGCCTCCCATCTTCCACAT
SVP	NUU_05169	GCGGTTGAGCAAGGAAGTT	CGCTGACAAGCACGAAGT