



Figure S1. GO enrichment analysis of DEGs in the three groups. (A) GO enrichment analysis of DEGs for the PO and PR comparison; (B) GO enrichment analysis of DEGs for the PR and RO comparison; (C) GO enrichment analysis of DEGs for the PO and RO comparison.

Table S1. Statistics of functional annotation.

Annotated Database	Annotated_Number	300<=length<1000	length>=1000
nr Annotation	57913 (31.84%)	23699 (33.41%)	16502 (23.26%)
Pfam Annotation	43307 (23.81%)	18082 (25.49%)	14968 (21.10%)
Swissprot Annotation	34125 (18.76%)	13910 (19.61%)	11720 (16.52%)
COG Annotation	18986 (10.44%)	7386 (10.41%)	6848 (9.65%)
GO Annotation	33409 (18.37%)	13150 (18.54%)	10150 (14.31%)
KEGG Annotation	24154 (13.28%)	10433 (14.71%)	7102 (10.01%)
KOG Annotation	47410 (26.07%)	20239 (28.53%)	11436 (16.12%)
All Annotated	70944 (39.01%)	29535 (41.63%)	17361 (24.47%)
All Unigenes	181866 (100.00%)		

Table S2. KEGG pathway classification of Unigenes.

#Pathway	ko_ID	Unigene	gene	Unigene_all	gene_all
#KEGG_n	715	KEGG_N	13897		
Starch and sucrose metabolism	ko00500	51	469	715	13897
					c105513. graph_c1;c106004. graph_c0;c108042. graph_c0;c108790. graph_c0;c109140. graph_c0;c109671. graph_c0;c113248. graph_c0;c115504. graph_c0;c115711. graph_c0;c116417. graph_c0;c117822. graph_c0;c117851. graph_c0;c118665. graph_c0;c118816. graph_c0;c119325. graph_c0;c120249. graph_c0;c120576. graph_c0;c120604. graph_c0;c121742. graph_c0;c121995. graph_c0;c122721. graph_c0;c123210. graph_c0;c123220. graph_c0;c124410. graph_c0;c125155. graph_c1;c125781. graph_c0;c126509. graph_c1;c126580. graph_c0;c126605. graph_c0;c126811. graph_c0;c126934. graph_c0;c127309. graph_c0;c127792. graph_c0;c128185. graph_c0;c128547. graph_c0;c128547. graph_c1;c129333. graph_c0;c129750. graph_c0;c130060. graph_c0;c130068. graph_c0;c130187. graph_c0;c130477. graph_c0;c130684. graph_c0;c131646. graph_c1;c131799. graph_c0;c132238. graph_c0;c132359. graph_c1;c47395. graph_c0;c71123. graph_c0;c88845. graph_c0;c89200. graph_c0
					K01188+K01188+K18447+K01188+K00844+K05350+K00012+K01177+K01176+K01051+K01051+K01051+K00847+K01188+K01184+K00844+K01051+K01188+K01051+K01188+K01835+K05350+K01188+K01051+K01176+K01051+K00012+K01177+K00975+K01193+K01187+K05349+K01188+K00705+K01188+K01188+K01193+K01051+K01087+K00688+K00847+K00688+K01193+K00688+K01176+K00696+K01051+K00847+K01051+K05350+K01188

Plant hormone signal transduction	ko04075	43	403	715	13897	c102167. graph_c0;c104874. graph_c0;c105109. graph_c0;c105815. graph_c0;c106087. graph_c0;c107593. graph_c0;c108427. graph_c0;c109272. graph_c0;c110148. graph_c0;c112138. graph_c0;c112179. graph_c0;c112371. graph_c0;c112578. graph_c0;c113017. graph_c0;c114656. graph_c0;c116573. graph_c0;c117033. graph_c0;c117096. graph_c0;c119187. graph_c0;c120105. graph_c1;c120546. graph_c0;c121149. graph_c0;c121691. graph_c0;c121961. graph_c0;c122051. graph_c0;c122394. graph_c0;c122713. graph_c0;c123048. graph_c0;c124285. graph_c0;c124691. graph_c0;c124750. graph_c1;c124826. graph_c0;c127036. graph_c1;c127278. graph_c0;c127580. graph_c0;c127695. graph_c0;c128432. graph_c0;c130168. graph_c0;c131976. graph_c0;c132781. graph_c0;c132990. graph_c0;c88326. graph_c0;c90004. graph_c0	K14488+K14488+K14497+K14505+K14490+K14492+K14490+K14492+K14490+K13464+K14488+K14488+K14492+K14484+K13946+K14505+K14484+K14496+K13946+K14488+K14488+K14488+K14497+K14490+K13464+K14484+K14492+K14505+K14491+K14509+K14490+K14512+K14491+K14489+K14488+K14505+K14494+K14509+K14515+K14492+K14509+K14488+K14496
Phenylpropanoid biosynthesis	ko00940	39	250	715	13897	c101742. graph_c0;c101742. graph_c1;c105069. graph_c0;c105513. graph_c1;c106004. graph_c0;c107475. graph_c0;c108790. graph_c0;c109671. graph_c0;c111410. graph_c0;c111764. graph_c0;c114770. graph_c0;c116105. graph_c0;c116628. graph_c0;c117640. graph_c0;c118247. graph_c0;c118816. graph_c0;c119082. graph_c0;c120064. graph_c0;c120064. graph_c1;c120604. graph	K00083+K00083+K00430+K01188+K01188+K00430+K01188+K05350+K13065+K11188+K13066+K13065+K00430+K12356+K00430+K01188+K01904+K13066+K13066+K01188+K00430+K01188+K05350+K01188+K01904+K00430+K05349+K01188+K00083+K01188+K01188+K00430+K10775+K

						_c0;c121941. graph_c0;c121995. graph_c0;c123210. graph_c0;c123220. graph_c0;c125412. graph_c0;c125906. graph_c0;c127309. graph_c0;c127792. graph_c0;c128306. graph_c0;c128547. graph_c0;c128547. graph_c1;c130735. graph_c0;c133129. graph_c0;c133930. graph_c0;c50245. graph_c0;c86972. graph_c0;c88845. graph_c0;c89173. graph_c0;c89200. graph_c0	00430+K00083+K11188+K05350+K09755+K01188
						c100613. graph_c0;c102566. graph_c0;c105373. graph_c0;c106243. graph_c0;c109140. graph_c0;c110055. graph_c0;c110315. graph_c0;c112914. graph_c0;c114199. graph_c0;c118522. graph_c0;c118802. graph_c0;c118938. graph_c0;c119204. graph_c0;c119582. graph_c1;c120124. graph_c0;c120249. graph_c0;c120317. graph_c0;c124334. graph_c0;c124752. graph_c0;c126079. graph_c0;c126578. graph_c0;c128281. graph_c0;c128366. graph_c0;c129490. graph_c0;c130262. graph_c0;c132024. graph_c0;c132202. graph_c0;c134376. graph_c0;c134598. graph_c0;c134680. graph_c0;c50718. graph_c0;c51688. graph_c0;c85077. graph_c0;c88872. graph_c0;c88948. graph_c0;c90012. graph_c0;c91675. graph_c0	K00025+K00122+K00161+K00134+K00844+K01602+K00830+K00134+K01100+K00382+K00134+K05605+K05298+K01057+K01057+K00844+K01057+K01738+K00164+K00873+K00121+K01610+K01595+K00026+K13034+K01738+K02160+K01963+K01738+K00161+K01057+K01057+K00627+K01679+K13034+K01962+K00161
Carbon metabolism	ko01200	37	955	715	13897		
						c100604. graph_c0;c102269. graph_c0;c102533. graph_c0;c106833. graph_c0;c107031. graph_c0;c108526. graph_c1;c109164. graph_c0;c110436	K02977+K02876+K02937+K02976+K02930+K02979+K02873+K02870+K02909+K02922+K02942+K02879+K02
Ribosome	ko03010	36	996	715	13897		

						. graph_c0;c113079. graph_c0;c114175. graph_c0;c117479. graph_c0;c118513. graph_c0;c119820. graph_c0;c120768. graph_c0;c123949. graph_c0;c124097. graph_c0;c124830. graph_c0;c125171. graph_c0;c125852. graph_c0;c125958. graph_c0;c129136. graph_c0;c130486. graph_c0;c131743. graph_c0;c132081. graph_c0;c132355. graph_c0;c133030. graph_c0;c133694. graph_c0;c133984. graph_c0;c134599. graph_c0;c49761. graph_c0;c55594. graph_c0;c74451. graph_c0;c77479. graph_c0;c86145. graph_c0;c90571. graph_c0;c92625. graph_c0	876+K02941+K02932+K02988+K02896+K02937+K02896+K02993+K02938+K02882+K02938+K02964+K02980+K02937+K02882+K02868+K02960+K02938+K02960+K02949+K02960+K02983+K02949+K02933
Protein processing in endoplasmic reticulum	ko04141	35	868	715	13897	c102059. graph_c0;c102180. graph_c0;c106546. graph_c0;c108317. graph_c0;c108531. graph_c0;c110519. graph_c0;c110723. graph_c0;c111425. graph_c0;c115661. graph_c0;c115728. graph_c0;c116596. graph_c0;c118015. graph_c0;c120059. graph_c0;c122224. graph_c0;c122836. graph_c0;c123030. graph_c0;c123347. graph_c0;c124083. graph_c0;c125391. graph_c1;c125404. graph_c0;c129495. graph_c0;c131510. graph_c0;c131834. graph_c0;c131854. graph_c1;c132610. graph_c0;c133097. graph_c0;c134065. graph_c0;c23599. graph_c0;c23697. graph_c0;c51615. graph_c0;c52034. graph_c0;c71721. graph_c0;c71733.	K13993+K03094+K07342+K03283+K03094+K03283+K13993+K13993+K13993+K03094+K13993+K13993+K03237+K13993+K13993+K09503+K03094+K09503+K13993+K10575+K08852+K03283+K03283+K03283+K09503+K13993+K16196+K03283+K03283+K03868+K13993+K13993+K04079+K13993+K03868

Plant-pathogen interaction	ko04626	30	373	715	13897	graph_c0;c90083. graph_c0;c97655. graph_c0 c100506. graph_c0;c108372. graph_c0;c108852. graph_c0;c112144. graph_c0;c114370. graph_c0 ;c115120. graph_c0;c118619. graph_c0;c118881 . graph_c0;c119307. graph_c0;c119888. graph_c 0;c121838. graph_c0;c122060. graph_c0;c12569 6. graph_c0;c125898. graph_c1;c127934. graph_ c0;c128760. graph_c0;c129591. graph_c0;c1307 86. graph_c0;c131652. graph_c1;c132003. graph _c0;c132441. graph_c0;c132784. graph_c0;c132 982. graph_c1;c133874. graph_c0;c133916. grap h_c0;c134003. graph_c0;c134348. graph_c0;c50 350. graph_c0;c71733. graph_c0;c91463. graph_ c0	K13448+K13448+K13412+K02183+K 04368+K13448+K13448+K13448+K1 3412+K13412+K13459+K05391+K13 459+K13457+K13420+K13412+K053 91+K13429+K13420+K18835+K1341 2+K13447+K13447+K13412+K13448 +K05391+K13457+K13448+K04079+ K12795
Biosynthesis of amino acids	ko01230	30	812	715	13897	c100821. graph_c0;c102878. graph_c0;c106243. graph_c0;c112408. graph_c0;c112914. graph_c0 ;c114056. graph_c0;c117589. graph_c0;c118697 . graph_c0;c118802. graph_c0;c121031. graph_c 0;c121090. graph_c0;c122143. graph_c0;c12349 8. graph_c0;c123819. graph_c0;c123986. graph_ c0;c124334. graph_c0;c124635. graph_c0;c1259 56. graph_c0;c126079. graph_c0;c130262. graph _c0;c132013. graph_c0;c132024. graph_c0;c133 161. graph_c0;c133226. graph_c0;c134598. grap h_c0;c70627. graph_c0;c71676. graph_c0;c8894	K00891+K15227+K00134+K13832+K 00134+K10206+K00620+K00611+K0 0134+K01817+K15227+K00052+K00 215+K00826+K01626+K01738+K019 15+K15227+K00873+K13034+K0081 5+K01738+K13832+K13832+K01738 +K01778+K15227+K13034+K01704+ K00891

Glycolysis / Gluconeogenesis	ko00010	27	448	715	13897	8. graph_c0;c93628. graph_c0;c95528. graph_c0 c102004. graph_c0;c105373. graph_c0;c106243. graph_c0;c108564. graph_c0;c109130. graph_c0 ;c109140. graph_c0;c109581. graph_c0;c111937 . graph_c0;c112914. graph_c0;c118522. graph_c 0;c118802. graph_c0;c120249. graph_c0;c12272 1. graph_c0;c122868. graph_c0;c126079. graph_ c0;c126467. graph_c0;c126578. graph_c0;c1282 81. graph_c0;c128735. graph_c0;c130417. graph _c0;c130417. graph_c1;c132004. graph_c0;c132 004. graph_c1;c134543. graph_c0;c134680. grap h_c0;c85077. graph_c0;c91675. graph_c0 c102361. graph_c0;c102552. graph_c0;c110588. graph_c0;c112781. graph_c0;c113248. graph_c0 ;c116417. graph_c0;c116832. graph_c0;c117822 . graph_c0;c117851. graph_c0;c119325. graph_c 0;c120576. graph_c0;c121742. graph_c0;c12285 6. graph_c0;c122868. graph_c0;c123853. graph_ c0;c124410. graph_c0;c124721. graph_c0;c1248 96. graph_c0;c125781. graph_c0;c126509. graph _c1;c128735. graph_c0;c129750. graph_c0;c130 417. graph_c0;c130417. graph_c1;c132359. grap h_c1;c71123. graph_c0	K18857+K00161+K00134+K00001+K 01792+K00844+K18857+K01785+K0 0134+K00382+K00134+K00844+K01 835+K00128+K00873+K18857+K001 21+K01610+K00128+K00128+K0012 8+K01785+K01785+K01568+K00161 +K00627+K00161
Pentose and glucuronate interconversion s	ko00040	26	202	715	13897	c102361. graph_c0;c102552. graph_c0;c110588. graph_c0;c112781. graph_c0;c113248. graph_c0 ;c116417. graph_c0;c116832. graph_c0;c117822 . graph_c0;c117851. graph_c0;c119325. graph_c 0;c120576. graph_c0;c121742. graph_c0;c12285 6. graph_c0;c122868. graph_c0;c123853. graph_ c0;c124410. graph_c0;c124721. graph_c0;c1248 96. graph_c0;c125781. graph_c0;c126509. graph _c1;c128735. graph_c0;c129750. graph_c0;c130 417. graph_c0;c130417. graph_c1;c132359. grap h_c1;c71123. graph_c0	K01728+K01728+K01728+K01728+K 00012+K01051+K00008+K01051+K0 1051+K01184+K01051+K01051+K00 011+K00128+K01728+K01051+K017 28+K01728+K01051+K00012+K0012 8+K01051+K00128+K00128+K01051 +K01051

Purine metabolism	ko00230	21	563	715	13897	c0;c128678. graph_c0;c131878. graph_c0;c132914. graph_c0;c133973. graph_c0;c51066. graph_c0;c71042. graph_c0;c96247. graph_c0;c98149. graph_c0 c108042. graph_c0;c110950. graph_c0;c112573. graph_c0;c115938. graph_c0;c119983. graph_c0;c119994. graph_c0;c120834. graph_c0;c121893. graph_c0;c122370. graph_c0;c122721. graph_c0;c124206. graph_c0;c126079. graph_c0;c126983. graph_c0;c128678. graph_c0;c129051. graph_c0;c130274. graph_c0;c130689. graph_c1;c131570. graph_c0;c131878. graph_c0;c134357. graph_c0;c99075. graph_c0 c100425. graph_c0;c102019. graph_c0;c104836. graph_c0;c108164. graph_c0;c108317. graph_c0;c110519. graph_c0;c118765. graph_c0;c120921. graph_c0;c125321. graph_c0;c130121. graph_c0;c131510. graph_c0;c131834. graph_c0;c131854. graph_c1;c132365. graph_c0;c133691. graph_c0;c134621. graph_c0;c23599. graph_c0;c23697. graph_c0;c71357. graph_c0;c98951. graph_c0 c102094. graph_c0;c109140. graph_c0;c111937. graph_c0;c120249. graph_c0;c121255. graph_c1;c122721. graph_c0;c122856. graph_c0;c123062. graph_c0;c124235. graph_c0;c125626. graph_c0;c126811. graph_c0;c126934. graph_c0;c12933	K18447+K10808+K03013+K03008+K03019+K03026+K01514+K01081+K00759+K01835+K03014+K00873+K10807+K10807+K02325+K01427+K00939+K01923+K10808+K02320+K00088
Spliceosome	ko03040	20	868	715	13897	c100425. graph_c0;c102019. graph_c0;c104836. graph_c0;c108164. graph_c0;c108317. graph_c0;c110519. graph_c0;c118765. graph_c0;c120921. graph_c0;c125321. graph_c0;c130121. graph_c0;c131510. graph_c0;c131834. graph_c0;c131854. graph_c1;c132365. graph_c0;c133691. graph_c0;c134621. graph_c0;c23599. graph_c0;c23697. graph_c0;c71357. graph_c0;c98951. graph_c0 c102094. graph_c0;c109140. graph_c0;c111937. graph_c0;c120249. graph_c0;c121255. graph_c1;c122721. graph_c0;c122856. graph_c0;c123062. graph_c0;c124235. graph_c0;c125626. graph_c0;c126811. graph_c0;c126934. graph_c0;c12933	K12874+K12882+K12830+K12874+K03283+K03283+K12662+K12874+K12858+K12830+K03283+K03283+K03283+K11097+K12833+K12882+K03283+K03283+K12833+K12813
Galactose metabolism	ko00052	19	166	715	13897	c100425. graph_c0;c102019. graph_c0;c104836. graph_c0;c108164. graph_c0;c108317. graph_c0;c110519. graph_c0;c118765. graph_c0;c120921. graph_c0;c125321. graph_c0;c130121. graph_c0;c131510. graph_c0;c131834. graph_c0;c131854. graph_c1;c132365. graph_c0;c133691. graph_c0;c134621. graph_c0;c23599. graph_c0;c23697. graph_c0;c71357. graph_c0;c98951. graph_c0 c102094. graph_c0;c109140. graph_c0;c111937. graph_c0;c120249. graph_c0;c121255. graph_c1;c122721. graph_c0;c122856. graph_c0;c123062. graph_c0;c124235. graph_c0;c125626. graph_c0;c126811. graph_c0;c126934. graph_c0;c12933	K18819+K00844+K01785+K00844+K06617+K01835+K00011+K01784+K01784+K07407+K01193+K01187+K01193+K01193+K01785+K01785+K06617+K01784+K01784

Cyanoamino acid metabolism	ko00460	18	114	715	13897	3. graph_c0; c130684. graph_c0; c132004. graph_c0; c132004. graph_c1; c49856. graph_c0; c54775. graph_c0; c88590. graph_c0. c105513. graph_c1; c106004. graph_c0; c108790. graph_c0; c109671. graph_c0; c118816. graph_c0; c120604. graph_c0; c121995. graph_c0; c123210. graph_c0; c123220. graph_c0; c127309. graph_c0; c127792. graph_c0; c127844. graph_c0; c128547. graph_c0; c128547. graph_c1; c130262. graph_c0; c88845. graph_c0; c88948. graph_c0; c89200. graph_c0	K01188+K01188+K01188+K05350+K01188+K01188+K01188+K05350+K01188+K05349+K01188+K18592+K01188+K01188+K13034+K05350+K13034+K01188
alpha-Linolenic acid metabolism	ko00592	18	130	715	13897	c102004. graph_c0; c102687. graph_c0; c109303. graph_c0; c109581. graph_c0; c115680. graph_c0; c115772. graph_c0; c118459. graph_c0; c120300. graph_c0; c121567. graph_c0; c123665. graph_c0; c124313. graph_c0; c125727. graph_c0; c126467. graph_c0; c128357. graph_c0; c129473. graph_c0; c134411. graph_c0; c134639. graph_c0; c23669. graph_c0	K18857+K00454+K08241+K18857+K10525+K01723+K01723+K05894+K01723+K10525+K10526+K08241+K18857+K10526+K00454+K00454+K00454+K00454
Phenylalanine metabolism	ko00360	18	171	715	13897	c105069. graph_c0; c107475. graph_c0; c110715. graph_c0; c111764. graph_c0; c116628. graph_c0; c118247. graph_c0; c118423. graph_c0; c119082. graph_c0; c119172. graph_c0; c121941. graph_c0; c122229. graph_c0; c125412. graph_c0; c12590	K00430+K00430+K07253+K11188+K00430+K00430+K00276+K01904+K00457+K00430+K07253+K01904+K00430+K00430+K00815+K10775+K00430+K11188

						6. graph_c0;c130735. graph_c0;c132013. graph_c0;c133129. graph_c0;c133930. graph_c0;c86972. graph_c0	
Pyruvate metabolism	ko00620	18	357	715	13897	c100613. graph_c0;c105373. graph_c0;c118522. graph_c0;c122868. graph_c0;c126079. graph_c0;c128281. graph_c0;c128366. graph_c0;c128735. graph_c0;c129490. graph_c0;c130417. graph_c0;c130417. graph_c1;c132202. graph_c0;c134376. graph_c0;c134680. graph_c0;c85077. graph_c0;c88872. graph_c0;c90012. graph_c0;c91675. graph_c0	K00025+K00161+K00382+K00128+K00873+K01610+K01595+K00128+K00026+K00128+K00128+K02160+K01963+K00161+K00627+K01679+K01962+K00161
Ubiquitin mediated proteolysis	ko04120	17	468	715	13897	c102180. graph_c0;c105963. graph_c0;c108531. graph_c0;c108920. graph_c0;c115011. graph_c0;c115728. graph_c0;c115856. graph_c0;c119129. graph_c0;c119687. graph_c0;c123347. graph_c0;c125404. graph_c0;c128987. graph_c0;c130696. graph_c0;c133559. graph_c0;c23919. graph_c0;c51615. graph_c0;c97655. graph_c0	K03094+K10144+K03094+K10144+K10144+K03094+K06688+K10583+K04506+K03094+K10575+K10581+K10581+K10144+K10573+K03868+K03868
Pyrimidine metabolism	ko00240	17	456	715	13897	c102867. graph_c0;c110950. graph_c0;c112573. graph_c0;c114780. graph_c0;c115938. graph_c0;c119983. graph_c0;c119994. graph_c0;c119999. graph_c0;c121893. graph_c0;c123592. graph_c0;c124206. graph_c0;c126983. graph_c0;c128678. graph_c0;c129051. graph_c0;c131878. graph_c0;c134357. graph_c0;c93528. graph_c0	K00857+K10808+K03013+K00876+K03008+K03019+K03026+K00761+K101081+K00857+K03014+K10807+K10807+K02325+K10808+K02320+K01520

Cysteine and methionine metabolism	ko00270	16	289	715	13897	c100613. graph_c0;c108515. graph_c0;c120855. graph_c0;c121636. graph_c0;c123728. graph_c0;c124334. graph_c0;c125581. graph_c0;c125674. graph_c0;c125789. graph_c0;c129490. graph_c0;c130262. graph_c0;c130924. graph_c0;c132013. graph_c0;c132024. graph_c0;c134598. graph_c0;c88948. graph_c0	K00025+K05933+K01761+K08963+K01762+K01738+K00547+K00547+K05933+K00026+K13034+K00558+K00815+K01738+K01738+K13034
Fatty acid metabolism	ko01212	16	268	715	13897	c100226. graph_c0;c108824. graph_c0;c111947. graph_c0;c115084. graph_c0;c117490. graph_c0;c120878. graph_c0;c121978. graph_c0;c125610. graph_c0;c127942. graph_c0;c128312. graph_c0;c128974. graph_c0;c132202. graph_c0;c132570. graph_c0;c134376. graph_c0;c71372. graph_c0;c90012. graph_c0	K09458+K01074+K10256+K10251+K10255+K10703+K10257+K10781+K10703+K09458+K01897+K02160+K00059+K01963+K01897+K01962
mRNA surveillance pathway	ko03015	16	452	715	13897	c101917. graph_c0;c101974. graph_c0;c102019. graph_c0;c106824. graph_c0;c111578. graph_c0;c118482. graph_c0;c120023. graph_c0;c122748. graph_c0;c124542. graph_c0;c126315. graph_c0;c126899. graph_c0;c127188. graph_c0;c129634. graph_c0;c132292. graph_c2;c134621. graph_c0;c97867. graph_c0	K11583+K14376+K12882+K14376+K06269+K03456+K13126+K11584+K14400+K13126+K13126+K14400+K03265+K03456+K12882+K14324
Endocytosis	ko04144	16	472	715	13897	c108317. graph_c0;c110519. graph_c0;c111700. graph_c0;c111740. graph_c0;c117146. graph_c0;c119051. graph_c0;c127088. graph_c0;c128997. graph_c0;c130583. graph_c1;c131314. graph_c0;c131510. graph_c0;c131834. graph_c0;c13185	K03283+K03283+K01115+K07904+K04646+K07897+K00889+K01115+K01115+K12483+K03283+K03283+K03283+K01115+K03283+K03283

RNA transport	ko03013	16	630	715	13897	4. graph_c1;c133450. graph_c0;c23599. graph_c0;c23697. graph_c0 c102019. graph_c0;c110008. graph_c0;c114119. graph_c0;c120023. graph_c0;c120059. graph_c0;c120893. graph_c0;c125991. graph_c0;c126315. graph_c0;c126899. graph_c0;c131315. graph_c0;c131752. graph_c0;c132224. graph_c2;c133101. graph_c0;c134621. graph_c0;c97352. graph_c0;c97867. graph_c0 c100128. graph_c0;c107088. graph_c0;c107179. graph_c0;c120141. graph_c0;c122529. graph_c0;c124921. graph_c0;c125492. graph_c0;c126976. graph_c0;c130722. graph_c0;c131924. graph_c1;c50756. graph_c0;c71236. graph_c0;c71464. graph_c0;c95758. graph_c0;c97392. graph_c0 c108872. graph_c0;c116129. graph_c0;c118291. graph_c0;c118790. graph_c0;c121683. graph_c0;c126496. graph_c0;c128517. graph_c0;c129051. graph_c0;c130511. graph_c1;c133355. graph_c0;c133907. graph_c0;c133947. graph_c0;c134357. graph_c0;c92680. graph_c0 c102004. graph_c0;c108564. graph_c0;c109581. graph_c0;c110715. graph_c0;c118423. graph_c0;c119172. graph_c0;c122229. graph_c0;c126467. graph_c0;c126578. graph_c0;c130866. graph_c0;c131275. graph_c0;c132013. graph_c0;c23725	K12882+K03251+K14298+K13126+K03237+K12160+K03231+K13126+K13126+K14312+K03250+K14288+K18213+K12882+K12160+K14324
Photosynthesis	ko00195	15	144	715	13897	K02115+K03542+K02115+K02707+K02109+K02694+K02109+K02113+K02710+K02693+K02721+K02695+K08905+K02636+K02717	
DNA replication	ko03030	14	216	715	13897	K10745+K10755+K02541+K10740+K10745+K02212+K07466+K02325+K02542+K10747+K02210+K02209+K02320+K10740	
Tyrosine metabolism	ko00350	14	121	715	13897	K18857+K00001+K18857+K07253+K00276+K00457+K07253+K18857+K00121+K01592+K00451+K00815+K01592+K01592	

Terpenoid backbone biosynthesis	ko00900	13	155	715	13897	. graph_c0;c23725. graph_c1 c108010. graph_c1;c108150. graph_c0;c112284. graph_c0;c122587. graph_c0;c123354. graph_c0 ;c123699. graph_c0;c124462. graph_c0;c124505 . graph_c0;c125410. graph_c0;c127716. graph_c 0;c127762. graph_c1;c81933. graph_c0;c88832. graph_c0 c109491. graph_c0;c116122. graph_c0;c116599. graph_c1;c116900. graph_c0;c120023. graph_c0 ;c122547. graph_c0;c126315. graph_c0;c126899 . graph_c0;c127472. graph_c0;c128434. graph_c 0;c130826. graph_c0;c131538. graph_c1;c13421 3. graph_c0 c105872. graph_c0;c111700. graph_c0;c120920. graph_c0;c121925. graph_c0;c124631. graph_c0 ;c127052. graph_c0;c128997. graph_c0;c130294 . graph_c0;c130583. graph_c1;c133450. graph_c 0;c70983. graph_c0;c93485. graph_c0 c100231. graph_c0;c115679. graph_c0;c119134. graph_c1;c124424. graph_c0;c124583. graph_c0 ;c125472. graph_c0;c127594. graph_c0;c131711 . graph_c0;c86343. graph_c0;c88162. graph_c0; c97209. graph_c0;c99637. graph_c1 c104104. graph_c0;c108042. graph_c0;c109140. graph_c0;c114913. graph_c0;c116832. graph_c0 ;c118665. graph_c0;c118742. graph_c0;c120249	K00787+K01662+K01641+K15889+K 11778+K05955+K13789+K00869+K1 0960+K00587+K11778+K00021+K00 021 K04077+K12602+K12593+K12619+K 13126+K14442+K13126+K13126+K0 4043+K12580+K12603+K12619+K04 077 K06130+K01115+K08730+K06130+K 06129+K13508+K01115+K13508+K0 1115+K01115+K13508+K06130 K13356+K17991+K15400+K15404+K 15398+K15403+K17991+K15404+K1 5398+K13356+K13356+K13356 K00895+K18447+K00844+K00895+K 00008+K00847+K00895+K00844+K0 0011+K00847+K00966+K00847
RNA degradation	ko03018	13	419	715	13897		
Glycerophospholipid metabolism	ko00564	12	243	715	13897		
Cutin, suberine and wax biosynthesis	ko00073	12	60	715	13897		
Fructose and mannose metabolism	ko00051	12	201	715	13897		

Arginine and proline metabolism	ko00330	12	287	715	13897	. graph_c0;c122856. graph_c0;c130187. graph_c0;c130464. graph_c0;c47395. graph_c0c117589. graph_c0;c118697. graph_c0;c119465. graph_c0;c122868. graph_c0;c124635. graph_c0;c126751. graph_c0;c128735. graph_c0;c129144. graph_c0;c130274. graph_c0;c130417. graph_c0;c130417. graph_c1;c132914. graph_c0c100821. graph_c0;c102878. graph_c0;c112408. graph_c0;c121031. graph_c0;c121090. graph_c0;c123986. graph_c0;c125956. graph_c0;c132013. graph_c0;c133161. graph_c0;c133226. graph_c0;c71676. graph_c0;c95528. graph_c0c100613. graph_c0;c105373. graph_c0;c118522. graph_c0;c120797. graph_c0;c124752. graph_c0;c128281. graph_c0;c129490. graph_c0;c134680. graph_c0;c85077. graph_c0;c88872. graph_c0;c91675. graph_c0c100231. graph_c0;c110315. graph_c0;c122610. graph_c0;c123153. graph_c0;c124505. graph_c0;c125133. graph_c0;c128974. graph_c0;c71372. graph_c0;c88162. graph_c0;c97209. graph_c0;c99637. graph_c1c102004. graph_c0;c108564. graph_c0;c109581. graph_c0;c122868. graph_c0;c126467. graph_c0;c126578. graph_c0;c128735. graph_c0;c128974. graph_c0;c130417. graph_c0;c130417. graph_c	K00620+K00611+K00261+K00128+K01915+K00294+K00128+K01583+K01427+K00128+K00128+K01581
Phenylalanine, tyrosine and tryptophan biosynthesis	ko00400	12	117	715	13897	. graph_c0;c122856. graph_c0;c130187. graph_c0;c130464. graph_c0;c47395. graph_c0c117589. graph_c0;c118697. graph_c0;c119465. graph_c0;c122868. graph_c0;c124635. graph_c0;c126751. graph_c0;c128735. graph_c0;c129144. graph_c0;c130274. graph_c0;c130417. graph_c0;c130417. graph_c1;c132914. graph_c0c100821. graph_c0;c102878. graph_c0;c112408. graph_c0;c121031. graph_c0;c121090. graph_c0;c123986. graph_c0;c125956. graph_c0;c132013. graph_c0;c133161. graph_c0;c133226. graph_c0;c71676. graph_c0;c95528. graph_c0c100613. graph_c0;c105373. graph_c0;c118522. graph_c0;c120797. graph_c0;c124752. graph_c0;c128281. graph_c0;c129490. graph_c0;c134680. graph_c0;c85077. graph_c0;c88872. graph_c0;c91675. graph_c0c100231. graph_c0;c110315. graph_c0;c122610. graph_c0;c123153. graph_c0;c124505. graph_c0;c125133. graph_c0;c128974. graph_c0;c71372. graph_c0;c88162. graph_c0;c97209. graph_c0;c99637. graph_c1c102004. graph_c0;c108564. graph_c0;c109581. graph_c0;c122868. graph_c0;c126467. graph_c0;c126578. graph_c0;c128735. graph_c0;c128974. graph_c0;c130417. graph_c0;c130417. graph_c	K00891+K15227+K13832+K01817+K15227+K01626+K15227+K00815+K13832+K13832+K15227+K00891
Citrate cycle (TCA cycle)	ko00020	11	304	715	13897	. graph_c0;c122856. graph_c0;c130187. graph_c0;c130464. graph_c0;c47395. graph_c0c117589. graph_c0;c118697. graph_c0;c119465. graph_c0;c122868. graph_c0;c124635. graph_c0;c126751. graph_c0;c128735. graph_c0;c129144. graph_c0;c130274. graph_c0;c130417. graph_c0;c130417. graph_c1;c132914. graph_c0c100821. graph_c0;c102878. graph_c0;c112408. graph_c0;c121031. graph_c0;c121090. graph_c0;c123986. graph_c0;c125956. graph_c0;c132013. graph_c0;c133161. graph_c0;c133226. graph_c0;c71676. graph_c0;c95528. graph_c0c100613. graph_c0;c105373. graph_c0;c118522. graph_c0;c120797. graph_c0;c124752. graph_c0;c128281. graph_c0;c129490. graph_c0;c134680. graph_c0;c85077. graph_c0;c88872. graph_c0;c91675. graph_c0c100231. graph_c0;c110315. graph_c0;c122610. graph_c0;c123153. graph_c0;c124505. graph_c0;c125133. graph_c0;c128974. graph_c0;c71372. graph_c0;c88162. graph_c0;c97209. graph_c0;c99637. graph_c1c102004. graph_c0;c108564. graph_c0;c109581. graph_c0;c122868. graph_c0;c126467. graph_c0;c126578. graph_c0;c128735. graph_c0;c128974. graph_c0;c130417. graph_c0;c130417. graph_c	K00025+K00161+K00382+K01648+K00164+K01610+K00026+K00161+K00627+K01679+K00161
Peroxisome	ko04146	11	287	715	13897	. graph_c0;c122856. graph_c0;c130187. graph_c0;c130464. graph_c0;c47395. graph_c0c117589. graph_c0;c118697. graph_c0;c119465. graph_c0;c122868. graph_c0;c124635. graph_c0;c126751. graph_c0;c128735. graph_c0;c129144. graph_c0;c130274. graph_c0;c130417. graph_c0;c130417. graph_c1;c132914. graph_c0c100821. graph_c0;c102878. graph_c0;c112408. graph_c0;c121031. graph_c0;c121090. graph_c0;c123986. graph_c0;c125956. graph_c0;c132013. graph_c0;c133161. graph_c0;c133226. graph_c0;c71676. graph_c0;c95528. graph_c0c100613. graph_c0;c105373. graph_c0;c118522. graph_c0;c120797. graph_c0;c124752. graph_c0;c128281. graph_c0;c129490. graph_c0;c134680. graph_c0;c85077. graph_c0;c88872. graph_c0;c91675. graph_c0c100231. graph_c0;c110315. graph_c0;c122610. graph_c0;c123153. graph_c0;c124505. graph_c0;c125133. graph_c0;c128974. graph_c0;c71372. graph_c0;c88162. graph_c0;c97209. graph_c0;c99637. graph_c1c102004. graph_c0;c108564. graph_c0;c109581. graph_c0;c122868. graph_c0;c126467. graph_c0;c126578. graph_c0;c128735. graph_c0;c128974. graph_c0;c130417. graph_c0;c130417. graph_c	K13356+K00830+K01640+K13346+K00869+K13348+K01897+K01897+K13356+K13356+K13356
Fatty acid degradation	ko00071	11	197	715	13897	. graph_c0;c122856. graph_c0;c130187. graph_c0;c130464. graph_c0;c47395. graph_c0c117589. graph_c0;c118697. graph_c0;c119465. graph_c0;c122868. graph_c0;c124635. graph_c0;c126751. graph_c0;c128735. graph_c0;c129144. graph_c0;c130274. graph_c0;c130417. graph_c0;c130417. graph_c1;c132914. graph_c0c100821. graph_c0;c102878. graph_c0;c112408. graph_c0;c121031. graph_c0;c121090. graph_c0;c123986. graph_c0;c125956. graph_c0;c132013. graph_c0;c133161. graph_c0;c133226. graph_c0;c71676. graph_c0;c95528. graph_c0c100613. graph_c0;c105373. graph_c0;c118522. graph_c0;c120797. graph_c0;c124752. graph_c0;c128281. graph_c0;c129490. graph_c0;c134680. graph_c0;c85077. graph_c0;c88872. graph_c0;c91675. graph_c0c100231. graph_c0;c110315. graph_c0;c122610. graph_c0;c123153. graph_c0;c124505. graph_c0;c125133. graph_c0;c128974. graph_c0;c71372. graph_c0;c88162. graph_c0;c97209. graph_c0;c99637. graph_c1c102004. graph_c0;c108564. graph_c0;c109581. graph_c0;c122868. graph_c0;c126467. graph_c0;c126578. graph_c0;c128735. graph_c0;c128974. graph_c0;c130417. graph_c0;c130417. graph_c	K18857+K00001+K18857+K00128+K18857+K00121+K00128+K01897+K00128+K00128+K01897

Photosynthesis						1; c71372. graph_c0 c102634. graph_c0; c105640. graph_c0; c106848. graph_c0; c109210. graph_c0; c114287. graph_c0 ; c123544. graph_c0; c46372. graph_c0; c71681. g raph_c0; c89853. graph_c0; c89965. graph_c0 c112284. graph_c0; c118522. graph_c0; c118938. graph_c0; c122610. graph_c0; c122868. graph_c0 ; c123819. graph_c0; c128735. graph_c0; c130417 . graph_c0; c130417. graph_c1; c97615. graph_c0 c102035. graph_c0; c102425. graph_c0; c105653. graph_c0; c111410. graph_c0; c116105. graph_c0 ; c124882. graph_c0; c128275. graph_c0; c129786 . graph_c1; c93168. graph_c0; c94554. graph_c0 c122856. graph_c0; c122868. graph_c0; c125264. graph_c0; c125626. graph_c0; c127052. graph_c0 ; c128735. graph_c0; c130294. graph_c0; c130417 . graph_c0; c130417. graph_c1; c70983. graph_c0 c100589. graph_c0; c105010. graph_c0; c106546. graph_c0; c113632. graph_c0; c119051. graph_c0 ; c121921. graph_c0; c132440. graph_c0; c70889. graph_c0; c89047. graph_c0; c97672. graph_c0 c100613. graph_c0; c106243. graph_c0; c110055. graph_c0; c112914. graph_c0; c114199. graph_c0 ; c118802. graph_c0; c119204. graph_c0; c128281 . graph_c0; c128366. graph_c0; c129490. graph_c 0	K14172+K08917+K08909+K08912+K 08908+K08912+K08913+K08913+K0 8908+K08913 K01641+K00382+K05605+K01640+K 00128+K00826+K00128+K00128+K0 0128+K00253 K05278+K00660+K01859+K13065+K 13065+K05277+K05280+K00475+K0 0660+K05278 K00011+K00128+K11155+K07407+K 13508+K00128+K13508+K00128+K0 0128+K13508 K04392+K02152+K07342+K07375+K 07897+K02150+K08492+K07374+K0 7374+K07375 K00025+K00134+K01602+K00134+K 01100+K00134+K05298+K01610+K0 1595+K00026
- antenna proteins	ko00196	10	52	715	13897		
Valine, leucine and isoleucine degradation	ko00280	10	223	715	13897		
Flavonoid biosynthesis	ko00941	10	64	715	13897		
Glycerolipid metabolism	ko00561	10	191	715	13897		
Phagosome	ko04145	10	348	715	13897		
Carbon fixation in photosynthetic organisms	ko00710	10	282	715	13897		

Nucleotide excision repair	ko03420	9	225	715	13897	c116129. graph_c0;c118790. graph_c0;c128517. graph_c0;c129051. graph_c0;c133355. graph_c0;c134063. graph_c0;c51615. graph_c0;c92680. graph_c0;c97655. graph_c0	K10755+K10740+K07466+K02325+K10747+K10848+K03868+K10740+K03868
Fatty acid biosynthesis	ko00061	9	136	715	13897	c100226. graph_c0;c125610. graph_c0;c128312. graph_c0;c128974. graph_c0;c132202. graph_c0;c132570. graph_c0;c134376. graph_c0;c71372. graph_c0;c90012. graph_c0	K09458+K10781+K09458+K01897+K02160+K00059+K01963+K01897+K01962
Ascorbate and aldarate metabolism	ko00053	8	134	715	13897	c113248. graph_c0;c117257. graph_c0;c119013. graph_c0;c122868. graph_c0;c126509. graph_c1;c128735. graph_c0;c130417. graph_c0;c130417. graph_c1	K00012+K10046+K00469+K00128+K00012+K00128+K00128+K00128
Ribosome biogenesis in eukaryotes	ko03008	8	379	715	13897	c101856. graph_c0;c102431. graph_c0;c102485. graph_c0;c116289. graph_c0;c116900. graph_c0;c130536. graph_c0;c131538. graph_c1;c132640. graph_c1	K13288+K03115+K14568+K14521+K12619+K11131+K12619+K14567
Circadian rhythm - plant	ko04712	8	88	715	13897	c102425. graph_c0;c102431. graph_c0;c112186. graph_c0;c125387. graph_c0;c126452. graph_c1;c130328. graph_c0;c130482. graph_c0;c93168. graph_c0	K00660+K03115+K16166+K12127+K12130+K12129+K12118+K00660
Homologous recombination	ko03440	8	157	715	13897	c118790. graph_c0;c123433. graph_c0;c124099. graph_c0;c128517. graph_c0;c129332. graph_c0;c133309. graph_c0;c133809. graph_c0;c92680. graph_c0	K10740+K10875+K03553+K07466+K10879+K08775+K08775+K10740
Sulfur metabolism	ko00920	7	92	715	13897	c122665. graph_c0;c124334. graph_c0;c126398. graph_c0;c130262. graph_c0;c132024. graph_c0	K05907+K01738+K05907+K13034+K01738+K01738+K13034

Nitrogen metabolism	ko00910	7	100	715	13897	;c134598.graph_c0;c88948.graph_c0 c107127.graph_c0;c112691.graph_c0;c119465. graph_c0;c122414.graph_c0;c124635.graph_c0 ;c124742.graph_c0;c130648.graph_c0	K01674+K01725+K00261+K02575+K 01915+K00366+K02575
Biosynthesis of unsaturated fatty acids	ko01040	7	111	715	13897	c111947.graph_c0;c115084.graph_c0;c117490. graph_c0;c120878.graph_c0;c121978.graph_c0 ;c127942.graph_c0;c132570.graph_c0	K10256+K10251+K10255+K10703+K 10257+K10703+K00059
Fatty acid elongation	ko00062	7	86	715	13897	c108824.graph_c0;c115084.graph_c0;c120878. graph_c0;c123016.graph_c0;c126407.graph_c0 ;c127942.graph_c0;c70542.graph_c0	K01074+K10251+K10703+K15397+K 15397+K10703+K15397
Tryptophan metabolism	ko00380	7	126	715	13897	c118570.graph_c0;c122868.graph_c0;c124752. graph_c0;c127788.graph_c0;c128735.graph_c0 ;c130417.graph_c0;c130417.graph_c1	K11816+K00128+K00164+K11816+K 00128+K00128+K00128
Ubiquinone and other terpenoid-quinone biosynthesis	ko00130	7	74	715	13897	c110889.graph_c0;c118844.graph_c0;c119082. graph_c0;c119172.graph_c0;c123577.graph_c0 ;c125412.graph_c0;c132013.graph_c0	K03183+K14760+K01904+K00457+K 02552+K01904+K00815
Glyoxylate and dicarboxylate metabolism	ko00630	7	252	715	13897	c100613.graph_c0;c102566.graph_c0;c110055. graph_c0;c110315.graph_c0;c117685.graph_c0 ;c124635.graph_c0;c129490.graph_c0	K00025+K00122+K01602+K00830+K 15919+K01915+K00026
beta-Alanine metabolism	ko00410	7	176	715	13897	c118423.graph_c0;c118938.graph_c0;c122868. graph_c0;c128735.graph_c0;c129360.graph_c0 ;c130417.graph_c0;c130417.graph_c1	K00276+K05605+K00128+K00128+K 01918+K00128+K00128
Pentose phosphate pathway	ko00030	6	196	715	13897	c119582.graph_c1;c120124.graph_c0;c120317. graph_c0;c122721.graph_c0;c50718.graph_c0; c51688.graph_c0	K01057+K01057+K01057+K01835+K 01057+K01057

Lysine degradation	ko00310	6	136	715	13897	c109846.graph_c0;c122868.graph_c0;c124752. graph_c0;c128735.graph_c0;c130417.graph_c0 ;c130417.graph_c1	K14157+K00128+K00164+K00128+K 00128+K00128
Mismatch repair	ko03430	6	132	715	13897	c116129.graph_c0;c118790.graph_c0;c128517. graph_c0;c132924.graph_c0;c133355.graph_c0 ;c92680.graph_c0	K10755+K10740+K07466+K10858+K 10747+K10740
Porphyrin and chlorophyll metabolism	ko00860	6	131	715	13897	c123143.graph_c1;c125410.graph_c0;c127890. graph_c0;c127890.graph_c1;c130025.graph_c0 ;c98055.graph_c0	K03428+K10960+K03403+K03403+K 13071+K03428
Thiamine metabolism	ko00730	6	45	715	13897	c108150.graph_c0;c112666.graph_c0;c117167. graph_c0;c121244.graph_c0;c127214.graph_c1 ;c127921.graph_c0	K01662+K03146+K04487+K03146+K 04487+K00878
Proteasome	ko03050	5	264	715	13897	c116158.graph_c0;c118618.graph_c0;c121189. graph_c0;c130122.graph_c0;c88678.graph_c0	K02728+K02727+K03062+K03062+K 02734
Linoleic acid metabolism	ko00591	5	39	715	13897	c102687.graph_c0;c129473.graph_c0;c134411. graph_c0;c134639.graph_c0;c23669.graph_c0	K00454+K00454+K00454+K00454+K 00454
Glycine, serine and threonine metabolism	ko00260	5	226	715	13897	c110315.graph_c0;c116989.graph_c0;c117685. graph_c0;c118423.graph_c0;c118522.graph_c0	K00830+K00827+K15919+K00276+K 00382
Alanine, aspartate and glutamate metabolism	ko00250	5	240	715	13897	c110315.graph_c0;c116989.graph_c0;c119465. graph_c0;c124635.graph_c0;c126751.graph_c0	K00830+K00827+K00261+K01915+K 00294
Carotenoid biosynthesis	ko00906	5	64	715	13897	c116858.graph_c0;c121850.graph_c0;c122440. graph_c0;c91224.graph_c0;c95941.graph_c0	K02291+K02293+K09840+K09843+K 09843
Brassinosteroid	ko00905	5	20	715	13897	c105790.graph_c0;c118316.graph_c0;c119899.	K12637+K09587+K12638+K15639+K

biosynthesis						graph_c0;c120722.graph_c0;c131529.graph_c0	15639
Isoquinoline alkaloid biosynthesis	ko00950	5	54	715	13897	c118423.graph_c0;c130866.graph_c0;c132013. graph_c0;c23725.graph_c0;c23725.graph_c1	K00276+K01592+K00815+K01592+K 01592
Folate biosynthesis	ko00790	5	47	715	13897	c117198.graph_c0;c125242.graph_c0;c126629. graph_c0;c131644.graph_c0;c86038.graph_c0	K03635+K03639+K18482+K13950+K 13941
Other glycan degradation	ko00511	5	81	715	13897	c104972.graph_c0;c123951.graph_c0;c129180. graph_c0;c133065.graph_c0;c94189.graph_c0	K15923+K01191+K01191+K01191+K 01191
ABC transporters	ko02010	5	155	715	13897	c119157.graph_c0;c126614.graph_c0;c130859. graph_c0;c132418.graph_c0;c134352.graph_c0	K05658+K05658+K05658+K05658+K 05658
RNA polymerase	ko03020	5	150	715	13897	c112573.graph_c0;c115938.graph_c0;c119983. graph_c0;c119994.graph_c0;c124206.graph_c0	K03013+K03008+K03019+K03026+K 03014
Zeatin biosynthesis	ko00908	5	19	715	13897	c124810.graph_c0;c130317.graph_c0;c130652. graph_c1;c131011.graph_c0;c93206.graph_c0	K00279+K00279+K10717+K00279+K 13495
Biotin metabolism	ko00780	5	39	715	13897	c100226.graph_c0;c111496.graph_c0;c124338. graph_c0;c128312.graph_c0;c132570.graph_c0	K09458+K01012+K00652+K09458+K 00059
Steroid biosynthesis	ko00100	4	81	715	13897	c101929.graph_c0;c124637.graph_c0;c125112. graph_c0;c127277.graph_c0	K01824+K01853+K14423+K00511
Inositol phosphate metabolism	ko00562	4	196	715	13897	c106470.graph_c0;c119013.graph_c0;c120471. graph_c0;c127088.graph_c0	K05857+K00469+K00915+K00889
Phosphatidylyno sitol signaling system	ko04070	4	194	715	13897	c106470.graph_c0;c112144.graph_c0;c120471. graph_c0;c127088.graph_c0	K05857+K02183+K00915+K00889
2-Oxocarboxylic acid metabolism	ko01210	4	216	715	13897	c117589.graph_c0;c122143.graph_c0;c123819. graph_c0;c93628.graph_c0	K00620+K00052+K00826+K01704

Sulfur relay system	ko04122	4	37	715	13897	c117167. graph_c0;c117198. graph_c0;c125242. graph_c0;c127214. graph_c1	K04487+K03635+K03639+K04487
Sphingolipid metabolism	ko00600	4	111	715	13897	c116191. graph_c0;c125626. graph_c0;c132695. graph_c0;c133691. graph_c1	K00654+K07407+K00654+K04713
Ether lipid metabolism	ko00565	4	87	715	13897	c111700. graph_c0;c128997. graph_c0;c130583. graph_c1;c133450. graph_c0	K01115+K01115+K01115+K01115
Histidine metabolism	ko00340	4	81	715	13897	c122868. graph_c0;c128735. graph_c0;c130417. graph_c0;c130417. graph_c1	K00128+K00128+K00128+K00128
Riboflavin metabolism	ko00740	4	26	715	13897	c112285. graph_c0;c112874. graph_c0;c125704. graph_c0;c129304. graph_c0	K14652+K14652+K14379+K14652
Tropane, piperidine and pyridine alkaloid biosynthesis	ko00960	4	67	715	13897	c118423. graph_c0;c122496. graph_c0;c125213. graph_c1;c132013. graph_c0	K00276+K08081+K08081+K00815
Propanoate metabolism	ko00640	4	140	715	13897	c118938. graph_c0;c132202. graph_c0;c134376. graph_c0;c90012. graph_c0	K05605+K02160+K01963+K01962
SNARE interactions in vesicular transport	ko04130	4	99	715	13897	c113095. graph_c0;c116715. graph_c0;c122899. graph_c0;c132440. graph_c0	K08506+K08486+K08506+K08492
Base excision repair	ko03410	4	137	715	13897	c110971. graph_c0;c129051. graph_c0;c133355. graph_c0;c97798. graph_c0	K10798+K02325+K10747+K10798
Regulation of autophagy	ko04140	3	134	715	13897	c120184. graph_c0;c125459. graph_c0;c128260. graph_c0	K07198+K07198+K07198
Arachidonic	ko00590	3	51	715	13897	c108187. graph_c0;c118215. graph_c0;c127844.	K00432+K00079+K18592

acid metabolism						graph_c0	
Monoterpenoid biosynthesis	ko00902	3	6	715	13897	c102174. graph_c0;c119420. graph_c0;c122797. graph_c0	K15086+K15095+K15086
Aminoacyl-tRNA biosynthesis	ko00970	3	289	715	13897	c129854. graph_c0;c131414. graph_c0;c78250. graph_c0	K14164+K01866+K01893
Sesquiterpenoid and triterpenoid biosynthesis	ko00909	3	22	715	13897	c122391. graph_c0;c124467. graph_c0;c127277. graph_c0	K15813+K15803+K00511
Basal transcription factors	ko03022	3	135	715	13897	c114404. graph_c0;c124056. graph_c0;c133777. graph_c0	K03139+K03120+K03131
Lysine biosynthesis	ko00300	3	42	715	13897	c114056. graph_c0;c123498. graph_c0;c70627. graph_c0	K10206+K00215+K01778
Limonene and pinene degradation	ko00903	3	28	715	13897	c122868. graph_c0;c130417. graph_c0;c130417. graph_c1	K00128+K00128+K00128
Pantothenate and CoA biosynthesis	ko00770	3	80	715	13897	c114123. graph_c0;c123819. graph_c0;c129360. graph_c0	K02201+K00826+K01918
Valine, leucine and isoleucine biosynthesis	ko00290	3	58	715	13897	c122143. graph_c0;c123819. graph_c0;c93628. graph_c0	K00052+K00826+K01704
C5-Branched dibasic acid metabolism	ko00660	2	28	715	13897	c122143. graph_c0;c93628. graph_c0	K00052+K01704

Glycosylphosphatidylinositol (GPI)-anchor biosynthesis	ko00563	2	58	715	13897	c105535.graph_c0;c118365.graph_c0	K11001+K07541
Flavone and flavonol biosynthesis	ko00944	2	6	715	13897	c128275.graph_c0;c92897.graph_c0	K05280+K13272
Protein export	ko03060	2	165	715	13897	c106546.graph_c0;c129331.graph_c0	K07342+K12948
Degradation of aromatic compounds	ko01220	2	27	715	13897	c108564.graph_c0;c126578.graph_c0	K00001+K00121
Synthesis and degradation of ketone bodies	ko00072	2	27	715	13897	c112284.graph_c0;c122610.graph_c0	K01641+K01640
Butanoate metabolism	ko00650	2	85	715	13897	c112284.graph_c0;c122610.graph_c0	K01641+K01640
Diterpenoid biosynthesis	ko00904	2	25	715	13897	c113336.graph_c0;c130968.graph_c0	K04125+K04121
Stilbenoid, diarylheptanoid and gingerol biosynthesis	ko00945	2	34	715	13897	c111410.graph_c0;c116105.graph_c0	K13065+K13065
Taurine and hypotaurine metabolism	ko00430	2	26	715	13897	c121597.graph_c0;c127844.graph_c0	K10712+K18592

Vitamin B6 metabolism	ko00750	1	38	715	13897	c90381.graph_c0	K13248
Glycosphingolip id biosynthesis - globo series	ko00603	1	21	715	13897	c125626.graph_c0	K07407
Other types of O-glycan biosynthesis	ko00514	1	18	715	13897	c88959.graph_c0	K09667
Selenocompound metabolism	ko00450	1	89	715	13897	c120855.graph_c0	K01761
N-Glycan biosynthesis	ko00510	1	156	715	13897	c117730.graph_c0	K00737
Nicotinate and nicotinamide metabolism	ko00760	1	43	715	13897	c121893.graph_c0	K01081
Anthocyanin biosynthesis	ko00942	1	4	715	13897	c117163.graph_c0	K12338
Non-homologous end-joining	ko03450	1	24	715	13897	c109375.graph_c0	K10884
Vancomycin resistance	ko01502	1	2	715	13897	c108176.graph_c0	K02563

Table S3. Putative unigenes related to flower pigmentation.

Pathway	Gene	Enzyme	Unigene number
phenylpropanoid biosynthesis	<i>PAL</i>	Phenylalanine ammonia-lyase	44
	<i>CHS</i>	Chalcone synthase	6
	<i>CHI</i>	Chalcone isomerase	5
	<i>F3H</i>	Flavanone 3-hydroxylase	2
Flavonoid biosynthesis	<i>F3'H</i>	Flavanone 3'-hydroxylase	5
	<i>FLS</i>	Flavonol synthase	2
	<i>DFR</i>	Dihydroflavonol-4-reductase	3
	<i>ANS</i>	Anthocyanidin synthase	4
	<i>AOMT</i>	Anthocyanin O-methyltransferase	4
Anthocyanin biosynthesis	<i>3GT</i>	Anthocyanin 3-O-glycosyltransferase	3
	<i>5GT</i>	Anthocyanin 5-O-glycosyltransferase	1

Table S4. Putative unigenes related to transcriptional regulation and transferase activity.

Function	Gene	Enzyme	Unigene number
Transcriptional regulation	<i>MYB</i>	MYB transcription factor	88
	<i>bHLH</i>	bHLH transcription factor	16
	<i>WD</i>	WD-repeat protein	44
Transferase activity	<i>GST</i>	Glutathione S-transferase	64

Table S5. KEGG pathway classification of DEGs in PO vs PR comparison.

#Pathway	ko_ID	Unigene	gene	Unigene_all	gene_all	
#KEGG_n	477	KEGG_N	13897			
Starch and sucrose metabolism	ko00500	36	469	477	13897	c105513. graph_c1;c106004. graph_c0;c108042. graph_c0;c108790. graph_c0;c109671. graph_c0;c115711. graph_c0;c117587. graph_c0;c117822. graph_c0;c118113. graph_c0;c118816. graph_c0;c119141. graph_c0;c119325. graph_c0;c120576. graph_c0;c121742. graph_c0;c122721. graph_c0;c123210. graph_c0;c123220. graph_c0;c125155. graph_c1;c126580. graph_c0;c126811. graph_c0;c126934. graph_c0;c127107. graph_c0;c127792. graph_c0;c129616. graph_c0;c129750. graph_c0;c130158. graph_c0;c130187. graph_c0;c130727. graph_c1;c131002. graph_c1;c131646. graph_c1;c131799. graph_c0;c23686. graph_c0;c71123. graph_c0;c86535. graph_c0;c88845. graph_c0;c97687. graph_c0;c100991. graph_c0;c105815. graph_c0;c106087. graph_c0;c107593. graph_c0;c108427. graph_c0;c109272. graph_c0;c109646. graph_c0;c112138. graph_c0;c112179. graph_c0;c113017. graph_c0;c116573. graph_c0;c116665. graph_c0;c116968. graph_c0;c118188+K01188+K18447+K01188+K05350+K01176+K00695+K01051+K01188+K01188+K00696+K01184+K01051+K01051+K01835+K05350+K01188+K01176+K01177+K01193+K01187+K00847+K01188+K01051+K01051+K01087+K00847+K01176+K00696+K00688+K01176+K01177+K01051+K01188+K05350+K01188
Plant hormone signal transduction	ko04075	33	403	477	13897	K14487+K14505+K14490+K14492+K14490+K14492+K14488+K13464+K14488+K14484+K14505+K14488+K14432+K14487+K14488+K14496+K14488+K14488+K14497+K14498+K13464+K14484+K14505+K14490+K14512+K14491+K14491+K14488+K14488+K14505+

						h_c0;c117784. graph_c0;c120105. graph_c0;c120345. graph_c0;c120847. graph_c0;c121149. graph_c0;c121691. graph_c0;c121767. graph_c0;c122051. graph_c0;c122394. graph_c0;c123048. graph_c0;c124750. graph_c1;c124826. graph_c0;c125541. graph_c0;c127036. graph_c1;c127324. graph_c0;c127580. graph_c0;c127695. graph_c0;c130168. graph_c0;c132781. graph_c0;c133064. graph_c0;c101742. graph_c0;c105513. graph_c1;c106004. graph_c0;c107475. graph_c0;c108790. graph_c0;c109671. graph_c0;c111428. graph_c0;c111764. graph_c0;c114770. graph_c0;c116628. graph_c0;c117640. graph_c0;c118113. graph_c0;c118247. graph_c0;c118816. graph_c0;c120064. graph_c0;c120064. graph_c1;c123210. graph_c0;c123220. graph_c0;c125412. graph_c0;c127792. graph_c0;c129902. graph_c0;c130735. graph_c0;c133930. graph_c0;c50245. graph_c0;c86535. graph_c0;c86972. graph_c0;c88845. graph_c0;c89173. graph_c0;c97687. graph_c0	K14509+K14492+K14491
Phenylpropanoid biosynthesis	ko00940	29	250	477	13897	h_c0;c118816. graph_c0;c120064. graph_c0;c120064. graph_c1;c123210. graph_c0;c123220. graph_c0;c125412. graph_c0;c127792. graph_c0;c129902. graph_c0;c130735. graph_c0;c133930. graph_c0;c50245. graph_c0;c86535. graph_c0;c86972. graph_c0;c88845. graph_c0;c89173. graph_c0;c97687. graph_c0	K00083+K01188+K01188+K00430+K01188+K05350+K00430+K11188+K13066+K00430+K12356+K01188+K00430+K01188+K13066+K13066+K05350+K01188+K01904+K01188+K13066+K00430+K00430+K00083+K01188+K11188+K05350+K09755+K01188
Ribosome	ko03010	24	996	477	13897	c102478. graph_c0;c102533. graph_c0;c105246. graph_c0;c108452. graph_c1;c111	K02939+K02937+K02940+K02922+K02866+K02922+K02988+K02880+K02959+K02896+

						222. graph_c0; c114175. graph_c0; c11808	K02937+K02896+K02993+K02938+K02882+
						5. graph_c0; c119933. graph_c0; c122506.	K02980+K02992+K02937+K02882+K02868+
						graph_c0; c124830. graph_c0; c125171. gr	K02960+K02938+K02949+K02894
						aph_c0; c125852. graph_c0; c125958. grap	
						h_c0; c129136. graph_c0; c130486. graph_	
						c0; c132355. graph_c0; c132848. graph_c0	
						; c133030. graph_c0; c133694. graph_c0; c	
						133984. graph_c0; c134599. graph_c0; c49	
						761. graph_c0; c90571. graph_c0; c95596.	
						graph_c0	
						c101979. graph_c0; c102878. graph_c0; c1	
						14056. graph_c0; c117589. graph_c0; c117	
						781. graph_c1; c118697. graph_c0; c12109	
						0. graph_c0; c121536. graph_c0; c122230.	K05359+K15227+K10206+K00620+K06001+
						graph_c0; c123819. graph_c0; c124334. gr	K00611+K15227+K00815+K01695+K00826+
Biosynthesis of	ko01230	23	812	477	13897	aph_c0; c124635. graph_c0; c124834. grap	K01738+K01915+K00615+K13832+K01738+
amino acids						h_c0; c129927. graph_c0; c132024. graph_	K13832+K00030+K00789+K00600+K15227+
						c0; c133226. graph_c0; c49644. graph_c0;	K13034+K01704+K00891
						c51012. graph_c0; c51284. graph_c0; c716	
						76. graph_c0; c88948. graph_c0; c93628. g	
						raph_c0; c95528. graph_c0	
						c100613. graph_c0; c102566. graph_c0; c1	K00025+K00122+K00830+K05605+K01057+
						10315. graph_c0; c118938. graph_c0; c120	K00855+K01738+K00615+K00121+K01610+
Carbon metabolism	ko01200	22	955	477	13897	124. graph_c0; c123772. graph_c0; c12433	K01595+K00026+K01738+K01963+K01610+
						4. graph_c0; c124834. graph_c0; c126578.	K00030+K00600+K01895+K00627+K01679+
						graph_c0; c128281. graph_c0; c128366. gr	K13034+K01962

Plant-pathogen interaction	ko04626	19	373	477	13897	c112144. graph_c0; c112507. graph_c0; c115120. graph_c0; c119307. graph_c0; c119888. graph_c0; c121838. graph_c0; c122045. graph_c0; c125898. graph_c1; c129591. graph_c0; c130786. graph_c0; c131652. graph_c1; c132441. graph_c0; c132982. graph_c1; c133136. graph_c0; c134348. graph_c0; c134380. graph_c0; c50350. graph_c0; c88346. graph_c0; c91463. graph_c0; c102004. graph_c0; c102687. graph_c0; c109303. graph_c0; c109581. graph_c0; c115772. graph_c0; c117008. graph_c0; c118104. graph_c0; c118459. graph_c0; c120300. graph_c0; c121567. graph_c0; c123502. graph_c0; c123665. graph_c0; c125727. graph_c0; c133558. graph_c0; c134411. graph_c0; c134639. graph_c0; c23669. graph_c0; c98181. graph_c0; c100128. graph_c0; c101644. graph_c0; c104922. graph_c0; c105700. graph_c0; c108958. graph_c0; c109514. graph_c0; c109836. graph_c0; c111404. graph_c0; c120141. graph_c0; c124921. graph_c0; c125492. graph_c0; c126976. graph_c0; c128494. graph_c0; c130722. graph_c0; c132793. graph_c0; c95982. graph_c0; c97392. graph_c0	K02183+K13448+K13448+K13412+K13412+K13459+K18875+K13457+K05391+K13429+K13420+K13412+K13447+K13447+K13457+K13459+K13448+K13412+K12795
alpha-Linolenic acid metabolism	ko00592	18	130	477	13897	c100128. graph_c0; c101644. graph_c0; c104922. graph_c0; c105700. graph_c0; c108958. graph_c0; c109514. graph_c0; c109836. graph_c0; c111404. graph_c0; c120141. graph_c0; c124921. graph_c0; c125492. graph_c0; c126976. graph_c0; c128494. graph_c0; c130722. graph_c0; c132793. graph_c0; c95982. graph_c0; c97392. graph_c0	K18857+K00454+K08241+K18857+K01723+K10525+K18857+K01723+K05894+K01723+K00232+K10525+K08241+K00232+K00454+K00454+K00454+K01047
Photosynthesis	ko00195	17	144	477	13897	c100128. graph_c0; c101644. graph_c0; c104922. graph_c0; c105700. graph_c0; c108958. graph_c0; c109514. graph_c0; c109836. graph_c0; c111404. graph_c0; c120141. graph_c0; c124921. graph_c0; c125492. graph_c0; c126976. graph_c0; c128494. graph_c0; c130722. graph_c0; c132793. graph_c0; c95982. graph_c0; c97392. graph_c0	K02115+K02638+K02639+K08902+K02641+K02692+K02115+K14332+K02707+K02694+K02109+K02113+K02691+K02710+K02705+K02641+K02717

Ubiquitin mediated proteolysis	ko04120	14	468	477	13897	aph_c0;c131042. graph_c0;c133930. graph_c0;c86972. graph_c0 c100543. graph_c0;c108531. graph_c0;c108920. graph_c0;c115011. graph_c0;c117552. graph_c0;c119129. graph_c0;c123174. graph_c0;c123347. graph_c0;c123525. graph_c0;c128987. graph_c0;c131884. graph_c0;c133559. graph_c0;c97655. graph_c0;c97880. graph_c0 c100613. graph_c0;c117302. graph_c0;c120405. graph_c1;c120855. graph_c0;c121536. graph_c0;c123728. graph_c0;c124334. graph_c0;c125674. graph_c0;c125789. graph_c0;c129490. graph_c0;c132024. graph_c0;c51012. graph_c0;c88948. graph_c0 c102004. graph_c0;c109581. graph_c0;c111937. graph_c0;c118104. graph_c0;c120405. graph_c1;c122721. graph_c0;c126578. graph_c0;c128281. graph_c0;c128735. graph_c0;c134543. graph_c0;c134605. graph_c0;c62501. graph_c0;c85077. graph_c0 c100613. graph_c0;c120405. graph_c1;c128281. graph_c0;c128366. graph_c0;c128735. graph_c0;c129490. graph_c0;c13437	K10579+K03094+K10144+K10144+K03347+K10583+K03354+K03094+K03363+K10581+K12456+K10144+K03868+K06689 K00025+K00797+K00016+K01761+K00815+K01762+K01738+K00547+K05933+K00026+K01738+K00789+K13034 K18857+K18857+K01785+K18857+K00016+K01835+K00121+K01610+K00128+K01568+K01610+K01895+K00627 K00025+K00016+K01610+K01595+K00128+K00026+K01963+K01610+K01895+K00627+K01679+K01962
Cysteine and methionine metabolism	ko00270	13	289	477	13897		
Glycolysis / Gluconeogenesis	ko00010	13	448	477	13897		
Pyruvate metabolism	ko00620	12	357	477	13897		

Tyrosine metabolism	ko00350	12	121	477	13897	6. graph_c0;c134605. graph_c0;c62501. graph_c0;c85077. graph_c0;c88872. graph_c0;c90012. graph_c0 c102004. graph_c0;c109581. graph_c0;c110715. graph_c0;c118104. graph_c0;c118423. graph_c0;c119172. graph_c0;c121536. graph_c0;c126578. graph_c0;c130866. graph_c0;c131042. graph_c0;c23725. graph_c0;c23725. graph_c1 c108935. graph_c0;c111700. graph_c0;c112162. graph_c0;c114229. graph_c0;c118376. graph_c0;c127088. graph_c0;c131641. graph_c0;c131641. graph_c1;c131854. graph_c1;c133450. graph_c0;c23697. graph_c0 c124424. graph_c0;c124583. graph_c0;c127594. graph_c0;c128040. graph_c0;c131711. graph_c0;c132698. graph_c0;c133529. graph_c0;c86343. graph_c0;c88162. graph_c0;c97209. graph_c0;c99637. graph_c1 c117822. graph_c0;c119325. graph_c0;c120576. graph_c0;c121742. graph_c0;c122856. graph_c0;c124896. graph_c0;c128735. graph_c0;c129616. graph_c0;c129750. graph_c0;c23628. graph_c0;c71123. grap	K18857+K18857+K07253+K18857+K00276+K00457+K00815+K00121+K01592+K00276+K01592+K01592 K07904+K01115+K07904+K12489+K01115+K00889+K12489+K12489+K03283+K01115+K03283
Endocytosis	ko04144	11	472	477	13897		
Cutin, suberine and wax biosynthesis	ko00073	11	60	477	13897		K15404+K15398+K17991+K13356+K15404+K15398+K13407+K15398+K13356+K13356+K13356
Pentose and glucuronate interconversions	ko00040	11	202	477	13897		K01051+K01184+K01051+K01051+K00011+K01728+K00128+K01051+K01051+K01728+K01051

RNA degradation	ko03018	10	419	477	13897	h_c0 c109491. graph_c0;c116941. graph_c0;c120290. graph_c0;c125901. graph_c0;c126315. graph_c0;c130826. graph_c0;c131538. graph_c1;c134322. graph_c0;c134441. graph_c0;c93753. graph_c0 c111454. graph_c0;c113927. graph_c0;c121595. graph_c0;c121595. graph_c1;c122587. graph_c0;c124462. graph_c0;c125410. graph_c0;c127762. graph_c1;c81933. graph_c0;c88832. graph_c0 c101979. graph_c0;c102878. graph_c0;c117781. graph_c1;c121090. graph_c0;c121536. graph_c0;c122230. graph_c0;c129927. graph_c0;c133226. graph_c0;c71676. graph_c0;c95528. graph_c0 c106554. graph_c0;c122721. graph_c0;c123063. graph_c0;c124607. graph_c0;c127107. graph_c0;c130187. graph_c0;c131811. graph_c0;c54775. graph_c0;c88590. graph_c0;c89832. graph_c0 c100226. graph_c0;c108824. graph_c0;c115084. graph_c0;c121978. graph_c0;c123502. graph_c0;c124335. graph_c0;c132570. graph_c0;c133558. graph_c0;c134376. graph_c0;c90012. graph_c0	K04077+K12606+K12608+K04077+K13126+K12603+K12619+K14442+K12619+K14442 K13789+K05356+K01662+K01662+K15889+K13789+K10960+K11778+K00021+K00021 K05359+K15227+K06001+K15227+K00815+K01695+K13832+K13832+K15227+K00891 K01183+K01835+K01183+K01209+K00847+K00847+K01183+K01784+K01784+K12449 K09458+K01074+K10251+K10257+K00232+K10781+K00059+K00232+K01963+K01962
Terpenoid backbone biosynthesis	ko00900	10	155	477	13897		
Phenylalanine, tyrosine and tryptophan biosynthesis	ko00400	10	117	477	13897		
Amino sugar and nucleotide sugar metabolism	ko00520	10	335	477	13897		
Fatty acid metabolism	ko01212	10	268	477	13897		

Pyrimidine metabolism	ko00240	10	456	477	13897	c102867. graph_c0;c110950. graph_c0;c114780. graph_c0;c124206. graph_c0;c125604. graph_c0;c128678. graph_c0;c129051. graph_c0;c131878. graph_c0;c64367. graph_c0;c93528. graph_c0	K00857+K10808+K00876+K03014+K03040+K10807+K02325+K10808+K02326+K01520
Glycerophospholipid metabolism	ko00564	9	243	477	13897	c105872. graph_c0;c111700. graph_c0;c118376. graph_c0;c124631. graph_c0;c127052. graph_c0;c128220. graph_c0;c130294. graph_c0;c133450. graph_c0;c98181. graph_c0	K06130+K01115+K01115+K06129+K13508+K13513+K13508+K01115+K01047
Galactose metabolism	ko00052	9	166	477	13897	c111937. graph_c0;c121255. graph_c1;c122721. graph_c0;c122856. graph_c0;c126811. graph_c0;c126934. graph_c0;c127648. graph_c0;c54775. graph_c0;c88590. graph_c0	K01785+K06617+K01835+K00011+K01193+K01187+K18819+K01784+K01784
Peroxisome	ko04146	9	287	477	13897	c110315. graph_c0;c123153. graph_c0;c123502. graph_c0;c128040. graph_c0;c129908. graph_c0;c133558. graph_c0;c88162. graph_c0;c97209. graph_c0;c99637. graph_c1	K00830+K13346+K00232+K13356+K11517+K00232+K13356+K13356+K13356
RNA transport	ko03013	8	630	477	13897	c102019. graph_c0;c116762. graph_c0;c117960. graph_c0;c120059. graph_c0;c125991. graph_c0;c126315. graph_c0;c130438. graph_c0;c131752. graph_c0	K12882+K03257+K03260+K03237+K03231+K13126+K14293+K03250
Thiamine metabolism	ko00730	8	45	477	13897	c112666. graph_c0;c117167. graph_c0;c117973. graph_c0;c121244. graph_c0;c121	K03146+K04487+K06928+K03146+K01662+K01662+K04487+K00878

Glyoxylate and dicarboxylate metabolism	ko00630	8	252	477	13897	595. graph_c0; c121595. graph_c1; c12721 4. graph_c1; c127921. graph_c0 c100613. graph_c0; c102566. graph_c0; c1 10315. graph_c0; c124635. graph_c0; c129 490. graph_c0; c129908. graph_c0; c51284 . graph_c0; c96010. graph_c0 c105010. graph_c0; c113632. graph_c0; c1 21921. graph_c0; c123483. graph_c0; c132 440. graph_c0; c70889. graph_c0; c97672. graph_c0 c102019. graph_c0; c118482. graph_c0; c1 24542. graph_c0; c126315. graph_c0; c129 634. graph_c0; c132292. graph_c2; c88662 . graph_c0 c108042. graph_c0; c114913. graph_c0; c1 18742. graph_c0; c122856. graph_c0; c127 107. graph_c0; c130187. graph_c0; c13097 8. graph_c0 c124810. graph_c0; c125250. graph_c0; c1 29356. graph_c0; c130317. graph_c0; c130 652. graph_c1; c131511. graph_c0; c13202 5. graph_c0 c102004. graph_c0; c109581. graph_c0; c1 18104. graph_c0; c123502. graph_c0; c126 578. graph_c0; c128735. graph_c0; c13355 8. graph_c0	K00025+K00122+K00830+K01915+K00026+ K11517+K00600+K02437 K02152+K07375+K02150+K04392+K08492+ K07374+K07375 K12882+K03456+K14400+K13126+K03265+ K03456+K03265 K18447+K00895+K00895+K00011+K00847+ K00847+K00895 K00279+K10760+K13495+K00279+K10717+ K00791+K00279 K18857+K18857+K18857+K00232+K00121+ K00128+K00232
Phagosome	ko04145	7	348	477	13897		
mRNA surveillance pathway	ko03015	7	452	477	13897		
Fructose and mannose metabolism	ko00051	7	201	477	13897		
Zeatin biosynthesis	ko00908	7	19	477	13897		
Fatty acid degradation	ko00071	7	197	477	13897		

Glycine, serine and threonine metabolism	ko00260	7	226	477	13897	c110315.graph_c0;c117781.graph_c1;c1 18423.graph_c0;c122230.graph_c0;c131 042.graph_c0;c51284.graph_c0;c96010. graph_c0	K00830+K06001+K00276+K01695+K00276+ K00600+K02437
Citrate cycle (TCA cycle)	ko00020	7	304	477	13897	c100613.graph_c0;c128281.graph_c0;c1 29490.graph_c0;c134605.graph_c0;c496 44.graph_c0;c85077.graph_c0;c88872.g raph_c0	K00025+K01610+K00026+K01610+K00030+ K00627+K01679
Carbon fixation in photosynthetic organisms	ko00710	7	282	477	13897	c100613.graph_c0;c123772.graph_c0;c1 24834.graph_c0;c128281.graph_c0;c128 366.graph_c0;c129490.graph_c0;c13460 5.graph_c0	K00025+K00855+K00615+K01610+K01595+ K00026+K01610
Isoquinoline alkaloid biosynthesis	ko00950	6	54	477	13897	c118423.graph_c0;c121536.graph_c0;c1 30866.graph_c0;c131042.graph_c0;c237 25.graph_c0;c23725.graph_c1	K00276+K00815+K01592+K00276+K01592+ K01592
Porphyrin and chlorophyll metabolism	ko00860	6	131	477	13897	c121882.graph_c0;c123884.graph_c0;c1 25410.graph_c0;c127890.graph_c0;c127 890.graph_c1;c130025.graph_c0	K04035+K00218+K10960+K03403+K03403+ K13071
ABC transporters	ko02010	6	155	477	13897	c119157.graph_c0;c126614.graph_c0;c1 30859.graph_c0;c131196.graph_c0;c132 418.graph_c0;c134352.graph_c0	K05658+K05658+K05658+K05658+K05658+ K05658
Base excision repair	ko03410	6	137	477	13897	c110971.graph_c0;c121800.graph_c0;c1 24043.graph_c0;c129051.graph_c0;c643 67.graph_c0;c97798.graph_c0	K10798+K01142+K10798+K02325+K02326+ K10798
Arginine and proline metabolism	ko00330	6	287	477	13897	c117302.graph_c0;c117589.graph_c0;c1 18697.graph_c0;c124635.graph_c0;c128	K00797+K00620+K00611+K01915+K00128+ K01427

Photosynthesis - antenna proteins	ko00196	6	52	477	13897	735. graph_c0; c130274. graph_c0 c100527. graph_c0; c106848. graph_c0; c1 09381. graph_c0; c114287. graph_c0; c716 81. graph_c0; c89965. graph_c0	K08910+K08909+K08916+K08908+K08913+ K08913
Circadian rhythm - plant	ko04712	6	88	477	13897	c112186. graph_c0; c126452. graph_c1; c1 27832. graph_c0; c130328. graph_c0; c132 912. graph_c0; c93168. graph_c0	K16166+K12130+K16241+K12129+K12129+ K00660
Spliceosome	ko03040	6	868	477	13897	c102019. graph_c0; c120047. graph_c0; c1 31854. graph_c1; c23697. graph_c0; c7135 7. graph_c0; c91908. graph_c0	K12882+K12830+K03283+K03283+K12833+ K12833
Brassinosteroid biosynthesis	ko00905	5	20	477	13897	c105790. graph_c0; c118316. graph_c0; c1 19899. graph_c0; c120722. graph_c0; c973 61. graph_c0	K12637+K09587+K12638+K15639+K15639
Biosynthesis of unsaturated fatty acids	ko01040	5	111	477	13897	c115084. graph_c0; c121978. graph_c0; c1 23502. graph_c0; c132570. graph_c0; c133 558. graph_c0	K10251+K10257+K00232+K00059+K00232
Linoleic acid metabolism	ko00591	5	39	477	13897	c102687. graph_c0; c134411. graph_c0; c1 34639. graph_c0; c23669. graph_c0; c9818 1. graph_c0	K00454+K00454+K00454+K00454+K01047
beta-Alanine metabolism	ko00410	5	176	477	13897	c117302. graph_c0; c118423. graph_c0; c1 18938. graph_c0; c128735. graph_c0; c131 042. graph_c0	K00797+K00276+K05605+K00128+K00276
Propanoate metabolism	ko00640	5	140	477	13897	c118938. graph_c0; c120405. graph_c1; c1 34376. graph_c0; c62501. graph_c0; c9001 2. graph_c0	K05605+K00016+K01963+K01895+K01962
Glycerolipid	ko00561	5	191	477	13897	c122856. graph_c0; c127052. graph_c0; c1	K00011+K13508+K13513+K00128+K13508

metabolism						28220. graph_c0;c128735. graph_c0;c130294. graph_c0	
Nitrogen metabolism	ko00910	5	100	477	13897	c107127. graph_c0;c112691. graph_c0;c122099. graph_c0;c124635. graph_c0;c130648. graph_c0	K01674+K01725+K01673+K01915+K02575
Fatty acid biosynthesis	ko00061	5	136	477	13897	c100226. graph_c0;c124335. graph_c0;c132570. graph_c0;c134376. graph_c0;c90012. graph_c0	K09458+K10781+K00059+K01963+K01962
Fatty acid elongation	ko00062	4	86	477	13897	c101374. graph_c0;c108824. graph_c0;c115084. graph_c0;c70542. graph_c0	K15397+K01074+K10251+K15397
Ether lipid metabolism	ko00565	4	87	477	13897	c111700. graph_c0;c118376. graph_c0;c133450. graph_c0;c98181. graph_c0	K01115+K01115+K01115+K01047
Ubiquinone and other terpenoid-quinone biosynthesis	ko00130	4	74	477	13897	c119172. graph_c0;c121536. graph_c0;c123577. graph_c0;c125412. graph_c0	K00457+K00815+K02552+K01904
DNA replication	ko03030	4	216	477	13897	c118790. graph_c0;c121683. graph_c0;c129051. graph_c0;c64367. graph_c0	K10740+K10745+K02325+K02326
Nucleotide excision repair	ko03420	4	225	477	13897	c118790. graph_c0;c129051. graph_c0;c64367. graph_c0;c97655. graph_c0	K10740+K02325+K02326+K03868
Alanine, aspartate and glutamate metabolism	ko00250	4	240	477	13897	c110315. graph_c0;c120459. graph_c0;c124635. graph_c0;c130166. graph_c0	K00830+K00278+K01915+K01953
2-Oxocarboxylic acid metabolism	ko01210	4	216	477	13897	c117589. graph_c0;c123819. graph_c0;c49644. graph_c0;c93628. graph_c0	K00620+K00826+K00030+K01704
Ribosome	ko03008	4	379	477	13897	c116289. graph_c0;c122033. graph_c0;c1	K14521+K14538+K12619+K12619

biogenesis in eukaryotes						31538. graph_c1;c134441. graph_c0	
SNARE interactions in vesicular transport	ko04130	4	99	477	13897	c109420. graph_c0;c113095. graph_c0;c122232. graph_c1;c132440. graph_c0	K08486+K08506+K08486+K08492
Flavonoid biosynthesis	ko00941	4	64	477	13897	c105653. graph_c0;c126380. graph_c0;c93168. graph_c0;c94554. graph_c0	K01859+K13082+K00660+K05278
Tropane, piperidine and pyridine alkaloid biosynthesis	ko00960	4	67	477	13897	c118423. graph_c0;c121536. graph_c0;c122496. graph_c0;c131042. graph_c0	K00276+K00815+K08081+K00276
Pentose phosphate pathway	ko00030	3	196	477	13897	c120124. graph_c0;c122721. graph_c0;c124834. graph_c0	K01057+K01835+K00615
Valine, leucine and isoleucine degradation	ko00280	3	223	477	13897	c118938. graph_c0;c123819. graph_c0;c128735. graph_c0	K05605+K00826+K00128
Riboflavin metabolism	ko00740	3	26	477	13897	c112874. graph_c0;c125704. graph_c0;c129304. graph_c0	K14652+K14379+K14652
Sulfur relay system	ko04122	3	37	477	13897	c117167. graph_c0;c125242. graph_c0;c127214. graph_c1	K04487+K03639+K04487
Sulfur metabolism	ko00920	3	92	477	13897	c124334. graph_c0;c132024. graph_c0;c88948. graph_c0	K01738+K01738+K13034
Tryptophan metabolism	ko00380	3	126	477	13897	c125003. graph_c0;c127788. graph_c0;c128735. graph_c0	K07408+K11816+K00128
Diterpenoid biosynthesis	ko00904	3	25	477	13897	c113336. graph_c0;c130968. graph_c0;c89332. graph_c0	K04125+K04121+K17982

Folate biosynthesis	ko00790	3	47	477	13897	c125242. graph_c0;c126629. graph_c0;c86038. graph_c0	K03639+K18482+K13941
Steroid biosynthesis	ko00100	3	81	477	13897	c125112. graph_c0;c130196. graph_c0;c97018. graph_c0	K14423+K14423+K01853
Monoterpenoid biosynthesis	ko00902	2	6	477	13897	c102174. graph_c0;c122797. graph_c0	K15086+K15086
Valine, leucine and isoleucine biosynthesis	ko00290	2	58	477	13897	c123819. graph_c0;c93628. graph_c0	K00826+K01704
Ascorbate and aldarate metabolism	ko00053	2	134	477	13897	c119013. graph_c0;c128735. graph_c0	K00469+K00128
Pantothenate and CoA biosynthesis	ko00770	2	80	477	13897	c114123. graph_c0;c123819. graph_c0	K02201+K00826
Biotin metabolism	ko00780	2	39	477	13897	c100226. graph_c0;c132570. graph_c0	K09458+K00059
Inositol phosphate metabolism	ko00562	2	196	477	13897	c119013. graph_c0;c127088. graph_c0	K00469+K00889
Regulation of autophagy	ko04140	2	134	477	13897	c117024. graph_c0;c117516. graph_c0	K07198+K08269
One carbon pool by folate	ko00670	2	75	477	13897	c112704. graph_c0;c51284. graph_c0	K01934+K00600
Arachidonic acid metabolism	ko00590	2	51	477	13897	c127844. graph_c0;c98181. graph_c0	K18592+K01047
RNA polymerase	ko03020	2	150	477	13897	c124206. graph_c0;c125604. graph_c0	K03014+K03040
Sphingolipid metabolism	ko00600	2	111	477	13897	c116191. graph_c0;c133691. graph_c1	K00654+K04713

Carotenoid biosynthesis	ko00906	2	64	477	13897	c122440. graph_c0;c91224. graph_c0	K09840+K09843
Phosphatidylinositol signaling system	ko04070	2	194	477	13897	c112144. graph_c0;c127088. graph_c0	K02183+K00889
Lysine degradation	ko00310	2	136	477	13897	c109846. graph_c0;c128735. graph_c0	K14157+K00128
Proteasome	ko03050	2	264	477	13897	c121189. graph_c0;c88678. graph_c0	K03062+K02734
Taurine and hypotaurine metabolism	ko00430	1	26	477	13897	c127844. graph_c0	K18592
Non-homologous end-joining	ko03450	1	24	477	13897	c124068. graph_c0	K10885
Histidine metabolism	ko00340	1	81	477	13897	c128735. graph_c0	K00128
Degradation of aromatic compounds	ko01220	1	27	477	13897	c126578. graph_c0	K00121
Lysine biosynthesis	ko00300	1	42	477	13897	c114056. graph_c0	K10206
Glycosylphosphatidylinositol (GPI)-anchor biosynthesis	ko00563	1	58	477	13897	c117847. graph_c0	K05283
Homologous recombination	ko03440	1	157	477	13897	c118790. graph_c0	K10740
Mismatch repair	ko03430	1	132	477	13897	c118790. graph_c0	K10740

Other glycan degradation	ko00511	1	81	477	13897	c94189.graph_c0	K01191
Basal transcription factors	ko03022	1	135	477	13897	c133777.graph_c0	K03131
Aminoacyl-tRNA biosynthesis	ko00970	1	289	477	13897	c131414.graph_c0	K01866
Nicotinate and nicotinamide metabolism	ko00760	1	43	477	13897	c120459.graph_c0	K00278
Anthocyanin biosynthesis	ko00942	1	4	477	13897	c132750.graph_c0	K12930
C5-Branched dibasic acid metabolism	ko00660	1	28	477	13897	c93628.graph_c0	K01704
Selenocompound metabolism	ko00450	1	89	477	13897	c120855.graph_c0	K01761

Table S6. KEGG pathway classification of DEGs in PR vs RO comparison.

#Pathway	ko_ID	Unigene	gene	Unigene_all	gene_all		
#KEGG_n	477	KEGG_N	13897				
Starch and sucrose metabolism	ko00500	36	469	477	13897		
Plant hormone signal transduction	ko04075	33	403	477	13897		
					c105513. graph_c1;c106004. graph_c0;c108042. graph_c0;c108790. graph_c0;c109671. graph_c0;c115711. graph_c0;c117587. graph_c0;c117822. graph_c0;c118113. graph_c0;c118816. graph_c0;c119141. graph_c0;c119325. graph_c0;c120576. graph_c0;c121742. graph_c0;c122721. graph_c0;c123210. graph_c0;c123220. graph_c0;c125155. graph_c1;c126580. graph_c0;c126811. graph_c0;c126934. graph_c0;c127107. graph_c0;c127792. graph_c0;c129616. graph_c0;c129750. graph_c0;c130158. graph_c0;c130187. graph_c0;c130727. graph_c1;c131002. graph_c1;c131646. graph_c1;c131799. graph_c0;c23686. graph_c0;c71123. graph_c0;c86535. graph_c0;c88845. graph_c0;c97687. graph_c0;c100991. graph_c0;c105815. graph_c0;c106087. graph_c0;c107593. graph_c0;c108427. graph_c0;c109272. graph_c0;c109646. graph_c0;c112138. graph_c0;c112179. graph_c0;c113017. graph_c0;c116573. graph_c0;c116665. graph_c0;c116968. graph_c0;c117784	K01188+K01188+K18447+K01188+K05350+K01176+K00695+K01051+K01188+K01188+K00696+K01184+K01051+K01051+K01835+K05350+K01188+K01176+K01177+K01193+K01187+K00847+K01188+K01051+K01051+K01087+K00847+K01176+K00696+K00688+K01176+K01177+K01051+K01188+K05350+K01188	K14487+K14505+K14490+K14492+K14490+K14492+K14488+K13464+K14488+K14484+K14505+K14488+K14432+K14487+K14488+K14496+K14488+K14488+K14497+K14498+K13464+K14484+K14505+K14490+K14512+K14491+K14491+K14

						. graph_c0;c120105. graph_c1;c120345. gra ph_c0;c120847. graph_c0;c121149. graph_c 0;c121691. graph_c0;c121767. graph_c0;c1 22051. graph_c0;c122394. graph_c0;c12304 8. graph_c0;c124750. graph_c1;c124826. gr aph_c0;c125541. graph_c0;c127036. graph_ c1;c127324. graph_c0;c127580. graph_c0;c 127695. graph_c0;c130168. graph_c0;c1327 81. graph_c0;c133064. graph_c0 c101742. graph_c0;c105513. graph_c1;c106 004. graph_c0;c107475. graph_c0;c108790. graph_c0;c109671. graph_c0;c111428. grap h_c0;c111764. graph_c0;c114770. graph_c0 ;c116628. graph_c0;c117640. graph_c0;c11 8113. graph_c0;c118247. graph_c0;c118816 . graph_c0;c120064. graph_c0;c120064. gra ph_c1;c123210. graph_c0;c123220. graph_c 0;c125412. graph_c0;c127792. graph_c0;c1 29902. graph_c0;c130735. graph_c0;c13393 0. graph_c0;c50245. graph_c0;c86535. grap h_c0;c86972. graph_c0;c88845. graph_c0;c 89173. graph_c0;c97687. graph_c0 c102478. graph_c0;c102533. graph_c0;c105 246. graph_c0;c108452. graph_c1;c111222. graph_c0;c114175. graph_c0;c118085. grap h_c0;c119933. graph_c0;c122506. graph_c0	488+K14488+K14505+K14509+K14492+ K14491 K00083+K01188+K01188+K00430+K011 88+K05350+K00430+K11188+K13066+K 00430+K12356+K01188+K00430+K0118 8+K13066+K13066+K05350+K01188+K0 1904+K01188+K13066+K00430+K00430 +K00083+K01188+K11188+K05350+K09 755+K01188 K02939+K02937+K02940+K02922+K028 66+K02922+K02988+K02880+K02959+K 02896+K02937+K02896+K02993+K0293 8+K02882+K02980+K02992+K02937+K0
Phenylpropanoid biosynthesis	ko00940	29	250	477	13897		
Ribosome	ko03010	24	996	477	13897		

alpha-Linolenic acid metabolism	ko00592	18	130	477	13897	2441. graph_c0;c132982. graph_c1;c133136 . graph_c0;c134348. graph_c0;c134380. graph_c0;c50350. graph_c0;c88346. graph_c0;c91463. graph_c0 c102004. graph_c0;c102687. graph_c0;c109303. graph_c0;c109581. graph_c0;c115772. graph_c0;c117008. graph_c0;c118104. graph_h_c0;c118459. graph_c0;c120300. graph_c0;c121567. graph_c0;c123502. graph_c0;c123665. graph_c0;c125727. graph_c0;c133558 . graph_c0;c134411. graph_c0;c134639. graph_c0;c23669. graph_c0;c98181. graph_c0	K18857+K00454+K08241+K18857+K01723+K10525+K18857+K01723+K05894+K01723+K00232+K10525+K08241+K00232+K00454+K00454+K00454+K01047
Photosynthesis	ko00195	17	144	477	13897	c100128. graph_c0;c101644. graph_c0;c104922. graph_c0;c105700. graph_c0;c108958. graph_c0;c109514. graph_c0;c109836. graph_h_c0;c111404. graph_c0;c120141. graph_c0;c124921. graph_c0;c125492. graph_c0;c126976. graph_c0;c128494. graph_c0;c130722 . graph_c0;c132793. graph_c0;c95982. graph_h_c0;c97392. graph_c0	K02115+K02638+K02639+K08902+K02641+K02692+K02115+K14332+K02707+K02694+K02109+K02113+K02691+K02710+K02705+K02641+K02717
Oxidative phosphorylation	ko00190	15	552	477	13897	c100128. graph_c0;c105010. graph_c0;c109836. graph_c0;c112664. graph_c0;c120026. graph_c0;c121921. graph_c0;c125492. graph_h_c0;c126524. graph_c0;c126976. graph_c0	K02115+K02152+K02115+K01535+K05577+K02150+K02109+K05582+K02113+K03883+K03881+K02132+K05579+K01535+K01535

						<p>;c129271. graph_c0;c132160. graph_c0;c132549. graph_c0;c133939. graph_c0;c28152. graph_c0;c71577. graph_c0</p>
Cyanoamino acid metabolism	ko00460	15	114	477	13897	<p>c105513. graph_c1;c106004. graph_c0;c108790. graph_c0;c109671. graph_c0;c118113. graph_c0;c118816. graph_c0;c123210. graph_c0;c123220. graph_c0;c127792. graph_c0;c127844. graph_c0;c51284. graph_c0;c86535. graph_c0;c88845. graph_c0;c88948. graph_c0;c97687. graph_c0</p> <p>K01188+K01188+K01188+K05350+K01188+K01188+K05350+K01188+K01188+K18592+K00600+K01188+K05350+K13034+K01188</p>
Glutathione metabolism	ko00480	14	235	477	13897	<p>c110950. graph_c0;c111372. graph_c0;c112965. graph_c0;c117302. graph_c0;c122681. graph_c0;c125111. graph_c0;c125826. graph_c0;c127844. graph_c0;c128678. graph_c0;c131878. graph_c0;c51066. graph_c0;c71042. graph_c0;c96247. graph_c0;c98149. graph_c0</p> <p>K10808+K00799+K00799+K00797+K00799+K00799+K00799+K18592+K10807+K10808+K00799+K00799+K00799+K00799</p>
Phenylalanine metabolism	ko00360	14	171	477	13897	<p>c107475. graph_c0;c110715. graph_c0;c111428. graph_c0;c111764. graph_c0;c116628. graph_c0;c118247. graph_c0;c118423. graph_c0;c119172. graph_c0;c121536. graph_c0;c125412. graph_c0;c130735. graph_c0;c131042. graph_c0;c133930. graph_c0;c86972.</p> <p>K00430+K07253+K00430+K11188+K00430+K00430+K00276+K00457+K00815+K01904+K00430+K00276+K00430+K11188</p>

						graph_c0	
						c100543. graph_c0;c108531. graph_c0;c108920. graph_c0;c115011. graph_c0;c117552. graph_c0;c119129. graph_c0;c123174. graph_c0;c123347. graph_c0;c123525. graph_c0;c128987. graph_c0;c131884. graph_c0;c133559. graph_c0;c97655. graph_c0;c97880. graph_c0	K10579+K03094+K10144+K10144+K03347+K10583+K03354+K03094+K03363+K10581+K12456+K10144+K03868+K06689
Ubiquitin mediated proteolysis	ko04120	14	468	477	13897		
						c100613. graph_c0;c117302. graph_c0;c120405. graph_c1;c120855. graph_c0;c121536. graph_c0;c123728. graph_c0;c124334. graph_c0;c125674. graph_c0;c125789. graph_c0;c129490. graph_c0;c132024. graph_c0;c51012. graph_c0;c88948. graph_c0	K00025+K00797+K00016+K01761+K00815+K01762+K01738+K00547+K05933+K00026+K01738+K00789+K13034
Cysteine and methionine metabolism	ko00270	13	289	477	13897		
						c102004. graph_c0;c109581. graph_c0;c111937. graph_c0;c118104. graph_c0;c120405. graph_c1;c122721. graph_c0;c126578. graph_c0;c128281. graph_c0;c128735. graph_c0;c134543. graph_c0;c134605. graph_c0;c62501. graph_c0;c85077. graph_c0	K18857+K18857+K01785+K18857+K00016+K01835+K00121+K01610+K00128+K01568+K01610+K01895+K00627
Glycolysis / Gluconeogenesis	ko00010	13	448	477	13897		
						c100613. graph_c0;c120405. graph_c1;c128281. graph_c0;c128366. graph_c0;c128735. graph_c0;c129490. graph_c0;c134376. graph_c0	K00025+K00016+K01610+K01595+K00128+K00026+K01963+K01610+K01895+K00627+K01679+K01962
Pyruvate metabolism	ko00620	12	357	477	13897		

Tyrosine metabolism	ko00350	12	121	477	13897	h_c0;c134605.graph_c0;c62501.graph_c0;c85077.graph_c0;c88872.graph_c0;c90012.graph_c0 c102004.graph_c0;c109581.graph_c0;c110715.graph_c0;c118104.graph_c0;c118423.graph_c0;c119172.graph_c0;c121536.graph_c0;c126578.graph_c0;c130866.graph_c0;c131042.graph_c0;c23725.graph_c0;c23725.graph_c1	K18857+K18857+K07253+K18857+K00276+K00457+K00815+K00121+K01592+K00276+K01592+K01592
Endocytosis	ko04144	11	472	477	13897	c108935.graph_c0;c111700.graph_c0;c112162.graph_c0;c114229.graph_c0;c118376.graph_c0;c127088.graph_c0;c131641.graph_c0;c131641.graph_c1;c131854.graph_c1;c133450.graph_c0;c23697.graph_c0	K07904+K01115+K07904+K12489+K0115+K00889+K12489+K12489+K03283+K01115+K03283
Cutin, suberine and wax biosynthesis	ko00073	11	60	477	13897	c124424.graph_c0;c124583.graph_c0;c127594.graph_c0;c128040.graph_c0;c131711.graph_c0;c132698.graph_c0;c133529.graph_c0;c86343.graph_c0;c88162.graph_c0;c97209.graph_c0;c99637.graph_c1	K15404+K15398+K17991+K13356+K15404+K15398+K13407+K15398+K13356+K13356+K13356
Pentose and glucuronate interconversions	ko00040	11	202	477	13897	c117822.graph_c0;c119325.graph_c0;c120576.graph_c0;c121742.graph_c0;c122856.graph_c0;c124896.graph_c0;c128735.graph_c0;c129616.graph_c0;c129750.graph_c0	K01051+K01184+K01051+K01051+K00011+K01728+K00128+K01051+K01051+K01728+K01051

						;c23628.graph_c0;c71123.graph_c0 c109491.graph_c0;c116941.graph_c0;c120 290.graph_c0;c125901.graph_c0;c126315.	K04077+K12606+K12608+K04077+K131
RNA degradation	ko03018	10	419	477	13897	graph_c0;c130826.graph_c0;c131538.grap h_c1;c134322.graph_c0;c134441.graph_c0 ;c93753.graph_c0 c111454.graph_c0;c113927.graph_c0;c121 595.graph_c0;c121595.graph_c1;c122587.	26+K12603+K12619+K14442+K12619+K 14442
Terpenoid backbone biosynthesis	ko00900	10	155	477	13897	graph_c0;c124462.graph_c0;c125410.grap h_c0;c127762.graph_c1;c81933.graph_c0; c88832.graph_c0 c101979.graph_c0;c102878.graph_c0;c117 781.graph_c1;c121090.graph_c0;c121536.	K13789+K05356+K01662+K01662+K158 89+K13789+K10960+K11778+K00021+K 00021
Phenylalanine, tyrosine and tryptophan biosynthesis	ko00400	10	117	477	13897	graph_c0;c122230.graph_c0;c129927.grap h_c0;c133226.graph_c0;c71676.graph_c0; c95528.graph_c0 c106554.graph_c0;c122721.graph_c0;c123 063.graph_c0;c124607.graph_c0;c127107.	K05359+K15227+K06001+K15227+K008 15+K01695+K13832+K13832+K15227+K 00891
Amino sugar and nucleotide sugar metabolism	ko00520	10	335	477	13897	graph_c0;c130187.graph_c0;c131811.grap h_c0;c54775.graph_c0;c88590.graph_c0;c 89832.graph_c0 c100226.graph_c0;c108824.graph_c0;c115 084.graph_c0;c121978.graph_c0;c123502.	K01183+K01835+K01183+K01209+K008 47+K00847+K01183+K01784+K01784+K 12449
Fatty acid metabolism	ko01212	10	268	477	13897	graph_c0;c124335.graph_c0;c132570.grap h_c0;c133558.graph_c0;c134376.graph_c0 ;c90012.graph_c0	K09458+K01074+K10251+K10257+K002 32+K10781+K00059+K00232+K01963+K 01962

Pyrimidine metabolism	ko00240	10	456	477	13897	c102867. graph_c0; c110950. graph_c0; c114780. graph_c0; c124206. graph_c0; c125604. graph_c0; c128678. graph_c0; c129051. graph_c0; c131878. graph_c0; c64367. graph_c0; c93528. graph_c0	K00857+K10808+K00876+K03014+K03040+K10807+K02325+K10808+K02326+K01520
Glycerophospholipid metabolism	ko00564	9	243	477	13897	c105872. graph_c0; c111700. graph_c0; c118376. graph_c0; c124631. graph_c0; c127052. graph_c0; c128220. graph_c0; c130294. graph_c0; c133450. graph_c0; c98181. graph_c0 c111937. graph_c0; c121255. graph_c1; c122	K06130+K01115+K01115+K06129+K13508+K13513+K13508+K01115+K01047
Galactose metabolism	ko00052	9	166	477	13897	721. graph_c0; c122856. graph_c0; c126811. graph_c0; c126934. graph_c0; c127648. graph_c0; c54775. graph_c0; c88590. graph_c0 c110315. graph_c0; c123153. graph_c0; c123	K01785+K06617+K01835+K00011+K01193+K01187+K18819+K01784+K01784
Peroxisome	ko04146	9	287	477	13897	502. graph_c0; c128040. graph_c0; c129908. graph_c0; c133558. graph_c0; c88162. graph_c0; c97209. graph_c0; c99637. graph_c1 c102019. graph_c0; c116762. graph_c0; c117	K00830+K13346+K00232+K13356+K11517+K00232+K13356+K13356+K13356
RNA transport	ko03013	8	630	477	13897	960. graph_c0; c120059. graph_c0; c125991. graph_c0; c126315. graph_c0; c130438. graph_c0; c131752. graph_c0 c112666. graph_c0; c117167. graph_c0; c117	K12882+K03257+K03260+K03237+K03231+K13126+K14293+K03250
Thiamine metabolism	ko00730	8	45	477	13897	973. graph_c0; c121244. graph_c0; c121595. graph_c0; c121595. graph_c1; c127214. graph_c1; c127921. graph_c0	K03146+K04487+K06928+K03146+K01662+K01662+K04487+K00878
Glyoxylate and	ko00630	8	252	477	13897	c100613. graph_c0; c102566. graph_c0; c110	K00025+K00122+K00830+K01915+K000

dicarboxylate metabolism						315. graph_c0; c124635. graph_c0; c129490. graph_c0; c129908. graph_c0; c51284. graph_c0; c96010. graph_c0	26+K11517+K00600+K02437
Phagosome	ko04145	7	348	477	13897	c105010. graph_c0; c113632. graph_c0; c121921. graph_c0; c123483. graph_c0; c132440. graph_c0; c70889. graph_c0; c97672. graph_c0	K02152+K07375+K02150+K04392+K08492+K07374+K07375
mRNA surveillance pathway	ko03015	7	452	477	13897	c102019. graph_c0; c118482. graph_c0; c124542. graph_c0; c126315. graph_c0; c129634. graph_c0; c132292. graph_c2; c88662. graph_c0	K12882+K03456+K14400+K13126+K03265+K03456+K03265
Fructose and mannose metabolism	ko00051	7	201	477	13897	c108042. graph_c0; c114913. graph_c0; c118742. graph_c0; c122856. graph_c0; c127107. graph_c0; c130187. graph_c0; c130978. graph_c0	K18447+K00895+K00895+K00011+K00847+K00847+K00895
Zeatin biosynthesis	ko00908	7	19	477	13897	c124810. graph_c0; c125250. graph_c0; c129356. graph_c0; c130317. graph_c0; c130652. graph_c1; c131511. graph_c0; c132025. graph_c0	K00279+K10760+K13495+K00279+K10717+K00791+K00279
Fatty acid degradation	ko00071	7	197	477	13897	c102004. graph_c0; c109581. graph_c0; c118104. graph_c0; c123502. graph_c0; c126578. graph_c0; c128735. graph_c0; c133558. graph_c0	K18857+K18857+K18857+K00232+K00121+K00128+K00232
Glycine, serine and threonine metabolism	ko00260	7	226	477	13897	c110315. graph_c0; c117781. graph_c1; c118423. graph_c0; c122230. graph_c0; c131042. graph_c0; c51284. graph_c0; c96010. graph_c0	K00830+K06001+K00276+K01695+K00276+K00600+K02437

Citrate cycle (TCA cycle)	ko00020	7	304	477	13897	c0 c100613. graph_c0;c128281. graph_c0;c129490. graph_c0;c134605. graph_c0;c49644. graph_c0;c85077. graph_c0;c88872. graph_c0	K00025+K01610+K00026+K01610+K00030+K00627+K01679
Carbon fixation in photosynthetic organisms	ko00710	7	282	477	13897	c100613. graph_c0;c123772. graph_c0;c124834. graph_c0;c128281. graph_c0;c128366. graph_c0;c129490. graph_c0;c134605. graph_c0	K00025+K00855+K00615+K01610+K01595+K00026+K01610
Isoquinoline alkaloid biosynthesis	ko00950	6	54	477	13897	c118423. graph_c0;c121536. graph_c0;c130866. graph_c0;c131042. graph_c0;c23725. graph_c0;c23725. graph_c1	K00276+K00815+K01592+K00276+K01592+K01592
Porphyrin and chlorophyll metabolism	ko00860	6	131	477	13897	c121882. graph_c0;c123884. graph_c0;c125410. graph_c0;c127890. graph_c0;c127890. graph_c1;c130025. graph_c0	K04035+K00218+K10960+K03403+K03403+K13071
ABC transporters	ko02010	6	155	477	13897	c119157. graph_c0;c126614. graph_c0;c130859. graph_c0;c131196. graph_c0;c132418. graph_c0;c134352. graph_c0	K05658+K05658+K05658+K05658+K05658+K05658
Base excision repair	ko03410	6	137	477	13897	c110971. graph_c0;c121800. graph_c0;c124043. graph_c0;c129051. graph_c0;c64367. graph_c0;c97798. graph_c0	K10798+K01142+K10798+K02325+K02326+K10798
Arginine and proline metabolism	ko00330	6	287	477	13897	c117302. graph_c0;c117589. graph_c0;c118697. graph_c0;c124635. graph_c0;c128735. graph_c0;c130274. graph_c0	K00797+K00620+K00611+K01915+K00128+K01427
Photosynthesis - antenna proteins	ko00196	6	52	477	13897	c100527. graph_c0;c106848. graph_c0;c109381. graph_c0;c114287. graph_c0;c71681. g	K08910+K08909+K08916+K08908+K08913+K08913

Circadian rhythm - plant	ko04712	6	88	477	13897	raph_c0;c89965. graph_c0 c112186. graph_c0;c126452. graph_c1;c127 832. graph_c0;c130328. graph_c0;c132912. graph_c0;c93168. graph_c0	K16166+K12130+K16241+K12129+K12129+K00660
Spliceosome	ko03040	6	868	477	13897	c102019. graph_c0;c120047. graph_c0;c131 854. graph_c1;c23697. graph_c0;c71357. gr aph_c0;c91908. graph_c0	K12882+K12830+K03283+K03283+K12833+K12833
Brassinosteroid biosynthesis	ko00905	5	20	477	13897	c105790. graph_c0;c118316. graph_c0;c119 899. graph_c0;c120722. graph_c0;c97361. g raph_c0	K12637+K09587+K12638+K15639+K15639
Biosynthesis of unsaturated fatty acids	ko01040	5	111	477	13897	c115084. graph_c0;c121978. graph_c0;c123 502. graph_c0;c132570. graph_c0;c133558. graph_c0	K10251+K10257+K00232+K00059+K00232
Linoleic acid metabolism	ko00591	5	39	477	13897	c102687. graph_c0;c134411. graph_c0;c134 639. graph_c0;c23669. graph_c0;c98181. gr aph_c0	K00454+K00454+K00454+K00454+K01047
beta-Alanine metabolism	ko00410	5	176	477	13897	c117302. graph_c0;c118423. graph_c0;c118 938. graph_c0;c128735. graph_c0;c131042. graph_c0	K00797+K00276+K05605+K00128+K00276
Propanoate metabolism	ko00640	5	140	477	13897	c118938. graph_c0;c120405. graph_c1;c134 376. graph_c0;c62501. graph_c0;c90012. gr aph_c0	K05605+K00016+K01963+K01895+K01962
Glycerolipid metabolism	ko00561	5	191	477	13897	c122856. graph_c0;c127052. graph_c0;c128 220. graph_c0;c128735. graph_c0;c130294. graph_c0	K00011+K13508+K13513+K00128+K13508
Nitrogen	ko00910	5	100	477	13897	c107127. graph_c0;c112691. graph_c0;c122	K01674+K01725+K01673+K01915+K025

metabolism						099. graph_c0; c124635. graph_c0; c130648. graph_c0	75
Fatty acid biosynthesis	ko00061	5	136	477	13897	c100226. graph_c0; c124335. graph_c0; c132570. graph_c0; c134376. graph_c0; c90012. graph_c0	K09458+K10781+K00059+K01963+K01962
Fatty acid elongation	ko00062	4	86	477	13897	c101374. graph_c0; c108824. graph_c0; c115084. graph_c0; c70542. graph_c0	K15397+K01074+K10251+K15397
Ether lipid metabolism	ko00565	4	87	477	13897	c111700. graph_c0; c118376. graph_c0; c133450. graph_c0; c98181. graph_c0	K01115+K01115+K01115+K01047
Ubiquinone and other terpenoid-quinone biosynthesis	ko00130	4	74	477	13897	c119172. graph_c0; c121536. graph_c0; c123577. graph_c0; c125412. graph_c0	K00457+K00815+K02552+K01904
DNA replication	ko03030	4	216	477	13897	c118790. graph_c0; c121683. graph_c0; c129051. graph_c0; c64367. graph_c0	K10740+K10745+K02325+K02326
Nucleotide excision repair	ko03420	4	225	477	13897	c118790. graph_c0; c129051. graph_c0; c64367. graph_c0; c97655. graph_c0	K10740+K02325+K02326+K03868
Alanine, aspartate and glutamate metabolism	ko00250	4	240	477	13897	c110315. graph_c0; c120459. graph_c0; c124635. graph_c0; c130166. graph_c0	K00830+K00278+K01915+K01953
2-Oxocarboxylic acid metabolism	ko01210	4	216	477	13897	c117589. graph_c0; c123819. graph_c0; c49644. graph_c0; c93628. graph_c0	K00620+K00826+K00030+K01704
Ribosome biogenesis in eukaryotes	ko03008	4	379	477	13897	c116289. graph_c0; c122033. graph_c0; c131538. graph_c1; c134441. graph_c0	K14521+K14538+K12619+K12619
SNARE interactions	ko04130	4	99	477	13897	c109420. graph_c0; c113095. graph_c0; c122	K08486+K08506+K08486+K08492

in vesicular transport						232. graph_c1; c132440. graph_c0	
Flavonoid biosynthesis	ko00941	4	64	477	13897	c105653. graph_c0; c126380. graph_c0; c93168. graph_c0; c94554. graph_c0	K01859+K13082+K00660+K05278
Tropane, piperidine and pyridine alkaloid biosynthesis	ko00960	4	67	477	13897	c118423. graph_c0; c121536. graph_c0; c122496. graph_c0; c131042. graph_c0	K00276+K00815+K08081+K00276
Pentose phosphate pathway	ko00030	3	196	477	13897	c120124. graph_c0; c122721. graph_c0; c124834. graph_c0	K01057+K01835+K00615
Valine, leucine and isoleucine degradation	ko00280	3	223	477	13897	c118938. graph_c0; c123819. graph_c0; c128735. graph_c0	K05605+K00826+K00128
Riboflavin metabolism	ko00740	3	26	477	13897	c112874. graph_c0; c125704. graph_c0; c129304. graph_c0	K14652+K14379+K14652
Sulfur relay system	ko04122	3	37	477	13897	c117167. graph_c0; c125242. graph_c0; c127214. graph_c1	K04487+K03639+K04487
Sulfur metabolism	ko00920	3	92	477	13897	c124334. graph_c0; c132024. graph_c0; c88948. graph_c0	K01738+K01738+K13034
Tryptophan metabolism	ko00380	3	126	477	13897	c125003. graph_c0; c127788. graph_c0; c128735. graph_c0	K07408+K11816+K00128
Diterpenoid biosynthesis	ko00904	3	25	477	13897	c113336. graph_c0; c130968. graph_c0; c89332. graph_c0	K04125+K04121+K17982
Folate biosynthesis	ko00790	3	47	477	13897	c125242. graph_c0; c126629. graph_c0; c86038. graph_c0	K03639+K18482+K13941
Steroid	ko00100	3	81	477	13897	c125112. graph_c0; c130196. graph_c0; c970	K14423+K14423+K01853

biosynthesis						18. graph_c0	
Monoterpenoid biosynthesis	ko00902	2	6	477	13897	c102174. graph_c0;c122797. graph_c0	K15086+K15086
Valine, leucine and isoleucine biosynthesis	ko00290	2	58	477	13897	c123819. graph_c0;c93628. graph_c0	K00826+K01704
Ascorbate and aldarate metabolism	ko00053	2	134	477	13897	c119013. graph_c0;c128735. graph_c0	K00469+K00128
Pantothenate and CoA biosynthesis	ko00770	2	80	477	13897	c114123. graph_c0;c123819. graph_c0	K02201+K00826
Biotin metabolism	ko00780	2	39	477	13897	c100226. graph_c0;c132570. graph_c0	K09458+K00059
Inositol phosphate metabolism	ko00562	2	196	477	13897	c119013. graph_c0;c127088. graph_c0	K00469+K00889
Regulation of autophagy	ko04140	2	134	477	13897	c117024. graph_c0;c117516. graph_c0	K07198+K08269
One carbon pool by folate	ko00670	2	75	477	13897	c112704. graph_c0;c51284. graph_c0	K01934+K00600
Arachidonic acid metabolism	ko00590	2	51	477	13897	c127844. graph_c0;c98181. graph_c0	K18592+K01047
RNA polymerase	ko03020	2	150	477	13897	c124206. graph_c0;c125604. graph_c0	K03014+K03040
Sphingolipid metabolism	ko00600	2	111	477	13897	c116191. graph_c0;c133691. graph_c1	K00654+K04713
Carotenoid biosynthesis	ko00906	2	64	477	13897	c122440. graph_c0;c91224. graph_c0	K09840+K09843
Phosphatidylinosi	ko04070	2	194	477	13897	c112144. graph_c0;c127088. graph_c0	K02183+K00889

tol signaling system							
Lysine degradation	ko00310	2	136	477	13897	c109846.graph_c0;c128735.graph_c0	K14157+K00128
Proteasome	ko03050	2	264	477	13897	c121189.graph_c0;c88678.graph_c0	K03062+K02734
Taurine and hypotaurine metabolism	ko00430	1	26	477	13897	c127844.graph_c0	K18592
Non-homologous end-joining	ko03450	1	24	477	13897	c124068.graph_c0	K10885
Histidine metabolism	ko00340	1	81	477	13897	c128735.graph_c0	K00128
Degradation of aromatic compounds	ko01220	1	27	477	13897	c126578.graph_c0	K00121
Lysine biosynthesis	ko00300	1	42	477	13897	c114056.graph_c0	K10206
Glycosylphosphatidylinositol (GPI)-anchor biosynthesis	ko00563	1	58	477	13897	c117847.graph_c0	K05283
Homologous recombination	ko03440	1	157	477	13897	c118790.graph_c0	K10740
Mismatch repair	ko03430	1	132	477	13897	c118790.graph_c0	K10740
Other glycan degradation	ko00511	1	81	477	13897	c94189.graph_c0	K01191
Basal	ko03022	1	135	477	13897	c133777.graph_c0	K03131

transcription factors								
Aminoacyl-tRNA biosynthesis	ko00970	1	289	477	13897	c131414.graph_c0		K01866
Nicotinate and nicotinamide metabolism	ko00760	1	43	477	13897	c120459.graph_c0		K00278
Anthocyanin biosynthesis	ko00942	1	4	477	13897	c132750.graph_c0		K12930
C5-Branched dibasic acid metabolism	ko00660	1	28	477	13897	c93628.graph_c0		K01704
Selenocompound metabolism	ko00450	1	89	477	13897	c120855.graph_c0		K01761

Table S7. KEGG pathway classification of DEGs in PO vs RO comparison.

#Pathway	ko_ID	Unigene	gene	Unigene_ all	gene_all	
#KEGG_n		KEGG_N	13897			
Starch and sucrose metabolism	ko005 00	37	469	408	13897	c112594. graph_c0;c113248. graph_c0;c115504. graph_c0;c115711. graph_c0;c117587. graph_c0;c117851. graph_c0;c117966. graph_c0;c118113. graph_c0;c118816. graph_c0;c119325. graph_c0;c120249. graph_c0;c120576. graph_c0;c120604. graph_c0;c121742. graph_c0;c121995. graph_c0;c124410. graph_c0;c125113. graph_c0;c125202. graph_c0;c126509. graph_c1;c126580. graph_c0;c126605. graph_c0;c127309. graph_c0;c127792. graph_c0;c128185. graph_c0;c128547. graph_c1;c129616. graph_c0;c130060. graph_c0;c130684. graph_c0;c131799. graph_c0;c132238. graph_c0;c132359. graph_c1;c23686. graph_c0;c71123. graph_c0;c86535. graph_c0;c87790. graph_c0;c94374. graph_c0;c97687. graph_c0
Plant hormone signal transduction	ko040 75	26	403	408	13897	c100991. graph_c0;c102167. graph_c0;c104874. graph_c0;c105109. graph_c0;c110148. graph_c0;c112179. graph_c0;c112371. graph_c0;c112578. graph_c0;c112898. graph_c0;c113017. graph_c0;c116665. graph_c0;c117096. graph_c0;c117362. graph_c0;c120105. graph_c1;c14487+K14488+K14488+K14497+K14490+K14488+K14488+K14492+K14516+K14484+K14488+K14496+K14498+K14488+K14496+K14488+K14488+K14512+K14488+K16189+K14432+K14432+K14515+K14509+K1

						20345. graph_c0;c120546. graph_c0;c120847. graph_c0 ;c124826. graph_c0;c127580. graph_c0;c127688. graph_c0; c131060. graph_c0;c131060. graph_c3;c131976. graph_c0; c132990. graph_c0;c88326. graph_c0;c90004. graph_c0	4488+K14496
Phenylpropanoid biosynthesis	ko00940	25	250	408	13897	c101742. graph_c0;c101742. graph_c1;c111410. graph_c0; c111428. graph_c0;c114770. graph_c0;c117640. graph_c0; c118113. graph_c0;c118816. graph_c0;c119082. graph_c0; c120604. graph_c0;c121941. graph_c0;c121995. graph_c0; c125198. graph_c0;c125906. graph_c0;c127309. graph_c0; c127792. graph_c0;c128306. graph_c0;c128547. graph_c1; c129902. graph_c0;c133129. graph_c0;c133930. graph_c0; c50245. graph_c0;c86535. graph_c0;c89173. graph_c0; c97687. graph_c0	K00083+K00083+K13065+K00430+K13066+K12356+K01188+K01188+K01904+K01188+K00430+K01188+K00430+K00430+K0538+K01188+K00083+K01188+K13066+K10775+K00430+K00083+K01188+K09755+K01188
Pentose and glucuronate interconversions	ko00040	25	202	408	13897	c102361. graph_c0;c102552. graph_c0;c112594. graph_c0; c112781. graph_c0;c113248. graph_c0;c116799. graph_c0; c117851. graph_c0;c117966. graph_c0;c119325. graph_c0; c120576. graph_c0;c121742. graph_c0;c122856. graph_c0; c123853. graph_c0;c124325. graph_c0;c124325. graph_c1; c124410. graph_c0;c125113. graph_c0;c125202. graph_c0; c126509. graph_c1;c129616. graph_c0;c132359. graph_c1; c23628. graph_c0;c71123. graph_c0;c87790. graph_c0; c94374. graph_c0	K01728+K01728+K01213+K01728+K00012+K01728+K01051+K01051+K01184+K01051+K01051+K00011+K01728+K01728+K01728+K01051+K01213+K01051+K00012+K01051+K01051+K01728+K01051+K01051+K01051
Carbon metabolism	ko01200	24	955	408	13897	c106243. graph_c0;c112914. graph_c0;c114199. graph_c0; c118228. graph_c1;c118938. graph_c0;c119204. gra	K00134+K00134+K01100+K00121+K05605+K05298+K01057+K00844+K01895+K0087

Plant-pathogen interaction	ko046 26	18	373	408	13897	ph_c0;c119582.graph_c1;c120249.graph_c0;c120295.graph_c0;c123524.graph_c0;c123772.graph_c0;c124334.graph_c0;c124834.graph_c0;c129153.graph_c0;c129490.graph_c0;c130262.graph_c0;c132024.graph_c0;c133476.graph_c0;c134598.graph_c0;c134605.graph_c0;c49644.graph_c0;c50718.graph_c0;c51688.graph_c0;c62501.graph_c0 c100506.graph_c0;c105088.graph_c0;c112144.graph_c0;c112507.graph_c0;c114370.graph_c0;c118619.graph_c0;c118881.graph_c0;c122045.graph_c0;c125898.graph_c1;c128389.graph_c0;c128760.graph_c0;c131119.graph_c0;c131119.graph_c1;c132003.graph_c1;c132441.graph_c0;c132784.graph_c0;c134348.graph_c0;c91463.graph_c0 c101596.graph_c0;c101644.graph_c0;c102008.graph_c0;c102091.graph_c0;c102177.graph_c0;c105700.graph_c0;c107088.graph_c0;c111404.graph_c0;c111951.graph_c1;c120594.graph_c0;c122529.graph_c0;c124921.graph_c0;c131924.graph_c1;c132793.graph_c0;c50756.graph_c0;c71464.graph_c0;c95982.graph_c0;c97392.graph_c0 c100821.graph_c0;c106243.graph_c0;c112408.graph_c0;c112914.graph_c0;c121031.graph_c0;c122230.graph_c0;c123524.graph_c0;c124334.graph_c0;c124834.graph_c0;c125451.graph_c1;c129153.graph_c0;c129927.graph_c0;c130262.graph_c0;c132024.graph_c0;c1	3+K00855+K01738+K00615+K01689+K00026+K13034+K01738+K01681+K01738+K01610+K00030+K01057+K01057+K01895
Photosynthesis	ko001 95	18	144	408	13897	c100506.graph_c0;c105088.graph_c0;c112144.graph_c0;c112507.graph_c0;c114370.graph_c0;c118619.graph_c0;c118881.graph_c0;c122045.graph_c0;c125898.graph_c1;c128389.graph_c0;c128760.graph_c0;c131119.graph_c0;c131119.graph_c1;c132003.graph_c1;c132441.graph_c0;c132784.graph_c0;c134348.graph_c0;c91463.graph_c0 c101596.graph_c0;c101644.graph_c0;c102008.graph_c0;c102091.graph_c0;c102177.graph_c0;c105700.graph_c0;c107088.graph_c0;c111404.graph_c0;c111951.graph_c1;c120594.graph_c0;c122529.graph_c0;c124921.graph_c0;c131924.graph_c1;c132793.graph_c0;c50756.graph_c0;c71464.graph_c0;c95982.graph_c0;c97392.graph_c0 c100821.graph_c0;c106243.graph_c0;c112408.graph_c0;c112914.graph_c0;c121031.graph_c0;c122230.graph_c0;c123524.graph_c0;c124334.graph_c0;c124834.graph_c0;c125451.graph_c1;c129153.graph_c0;c129927.graph_c0;c130262.graph_c0;c132024.graph_c0;c1	K13448+K13448+K02183+K13448+K04368+K13448+K13448+K18875+K13457+K13447+K13412+K13412+K13412+K18835+K13412+K13447+K13457+K12795 K02701+K02638+K02639+K02698+K02723+K08902+K03542+K14332+K02641+K02113+K02109+K02694+K02693+K02705+K02721+K08905+K02641+K02717
Biosynthesis of amino acids	ko012 30	18	812	408	13897	c100506.graph_c0;c105088.graph_c0;c112144.graph_c0;c112507.graph_c0;c114370.graph_c0;c118619.graph_c0;c118881.graph_c0;c122045.graph_c0;c125898.graph_c1;c128389.graph_c0;c128760.graph_c0;c131119.graph_c0;c131119.graph_c1;c132003.graph_c1;c132441.graph_c0;c132784.graph_c0;c134348.graph_c0;c91463.graph_c0 c101596.graph_c0;c101644.graph_c0;c102008.graph_c0;c102091.graph_c0;c102177.graph_c0;c105700.graph_c0;c107088.graph_c0;c111404.graph_c0;c111951.graph_c1;c120594.graph_c0;c122529.graph_c0;c124921.graph_c0;c131924.graph_c1;c132793.graph_c0;c50756.graph_c0;c71464.graph_c0;c95982.graph_c0;c97392.graph_c0 c100821.graph_c0;c106243.graph_c0;c112408.graph_c0;c112914.graph_c0;c121031.graph_c0;c122230.graph_c0;c123524.graph_c0;c124334.graph_c0;c124834.graph_c0;c125451.graph_c1;c129153.graph_c0;c129927.graph_c0;c130262.graph_c0;c132024.graph_c0;c1	K00891+K00134+K13832+K00134+K01817+K01695+K00873+K01738+K00615+K13832+K01689+K13832+K13034+K01738+K13832+K01681+K01738+K00030

						33161.graph_c0;c133476.graph_c0;c134598.graph_c0;c49644.graph_c0	
Ribosome	ko03010	15	996	408	13897	c100604.graph_c0;c102533.graph_c0;c106099.graph_c0;c108526.graph_c1;c110436.graph_c0;c111222.graph_c0;c118085.graph_c0;c119933.graph_c0;c123322.graph_c0;c123949.graph_c0;c124097.graph_c0;c55594.graph_c0;c74451.graph_c0;c77479.graph_c0;c90571.graph_c0	K02977+K02937+K02962+K02979+K02870+K02866+K02988+K02880+K02889+K02932+K02988+K02960+K02949+K02960+K02949
Glutathione metabolism	ko00480	15	235	408	13897	c101895.graph_c0;c105192.graph_c0;c105273.graph_c0;c108187.graph_c0;c111372.graph_c0;c112220.graph_c0;c113610.graph_c0;c117370.graph_c0;c119814.graph_c0;c125111.graph_c0;c125826.graph_c0;c133973.graph_c0;c51066.graph_c0;c98149.graph_c0;c98296.graph_c0	K00799+K00799+K01919+K00432+K00799+K00799+K00799+K00799+K00799+K00799+K01919+K00799+K00799+K00799
Protein processing in endoplasmic reticulum	ko04141	15	868	408	13897	c102704.graph_c0;c108317.graph_c0;c109348.graph_c0;c110519.graph_c0;c112831.graph_c0;c115728.graph_c0;c117552.graph_c0;c121542.graph_c1;c125404.graph_c0;c130072.graph_c0;c131510.graph_c0;c131834.graph_c0;c23599.graph_c0;c52034.graph_c0;c93826.graph_c0	K03094+K03283+K09490+K03283+K09503+K03094+K03347+K13993+K10575+K03283+K03283+K03283+K13993+K1393
Glycolysis / Gluconeogenesis	ko00010	14	448	408	13897	c106243.graph_c0;c108564.graph_c0;c109130.graph_c0;c112914.graph_c0;c118104.graph_c0;c118228.graph_c1;c120249.graph_c0;c120295.graph_c0;c123524.graph_c0;c129153.graph_c0;c132004.graph_c0;c132004.graph_c1;c134605.graph_c0;c62501.graph_c0	K00134+K00001+K01792+K00134+K18857+K00121+K00844+K01895+K00873+K01689+K01785+K01785+K01610+K01895
Spliceosome	ko030	14	868	408	13897	c100425.graph_c0;c102019.graph_c0;c108164.graph_c0	K12874+K12882+K12874+K03283+K03283

	40					c0;c108317.graph_c0;c110519.graph_c0;c120921.graph_c0;c130072.graph_c0;c130121.graph_c0;c131510.graph_c0;c131834.graph_c0;c133691.graph_c0;c134621.graph_c0;c23599.graph_c0;c91908.graph_c0	+K12874+K03283+K12830+K03283+K03283+K12833+K12882+K03283+K12833
RNA degradation	ko03018	12	419	408	13897	c106929.graph_c0;c115207.graph_c0;c115874.graph_c0;c116900.graph_c0;c116941.graph_c0;c120023.graph_c0;c120290.graph_c0;c122821.graph_c0;c126899.graph_c0;c128434.graph_c0;c129153.graph_c0;c93753.graph_c0	K12604+K12608+K12605+K12619+K12606+K13126+K12608+K12581+K13126+K12580+K01689+K14442
Cutin, suberine and wax biosynthesis	ko00073	11	60	408	13897	c100231.graph_c0;c119134.graph_c1;c124147.graph_c0;c124424.graph_c0;c128040.graph_c0;c131711.graph_c0;c132698.graph_c0;c133529.graph_c0;c23649.graph_c0;c97209.graph_c0;c99637.graph_c1	K13356+K15400+K13356+K15404+K13356+K15404+K15398+K13407+K13356+K13356+K13356
Endocytosis	ko04144	11	472	408	13897	c108317.graph_c0;c110519.graph_c0;c112162.graph_c0;c114229.graph_c0;c121339.graph_c0;c130072.graph_c0;c131510.graph_c0;c131641.graph_c0;c131641.graph_c1;c131834.graph_c0;c23599.graph_c0	K03283+K03283+K07904+K12489+K01115+K03283+K03283+K12489+K12489+K03283+K03283
Photosynthesis - antenna proteins	ko00196	10	52	408	13897	c100527.graph_c0;c105640.graph_c0;c106848.graph_c0;c109210.graph_c0;c109381.graph_c0;c114287.graph_c0;c123544.graph_c0;c23604.graph_c0;c46372.graph_c0;c89853.graph_c0	K08910+K08917+K08909+K08912+K08916+K08908+K08912+K08913+K08913+K08908
Galactose metabolism	ko00052	10	166	408	13897	c102094.graph_c0;c120249.graph_c0;c122856.graph_c0;c123062.graph_c0;c124235.graph_c0;c127648.graph_c0;c130684.graph_c0;c132004.graph_c0;c132004.	K18819+K00844+K00011+K01784+K01784+K18819+K01193+K01785+K01785+K06617

Cyanoamino acid metabolism	ko00460	10	114	408	13897	graph_c1;c49856.graph_c0 c118113.graph_c0;c118816.graph_c0;c120604.graph_c0;c121995.graph_c0;c127309.graph_c0;c127792.graph_c0;c128547.graph_c1;c130262.graph_c0;c86535.graph_c0;c97687.graph_c0	K01188+K01188+K01188+K01188+K05349+K01188+K01188+K13034+K01188+K01188
RNA transport	ko03013	9	630	408	13897	c102019.graph_c0;c113016.graph_c1;c116762.graph_c0;c120023.graph_c0;c120228.graph_c0;c126899.graph_c0;c130438.graph_c0;c134621.graph_c0;c97352.graph_c0	K12882+K07936+K03257+K13126+K03113+K13126+K14293+K12882+K12160
alpha-Linolenic acid metabolism	ko00592	9	130	408	13897	c102687.graph_c0;c115680.graph_c0;c118104.graph_c0;c118459.graph_c0;c120300.graph_c0;c123502.graph_c0;c123665.graph_c0;c133558.graph_c0;c134411.graph_c0	K00454+K10525+K18857+K01723+K05894+K00232+K10525+K00232+K00454
Peroxisome	ko04146	9	287	408	13897	c100231.graph_c0;c123502.graph_c0;c124147.graph_c0;c128040.graph_c0;c133558.graph_c0;c23649.graph_c0;c71372.graph_c0;c97209.graph_c0;c99637.graph_c1	K13356+K00232+K13356+K13356+K00232+K13356+K01897+K13356+K13356
Phenylalanine metabolism	ko00360	9	171	408	13897	c111428.graph_c0;c119082.graph_c0;c121941.graph_c0;c122229.graph_c0;c125198.graph_c0;c125906.graph_c0;c131042.graph_c0;c133129.graph_c0;c133930.graph_c0	K00430+K01904+K00430+K07253+K00430+K00430+K00276+K10775+K00430
Cysteine and methionine metabolism	ko00270	9	289	408	13897	c108515.graph_c0;c112512.graph_c0;c120855.graph_c0;c124334.graph_c0;c129490.graph_c0;c130262.graph_c0;c131509.graph_c0;c132024.graph_c0;c134598.graph_c0	K05933+K08967+K01761+K01738+K00026+K13034+K01244+K01738+K01738
Carbon fixation in	ko007	8	282	408	13897	c106243.graph_c0;c112914.graph_c0;c114199.graph_c0	K00134+K00134+K01100+K05298+K00855

photosynthetic organisms	10					c0;c119204. graph_c0;c123772. graph_c0;c124834. graph_c0;c129490. graph_c0;c134605. graph_c0	+K00615+K00026+K01610
Fatty acid metabolism	ko012 12	8	268	408	13897	c100226. graph_c0;c108824. graph_c0;c111947. graph_c0;c115084. graph_c0;c123502. graph_c0;c124335. graph_c0;c133558. graph_c0;c71372. graph_c0	K09458+K01074+K10256+K10251+K00232 +K10781+K00232+K01897
Glycerophospholipid metabolism	ko005 64	7	243	408	13897	c121339. graph_c0;c121925. graph_c0;c122346. graph_c0;c124631. graph_c0;c130294. graph_c0;c70983. graph_c0;c93485. graph_c0	K01115+K06130+K01114+K06129+K13508 +K13508+K06130
Terpenoid backbone biosynthesis	ko009 00	7	155	408	13897	c108010. graph_c1;c108150. graph_c0;c112284. graph_c0;c121595. graph_c0;c121595. graph_c1;c125400. graph_c0;c133728. graph_c1	K00787+K01662+K01641+K01662+K01662 +K11778+K00021
Zeatin biosynthesis	ko009 08	7	19	408	13897	c124021. graph_c0;c125250. graph_c0;c129356. graph_c0;c131011. graph_c0;c131511. graph_c0;c132025. graph_c0;c93206. graph_c0	K10760+K10760+K13495+K00279+K00791 +K00279+K13495
Tyrosine metabolism	ko003 50	7	121	408	13897	c108564. graph_c0;c118104. graph_c0;c118228. graph_c1;c122229. graph_c0;c123894. graph_c0;c130866. graph_c0;c131042. graph_c0	K00001+K18857+K00121+K07253+K01592 +K01592+K00276
Phenylalanine, tyrosine and tryptophan biosynthesis	ko004 00	7	117	408	13897	c100821. graph_c0;c112408. graph_c0;c121031. graph_c0;c122230. graph_c0;c125451. graph_c1;c129927. graph_c0;c133161. graph_c0	K00891+K13832+K01817+K01695+K13832 +K13832+K13832
Oxidative phosphorylation	ko001 90	7	552	408	13897	c112402. graph_c0;c120594. graph_c0;c121111. graph_c0;c122529. graph_c0;c133150. graph_c1;c50116. graph_c0;c96666. graph_c0	K01535+K02113+K03934+K02109+K03935 +K01535+K01507
Ubiquitin mediated proteolysis	ko041 20	7	468	408	13897	c102704. graph_c0;c105963. graph_c0;c115728. graph_c0;c117552. graph_c0;c124199. graph_c0;c125404. gra	K03094+K10144+K03094+K03347+K10143 +K10575+K12456

mRNA surveillance pathway	ko030 15	7	452	408	13897	ph_c0;c131884.graph_c0 c101917.graph_c0;c102019.graph_c0;c120023.graph_c0;c122572.graph_c0;c126899.graph_c0;c134621.graph_c0;c88662.graph_c0	K11583+K12882+K13126+K11584+K13126 +K12882+K03265
Circadian rhythm - plant	ko047 12	6	88	408	13897	c112186.graph_c0;c122197.graph_c0;c124199.graph_c0;c126452.graph_c1;c130482.graph_c0;c93168.graph_c0	K16166+K12127+K10143+K12130+K12118 +K00660
Fructose and mannose metabolism	ko000 51	6	201	408	13897	c104104.graph_c0;c114913.graph_c0;c118742.graph_c0;c120249.graph_c0;c122856.graph_c0;c130978.graph_c0	K00895+K00895+K00895+K00844+K00011 +K00895
Thiamine metabolism	ko007 30	6	45	408	13897	c108150.graph_c0;c112666.graph_c0;c121244.graph_c0;c121595.graph_c0;c121595.graph_c1;c127214.graph_c1	K01662+K03146+K03146+K01662+K01662 +K04487
Flavonoid biosynthesis	ko009 41	6	64	408	13897	c111410.graph_c0;c124882.graph_c0;c126380.graph_c0;c128275.graph_c0;c129786.graph_c1;c93168.graph_c0	K13065+K05277+K13082+K05280+K00475 +K00660
Purine metabolism	ko002 30	6	563	408	13897	c112310.graph_c0;c119749.graph_c0;c121893.graph_c0;c123524.graph_c0;c130274.graph_c0;c64367.graph_c0	K11808+K01466+K01081+K00873+K01427 +K02326
Amino sugar and nucleotide sugar metabolism	ko005 20	6	335	408	13897	c113248.graph_c0;c120249.graph_c0;c123062.graph_c0;c124235.graph_c0;c126509.graph_c1;c126605.graph_c0	K00012+K00844+K01784+K01784+K00012 +K00975
Fatty acid degradation	ko000 71	6	197	408	13897	c108564.graph_c0;c118104.graph_c0;c118228.graph_c1;c123502.graph_c0;c133558.graph_c0;c71372.graph_c0	K00001+K18857+K00121+K00232+K00232 +K01897

						h_c0		
Glycine, serine and threonine metabolism	ko002 60	5	226	408	13897	c115387. graph_c0;c116989. graph_c0;c122230. graph_c0;c131042. graph_c0;c96010. graph_c0	K15893+K00827+K01695+K00276+K02437	
Pyruvate metabolism	ko006 20	5	357	408	13897	c120295. graph_c0;c123524. graph_c0;c129490. graph_c0;c134605. graph_c0;c62501. graph_c0	K01895+K00873+K00026+K01610+K01895	
SNARE interactions in vesicular transport	ko041 30	5	99	408	13897	c109420. graph_c0;c118823. graph_c0;c122232. graph_c1;c132440. graph_c0;c86325. graph_c0	K08486+K08503+K08486+K08492+K08507	
Porphyrin and chlorophyll metabolism	ko008 60	5	131	408	13897	c121882. graph_c0;c123143. graph_c1;c127890. graph_c0;c127890. graph_c1;c98055. graph_c0	K04035+K03428+K03403+K03403+K03428	
Alanine, aspartate and glutamate metabolism	ko002 50	5	240	408	13897	c116989. graph_c0;c119465. graph_c0;c125256. graph_c1;c127467. graph_c0;c130166. graph_c0	K00827+K00261+K01955+K01580+K01953	
Ascorbate and aldarate metabolism	ko000 53	5	134	408	13897	c113248. graph_c0;c119013. graph_c0;c125233. graph_c1;c126509. graph_c1;c70537. graph_c0	K00012+K00469+K00225+K00012+K00423	
Pentose phosphate pathway	ko000 30	4	196	408	13897	c119582. graph_c1;c124834. graph_c0;c50718. graph_c0;c51688. graph_c0	K01057+K00615+K01057+K01057	
Glyoxylate and dicarboxylate metabolism	ko006 30	4	252	408	13897	c115387. graph_c0;c129490. graph_c0;c133476. graph_c0;c96010. graph_c0	K15893+K00026+K01681+K02437	
Steroid biosynthesis	ko001 00	4	81	408	13897	c101929. graph_c0;c125112. graph_c0;c130196. graph_c0;c97018. graph_c0	K01824+K14423+K14423+K01853	
Protein export	ko030	4	165	408	13897	c109348. graph_c0;c129331. graph_c0;c93255. graph_c0	K09490+K12948+K09648+K03109	

	60					0;c93513. graph_c0	
Sulfur metabolism	ko009 20	4	92	408	13897	c124334. graph_c0;c130262. graph_c0;c132024. graph_c0;c134598. graph_c0	K01738+K13034+K01738+K01738
Citrate cycle (TCA cycle)	ko000 20	4	304	408	13897	c129490. graph_c0;c133476. graph_c0;c134605. graph_c0;c49644. graph_c0	K00026+K01681+K01610+K00030
Biosynthesis of unsaturated fatty acids	ko010 40	4	111	408	13897	c111947. graph_c0;c115084. graph_c0;c123502. graph_c0;c133558. graph_c0	K10256+K10251+K00232+K00232
Glycerolipid metabolism	ko005 61	4	191	408	13897	c122856. graph_c0;c125607. graph_c1;c130294. graph_c0;c70983. graph_c0	K00011+K03715+K13508+K13508
Carotenoid biosynthesis	ko009 06	4	64	408	13897	c116858. graph_c0;c122440. graph_c0;c128720. graph_c0;c91224. graph_c0	K02291+K09840+K09841+K09843
Fatty acid elongation	ko000 62	4	86	408	13897	c101374. graph_c0;c108824. graph_c0;c115084. graph_c0;c126407. graph_c0	K15397+K01074+K10251+K15397
Inositol phosphate metabolism	ko005 62	4	196	408	13897	c106470. graph_c0;c119013. graph_c0;c120471. graph_c0;c122346. graph_c0	K05857+K00469+K00915+K01114
Phosphatidylinositol signaling system	ko040 70	3	194	408	13897	c106470. graph_c0;c112144. graph_c0;c120471. graph_c0	K05857+K02183+K00915
Base excision repair	ko034 10	3	137	408	13897	c124043. graph_c0;c133222. graph_c0;c64367. graph_c0	K10798+K10798+K02326
Ribosome biogenesis in eukaryotes	ko030 08	3	379	408	13897	c113016. graph_c1;c116900. graph_c0;c130536. graph_c0	K07936+K12619+K11131

beta-Alanine metabolism	ko004 10	3	176	408	13897	c118938. graph_c0;c127467. graph_c0;c131042. graph_c0	K05605+K01580+K00276
Proteasome	ko030 50	3	264	408	13897	c116158. graph_c0;c118618. graph_c0;c130122. graph_c0	K02728+K02727+K03062
Propanoate metabolism	ko006 40	3	140	408	13897	c118938. graph_c0;c120295. graph_c0;c62501. graph_c0	K05605+K01895+K01895
Nitrogen metabolism	ko009 10	3	100	408	13897	c119465. graph_c0;c124742. graph_c0;c125396. graph_c0	K00261+K00366+K01674
Isoquinoline alkaloid biosynthesis	ko009 50	3	54	408	13897	c123894. graph_c0;c130866. graph_c0;c131042. graph_c0	K01592+K01592+K00276
Fatty acid biosynthesis	ko000 61	3	136	408	13897	c100226. graph_c0;c124335. graph_c0;c71372. graph_c0	K09458+K10781+K01897
Pyrimidine metabolism	ko002 40	3	456	408	13897	c121893. graph_c0;c125256. graph_c1;c64367. graph_c0	K01081+K01955+K02326
Homologous recombination	ko034 40	3	157	408	13897	c123433. graph_c0;c127211. graph_c0;c129332. graph_c0	K10875+K04482+K10879
Brassinosteroid biosynthesis	ko009 05	2	20	408	13897	c105790. graph_c0;c131529. graph_c0	K12637+K15639
Other glycan degradation	ko005 11	2	81	408	13897	c123951. graph_c0;c128732. graph_c0	K01191+K15923
Butanoate metabolism	ko006 50	2	85	408	13897	c112284. graph_c0;c127467. graph_c0	K01641+K01580
Taurine and hypotaurine metabolism	ko004 30	2	26	408	13897	c121597. graph_c0;c127467. graph_c0	K10712+K01580

Biotin metabolism	ko007 80	2	39	408	13897	c100226. graph_c0;c124338. graph_c0	K09458+K00652
Nicotinate and nicotinamide metabolism	ko007 60	2	43	408	13897	c121893. graph_c0;c122062. graph_c0	K01081+K03517
Ether lipid metabolism	ko005 65	2	87	408	13897	c121339. graph_c0;c122346. graph_c0	K01115+K01114
Arginine and proline metabolism	ko003 30	2	287	408	13897	c119465. graph_c0;c130274. graph_c0	K00261+K01427
DNA replication	ko030 30	2	216	408	13897	c121683. graph_c0;c64367. graph_c0	K10745+K02326
Regulation of autophagy	ko041 40	2	134	408	13897	c120184. graph_c0;c128260. graph_c0	K07198+K07198
Valine, leucine and isoleucine degradation	ko002 80	2	223	408	13897	c112284. graph_c0;c118938. graph_c0	K01641+K05605
Basal transcription factors	ko030 22	2	135	408	13897	c114404. graph_c0;c124056. graph_c0	K03139+K03120
2-Oxocarboxylic acid metabolism	ko012 10	2	216	408	13897	c133476. graph_c0;c49644. graph_c0	K01681+K00030
Monoterpenoid biosynthesis	ko009 02	2	6	408	13897	c102174. graph_c0;c129369. graph_c0	K15086+K15095
Sphingolipid metabolism	ko006 00	2	111	408	13897	c132695. graph_c0;c133691. graph_c1	K00654+K04713

Sulfur relay system	ko041 22	2	37	408	13897	c127214.graph_c1;c127644.graph_c0	K04487+K03639
Linoleic acid metabolism	ko005 91	2	39	408	13897	c102687.graph_c0;c134411.graph_c0	K00454+K00454
Degradation of aromatic compounds	ko012 20	2	27	408	13897	c108564.graph_c0;c118228.graph_c1	K00001+K00121
Diterpenoid biosynthesis	ko009 04	1	25	408	13897	c89332.graph_c0	K17982
Pantothenate and CoA biosynthesis	ko007 70	1	80	408	13897	c114123.graph_c0	K02201
Folate biosynthesis	ko007 90	1	47	408	13897	c127644.graph_c0	K03639
Nucleotide excision repair	ko034 20	1	225	408	13897	c64367.graph_c0	K02326
Phagosome	ko041 45	1	348	408	13897	c132440.graph_c0	K08492
Flavone and flavonol biosynthesis	ko009 44	1	6	408	13897	c128275.graph_c0	K05280
Selenocompound metabolism	ko004 50	1	89	408	13897	c120855.graph_c0	K01761
Vitamin B6 metabolism	ko007 50	1	38	408	13897	c90381.graph_c0	K13248
N-Glycan biosynthesis	ko005 10	1	156	408	13897	c117730.graph_c0	K00737
Ubiquinone and	ko001	1	74	408	13897	c119082.graph_c0	K01904

other	30							
terpenoid-quinone biosynthesis								
Vancomycin resistance	ko015 02	1	2	408	13897	c108176.graph_c0		K02563
Riboflavin metabolism	ko007 40	1	26	408	13897	c112285.graph_c0		K14652
Stilbenoid, diarylheptanoid and gingerol biosynthesis	ko009 45	1	34	408	13897	c111410.graph_c0		K13065
Sesquiterpenoid and triterpenoid biosynthesis	ko009 09	1	22	408	13897	c124467.graph_c0		K15803
Tropane, piperidine and pyridine alkaloid biosynthesis	ko009 60	1	67	408	13897	c131042.graph_c0		K00276
Arachidonic acid metabolism	ko005 90	1	51	408	13897	c108187.graph_c0		K00432
Non-homologous end-joining	ko034 50	1	24	408	13897	c128093.graph_c0		K10886
ABC transporters	ko020 10	1	155	408	13897	c134352.graph_c0		K05658
Anthocyanin	ko009	1	4	408	13897	c117163.graph_c0		K12338

biosynthesis	42							
Synthesis and degradation of ketone bodies	ko000 72	1	27	408	13897	c112284.graph_c0		K01641
Aminoacyl-tRNA biosynthesis	ko009 70	1	289	408	13897	c78250.graph_c0		K01893

Table S8. Expression profiles of differentially expressed genes involved in petal variegation of *P.rockii*.

Genes	Unigene ID	FRKM		
		Po	Pr	RO
<i>PAL</i>	c133129.graph_c0	45	15.71	9.94
<i>CHS</i>	c102425.graph_c0	6680.96	2525.95	4231.85
<i>CHI</i>	c105653.graph_c0	5.57	71.34	9.4
<i>DFR</i>	c126380.graph_c0	26.18	49.13	153.27
<i>FLS</i>	c102035.graph_c0	3.65	7.3	3.87
<i>F3'H</i>	c128275.graph_c0	5.73	19.83	20.54
<i>F3H</i>	c129786.graph_c1	2.47	0	0.34
<i>ANS</i>	c124882.graph_c0	65.93	293.27	153.75
<i>AOMT</i>	c114770.graph_c0	6883.707434	1307.0698	99.2578947
	c92897.graph_c0	22.26	9.44	17
<i>3GT</i>	c132750.graph_c0	231.07	385.93	182.14
	c117163.graph_c0	27.36718756	3.8774987	3.262678295
<i>5GT</i>	c132577.graph_c0	17.47	11.14	11.18
	c116462.graph_c0	23.86	61.85	33.73
	c166326.graph_c0	0.22	0.27	0.12
	c122681.graph_c0	61.64	55.66	116
	c112965.graph_c0	5.96	2.35	6.24
	c105277.graph_c0	5.55	2.62	4.52
	c115951.graph_c0	78.64	600.85	275.64
	c71042.graph_c0	42.01	5.7	53.3
<i>GST</i>	c117370.graph_c0	1.76	0.61	0.6
	c98149.graph_c0	11.43	63.24	349.05
	c125111.graph_c0	266.23	1919.92	914.62
	c101895.graph_c0	3.64	8.03	14.51
	c113610.graph_c0	6.36	2.41	1.04
	c105192.graph_c0	0.71	12.93	6.79
	c96247.graph_c0	123.23	7.99	128.79
	c98296.graph_c0	102.28	60.62	47.71

Table S9. Differentially expressed three transcription factors families between different colored petals.

Gene name	Unigene ID	FRKM		
		PO	PR	RO
R2R3-MYB transcription factor	c158927.graph_c0	0.00	0.52	0.00
	c84113.graph_c0	0.32	0.10	0.60
	c119563.graph_c0	0.93	0.25	0.16
	c127075.graph_c0	2.22	0.50	1.12
	c131300.graph_c0	0.00	0.28	0.71
	c119993.graph_c0	2.76	1.56	0.52
	c115179.graph_c0	36.78	11.72	20.96
	c131300.graph_c1	0.00	0.28	0.71
	c124756.graph_c0	5.13	5.95	1.38
	c112186.graph_c0	11.97	0.10	25.30
	c128847.graph_c0	21.56	11.81	32.35
	c133735.graph_c0	0.34	2.74	1.37
	c117848.graph_c0	0.02	5.48	0.33
	c115438.graph_c0	0.24	0.92	0.29
bHLH transcription factor	c114227.graph_c0	10.53	4.43	6.97
	c102655.graph_c0	27.40	38.01	5.79
	c124854.graph_c0	12.09	23.44	22.01
	c130824.graph_c0	1.32	0.37	0.68

Table S10. Bioanalyzer results of all RNA samples.

Samples	No.of biological replicates	RIN value	rRNA ratio (28S/18S)	Base line	OD 260/280 value	OD 260/230 value	RNA concentration (ng/μl)	Volume (μl)
PO	1	10	2	Normal	2.22	2.26	820.2	25
	2	10	1.9	Normal	2.21	2.47	1056.9	25
	3	9.9	2	Normal	2.37	2.37	1067.8	25
PR	1	9.9	2.1	Normal	2.21	2.2	1386.6	25
	2	10	2	Normal	2.19	2.27	1571.7	25
	3	10	1.8	Normal	2.2	2.21	912.3	25
RO	1	8.9	2.3	Normal	2.2	2.27	436	25
	2	9.8	1.9	Normal	2.23	2.2	674.1	25
	3	9.9	1.8	Normal	2.19	1.97	455.2	25

Table S11. The gene names, sequences and all primers used for qRT-PCR analysis.

Gene	Unigene ID	Forward primer(5'-3')	Reverse primer (5'-3')
<i>PAL-1</i>	c133129.graph_c0	AAGTGATCCGTTTCGTCAACC	TTGGGGTACCTTGGAAGTTG
<i>CHS-1</i>	c102425.graph_c0	TATTGTCGGTGCTGATCCTG	TCACGCAAGTGTCCATCAAT
<i>CHI-1</i>	c105653.graph_c0	ATGGTGACGGGAAAGTGAAG	CTGCTAAGCTCTGCCTTGCT
<i>F3H-1</i>	c129786.graph_c1	AGGCTTTATGGTGCCCTGTA	GCGAGGGAGATATTGGGATT
<i>FLS-1</i>	c102035.graph_c0	CCTATAATCGGCCATCTCCA	ACAGCACAAGGGATTGAACC
<i>DFR-1</i>	c126380.graph_c0	TTCCAAGGACCCTGAGAATG	GTTCTGCAGATGACGTGAA
<i>5GT-1</i>	c132577.graph_c0	TGCCAAGCTGATTGAAGATG	CTCTCCACCTCCCATAACCA
<i>ANS-1</i>	c124882.graph_c0	AGAAATCGATTCCGAGGACA	CCCTTTCCAAAAGCTCATCA
<i>AOMT-1</i>	c92897.graph_c0	AAGTGAAGCCCGTTTGTTC	TCATGCTCCCTTGGGTAGAC
<i>GST-1</i>	c105192.graph_c0	TCAGAGGGAATGGATGAAGC	CCATTACGCAACTGACGATG
<i>MYB-1</i>	c119993.graph_c0	CGGAGAAATCGAAGAAGTCG	TCCATCCCCAAGAAGAAGTG
<i>bHLH-1</i>	c114227.graph_c0	GAGCTCACCAACCTCGAAAC	TCGGTCTTCGCAACATAGTG
<i>TUB</i>	c106431.graph_c0	AGGTAAGATGAGCACCAAAG	GGAGGAATGTCACAAACACT