

Supplementary Table S5. Differentially expressed genes among the Gmdrm, Gmc

gene	<i>Gmcmt</i> vs <i>Gmdrm</i>	<i>Gmdrm</i> vs WT	<i>Gmcmt</i> vs WT
Glyma.01G000211	down	NA	NA
Glyma.01G000359	NA	NA	up
Glyma.01G002250	down	NA	NA
Glyma.01G003000	up	down	up
Glyma.01G005400	NA	NA	up
Glyma.01G011600	down	up	NA
Glyma.01G011700	up	down	NA
Glyma.01G013500	NA	down	down
Glyma.01G016800	up	NA	up
Glyma.01G017000	NA	down	NA
Glyma.01G017400	NA	NA	up
Glyma.01G018000	up	down	NA
Glyma.01G018100	NA	up	up
Glyma.01G018800	up	down	NA
Glyma.01G019000	NA	down	NA
Glyma.01G019300	up	down	NA
Glyma.01G019500	down	up	up
Glyma.01G019700	up	down	NA
Glyma.01G019900	down	up	NA
Glyma.01G020100	NA	NA	down
Glyma.01G020900	up	NA	NA
Glyma.01G021700	NA	down	NA
Glyma.01G022300	NA	down	NA
Glyma.01G022800	down	NA	down
Glyma.01G023300	up	NA	NA
Glyma.01G024000	up	NA	NA
Glyma.01G024500	NA	up	NA
Glyma.01G025100	up	down	NA
Glyma.01G025500	NA	up	NA
Glyma.01G025800	NA	NA	up
Glyma.01G026100	NA	up	NA
Glyma.01G027800	up	NA	up
Glyma.01G028200	up	NA	up
Glyma.01G028500	up	NA	NA
Glyma.01G032300	down	NA	NA
Glyma.01G032900	NA	NA	down
Glyma.01G034200	up	NA	NA
Glyma.01G034700	NA	up	up
Glyma.01G034800	NA	up	up
Glyma.01G036000	NA	up	up
Glyma.01G036900	NA	NA	up

Glyma.01G037200	NA	down	NA
Glyma.01G037900	up	NA	up
Glyma.01G038002	NA	down	down
Glyma.01G038300	NA	NA	down
Glyma.01G038600	up	down	NA
Glyma.01G038900	down	NA	NA
Glyma.01G040500	NA	NA	up
Glyma.01G040900	down	NA	down
Glyma.01G041000	down	NA	down
Glyma.01G041500	NA	up	NA
Glyma.01G041600	NA	up	up
Glyma.01G041700	up	down	NA
Glyma.01G044500	up	NA	NA
Glyma.01G045500	up	down	NA
Glyma.01G046000	up	NA	up
Glyma.01G047300	NA	NA	down
Glyma.01G047600	down	up	NA
Glyma.01G048500	down	NA	NA
Glyma.01G050100	down	up	up
Glyma.01G052300	NA	down	NA
Glyma.01G052700	NA	NA	down
Glyma.01G053100	up	down	NA
Glyma.01G058400	down	up	NA
Glyma.01G058600	up	NA	NA
Glyma.01G060300	NA	down	NA
Glyma.01G061100	NA	down	NA
Glyma.01G061700	NA	NA	down
Glyma.01G061800	NA	down	NA
Glyma.01G062000	up	down	NA
Glyma.01G062400	up	down	up
Glyma.01G063100	NA	down	NA
Glyma.01G063800	down	up	NA
Glyma.01G065400	up	NA	up
Glyma.01G065800	down	NA	NA
Glyma.01G068200	up	NA	NA
Glyma.01G069000	down	up	NA
Glyma.01G072900	down	NA	down
Glyma.01G073000	NA	NA	down
Glyma.01G077000	down	up	NA
Glyma.01G078800	NA	up	up
Glyma.01G080600	down	NA	NA
Glyma.01G081900	up	NA	up
Glyma.01G082000	NA	NA	up
Glyma.01G084600	up	NA	NA
Glyma.01G084800	up	NA	NA
Glyma.01G086700	up	up	up

Glyma.01G086900	NA	down	NA
Glyma.01G087500	up	down	NA
Glyma.01G087800	up	NA	NA
Glyma.01G089202	NA	NA	up
Glyma.01G091300	NA	NA	up
Glyma.01G091800	up	NA	up
Glyma.01G092300	up	NA	up
Glyma.01G095232	up	up	up
Glyma.01G095900	up	NA	up
Glyma.01G095966	up	NA	up
Glyma.01G096200	NA	NA	up
Glyma.01G096600	NA	up	NA
Glyma.01G096700	down	up	NA
Glyma.01G097900	up	down	NA
Glyma.01G099500	up	NA	up
Glyma.01G099750	NA	NA	down
Glyma.01G101050	down	up	up
Glyma.01G102300	NA	NA	up
Glyma.01G102700	NA	NA	up
Glyma.01G104100	NA	up	NA
Glyma.01G104800	up	NA	NA
Glyma.01G105200	down	up	NA
Glyma.01G107850	down	up	up
Glyma.01G109800	up	down	NA
Glyma.01G111000	up	down	NA
Glyma.01G112600	up	NA	NA
Glyma.01G112900	up	NA	NA
Glyma.01G113000	up	up	up
Glyma.01G113200	NA	up	NA
Glyma.01G114300	NA	up	NA
Glyma.01G114800	NA	NA	up
Glyma.01G115900	up	NA	up
Glyma.01G117000	NA	up	up
Glyma.01G117200	down	NA	NA
Glyma.01G119300	down	up	NA
Glyma.01G119500	down	NA	NA
Glyma.01G120000	down	NA	NA
Glyma.01G121700	NA	up	up
Glyma.01G122000	NA	up	NA
Glyma.01G123500	down	up	NA
Glyma.01G128200	down	up	NA
Glyma.01G128300	down	NA	NA
Glyma.01G130000	up	down	up
Glyma.01G131500	up	down	NA
Glyma.01G132100	down	NA	down
Glyma.01G132500	NA	NA	up

Glyma.01G133050	down	up	NA
Glyma.01G133501	NA	NA	down
Glyma.01G134600	down	NA	NA
Glyma.01G134700	NA	NA	down
Glyma.01G137500	down	NA	down
Glyma.01G139500	up	NA	up
Glyma.01G142400	down	up	up
Glyma.01G142800	down	NA	NA
Glyma.01G143400	down	up	up
Glyma.01G147400	down	NA	NA
Glyma.01G147600	NA	NA	up
Glyma.01G147900	NA	NA	down
Glyma.01G148201	NA	down	down
Glyma.01G148700	NA	down	down
Glyma.01G149102	NA	NA	down
Glyma.01G151400	down	up	NA
Glyma.01G151466	NA	NA	up
Glyma.01G152200	down	up	NA
Glyma.01G152300	down	NA	NA
Glyma.01G152500	NA	NA	up
Glyma.01G152700	NA	down	NA
Glyma.01G152900	up	NA	NA
Glyma.01G153200	down	up	NA
Glyma.01G154400	up	down	NA
Glyma.01G156700	up	NA	up
Glyma.01G157000	NA	down	NA
Glyma.01G157300	NA	NA	down
Glyma.01G157400	up	NA	NA
Glyma.01G158600	up	down	NA
Glyma.01G160000	NA	down	NA
Glyma.01G161200	up	NA	up
Glyma.01G162500	NA	NA	down
Glyma.01G163100	NA	up	up
Glyma.01G164800	down	NA	NA
Glyma.01G165300	NA	up	up
Glyma.01G167200	down	up	NA
Glyma.01G167800	up	down	NA
Glyma.01G169500	NA	down	NA
Glyma.01G170200	up	NA	up
Glyma.01G171300	down	up	down
Glyma.01G171400	down	up	NA
Glyma.01G171900	NA	up	NA
Glyma.01G172900	down	NA	NA
Glyma.01G173200	up	up	up
Glyma.01G173300	up	NA	up
Glyma.01G173800	down	NA	NA

Glyma.01G175500	NA	up	up
Glyma.01G175751	NA	up	NA
Glyma.01G177200	NA	down	NA
Glyma.01G177400	down	up	NA
Glyma.01G178000	up	down	NA
Glyma.01G178700	up	down	up
Glyma.01G179300	NA	down	NA
Glyma.01G179400	up	down	NA
Glyma.01G180800	up	NA	up
Glyma.01G181000	NA	up	NA
Glyma.01G181102	up	NA	up
Glyma.01G181600	NA	NA	down
Glyma.01G182600	NA	NA	up
Glyma.01G183000	NA	up	NA
Glyma.01G185400	up	NA	up
Glyma.01G185900	NA	NA	up
Glyma.01G186100	NA	down	NA
Glyma.01G186500	NA	up	NA
Glyma.01G187200	up	NA	up
Glyma.01G187400	NA	down	down
Glyma.01G188100	NA	up	up
Glyma.01G188766	NA	down	NA
Glyma.01G189000	NA	NA	up
Glyma.01G189500	NA	NA	up
Glyma.01G190100	up	down	NA
Glyma.01G190900	up	NA	up
Glyma.01G191200	up	NA	up
Glyma.01G191500	up	NA	NA
Glyma.01G191900	NA	up	up
Glyma.01G192500	up	NA	up
Glyma.01G192600	NA	up	up
Glyma.01G193900	NA	NA	down
Glyma.01G194700	NA	down	NA
Glyma.01G194900	up	NA	up
Glyma.01G195000	up	NA	up
Glyma.01G195200	up	NA	up
Glyma.01G196400	up	NA	up
Glyma.01G196800	up	NA	up
Glyma.01G197500	NA	up	up
Glyma.01G198100	NA	down	down
Glyma.01G199400	up	NA	NA
Glyma.01G199500	up	NA	up
Glyma.01G200532	NA	NA	down
Glyma.01G201000	up	NA	up
Glyma.01G201600	NA	up	up
Glyma.01G202000	up	NA	up

Glyma.01G203400	NA	down	NA
Glyma.01G203500	NA	NA	down
Glyma.01G204200	NA	up	NA
Glyma.01G204400	NA	up	NA
Glyma.01G204800	down	up	up
Glyma.01G205400	NA	NA	up
Glyma.01G207100	down	NA	NA
Glyma.01G207500	down	NA	NA
Glyma.01G208100	up	NA	up
Glyma.01G208200	up	NA	up
Glyma.01G209400	NA	up	NA
Glyma.01G210600	down	up	up
Glyma.01G210700	NA	up	NA
Glyma.01G210800	down	up	NA
Glyma.01G212500	down	NA	NA
Glyma.01G212700	NA	NA	up
Glyma.01G213800	NA	down	NA
Glyma.01G214600	NA	NA	down
Glyma.01G216600	up	down	NA
Glyma.01G217500	down	up	NA
Glyma.01G217600	down	up	NA
Glyma.01G218400	NA	down	NA
Glyma.01G219001	up	NA	NA
Glyma.01G219502	NA	up	up
Glyma.01G220700	NA	NA	down
Glyma.01G222600	down	up	NA
Glyma.01G223700	NA	NA	down
Glyma.01G225500	NA	down	down
Glyma.01G226000	up	NA	up
Glyma.01G226600	up	down	NA
Glyma.01G227500	NA	down	down
Glyma.01G230200	up	NA	NA
Glyma.01G230900	NA	up	up
Glyma.01G231800	NA	up	NA
Glyma.01G232850	down	NA	down
Glyma.01G232901	NA	NA	down
Glyma.01G232951	NA	down	down
Glyma.01G235600	up	NA	NA
Glyma.01G236300	down	NA	NA
Glyma.01G238600	NA	down	down
Glyma.01G239800	up	NA	NA
Glyma.01G240100	NA	down	down
Glyma.01G241200	NA	down	NA
Glyma.01G241500	NA	down	down
Glyma.01G243400	up	NA	NA
Glyma.02G000300	NA	up	up

Glyma.02G000500	NA	NA	up
Glyma.02G000700	up	NA	NA
Glyma.02G000900	NA	NA	up
Glyma.02G001000	NA	down	NA
Glyma.02G001700	NA	NA	up
Glyma.02G002000	NA	NA	up
Glyma.02G005100	up	down	NA
Glyma.02G005200	NA	NA	up
Glyma.02G005500	NA	NA	up
Glyma.02G008200	up	NA	NA
Glyma.02G009300	down	up	NA
Glyma.02G011900	up	NA	up
Glyma.02G012500	up	NA	NA
Glyma.02G013900	up	NA	NA
Glyma.02G014800	down	NA	NA
Glyma.02G014900	NA	up	up
Glyma.02G015000	NA	up	up
Glyma.02G015200	up	NA	up
Glyma.02G015300	NA	NA	up
Glyma.02G015800	NA	down	NA
Glyma.02G017000	up	down	NA
Glyma.02G017100	down	NA	NA
Glyma.02G017200	NA	up	NA
Glyma.02G018700	down	NA	down
Glyma.02G019300	NA	down	NA
Glyma.02G020400	NA	NA	down
Glyma.02G021400	down	NA	NA
Glyma.02G021600	NA	down	NA
Glyma.02G025000	down	up	NA
Glyma.02G026300	up	NA	NA
Glyma.02G026400	up	NA	up
Glyma.02G026600	down	up	NA
Glyma.02G026900	up	NA	NA
Glyma.02G027200	down	NA	NA
Glyma.02G027500	NA	up	NA
Glyma.02G028600	NA	up	up
Glyma.02G029900	down	up	up
Glyma.02G030200	NA	up	NA
Glyma.02G031100	NA	up	NA
Glyma.02G031600	NA	up	NA
Glyma.02G032300	NA	up	up
Glyma.02G034200	NA	down	down
Glyma.02G037400	up	down	NA
Glyma.02G037900	NA	NA	up
Glyma.02G038601	up	down	NA
Glyma.02G038700	NA	up	NA

Glyma.02G039000	up	NA	up
Glyma.02G039700	up	NA	NA
Glyma.02G039900	down	up	up
Glyma.02G042400	up	down	NA
Glyma.02G042500	NA	down	NA
Glyma.02G046800	NA	up	up
Glyma.02G047200	NA	down	NA
Glyma.02G047900	up	down	NA
Glyma.02G048300	up	NA	NA
Glyma.02G048400	up	down	NA
Glyma.02G048600	up	down	NA
Glyma.02G049200	up	up	up
Glyma.02G049800	NA	NA	down
Glyma.02G051400	up	NA	up
Glyma.02G052200	up	down	NA
Glyma.02G054200	up	down	NA
Glyma.02G055600	NA	NA	down
Glyma.02G055800	NA	up	up
Glyma.02G055900	NA	up	up
Glyma.02G056400	down	NA	down
Glyma.02G057400	NA	down	NA
Glyma.02G057800	NA	down	NA
Glyma.02G058600	up	down	NA
Glyma.02G059000	NA	down	down
Glyma.02G059200	up	down	NA
Glyma.02G059300	up	NA	NA
Glyma.02G059500	up	up	up
Glyma.02G060732	up	down	NA
Glyma.02G061100	NA	NA	up
Glyma.02G062400	down	up	down
Glyma.02G063000	down	NA	NA
Glyma.02G063300	NA	up	up
Glyma.02G063900	down	NA	NA
Glyma.02G064700	up	NA	up
Glyma.02G064800	up	NA	up
Glyma.02G065000	down	up	NA
Glyma.02G066200	down	NA	down
Glyma.02G066800	NA	up	NA
Glyma.02G067300	NA	up	up
Glyma.02G068800	NA	NA	up
Glyma.02G069100	up	NA	up
Glyma.02G070000	NA	NA	down
Glyma.02G072500	up	down	NA
Glyma.02G075000	up	NA	up
Glyma.02G075200	NA	NA	down
Glyma.02G078500	NA	NA	down

Glyma.02G082500	down	up	NA
Glyma.02G083600	NA	up	up
Glyma.02G085800	NA	up	up
Glyma.02G087000	NA	up	up
Glyma.02G087400	NA	up	NA
Glyma.02G088600	NA	NA	up
Glyma.02G091800	down	up	up
Glyma.02G092500	down	up	NA
Glyma.02G093200	up	down	NA
Glyma.02G093251	up	down	down
Glyma.02G093300	up	down	down
Glyma.02G093500	NA	NA	down
Glyma.02G094900	NA	NA	up
Glyma.02G095500	NA	down	down
Glyma.02G095700	NA	up	up
Glyma.02G096500	down	NA	down
Glyma.02G096800	down	up	NA
Glyma.02G097000	NA	NA	up
Glyma.02G097700	NA	down	down
Glyma.02G097900	up	NA	NA
Glyma.02G098300	NA	NA	down
Glyma.02G098500	NA	NA	up
Glyma.02G098800	up	up	up
Glyma.02G099200	up	NA	up
Glyma.02G099900	up	NA	NA
Glyma.02G101300	up	NA	NA
Glyma.02G102000	NA	NA	down
Glyma.02G102600	NA	up	up
Glyma.02G104600	NA	down	NA
Glyma.02G104900	NA	down	NA
Glyma.02G105400	up	NA	up
Glyma.02G108700	down	up	NA
Glyma.02G109100	NA	up	up
Glyma.02G111600	NA	down	NA
Glyma.02G116700	NA	down	NA
Glyma.02G117000	up	NA	up
Glyma.02G117816	up	NA	NA
Glyma.02G119600	up	down	NA
Glyma.02G123000	up	NA	up
Glyma.02G123700	NA	down	NA
Glyma.02G123800	NA	NA	up
Glyma.02G125600	NA	down	down
Glyma.02G125900	down	up	NA
Glyma.02G126100	down	up	NA
Glyma.02G126500	up	NA	NA
Glyma.02G127300	down	up	NA

Glyma.02G128000	NA	down	NA
Glyma.02G128100	NA	down	NA
Glyma.02G128400	NA	up	NA
Glyma.02G129100	up	down	NA
Glyma.02G129500	NA	NA	down
Glyma.02G129900	up	NA	NA
Glyma.02G130000	up	NA	up
Glyma.02G130100	up	NA	NA
Glyma.02G130200	up	down	up
Glyma.02G130600	up	down	down
Glyma.02G130816	NA	NA	up
Glyma.02G130832	NA	NA	up
Glyma.02G130880	up	NA	up
Glyma.02G132100	NA	up	NA
Glyma.02G132200	up	down	NA
Glyma.02G132900	NA	up	NA
Glyma.02G133000	NA	up	NA
Glyma.02G134200	up	NA	NA
Glyma.02G134300	down	NA	NA
Glyma.02G134800	down	NA	NA
Glyma.02G135400	down	up	NA
Glyma.02G135800	NA	up	NA
Glyma.02G138600	up	up	up
Glyma.02G138700	up	NA	up
Glyma.02G139000	NA	up	up
Glyma.02G139834	NA	up	NA
Glyma.02G141700	up	NA	up
Glyma.02G142500	up	down	NA
Glyma.02G144100	NA	NA	down
Glyma.02G144400	NA	down	down
Glyma.02G144600	up	NA	NA
Glyma.02G144700	up	NA	NA
Glyma.02G146300	NA	NA	up
Glyma.02G146700	NA	NA	up
Glyma.02G146900	NA	down	NA
Glyma.02G147300	up	NA	NA
Glyma.02G148200	down	NA	NA
Glyma.02G148600	NA	NA	up
Glyma.02G149000	NA	up	up
Glyma.02G149300	down	up	NA
Glyma.02G150700	NA	up	up
Glyma.02G151200	up	down	NA
Glyma.02G152600	NA	NA	down
Glyma.02G152900	NA	down	NA
Glyma.02G153200	down	up	NA
Glyma.02G154900	NA	down	down

Glyma.02G156800	down	up	up
Glyma.02G157002	down	NA	NA
Glyma.02G157300	NA	up	up
Glyma.02G158350	up	NA	up
Glyma.02G160500	NA	NA	up
Glyma.02G160550	NA	up	NA
Glyma.02G160600	up	NA	up
Glyma.02G163200	up	down	NA
Glyma.02G166300	down	up	NA
Glyma.02G166800	down	NA	NA
Glyma.02G168400	up	NA	up
Glyma.02G168600	down	NA	down
Glyma.02G168900	down	NA	NA
Glyma.02G169800	NA	NA	up
Glyma.02G170366	up	NA	NA
Glyma.02G170600	up	down	up
Glyma.02G172800	up	down	NA
Glyma.02G174700	NA	NA	down
Glyma.02G175700	down	up	NA
Glyma.02G179100	NA	down	down
Glyma.02G180200	up	up	up
Glyma.02G181200	NA	NA	down
Glyma.02G182400	up	NA	up
Glyma.02G182900	down	NA	NA
Glyma.02G183302	down	up	NA
Glyma.02G183400	down	NA	down
Glyma.02G183500	NA	NA	down
Glyma.02G184700	up	NA	NA
Glyma.02G186100	up	down	NA
Glyma.02G187300	up	NA	up
Glyma.02G190600	NA	NA	down
Glyma.02G190900	down	up	NA
Glyma.02G192200	up	NA	up
Glyma.02G192600	up	down	NA
Glyma.02G195000	NA	down	down
Glyma.02G196000	down	NA	NA
Glyma.02G197300	down	up	NA
Glyma.02G197650	NA	NA	up
Glyma.02G197702	NA	up	up
Glyma.02G197752	NA	up	up
Glyma.02G198400	up	NA	up
Glyma.02G200300	NA	up	up
Glyma.02G202900	up	NA	NA
Glyma.02G203600	down	up	up
Glyma.02G204700	up	NA	NA
Glyma.02G205600	NA	down	down

Glyma.02G206000	up	NA	NA
Glyma.02G206700	NA	NA	up
Glyma.02G207300	down	NA	NA
Glyma.02G208800	up	NA	up
Glyma.02G209000	up	up	up
Glyma.02G209900	up	NA	NA
Glyma.02G210800	up	NA	NA
Glyma.02G211200	down	NA	NA
Glyma.02G211400	up	NA	up
Glyma.02G211600	down	NA	NA
Glyma.02G214900	up	NA	NA
Glyma.02G215100	down	up	up
Glyma.02G216000	NA	down	NA
Glyma.02G216200	down	NA	down
Glyma.02G216300	down	NA	down
Glyma.02G217600	up	NA	up
Glyma.02G217800	up	down	down
Glyma.02G218200	NA	down	down
Glyma.02G218300	NA	NA	up
Glyma.02G221000	down	NA	NA
Glyma.02G222300	NA	NA	down
Glyma.02G224800	up	NA	up
Glyma.02G225000	down	up	NA
Glyma.02G225500	up	NA	NA
Glyma.02G227200	NA	NA	up
Glyma.02G228100	down	NA	NA
Glyma.02G228600	up	NA	up
Glyma.02G229300	up	NA	up
Glyma.02G229400	NA	down	NA
Glyma.02G229500	up	down	NA
Glyma.02G229900	NA	down	down
Glyma.02G230500	up	NA	up
Glyma.02G233200	up	NA	NA
Glyma.02G234200	NA	NA	up
Glyma.02G235200	up	NA	up
Glyma.02G237100	up	down	NA
Glyma.02G237300	down	up	NA
Glyma.02G237500	down	up	NA
Glyma.02G237700	NA	up	NA
Glyma.02G237800	down	up	NA
Glyma.02G238600	NA	NA	up
Glyma.02G239100	down	NA	down
Glyma.02G239500	up	down	NA
Glyma.02G243600	NA	down	NA
Glyma.02G243800	down	NA	NA
Glyma.02G245600	down	up	down

Glyma.02G247000	NA	NA	up
Glyma.02G248500	up	NA	NA
Glyma.02G249300	NA	NA	down
Glyma.02G250200	NA	down	NA
Glyma.02G250800	up	NA	up
Glyma.02G252200	NA	up	up
Glyma.02G252500	up	NA	up
Glyma.02G253500	NA	up	NA
Glyma.02G254300	up	down	NA
Glyma.02G256000	NA	NA	up
Glyma.02G256600	up	NA	NA
Glyma.02G256800	up	down	NA
Glyma.02G257600	NA	NA	up
Glyma.02G257700	down	up	NA
Glyma.02G257900	down	up	NA
Glyma.02G258000	up	NA	up
Glyma.02G260100	NA	up	NA
Glyma.02G260800	down	up	NA
Glyma.02G261600	down	NA	NA
Glyma.02G262100	up	NA	NA
Glyma.02G262251	up	NA	up
Glyma.02G263800	up	up	up
Glyma.02G264600	up	down	NA
Glyma.02G265700	up	down	up
Glyma.02G265800	up	down	up
Glyma.02G266700	up	NA	up
Glyma.02G267900	up	up	up
Glyma.02G269000	NA	up	up
Glyma.02G270450	NA	up	up
Glyma.02G271600	NA	NA	down
Glyma.02G272200	NA	down	down
Glyma.02G272700	down	up	NA
Glyma.02G276200	up	down	NA
Glyma.02G276300	up	down	NA
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Glyma.02G281600	down	up	NA
Glyma.02G281700	down	up	NA
Glyma.02G281800	down	NA	NA
Glyma.02G282202	NA	up	up
Glyma.02G282300	up	NA	up
Glyma.02G282400	up	NA	up
Glyma.02G282500	NA	NA	up
Glyma.02G283500	up	NA	up
Glyma.02G285000	down	NA	NA
Glyma.02G285200	NA	down	NA

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Glyma.02G290000	NA	down	NA
Glyma.02G290900	NA	up	NA
Glyma.02G292202	NA	up	NA
Glyma.02G292900	up	NA	up
Glyma.02G293700	NA	up	NA
Glyma.02G294600	NA	NA	up
Glyma.02G296200	down	NA	down
Glyma.02G297900	down	NA	down
Glyma.02G298000	down	up	NA
Glyma.02G299500	down	up	NA
Glyma.02G300000	NA	NA	up
Glyma.02G300200	up	NA	NA
Glyma.02G301100	down	up	down
Glyma.02G301800	NA	NA	down
Glyma.02G302100	up	NA	up
Glyma.02G302300	up	NA	NA
Glyma.02G302800	up	down	NA
Glyma.02G303000	up	up	up
Glyma.02G303300	down	up	down
Glyma.02G305200	NA	NA	down
Glyma.02G305400	up	up	up
Glyma.02G306500	up	NA	NA
Glyma.02G307500	NA	down	down
Glyma.02G308700	up	NA	NA
Glyma.02G308900	NA	up	up
Glyma.02G309300	down	NA	NA
Glyma.02G309500	up	NA	up
Glyma.02G311700	up	NA	NA
Glyma.02G311900	up	NA	up
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Glyma.03G001200	NA	up	NA
Glyma.03G001600	down	up	NA
Glyma.03G002100	NA	NA	up
Glyma.03G002600	down	NA	down
Glyma.03G002900	up	NA	NA
Glyma.03G003400	down	NA	NA
Glyma.03G004500	NA	NA	down
Glyma.03G005200	up	down	NA
Glyma.03G005650	up	down	NA
Glyma.03G006700	down	NA	down
Glyma.03G008800	up	NA	up
Glyma.03G009600	up	NA	NA
Glyma.03G011100	NA	up	NA
Glyma.03G013600	NA	NA	up

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Glyma.03G015800	down	up	NA
Glyma.03G016400	NA	up	NA
Glyma.03G016700	down	up	NA
Glyma.03G017100	up	NA	NA
Glyma.03G019500	up	down	NA
Glyma.03G020400	down	up	NA
Glyma.03G021400	up	up	up
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Glyma.03G025600	NA	NA	down
Glyma.03G026700	NA	NA	up
Glyma.03G029300	up	up	up
Glyma.03G029600	down	NA	down
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Glyma.03G036000	down	NA	down
Glyma.03G036900	up	NA	up
Glyma.03G037100	down	up	NA
Glyma.03G039200	NA	NA	down
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Glyma.03G040600	up	down	down
Glyma.03G042600	down	up	NA
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Glyma.03G049800	up	NA	NA
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Glyma.03G052151	down	up	up
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Glyma.03G056200	up	NA	up
Glyma.03G056700	up	NA	NA
Glyma.03G057800	up	up	up
Glyma.03G058300	NA	NA	up

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Glyma.03G060300	up	NA	up
Glyma.03G062500	down	NA	down
Glyma.03G062800	NA	NA	down
Glyma.03G063200	NA	up	up
Glyma.03G064000	down	up	NA
Glyma.03G065300	NA	up	up
Glyma.03G065400	NA	up	up
Glyma.03G065500	NA	up	up
Glyma.03G065700	NA	down	NA
Glyma.03G066600	up	down	NA
Glyma.03G066700	up	down	NA
Glyma.03G068200	down	up	NA
Glyma.03G069600	up	NA	NA
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Glyma.03G073774	up	NA	NA
Glyma.03G073778	down	up	NA
Glyma.03G074600	NA	down	down
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Glyma.03G077900	up	down	NA
Glyma.03G078300	up	up	up
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Glyma.03G082900	up	NA	NA
Glyma.03G084500	up	down	NA
Glyma.03G087500	down	NA	NA
Glyma.03G088100	NA	NA	down
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Glyma.03G098800	up	down	NA
Glyma.03G099400	NA	up	NA
Glyma.03G100300	down	up	up
Glyma.03G100500	NA	up	up
Glyma.03G101200	down	NA	down
Glyma.03G104400	NA	down	NA
Glyma.03G104500	up	down	NA
Glyma.03G104950	down	up	NA
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Glyma.03G105200	NA	up	NA
Glyma.03G107800	up	NA	up
Glyma.03G108000	down	NA	down
Glyma.03G109500	NA	NA	up
Glyma.03G109900	NA	up	up
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Glyma.03G114600	NA	NA	up
Glyma.03G115200	up	NA	NA
Glyma.03G116200	NA	down	NA
Glyma.03G116600	up	down	NA
Glyma.03G117500	NA	NA	up
Glyma.03G117800	NA	up	NA
Glyma.03G118000	NA	up	up
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Glyma.03G120700	up	down	NA
Glyma.03G121300	up	down	NA
Glyma.03G121500	down	up	down
Glyma.03G121600	down	NA	down
Glyma.03G122100	NA	up	up
Glyma.03G122500	NA	down	down
Glyma.03G124300	NA	up	up
Glyma.03G125000	NA	up	up
Glyma.03G125400	NA	NA	down
Glyma.03G125600	down	NA	down
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Glyma.03G127200	up	down	NA
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Glyma.03G129200	NA	up	up
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Glyma.03G130900	down	up	NA
Glyma.03G131100	up	NA	up
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Glyma.03G131700	up	NA	up
Glyma.03G132600	down	NA	NA
Glyma.03G132700	up	up	up
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Glyma.03G133300	up	down	NA
Glyma.03G134600	down	up	NA
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Glyma.03G135600	down	up	NA
Glyma.03G135700	down	NA	down
Glyma.03G135800	down	up	NA
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Glyma.03G137300	down	NA	NA
Glyma.03G139200	NA	up	NA

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Glyma.03G141900	down	NA	NA
Glyma.03G142800	up	up	up
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Glyma.03G147900	down	NA	NA
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Glyma.03G151200	NA	down	down
Glyma.03G151800	down	up	NA
Glyma.03G151900	NA	NA	up
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Glyma.03G152400	NA	down	NA
Glyma.03G152500	up	NA	NA
Glyma.03G152700	down	up	NA
Glyma.03G156000	up	NA	up
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Glyma.03G156900	down	up	down
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Glyma.03G157800	NA	up	NA
Glyma.03G158100	up	NA	NA
Glyma.03G158700	NA	down	down
Glyma.03G158900	down	NA	NA
Glyma.03G159100	up	NA	up
Glyma.03G159600	NA	down	down
Glyma.03G160600	NA	NA	down
Glyma.03G161300	up	down	up
Glyma.03G162800	up	NA	up
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Glyma.03G163000	down	up	NA
Glyma.03G163100	down	up	NA
Glyma.03G164500	down	NA	NA
Glyma.03G165600	NA	NA	down
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Glyma.03G166300	up	down	NA
Glyma.03G166500	up	NA	NA
Glyma.03G166800	down	up	NA
Glyma.03G169300	up	NA	NA
Glyma.03G169500	up	NA	NA
Glyma.03G172700	up	NA	up
Glyma.03G173700	down	NA	down
Glyma.03G174000	down	NA	down

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Glyma.03G177300	NA	up	up
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Glyma.03G179400	NA	down	down
Glyma.03G179900	up	NA	up
Glyma.03G180000	up	NA	up
Glyma.03G180400	NA	down	NA
Glyma.03G180700	NA	NA	up
Glyma.03G180900	NA	up	up
Glyma.03G181600	up	down	NA
Glyma.03G181900	NA	up	NA
Glyma.03G183300	up	NA	NA
Glyma.03G185100	up	down	NA
Glyma.03G185900	NA	up	up
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Glyma.03G189700	NA	up	up
Glyma.03G190200	up	NA	up
Glyma.03G190800	up	down	NA
Glyma.03G192000	NA	down	down
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Glyma.03G198700	down	NA	down
Glyma.03G198750	down	NA	down
Glyma.03G200500	up	down	NA
Glyma.03G200900	up	down	NA
Glyma.03G201600	up	NA	up
Glyma.03G202100	up	NA	NA
Glyma.03G203000	NA	down	NA
Glyma.03G204300	up	NA	NA
Glyma.03G205400	NA	down	NA
Glyma.03G206700	NA	NA	up
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Glyma.03G213100	NA	NA	up
Glyma.03G214600	up	NA	up
Glyma.03G217600	up	NA	up
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Glyma.03G219700	NA	up	NA
Glyma.03G220100	up	down	NA
Glyma.03G222000	up	NA	NA

Glyma.03G222100	up	NA	up
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Glyma.03G222600	NA	down	NA
Glyma.03G223700	up	NA	NA
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Glyma.03G225200	NA	up	up
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Glyma.03G231500	up	NA	up
Glyma.03G232400	down	NA	NA
Glyma.03G233000	NA	NA	up
Glyma.03G233300	NA	up	up
Glyma.03G237200	NA	NA	down
Glyma.03G237300	down	up	NA
Glyma.03G240200	down	up	up
Glyma.03G241100	NA	up	NA
Glyma.03G243000	down	up	NA
Glyma.03G244300	up	down	NA
Glyma.03G245100	up	NA	up
Glyma.03G245700	up	down	NA
Glyma.03G246300	up	NA	up
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Glyma.03G246600	up	NA	NA
Glyma.03G246800	down	NA	NA
Glyma.03G247100	NA	up	up
Glyma.03G248100	NA	up	up
Glyma.03G251400	up	down	NA
Glyma.03G251600	down	up	NA
Glyma.03G252500	NA	NA	up
Glyma.03G253100	up	NA	NA
Glyma.03G255100	NA	up	NA
Glyma.03G256500	up	NA	NA
Glyma.03G256900	up	NA	up
Glyma.03G257000	up	NA	up
Glyma.03G257500	up	NA	up
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Glyma.03G258400	NA	up	up
Glyma.03G258900	NA	NA	up
Glyma.03G259200	up	NA	up
Glyma.03G261500	NA	NA	up
Glyma.03G262000	down	NA	NA

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Glyma.04G002300	up	NA	up
Glyma.04G002900	NA	NA	up
Glyma.04G003200	up	down	NA
Glyma.04G003300	up	NA	NA
Glyma.04G003401	NA	up	up
Glyma.04G003700	up	down	NA
Glyma.04G004100	up	NA	NA
Glyma.04G004500	NA	down	NA
Glyma.04G005100	up	NA	up
Glyma.04G005600	up	NA	up
Glyma.04G007300	NA	down	NA
Glyma.04G008567	down	NA	NA
Glyma.04G008633	NA	NA	down
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Glyma.04G010400	down	NA	down
Glyma.04G012300	up	NA	NA
Glyma.04G012500	NA	up	up
Glyma.04G013400	NA	up	up
Glyma.04G013800	down	up	NA
Glyma.04G014000	down	up	down
Glyma.04G014500	NA	NA	up
Glyma.04G014800	NA	up	up
Glyma.04G015000	up	down	NA
Glyma.04G015200	up	NA	NA
Glyma.04G015800	NA	NA	up
Glyma.04G017200	down	NA	NA
Glyma.04G017400	NA	down	NA
Glyma.04G017700	NA	down	NA
Glyma.04G018900	up	down	NA
Glyma.04G020000	up	NA	up
Glyma.04G020300	up	NA	up
Glyma.04G020500	up	down	NA
Glyma.04G022100	up	NA	up
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Glyma.04G023133	NA	down	down
Glyma.04G023300	up	NA	NA
Glyma.04G023500	up	down	NA
Glyma.04G023700	NA	NA	up
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Glyma.04G024600	down	up	up
Glyma.04G025100	up	NA	NA
Glyma.04G026400	up	NA	up
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Glyma.04G028600	down	NA	down

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Glyma.04G035000	down	NA	down
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Glyma.04G035500	down	NA	down
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Glyma.04G036900	up	up	up
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Glyma.04G038900	NA	up	NA
Glyma.04G039300	NA	down	NA
Glyma.04G040000	up	down	NA
Glyma.04G041400	up	down	NA
Glyma.04G041700	up	NA	up
Glyma.04G042400	NA	down	down
Glyma.04G048100	up	NA	up
Glyma.04G048200	up	NA	NA
Glyma.04G048300	up	NA	up
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Glyma.04G054100	up	NA	up
Glyma.04G054300	down	NA	NA
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Glyma.04G055900	NA	up	up
Glyma.04G056400	NA	NA	down
Glyma.04G056800	up	NA	up
Glyma.04G057800	up	NA	NA
Glyma.04G058000	NA	down	down
Glyma.04G058200	down	NA	NA
Glyma.04G058800	up	down	NA
Glyma.04G058900	up	NA	NA
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Glyma.04G061400	down	up	NA
Glyma.04G061500	NA	down	NA
Glyma.04G062100	down	NA	down
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Glyma.04G065600	up	up	up
Glyma.04G066000	NA	NA	up
Glyma.04G066300	up	NA	up
Glyma.04G067200	NA	NA	up
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Glyma.04G069700	up	NA	NA
Glyma.04G075700	NA	up	up
Glyma.04G076300	up	down	NA
Glyma.04G076900	up	NA	up
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Glyma.04G077900	NA	NA	up
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Glyma.04G083200	up	down	NA
Glyma.04G083900	NA	down	down
Glyma.04G084000	up	NA	NA
Glyma.04G084702	NA	NA	up
Glyma.04G084800	down	NA	NA
Glyma.04G085600	down	NA	NA
Glyma.04G087000	down	NA	down
Glyma.04G087800	up	down	NA
Glyma.04G088200	NA	NA	down
Glyma.04G088500	up	NA	NA
Glyma.04G088700	NA	down	NA
Glyma.04G088800	NA	down	NA
Glyma.04G089851	up	down	NA
Glyma.04G090000	up	down	NA
Glyma.04G090800	up	NA	NA
Glyma.04G092200	NA	NA	down
Glyma.04G093000	NA	down	NA
Glyma.04G093200	up	NA	NA
Glyma.04G094700	down	up	NA
Glyma.04G094900	down	up	NA
Glyma.04G096500	NA	down	down
Glyma.04G096900	NA	down	down
Glyma.04G097400	down	NA	NA
Glyma.04G097500	down	up	NA
Glyma.04G097700	down	NA	down
Glyma.04G098100	NA	down	NA
Glyma.04G100400	up	NA	NA
Glyma.04G102200	NA	NA	up
Glyma.04G102800	NA	down	NA
Glyma.04G103400	NA	down	NA
Glyma.04G104300	NA	NA	up
Glyma.04G104400	NA	NA	up
Glyma.04G104800	NA	down	NA
Glyma.04G105200	down	NA	NA
Glyma.04G105251	down	NA	down

Glyma.04G105500	up	NA	up
Glyma.04G105900	up	NA	up
Glyma.04G106500	NA	down	NA
Glyma.04G106600	up	down	NA
Glyma.04G109101	down	up	NA
Glyma.04G110300	NA	NA	up
Glyma.04G110400	up	NA	NA
Glyma.04G112800	up	NA	up
Glyma.04G115800	down	up	NA
Glyma.04G116800	down	NA	NA
Glyma.04G118700	NA	up	up
Glyma.04G121700	NA	up	NA
Glyma.04G123100	NA	NA	up
Glyma.04G126100	NA	up	NA
Glyma.04G132200	up	NA	up
Glyma.04G132300	up	down	NA
Glyma.04G132351	up	NA	NA
Glyma.04G134700	NA	down	down
Glyma.04G135700	up	down	NA
Glyma.04G137000	up	NA	NA
Glyma.04G137100	down	up	NA
Glyma.04G137200	down	up	NA
Glyma.04G139900	down	NA	NA
Glyma.04G140066	down	NA	down
Glyma.04G140132	down	NA	down
Glyma.04G142000	NA	up	up
Glyma.04G142700	down	NA	down
Glyma.04G142800	NA	NA	up
Glyma.04G147600	up	up	up
Glyma.04G147800	NA	up	up
Glyma.04G150500	up	down	NA
Glyma.04G151500	down	NA	NA
Glyma.04G151600	up	NA	up
Glyma.04G153700	up	NA	NA
Glyma.04G157800	up	down	up
Glyma.04G159700	NA	down	NA
Glyma.04G160100	up	NA	NA
Glyma.04G160301	down	up	NA
Glyma.04G161300	NA	up	NA
Glyma.04G161600	NA	NA	up
Glyma.04G165000	up	NA	NA
Glyma.04G167200	up	down	down
Glyma.04G167900	up	NA	up
Glyma.04G168300	NA	down	NA
Glyma.04G169600	NA	up	up
Glyma.04G173000	up	NA	up

Glyma.04G174400	NA	NA	up
Glyma.04G174467	NA	down	down
Glyma.04G174533	NA	NA	down
Glyma.04G178300	down	up	up
Glyma.04G178400	down	up	NA
Glyma.04G179300	NA	down	NA
Glyma.04G180800	up	NA	up
Glyma.04G181500	down	up	NA
Glyma.04G181600	down	up	NA
Glyma.04G182650	NA	NA	down
Glyma.04G183100	NA	down	NA
Glyma.04G183300	up	down	NA
Glyma.04G184300	up	NA	up
Glyma.04G184400	up	down	NA
Glyma.04G185500	down	NA	NA
Glyma.04G185800	NA	NA	up
Glyma.04G187700	up	down	up
Glyma.04G187800	NA	up	up
Glyma.04G188750	down	NA	NA
Glyma.04G189100	down	up	NA
Glyma.04G189200	NA	NA	up
Glyma.04G189800	NA	up	NA
Glyma.04G190200	up	NA	NA
Glyma.04G190300	NA	NA	up
Glyma.04G190500	NA	down	NA
Glyma.04G190600	up	down	NA
Glyma.04G190700	up	NA	NA
Glyma.04G190800	up	down	NA
Glyma.04G190900	up	down	NA
Glyma.04G191100	down	up	NA
Glyma.04G194450	up	down	NA
Glyma.04G194800	NA	NA	down
Glyma.04G197100	NA	up	NA
Glyma.04G198600	up	NA	NA
Glyma.04G199900	down	up	NA
Glyma.04G201300	down	up	NA
Glyma.04G202300	up	down	NA
Glyma.04G202400	up	down	NA
Glyma.04G202500	NA	NA	up
Glyma.04G202800	up	NA	up
Glyma.04G203200	down	up	NA
Glyma.04G205300	NA	down	NA
Glyma.04G206100	up	NA	up
Glyma.04G206800	NA	up	NA
Glyma.04G209200	up	down	NA
Glyma.04G215500	NA	up	NA

Glyma.04G215800	up	NA	up
Glyma.04G218300	up	down	NA
Glyma.04G220600	up	down	NA
Glyma.04G222100	NA	up	up
Glyma.04G223200	NA	down	NA
Glyma.04G223800	up	NA	NA
Glyma.04G225300	NA	up	up
Glyma.04G225400	NA	up	up
Glyma.04G225500	NA	up	up
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Glyma.04G227900	NA	up	up
Glyma.04G228400	up	NA	up
Glyma.04G229900	NA	up	NA
Glyma.04G230100	up	down	up
Glyma.04G230400	NA	up	NA
Glyma.04G230500	down	up	NA
Glyma.04G231400	down	NA	NA
Glyma.04G235400	up	NA	NA
Glyma.04G235600	NA	down	NA
Glyma.04G236200	up	NA	up
Glyma.04G236400	up	down	down
Glyma.04G236900	NA	up	NA
Glyma.04G237400	NA	down	NA
Glyma.04G238100	down	NA	down
Glyma.04G240800	NA	down	down
Glyma.04G241400	up	NA	NA
Glyma.04G242800	up	NA	NA
Glyma.04G243000	up	NA	up
Glyma.04G243800	NA	NA	up
Glyma.04G246900	up	down	NA
Glyma.04G247700	NA	NA	up
Glyma.04G247800	NA	up	NA
Glyma.04G248002	down	up	NA
Glyma.04G248100	down	NA	NA
Glyma.04G248500	down	NA	down
Glyma.04G250000	up	NA	up
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Glyma.04G251900	up	down	NA
Glyma.04G252100	down	up	up
Glyma.04G252300	up	NA	NA
Glyma.04G253300	NA	NA	up
Glyma.05G000300	NA	NA	up
Glyma.05G000900	up	NA	up
Glyma.05G001100	up	NA	up
Glyma.05G002250	NA	up	up

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Glyma.05G003900	up	NA	up
Glyma.05G005200	down	up	NA
Glyma.05G006600	up	down	NA
Glyma.05G007100	NA	NA	up
Glyma.05G007700	NA	up	up
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Glyma.05G011200	NA	up	up
Glyma.05G012300	down	up	NA
Glyma.05G013700	NA	down	NA
Glyma.05G015000	NA	NA	down
Glyma.05G015700	down	NA	NA
Glyma.05G018800	down	NA	NA
Glyma.05G020500	up	NA	up
Glyma.05G021500	up	NA	NA
Glyma.05G022100	down	NA	NA
Glyma.05G022200	NA	NA	down
Glyma.05G022900	up	NA	up
Glyma.05G024600	up	NA	NA
Glyma.05G026100	down	NA	NA
Glyma.05G026200	up	NA	up
Glyma.05G026300	NA	NA	up
Glyma.05G027000	up	NA	up
Glyma.05G028700	up	NA	up
Glyma.05G029000	NA	NA	down
Glyma.05G029200	down	NA	down
Glyma.05G029300	down	NA	NA
Glyma.05G030600	up	NA	NA
Glyma.05G031400	down	up	NA
Glyma.05G031700	NA	NA	down
Glyma.05G033000	down	up	NA
Glyma.05G035700	down	up	NA
Glyma.05G038000	down	NA	NA
Glyma.05G039900	up	NA	NA
Glyma.05G040900	NA	up	NA
Glyma.05G041300	up	down	NA
Glyma.05G041900	NA	NA	up
Glyma.05G042200	down	up	NA
Glyma.05G042600	down	NA	down
Glyma.05G043100	NA	down	NA
Glyma.05G043800	NA	up	up
Glyma.05G043900	NA	up	NA
Glyma.05G044000	NA	up	up

Glyma.05G044100	NA	NA	up
Glyma.05G044600	up	NA	up
Glyma.05G045000	NA	up	NA
Glyma.05G045200	up	NA	up
Glyma.05G045500	NA	NA	down
Glyma.05G048000	up	NA	up
Glyma.05G049300	up	down	down
Glyma.05G049400	NA	down	NA
Glyma.05G049600	NA	NA	up
Glyma.05G050100	up	NA	up
Glyma.05G050400	up	NA	NA
Glyma.05G051700	up	NA	NA
Glyma.05G051900	down	up	NA
Glyma.05G052300	NA	up	NA
Glyma.05G053800	NA	down	down
Glyma.05G054000	down	NA	NA
Glyma.05G054800	NA	NA	up
Glyma.05G054900	NA	up	up
Glyma.05G055700	NA	down	NA
Glyma.05G056000	NA	NA	up
Glyma.05G056400	NA	NA	up
Glyma.05G059600	NA	up	NA
Glyma.05G060400	down	NA	down
Glyma.05G060900	NA	down	down
Glyma.05G062100	up	down	up
Glyma.05G062400	up	down	NA
Glyma.05G063000	up	NA	up
Glyma.05G063500	NA	up	NA
Glyma.05G064500	up	down	down
Glyma.05G066100	NA	NA	up
Glyma.05G067200	up	down	NA
Glyma.05G068500	up	down	NA
Glyma.05G068900	NA	up	NA
Glyma.05G069100	up	down	up
Glyma.05G069150	NA	NA	up
Glyma.05G069200	down	NA	NA
Glyma.05G070600	NA	down	down
Glyma.05G073800	NA	NA	up
Glyma.05G074900	up	NA	NA
Glyma.05G075100	down	up	NA
Glyma.05G079651	up	NA	up
Glyma.05G081600	NA	up	NA
Glyma.05G084200	up	NA	up
Glyma.05G085700	up	NA	up
Glyma.05G093900	down	up	NA
Glyma.05G095600	down	up	up

Glyma.05G095633	down	up	up
Glyma.05G095900	up	NA	NA
Glyma.05G099000	down	NA	down
Glyma.05G099700	up	down	NA
Glyma.05G101300	NA	NA	up
Glyma.05G101700	NA	down	down
Glyma.05G102100	up	down	NA
Glyma.05G102300	NA	down	down
Glyma.05G102800	up	NA	up
Glyma.05G103300	NA	up	up
Glyma.05G105867	NA	NA	down
Glyma.05G106700	up	down	NA
Glyma.05G107000	NA	down	NA
Glyma.05G107700	NA	up	NA
Glyma.05G107800	NA	up	NA
Glyma.05G110400	NA	NA	up
Glyma.05G111800	down	NA	NA
Glyma.05G112100	up	NA	up
Glyma.05G112200	up	up	up
Glyma.05G112700	up	down	NA
Glyma.05G114000	NA	NA	down
Glyma.05G116300	up	NA	up
Glyma.05G117233	down	NA	down
Glyma.05G118700	NA	down	NA
Glyma.05G119000	NA	up	up
Glyma.05G119100	NA	down	down
Glyma.05G120100	up	down	NA
Glyma.05G120200	NA	down	NA
Glyma.05G120400	NA	up	NA
Glyma.05G122600	NA	down	NA
Glyma.05G123400	up	down	NA
Glyma.05G125800	NA	up	up
Glyma.05G126400	down	NA	NA
Glyma.05G127600	down	NA	NA
Glyma.05G127900	NA	NA	up
Glyma.05G128000	up	NA	up
Glyma.05G128400	down	NA	down
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Glyma.05G128800	down	NA	NA
Glyma.05G131300	NA	down	NA
Glyma.05G135000	down	NA	NA
Glyma.05G136300	up	NA	up
Glyma.05G138100	NA	up	NA
Glyma.05G138600	up	NA	NA
Glyma.05G139200	NA	NA	up
Glyma.05G139500	up	down	NA

Glyma.05G139700	NA	down	NA
Glyma.05G141300	down	NA	NA
Glyma.05G141800	NA	NA	down
Glyma.05G141851	down	NA	down
Glyma.05G142400	up	down	NA
Glyma.05G143400	NA	down	NA
Glyma.05G143500	down	NA	NA
Glyma.05G144500	down	up	NA
Glyma.05G146600	NA	down	NA
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Glyma.05G147100	up	down	NA
Glyma.05G147200	NA	down	NA
Glyma.05G147600	NA	down	NA
Glyma.05G149951	NA	up	up
Glyma.05G150700	up	NA	NA
Glyma.05G151200	up	NA	up
Glyma.05G151400	NA	up	NA
Glyma.05G152500	up	down	NA
Glyma.05G153000	NA	NA	down
Glyma.05G157600	down	NA	NA
Glyma.05G159200	NA	down	NA
Glyma.05G161900	down	NA	down
Glyma.05G162000	down	NA	down
Glyma.05G162100	NA	down	NA
Glyma.05G162800	down	NA	NA
Glyma.05G163100	up	NA	up
Glyma.05G166200	NA	NA	down
Glyma.05G169900	NA	up	up
Glyma.05G170500	up	down	NA
Glyma.05G171033	up	down	NA
Glyma.05G172300	NA	NA	up
Glyma.05G174200	NA	up	up
Glyma.05G174300	NA	up	NA
Glyma.05G175500	down	NA	NA
Glyma.05G177000	NA	NA	up
Glyma.05G178700	NA	up	up
Glyma.05G180500	NA	NA	down
Glyma.05G180600	NA	down	NA
Glyma.05G180700	up	NA	up
Glyma.05G182600	NA	down	down
Glyma.05G184500	NA	up	NA
Glyma.05G186200	NA	NA	down
Glyma.05G187800	up	NA	up
Glyma.05G187900	up	down	up
Glyma.05G188000	up	NA	NA
Glyma.05G188200	NA	up	up

Glyma.05G190100	up	NA	up
Glyma.05G192300	down	down	down
Glyma.05G195100	down	NA	NA
Glyma.05G197000	up	down	NA
Glyma.05G197200	up	down	NA
Glyma.05G199400	up	NA	up
Glyma.05G199700	NA	NA	up
Glyma.05G200000	up	NA	up
Glyma.05G200500	NA	NA	up
Glyma.05G201300	up	up	up
Glyma.05G202500	NA	down	down
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Glyma.05G203700	NA	up	up
Glyma.05G204400	NA	NA	up
Glyma.05G204600	NA	up	up
Glyma.05G204800	NA	up	up
Glyma.05G207500	NA	down	NA
Glyma.05G207700	NA	down	NA
Glyma.05G208000	down	NA	NA
Glyma.05G208900	up	NA	NA
Glyma.05G209300	NA	NA	down
Glyma.05G209400	up	NA	up
Glyma.05G210900	up	NA	up
Glyma.05G211700	up	down	NA
Glyma.05G212300	down	NA	NA
Glyma.05G212500	down	up	NA
Glyma.05G214000	down	up	NA
Glyma.05G214300	up	NA	NA
Glyma.05G215500	down	NA	down
Glyma.05G216700	NA	NA	up
Glyma.05G218600	NA	NA	up
Glyma.05G218800	NA	NA	up
Glyma.05G219100	NA	up	NA
Glyma.05G222600	down	up	NA
Glyma.05G224400	NA	NA	down
Glyma.05G224900	up	down	NA
Glyma.05G228100	down	up	NA
Glyma.05G229100	down	up	NA
Glyma.05G231200	NA	NA	down
Glyma.05G231800	up	down	NA
Glyma.05G232400	down	NA	NA
Glyma.05G233500	NA	down	down
Glyma.05G233700	NA	NA	up
Glyma.05G234500	up	NA	up
Glyma.05G234600	down	NA	NA
Glyma.05G236600	up	NA	up

Glyma.05G237000	up	NA	up
Glyma.05G237200	down	up	NA
Glyma.05G238200	down	NA	down
Glyma.05G238300	down	up	NA
Glyma.05G238400	down	up	NA
Glyma.05G240700	NA	NA	up
Glyma.05G241700	up	NA	NA
Glyma.05G242300	NA	down	down
Glyma.05G243950	down	up	NA
Glyma.05G244100	down	up	NA
Glyma.05G246000	NA	NA	down
Glyma.05G246500	NA	NA	up
Glyma.05G247300	up	NA	NA
Glyma.05G247500	up	down	NA
Glyma.05G247900	up	NA	up
Glyma.06G003100	down	NA	down
Glyma.06G003800	NA	NA	up
Glyma.06G004900	up	NA	NA
Glyma.06G005400	NA	down	NA
Glyma.06G005900	down	up	up
Glyma.06G010300	NA	NA	down
Glyma.06G010900	up	NA	up
Glyma.06G011000	NA	NA	up
Glyma.06G011600	NA	down	down
Glyma.06G012100	up	NA	up
Glyma.06G012800	NA	NA	up
Glyma.06G013300	down	up	NA
Glyma.06G013400	down	up	NA
Glyma.06G014200	up	NA	NA
Glyma.06G014500	NA	NA	up
Glyma.06G015200	up	down	NA
Glyma.06G017800	up	down	NA
Glyma.06G018900	up	NA	up
Glyma.06G020400	up	NA	up
Glyma.06G021200	NA	NA	down
Glyma.06G022800	up	down	up
Glyma.06G023400	NA	down	NA
Glyma.06G023900	NA	up	up
Glyma.06G024200	NA	up	NA
Glyma.06G024700	down	up	up
Glyma.06G025200	NA	up	up
Glyma.06G025800	up	NA	NA
Glyma.06G028000	up	NA	up
Glyma.06G028200	up	NA	up
Glyma.06G030000	NA	NA	up
Glyma.06G030900	up	NA	up

Glyma.06G031400	down	up	NA
Glyma.06G032000	NA	NA	up
Glyma.06G033700	NA	NA	up
Glyma.06G034600	up	NA	NA
Glyma.06G034700	down	NA	NA
Glyma.06G034900	down	NA	NA
Glyma.06G035200	up	down	NA
Glyma.06G035400	down	down	down
Glyma.06G035800	up	up	up
Glyma.06G035900	up	up	up
Glyma.06G037000	NA	up	NA
Glyma.06G037100	NA	up	up
Glyma.06G037300	down	NA	NA
Glyma.06G037700	down	up	NA
Glyma.06G039100	up	NA	NA
Glyma.06G039700	NA	NA	up
Glyma.06G042700	up	NA	up
Glyma.06G042900	up	NA	NA
Glyma.06G044400	NA	up	up
Glyma.06G044500	NA	up	up
Glyma.06G045000	up	NA	up
Glyma.06G045100	up	NA	up
Glyma.06G045700	NA	down	down
Glyma.06G045900	up	NA	up
Glyma.06G046000	NA	down	NA
Glyma.06G048300	up	NA	up
Glyma.06G049500	up	NA	NA
Glyma.06G051800	up	down	NA
Glyma.06G052000	NA	down	NA
Glyma.06G052400	up	NA	up
Glyma.06G052600	up	down	down
Glyma.06G054700	NA	NA	down
Glyma.06G055500	up	NA	up
Glyma.06G055600	up	up	up
Glyma.06G055900	NA	up	up
Glyma.06G056200	NA	up	up
Glyma.06G057400	up	NA	NA
Glyma.06G058500	up	NA	up
Glyma.06G058900	NA	up	NA
Glyma.06G059500	up	down	NA
Glyma.06G059600	up	NA	NA
Glyma.06G059700	NA	down	NA
Glyma.06G061200	NA	down	down
Glyma.06G061700	NA	up	NA
Glyma.06G061900	down	NA	NA
Glyma.06G062367	down	NA	down

Glyma.06G063000	NA	down	NA
Glyma.06G063300	NA	down	NA
Glyma.06G063500	NA	up	NA
Glyma.06G065000	up	NA	NA
Glyma.06G065400	NA	up	up
Glyma.06G065900	up	NA	NA
Glyma.06G067000	up	NA	up
Glyma.06G067300	up	NA	NA
Glyma.06G067400	up	NA	up
Glyma.06G067700	NA	up	up
Glyma.06G068800	up	NA	up
Glyma.06G069000	up	NA	up
Glyma.06G071100	NA	down	NA
Glyma.06G072000	up	NA	NA
Glyma.06G077200	NA	up	NA
Glyma.06G077600	down	NA	NA
Glyma.06G078400	NA	NA	up
Glyma.06G079500	up	up	up
Glyma.06G081100	up	NA	NA
Glyma.06G081800	up	up	up
Glyma.06G084200	NA	NA	up
Glyma.06G084600	up	down	NA
Glyma.06G085300	down	NA	NA
Glyma.06G085700	up	down	NA
Glyma.06G089600	up	down	NA
Glyma.06G089700	NA	NA	up
Glyma.06G090100	down	NA	NA
Glyma.06G090200	NA	down	down
Glyma.06G090300	NA	NA	down
Glyma.06G090500	up	NA	NA
Glyma.06G091100	NA	down	NA
Glyma.06G091651	NA	down	NA
Glyma.06G092000	NA	down	NA
Glyma.06G092600	down	NA	NA
Glyma.06G095300	NA	down	NA
Glyma.06G096100	NA	up	NA
Glyma.06G097000	NA	NA	up
Glyma.06G098700	NA	down	down
Glyma.06G099400	NA	down	down
Glyma.06G100200	up	NA	up
Glyma.06G100300	up	NA	up
Glyma.06G102700	NA	down	down
Glyma.06G105500	up	NA	up
Glyma.06G108051	down	up	up
Glyma.06G109250	up	down	NA
Glyma.06G110400	NA	up	up

Glyma.06G111900	down	up	up
Glyma.06G112200	up	down	down
Glyma.06G112900	NA	NA	up
Glyma.06G114800	down	up	NA
Glyma.06G114900	down	up	NA
Glyma.06G115100	up	down	NA
Glyma.06G116200	up	NA	NA
Glyma.06G116400	down	NA	NA
Glyma.06G117300	NA	down	NA
Glyma.06G118550	up	NA	up
Glyma.06G119300	NA	down	NA
Glyma.06G119500	NA	NA	up
Glyma.06G121000	NA	down	down
Glyma.06G122600	NA	down	NA
Glyma.06G122700	up	NA	up
Glyma.06G123200	up	down	down
Glyma.06G124000	NA	down	NA
Glyma.06G124200	up	NA	NA
Glyma.06G125800	up	down	NA
Glyma.06G126700	down	up	NA
Glyma.06G127400	down	up	up
Glyma.06G127900	up	down	down
Glyma.06G128500	NA	NA	up
Glyma.06G128700	NA	down	down
Glyma.06G129300	up	NA	NA
Glyma.06G130200	NA	down	NA
Glyma.06G131000	up	NA	NA
Glyma.06G131300	NA	NA	up
Glyma.06G132600	NA	NA	up
Glyma.06G133700	NA	NA	up
Glyma.06G134900	up	down	NA
Glyma.06G136500	up	up	up
Glyma.06G137300	NA	NA	up
Glyma.06G139100	NA	up	NA
Glyma.06G139300	NA	up	up
Glyma.06G139400	down	NA	NA
Glyma.06G140000	up	down	up
Glyma.06G141200	up	down	NA
Glyma.06G141801	down	up	NA
Glyma.06G142200	up	NA	up
Glyma.06G142500	up	NA	NA
Glyma.06G143000	NA	down	NA
Glyma.06G143300	NA	up	up
Glyma.06G143800	NA	up	NA
Glyma.06G145300	down	NA	NA
Glyma.06G146200	NA	down	down

Glyma.06G147600	up	down	NA
Glyma.06G149120	up	NA	up
Glyma.06G149500	down	up	NA
Glyma.06G150300	up	NA	up
Glyma.06G151300	up	down	down
Glyma.06G153000	up	NA	NA
Glyma.06G153400	NA	NA	up
Glyma.06G154100	up	NA	NA
Glyma.06G154700	down	NA	NA
Glyma.06G156100	NA	up	NA
Glyma.06G157400	NA	up	NA
Glyma.06G158800	up	NA	NA
Glyma.06G159500	NA	NA	up
Glyma.06G160100	NA	up	up
Glyma.06G160200	NA	down	NA
Glyma.06G160500	up	down	NA
Glyma.06G162200	NA	down	down
Glyma.06G163200	up	NA	NA
Glyma.06G163700	down	NA	NA
Glyma.06G166600	down	NA	NA
Glyma.06G167000	down	NA	down
Glyma.06G167900	down	NA	down
Glyma.06G168600	up	NA	NA
Glyma.06G169800	NA	NA	up
Glyma.06G170366	down	up	NA
Glyma.06G171500	up	down	NA
Glyma.06G171700	up	NA	NA
Glyma.06G173300	up	down	NA
Glyma.06G174800	up	down	NA
Glyma.06G175100	NA	down	NA
Glyma.06G175200	up	down	NA
Glyma.06G176900	up	NA	NA
Glyma.06G178000	up	NA	up
Glyma.06G178400	NA	NA	up
Glyma.06G179200	up	down	NA
Glyma.06G179500	down	NA	NA
Glyma.06G179800	NA	up	NA
Glyma.06G181000	NA	down	down
Glyma.06G181900	up	down	NA
Glyma.06G182100	up	down	NA
Glyma.06G184300	up	down	NA
Glyma.06G184800	up	NA	NA
Glyma.06G187000	NA	up	NA
Glyma.06G190300	up	NA	NA
Glyma.06G191400	down	up	NA
Glyma.06G192100	up	down	NA

Glyma.06G193500	down	NA	NA
Glyma.06G193800	NA	up	up
Glyma.06G194500	down	NA	down
Glyma.06G194600	down	up	NA
Glyma.06G194900	up	NA	up
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Glyma.06G195633	down	up	NA
Glyma.06G197600	NA	down	down
Glyma.06G198100	up	up	up
Glyma.06G198401	NA	NA	up
Glyma.06G198800	down	up	NA
Glyma.06G200100	NA	down	NA
Glyma.06G200166	down	up	up
Glyma.06G200232	down	up	up
Glyma.06G200800	down	up	up
Glyma.06G202000	NA	NA	down
Glyma.06G202200	NA	down	NA
Glyma.06G202300	up	down	NA
Glyma.06G204100	NA	down	NA
Glyma.06G204200	NA	NA	up
Glyma.06G208500	down	NA	NA
Glyma.06G209800	NA	up	NA
Glyma.06G211300	up	NA	up
Glyma.06G213100	up	NA	NA
Glyma.06G213101	NA	down	NA
Glyma.06G213400	up	down	NA
Glyma.06G215900	NA	NA	up
Glyma.06G216700	NA	down	NA
Glyma.06G218000	NA	up	up
Glyma.06G221700	down	up	NA
Glyma.06G222000	NA	NA	up
Glyma.06G225400	down	NA	down
Glyma.06G225500	up	NA	NA
Glyma.06G227500	NA	down	down
Glyma.06G229900	up	NA	up
Glyma.06G232100	up	NA	NA
Glyma.06G232300	up	NA	NA
Glyma.06G232400	NA	down	NA
Glyma.06G234050	down	NA	down
Glyma.06G234200	down	NA	NA
Glyma.06G234500	NA	NA	down
Glyma.06G236200	up	NA	up
Glyma.06G236300	up	NA	up
Glyma.06G236700	NA	NA	down
Glyma.06G245200	up	NA	up
Glyma.06G247100	NA	up	up

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Glyma.06G254700	NA	down	NA
Glyma.06G256000	NA	NA	up
Glyma.06G256700	up	down	NA
Glyma.06G257500	NA	up	NA
Glyma.06G261900	NA	down	NA
Glyma.06G262300	down	up	NA
Glyma.06G263900	NA	NA	down
Glyma.06G264150	down	NA	NA
Glyma.06G264700	NA	up	up
Glyma.06G264800	NA	up	up
Glyma.06G264900	NA	up	up
Glyma.06G265000	NA	NA	down
Glyma.06G265400	down	up	NA
Glyma.06G265500	down	NA	NA
Glyma.06G265600	up	NA	up
Glyma.06G267300	down	NA	NA
Glyma.06G267400	NA	up	NA
Glyma.06G268800	NA	up	up
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Glyma.06G269700	up	down	NA
Glyma.06G270400	down	up	NA
Glyma.06G270500	down	up	NA
Glyma.06G270700	down	up	NA
Glyma.06G270800	down	up	NA
Glyma.06G275500	NA	NA	up
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Glyma.06G278700	up	NA	up
Glyma.06G278800	up	NA	up
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Glyma.06G283900	NA	NA	down
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Glyma.06G286900	down	up	up
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Glyma.06G290000	up	down	NA
Glyma.06G292900	down	up	NA
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Glyma.06G295500	up	down	NA
Glyma.06G295600	NA	down	NA
Glyma.06G296000	NA	up	NA
Glyma.06G297500	NA	NA	up
Glyma.06G298500	NA	up	up
Glyma.06G298600	NA	down	down

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Glyma.06G299700	NA	NA	down
Glyma.06G300900	up	NA	NA
Glyma.06G301400	NA	NA	down
Glyma.06G302200	down	NA	down
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Glyma.06G307900	down	down	down
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Glyma.06G310100	down	up	NA
Glyma.06G310700	down	up	up
Glyma.06G312200	down	up	down
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Glyma.06G315100	NA	NA	down
Glyma.06G317000	NA	down	NA
Glyma.06G317700	NA	down	NA
Glyma.06G317900	NA	NA	up
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Glyma.06G318200	up	down	down
Glyma.06G319640	NA	NA	down
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Glyma.06G322800	up	NA	up
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Glyma.07G008400	up	NA	up
Glyma.07G009600	down	NA	NA
Glyma.07G009700	NA	NA	down
Glyma.07G009900	up	NA	NA
Glyma.07G010400	NA	NA	up
Glyma.07G011400	down	up	NA
Glyma.07G011500	down	up	down
Glyma.07G011800	up	up	up
Glyma.07G011900	up	up	up
Glyma.07G012100	down	NA	NA
Glyma.07G014100	up	NA	up
Glyma.07G014500	down	up	up
Glyma.07G014700	down	NA	down

Glyma.07G015300	NA	NA	down
Glyma.07G015600	NA	down	NA
Glyma.07G017300	NA	down	NA
Glyma.07G018000	up	NA	up
Glyma.07G018500	NA	down	NA
Glyma.07G019400	NA	NA	up
Glyma.07G019700	up	NA	up
Glyma.07G020500	NA	NA	up
Glyma.07G023000	NA	NA	up
Glyma.07G025300	down	up	NA
Glyma.07G026300	NA	up	up
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Glyma.07G028500	up	NA	up
Glyma.07G030000	up	up	up
Glyma.07G030500	up	down	down
Glyma.07G032000	NA	up	up
Glyma.07G032900	up	NA	up
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Glyma.07G033300	down	NA	NA
Glyma.07G034900	down	up	NA
Glyma.07G035800	up	down	NA
Glyma.07G036700	up	NA	NA
Glyma.07G038500	up	up	up
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Glyma.07G039600	NA	down	NA
Glyma.07G041400	down	NA	NA
Glyma.07G043700	down	NA	NA
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Glyma.07G047600	up	NA	up
Glyma.07G048100	NA	up	NA
Glyma.07G048702	down	up	NA
Glyma.07G048900	down	NA	down
Glyma.07G049000	NA	NA	up
Glyma.07G049400	NA	down	NA
Glyma.07G049900	up	NA	NA
Glyma.07G050300	down	up	NA
Glyma.07G050600	up	NA	NA
Glyma.07G051400	up	NA	NA
Glyma.07G052100	NA	down	NA
Glyma.07G052200	NA	down	down
Glyma.07G052300	NA	down	down
Glyma.07G054800	NA	down	NA
Glyma.07G055000	NA	up	up
Glyma.07G055800	NA	NA	up
Glyma.07G056100	NA	up	NA

Glyma.07G056200	NA	up	up
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Glyma.07G057600	NA	NA	up
Glyma.07G059200	NA	NA	down
Glyma.07G059300	up	NA	up
Glyma.07G060700	up	NA	up
Glyma.07G063300	NA	down	down
Glyma.07G065000	NA	down	down
Glyma.07G068300	NA	up	up
Glyma.07G069500	up	down	NA
Glyma.07G069700	up	NA	NA
Glyma.07G071100	NA	NA	up
Glyma.07G073500	up	down	NA
Glyma.07G073700	up	NA	up
Glyma.07G074100	down	NA	NA
Glyma.07G074400	down	NA	down
Glyma.07G075100	NA	NA	up
Glyma.07G076800	NA	down	NA
Glyma.07G077400	NA	down	NA
Glyma.07G080300	up	down	NA
Glyma.07G081100	down	NA	NA
Glyma.07G081200	down	NA	down
Glyma.07G081400	NA	down	down
Glyma.07G081500	NA	NA	down
Glyma.07G082100	up	down	NA
Glyma.07G082500	up	down	NA
Glyma.07G083200	down	up	up
Glyma.07G083300	NA	down	NA
Glyma.07G085100	down	up	NA
Glyma.07G085400	down	NA	NA
Glyma.07G086000	NA	up	NA
Glyma.07G086400	up	NA	NA
Glyma.07G086900	NA	up	up
Glyma.07G087100	down	up	NA
Glyma.07G087200	NA	up	up
Glyma.07G088350	NA	down	NA
Glyma.07G089900	down	up	down
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Glyma.07G091232	NA	up	NA
Glyma.07G091500	NA	NA	up
Glyma.07G092400	up	NA	NA
Glyma.07G093900	NA	up	up
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Glyma.07G099000	down	up	NA
Glyma.07G099700	down	NA	NA
Glyma.07G102400	NA	up	up
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Glyma.07G109200	NA	up	NA
Glyma.07G109400	NA	NA	up
Glyma.07G111500	up	NA	up
Glyma.07G112000	up	NA	up
Glyma.07G114900	NA	NA	up
Glyma.07G115400	NA	up	up
Glyma.07G115500	down	up	up
Glyma.07G115900	up	NA	up
Glyma.07G117500	down	NA	down
Glyma.07G117600	NA	down	NA
Glyma.07G118501	up	down	NA
Glyma.07G118600	NA	up	NA
Glyma.07G119700	NA	down	NA
Glyma.07G120900	NA	NA	down
Glyma.07G121500	down	NA	down
Glyma.07G121900	NA	NA	down
Glyma.07G123500	up	NA	up
Glyma.07G126600	down	up	down
Glyma.07G126800	NA	down	NA
Glyma.07G127100	NA	down	NA
Glyma.07G129100	NA	NA	up
Glyma.07G129300	up	NA	NA
Glyma.07G130400	up	NA	NA
Glyma.07G131300	down	up	NA
Glyma.07G131400	NA	up	NA
Glyma.07G131700	NA	up	NA
Glyma.07G132300	NA	NA	down
Glyma.07G132600	NA	NA	up
Glyma.07G132700	NA	NA	up
Glyma.07G133100	NA	down	down
Glyma.07G133900	up	down	up
Glyma.07G134100	up	up	up
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Glyma.07G135250	NA	up	NA
Glyma.07G135600	NA	NA	down
Glyma.07G135650	NA	NA	down
Glyma.07G136000	up	NA	up
Glyma.07G136200	down	NA	down
Glyma.07G136300	down	NA	NA

Glyma.07G136650	NA	NA	down
Glyma.07G138000	up	NA	NA
Glyma.07G138500	down	up	NA
Glyma.07G139400	up	NA	up
Glyma.07G139700	down	NA	NA
Glyma.07G139800	down	NA	NA
Glyma.07G140100	down	NA	down
Glyma.07G140200	down	NA	NA
Glyma.07G140700	NA	down	down
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Glyma.07G142300	up	down	NA
Glyma.07G142600	down	NA	down
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Glyma.07G144700	up	NA	up
Glyma.07G145900	up	NA	NA
Glyma.07G146800	up	NA	up
Glyma.07G147000	up	NA	up
Glyma.07G148600	NA	down	NA
Glyma.07G149400	NA	up	up
Glyma.07G149600	down	NA	NA
Glyma.07G149700	down	NA	down
Glyma.07G149800	down	NA	down
Glyma.07G150000	NA	up	NA
Glyma.07G152000	NA	NA	up
Glyma.07G154000	up	down	NA
Glyma.07G155100	up	down	NA
Glyma.07G155500	up	down	NA
Glyma.07G155600	up	NA	up
Glyma.07G156000	up	NA	NA
Glyma.07G156100	up	NA	NA
Glyma.07G157100	up	NA	NA
Glyma.07G159800	down	NA	NA
Glyma.07G162100	down	NA	down
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Glyma.07G163300	up	NA	up
Glyma.07G163600	NA	NA	up
Glyma.07G165900	down	up	NA
Glyma.07G167000	up	down	up
Glyma.07G168500	NA	down	down
Glyma.07G169400	NA	up	NA
Glyma.07G171600	down	up	NA
Glyma.07G173700	NA	up	NA
Glyma.07G178800	NA	NA	down
Glyma.07G179400	down	NA	NA
Glyma.07G181100	NA	down	down
Glyma.07G181200	up	up	up

Glyma.07G182900	up	NA	NA
Glyma.07G185300	NA	NA	up
Glyma.07G185800	NA	up	NA
Glyma.07G187000	NA	NA	up
Glyma.07G187700	NA	down	NA
Glyma.07G189000	up	down	NA
Glyma.07G190100	NA	down	down
Glyma.07G191400	down	up	NA
Glyma.07G191500	NA	down	NA
Glyma.07G192400	down	up	NA
Glyma.07G196400	up	NA	up
Glyma.07G196500	up	NA	up
Glyma.07G198266	NA	NA	up
Glyma.07G198500	NA	NA	up
Glyma.07G200400	NA	up	NA
Glyma.07G201300	NA	NA	up
Glyma.07G203700	NA	down	NA
Glyma.07G204100	NA	NA	down
Glyma.07G205400	down	NA	NA
Glyma.07G206000	up	down	NA
Glyma.07G206300	up	NA	NA
Glyma.07G206400	NA	up	up
Glyma.07G207200	up	NA	NA
Glyma.07G209200	NA	up	up
Glyma.07G209500	down	up	NA
Glyma.07G209700	NA	up	up
Glyma.07G211000	NA	down	down
Glyma.07G211300	down	up	NA
Glyma.07G212100	NA	up	up
Glyma.07G212500	NA	NA	down
Glyma.07G212700	up	NA	NA
Glyma.07G212800	down	up	NA
Glyma.07G213600	NA	down	down
Glyma.07G213900	NA	up	up
Glyma.07G214000	down	up	up
Glyma.07G214300	up	NA	up
Glyma.07G214800	NA	NA	up
Glyma.07G215000	NA	up	up
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Glyma.07G216900	NA	NA	up
Glyma.07G217100	down	up	up
Glyma.07G218400	NA	up	NA
Glyma.07G218900	NA	down	down
Glyma.07G219900	up	NA	NA
Glyma.07G221900	NA	NA	up

Glyma.07G222000	NA	up	NA
Glyma.07G222500	NA	NA	down
Glyma.07G223100	up	down	NA
Glyma.07G226567	NA	up	NA
Glyma.07G226633	NA	up	NA
Glyma.07G228300	NA	up	up
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Glyma.07G229500	NA	up	NA
Glyma.07G230600	up	NA	NA
Glyma.07G231000	NA	up	NA
Glyma.07G233200	NA	down	down
Glyma.07G233800	NA	down	NA
Glyma.07G234400	down	NA	down
Glyma.07G234800	down	NA	down
Glyma.07G235000	NA	up	up
Glyma.07G235100	down	up	NA
Glyma.07G235200	down	up	NA
Glyma.07G235700	NA	up	up
Glyma.07G236000	NA	up	NA
Glyma.07G236800	NA	up	up
Glyma.07G237500	up	up	up
Glyma.07G238300	up	NA	NA
Glyma.07G239600	NA	down	down
Glyma.07G240900	down	NA	down
Glyma.07G241600	NA	NA	up
Glyma.07G241700	NA	up	NA
Glyma.07G243500	down	up	NA
Glyma.07G243600	down	NA	NA
Glyma.07G243900	NA	up	NA
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Glyma.07G247500	up	NA	up
Glyma.07G247900	up	down	NA
Glyma.07G249600	NA	NA	down
Glyma.07G250500	down	up	up
Glyma.07G250600	down	up	NA
Glyma.07G251200	up	down	NA
Glyma.07G251300	NA	down	down
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Glyma.07G254600	NA	down	NA
Glyma.07G254900	NA	down	NA
Glyma.07G255900	down	up	NA
Glyma.07G256100	up	NA	up
Glyma.07G256600	down	NA	NA
Glyma.07G256900	NA	down	NA
Glyma.07G257000	down	NA	NA

Glyma.07G258700	down	up	NA
Glyma.07G260100	up	down	NA
Glyma.07G260300	up	NA	up
Glyma.07G260400	NA	NA	down
Glyma.07G264200	down	NA	down
Glyma.07G264400	up	NA	NA
Glyma.07G265000	NA	NA	up
Glyma.07G266000	NA	up	up
Glyma.07G266200	up	NA	up
Glyma.07G267800	up	down	NA
Glyma.07G267900	NA	up	up
Glyma.07G269400	down	NA	down
Glyma.07G271600	NA	up	up
Glyma.07G273400	up	down	NA
Glyma.08G000700	down	down	down
Glyma.08G003100	NA	NA	up
Glyma.08G004100	NA	up	up
Glyma.08G005200	NA	NA	down
Glyma.08G007200	NA	NA	up
Glyma.08G007800	NA	up	up
Glyma.08G007900	NA	up	up
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Glyma.08G009100	NA	up	up
Glyma.08G009900	NA	down	down
Glyma.08G014200	up	down	NA
Glyma.08G015300	up	NA	up
Glyma.08G015500	up	NA	up
Glyma.08G017000	up	NA	NA
Glyma.08G017300	NA	up	up
Glyma.08G017600	up	NA	up
Glyma.08G017700	up	NA	up
Glyma.08G017800	NA	up	NA
Glyma.08G018000	up	NA	NA
Glyma.08G018300	NA	down	NA
Glyma.08G018800	NA	down	NA
Glyma.08G019200	up	up	up
Glyma.08G021700	NA	NA	down
Glyma.08G022300	NA	up	up
Glyma.08G024900	NA	up	up
Glyma.08G031400	NA	down	down
Glyma.08G032700	NA	up	NA
Glyma.08G033400	NA	NA	up
Glyma.08G033600	up	NA	up
Glyma.08G033700	up	up	up
Glyma.08G034400	NA	NA	down
Glyma.08G036400	down	up	NA

Glyma.08G036600	NA	down	NA
Glyma.08G038700	NA	down	NA
Glyma.08G039900	up	down	NA
Glyma.08G043100	NA	up	up
Glyma.08G043800	up	up	up
Glyma.08G043900	NA	NA	up
Glyma.08G044000	up	NA	up
Glyma.08G044100	NA	NA	up
Glyma.08G044300	down	NA	NA
Glyma.08G047600	NA	NA	down
Glyma.08G047700	NA	NA	down
Glyma.08G049400	NA	NA	up
Glyma.08G049800	NA	up	up
Glyma.08G052800	up	NA	up
Glyma.08G053500	up	NA	NA
Glyma.08G053600	NA	up	up
Glyma.08G055100	NA	NA	up
Glyma.08G055500	up	NA	up
Glyma.08G055600	up	NA	up
Glyma.08G056400	up	up	up
Glyma.08G056500	NA	NA	up
Glyma.08G056600	NA	up	up
Glyma.08G059700	NA	NA	down
Glyma.08G060300	NA	down	NA
Glyma.08G060400	NA	down	NA
Glyma.08G062200	NA	up	up
Glyma.08G062800	down	NA	NA
Glyma.08G064100	up	down	NA
Glyma.08G066800	NA	down	NA
Glyma.08G067741	up	down	up
Glyma.08G067900	NA	NA	up
Glyma.08G068500	up	down	up
Glyma.08G068600	up	down	up
Glyma.08G068700	NA	NA	down
Glyma.08G069000	NA	down	down
Glyma.08G069100	down	NA	down
Glyma.08G069200	down	NA	down
Glyma.08G069300	up	up	up
Glyma.08G069600	NA	NA	down
Glyma.08G070100	down	NA	NA
Glyma.08G070500	NA	up	NA
Glyma.08G070800	up	NA	NA
Glyma.08G070967	up	NA	NA
Glyma.08G072000	up	NA	up
Glyma.08G073800	NA	down	NA
Glyma.08G073900	NA	up	up

Glyma.08G074000	up	NA	up
Glyma.08G074900	up	down	NA
Glyma.08G076400	down	up	NA
Glyma.08G077400	down	up	NA
Glyma.08G077500	down	NA	NA
Glyma.08G077602	down	up	NA
Glyma.08G078000	NA	NA	down
Glyma.08G080600	NA	up	up
Glyma.08G080900	down	NA	NA
Glyma.08G082900	up	NA	up
Glyma.08G083526	NA	up	up
Glyma.08G085700	down	up	NA
Glyma.08G089000	down	up	NA
Glyma.08G089700	NA	NA	up
Glyma.08G091800	NA	up	NA
Glyma.08G091900	down	NA	NA
Glyma.08G093100	NA	down	NA
Glyma.08G093500	up	NA	up
Glyma.08G093600	up	NA	up
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Glyma.08G095100	NA	NA	up
Glyma.08G095950	down	NA	down
Glyma.08G096800	NA	down	NA
Glyma.08G097900	NA	NA	up
Glyma.08G098400	up	down	NA
Glyma.08G099600	down	up	NA
Glyma.08G099900	up	down	NA
Glyma.08G104100	down	NA	down
Glyma.08G104200	up	down	NA
Glyma.08G104900	NA	up	NA
Glyma.08G105500	down	up	NA
Glyma.08G106100	up	NA	up
Glyma.08G106200	up	NA	up
Glyma.08G106700	NA	NA	down
Glyma.08G107000	down	NA	down
Glyma.08G107300	up	NA	NA
Glyma.08G109100	up	NA	up
Glyma.08G109500	NA	NA	down
Glyma.08G110380	NA	down	down
Glyma.08G110420	NA	down	down
Glyma.08G110460	NA	down	down
Glyma.08G110500	NA	down	down
Glyma.08G112500	up	NA	up
Glyma.08G114000	NA	up	NA
Glyma.08G115251	NA	up	NA
Glyma.08G116900	up	up	up

Glyma.08G117000	NA	down	NA
Glyma.08G117500	down	NA	down
Glyma.08G117600	NA	up	NA
Glyma.08G118300	NA	up	up
Glyma.08G118800	up	up	up
Glyma.08G119300	down	NA	NA
Glyma.08G119500	down	NA	down
Glyma.08G119600	down	NA	down
Glyma.08G121300	down	up	NA
Glyma.08G122800	down	NA	NA
Glyma.08G124800	NA	up	NA
Glyma.08G126800	NA	up	up
Glyma.08G132600	down	NA	down
Glyma.08G133600	up	down	NA
Glyma.08G133800	NA	down	NA
Glyma.08G137000	up	NA	up
Glyma.08G137300	NA	down	down
Glyma.08G137400	NA	up	up
Glyma.08G138300	up	NA	NA
Glyma.08G138600	up	down	down
Glyma.08G139100	NA	NA	up
Glyma.08G140100	down	up	NA
Glyma.08G140600	down	up	NA
Glyma.08G140900	up	NA	up
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Glyma.08G142100	NA	up	NA
Glyma.08G143100	up	NA	up
Glyma.08G143500	down	up	NA
Glyma.08G146100	up	down	up
Glyma.08G146200	up	NA	NA
Glyma.08G146300	NA	NA	up
Glyma.08G146700	NA	NA	down
Glyma.08G146900	up	down	up
Glyma.08G147400	NA	down	NA
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Glyma.08G151100	down	NA	NA
Glyma.08G151500	up	down	NA
Glyma.08G152500	down	NA	NA
Glyma.08G152800	up	up	up
Glyma.08G154300	up	NA	up
Glyma.08G154500	NA	down	down

Glyma.08G155100	down	NA	NA
Glyma.08G155300	down	up	NA
Glyma.08G156800	NA	up	NA
Glyma.08G157800	down	NA	NA
Glyma.08G158100	down	up	up
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Glyma.08G158500	up	NA	NA
Glyma.08G161500	up	NA	NA
Glyma.08G161600	NA	NA	up
Glyma.08G161700	down	up	NA
Glyma.08G162100	up	NA	up
Glyma.08G165500	up	NA	NA
Glyma.08G166000	up	down	NA
Glyma.08G168300	up	down	NA
Glyma.08G169000	down	up	NA
Glyma.08G169800	NA	down	down
Glyma.08G170300	down	up	NA
Glyma.08G171000	up	up	up
Glyma.08G173400	up	down	down
Glyma.08G174500	NA	down	down
Glyma.08G175200	up	NA	up
Glyma.08G176000	up	NA	NA
Glyma.08G176300	up	down	down
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Glyma.08G178100	up	down	NA
Glyma.08G178200	NA	down	down
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Glyma.08G179600	up	NA	up
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Glyma.08G180000	up	NA	up
Glyma.08G180600	NA	NA	up
Glyma.08G180900	NA	down	NA
Glyma.08G181300	NA	up	NA
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Glyma.08G183400	NA	up	NA
Glyma.08G185200	NA	up	NA
Glyma.08G188200	up	down	NA
Glyma.08G188500	up	NA	up
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Glyma.08G194900	NA	down	down
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Glyma.08G199500	up	NA	up
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Glyma.08G200100	down	up	NA
Glyma.08G200200	NA	NA	up
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Glyma.08G201200	up	down	NA
Glyma.08G202300	NA	down	NA
Glyma.08G203000	NA	NA	up
Glyma.08G203600	NA	down	NA
Glyma.08G204600	NA	NA	up
Glyma.08G204800	NA	NA	up
Glyma.08G205800	down	up	up
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Glyma.08G212300	up	down	down
Glyma.08G212900	NA	NA	up
Glyma.08G213100	up	NA	up
Glyma.08G214300	up	NA	up
Glyma.08G214600	NA	down	NA
Glyma.08G214700	up	down	NA
Glyma.08G215400	up	NA	NA
Glyma.08G215600	up	down	NA
Glyma.08G216000	NA	up	NA
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Glyma.08G217900	down	up	NA
Glyma.08G218200	down	up	NA
Glyma.08G219700	NA	up	NA
Glyma.08G220000	NA	up	up
Glyma.08G221500	up	NA	NA
Glyma.08G222700	NA	NA	up
Glyma.08G222800	NA	up	up
Glyma.08G223700	up	NA	NA
Glyma.08G223900	up	NA	NA
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Glyma.08G226933	down	up	NA
Glyma.08G227000	down	up	NA
Glyma.08G230400	NA	up	up
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Glyma.08G234200	up	NA	NA
Glyma.08G235400	down	up	NA
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Glyma.08G240100	up	NA	NA
Glyma.08G240400	up	NA	up
Glyma.08G241100	down	NA	NA
Glyma.08G242100	NA	down	down
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Glyma.08G246700	up	down	NA
Glyma.08G247700	down	NA	NA
Glyma.08G247800	down	up	NA
Glyma.08G247932	NA	NA	down
Glyma.08G248700	up	down	NA
Glyma.08G249100	up	NA	NA
Glyma.08G249200	up	NA	NA
Glyma.08G249500	NA	down	NA
Glyma.08G249800	up	NA	NA
Glyma.08G250000	up	NA	up
Glyma.08G252600	NA	down	down
Glyma.08G255000	down	NA	NA
Glyma.08G255850	down	NA	down
Glyma.08G256701	NA	up	NA
Glyma.08G256900	NA	up	up
Glyma.08G257300	down	up	NA
Glyma.08G259200	up	NA	NA
Glyma.08G259500	NA	down	NA
Glyma.08G259600	NA	down	NA
Glyma.08G259832	down	up	NA
Glyma.08G260200	NA	NA	down
Glyma.08G261500	NA	up	NA
Glyma.08G262400	NA	NA	down
Glyma.08G263200	up	NA	up
Glyma.08G266500	up	NA	NA
Glyma.08G269600	up	NA	up
Glyma.08G269900	up	down	NA
Glyma.08G273500	down	up	NA
Glyma.08G273600	down	up	NA
Glyma.08G277100	NA	down	down
Glyma.08G280600	NA	up	up
Glyma.08G281500	NA	down	down
Glyma.08G282600	up	NA	NA
Glyma.08G284000	down	NA	down
Glyma.08G285700	down	NA	NA
Glyma.08G286000	down	NA	NA
Glyma.08G288100	up	NA	up

Glyma.08G288500	down	up	NA
Glyma.08G290100	down	NA	NA
Glyma.08G291600	up	NA	up
Glyma.08G293100	up	NA	NA
Glyma.08G293800	up	down	NA
Glyma.08G294200	up	NA	NA
Glyma.08G295800	down	NA	down
Glyma.08G296700	up	NA	NA
Glyma.08G298700	NA	up	up
Glyma.08G298900	NA	down	NA
Glyma.08G299000	NA	down	NA
Glyma.08G299600	down	NA	NA
Glyma.08G300500	down	NA	down
Glyma.08G302833	NA	NA	down
Glyma.08G303200	up	NA	NA
Glyma.08G303700	up	down	NA
Glyma.08G303800	NA	up	NA
Glyma.08G304200	NA	NA	up
Glyma.08G304400	down	NA	down
Glyma.08G306200	NA	down	NA
Glyma.08G307200	up	NA	up
Glyma.08G308200	NA	NA	down
Glyma.08G308600	up	NA	NA
Glyma.08G311500	up	down	NA
Glyma.08G312400	up	NA	NA
Glyma.08G313100	down	NA	NA
Glyma.08G313400	NA	down	down
Glyma.08G313466	NA	NA	down
Glyma.08G314700	up	NA	NA
Glyma.08G314900	up	down	NA
Glyma.08G315700	up	down	NA
Glyma.08G317200	up	down	NA
Glyma.08G317400	NA	down	NA
Glyma.08G319700	NA	up	NA
Glyma.08G321100	up	down	NA
Glyma.08G321200	up	down	NA
Glyma.08G321300	down	up	NA
Glyma.08G323800	NA	down	down
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Glyma.08G326000	down	up	NA
Glyma.08G326300	NA	up	up
Glyma.08G326600	NA	down	NA
Glyma.08G329000	NA	up	up
Glyma.08G329900	up	NA	NA
Glyma.08G330100	down	up	NA
Glyma.08G330700	NA	up	NA

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Glyma.08G333400	down	NA	NA
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Glyma.08G334700	up	up	up
Glyma.08G334900	NA	NA	down
Glyma.08G337000	NA	up	NA
Glyma.08G337100	up	down	NA
Glyma.08G337900	up	down	up
Glyma.08G338500	up	NA	NA
Glyma.08G338800	NA	up	NA
Glyma.08G339200	down	NA	NA
Glyma.08G339400	NA	up	up
Glyma.08G340200	NA	down	NA
Glyma.08G340300	NA	NA	down
Glyma.08G341400	NA	up	up
Glyma.08G341600	NA	up	up
Glyma.08G341700	up	up	up
Glyma.08G341800	down	up	up
Glyma.08G342100	down	up	NA
Glyma.08G344200	NA	up	NA
Glyma.08G345100	NA	up	up
Glyma.08G346900	NA	NA	down
Glyma.08G347300	NA	down	NA
Glyma.08G348600	NA	up	NA
Glyma.08G351000	NA	NA	down
Glyma.08G351500	down	NA	down
Glyma.08G351932	down	up	NA
Glyma.08G352100	down	NA	down
Glyma.08G352200	down	NA	down
Glyma.08G353900	NA	up	NA
Glyma.08G355400	down	NA	NA
Glyma.08G355900	up	down	NA
Glyma.08G357400	NA	NA	down
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Glyma.08G361200	up	down	NA
Glyma.08G362466	NA	down	NA
Glyma.08G362900	up	NA	NA
Glyma.08G363500	up	NA	up
Glyma.08G363550	up	NA	up
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Glyma.08G364600	NA	NA	up
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Glyma.09G000600	NA	NA	down
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Glyma.09G003300	up	down	NA

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Glyma.09G007852	up	NA	NA
Glyma.09G007900	NA	up	up
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Glyma.09G008600	NA	NA	down
Glyma.09G008900	up	down	NA
Glyma.09G009100	NA	down	NA
Glyma.09G009200	NA	NA	up
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Glyma.09G010200	up	NA	NA
Glyma.09G010500	NA	NA	down
Glyma.09G011100	up	up	up
Glyma.09G012800	NA	down	down
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Glyma.09G014900	down	NA	down
Glyma.09G016400	down	up	NA
Glyma.09G016600	up	NA	up
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Glyma.09G018700	up	down	NA
Glyma.09G018900	NA	down	down
Glyma.09G020100	down	up	up
Glyma.09G020700	down	NA	down
Glyma.09G022300	down	up	down
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Glyma.09G024200	up	NA	NA
Glyma.09G024900	up	NA	NA
Glyma.09G025400	down	up	NA
Glyma.09G026800	NA	down	NA
Glyma.09G027500	down	up	NA
Glyma.09G027600	down	NA	NA
Glyma.09G028100	NA	NA	up
Glyma.09G032400	NA	up	up
Glyma.09G035800	down	NA	NA
Glyma.09G036000	up	down	NA
Glyma.09G036600	NA	up	NA
Glyma.09G036900	NA	down	NA
Glyma.09G037650	NA	NA	down
Glyma.09G037700	NA	NA	down
Glyma.09G038100	NA	up	NA
Glyma.09G038500	up	NA	NA
Glyma.09G038700	NA	up	up

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Glyma.09G039800	up	NA	up
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Glyma.09G040600	down	NA	NA
Glyma.09G041500	NA	up	NA
Glyma.09G046400	down	NA	NA
Glyma.09G047200	NA	down	NA
Glyma.09G047900	up	down	NA
Glyma.09G049100	up	down	NA
Glyma.09G050300	down	NA	NA
Glyma.09G051900	NA	NA	down
Glyma.09G052600	NA	down	NA
Glyma.09G053700	NA	up	up
Glyma.09G054000	up	NA	up
Glyma.09G054600	NA	up	NA
Glyma.09G057900	down	NA	NA
Glyma.09G058800	down	up	NA
Glyma.09G059000	up	down	NA
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Glyma.09G060132	down	up	NA
Glyma.09G060200	up	down	NA
Glyma.09G061000	down	NA	NA
Glyma.09G061500	down	NA	down
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Glyma.09G062101	down	up	NA
Glyma.09G062600	up	NA	up
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Glyma.09G062900	up	down	NA
Glyma.09G063000	NA	NA	up
Glyma.09G063900	down	up	NA
Glyma.09G066000	NA	NA	down
Glyma.09G066300	up	down	NA
Glyma.09G066500	NA	down	NA
Glyma.09G066700	NA	down	NA
Glyma.09G067650	up	up	up
Glyma.09G067700	up	up	up
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Glyma.09G069500	NA	up	up
Glyma.09G069800	NA	down	NA
Glyma.09G070600	NA	up	NA
Glyma.09G070650	down	NA	NA
Glyma.09G071400	up	NA	up
Glyma.09G071600	down	up	NA
Glyma.09G072500	up	down	NA
Glyma.09G073050	up	up	up
Glyma.09G073200	up	down	NA

Glyma.09G073900	up	up	up
Glyma.09G077100	up	down	NA
Glyma.09G077600	NA	NA	up
Glyma.09G078700	up	NA	NA
Glyma.09G079900	up	NA	up
Glyma.09G082300	up	down	NA
Glyma.09G082900	NA	down	down
Glyma.09G087200	down	NA	NA
Glyma.09G087400	NA	down	down
Glyma.09G087700	up	up	up
Glyma.09G088000	down	NA	down
Glyma.09G089600	NA	up	up
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Glyma.09G093050	down	NA	NA
Glyma.09G093300	NA	up	NA
Glyma.09G094000	down	up	NA
Glyma.09G095400	up	NA	up
Glyma.09G097402	NA	down	NA
Glyma.09G098000	NA	down	NA
Glyma.09G099100	down	NA	NA
Glyma.09G101100	down	up	up
Glyma.09G107400	up	down	NA
Glyma.09G111200	up	NA	NA
Glyma.09G111900	up	down	NA
Glyma.09G116200	down	NA	NA
Glyma.09G117400	NA	down	NA
Glyma.09G118800	NA	NA	down
Glyma.09G118900	NA	down	down
Glyma.09G123800	down	up	NA
Glyma.09G124000	NA	up	up
Glyma.09G124600	NA	down	down
Glyma.09G126500	up	up	up
Glyma.09G127700	up	down	NA
Glyma.09G128100	NA	up	up
Glyma.09G130200	NA	NA	down
Glyma.09G131700	down	up	NA
Glyma.09G132200	NA	NA	up
Glyma.09G133875	up	down	up
Glyma.09G134500	up	NA	up
Glyma.09G134600	up	down	NA
Glyma.09G134700	NA	down	NA
Glyma.09G138100	up	down	NA
Glyma.09G138300	NA	up	NA
Glyma.09G138400	NA	NA	up
Glyma.09G144200	up	NA	NA

Glyma.09G144300	up	NA	NA
Glyma.09G145700	NA	up	NA
Glyma.09G146000	down	up	NA
Glyma.09G149601	NA	up	NA
Glyma.09G150100	NA	NA	down
Glyma.09G150500	down	NA	NA
Glyma.09G151700	down	NA	down
Glyma.09G152100	NA	NA	up
Glyma.09G152900	up	down	NA
Glyma.09G153900	up	NA	up
Glyma.09G154600	NA	down	NA
Glyma.09G154700	up	up	up
Glyma.09G154900	NA	NA	down
Glyma.09G155000	down	up	NA
Glyma.09G155050	down	up	NA
Glyma.09G155500	down	NA	NA
Glyma.09G157900	NA	NA	down
Glyma.09G159000	NA	down	NA
Glyma.09G160100	NA	up	up
Glyma.09G161900	up	NA	NA
Glyma.09G163900	down	up	NA
Glyma.09G164000	up	down	NA
Glyma.09G164100	up	down	NA
Glyma.09G165900	up	down	NA
Glyma.09G168300	NA	down	NA
Glyma.09G168900	NA	NA	down
Glyma.09G169700	up	down	NA
Glyma.09G171000	NA	NA	down
Glyma.09G171100	down	NA	NA
Glyma.09G172300	NA	NA	down
Glyma.09G172500	up	NA	up
Glyma.09G175100	NA	down	NA
Glyma.09G176132	NA	NA	down
Glyma.09G176300	up	down	NA
Glyma.09G176600	NA	NA	down
Glyma.09G177100	down	NA	NA
Glyma.09G178900	up	NA	NA
Glyma.09G179400	NA	down	NA
Glyma.09G179900	NA	up	up
Glyma.09G180100	NA	NA	down
Glyma.09G180300	up	down	NA
Glyma.09G181451	up	down	NA
Glyma.09G182400	NA	up	NA
Glyma.09G182900	up	down	up
Glyma.09G184600	NA	up	up
Glyma.09G185200	down	up	NA

Glyma.09G185251	NA	NA	up
Glyma.09G186800	up	down	NA
Glyma.09G187700	up	NA	NA
Glyma.09G188667	NA	NA	up
Glyma.09G189700	down	up	NA
Glyma.09G189800	NA	NA	up
Glyma.09G191500	NA	up	NA
Glyma.09G192000	NA	down	NA
Glyma.09G194600	down	up	NA
Glyma.09G196300	up	down	NA
Glyma.09G196400	NA	down	NA
Glyma.09G196700	up	down	NA
Glyma.09G197000	NA	NA	down
Glyma.09G197700	down	NA	NA
Glyma.09G198700	NA	down	down
Glyma.09G198900	up	down	NA
Glyma.09G200000	up	NA	NA
Glyma.09G201000	up	down	NA
Glyma.09G202600	NA	down	NA
Glyma.09G203500	NA	down	down
Glyma.09G203600	NA	down	down
Glyma.09G203700	NA	NA	up
Glyma.09G204100	up	NA	NA
Glyma.09G205500	NA	NA	up
Glyma.09G206300	up	NA	up
Glyma.09G206400	NA	NA	up
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Glyma.09G210600	NA	up	NA
Glyma.09G212600	NA	up	NA
Glyma.09G212800	up	NA	NA
Glyma.09G213002	NA	NA	down
Glyma.09G213700	up	NA	up
Glyma.09G216800	NA	up	NA
Glyma.09G217400	NA	NA	down
Glyma.09G217600	down	up	NA
Glyma.09G217900	NA	down	down
Glyma.09G218100	up	NA	up
Glyma.09G218600	NA	down	NA
Glyma.09G219300	NA	up	NA
Glyma.09G221000	NA	up	up
Glyma.09G221500	NA	up	up
Glyma.09G221600	NA	up	up
Glyma.09G221800	NA	up	up
Glyma.09G222500	NA	NA	up

Glyma.09G223700	up	NA	up
Glyma.09G224200	NA	up	up
Glyma.09G226300	up	down	NA
Glyma.09G227400	NA	NA	up
Glyma.09G227900	down	NA	down
Glyma.09G229200	up	NA	up
Glyma.09G230100	down	NA	NA
Glyma.09G230200	NA	down	down
Glyma.09G231500	NA	down	NA
Glyma.09G231900	up	NA	up
Glyma.09G232300	down	NA	NA
Glyma.09G232700	up	down	NA
Glyma.09G234800	up	NA	NA
Glyma.09G235200	up	down	NA
Glyma.09G237600	up	NA	NA
Glyma.09G238300	down	up	up
Glyma.09G238800	up	NA	up
Glyma.09G239600	NA	up	NA
Glyma.09G239800	down	up	NA
Glyma.09G241800	NA	up	up
Glyma.09G242900	up	NA	NA
Glyma.09G246300	NA	NA	up
Glyma.09G250200	up	down	NA
Glyma.09G250800	up	NA	up
Glyma.09G251300	up	NA	up
Glyma.09G251600	NA	down	down
Glyma.09G255100	NA	NA	up
Glyma.09G255500	up	NA	up
Glyma.09G256100	down	NA	NA
Glyma.09G258000	NA	up	NA
Glyma.09G258400	NA	up	up
Glyma.09G261200	NA	NA	down
Glyma.09G263100	NA	up	up
Glyma.09G263400	down	up	NA
Glyma.09G266000	down	up	NA
Glyma.09G268500	NA	NA	down
Glyma.09G270900	NA	NA	down
Glyma.09G272100	NA	up	up
Glyma.09G272101	NA	up	NA
Glyma.09G273600	up	up	up
Glyma.09G274200	down	up	NA
Glyma.09G275300	up	NA	up
Glyma.09G275802	down	up	NA
Glyma.09G277800	NA	down	NA
Glyma.09G278100	NA	NA	up
Glyma.09G278600	NA	down	NA

Glyma.09G279600	up	down	up
Glyma.09G280700	up	down	NA
Glyma.09G281800	down	NA	NA
Glyma.09G285900	NA	NA	down
Glyma.10G000400	NA	NA	up
Glyma.10G000500	up	NA	up
Glyma.10G001700	up	down	NA
Glyma.10G001800	up	NA	NA
Glyma.10G002100	up	NA	NA
Glyma.10G002800	NA	NA	down
Glyma.10G003900	NA	NA	down
Glyma.10G005300	up	down	NA
Glyma.10G005700	down	NA	NA
Glyma.10G006500	NA	NA	up
Glyma.10G007000	NA	up	NA
Glyma.10G011100	up	NA	NA
Glyma.10G011300	down	NA	NA
Glyma.10G013300	up	NA	up
Glyma.10G014700	up	NA	NA
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Glyma.10G015500	NA	up	up
Glyma.10G015933	NA	up	NA
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Glyma.10G017600	NA	NA	up
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Glyma.10G018000	down	NA	down
Glyma.10G019700	down	up	NA
Glyma.10G020900	NA	up	NA
Glyma.10G021400	NA	down	NA
Glyma.10G023900	up	NA	NA
Glyma.10G025400	up	NA	up
Glyma.10G025800	down	up	up
Glyma.10G026300	down	up	NA
Glyma.10G026600	up	NA	up
Glyma.10G026900	NA	up	up
Glyma.10G027200	up	NA	NA
Glyma.10G028100	down	NA	down
Glyma.10G028400	up	NA	up
Glyma.10G029600	NA	up	NA
Glyma.10G030100	NA	down	down
Glyma.10G031800	NA	NA	up
Glyma.10G032200	up	NA	up
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Glyma.10G033100	up	NA	NA
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Glyma.10G036800	up	down	up

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Glyma.10G040600	NA	NA	up
Glyma.10G042000	NA	NA	up
Glyma.10G042100	up	NA	up
Glyma.10G042300	up	down	NA
Glyma.10G042600	up	down	NA
Glyma.10G044700	up	up	up
Glyma.10G047100	up	down	down
Glyma.10G047700	NA	down	NA
Glyma.10G047800	down	up	NA
Glyma.10G049800	NA	down	NA
Glyma.10G050600	up	NA	NA
Glyma.10G050800	up	down	NA
Glyma.10G051351	down	NA	down
Glyma.10G051900	NA	down	NA
Glyma.10G052500	NA	NA	up
Glyma.10G053800	up	NA	NA
Glyma.10G053900	up	NA	NA
Glyma.10G058050	NA	NA	up
Glyma.10G060700	up	NA	up
Glyma.10G060800	up	NA	up
Glyma.10G061201	down	up	up
Glyma.10G061500	down	NA	NA
Glyma.10G061700	down	up	NA
Glyma.10G061800	up	NA	up
Glyma.10G062750	up	NA	up
Glyma.10G062800	up	NA	up
Glyma.10G063200	up	NA	NA
Glyma.10G066700	up	NA	NA
Glyma.10G069500	down	NA	down
Glyma.10G073300	down	up	NA
Glyma.10G074600	up	NA	up
Glyma.10G075000	up	NA	up
Glyma.10G075800	up	down	NA
Glyma.10G076100	down	NA	down
Glyma.10G077800	up	NA	up
Glyma.10G078400	up	NA	up
Glyma.10G079000	down	NA	NA
Glyma.10G079300	up	NA	up
Glyma.10G082800	NA	down	down
Glyma.10G083300	up	down	NA
Glyma.10G086600	up	NA	up
Glyma.10G087500	up	down	NA
Glyma.10G089200	NA	up	up
Glyma.10G089300	up	up	up
Glyma.10G089500	NA	up	up

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Glyma.10G090300	NA	up	up
Glyma.10G090500	up	NA	NA
Glyma.10G092800	NA	NA	up
Glyma.10G094600	up	up	up
Glyma.10G096800	NA	NA	down
Glyma.10G098400	down	up	NA
Glyma.10G104100	NA	NA	down
Glyma.10G104700	up	NA	up
Glyma.10G106000	down	up	NA
Glyma.10G106301	NA	up	up
Glyma.10G107500	up	NA	up
Glyma.10G108400	NA	NA	down
Glyma.10G111100	up	down	NA
Glyma.10G113000	NA	down	down
Glyma.10G113400	down	NA	NA
Glyma.10G116600	down	up	NA
Glyma.10G119700	down	NA	NA
Glyma.10G121536	down	up	NA
Glyma.10G121600	up	NA	up
Glyma.10G122300	down	up	NA
Glyma.10G123400	down	NA	down
Glyma.10G126076	NA	NA	up
Glyma.10G128300	down	NA	NA
Glyma.10G129500	down	NA	NA
Glyma.10G130300	down	up	NA
Glyma.10G130400	down	NA	down
Glyma.10G130800	NA	NA	down
Glyma.10G132300	NA	down	down
Glyma.10G132600	down	NA	NA
Glyma.10G136300	NA	NA	up
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Glyma.10G137200	up	NA	up
Glyma.10G137300	up	NA	up
Glyma.10G138300	down	up	NA
Glyma.10G139200	NA	NA	up
Glyma.10G139500	NA	NA	up
Glyma.10G139700	up	NA	up
Glyma.10G139800	NA	NA	up
Glyma.10G142100	NA	NA	up
Glyma.10G142200	up	down	NA
Glyma.10G142500	NA	down	down
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Glyma.10G144000	NA	down	NA
Glyma.10G144200	up	NA	NA
Glyma.10G145300	up	NA	up

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Glyma.10G146000	NA	NA	down
Glyma.10G148200	up	NA	NA
Glyma.10G148700	down	NA	NA
Glyma.10G150300	up	NA	up
Glyma.10G151800	up	NA	up
Glyma.10G152000	NA	NA	up
Glyma.10G153100	NA	NA	up
Glyma.10G156100	up	down	NA
Glyma.10G156500	up	NA	NA
Glyma.10G157100	NA	NA	up
Glyma.10G157500	up	down	down
Glyma.10G157900	NA	up	up
Glyma.10G158900	NA	down	NA
Glyma.10G159700	NA	up	NA
Glyma.10G160200	NA	up	up
Glyma.10G161200	NA	down	NA
Glyma.10G161500	down	up	NA
Glyma.10G161700	down	up	NA
Glyma.10G161900	down	NA	NA
Glyma.10G162200	NA	NA	up
Glyma.10G162500	NA	NA	up
Glyma.10G163300	up	NA	NA
Glyma.10G165200	up	NA	up
Glyma.10G166600	up	up	up
Glyma.10G166900	up	NA	NA
Glyma.10G168100	NA	down	NA
Glyma.10G168200	NA	down	NA
Glyma.10G171800	down	NA	NA
Glyma.10G171900	NA	NA	down
Glyma.10G172100	NA	NA	up
Glyma.10G172600	NA	NA	up
Glyma.10G173200	NA	up	NA
Glyma.10G175600	up	down	NA
Glyma.10G176200	NA	down	NA
Glyma.10G177200	up	NA	up
Glyma.10G179200	up	down	NA
Glyma.10G179600	up	down	down
Glyma.10G180100	up	NA	NA
Glyma.10G180800	down	NA	NA
Glyma.10G182400	down	NA	NA
Glyma.10G183300	up	down	NA
Glyma.10G184300	NA	down	NA
Glyma.10G184600	down	up	NA
Glyma.10G186500	up	NA	up
Glyma.10G186700	up	down	NA

Glyma.10G187900	down	up	NA
Glyma.10G188500	NA	NA	down
Glyma.10G189400	up	NA	up
Glyma.10G190200	up	down	NA
Glyma.10G190700	up	down	NA
Glyma.10G192900	down	up	NA
Glyma.10G193100	NA	NA	down
Glyma.10G193500	up	NA	NA
Glyma.10G193600	down	NA	down
Glyma.10G194000	up	NA	NA
Glyma.10G196900	NA	up	NA
Glyma.10G200500	up	NA	up
Glyma.10G201100	up	NA	up
Glyma.10G202000	up	NA	up
Glyma.10G202400	up	NA	up
Glyma.10G203500	down	NA	NA
Glyma.10G203900	NA	up	NA
Glyma.10G204200	up	up	up
Glyma.10G204600	NA	up	up
Glyma.10G205500	up	NA	NA
Glyma.10G205600	up	down	NA
Glyma.10G205700	up	down	up
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Glyma.10G206300	up	down	NA
Glyma.10G207200	NA	up	up
Glyma.10G208400	NA	up	up
Glyma.10G208800	NA	up	up
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Glyma.10G209800	up	NA	NA
Glyma.10G211600	down	up	NA
Glyma.10G212400	NA	up	NA
Glyma.10G212500	up	NA	up
Glyma.10G212900	NA	NA	down
Glyma.10G213300	NA	up	NA
Glyma.10G213500	down	NA	down
Glyma.10G214500	up	down	NA
Glyma.10G214600	up	down	NA
Glyma.10G216600	NA	NA	up
Glyma.10G219900	NA	NA	up
Glyma.10G221100	down	up	NA
Glyma.10G222200	up	NA	NA
Glyma.10G222300	NA	NA	down
Glyma.10G222500	NA	NA	up
Glyma.10G224200	NA	NA	up
Glyma.10G224300	up	down	up
Glyma.10G225400	NA	NA	up

Glyma.10G226700	up	down	NA
Glyma.10G227100	down	up	NA
Glyma.10G228000	NA	up	NA
Glyma.10G228900	down	NA	NA
Glyma.10G229300	down	up	up
Glyma.10G232200	NA	down	down
Glyma.10G232600	up	NA	NA
Glyma.10G232900	down	up	NA
Glyma.10G233700	down	NA	NA
Glyma.10G234200	down	up	NA
Glyma.10G234300	down	up	NA
Glyma.10G234400	NA	up	up
Glyma.10G236500	down	up	NA
Glyma.10G237500	NA	NA	up
Glyma.10G238700	down	NA	down
Glyma.10G241000	NA	down	NA
Glyma.10G241100	down	NA	down
Glyma.10G241800	NA	up	NA
Glyma.10G244000	down	up	NA
Glyma.10G245100	up	NA	NA
Glyma.10G246800	down	NA	down
Glyma.10G247200	up	NA	up
Glyma.10G249000	up	NA	up
Glyma.10G249300	NA	down	NA
Glyma.10G250200	NA	NA	up
Glyma.10G251000	NA	NA	up
Glyma.10G251500	up	down	NA
Glyma.10G252400	NA	up	NA
Glyma.10G253700	NA	up	up
Glyma.10G255000	up	NA	up
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Glyma.10G256800	down	up	NA
Glyma.10G256900	down	up	NA
Glyma.10G260900	NA	up	NA
Glyma.10G263000	up	NA	up
Glyma.10G263200	up	down	NA
Glyma.10G264100	NA	up	NA
Glyma.10G267700	NA	NA	down
Glyma.10G267900	NA	up	up
Glyma.10G268900	up	NA	up
Glyma.10G269400	NA	NA	up
Glyma.10G270700	NA	NA	up
Glyma.10G270800	NA	down	NA
Glyma.10G274100	NA	up	up
Glyma.10G274400	up	NA	NA
Glyma.10G274600	down	NA	NA

Glyma.10G274651	down	NA	down
Glyma.10G275700	up	NA	NA
Glyma.10G276600	down	NA	down
Glyma.10G276700	down	NA	down
Glyma.10G277300	up	down	NA
Glyma.10G278600	NA	up	up
Glyma.10G281000	NA	down	NA
Glyma.10G284400	NA	up	up
Glyma.10G284500	down	NA	NA
Glyma.10G286500	up	NA	up
Glyma.10G286700	NA	down	NA
Glyma.10G290102	down	up	NA
Glyma.10G290900	up	down	NA
Glyma.10G291000	NA	up	NA
Glyma.10G291100	up	NA	NA
Glyma.10G292200	NA	NA	down
Glyma.11G000600	up	NA	up
Glyma.11G000900	up	NA	up
Glyma.11G001500	down	up	NA
Glyma.11G003200	up	NA	NA
Glyma.11G003600	NA	up	NA
Glyma.11G003700	NA	up	NA
Glyma.11G006300	up	down	NA
Glyma.11G007300	NA	up	up
Glyma.11G008000	down	NA	NA
Glyma.11G009000	NA	NA	down
Glyma.11G010500	up	down	NA
Glyma.11G011900	NA	down	NA
Glyma.11G014800	NA	NA	up
Glyma.11G014900	NA	NA	up
Glyma.11G016500	down	NA	NA
Glyma.11G016600	down	NA	NA
Glyma.11G017500	NA	down	NA
Glyma.11G017900	NA	up	NA
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Glyma.11G022700	up	NA	NA
Glyma.11G028400	NA	up	NA
Glyma.11G029200	NA	down	NA
Glyma.11G029300	NA	down	down
Glyma.11G029400	NA	down	NA
Glyma.11G030200	up	down	NA
Glyma.11G031200	NA	up	NA
Glyma.11G031300	up	NA	up

Glyma.11G032000	up	down	NA
Glyma.11G032200	up	down	NA
Glyma.11G033400	NA	down	down
Glyma.11G035100	down	NA	down
Glyma.11G037500	NA	NA	up
Glyma.11G038600	down	up	NA
Glyma.11G040800	up	NA	up
Glyma.11G041902	NA	down	NA
Glyma.11G042000	down	NA	down
Glyma.11G042200	NA	NA	up
Glyma.11G043600	down	up	up
Glyma.11G043800	up	down	NA
Glyma.11G043900	down	up	NA
Glyma.11G044200	up	NA	up
Glyma.11G044700	NA	up	up
Glyma.11G044800	up	NA	up
Glyma.11G046000	down	NA	down
Glyma.11G049300	NA	up	up
Glyma.11G050200	up	NA	up
Glyma.11G051300	up	NA	NA
Glyma.11G051500	NA	NA	down
Glyma.11G051800	down	NA	NA
Glyma.11G052100	NA	down	NA
Glyma.11G052500	NA	NA	up
Glyma.11G052700	NA	up	up
Glyma.11G053000	up	NA	NA
Glyma.11G053200	up	down	NA
Glyma.11G053700	NA	NA	down
Glyma.11G053800	up	down	NA
Glyma.11G054000	NA	up	up
Glyma.11G054500	down	NA	NA
Glyma.11G055900	NA	down	NA
Glyma.11G056100	up	NA	up
Glyma.11G056700	up	NA	up
Glyma.11G057600	up	NA	NA
Glyma.11G059500	down	NA	down
Glyma.11G059551	down	NA	NA
Glyma.11G059800	down	NA	down
Glyma.11G061100	up	NA	up
Glyma.11G061300	up	NA	up
Glyma.11G063600	NA	NA	up
Glyma.11G064600	up	down	NA
Glyma.11G065000	NA	up	NA
Glyma.11G065900	NA	up	up
Glyma.11G067100	NA	NA	up
Glyma.11G068900	down	NA	down

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Glyma.11G069901	NA	up	up
Glyma.11G070200	down	up	NA
Glyma.11G071000	NA	down	down
Glyma.11G071100	down	NA	NA
Glyma.11G071300	NA	NA	up
Glyma.11G071700	down	up	NA
Glyma.11G072800	NA	NA	down
Glyma.11G073000	down	NA	down
Glyma.11G074100	NA	down	NA
Glyma.11G075300	NA	NA	up
Glyma.11G075400	down	up	NA
Glyma.11G075500	up	down	NA
Glyma.11G077700	NA	up	NA
Glyma.11G078300	down	NA	NA
Glyma.11G078600	down	NA	NA
Glyma.11G080201	down	NA	down
Glyma.11G080300	up	NA	up
Glyma.11G082500	up	up	up
Glyma.11G083500	up	NA	NA
Glyma.11G085900	down	NA	down
Glyma.11G087300	up	down	down
Glyma.11G087600	up	NA	NA
Glyma.11G087900	NA	down	NA
Glyma.11G088000	NA	down	NA
Glyma.11G088900	NA	down	NA
Glyma.11G090000	NA	NA	down
Glyma.11G091300	NA	down	NA
Glyma.11G092900	up	NA	up
Glyma.11G095200	NA	up	NA
Glyma.11G096300	NA	up	up
Glyma.11G097200	NA	NA	up
Glyma.11G097300	NA	down	NA
Glyma.11G097600	down	NA	NA
Glyma.11G098100	NA	up	up
Glyma.11G098551	NA	NA	down
Glyma.11G098700	NA	NA	up
Glyma.11G099300	up	NA	up
Glyma.11G099700	NA	NA	down
Glyma.11G100100	down	NA	down
Glyma.11G100800	NA	NA	up
Glyma.11G101300	NA	NA	up
Glyma.11G103250	up	NA	up
Glyma.11G103300	NA	NA	up
Glyma.11G106300	down	up	NA
Glyma.11G106900	NA	down	down

Glyma.11G107600	up	down	up
Glyma.11G109300	NA	NA	up
Glyma.11G111400	up	NA	NA
Glyma.11G111500	up	down	up
Glyma.11G112800	down	up	NA
Glyma.11G114500	NA	down	NA
Glyma.11G114900	NA	NA	down
Glyma.11G117100	NA	up	up
Glyma.11G117200	up	NA	NA
Glyma.11G117700	down	NA	NA
Glyma.11G117751	NA	up	NA
Glyma.11G119000	NA	down	down
Glyma.11G119200	down	up	NA
Glyma.11G119500	up	down	NA
Glyma.11G121100	NA	NA	up
Glyma.11G121700	down	up	NA
Glyma.11G121800	NA	up	NA
Glyma.11G121900	NA	NA	down
Glyma.11G122000	up	NA	NA
Glyma.11G123000	NA	down	NA
Glyma.11G123300	up	up	up
Glyma.11G124900	NA	up	up
Glyma.11G125500	up	down	NA
Glyma.11G127200	up	NA	up
Glyma.11G127600	down	up	NA
Glyma.11G127800	NA	NA	up
Glyma.11G128900	NA	up	up
Glyma.11G129200	down	up	NA
Glyma.11G130300	down	NA	NA
Glyma.11G132802	NA	down	down
Glyma.11G133700	up	NA	up
Glyma.11G133900	NA	up	NA
Glyma.11G135900	NA	NA	up
Glyma.11G136300	up	down	down
Glyma.11G138502	NA	NA	down
Glyma.11G139400	NA	up	NA
Glyma.11G141400	NA	up	up
Glyma.11G141600	NA	down	NA
Glyma.11G142200	up	up	up
Glyma.11G143100	NA	NA	down
Glyma.11G146200	up	NA	up
Glyma.11G146500	up	NA	up
Glyma.11G146690	down	NA	down
Glyma.11G146900	up	NA	up
Glyma.11G147800	down	NA	down
Glyma.11G148100	up	NA	NA

Glyma.11G148200	NA	up	NA
Glyma.11G148400	down	NA	down
Glyma.11G148500	down	NA	down
Glyma.11G148501	down	NA	down
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Glyma.11G149400	NA	NA	down
Glyma.11G149900	down	up	NA
Glyma.11G151000	up	down	NA
Glyma.11G151300	NA	NA	up
Glyma.11G153796	down	up	NA
Glyma.11G154900	NA	up	up
Glyma.11G155000	down	up	NA
Glyma.11G155050	up	down	NA
Glyma.11G155100	down	up	NA
Glyma.11G156100	down	up	NA
Glyma.11G156304	down	NA	down
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Glyma.11G157976	NA	NA	down
Glyma.11G160000	NA	up	up
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Glyma.11G160693	up	NA	NA
Glyma.11G160902	up	NA	NA
Glyma.11G161111	up	NA	NA
Glyma.11G161529	down	up	up
Glyma.11G161600	up	NA	up
Glyma.11G162365	NA	NA	down
Glyma.11G162600	up	NA	up
Glyma.11G163300	down	NA	down
Glyma.11G164700	NA	down	NA
Glyma.11G167200	NA	down	NA
Glyma.11G167300	NA	down	NA
Glyma.11G168100	NA	up	up
Glyma.11G168800	down	up	NA
Glyma.11G169800	up	NA	NA
Glyma.11G169900	down	up	NA
Glyma.11G170200	down	up	NA
Glyma.11G170201	down	up	down
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Glyma.11G170300	down	up	NA
Glyma.11G170601	down	NA	NA
Glyma.11G170937	down	NA	down
Glyma.11G171400	down	up	up
Glyma.11G171500	down	up	NA
Glyma.11G171600	down	up	NA
Glyma.11G171900	up	NA	up
Glyma.11G172200	down	up	NA

Glyma.11G172500	NA	NA	down
Glyma.11G172900	down	up	up
Glyma.11G173800	NA	NA	down
Glyma.11G174500	up	down	NA
Glyma.11G175537	up	up	up
Glyma.11G176307	NA	up	NA
Glyma.11G178100	NA	down	NA
Glyma.11G178400	up	NA	NA
Glyma.11G178900	NA	NA	down
Glyma.11G179600	down	up	NA
Glyma.11G181100	up	NA	up
Glyma.11G182200	up	NA	NA
Glyma.11G182500	NA	NA	up
Glyma.11G183400	up	down	NA
Glyma.11G184000	down	up	NA
Glyma.11G185300	NA	NA	up
Glyma.11G188300	up	NA	up
Glyma.11G188900	NA	up	NA
Glyma.11G189600	NA	NA	up
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Glyma.11G191200	up	NA	NA
Glyma.11G192500	NA	NA	up
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Glyma.11G192700	up	NA	up
Glyma.11G193100	NA	NA	down
Glyma.11G194600	NA	up	NA
Glyma.11G196250	NA	down	down
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Glyma.11G207300	down	NA	down
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Glyma.11G210008	down	up	NA
Glyma.11G212500	up	NA	NA
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Glyma.11G214151	down	up	NA
Glyma.11G215200	NA	NA	up
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Glyma.11G215600	up	NA	NA
Glyma.11G215700	NA	up	NA
Glyma.11G215800	NA	NA	up
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Glyma.11G217000	up	NA	up
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Glyma.11G223800	NA	down	NA
Glyma.11G225600	down	up	NA
Glyma.11G225700	up	NA	up
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Glyma.11G228800	up	NA	up
Glyma.11G229100	NA	NA	down
Glyma.11G230300	NA	NA	down
Glyma.11G230400	down	NA	NA
Glyma.11G230800	down	up	up
Glyma.11G231500	NA	NA	up
Glyma.11G231600	up	down	up
Glyma.11G231700	up	NA	up
Glyma.11G232500	down	NA	NA
Glyma.11G233000	down	NA	NA
Glyma.11G233400	up	up	up
Glyma.11G233700	NA	NA	up
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Glyma.11G234300	up	NA	NA
Glyma.11G234900	NA	up	up
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Glyma.11G235300	up	down	NA
Glyma.11G235800	NA	up	NA
Glyma.11G236050	down	up	NA
Glyma.11G236100	down	up	up
Glyma.11G236200	NA	NA	up
Glyma.11G236600	up	down	NA
Glyma.11G237600	NA	up	up
Glyma.11G237900	up	NA	up
Glyma.11G238200	NA	NA	down
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Glyma.11G239300	up	down	NA
Glyma.11G239400	up	NA	up
Glyma.11G243400	up	NA	NA
Glyma.11G244400	down	NA	down
Glyma.11G245400	up	NA	up
Glyma.11G246600	NA	up	up
Glyma.11G247600	up	NA	up
Glyma.11G248300	up	NA	up
Glyma.11G251100	up	NA	NA
Glyma.11G251800	NA	NA	up

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Glyma.11G252700	NA	NA	up
Glyma.11G252800	NA	NA	up
Glyma.11G253900	up	NA	NA
Glyma.11G254700	up	NA	up
Glyma.11G254900	up	NA	up
Glyma.11G256500	up	down	NA
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Glyma.12G003900	up	NA	NA
Glyma.12G004600	NA	NA	up
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Glyma.12G007100	down	up	NA
Glyma.12G008200	down	NA	down
Glyma.12G008400	down	up	NA
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Glyma.12G009600	NA	up	up
Glyma.12G009900	NA	up	NA
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Glyma.12G016700	up	down	NA
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Glyma.12G020900	down	NA	NA
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Glyma.12G026900	NA	NA	up
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Glyma.12G031200	up	NA	up
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Glyma.12G032200	NA	up	up
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Glyma.12G044600	up	NA	up
Glyma.12G046800	down	NA	down
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Glyma.12G048900	NA	up	up
Glyma.12G049300	down	NA	NA
Glyma.12G049500	NA	NA	up
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Glyma.12G050900	down	NA	NA
Glyma.12G051800	up	NA	up
Glyma.12G052500	NA	NA	up
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Glyma.12G054833	NA	NA	down
Glyma.12G057800	down	NA	NA
Glyma.12G059100	down	up	NA
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Glyma.12G062700	up	NA	up
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Glyma.12G068900	down	NA	down
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Glyma.12G069700	down	NA	down
Glyma.12G069900	down	NA	down
Glyma.12G070000	down	NA	down
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Glyma.12G074900	up	down	NA
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Glyma.12G075300	up	NA	NA
Glyma.12G075400	up	NA	up
Glyma.12G075600	NA	NA	up
Glyma.12G076800	up	down	NA
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Glyma.12G078402	NA	NA	down
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Glyma.12G081300	NA	NA	up
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Glyma.12G085400	down	NA	down
Glyma.12G085500	NA	down	NA
Glyma.12G085600	up	NA	NA
Glyma.12G086800	up	NA	NA
Glyma.12G088200	up	NA	NA
Glyma.12G088500	up	NA	up
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Glyma.12G090100	up	NA	up
Glyma.12G091100	up	NA	up
Glyma.12G091900	NA	NA	up
Glyma.12G092000	up	up	up
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Glyma.12G092900	down	up	NA
Glyma.12G093700	down	NA	NA
Glyma.12G094200	up	NA	NA
Glyma.12G094600	NA	down	down
Glyma.12G095200	NA	down	NA
Glyma.12G095500	NA	NA	up
Glyma.12G097100	NA	NA	down
Glyma.12G097800	up	NA	NA
Glyma.12G098667	down	up	NA
Glyma.12G098733	down	up	NA
Glyma.12G100600	down	up	NA
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Glyma.12G102900	NA	down	NA
Glyma.12G103100	down	NA	NA
Glyma.12G103800	up	NA	NA
Glyma.12G105300	NA	NA	up
Glyma.12G105700	NA	up	up
Glyma.12G106600	NA	NA	up
Glyma.12G109700	down	NA	down
Glyma.12G110500	down	NA	NA
Glyma.12G111932	NA	down	NA
Glyma.12G112000	NA	up	NA
Glyma.12G112100	down	up	NA
Glyma.12G112600	up	NA	up
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Glyma.12G116200	up	down	NA
Glyma.12G119200	NA	up	up
Glyma.12G121000	up	NA	up
Glyma.12G121100	NA	down	down
Glyma.12G122233	down	up	up
Glyma.12G122300	NA	down	NA
Glyma.12G129200	NA	up	NA
Glyma.12G132000	down	NA	NA

Glyma.12G132500	NA	down	down
Glyma.12G133800	down	NA	NA
Glyma.12G134100	down	NA	down
Glyma.12G134200	NA	up	up
Glyma.12G134800	up	NA	up
Glyma.12G136600	NA	NA	up
Glyma.12G136900	down	up	NA
Glyma.12G138100	down	up	NA
Glyma.12G138800	down	up	NA
Glyma.12G140800	down	up	NA
Glyma.12G141000	down	NA	NA
Glyma.12G142200	NA	down	down
Glyma.12G143000	up	down	NA
Glyma.12G144800	down	up	NA
Glyma.12G148900	down	NA	NA
Glyma.12G150300	NA	NA	up
Glyma.12G155900	NA	NA	up
Glyma.12G156600	up	NA	up
Glyma.12G156900	NA	NA	down
Glyma.12G158460	up	up	up
Glyma.12G158900	up	down	NA
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Glyma.12G163601	up	NA	NA
Glyma.12G167200	up	NA	up
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Glyma.12G169000	NA	down	down
Glyma.12G169400	up	up	up
Glyma.12G169500	up	up	up
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Glyma.12G173351	down	NA	NA
Glyma.12G173800	up	NA	up
Glyma.12G177802	up	down	NA
Glyma.12G177900	up	NA	NA
Glyma.12G178300	up	down	NA
Glyma.12G178700	NA	NA	down
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Glyma.12G181500	up	down	NA
Glyma.12G182500	up	down	up
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Glyma.12G185900	up	NA	NA
Glyma.12G186800	up	down	NA
Glyma.12G187000	down	NA	down

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Glyma.12G188800	NA	down	NA
Glyma.12G189300	down	up	NA
Glyma.12G189800	up	down	NA
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Glyma.12G199500	up	up	up
Glyma.12G200900	down	NA	down
Glyma.12G201000	up	down	NA
Glyma.12G202500	NA	NA	up
Glyma.12G202550	NA	NA	up
Glyma.12G203000	NA	down	down
Glyma.12G203700	up	NA	up
Glyma.12G204100	NA	NA	up
Glyma.12G206900	up	NA	NA
Glyma.12G207400	NA	up	NA
Glyma.12G207600	up	NA	up
Glyma.12G208800	NA	down	NA
Glyma.12G209800	NA	NA	up
Glyma.12G210300	up	NA	up
Glyma.12G210600	down	up	NA
Glyma.12G213200	up	NA	up
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Glyma.12G215000	down	up	NA
Glyma.12G215100	NA	NA	up
Glyma.12G215700	NA	up	up
Glyma.12G216300	NA	down	NA
Glyma.12G217300	NA	up	NA
Glyma.12G218900	up	up	up
Glyma.12G219300	up	NA	up
Glyma.12G219700	NA	down	NA
Glyma.12G222200	up	NA	up
Glyma.12G222600	up	down	NA
Glyma.12G225500	NA	down	down
Glyma.12G226100	up	down	NA
Glyma.12G226600	NA	NA	up
Glyma.12G226700	up	down	NA

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Glyma.12G227300	up	NA	NA
Glyma.12G228333	NA	NA	down
Glyma.12G229200	up	NA	NA
Glyma.12G229500	down	up	NA
Glyma.12G230800	NA	down	NA
Glyma.12G231400	down	up	NA
Glyma.12G231900	NA	NA	up
Glyma.12G232000	up	NA	up
Glyma.12G232100	NA	up	up
Glyma.12G232200	NA	up	up
Glyma.12G232300	NA	up	up
Glyma.12G232400	NA	up	up
Glyma.12G233000	up	NA	NA
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Glyma.13G005500	up	down	NA
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Glyma.13G013700	up	down	NA
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Glyma.13G028100	down	NA	NA
Glyma.13G028200	up	down	NA
Glyma.13G029600	down	up	NA
Glyma.13G030100	NA	NA	up
Glyma.13G032600	NA	up	NA
Glyma.13G033200	down	up	NA
Glyma.13G033300	NA	up	NA
Glyma.13G034100	NA	up	up
Glyma.13G035700	NA	down	down
Glyma.13G035900	NA	NA	up

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Glyma.13G045700	up	NA	NA
Glyma.13G046200	up	NA	up
Glyma.13G046300	up	NA	up
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Glyma.13G049500	down	up	NA
Glyma.13G049700	down	up	NA
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Glyma.13G052251	down	NA	NA
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Glyma.13G053766	down	up	NA
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Glyma.13G056600	down	NA	down
Glyma.13G056800	down	NA	down
Glyma.13G057700	up	down	NA
Glyma.13G058900	down	NA	NA
Glyma.13G060500	down	NA	NA
Glyma.13G062500	up	NA	up
Glyma.13G063700	NA	down	NA
Glyma.13G065400	NA	NA	down
Glyma.13G065500	NA	NA	up
Glyma.13G066400	down	NA	NA
Glyma.13G068900	NA	up	NA
Glyma.13G069100	NA	NA	up
Glyma.13G069300	NA	down	NA
Glyma.13G069600	down	up	NA
Glyma.13G070900	up	down	NA
Glyma.13G071300	NA	down	down
Glyma.13G073200	up	NA	up
Glyma.13G073800	up	down	NA
Glyma.13G073900	up	down	NA
Glyma.13G075200	up	NA	up
Glyma.13G075700	up	NA	up
Glyma.13G075900	up	down	NA
Glyma.13G076200	down	NA	NA
Glyma.13G076600	NA	NA	down
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Glyma.13G077800	NA	down	down

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Glyma.13G079900	NA	NA	up
Glyma.13G081000	down	up	up
Glyma.13G082300	NA	down	NA
Glyma.13G083000	NA	NA	down
Glyma.13G084500	down	up	NA
Glyma.13G085200	down	NA	down
Glyma.13G085800	down	up	NA
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Glyma.13G087800	up	up	up
Glyma.13G088700	NA	up	up
Glyma.13G088900	up	down	up
Glyma.13G090600	up	NA	up
Glyma.13G090700	up	NA	NA
Glyma.13G091100	up	up	up
Glyma.13G091600	up	NA	up
Glyma.13G091800	NA	NA	up
Glyma.13G092200	up	NA	NA
Glyma.13G093500	NA	up	NA
Glyma.13G095300	down	up	NA
Glyma.13G095400	NA	up	NA
Glyma.13G097800	up	down	NA
Glyma.13G097900	down	up	NA
Glyma.13G098600	NA	NA	down
Glyma.13G098800	down	NA	NA
Glyma.13G100900	NA	NA	up
Glyma.13G104000	NA	down	NA
Glyma.13G104300	NA	down	down
Glyma.13G104500	up	down	NA
Glyma.13G104700	down	up	NA
Glyma.13G110800	NA	down	down
Glyma.13G112000	down	up	NA
Glyma.13G112500	up	up	up
Glyma.13G113000	up	NA	up
Glyma.13G113100	NA	NA	up
Glyma.13G113200	NA	NA	up
Glyma.13G113900	NA	down	down
Glyma.13G114000	down	up	NA
Glyma.13G115400	NA	down	NA
Glyma.13G115500	down	NA	NA
Glyma.13G116900	NA	down	down
Glyma.13G117600	down	NA	NA
Glyma.13G118500	down	NA	down
Glyma.13G119200	down	up	NA

Glyma.13G120100	up	down	NA
Glyma.13G120400	NA	NA	up
Glyma.13G120500	up	NA	NA
Glyma.13G124200	up	NA	NA
Glyma.13G125100	NA	down	NA
Glyma.13G129400	NA	NA	up
Glyma.13G129500	up	NA	up
Glyma.13G130700	up	down	NA
Glyma.13G131400	NA	up	up
Glyma.13G132400	up	NA	up
Glyma.13G133400	up	NA	up
Glyma.13G135150	NA	up	NA
Glyma.13G135600	NA	NA	up
Glyma.13G138800	NA	NA	down
Glyma.13G139000	NA	down	NA
Glyma.13G139200	down	NA	NA
Glyma.13G139400	NA	down	NA
Glyma.13G140000	NA	NA	down
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Glyma.13G140600	NA	down	NA
Glyma.13G140900	up	NA	up
Glyma.13G141000	up	NA	NA
Glyma.13G141700	up	NA	NA
Glyma.13G142400	up	NA	NA
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Glyma.13G147200	up	NA	up
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Glyma.13G152814	down	up	NA
Glyma.13G154000	down	NA	NA
Glyma.13G154433	down	NA	down
Glyma.13G155200	NA	down	NA
Glyma.13G155900	down	NA	NA
Glyma.13G156900	up	NA	up
Glyma.13G157000	up	down	NA
Glyma.13G158300	up	down	NA
Glyma.13G158900	down	NA	down
Glyma.13G161100	NA	down	NA
Glyma.13G161500	up	NA	up
Glyma.13G162600	up	NA	up

Glyma.13G163600	NA	down	NA
Glyma.13G164000	NA	up	up
Glyma.13G164300	up	down	NA
Glyma.13G164900	NA	up	up
Glyma.13G165300	up	down	NA
Glyma.13G165633	down	up	NA
Glyma.13G165666	down	up	up
Glyma.13G165700	up	down	NA
Glyma.13G166800	up	NA	up
Glyma.13G167200	NA	up	up
Glyma.13G167800	NA	up	NA
Glyma.13G169500	NA	up	up
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Glyma.13G169900	up	NA	up
Glyma.13G171100	NA	down	NA
Glyma.13G172500	up	NA	up
Glyma.13G173300	down	NA	NA
Glyma.13G173700	NA	NA	up
Glyma.13G174700	down	NA	NA
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Glyma.13G177900	up	NA	up
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Glyma.13G186600	NA	down	down
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Glyma.13G200400	NA	up	up
Glyma.13G204800	NA	NA	up
Glyma.13G205000	up	down	NA
Glyma.13G205200	NA	down	down
Glyma.13G205800	up	down	NA
Glyma.13G206900	down	NA	NA
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Glyma.13G207200	NA	up	NA
Glyma.13G207800	up	down	NA
Glyma.13G208200	NA	up	up
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Glyma.13G212400	up	NA	NA
Glyma.13G213500	up	NA	NA
Glyma.13G214600	NA	NA	up
Glyma.13G215000	up	down	NA
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Glyma.13G215400	NA	NA	up
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Glyma.13G216300	down	up	NA
Glyma.13G216400	down	up	NA
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Glyma.13G218500	NA	NA	down
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Glyma.13G221800	up	up	up
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Glyma.13G222800	down	NA	down
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Glyma.13G224400	down	NA	down
Glyma.13G224600	down	up	NA
Glyma.13G226000	down	NA	down
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Glyma.13G227700	up	down	NA
Glyma.13G228400	up	down	NA
Glyma.13G228900	up	NA	NA
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Glyma.13G231300	up	NA	up
Glyma.13G232200	NA	up	NA
Glyma.13G232400	NA	down	NA
Glyma.13G232500	NA	NA	up
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Glyma.13G237400	NA	down	down
Glyma.13G238700	up	down	NA
Glyma.13G238800	up	down	NA
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Glyma.13G240200	down	up	NA
Glyma.13G241100	NA	down	NA
Glyma.13G242700	down	NA	NA
Glyma.13G242800	NA	down	down
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Glyma.13G246900	NA	up	NA
Glyma.13G248800	down	NA	NA
Glyma.13G248900	NA	NA	down
Glyma.13G249400	up	down	NA
Glyma.13G250300	NA	up	up
Glyma.13G250400	up	NA	NA
Glyma.13G250500	NA	up	NA
Glyma.13G250700	NA	up	NA
Glyma.13G251200	down	up	NA
Glyma.13G253100	up	NA	NA
Glyma.13G253600	up	NA	up
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Glyma.13G255100	NA	NA	down
Glyma.13G255200	NA	NA	down
Glyma.13G255800	up	down	NA
Glyma.13G257500	down	NA	down
Glyma.13G257600	down	NA	down
Glyma.13G257800	down	NA	down
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Glyma.13G259200	up	NA	NA
Glyma.13G259400	NA	down	down
Glyma.13G260000	down	up	NA
Glyma.13G262400	NA	NA	up
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Glyma.13G263800	down	up	NA
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Glyma.13G268800	up	down	NA
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Glyma.13G275800	NA	down	down
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Glyma.13G277000	down	NA	NA
Glyma.13G278400	up	NA	NA
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Glyma.13G281600	up	down	NA
Glyma.13G282000	up	NA	up
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Glyma.13G283900	down	up	NA
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Glyma.13G284400	NA	up	NA

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Glyma.13G285800	down	up	NA
Glyma.13G286500	NA	up	up
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Glyma.13G289100	NA	down	NA
Glyma.13G290600	NA	down	NA
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Glyma.13G296200	NA	down	NA
Glyma.13G296600	up	down	NA
Glyma.13G297200	NA	NA	down
Glyma.13G297400	NA	up	up
Glyma.13G298400	up	NA	up
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Glyma.13G304400	up	NA	NA
Glyma.13G305800	down	NA	down
Glyma.13G307400	down	NA	NA
Glyma.13G309600	NA	up	up
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Glyma.13G314400	down	NA	NA
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Glyma.13G322200	up	NA	NA
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Glyma.13G323900	down	NA	NA
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Glyma.13G324700	NA	NA	up

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Glyma.13G329900	down	NA	down
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Glyma.13G333200	down	up	NA
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Glyma.13G337800	down	NA	NA
Glyma.13G338400	NA	down	NA
Glyma.13G340000	up	NA	NA
Glyma.13G340600	NA	NA	down
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Glyma.13G343000	up	down	NA
Glyma.13G347800	NA	up	NA
Glyma.13G348200	NA	NA	down
Glyma.13G348600	up	NA	NA
Glyma.13G349100	NA	NA	up
Glyma.13G349200	up	NA	NA
Glyma.13G349500	NA	down	NA
Glyma.13G349800	up	down	NA
Glyma.13G349900	up	NA	NA
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Glyma.13G351600	up	NA	up
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Glyma.13G353100	up	NA	NA
Glyma.13G354300	up	down	NA
Glyma.13G354800	up	NA	up
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Glyma.13G356100	NA	up	up
Glyma.13G357200	up	NA	up
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Glyma.13G361200	up	down	NA
Glyma.13G361300	NA	down	NA
Glyma.13G362032	NA	down	down
Glyma.13G362200	NA	down	NA
Glyma.13G362300	NA	up	NA
Glyma.13G362500	up	down	NA
Glyma.13G363700	up	NA	up
Glyma.13G365000	NA	up	up
Glyma.13G365300	down	down	down
Glyma.13G365400	down	NA	NA

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Glyma.13G367700	NA	NA	down
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Glyma.13G371200	down	up	NA
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Glyma.14G000700	up	NA	up
Glyma.14G002800	NA	up	NA
Glyma.14G003100	NA	down	NA
Glyma.14G003400	up	NA	up
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Glyma.14G004100	up	NA	NA
Glyma.14G004200	up	NA	NA
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Glyma.14G007800	NA	down	NA
Glyma.14G008000	up	NA	up
Glyma.14G008500	NA	NA	up
Glyma.14G010600	up	NA	NA
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Glyma.14G011100	up	down	NA
Glyma.14G012100	up	NA	NA
Glyma.14G012400	up	down	up
Glyma.14G013700	up	NA	up
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Glyma.14G015700	NA	up	NA
Glyma.14G018300	down	NA	NA
Glyma.14G020000	NA	down	NA
Glyma.14G021600	up	NA	NA
Glyma.14G022500	down	up	NA
Glyma.14G023700	NA	NA	up
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Glyma.14G026800	NA	down	down
Glyma.14G026900	NA	down	NA
Glyma.14G028300	down	NA	down
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Glyma.14G030700	down	NA	NA
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Glyma.14G031600	NA	NA	down
Glyma.14G031800	NA	NA	up
Glyma.14G032000	up	NA	up
Glyma.14G032900	down	up	NA
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Glyma.14G038800	up	down	NA
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Glyma.14G042300	NA	NA	down
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Glyma.14G058200	NA	up	NA
Glyma.14G058500	up	NA	up
Glyma.14G060700	up	NA	NA
Glyma.14G061200	NA	down	NA
Glyma.14G061800	up	down	NA
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Glyma.14G062300	up	NA	NA
Glyma.14G062900	NA	up	NA
Glyma.14G063900	NA	down	down
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Glyma.14G065700	down	NA	NA
Glyma.14G065900	NA	NA	up
Glyma.14G066000	up	NA	NA
Glyma.14G066300	NA	down	NA
Glyma.14G066400	up	down	NA
Glyma.14G067100	NA	up	up
Glyma.14G067200	down	NA	NA
Glyma.14G067500	down	up	NA
Glyma.14G068400	NA	up	NA
Glyma.14G068700	up	NA	NA
Glyma.14G069000	up	NA	NA
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Glyma.14G070500	up	NA	NA
Glyma.14G072200	NA	NA	up
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Glyma.14G072500	up	NA	up
Glyma.14G072600	up	down	up

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Glyma.14G074300	up	down	NA
Glyma.14G075900	up	NA	NA
Glyma.14G077100	up	down	NA
Glyma.14G078500	down	NA	down
Glyma.14G078800	NA	down	NA
Glyma.14G079000	NA	up	up
Glyma.14G080200	down	NA	down
Glyma.14G080800	up	NA	up
Glyma.14G081100	NA	NA	up
Glyma.14G082500	up	NA	NA
Glyma.14G082600	NA	down	down
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Glyma.14G084600	NA	NA	up
Glyma.14G084800	NA	NA	up
Glyma.14G085600	up	NA	up
Glyma.14G085800	NA	down	NA
Glyma.14G086300	NA	up	up
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Glyma.14G087300	up	NA	NA
Glyma.14G087400	up	up	up
Glyma.14G087500	up	down	NA
Glyma.14G087600	up	up	up
Glyma.14G089000	up	down	NA
Glyma.14G089009	up	NA	up
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Glyma.14G090000	up	down	NA
Glyma.14G090400	up	down	NA
Glyma.14G091400	down	up	NA
Glyma.14G091500	down	up	NA
Glyma.14G092500	up	NA	NA
Glyma.14G092800	up	down	down
Glyma.14G092900	NA	up	up
Glyma.14G093600	NA	NA	up
Glyma.14G095300	up	NA	NA
Glyma.14G095400	up	NA	up
Glyma.14G096300	down	up	NA
Glyma.14G096700	up	down	NA
Glyma.14G098100	NA	NA	down
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Glyma.14G100700	down	NA	down
Glyma.14G102500	NA	down	NA
Glyma.14G102900	down	up	NA
Glyma.14G103100	down	up	NA
Glyma.14G103700	NA	NA	down
Glyma.14G106700	down	up	NA

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Glyma.14G109700	up	NA	up
Glyma.14G113200	down	up	down
Glyma.14G113400	up	NA	up
Glyma.14G113600	NA	up	NA
Glyma.14G113900	down	up	NA
Glyma.14G114467	NA	down	down
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Glyma.14G115500	up	up	up
Glyma.14G116000	NA	down	down
Glyma.14G116100	up	NA	NA
Glyma.14G117300	down	up	NA
Glyma.14G117400	NA	up	NA
Glyma.14G118200	down	NA	down
Glyma.14G118500	NA	down	down
Glyma.14G118550	NA	up	NA
Glyma.14G118600	NA	up	up
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Glyma.14G123400	down	up	NA
Glyma.14G126200	up	up	up
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Glyma.14G127500	down	up	NA
Glyma.14G128500	NA	up	up
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Glyma.14G134700	down	NA	down
Glyma.14G136900	up	NA	up
Glyma.14G137100	NA	NA	up
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Glyma.14G139400	down	up	NA
Glyma.14G141200	up	down	NA
Glyma.14G142400	down	up	NA
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Glyma.14G144100	up	NA	NA
Glyma.14G144300	NA	NA	down
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Glyma.14G150000	up	NA	NA
Glyma.14G150100	up	NA	up
Glyma.14G150200	up	down	NA
Glyma.14G150950	down	up	NA
Glyma.14G153500	up	down	NA
Glyma.14G154500	down	up	NA
Glyma.14G155600	NA	NA	down
Glyma.14G156100	NA	NA	down
Glyma.14G157300	NA	NA	up
Glyma.14G157700	down	up	down

Glyma.14G158300	down	NA	NA
Glyma.14G158500	up	down	NA
Glyma.14G159300	up	NA	NA
Glyma.14G159600	up	NA	NA
Glyma.14G160100	down	NA	NA
Glyma.14G160900	NA	NA	down
Glyma.14G162400	NA	NA	up
Glyma.14G163100	NA	up	up
Glyma.14G164900	down	up	up
Glyma.14G165000	down	up	up
Glyma.14G168500	NA	up	up
Glyma.14G168800	NA	up	up
Glyma.14G169300	up	NA	NA
Glyma.14G170600	down	up	NA
Glyma.14G171000	down	up	NA
Glyma.14G172800	up	NA	up
Glyma.14G173500	up	NA	NA
Glyma.14G173600	NA	up	up
Glyma.14G174400	NA	down	NA
Glyma.14G174500	up	down	NA
Glyma.14G176400	up	NA	NA
Glyma.14G177200	up	NA	up
Glyma.14G177600	up	NA	up
Glyma.14G177700	down	up	NA
Glyma.14G178500	up	down	down
Glyma.14G178700	down	up	NA
Glyma.14G179000	NA	up	NA
Glyma.14G180100	NA	NA	down
Glyma.14G180300	NA	NA	down
Glyma.14G181000	NA	down	NA
Glyma.14G181400	up	NA	NA
Glyma.14G181900	up	down	NA
Glyma.14G182700	NA	down	NA
Glyma.14G183000	NA	NA	down
Glyma.14G185400	up	NA	NA
Glyma.14G185600	up	down	down
Glyma.14G185700	NA	up	up
Glyma.14G187300	up	NA	NA
Glyma.14G188100	down	up	up
Glyma.14G188800	NA	up	NA
Glyma.14G191500	NA	NA	up
Glyma.14G192500	NA	NA	down
Glyma.14G192800	down	up	down
Glyma.14G193500	NA	down	NA
Glyma.14G193900	NA	down	NA
Glyma.14G194300	NA	up	NA

Glyma.14G195000	NA	NA	down
Glyma.14G195300	up	NA	up
Glyma.14G195600	up	down	NA
Glyma.14G199500	down	NA	NA
Glyma.14G199600	down	up	NA
Glyma.14G199700	down	up	NA
Glyma.14G200800	NA	up	up
Glyma.14G200900	up	NA	up
Glyma.14G201100	up	down	NA
Glyma.14G203600	NA	up	NA
Glyma.14G205801	down	NA	NA
Glyma.14G206451	up	NA	NA
Glyma.14G208800	up	NA	up
Glyma.14G208900	up	NA	NA
Glyma.14G209200	down	up	up
Glyma.14G209600	up	down	NA
Glyma.14G209900	down	up	NA
Glyma.14G210700	up	NA	up
Glyma.14G212000	NA	NA	down
Glyma.14G212400	down	up	NA
Glyma.14G212700	up	NA	NA
Glyma.14G214500	NA	up	NA
Glyma.14G214700	up	down	NA
Glyma.14G214800	NA	NA	down
Glyma.14G215700	down	NA	NA
Glyma.14G216300	NA	down	NA
Glyma.14G216400	NA	down	down
Glyma.14G216500	NA	up	NA
Glyma.14G217000	up	down	NA
Glyma.14G217700	NA	down	down
Glyma.14G218200	NA	NA	up
Glyma.14G218700	up	down	NA
Glyma.14G220000	up	NA	NA
Glyma.14G220200	up	down	NA
Glyma.14G220700	up	down	up
Glyma.14G221200	NA	down	NA
Glyma.14G221800	up	NA	NA
Glyma.14G223600	up	down	NA
Glyma.15G000200	NA	NA	down
Glyma.15G001000	NA	NA	up
Glyma.15G002200	up	NA	up
Glyma.15G002300	up	NA	up
Glyma.15G002400	down	NA	down
Glyma.15G003300	down	NA	NA
Glyma.15G003800	NA	up	up
Glyma.15G003900	NA	down	NA

Glyma.15G004700	up	down	NA
Glyma.15G006600	NA	up	NA
Glyma.15G007500	NA	down	NA
Glyma.15G007700	down	up	NA
Glyma.15G008367	up	down	NA
Glyma.15G008433	NA	down	NA
Glyma.15G008500	up	down	down
Glyma.15G008800	NA	NA	up
Glyma.15G009700	NA	up	NA
Glyma.15G010100	up	NA	NA
Glyma.15G010900	NA	up	NA
Glyma.15G011200	NA	down	NA
Glyma.15G011800	down	NA	NA
Glyma.15G012100	up	NA	up
Glyma.15G012700	up	down	NA
Glyma.15G012900	NA	down	NA
Glyma.15G013100	down	up	NA
Glyma.15G014000	up	NA	up
Glyma.15G016200	up	NA	up
Glyma.15G016300	up	NA	up
Glyma.15G016400	up	NA	up
Glyma.15G016800	down	up	NA
Glyma.15G017500	up	NA	NA
Glyma.15G018000	NA	NA	up
Glyma.15G018100	up	up	up
Glyma.15G018400	up	NA	NA
Glyma.15G019500	up	down	NA
Glyma.15G019600	down	NA	down
Glyma.15G020200	NA	NA	down
Glyma.15G020300	down	NA	down
Glyma.15G021202	up	NA	NA
Glyma.15G021400	down	NA	down
Glyma.15G022200	down	up	NA
Glyma.15G022300	down	NA	down
Glyma.15G024400	up	NA	NA
Glyma.15G024500	up	down	NA
Glyma.15G024600	down	NA	NA
Glyma.15G026000	down	up	NA
Glyma.15G026400	down	up	NA
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Glyma.15G030100	up	NA	NA
Glyma.15G030500	down	up	NA
Glyma.15G032300	down	NA	NA
Glyma.15G034800	down	NA	NA
Glyma.15G035800	NA	up	up

Glyma.15G036100	up	down	NA
Glyma.15G037300	down	NA	down
Glyma.15G038100	up	NA	up
Glyma.15G038200	NA	NA	up
Glyma.15G038800	down	NA	down
Glyma.15G039100	up	down	NA
Glyma.15G040000	NA	NA	up
Glyma.15G040700	down	NA	down
Glyma.15G043600	up	down	NA
Glyma.15G044800	down	up	NA
Glyma.15G050300	NA	down	down
Glyma.15G050350	NA	down	NA
Glyma.15G050600	down	NA	down
Glyma.15G051400	NA	NA	down
Glyma.15G052400	up	NA	up
Glyma.15G053800	down	up	NA
Glyma.15G054000	NA	NA	down
Glyma.15G054300	up	down	NA
Glyma.15G054600	NA	NA	up
Glyma.15G054700	NA	NA	up
Glyma.15G055600	up	NA	up
Glyma.15G057300	down	NA	down
Glyma.15G057400	down	NA	NA
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Glyma.15G057600	up	NA	up
Glyma.15G058600	down	up	NA
Glyma.15G059400	down	NA	NA
Glyma.15G060400	down	NA	down
Glyma.15G060600	NA	NA	down
Glyma.15G061800	up	NA	up
Glyma.15G062400	NA	up	NA
Glyma.15G062700	NA	up	up
Glyma.15G062900	down	up	up
Glyma.15G063000	NA	up	up
Glyma.15G064900	down	up	NA
Glyma.15G065100	down	NA	NA
Glyma.15G065200	down	up	NA
Glyma.15G067000	NA	up	NA
Glyma.15G067700	NA	down	down
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Glyma.15G069200	down	NA	NA
Glyma.15G069600	up	NA	NA
Glyma.15G071200	down	NA	NA
Glyma.15G072400	down	up	NA
Glyma.15G074000	down	NA	NA
Glyma.15G074200	NA	NA	down

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Glyma.15G077700	NA	down	down
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Glyma.15G079300	NA	NA	up
Glyma.15G081300	up	down	up
Glyma.15G081500	NA	NA	up
Glyma.15G081600	up	NA	NA
Glyma.15G082000	NA	up	up
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Glyma.15G085500	up	NA	up
Glyma.15G085900	NA	down	NA
Glyma.15G086000	down	NA	down
Glyma.15G086100	down	NA	down
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Glyma.15G087300	up	NA	NA
Glyma.15G087900	down	up	NA
Glyma.15G088200	down	up	NA
Glyma.15G089000	NA	up	up
Glyma.15G091900	up	NA	up
Glyma.15G092400	down	up	NA
Glyma.15G093700	NA	NA	down
Glyma.15G094700	NA	up	up
Glyma.15G096600	down	up	NA
Glyma.15G097300	NA	up	up
Glyma.15G097700	NA	NA	up
Glyma.15G098400	NA	NA	up
Glyma.15G098500	up	NA	up
Glyma.15G098800	NA	NA	down
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Glyma.15G104900	NA	up	up
Glyma.15G105600	NA	up	up
Glyma.15G105800	down	up	NA
Glyma.15G105900	NA	down	down
Glyma.15G106700	up	NA	NA
Glyma.15G107100	NA	NA	down
Glyma.15G107700	up	down	NA
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Glyma.15G110700	NA	up	NA
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Glyma.15G112300	up	NA	up
Glyma.15G112700	up	down	down
Glyma.15G113600	NA	NA	up

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Glyma.15G114600	up	NA	NA
Glyma.15G115000	NA	down	down
Glyma.15G115500	up	NA	up
Glyma.15G116800	up	NA	NA
Glyma.15G118000	down	up	NA
Glyma.15G118400	up	NA	NA
Glyma.15G118500	NA	up	up
Glyma.15G118800	NA	down	NA
Glyma.15G122200	down	NA	down
Glyma.15G123000	up	NA	NA
Glyma.15G123100	up	NA	up
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Glyma.15G128400	up	down	NA
Glyma.15G128700	up	NA	up
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Glyma.15G129000	up	NA	NA
Glyma.15G129900	up	NA	up
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Glyma.15G134900	up	down	NA
Glyma.15G135200	down	up	NA
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Glyma.15G137400	down	up	NA
Glyma.15G137500	down	up	NA
Glyma.15G139200	up	NA	up
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Glyma.15G141550	down	NA	NA
Glyma.15G143100	NA	NA	up
Glyma.15G143600	up	NA	NA
Glyma.15G143700	up	NA	up
Glyma.15G143800	NA	up	up
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Glyma.15G157100	up	NA	NA
Glyma.15G157500	up	NA	NA
Glyma.15G158200	down	up	NA
Glyma.15G158900	NA	down	down
Glyma.15G160600	NA	up	up

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Glyma.15G161700	NA	NA	down
Glyma.15G162600	down	up	NA
Glyma.15G163200	down	up	NA
Glyma.15G163800	down	NA	NA
Glyma.15G164100	up	down	NA
Glyma.15G164900	NA	down	NA
Glyma.15G167800	NA	NA	down
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Glyma.15G169200	NA	up	up
Glyma.15G169500	down	NA	down
Glyma.15G169600	up	NA	up
Glyma.15G170300	down	up	NA
Glyma.15G172200	NA	up	up
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Glyma.15G174200	up	up	up
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Glyma.15G176300	NA	up	NA
Glyma.15G176900	down	NA	NA
Glyma.15G177800	NA	down	down
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Glyma.15G179600	down	NA	NA
Glyma.15G181250	down	NA	down
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Glyma.15G182000	up	down	NA
Glyma.15G183000	NA	up	up
Glyma.15G185000	NA	NA	up
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Glyma.15G187301	down	NA	down
Glyma.15G187800	up	NA	NA
Glyma.15G190800	down	NA	down
Glyma.15G192700	NA	up	NA
Glyma.15G194300	NA	NA	up
Glyma.15G197100	up	NA	NA
Glyma.15G197200	NA	NA	up
Glyma.15G197800	NA	NA	up
Glyma.15G199700	down	NA	NA
Glyma.15G201100	NA	down	NA
Glyma.15G202100	NA	down	down
Glyma.15G202300	up	NA	up
Glyma.15G202500	NA	NA	down
Glyma.15G202600	up	NA	NA
Glyma.15G202800	NA	up	NA
Glyma.15G203500	down	up	NA

Glyma.15G206300	NA	up	up
Glyma.15G208700	down	up	NA
Glyma.15G209300	NA	up	up
Glyma.15G211500	NA	up	NA
Glyma.15G211700	up	NA	up
Glyma.15G211800	up	NA	up
Glyma.15G213600	up	up	up
Glyma.15G215400	NA	down	NA
Glyma.15G217100	down	up	NA
Glyma.15G218400	up	NA	up
Glyma.15G218700	NA	NA	down
Glyma.15G218900	down	up	NA
Glyma.15G221300	NA	down	NA
Glyma.15G222300	down	up	NA
Glyma.15G223000	down	NA	down
Glyma.15G226500	up	NA	NA
Glyma.15G227000	up	NA	NA
Glyma.15G227100	NA	down	NA
Glyma.15G233534	up	down	up
Glyma.15G233567	up	NA	up
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Glyma.15G235200	down	up	NA
Glyma.15G235300	down	up	up
Glyma.15G235400	down	up	up
Glyma.15G236100	up	down	NA
Glyma.15G237800	up	down	NA
Glyma.15G238400	up	down	NA
Glyma.15G238600	up	NA	up
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Glyma.15G239000	NA	up	up
Glyma.15G242900	up	down	NA
Glyma.15G243000	down	up	NA
Glyma.15G243350	NA	down	NA
Glyma.15G246450	NA	up	up
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Glyma.15G247500	NA	up	up
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Glyma.15G248401	down	up	NA
Glyma.15G248500	NA	up	NA
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Glyma.15G250200	NA	NA	up
Glyma.15G251500	NA	NA	up
Glyma.15G252000	NA	down	NA
Glyma.15G252200	down	NA	down
Glyma.15G253700	NA	NA	up

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Glyma.15G255000	NA	NA	down
Glyma.15G256400	up	NA	up
Glyma.15G257700	NA	down	down
Glyma.15G258400	down	NA	NA
Glyma.15G261300	NA	down	NA
Glyma.15G261400	NA	NA	down
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Glyma.15G262300	NA	NA	up
Glyma.15G262500	up	NA	up
Glyma.15G262600	up	NA	up
Glyma.15G263332	down	NA	down
Glyma.15G263800	up	NA	NA
Glyma.15G266100	up	NA	up
Glyma.15G266300	down	NA	NA
Glyma.15G267200	up	down	NA
Glyma.15G268100	up	down	NA
Glyma.15G268400	down	up	NA
Glyma.15G268900	up	NA	NA
Glyma.15G269600	NA	down	NA
Glyma.15G270100	down	up	NA
Glyma.15G270200	down	up	NA
Glyma.15G271200	NA	NA	up
Glyma.15G273300	NA	NA	up
Glyma.15G274900	up	down	NA
Glyma.15G275600	up	NA	up
Glyma.15G275700	up	NA	up
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Glyma.16G004100	NA	NA	up
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Glyma.16G006900	down	up	NA
Glyma.16G007700	NA	up	up
Glyma.16G008400	NA	down	NA
Glyma.16G008500	down	NA	NA
Glyma.16G011400	NA	NA	down
Glyma.16G012500	down	NA	NA
Glyma.16G014900	up	NA	up
Glyma.16G015600	down	NA	NA
Glyma.16G016000	NA	up	up
Glyma.16G016400	NA	NA	down
Glyma.16G016700	down	up	NA
Glyma.16G017200	down	up	NA

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Glyma.16G018000	up	NA	NA
Glyma.16G019400	up	NA	NA
Glyma.16G019900	down	NA	NA
Glyma.16G020200	NA	up	NA
Glyma.16G020900	down	NA	down
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Glyma.16G026200	NA	NA	up
Glyma.16G026600	NA	up	up
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Glyma.16G028300	up	down	NA
Glyma.16G028900	NA	NA	up
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Glyma.16G029300	up	NA	up
Glyma.16G029600	up	down	NA
Glyma.16G030402	down	NA	NA
Glyma.16G033700	up	down	NA
Glyma.16G036151	NA	up	up
Glyma.16G037900	NA	up	NA
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Glyma.16G042900	down	NA	down
Glyma.16G043400	NA	up	NA
Glyma.16G043500	up	up	up
Glyma.16G044300	NA	up	up
Glyma.16G044800	up	down	NA
Glyma.16G046500	down	up	NA
Glyma.16G047100	up	NA	NA
Glyma.16G048600	down	up	NA
Glyma.16G050700	NA	NA	down
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Glyma.16G053000	up	NA	up
Glyma.16G053300	down	NA	down
Glyma.16G054200	up	down	NA
Glyma.16G054400	down	up	NA
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Glyma.16G062400	NA	up	NA
Glyma.16G063600	down	NA	NA
Glyma.16G064200	down	NA	NA
Glyma.16G065300	NA	up	up
Glyma.16G071200	NA	NA	down

Glyma.16G071500	NA	down	NA
Glyma.16G073800	up	NA	NA
Glyma.16G075800	up	NA	up
Glyma.16G075900	NA	NA	up
Glyma.16G076300	up	down	NA
Glyma.16G076900	NA	down	down
Glyma.16G077400	up	down	down
Glyma.16G077700	NA	down	NA
Glyma.16G077800	up	down	NA
Glyma.16G079850	down	up	NA
Glyma.16G080800	NA	up	NA
Glyma.16G081700	NA	down	NA
Glyma.16G082000	NA	down	down
Glyma.16G083100	down	up	NA
Glyma.16G083300	down	NA	NA
Glyma.16G083500	NA	NA	up
Glyma.16G084300	up	NA	NA
Glyma.16G085600	up	up	up
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Glyma.16G088700	up	NA	up
Glyma.16G091100	up	NA	up
Glyma.16G091600	down	NA	NA
Glyma.16G093267	NA	NA	down
Glyma.16G093400	NA	down	NA
Glyma.16G094000	NA	down	NA
Glyma.16G096200	up	NA	up
Glyma.16G097300	up	NA	up
Glyma.16G101000	NA	NA	down
Glyma.16G105100	down	up	NA
Glyma.16G105300	NA	up	NA
Glyma.16G107300	up	NA	NA
Glyma.16G108900	up	NA	up
Glyma.16G109300	down	NA	NA
Glyma.16G110100	up	down	NA
Glyma.16G115600	NA	down	down
Glyma.16G116200	NA	NA	up
Glyma.16G117567	down	up	NA
Glyma.16G117633	down	up	NA
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Glyma.16G120500	down	up	NA
Glyma.16G121900	up	down	NA
Glyma.16G122700	up	down	NA
Glyma.16G125200	down	up	NA
Glyma.16G125800	down	NA	down
Glyma.16G127400	NA	down	NA

Glyma.16G127800	down	NA	NA
Glyma.16G130500	down	up	NA
Glyma.16G131200	up	NA	NA
Glyma.16G133600	down	NA	NA
Glyma.16G137000	down	up	NA
Glyma.16G137200	NA	up	NA
Glyma.16G138500	down	up	NA
Glyma.16G139500	up	up	up
Glyma.16G140800	NA	down	NA
Glyma.16G141200	NA	NA	up
Glyma.16G142100	up	down	up
Glyma.16G142200	up	NA	up
Glyma.16G142300	up	NA	up
Glyma.16G143000	up	NA	NA
Glyma.16G143200	up	down	NA
Glyma.16G143600	up	NA	up
Glyma.16G143800	up	down	NA
Glyma.16G144900	down	NA	down
Glyma.16G145800	NA	NA	up
Glyma.16G147100	down	up	NA
Glyma.16G147900	down	up	NA
Glyma.16G148900	down	NA	down
Glyma.16G150600	up	NA	up
Glyma.16G151500	NA	down	down
Glyma.16G152700	NA	down	down
Glyma.16G153500	NA	up	NA
Glyma.16G153700	NA	down	down
Glyma.16G154200	NA	NA	up
Glyma.16G155300	up	NA	NA
Glyma.16G156100	down	NA	NA
Glyma.16G156800	up	down	NA
Glyma.16G158800	NA	NA	up
Glyma.16G163200	NA	down	down
Glyma.16G163700	down	NA	NA
Glyma.16G163800	NA	NA	up
Glyma.16G164200	down	up	NA
Glyma.16G165200	up	up	up
Glyma.16G165500	up	up	up
Glyma.16G165800	up	up	up
Glyma.16G168200	NA	up	up
Glyma.16G168700	down	NA	down
Glyma.16G169000	down	up	NA
Glyma.16G169100	down	NA	NA
Glyma.16G169200	down	NA	NA
Glyma.16G169300	down	NA	down
Glyma.16G169400	down	up	NA

Glyma.16G169500	down	up	NA
Glyma.16G169700	down	up	NA
Glyma.16G170000	NA	NA	down
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Glyma.16G170700	down	NA	down
Glyma.16G170800	down	NA	down
Glyma.16G171200	down	NA	down
Glyma.16G172100	NA	down	NA
Glyma.16G172200	down	NA	NA
Glyma.16G172600	NA	down	down
Glyma.16G173000	down	NA	NA
Glyma.16G173500	NA	up	NA
Glyma.16G174050	down	NA	NA
Glyma.16G174200	down	NA	NA
Glyma.16G174300	down	NA	NA
Glyma.16G174700	down	up	NA
Glyma.16G175000	down	NA	NA
Glyma.16G175100	down	up	NA
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Glyma.16G175900	up	NA	NA
Glyma.16G176600	down	up	NA
Glyma.16G176900	down	up	NA
Glyma.16G177400	NA	NA	up
Glyma.16G178500	NA	up	NA
Glyma.16G179100	NA	NA	up
Glyma.16G180500	up	NA	NA
Glyma.16G181500	down	NA	NA
Glyma.16G182700	down	up	NA
Glyma.16G182751	down	NA	NA
Glyma.16G182800	down	up	NA
Glyma.16G183266	down	up	NA
Glyma.16G183332	down	up	NA
Glyma.16G183651	down	up	NA
Glyma.16G184000	down	up	NA
Glyma.16G184200	down	up	NA
Glyma.16G184451	down	up	NA
Glyma.16G184500	down	up	NA
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Glyma.16G185200	down	up	up
Glyma.16G185351	down	up	NA
Glyma.16G185800	down	up	NA
Glyma.16G186100	NA	up	up
Glyma.16G186400	down	up	NA
Glyma.16G186600	down	up	NA

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Glyma.16G187100	down	up	down
Glyma.16G187250	down	up	NA
Glyma.16G187400	down	up	NA
Glyma.16G187500	down	up	NA
Glyma.16G187700	down	up	NA
Glyma.16G187900	down	up	NA
Glyma.16G188032	down	up	NA
Glyma.16G188251	down	up	NA
Glyma.16G188300	down	up	down
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Glyma.16G190000	down	up	NA
Glyma.16G190200	down	up	NA
Glyma.16G190867	down	up	NA
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Glyma.16G191500	down	up	NA
Glyma.16G191666	down	up	NA
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Glyma.16G192100	down	up	down
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Glyma.16G193600	down	up	NA
Glyma.16G193900	down	up	NA
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Glyma.16G201000	NA	up	up
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Glyma.16G201900	down	up	NA
Glyma.16G203100	NA	NA	up
Glyma.16G203300	up	NA	NA
Glyma.16G204500	down	up	NA
Glyma.16G204600	up	NA	up
Glyma.16G204700	NA	down	NA
Glyma.16G205100	up	NA	up
Glyma.16G205200	NA	NA	up
Glyma.16G205400	NA	up	NA
Glyma.16G205600	down	up	NA
Glyma.16G209500	NA	NA	up
Glyma.16G209700	down	NA	NA
Glyma.16G209800	down	NA	NA
Glyma.16G210500	down	up	NA
Glyma.16G213900	NA	up	NA

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Glyma.16G217800	down	up	NA
Glyma.16G218300	down	NA	NA
Glyma.16G220700	down	up	NA
Glyma.16G220900	NA	up	NA
Glyma.17G001302	up	NA	NA
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Glyma.17G004500	down	NA	NA
Glyma.17G006300	up	NA	NA
Glyma.17G006800	up	down	NA
Glyma.17G007100	up	NA	up
Glyma.17G007900	up	down	NA
Glyma.17G008500	NA	down	down
Glyma.17G009200	up	down	NA
Glyma.17G012000	NA	NA	up
Glyma.17G013600	up	NA	NA
Glyma.17G013900	up	down	NA
Glyma.17G015400	up	NA	NA
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Glyma.17G015700	NA	up	up
Glyma.17G016300	up	down	NA
Glyma.17G016500	up	down	NA
Glyma.17G017400	down	up	up
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Glyma.17G023100	up	NA	NA
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Glyma.17G024800	NA	NA	down
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Glyma.17G026200	down	NA	down
Glyma.17G027600	down	up	NA
Glyma.17G027800	up	NA	up
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Glyma.17G029600	down	NA	NA
Glyma.17G030100	down	NA	NA
Glyma.17G030200	down	NA	NA
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Glyma.17G030600	NA	down	NA
Glyma.17G032600	down	up	NA
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Glyma.17G036000	NA	NA	up
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Glyma.17G037400	down	up	NA

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Glyma.17G037900	NA	NA	up
Glyma.17G038500	NA	NA	down
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Glyma.17G040600	down	NA	NA
Glyma.17G041500	NA	up	NA
Glyma.17G042600	NA	up	NA
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Glyma.17G043700	NA	up	NA
Glyma.17G045900	NA	down	NA
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Glyma.17G061500	up	down	NA
Glyma.17G061800	down	NA	down
Glyma.17G061900	up	NA	up
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Glyma.17G067900	up	NA	up
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Glyma.17G070300	NA	down	NA
Glyma.17G070700	down	NA	NA
Glyma.17G071000	NA	up	up
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Glyma.17G071300	NA	up	up
Glyma.17G071400	NA	down	NA
Glyma.17G071600	down	NA	NA
Glyma.17G072200	up	NA	NA
Glyma.17G072400	NA	down	down
Glyma.17G073200	up	NA	up

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Glyma.17G075900	up	NA	NA
Glyma.17G076000	NA	down	NA
Glyma.17G077100	NA	NA	down
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Glyma.17G079100	NA	up	up
Glyma.17G081900	NA	up	NA
Glyma.17G082000	NA	NA	up
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Glyma.17G084700	NA	NA	down
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Glyma.17G085800	NA	NA	up
Glyma.17G086200	down	up	up
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Glyma.17G088300	down	up	NA
Glyma.17G088500	up	down	NA
Glyma.17G088800	NA	up	up
Glyma.17G089100	down	up	NA
Glyma.17G089200	down	NA	NA
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Glyma.17G092500	up	down	NA
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Glyma.17G096600	down	up	NA
Glyma.17G096800	up	down	NA
Glyma.17G097600	down	NA	NA
Glyma.17G099800	up	NA	up
Glyma.17G100700	NA	NA	up
Glyma.17G100800	down	NA	down
Glyma.17G101500	NA	NA	down
Glyma.17G103200	NA	NA	up
Glyma.17G104600	NA	down	down
Glyma.17G104800	NA	down	NA
Glyma.17G104900	NA	down	NA
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Glyma.17G107400	NA	NA	down
Glyma.17G108200	up	NA	NA
Glyma.17G108700	up	up	up
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Glyma.17G119800	NA	up	NA
Glyma.17G120100	up	NA	NA
Glyma.17G122500	NA	up	up
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Glyma.17G124500	NA	NA	up
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Glyma.17G126500	NA	up	up
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Glyma.17G130100	up	NA	up
Glyma.17G130900	down	up	NA
Glyma.17G131600	NA	NA	up
Glyma.17G132100	up	up	up
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Glyma.17G134600	NA	down	NA
Glyma.17G135400	down	NA	NA
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Glyma.17G142500	down	NA	NA
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Glyma.17G144700	up	down	NA
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Glyma.17G152600	NA	down	NA
Glyma.17G153600	down	up	NA
Glyma.17G153800	down	NA	down
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Glyma.17G154700	NA	up	up
Glyma.17G154800	NA	up	up
Glyma.17G155500	NA	NA	up
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Glyma.17G161400	up	NA	up
Glyma.17G161500	NA	down	NA
Glyma.17G161700	down	up	NA
Glyma.17G163200	NA	up	up
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Glyma.17G164800	up	NA	up
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Glyma.17G166700	down	NA	NA
Glyma.17G167700	down	NA	NA
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Glyma.17G169100	NA	down	NA
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Glyma.17G169300	up	NA	NA
Glyma.17G169400	up	down	NA
Glyma.17G173000	NA	down	NA
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Glyma.17G178500	down	up	NA
Glyma.17G181000	up	NA	NA
Glyma.17G186900	NA	NA	down
Glyma.17G187000	NA	NA	down
Glyma.17G187500	NA	NA	up
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Glyma.17G192000	down	up	NA
Glyma.17G192800	up	down	NA
Glyma.17G194200	up	down	NA
Glyma.17G195100	up	down	NA
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Glyma.17G197200	NA	down	NA
Glyma.17G199200	NA	NA	down

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Glyma.17G207600	down	up	up
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Glyma.17G208200	up	up	up
Glyma.17G210100	NA	NA	down
Glyma.17G212100	NA	down	down
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Glyma.17G213700	up	NA	NA
Glyma.17G214100	NA	up	NA
Glyma.17G214400	NA	up	NA
Glyma.17G214900	down	up	NA
Glyma.17G215400	up	up	up
Glyma.17G218500	NA	down	down
Glyma.17G219200	down	NA	down
Glyma.17G219700	down	up	NA
Glyma.17G219900	NA	down	NA
Glyma.17G220900	NA	NA	up
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Glyma.17G222500	NA	up	NA
Glyma.17G224800	NA	up	NA
Glyma.17G224900	down	up	NA
Glyma.17G226300	NA	NA	down
Glyma.17G226500	NA	up	NA
Glyma.17G227700	up	NA	NA
Glyma.17G228400	NA	NA	up
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Glyma.17G229800	up	down	NA
Glyma.17G230500	down	NA	NA
Glyma.17G230700	up	down	down
Glyma.17G232255	up	NA	NA
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Glyma.17G235100	NA	NA	up
Glyma.17G236800	up	down	NA
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Glyma.17G238400	up	down	NA
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Glyma.17G240500	down	up	NA
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Glyma.17G242500	up	NA	NA
Glyma.17G242900	up	NA	up
Glyma.17G244500	down	NA	NA
Glyma.17G246200	NA	NA	up

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Glyma.17G247900	up	NA	NA
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Glyma.17G252600	NA	NA	up
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Glyma.17G253200	NA	up	up
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Glyma.17G254200	up	NA	NA
Glyma.17G255100	up	NA	NA
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Glyma.17G257400	NA	NA	up
Glyma.17G257600	down	NA	down
Glyma.17G258200	NA	NA	down
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Glyma.18G005800	up	NA	up
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Glyma.18G006200	NA	up	NA
Glyma.18G007000	NA	up	NA
Glyma.18G007200	NA	up	NA
Glyma.18G007500	NA	NA	up
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Glyma.18G009800	up	NA	NA
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Glyma.18G012100	NA	NA	down
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Glyma.18G015500	down	NA	down
Glyma.18G017800	NA	down	NA
Glyma.18G018100	NA	up	NA
Glyma.18G018200	NA	down	NA
Glyma.18G018600	NA	down	down
Glyma.18G019000	up	down	NA
Glyma.18G022700	up	NA	NA

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Glyma.18G023600	up	up	up
Glyma.18G024000	up	NA	NA
Glyma.18G025500	up	up	up
Glyma.18G025600	NA	up	up
Glyma.18G025700	NA	up	up
Glyma.18G026400	NA	up	up
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Glyma.18G028900	up	NA	up
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Glyma.18G032100	up	down	NA
Glyma.18G032200	NA	NA	up
Glyma.18G033500	up	NA	NA
Glyma.18G034100	NA	down	NA
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Glyma.18G039700	up	down	NA
Glyma.18G039900	NA	down	NA
Glyma.18G040000	up	down	NA
Glyma.18G041400	up	NA	NA
Glyma.18G041900	down	up	NA
Glyma.18G042000	down	up	NA
Glyma.18G043200	up	up	up
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Glyma.18G044800	down	NA	NA
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Glyma.18G046900	up	NA	NA
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Glyma.18G049200	NA	NA	up
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Glyma.18G055900	up	down	NA
Glyma.18G056600	down	up	NA
Glyma.18G057100	up	down	NA
Glyma.18G058600	NA	down	down
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Glyma.18G065100	up	NA	NA
Glyma.18G065900	NA	NA	up
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Glyma.18G072700	down	up	NA
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Glyma.18G101100	down	up	NA
Glyma.18G102800	NA	up	NA
Glyma.18G103500	up	NA	NA
Glyma.18G104900	NA	down	NA
Glyma.18G107600	down	up	NA
Glyma.18G110000	NA	up	NA
Glyma.18G110500	up	NA	up
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Glyma.18G127333	down	up	NA
Glyma.18G127500	down	NA	NA
Glyma.18G129650	NA	down	NA
Glyma.18G129800	NA	down	down
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Glyma.18G131900	down	NA	NA
Glyma.18G134600	NA	up	up

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Glyma.18G139700	NA	NA	up
Glyma.18G141000	up	NA	NA
Glyma.18G141900	NA	down	NA
Glyma.18G142500	NA	NA	down
Glyma.18G142600	down	up	NA
Glyma.18G145500	up	down	NA
Glyma.18G146900	up	NA	NA
Glyma.18G148500	up	NA	NA
Glyma.18G150600	NA	NA	down
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Glyma.18G152400	up	NA	NA
Glyma.18G152600	down	up	NA
Glyma.18G152900	down	up	NA
Glyma.18G153800	down	NA	NA
Glyma.18G155100	up	NA	up
Glyma.18G155800	NA	up	up
Glyma.18G156033	down	NA	down
Glyma.18G158400	up	down	NA
Glyma.18G158900	up	down	NA
Glyma.18G164100	up	down	down
Glyma.18G165600	NA	down	down
Glyma.18G166400	up	NA	up
Glyma.18G172800	up	down	NA
Glyma.18G176200	up	NA	NA
Glyma.18G177100	down	down	down
Glyma.18G181300	NA	down	NA
Glyma.18G181700	down	up	up
Glyma.18G183500	up	down	up
Glyma.18G183700	up	NA	up
Glyma.18G184000	up	NA	up
Glyma.18G184100	up	NA	up
Glyma.18G184551	down	up	NA
Glyma.18G184600	down	up	NA
Glyma.18G184900	NA	NA	up
Glyma.18G185251	NA	up	up
Glyma.18G188800	NA	NA	down
Glyma.18G189700	NA	down	NA
Glyma.18G189900	NA	NA	down
Glyma.18G190000	up	down	up
Glyma.18G191000	down	NA	down
Glyma.18G192902	up	down	NA
Glyma.18G193400	NA	NA	down
Glyma.18G195200	down	NA	NA
Glyma.18G197800	up	NA	up
Glyma.18G201850	down	up	up

Glyma.18G201900	down	up	up
Glyma.18G203100	up	NA	up
Glyma.18G204200	NA	down	NA
Glyma.18G204750	up	NA	NA
Glyma.18G205800	NA	up	NA
Glyma.18G206000	NA	down	NA
Glyma.18G206500	NA	NA	down
Glyma.18G208100	up	down	NA
Glyma.18G209100	up	NA	up
Glyma.18G210500	up	down	down
Glyma.18G211000	down	NA	down
Glyma.18G211100	NA	NA	down
Glyma.18G211800	up	down	down
Glyma.18G212300	NA	up	NA
Glyma.18G212700	NA	NA	down
Glyma.18G212800	NA	NA	up
Glyma.18G213200	up	NA	NA
Glyma.18G213300	down	up	NA
Glyma.18G215100	down	NA	NA
Glyma.18G216300	up	NA	NA
Glyma.18G216600	NA	down	NA
Glyma.18G219100	up	NA	up
Glyma.18G219600	down	up	NA
Glyma.18G219700	down	up	NA
Glyma.18G220000	NA	NA	up
Glyma.18G221800	down	up	NA
Glyma.18G224851	NA	NA	down
Glyma.18G225000	up	NA	NA
Glyma.18G226200	up	NA	NA
Glyma.18G226400	down	NA	down
Glyma.18G227000	up	NA	up
Glyma.18G227400	up	down	NA
Glyma.18G228100	down	NA	NA
Glyma.18G228600	down	NA	down
Glyma.18G228700	down	up	NA
Glyma.18G229100	NA	up	up
Glyma.18G229200	up	NA	up
Glyma.18G229300	up	NA	NA
Glyma.18G230500	down	NA	NA
Glyma.18G230800	NA	down	down
Glyma.18G231500	down	up	NA
Glyma.18G235250	up	NA	up
Glyma.18G237400	NA	NA	up
Glyma.18G237900	down	NA	NA
Glyma.18G238000	NA	up	up
Glyma.18G239500	up	NA	NA

Glyma.18G240400	NA	NA	up
Glyma.18G241000	up	NA	NA
Glyma.18G241700	up	NA	up
Glyma.18G241800	down	up	NA
Glyma.18G245400	down	NA	NA
Glyma.18G247000	NA	down	NA
Glyma.18G247650	up	NA	NA
Glyma.18G249600	NA	up	NA
Glyma.18G250100	up	down	NA
Glyma.18G250700	NA	NA	up
Glyma.18G250900	NA	NA	down
Glyma.18G252100	NA	NA	down
Glyma.18G252600	up	down	NA
Glyma.18G253800	NA	up	up
Glyma.18G254100	down	NA	NA
Glyma.18G254600	down	NA	NA
Glyma.18G255000	NA	down	down
Glyma.18G258600	NA	up	NA
Glyma.18G259500	up	down	up
Glyma.18G259700	NA	down	NA
Glyma.18G259900	up	down	NA
Glyma.18G260700	down	up	NA
Glyma.18G261300	down	up	NA
Glyma.18G261500	NA	up	NA
Glyma.18G263900	up	down	NA
Glyma.18G264400	NA	NA	down
Glyma.18G265800	down	NA	down
Glyma.18G266700	up	NA	up
Glyma.18G267900	down	up	up
Glyma.18G268002	up	NA	NA
Glyma.18G268100	down	NA	down
Glyma.18G268200	down	NA	down
Glyma.18G268300	down	NA	down
Glyma.18G269300	NA	up	up
Glyma.18G269400	NA	up	NA
Glyma.18G270300	up	NA	up
Glyma.18G270700	down	NA	down
Glyma.18G270800	NA	NA	down
Glyma.18G271900	down	up	NA
Glyma.18G272100	up	NA	up
Glyma.18G273200	down	NA	NA
Glyma.18G273600	up	NA	up
Glyma.18G278200	up	NA	NA
Glyma.18G278600	NA	up	NA
Glyma.18G278850	down	NA	down
Glyma.18G278900	down	NA	down

Glyma.18G279900	NA	up	NA
Glyma.18G280050	NA	down	down
Glyma.18G280700	NA	down	NA
Glyma.18G281200	NA	up	NA
Glyma.18G281400	down	NA	NA
Glyma.18G282100	up	NA	up
Glyma.18G283800	NA	NA	up
Glyma.18G284600	down	up	NA
Glyma.18G284900	NA	down	NA
Glyma.18G285000	NA	down	NA
Glyma.18G285100	up	down	NA
Glyma.18G285400	NA	NA	up
Glyma.18G285800	down	NA	NA
Glyma.18G286000	NA	down	NA
Glyma.18G286500	up	up	up
Glyma.18G287000	NA	down	NA
Glyma.18G287200	down	NA	NA
Glyma.18G289200	NA	down	NA
Glyma.18G289600	down	NA	down
Glyma.18G290100	NA	NA	up
Glyma.18G290300	up	up	up
Glyma.18G290700	NA	up	NA
Glyma.18G291200	NA	NA	up
Glyma.18G291400	NA	NA	up
Glyma.18G291700	down	up	NA
Glyma.18G293600	down	NA	NA
Glyma.18G294200	NA	NA	up
Glyma.18G294400	down	NA	down
Glyma.18G294800	down	NA	down
Glyma.18G294900	up	NA	NA
Glyma.18G296300	up	NA	up
Glyma.18G296400	up	NA	up
Glyma.18G296500	NA	NA	up
Glyma.18G297100	up	down	NA
Glyma.18G297600	NA	up	up
Glyma.18G298500	NA	up	NA
Glyma.18G298800	down	up	NA
Glyma.18G298900	down	up	NA
Glyma.18G299600	down	up	NA
Glyma.18G300000	up	NA	NA
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Glyma.18G302000	NA	NA	down
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Glyma.19G002300	NA	up	up
Glyma.19G003300	NA	up	up
Glyma.19G005700	down	NA	NA

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Glyma.19G007800	NA	down	NA
Glyma.19G008100	NA	NA	up
Glyma.19G008200	up	NA	NA
Glyma.19G008500	up	down	NA
Glyma.19G008700	NA	down	down
Glyma.19G009700	NA	NA	up
Glyma.19G010100	up	NA	up
Glyma.19G011300	down	up	NA
Glyma.19G011400	NA	down	down
Glyma.19G011700	up	down	NA
Glyma.19G011800	NA	up	NA
Glyma.19G012900	NA	NA	up
Glyma.19G013800	NA	NA	up
Glyma.19G014400	up	down	up
Glyma.19G014800	NA	up	up
Glyma.19G016400	up	down	NA
Glyma.19G016600	NA	down	NA
Glyma.19G018200	down	NA	down
Glyma.19G018600	NA	NA	down
Glyma.19G019200	NA	down	NA
Glyma.19G019400	NA	down	down
Glyma.19G019780	up	up	up
Glyma.19G020700	down	up	NA
Glyma.19G021400	down	up	up
Glyma.19G024200	NA	up	up
Glyma.19G025100	up	down	NA
Glyma.19G025200	NA	NA	down
Glyma.19G026600	up	NA	up
Glyma.19G026702	down	up	up
Glyma.19G028300	down	NA	down
Glyma.19G028400	NA	down	down
Glyma.19G028500	NA	NA	up
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Glyma.19G030800	NA	down	NA
Glyma.19G031800	NA	up	NA
Glyma.19G034900	up	down	NA
Glyma.19G037500	NA	down	down
Glyma.19G039700	NA	down	NA
Glyma.19G041000	down	up	NA
Glyma.19G041300	NA	NA	up
Glyma.19G043000	NA	down	down
Glyma.19G045400	NA	up	NA
Glyma.19G046600	up	NA	up
Glyma.19G046800	up	NA	up
Glyma.19G047000	up	down	up

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Glyma.19G047300	NA	up	NA
Glyma.19G049300	down	up	NA
Glyma.19G050000	up	down	NA
Glyma.19G050800	up	down	NA
Glyma.19G053500	NA	up	NA
Glyma.19G054500	down	NA	NA
Glyma.19G054700	down	NA	NA
Glyma.19G055100	NA	down	NA
Glyma.19G056400	down	NA	NA
Glyma.19G056500	NA	NA	up
Glyma.19G057300	up	NA	up
Glyma.19G062701	down	up	NA
Glyma.19G062900	down	up	NA
Glyma.19G063000	down	NA	NA
Glyma.19G063100	down	up	NA
Glyma.19G064200	up	up	up
Glyma.19G064300	up	up	up
Glyma.19G064950	up	NA	up
Glyma.19G065600	NA	down	NA
Glyma.19G065800	NA	up	NA
Glyma.19G066350	down	up	NA
Glyma.19G067700	NA	up	NA
Glyma.19G068900	NA	NA	down
Glyma.19G069200	NA	down	NA
Glyma.19G072702	up	NA	up
Glyma.19G074150	down	up	NA
Glyma.19G077000	NA	NA	up
Glyma.19G078800	up	NA	up
Glyma.19G080800	up	NA	NA
Glyma.19G081200	down	NA	down
Glyma.19G084200	up	NA	NA
Glyma.19G084400	up	NA	up
Glyma.19G084800	up	NA	up
Glyma.19G085550	NA	NA	up
Glyma.19G087800	down	up	NA
Glyma.19G088000	NA	NA	up
Glyma.19G088700	NA	NA	down
Glyma.19G089800	NA	up	up
Glyma.19G090000	up	NA	up
Glyma.19G091300	up	down	NA
Glyma.19G094100	down	NA	NA
Glyma.19G096100	down	NA	down
Glyma.19G098500	up	up	up
Glyma.19G102100	down	up	NA
Glyma.19G104100	NA	up	up

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Glyma.19G105100	up	down	NA
Glyma.19G105700	NA	up	NA
Glyma.19G106800	up	NA	NA
Glyma.19G107000	NA	up	up
Glyma.19G110000	down	up	up
Glyma.19G110100	down	up	up
Glyma.19G110200	up	NA	up
Glyma.19G111300	NA	up	NA
Glyma.19G111500	down	NA	down
Glyma.19G111700	NA	down	down
Glyma.19G112100	NA	NA	down
Glyma.19G112700	up	NA	up
Glyma.19G113300	up	NA	up
Glyma.19G113700	up	NA	up
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Glyma.19G117800	down	NA	NA
Glyma.19G119300	up	down	NA
Glyma.19G119400	up	down	NA
Glyma.19G120051	down	NA	down
Glyma.19G120300	up	down	NA
Glyma.19G122400	NA	NA	up
Glyma.19G122800	NA	down	NA
Glyma.19G124200	NA	NA	down
Glyma.19G124900	NA	NA	up
Glyma.19G126400	NA	down	NA
Glyma.19G127101	down	NA	NA
Glyma.19G127950	NA	up	up
Glyma.19G129300	down	NA	NA
Glyma.19G129600	up	down	NA
Glyma.19G130400	NA	NA	up
Glyma.19G131800	up	NA	NA
Glyma.19G132300	down	up	NA
Glyma.19G132800	up	NA	NA
Glyma.19G133100	up	up	up
Glyma.19G133400	up	down	NA
Glyma.19G134800	up	down	NA
Glyma.19G137300	NA	NA	up
Glyma.19G137800	down	NA	NA
Glyma.19G138000	down	NA	down
Glyma.19G138301	NA	up	NA
Glyma.19G140200	down	NA	NA
Glyma.19G140300	down	NA	down
Glyma.19G142600	NA	down	NA
Glyma.19G143300	up	down	down
Glyma.19G144100	NA	up	NA

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Glyma.19G144600	up	down	NA
Glyma.19G145800	NA	NA	up
Glyma.19G146000	up	down	down
Glyma.19G146600	NA	down	down
Glyma.19G149500	down	NA	NA
Glyma.19G151000	up	NA	up
Glyma.19G151300	up	NA	NA
Glyma.19G151800	up	down	NA
Glyma.19G152400	NA	NA	down
Glyma.19G152900	up	NA	NA
Glyma.19G154200	up	down	NA
Glyma.19G154400	down	NA	NA
Glyma.19G154700	up	NA	up
Glyma.19G158300	up	NA	NA
Glyma.19G158351	NA	NA	down
Glyma.19G159800	down	up	NA
Glyma.19G161100	NA	down	down
Glyma.19G161400	up	NA	up
Glyma.19G161800	NA	down	down
Glyma.19G162301	up	NA	NA
Glyma.19G162400	NA	NA	down
Glyma.19G163300	up	down	NA
Glyma.19G164300	up	NA	up
Glyma.19G166900	NA	down	NA
Glyma.19G167400	NA	NA	down
Glyma.19G168500	down	NA	NA
Glyma.19G169000	down	NA	down
Glyma.19G169800	NA	up	up
Glyma.19G172800	up	down	NA
Glyma.19G173000	up	NA	NA
Glyma.19G173600	up	NA	NA
Glyma.19G173800	down	up	NA
Glyma.19G175400	NA	NA	down
Glyma.19G177100	up	up	up
Glyma.19G177300	up	NA	NA
Glyma.19G178000	NA	up	up
Glyma.19G178100	NA	up	NA
Glyma.19G179400	NA	down	down
Glyma.19G179800	NA	NA	up
Glyma.19G179900	up	down	NA
Glyma.19G180150	down	NA	down
Glyma.19G180700	up	NA	up
Glyma.19G184100	up	down	up
Glyma.19G185500	down	NA	down
Glyma.19G185600	NA	down	NA

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Glyma.19G186000	NA	up	up
Glyma.19G186100	NA	up	up
Glyma.19G186300	up	NA	NA
Glyma.19G187300	up	NA	NA
Glyma.19G190000	NA	down	NA
Glyma.19G190100	up	NA	NA
Glyma.19G190600	up	NA	NA
Glyma.19G190800	up	NA	up
Glyma.19G192800	up	NA	NA
Glyma.19G193700	up	NA	up
Glyma.19G194000	up	NA	up
Glyma.19G194366	up	NA	up
Glyma.19G196700	up	NA	NA
Glyma.19G197100	down	up	NA
Glyma.19G197400	up	NA	NA
Glyma.19G197900	up	NA	up
Glyma.19G198100	up	NA	NA
Glyma.19G198500	NA	down	NA
Glyma.19G198900	NA	NA	up
Glyma.19G200000	up	NA	NA
Glyma.19G200800	up	down	NA
Glyma.19G201300	up	NA	NA
Glyma.19G201500	up	NA	NA
Glyma.19G201600	up	NA	NA
Glyma.19G202200	NA	down	down
Glyma.19G206000	NA	NA	up
Glyma.19G208400	NA	down	down
Glyma.19G210700	NA	down	down
Glyma.19G215500	up	NA	NA
Glyma.19G216500	up	up	up
Glyma.19G217000	up	down	NA
Glyma.19G217700	NA	down	down
Glyma.19G217800	down	NA	NA
Glyma.19G218100	up	NA	up
Glyma.19G219000	NA	NA	down
Glyma.19G219100	NA	down	NA
Glyma.19G219500	up	down	NA
Glyma.19G219800	up	down	NA
Glyma.19G220800	NA	NA	down
Glyma.19G222000	up	down	NA
Glyma.19G222200	NA	up	up
Glyma.19G222300	NA	NA	up
Glyma.19G222500	up	NA	up
Glyma.19G222600	up	NA	up
Glyma.19G222700	NA	down	NA

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Glyma.19G224400	NA	up	up
Glyma.19G224700	down	NA	NA
Glyma.19G224802	up	up	up
Glyma.19G225600	NA	down	NA
Glyma.19G226500	up	down	NA
Glyma.19G226800	NA	NA	down
Glyma.19G226900	NA	up	NA
Glyma.19G228000	NA	NA	down
Glyma.19G228300	down	up	NA
Glyma.19G228400	NA	NA	down
Glyma.19G229400	NA	up	NA
Glyma.19G230000	up	NA	NA
Glyma.19G232000	NA	up	NA
Glyma.19G233900	down	NA	down
Glyma.19G239300	NA	up	NA
Glyma.19G243000	NA	down	NA
Glyma.19G243200	up	down	NA
Glyma.19G244600	up	up	up
Glyma.19G244800	down	up	NA
Glyma.19G245400	NA	up	up
Glyma.19G245500	up	down	up
Glyma.19G246100	NA	down	NA
Glyma.19G247200	down	NA	NA
Glyma.19G250900	down	up	NA
Glyma.19G252100	up	down	NA
Glyma.19G252800	NA	NA	up
Glyma.19G254500	up	NA	NA
Glyma.19G255100	up	up	up
Glyma.19G255200	NA	up	NA
Glyma.19G255500	NA	up	NA
Glyma.19G255800	up	NA	up
Glyma.19G256000	up	up	up
Glyma.19G256800	up	down	NA
Glyma.19G258000	NA	NA	up
Glyma.19G258300	NA	NA	up
Glyma.19G258351	NA	NA	up
Glyma.19G258400	up	NA	NA
Glyma.19G258700	up	down	NA
Glyma.19G260600	NA	NA	up
Glyma.19G260700	NA	NA	down
Glyma.19G261400	up	NA	up
Glyma.19G263900	NA	NA	down
Glyma.20G002200	up	down	down
Glyma.20G002400	up	up	up
Glyma.20G003500	NA	NA	down

Glyma.20G004900	up	down	NA
Glyma.20G005600	down	NA	down
Glyma.20G006700	up	NA	up
Glyma.20G007000	down	up	NA
Glyma.20G007100	NA	down	down
Glyma.20G007202	NA	up	up
Glyma.20G007400	up	NA	up
Glyma.20G008200	NA	NA	up
Glyma.20G008300	up	up	up
Glyma.20G008600	NA	NA	up
Glyma.20G013400	down	NA	NA
Glyma.20G013700	NA	up	up
Glyma.20G014200	NA	NA	down
Glyma.20G014400	up	down	NA
Glyma.20G016000	NA	up	up
Glyma.20G017900	up	NA	up
Glyma.20G019800	down	up	NA
Glyma.20G019900	down	NA	NA
Glyma.20G020400	up	NA	NA
Glyma.20G020600	NA	up	NA
Glyma.20G020900	down	NA	NA
Glyma.20G021100	down	up	NA
Glyma.20G021300	down	up	NA
Glyma.20G023400	down	NA	down
Glyma.20G025700	NA	NA	up
Glyma.20G026700	NA	up	NA
Glyma.20G026800	up	NA	NA
Glyma.20G027900	up	NA	NA
Glyma.20G028300	up	NA	up
Glyma.20G028350	NA	down	NA
Glyma.20G030300	NA	down	NA
Glyma.20G031300	up	NA	NA
Glyma.20G031501	NA	NA	up
Glyma.20G033000	NA	down	down
Glyma.20G033900	NA	up	NA
Glyma.20G034200	NA	up	NA
Glyma.20G034600	up	down	NA
Glyma.20G036100	NA	up	NA
Glyma.20G037400	up	NA	up
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Glyma.20G040500	down	NA	NA
Glyma.20G040600	up	NA	NA
Glyma.20G040900	down	up	NA
Glyma.20G041200	up	NA	NA
Glyma.20G042600	down	up	NA
Glyma.20G043800	NA	up	NA

Glyma.20G045100	NA	down	NA
Glyma.20G045800	NA	down	NA
Glyma.20G046401	down	up	NA
Glyma.20G046501	down	up	NA
Glyma.20G046800	NA	NA	up
Glyma.20G046900	down	NA	NA
Glyma.20G047351	NA	up	up
Glyma.20G047400	NA	up	up
Glyma.20G047700	down	up	up
Glyma.20G050550	down	up	NA
Glyma.20G050601	down	up	NA
Glyma.20G051100	NA	NA	down
Glyma.20G052100	NA	down	down
Glyma.20G052300	down	NA	down
Glyma.20G054100	up	NA	NA
Glyma.20G054800	NA	NA	down
Glyma.20G056600	NA	NA	down
Glyma.20G056900	down	up	up
Glyma.20G057800	NA	down	NA
Glyma.20G058000	NA	NA	up
Glyma.20G061100	down	NA	down
Glyma.20G062000	down	NA	NA
Glyma.20G064200	up	NA	up
Glyma.20G065100	down	NA	NA
Glyma.20G065300	NA	up	up
Glyma.20G065900	NA	up	NA
Glyma.20G066800	down	up	NA
Glyma.20G067300	up	down	NA
Glyma.20G068000	NA	down	down
Glyma.20G068300	NA	NA	down
Glyma.20G070000	NA	down	NA
Glyma.20G077900	up	NA	up
Glyma.20G078200	down	NA	down
Glyma.20G079800	NA	NA	down
Glyma.20G080400	down	up	NA
Glyma.20G081500	NA	NA	down
Glyma.20G085100	NA	down	NA
Glyma.20G087400	down	NA	down
Glyma.20G087600	NA	up	NA
Glyma.20G088700	NA	NA	down
Glyma.20G089900	up	down	NA
Glyma.20G090200	up	down	NA
Glyma.20G090500	up	NA	up
Glyma.20G091100	NA	down	down
Glyma.20G091300	NA	up	NA
Glyma.20G095800	down	NA	NA

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Glyma.20G098500	NA	NA	up
Glyma.20G098601	down	up	up
Glyma.20G099200	NA	NA	down
Glyma.20G102400	up	down	NA
Glyma.20G102600	up	NA	up
Glyma.20G102851	down	up	NA
Glyma.20G104400	NA	NA	down
Glyma.20G105300	NA	up	up
Glyma.20G113100	NA	down	down
Glyma.20G113300	up	NA	up
Glyma.20G114900	NA	up	up
Glyma.20G115000	NA	down	down
Glyma.20G115500	up	down	NA
Glyma.20G116100	up	NA	up
Glyma.20G116800	down	up	NA
Glyma.20G117150	NA	NA	down
Glyma.20G118300	NA	down	down
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Glyma.20G118900	NA	down	down
Glyma.20G119000	NA	down	down
Glyma.20G120300	NA	down	NA
Glyma.20G121700	NA	up	NA
Glyma.20G122100	NA	up	NA
Glyma.20G122200	up	NA	NA
Glyma.20G124200	NA	NA	up
Glyma.20G124600	NA	NA	up
Glyma.20G127300	NA	down	NA
Glyma.20G128100	NA	NA	down
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Glyma.20G129200	up	down	NA
Glyma.20G129300	down	up	NA
Glyma.20G129500	NA	NA	up
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mt mutants and WT and their annotation

homolog genes in Arabidopsis	symbol in Arabidopsis
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AT2G37770.2	
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AT2G45510.1	CYP704A2
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AT1G24020.1	MLP423
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AT2G19880.2	
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AT4G29110.1	
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AT1G17840.1	ABCG11,ATWBC11
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AT5G10160.1	

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AT2G01890.1	ATPAP8,PAP8
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AT1G23149.1	CPuORF29
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AT3G23820.1	GAE6
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AT5G13930.1	ATCHS,CHS,TT4
AT5G13930.1	ATCHS,CHS,TT4
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AT5G65170.1	
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AT5G09760.1	
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AT3G57670.1	NTT,WIP2

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AT2G31940.1	
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AT3G26590.1	
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AT3G13080.1	ATMRP3,MRP3
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AT1G55730.2	ATCAX5,CAX5
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AT3G55605.1	
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AT1G47128.1	RD21,RD21A
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AT1G52570.1	PLDALPHA2
AT3G15730.1	PLD,PLDALPHA1
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AT1G56230.1	
AT3G16785.1	PLD ZETA 1,PLDP1
AT2G39470.1	PPL2
AT2G39420.1	
AT5G04530.1	KCS19
AT3G55120.1	A11,CFI,TT5
AT2G39350.1	
AT3G55020.1	
AT1G51110.1	
AT2G43330.1	ATINT1,INT1
AT5G19640.1	
AT2G34930.1	
AT2G34930.1	
AT2G34930.1	
AT2G34930.1	
AT2G34930.1	
AT1G58190.2	AtRLP9,RLP9
AT4G12830.1	
AT5G01260.2	
AT3G51550.1	FER
AT4G03410.2	
AT5G57090.1	AGR,AGR1,ATPIN2
AT5G12380.1	ANNAT8
AT3G44590.2	
AT3G52890.2	KIPK

AT4G26090.1	RPS2
AT4G05420.1	DDB1A
AT2G34930.1	
AT2G30320.1	
AT4G27290.1	
AT3G05660.1	AtRLP33,RLP33
AT2G34930.1	

1 information.

annotation

myb-like transcription factor family protein
phosphofructokinase 3
Mono-/di-acylglycerol lipase, N-terminal;Lipase, class 3
Tetratricopeptide repeat (TPR)-like superfamily protein
cysteine-rich RLK (RECEPTOR-like protein kinase) 29
SNARE associated Golgi protein family
Tetratricopeptide repeat (TPR)-like superfamily protein
RNA-binding (RRM/RBD/RNP motifs) family protein

PYR1-like 1
Mitochondrial substrate carrier family protein
Zinc finger (C3HC4-type RING finger) family protein
hydroxyproline-rich glycoprotein family protein
beta HLH protein 93

Leucine-rich repeat protein kinase family protein
elicitor-activated gene 3-1
UDP-glucosyl transferase 85A3
UDP-glucosyl transferase 85A3

O-fucosyltransferase family protein
uncoupling protein 5

2-oxoglutarate (2OG) and Fe(II)-dependent oxygenase superfamily protein
Oticosa peptide/Phox/Bem1p family protein
Ribosomal protein L18e/L15 superfamily protein
Protein of Unknown Function (DUF239)
S-adenosyl-L-methionine-dependent methyltransferases superfamily protein

disease resistance protein (TIR-NBS-LRR class), putative
Acyl-CoA N-acyltransferases (NAT) superfamily protein
TRICHOME BIREFRINGENCE-LIKE 27
TRICHOME BIREFRINGENCE-LIKE 27
UDP-glucosyl transferase 74B1
Matrixin family protein

Matrixin family protein glucosyl transferase family 8 Thiamin diphosphate-binding fold (THDP-binding) superfamily protein SIN3-like 4 myb-like transcription factor family protein CLAVATA3/ESR-RELATED 26 RNA helicase family protein 5'-AMP-activated protein kinase-related Regulator of chromosome condensation (RCC1) family protein homeobox 1 NAD(P)-linked oxidoreductase superfamily protein TCP family transcription factor Fatty acid/sphingolipid desaturase glycine-rich protein galactosyltransferase1 expansin A1 Arabinanase/levansucrase/invertase Argonaute family protein alpha/beta-Hydrolases superfamily protein photosynthetic electron transfer B ABI five binding protein 3 cytochrome P450, family 78, subfamily A, polypeptide 5 auxin-like 1 protein Uncharacterised conserved protein UCP015417, vWA 6-phosphogluconolactonase 1 Copper amine oxidase family protein S-adenosyl-L-methionine-dependent methyltransferases superfamily protein Serine carboxypeptidase S28 family protein NB-ARC domain-containing disease resistance protein senescence-related gene 1 Protein kinase superfamily protein expansin B2 Bifunctional inhibitor/lipid-transfer protein/seed storage 2S albumin superfamily protein alpha/beta-Hydrolases superfamily protein 2-oxoacid dehydrogenases acyltransferase family protein DNA glycosylase superfamily protein Eukaryotic aspartyl protease family protein Transmembrane amino acid transporter family protein myb-like transcription factor family protein	
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allene oxide cyclase 4	
AP2/B3 transcription factor family protein	
galacturonosyltransferase-like 3	
P-loop containing nucleoside triphosphate hydrolases superfamily protein	
EXS (ERD1/XPR1/SYG1) family protein	
kunitz trypsin inhibitor 1	
YCF9	
kunitz trypsin inhibitor 1	
Basic helix-loop-helix (bHLH) DNA-binding family protein	
UDP-Glycosyltransferase superfamily protein	
Zinc finger (C3HC4-type RING finger) family protein	
phosphoribosylaminoimidazole carboxylase, putative / AIR carboxylase, putative	
isochorismate synthase 2	
glyoxal oxidase-related protein	
Arabidopsis thaliana gibberellin 2-oxidase 1	
Protein kinase protein with tetratricopeptide repeat domain	
O-fucosyltransferase family protein	
Cysteine proteinases superfamily protein	
Laccase/Diphenol oxidase family protein	
HXXXD-type acyl-transferase family protein	
sulfoquinovosyldiacylglycerol 2	
glycerol-3-phosphate acyltransferase 6	
Ycf1 protein	
plastid-specific ribosomal protein 4	
light harvesting complex photosystem II	
receptor like protein 23	
receptor like protein 12	
RAN binding protein 1	
AMP deaminase, putative / myoadenylate deaminase, putative	
receptor like protein 7	
Rhodanese/Cell cycle control phosphatase superfamily protein	
SGNH hydrolase-type esterase superfamily protein	
RNI-like superfamily protein	
iron regulated 1	
lipid transfer protein 3	
SOS3-interacting protein 1	
lipid transfer protein 1	

basic helix-loop-helix (bHLH) DNA-binding superfamily protein
homogentisate phytyltransferase 1

SAUR-like auxin-responsive protein family
UDP-D-glucuronate 4-epimerase 3

glutathione S-transferase (class zeta) 2
MAPK/ERK kinase kinase 1
RNA-binding CRS1 / YhbY (CRM) domain-containing protein
Integrase-type DNA-binding superfamily protein
pentatricopeptide (PPR) repeat-containing protein

ASH1-related protein 2
conserved peptide upstream open reading frame 25

DNAse I-like superfamily protein
Leucine-rich repeat protein kinase family protein
Leucine-rich repeat protein kinase family protein

Uncharacterised protein family (UPF0114)
Long-chain fatty alcohol dehydrogenase family protein
Adaptin family protein
ATP-binding cassette 14
hydroxy methylglutaryl CoA reductase 1
plant intracellular ras group-related LRR 4
tonoplast monosaccharide transporter3
RING/U-box superfamily protein

serine acetyltransferase 3;2
SEC14 cytosolic factor family protein / phosphoglyceride transfer family protein

Peroxidase superfamily protein
histidine kinase 1
Rhodanese/Cell cycle control phosphatase superfamily protein
Plant protein of unknown function (DUF869)

Leucine-rich repeat (LRR) family protein
beta-galactosidase 3
P-loop containing nucleoside triphosphate hydrolases superfamily protein
P-loop containing nucleoside triphosphate hydrolases superfamily protein
Glycosyl hydrolase superfamily protein
NmrA-like negative transcriptional regulator family protein
Tetratricopeptide repeat (TPR)-like superfamily protein
Galactose mutarotase-like superfamily protein
ARM repeat superfamily protein

Cytochrome P450 superfamily protein

GRAS family transcription factor

G-box binding factor 1

Brassinosteroid signalling positive regulator (BZR1) family protein

galacturonosyltransferase-like 2

Clathrin, heavy chain

cytochrome P450, family 71, subfamily B, polypeptide 34

photosystem II subunit O-2

Phototropic-responsive NPH3 family protein

GDLS-like Lipase/Acylhydrolase superfamily protein

homolog of Synechocystis YCF37

Dof-type zinc finger DNA-binding family protein

Cyclin-dependent kinase inhibitor family protein

Protein of unknown function (DUF1685)

PLC-like phosphodiesterases superfamily protein

DNA-directed DNA polymerases

Protein of unknown function (DUF579)

PTEN 2

myb domain protein 73

arabinogalactan protein 18

alpha/beta-Hydrolases superfamily protein

Chaperone DnaJ-domain superfamily protein

acyl-CoA-binding domain 3

Peroxidase superfamily protein

LOB domain-containing protein 38

Phototropic-responsive NPH3 family protein

N-acetyl-l-glutamate synthase 1

heptahelical protein 4

Galactosyl transferase GMA12/MNN10 family protein

ARM repeat superfamily protein

little nuclei4

xyloglucan endotransglucosylase/hydrolase 6

tubulin alpha-2 chain

basic helix-loop-helix (bHLH) DNA-binding superfamily protein

aluminum-activated, malate transporter 12

non-intrinsic ABC protein 6

myo-inositol polyphosphate 5-phosphatase 2

plastid ribosomal protein l11

Tetratricopeptide repeat (TPR)-like superfamily protein

Haloacid dehalogenase-like hydrolase (HAD) superfamily protein

chloroplast beta-amylase	
Protein kinase superfamily protein	
Protein kinase superfamily protein	
TIFY domain/Divergent CCT motif family protein	
expansin-like B1	
Ribosomal protein L19 family protein	
RING/U-box superfamily protein	
acyl-CoA oxidase 1	
ATP binding;leucine-tRNA ligases;aminoacyl-tRNA ligases;nucleotide binding;ATP binding;	
tonoplast intrinsic protein 2;3	
Ribosomal protein S30 family protein	
OSBP(oxysterol binding protein)-related protein 2A	
adenine phosphoribosyl transferase 3	
Cornichon family protein	
Cell cycle regulated microtubule associated protein	
non-yellowing 1	
MATE efflux family protein	
myb domain protein 3r-5	
osmotin 34	
Arabidopsis thaliana protein of unknown function (DUF821)	
heavy metal atpase 5	
glutathione peroxidase 8	
Protein kinase superfamily protein	
Protein of unknown function (DUF567)	
alpha/beta-Hydrolases superfamily protein	
scarecrow-like 3	
cytochrome c-2	
Protein of unknown function (DUF506)	
Kinase interacting (KIP1-like) family protein	
kinase interacting (KIP1-like) family protein	
RNA polymerase III RPC4	
12-oxophytodienoate reductase 2	
Tesmin/TSO1-like CXC domain-containing protein	
heat-shock protein 70T-2	
Protein of unknown function (DUF3049)	
protodermal factor 2	
Protein of unknown function (DUF1005)	
ethylene-dependent gravitropism-deficient and yellow-green-like 3	
NAD(P)H dehydrogenase 18	

AUX/IAA transcriptional regulator family protein	
BolA-like family protein	
P-loop containing nucleoside triphosphate hydrolases superfamily protein	
Protein of unknown function (DUF506)	
S-adenosyl-L-methionine-dependent methyltransferases superfamily protein	
Plant protein of unknown function (DUF828) with plant pleckstrin homology-like region	
NAD(P)-linked oxidoreductase superfamily protein	
Lactate/malate dehydrogenase family protein	
RAD-like 6	
Pectin lyase-like superfamily protein	
CP12 domain-containing protein 2	
myb domain protein 12	
Pyridoxal phosphate (PLP)-dependent transferases superfamily protein	
galacturonosyltransferase-like 7	
FUMARASE 2	
Protein of unknown function, DUF538	
senescence-associated gene 21	
poly(ADP-ribose) polymerase	
beta glucosidase 11	
myb domain protein 88	
ssDNA-binding transcriptional regulator	
SPFH/Band 7/PHB domain-containing membrane-associated protein family	
Galactosyltransferase family protein	
myb-like transcription factor family protein	
cofactor assembly of complex C	
ARM repeat superfamily protein	
glucosyl transferase family 8	
formin 8	
zinc ion binding	
Matrixin family protein	
UDP-glucosyl transferase 74B1	
CYCLIN D1;1	
TRICHOME BIREFRINGENCE-LIKE 27	
TRICHOME BIREFRINGENCE-LIKE 27	
MLP-like protein 423	
ARM repeat superfamily protein	
Protein of Unknown Function (DUF239)	
Putative thiol-disulphide oxidoreductase DCC	
MATE efflux family protein	
Ribosomal protein L18e/L15 superfamily protein	

Octicosapeptide/Phox/Bem1p family protein

Protein of unknown function (DUF707)

Calcium-dependent phosphotriesterase superfamily protein
basic chitinase

Glycosyl hydrolase family 38 protein

oligopeptide transporter 7

Chaperone DnaJ-domain superfamily protein

calcium-dependent protein kinase 28

flavanone 3-hydroxylase

flavanone 3-hydroxylase

SAUR-like auxin-responsive protein family

RNA-binding (RRM/RBD/RNP motifs) family protein

Forkhead-associated (FHA) domain-containing protein

jasmonic acid carboxyl methyltransferase

RAD-like 6

RAD-like 6

alpha/beta-Hydrolases superfamily protein

succinate dehydrogenase 1-1

Leucine-rich repeat (LRR) family protein

Protein phosphatase 2C family protein

geranylgeranyl pyrophosphate synthase 1

Protein of unknown function (DUF607)

GNS1/SUR4 membrane protein family

PQ-loop repeat family protein / transmembrane family protein

Protein of unknown function, DUF547

photosystem II subunit O-2

Prolyl oligopeptidase family protein

methyl esterase 1

methyl esterase 1

Seven transmembrane MLO family protein

photosystem I light harvesting complex gene 1

DHHC-type zinc finger family protein

Integrase-type DNA-binding superfamily protein

Protein of unknown function (DUF3754)

ribosomal protein S27

glyceraldehyde 3-phosphate dehydrogenase A subunit

HXXXD-type acyl-transferase family protein

NAC domain containing protein 47

sucrose-proton symporter 2

Ubiquitin carboxyl-terminal hydrolase family protein

Protein kinase superfamily protein

Vacuolar iron transporter (VIT) family protein

CHASE domain containing histidine kinase protein
related to AP2.7

50S ribosomal protein-related

ENTH/VHS family protein

Uncharacterised protein family (UPF0497)

heat shock protein 70

P-loop containing nucleoside triphosphate hydrolases superfamily protein
phospholipase D beta 1

PsbP-like protein 1

sulfate transporter 4.1

Plant protein 1589 of unknown function

catalytics;hydrolases

glucose-6-phosphate dehydrogenase 2

Aluminium activated malate transporter family protein

bZIP transcription factor family protein

phytochrome and flowering time regulatory protein (PFT1)

phytochrome and flowering time regulatory protein (PFT1)

myb-like transcription factor family protein

allene oxide cyclase 4

galacturonosyltransferase-like 3

Cytochrome b561/ferric reductase transmembrane protein family

Tetratricopeptide repeat (TPR)-like superfamily protein

Protein kinase superfamily protein

UDP-glucosyl transferase 73B3

UDP-glucosyl transferase 73B3

Protein of unknown function (DUF579)

Calcium-binding EF-hand family protein

expansin A1

Argonaute family protein

Pentatricopeptide repeat (PPR) superfamily protein

Purple acid phosphatases superfamily protein

phosphoenolpyruvate carboxylase 4

cytochrome P450, family 78, subfamily A, polypeptide 5

Serine carboxypeptidase S28 family protein

phosphoinositide 4-kinase gamma 7

DNA glycosylase superfamily protein

Auxin-responsive GH3 family protein

basic leucine-zipper 42

Acyl-CoA N-acyltransferases (NAT) superfamily protein

Peroxidase superfamily protein

Adenosylmethionine decarboxylase family protein
conserved peptide upstream open reading frame 9
F-box and associated interaction domains-containing protein
basic helix-loop-helix (bHLH) DNA-binding superfamily protein
ATPase E1-E2 type family protein / haloacid dehalogenase-like hydrolase family protein

Zim17-type zinc finger protein
EXS (ERD1/XPR1/SYG1) family protein
ABC-2 type transporter family protein
phosphoenolpyruvate carboxylase 4
phosphoenolpyruvate carboxylase 4
phosphoenolpyruvate carboxylase 4
nitrite reductase 1
cytochrome P450, family 707, subfamily A, polypeptide 4
protein disulfide isomerases
Calcium-binding EF-hand family protein
alpha/beta-Hydrolases superfamily protein
P-loop containing nucleoside triphosphate hydrolases superfamily protein
peptidyl-prolyl cis-trans isomerase / cyclophilin-40 (CYP40) / rotamase
Homeodomain-like superfamily protein

Haloacid dehalogenase-like hydrolase (HAD) superfamily protein

photosystem II reaction center W
indole-3-acetic acid 7
Tetratricopeptide repeat (TPR)-like superfamily protein
indeterminate(ID)-domain 12
ETO1-like 1
Bax inhibitor-1 family protein

Plant protein of unknown function (DUF868)
time for coffee
chloroplast stem-loop binding protein of 41 kDa
Eukaryotic aspartyl protease family protein
isopentenyltransferase 3
ROTUNDIFOLIA like 14
organic cation/carnitine transporter 3
Protein kinase family protein
Ankyrin repeat family protein
Kinase interacting (KIP1-like) family protein
B-box type zinc finger protein with CCT domain
Thioredoxin superfamily protein

Concanavalin A-like lectin protein kinase family protein
tubby like protein 3
RAD-like 1
MATE efflux family protein
copper chaperone

P-loop containing nucleoside triphosphate hydrolases superfamily protein
L-galactono-1,4-lactone dehydrogenase
alpha/beta-Hydrolases superfamily protein
TRAF-like superfamily protein

RNA binding;RNA binding
Disease resistance-responsive (dirigent-like protein) family protein
zinc finger protein 8
minichromosome maintenance 8
actin 1

basic helix-loop-helix (bHLH) DNA-binding superfamily protein
Transmembrane amino acid transporter family protein

nuclear RNA polymerase A1
guanylate kinase
calcium-dependent protein kinase 32
suppressor of npr1-1 constitutive 4
Protein kinase superfamily protein
suppressor of npr1-1 constitutive 4

autoinhibited Ca(2+)-ATPase, isoform 4

WD-40 repeat family protein / small nuclear ribonucleoprotein Prp4p-related

purple acid phosphatase 16
TPX2 (targeting protein for Xklp2) protein family
nuclear factor Y, subunit A10
Malectin/receptor-like protein kinase family protein

2-cysteine peroxiredoxin B
Ribosomal S17 family protein
SOS3-interacting protein 3
Leucine-rich repeat protein kinase family protein
alpha/beta-Hydrolases superfamily protein
heat shock protein 70B

Family of unknown function (DUF566)	
Ribosomal protein L35	
VQ motif-containing protein	
ascorbate peroxidase 4	
pyrophosphorylase 3	
2-oxoglutarate (2OG) and Fe(II)-dependent oxygenase superfamily protein	
DNAJ heat shock family protein	
phosphoenolpyruvate carboxylase-related kinase 2	
HXXXD-type acyl-transferase family protein	
hydroxyproline-rich glycoprotein family protein	
ubiquitin-protein ligase 1	
Rhamnogalacturonate lyase family protein	
Phosphoglycerate mutase family protein	
beta HLH protein 93	
Zinc finger (C3HC4-type RING finger) family protein	
Glutamyl-tRNA reductase family protein	
NAC transcription factor-like 9	
Laccase/Diphenol oxidase family protein	
Glycosyl hydrolase family protein	
JOSEPHIN-like protein	
fatty acid desaturase 8	
glutamine-dependent asparagine synthase 1	
BCL-2-associated athanogene 4	
tetratricopeptide repeat (TPR)-containing protein	
Leucine-rich repeat protein kinase family protein	
Protein kinase superfamily protein	
NAD(P)-binding Rossmann-fold superfamily protein	
Major facilitator superfamily protein	
Peroxidase superfamily protein	
allergen-related	
Phototropic-responsive NPH3 family protein	
Leucine-rich repeat protein kinase family protein	
AP2/B3-like transcriptional factor family protein	
Cytochrome b-c1 complex, subunit 8 protein	
RNA-binding KH domain-containing protein	
TRAM, LAG1 and CLN8 (TLC) lipid-sensing domain containing protein	
Late embryogenesis abundant (LEA) hydroxyproline-rich glycoprotein family	
acyl activating enzyme 5	
Eukaryotic aspartyl protease family protein	
zinc ion binding	
Gibberellin-regulated family protein	

expansin A4	
glycerol-3-phosphate acyltransferase 5	
protein phosphatase 2CA	
Glucose-1-phosphate adenylyltransferase family protein	
Subtilisin-like serine endopeptidase family protein	
Ribosomal protein L35Ae family protein	
RNI-like superfamily protein	
ethylene-dependent gravitropism-deficient and yellow-green-like 2	
Cytochrome P450 superfamily protein	
Protein kinase superfamily protein	
2-oxoglutarate (2OG) and Fe(II)-dependent oxygenase superfamily protein	
2-oxoglutarate (2OG) and Fe(II)-dependent oxygenase superfamily protein	
Plant protein of unknown function (DUF828)	
Transmembrane amino acid transporter family protein	
laccase 5	
TRICHOME BIREFRINGENCE-LIKE 33	
Glycosyl hydrolase family 85	
Glutaredoxin family protein	
HXXXD-type acyl-transferase family protein	
GDSL-like Lipase/Acylhydrolase superfamily protein	
Phosphotyrosine protein phosphatases superfamily protein	
O-Glycosyl hydrolases family 17 protein	
Tetratricopeptide repeat (TPR)-like superfamily protein	
abscisic aldehyde oxidase 3	
molybdopterin biosynthesis CNX1 protein / molybdenum cofactor biosynthesis enzyme CNX	
Pentatricopeptide repeat (PPR) superfamily protein	
DnaJ/Hsp40 cysteine-rich domain superfamily protein	
urease accessory protein F	
Leucine-rich receptor-like protein kinase family protein	
Pectin lyase-like superfamily protein	
auxin response factor 6	
Pentatricopeptide repeat (PPR) superfamily protein	
Membrane fusion protein Use1	
Reticulon family protein	
photosystem II subunit P-1	
HXXXD-type acyl-transferase family protein	
Cytochrome b561/ferric reductase transmembrane protein family	
alpha/beta-Hydrolases superfamily protein	

WRKY DNA-binding protein 28
cytochrome P450, family 716, subfamily A, polypeptide 1

MUTS-homologue 5
transcription factor IIIA

Co-chaperone GrpE family protein
ENHANCED DOWNY MILDEW 2
Mitochondrial transcription termination factor family protein
CCCH-type zinc fingerfamily protein with RNA-binding domain

nuclear factor Y, subunit B3
RPM1-interacting protein 4 (RIN4) family protein
oligopeptide transporter 5
Nucleotide/sugar transporter family protein

kinesin-like protein 1
Aldolase superfamily protein
seed imbibition 1
Nucleoporin, Nup133/Nup155-like
photosystem II light harvesting complex gene 2.2
Protein kinase superfamily protein

FASCICLIN-like arabinogalactan 2

PHE ammonia lyase 1
photosystem I light harvesting complex gene 3
tonoplast monosaccharide transporter2

pentatricopeptide (PPR) repeat-containing protein
Protein of unknown function (DUF1191)
hydrolases, acting on acid anhydrides, in phosphorus-containing anhydrides;ATP-dependent h
HAD superfamily, subfamily IIIB acid phosphatase
Glycosyl hydrolase superfamily protein
Ubiquitin carboxyl-terminal hydrolase family protein
S-locus lectin protein kinase family protein
ABA-responsive element binding protein 3
Protein kinase superfamily protein
MATE efflux family protein

cysteine synthase 26
U-box domain-containing protein kinase family protein
2-oxoglutarate (2OG) and Fe(II)-dependent oxygenase superfamily protein

adenosine deaminases;RNA binding;RNA binding;adenosine deaminases

NAD-dependent malic enzyme 2	
BON association protein 2	
BON association protein 2	
S-adenosyl-L-methionine-dependent methyltransferases superfamily protein	
ARM repeat superfamily protein	
glutaredoxin-related	
cytochrome P450, family 704, subfamily A, polypeptide 2	
WD-40 repeat family protein / beige-related	
RNA 2'-phosphotransferase, Tpt1 / KptA family	
Pentatricopeptide repeat (PPR) superfamily protein	
inositol transporter 2	
SAUR-like auxin-responsive protein family	
cytochrome P450, family 71, subfamily B, polypeptide 37	
cytochrome P450, family 83, subfamily B, polypeptide 1	
cytochrome P450, family 83, subfamily B, polypeptide 1	
cytochrome P450, family 83, subfamily B, polypeptide 1	
cytochrome P450, family 83, subfamily B, polypeptide 1	
cytochrome P450, family 83, subfamily B, polypeptide 1	
cytochrome P450, family 83, subfamily B, polypeptide 1	
UDP-Glycosyltransferase superfamily protein	
lipid transfer protein 5	
Protein kinase superfamily protein	
SOS3-interacting protein 1	
LRR and NB-ARC domains-containing disease resistance protein	
LRR and NB-ARC domains-containing disease resistance protein	
lipid transfer protein 1	
PYRIMIDINE 4	
RNI-like superfamily protein	
LRR and NB-ARC domains-containing disease resistance protein	
NB-ARC domain-containing disease resistance protein	
LRR and NB-ARC domains-containing disease resistance protein	
NB-ARC domain-containing disease resistance protein	
Disease resistance-responsive (dirigent-like protein) family protein	
disease resistance protein (TIR-NBS-LRR class)	
TRICHOME BIREFRINGENCE-LIKE 34	
Protein of unknown function, DUF538	
lectin receptor kinase a4.1	
receptor like protein 7	
Plant protein of unknown function (DUF828)	
fatty acid desaturase 8	
Rhodanese/Cell cycle control phosphatase superfamily protein	
cation exchanger 3	

RING/U-box superfamily protein
light harvesting complex photosystem II
Carbohydrate-binding-like fold
Carbohydrate-binding-like fold
plastid-specific ribosomal protein 4
Major facilitator superfamily protein

Peroxisomal membrane 22 kDa (Mpv17/PMP22) family protein
Nodulin MtN3 family protein
GRAS family transcription factor
NAD(P)-linked oxidoreductase superfamily protein
NAD(P)-linked oxidoreductase superfamily protein
drought-repressed 4
uracil phosphoribosyltransferase
isochorismate synthase 2
UDP-glucosyl transferase 85A7
myb domain protein 1
laccase 7
SOUL heme-binding family protein
fructokinase-like 1
Nucleotide-sugar transporter family protein
Laccase/Diphenol oxidase family protein
sulfoquinovosyldiacylglycerol 2
glycerol-3-phosphate acyltransferase 6
hAT transposon superfamily
Tetratricopeptide repeat (TPR)-like superfamily protein

Disease resistance protein (TIR-NBS-LRR class) family
Disease resistance protein (TIR-NBS-LRR class) family
lipase class 3 family protein
alkenal reductase
Ribosomal L18p/L5e family protein
hAT transposon superfamily

Fatty acid hydroxylase superfamily
vacuolar protein sorting 11
UDP-Glycosyltransferase superfamily protein
Protein kinase superfamily protein

ENHANCED DOWNY MILDEW 2
cyclin p4;1

Nucleoside diphosphate kinase family protein
uclacyanin 1
ribosomal protein L4

NAD(P)-binding Rossmann-fold superfamily protein
ARP2/3 complex 16 kDa subunit (p16-Arc)
photosystem II subunit Q-2
Plant protein of unknown function (DUF247)
UDP-Glycosyltransferase superfamily protein
DNAJ homologue 2
squamosa promoter binding protein-like 8

PQ-loop repeat family protein / transmembrane family protein

calmodulin (CAM)-binding protein of 25 kDa
camelliol C synthase 1
camelliol C synthase 1
lupeol synthase 2
FKBP-type peptidyl-prolyl cis-trans isomerase family protein
Major facilitator superfamily protein

RAD-like 1
serine carboxypeptidase-like 45
serine carboxypeptidase-like 45
ARF-GAP domain 11
alpha-xylosidase 1
VQ motif-containing protein
Transmembrane amino acid transporter family protein
pyrroline-5- carboxylate (P5C) reductase
cytochrome P450, family 86, subfamily A, polypeptide 1
response regulator 9
Patatin-like phospholipase family protein
sulfoquinovosyldiacylglycerol 1

Gibberellin-regulated family protein
beta-1,3-glucanase 1
beta-1,3-glucanase 1
beta-1,3-glucanase 1
cytokinin oxidase/dehydrogenase 1
Cyclin-like family protein

ABC-2 type transporter family protein
receptor-like kinase in flowers 1
embryo sac development arrest 7
heat shock transcription factor B3
magnesium-chelatase subunit chlH, chloroplast, putative / Mg-protoporphyrin IX chelatase, p
Leucine-rich repeat protein kinase family protein
adenylosuccinate synthase

Leucine-rich repeat protein kinase family protein

Rhodanese/Cell cycle control phosphatase superfamily protein
myb-like HTH transcriptional regulator family protein
Disease resistance-responsive (dirigent-like protein) family protein
Disease resistance-responsive (dirigent-like protein) family protein
alpha/beta-Hydrolases superfamily protein
RNI-like superfamily protein

Major facilitator superfamily protein
oxidoreductase, 2OG-Fe(II) oxygenase family protein

debranching enzyme 1
isopentenyltransferase 3
Eukaryotic aspartyl protease family protein
outer envelope membrane protein 7
Plant protein of unknown function (DUF828)
Plant protein of unknown function (DUF828)
Aluminium activated malate transporter family protein
Galactose oxidase/kelch repeat superfamily protein
NIMA-related kinase 4

indeterminate(ID)-domain 12
calmodulin-like 11
histone H2A 11
indole-3-acetic acid inducible 14
RNI-like superfamily protein
photosystem II reaction center W
PRA1 (Prenylated rab acceptor) family protein
Galactose oxidase/kelch repeat superfamily protein
poly(ADP-ribose) polymerase 2
phosphate transporter 1;7
actin depolymerizing factor 6
Protein of unknown function, DUF647
myb domain protein 15
nucleolar RNA-binding Nop10p family protein
breast cancer associated RING 1
Leucine-rich repeat receptor-like protein kinase family protein
Leucine-rich repeat receptor-like protein kinase family protein
HAD superfamily, subfamily IIIB acid phosphatase
SET-domain containing protein lysine methyltransferase family protein
pfkB-like carbohydrate kinase family protein
myosin XI B
pyrophosphorylase 4
Plant protein 1589 of unknown function

Lung seven transmembrane receptor family protein
ABC-2 type transporter family protein
aluminum sensitive 3
Homeodomain-like superfamily protein
Ribosomal protein S12/S23 family protein

FASCICLIN-like arabinogalactan-protein 11
FASCICLIN-like arabinogalactan-protein 11
conserved peptide upstream open reading frame 47
vacuolar membrane ATPase 10
plasma membrane intrinsic protein 2A
PHE ammonia lyase 1
adenosine kinase 2
Heavy metal transport/detoxification superfamily protein
Major facilitator superfamily protein
gamma tonoplast intrinsic protein
PLATZ transcription factor family protein
Pyruvate kinase family protein
Nucleotide-diphospho-sugar transferases superfamily protein
HhH-GPD base excision DNA repair family protein

cytochrome P450, family 94, subfamily C, polypeptide 1
GDSL-like Lipase/Acylhydrolase superfamily protein
uridine-ribohydrolase 1
purple acid phosphatase 22
ribonuclease 3

NAC domain containing protein 90
LETM1-like protein
LETM1-like protein

Eukaryotic aspartyl protease family protein
NDR1/HIN1-like 1
UDP-Glycosyltransferase superfamily protein
nuclear factor Y, subunit A10
FASCICLIN-like arabinogalactan protein 16 precursor
alpha/beta-Hydrolases superfamily protein

Phototropic-responsive NPH3 family protein
heat shock factor binding protein
Plant invertase/pectin methylesterase inhibitor superfamily protein
galacturonosyltransferase-like 7
Heat shock protein DnaJ with tetratricopeptide repeat
TRICHOME BIREFRINGENCE-LIKE 6
WRKY DNA-binding protein 35
galactinol synthase 1

GLNB1 homolog	
HCO3- transporter family	
NAD(P)-binding Rossmann-fold superfamily protein	
P-glycoprotein 11	
myb domain protein 55	
Pectinacetyltransferase family protein	
Haloacid dehalogenase-like hydrolase (HAD) superfamily protein	
rotamase CYP 4	
cytochrome P450, family 72, subfamily A, polypeptide 14	
nitrate transporter 1:2	
Photosystem II reaction center PsbP family protein	
Peptide chain release factor 2	
Calmodulin-binding protein	
Polynucleotidyl transferase, ribonuclease H-like superfamily protein	
Protein phosphatase 2C family protein	
recovery protein 3	
lipoxygenase 1	
S-adenosyl-L-methionine-dependent methyltransferases superfamily protein	
Ribosomal protein S11 family protein	
sodium hydrogen exchanger 2	
HXXXD-type acyl-transferase family protein	
Rubredoxin-like superfamily protein	
Plant protein of unknown function (DUF868)	
Ribose 5-phosphate isomerase, type A protein	
AP2/B3-like transcriptional factor family protein	
HXXXD-type acyl-transferase family protein	
calmodulin-like 11	
bZIP transcription factor family protein	
Alba DNA/RNA-binding protein	
phosphoenolpyruvate carboxylase kinase 2	
rotamase cyclophilin 2	
Li-tolerant lipase 1	
plant U-box 9	
Galactose mutarotase-like superfamily protein	
UDP-Glycosyltransferase superfamily protein	
alpha/beta-Hydrolases superfamily protein	
cyclic nucleotide gated channel 1	
Cytochrome b561/ferric reductase transmembrane with DOMON related domain	
zinc knuckle (CCHC-type) family protein	
Protein of unknown function (DUF688)	
NC domain-containing protein-related	
RAB GTPase homolog A3	
photosystem I P subunit	
pyrophosphorylase 3	

photosystem I light harvesting complex gene 2 Plant protein of unknown function (DUF936) Ribosomal protein L3 family protein glutamate-1-semialdehyde 2,1-aminomutase 2 plasma membrane intrinsic protein 3 NAD(P)-binding Rossmann-fold superfamily protein farnesylated protein 6 myb domain protein 4 Major facilitator superfamily protein Pollen Ole e 1 allergen and extensin family protein GLN phosphoribosyl pyrophosphate amidotransferase 1 2-oxoglutarate (2OG) and Fe(II)-dependent oxygenase superfamily protein 2-oxoglutarate (2OG) and Fe(II)-dependent oxygenase superfamily protein G-box binding factor 6 conserved peptide upstream open reading frame 2 NmrA-like negative transcriptional regulator family protein cryptochrome-interacting basic-helix-loop-helix 1 jasmonate-zim-domain protein 1 polyol/monosaccharide transporter 5 Photosystem II reaction center PsbP family protein xylem cysteine peptidase 2 tonoplast monosaccharide transporter2 RING/U-box superfamily protein Protein kinase superfamily protein Plant regulator RWP-RK family protein starch branching enzyme 2.2 Protein of unknown function (DUF630 and DUF632) HMG (high mobility group) box protein with ARID/BRIGHT DNA-binding domain Cupredoxin superfamily protein Major facilitator superfamily protein Basic-leucine zipper (bZIP) transcription factor family protein GDLS-like Lipase/Acylhydrolase superfamily protein RAC-like 3 Pathogenesis-related thaumatin superfamily protein tubulin beta-1 chain Plant protein of unknown function (DUF827) Putative lysine decarboxylase family protein glyoxal oxidase-related protein Walls Are Thin 1 beta-galactosidase 3	
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C2H2-like zinc finger protein

allene oxide synthase

cytochrome P450, family 82, subfamily C, polypeptide 4

cytochrome P450, family 82, subfamily C, polypeptide 4

cytochrome b6f complex subunit (petM), putative

Spc97 / Spc98 family of spindle pole body (SBP) component

Protein of unknown function, DUF617

Protein of unknown function, DUF547

photosystem I light harvesting complex gene 5

Vacuolar import/degradation, Vid27-related protein

Thioredoxin superfamily protein

abscisic acid responsive elements-binding factor 2

HXXXD-type acyl-transferase family protein

Leucine-rich repeat protein kinase family protein

Serine/threonine-protein kinase WNK (With No Lysine)-related

S-locus lectin protein kinase family protein

Cellulose-synthase-like C12

squalene epoxidase 2

FAD/NAD(P)-binding oxidoreductase family protein

Thioredoxin superfamily protein

S-adenosyl-L-methionine-dependent methyltransferases superfamily protein

S-adenosyl-L-methionine-dependent methyltransferases superfamily protein

photosystem II subunit X

ferredoxin-related

myosin, putative

alpha/beta-Hydrolases superfamily protein

3-ketoacyl-CoA synthase 10

F-box family protein

glutamine dumper 4

CONSTANS-like 4

membrane-associated progesterone binding protein 2

WRKY family transcription factor

WRKY DNA-binding protein 40

CBL-interacting protein kinase 25

Pentatricopeptide repeat (PPR) superfamily protein

cellulose synthase family protein

Bifunctional inhibitor/lipid-transfer protein/seed storage 2S albumin superfamily protein

ATPase, F0 complex, subunit B/B', bacterial/chloroplast

indole-3-acetic acid inducible 29

Integrase-type DNA-binding superfamily protein

alpha/beta-Hydrolases superfamily protein

1-deoxy-D-xylulose 5-phosphate synthase 3

Galactose oxidase/kelch repeat superfamily protein

FAD-dependent oxidoreductase family protein

protein kinase C-like zinc finger protein

ChaC-like family protein

chaperone protein dnaJ-related

tocopherol cyclase, chloroplast / vitamin E deficient 1 (VTE1) / sucrose export defective 1 (S2

casein kinase I-like 3

Plant protein of unknown function (DUF828) with plant pleckstrin homology-like region

Glyoxalase/Bleomycin resistance protein/Dioxygenase superfamily protein

tonoplast intrinsic protein 4;1

Integrase-type DNA-binding superfamily protein

plastid transcriptionally active 6

Protein of unknown function (DUF1005)

amino acid permease 6

tubulin alpha-2 chain

Leucine-rich repeat transmembrane protein kinase family protein

Leucine-rich receptor-like protein kinase family protein

Zinc finger (C3HC4-type RING finger) family protein

hydroxyproline-rich glycoprotein family protein

Rho GTPase activation protein (RhoGAP) with PH domain

conserved peptide upstream open reading frame 37

Protein kinase superfamily protein

chromosome-associated kinesin-related

RNA polymerases N / 8 kDa subunit

phosphoglucan, water dikinase

ubiquitin-protein ligase 1

Tetratricopeptide repeat (TPR)-like superfamily protein

purine permease 1

MATE efflux family protein

RING/U-box superfamily protein

Phosphate-responsive 1 family protein

peptidases

Major facilitator superfamily protein

tetratricopeptide repeat (TPR)-containing protein

Sec14p-like phosphatidylinositol transfer family protein

Sec14p-like phosphatidylinositol transfer family protein

Protein of unknown function (DUF581)

sulfate transporter 1;3

sulfate transporter 1;3

lipoxygenase 1 lipoxygenase 1 Heavy metal transport/detoxification superfamily protein	
PLC-like phosphodiesterases superfamily protein cytochrome P450, family 71, subfamily A, polypeptide 20 photosystem I subunit G Ribosomal L32p protein family	
Plant invertase/pectin methylesterase inhibitor superfamily protein	
Ribonuclease P protein subunit P38-related	
RAD-like 1	
protein kinases;ubiquitin-protein ligases ARM repeat superfamily protein	
Ribosomal RNA processing Brix domain protein ARM repeat superfamily protein senescence-associated E3 ubiquitin ligase 1 high chlorophyll fluorescence 153 Cellulose synthase family protein chloroplast thylakoid lumen protein SPX domain gene 2 DnaJ/Hsp40 cysteine-rich domain superfamily protein GRAS family transcription factor family protein SNF7 family protein fatty acyl-ACP thioesterases B Cellulose synthase family protein P-loop containing nucleoside triphosphate hydrolases superfamily protein reversibly glycosylated polypeptide 3 COBRA-like extracellular glycosyl-phosphatidyl inositol-anchored protein family Transducin/WD40 repeat-like superfamily protein Ribosomal protein L1p/L10e family Protein of unknown function (DUF1118) Flavin-binding monooxygenase family protein NAC domain containing protein 100 light-harvesting chlorophyll-protein complex I subunit A4 cycling DOF factor 3 GAST1 protein homolog 4 ATP-binding cassette A2	

Protein of unknown function (DUF1118)
homeobox protein 5

DP-E2F-like 1
ADP-glucose pyrophosphorylase family protein
plant U-box 38

Protein kinase superfamily protein

similar to RCD one 2
Protein of unknown function (DUF1645)
Glucose-6-phosphate/phosphate translocator-related
SKP1/ASK-interacting protein 16

Protein of Unknown Function (DUF239)
Octicosapeptide/Phox/Bem1p family protein

PAP/OAS1 substrate-binding domain superfamily
splicing endonuclease 1
Rhodanese/Cell cycle control phosphatase superfamily protein
protein-l-isoaspartate methyltransferase 1

alpha/beta-Hydrolases superfamily protein

Cysteine proteinases superfamily protein
peptidomethionine sulfoxide reductase 2
BTB and TAZ domain protein 2
Pectin lyase-like superfamily protein
Leucine-rich repeat protein kinase family protein
calmodulin-like 38

Squamosa promoter-binding protein-like (SBP domain) transcription factor family protein
homolog of Medicago truncatula MTN3
basic helix-loop-helix (bHLH) DNA-binding superfamily protein
transducin family protein / WD-40 repeat family protein
Rubredoxin-like superfamily protein
crumpled leaf

Mitochondrial substrate carrier family protein
respiratory burst oxidase homologue D
SEC14 cytosolic factor family protein / phosphoglyceride transfer family protein
phosphatidylinositol-4-phosphate 5-kinase 1
SAUR-like auxin-responsive protein family
amino acid permease 2
protein kinase family protein

photosystem I reaction center subunit PSI-N, chloroplast, putative / PSI-N, putative (PSAN) Leucine-rich receptor-like protein kinase family protein Peroxidase superfamily protein expansin A8 WRKY DNA-binding protein 55 Leucine-rich repeat protein kinase family protein Vacuolar iron transporter (VIT) family protein Peptidase C78, ubiquitin fold modifier-specific peptidase 1/ 2 response to low sulfur 2 O-methyltransferase 1 2-oxoglutarate (2OG) and Fe(II)-dependent oxygenase superfamily protein 30S ribosomal protein, putative	
Leucine-rich repeat protein kinase family protein homeobox 7 IQ-domain 21 CLP protease regulatory subunit X pectin methylesterase PCR fragment F CCT motif family protein NADH-dependent glutamate synthase 1 cyclic nucleotide gated channel 1 Nodulin MtN3 family protein alcohol dehydrogenase 1 Nodulin MtN3 family protein ACT domain repeat 3 Thiamin diphosphate-binding fold (THDP-binding) superfamily protein	
Aldolase superfamily protein response regulator 9 PDI-like 1-1 Protein of unknown function (DUF630 and DUF632) aldehyde dehydrogenase 3H1 EamA-like transporter family protein nodulin MtN21 /EamA-like transporter family protein nodulin MtN21 /EamA-like transporter family protein GRAS family transcription factor cold shock domain protein 1 like AUX1 3 Ribosomal protein S13/S18 family ferredoxin/thioredoxin reductase subunit A (variable subunit) 2 actin-11 ribosomal protein L22 Plant self-incompatibility protein S1 family	

glucuronokinase G
Raffinose synthase family protein
polyribonucleotide nucleotidyltransferase, putative
NAD(P)-binding Rossmann-fold superfamily protein
carbonic anhydrase 1
GDSL-like Lipase/Acylhydrolase superfamily protein
Tetratricopeptide repeat (TPR)-like superfamily protein
aspartate-glutamate racemase family

K⁺ transporter 1

fatty acyl-ACP thioesterases B

Protein of unknown function, DUF617

AGAMOUS-like 8
PLC-like phosphodiesterases superfamily protein
plasmodesmata callose-binding protein 3
Cytochrome P450 superfamily protein
heat shock protein 101
photosystem I subunit F

GDSL-like Lipase/Acylhydrolase superfamily protein
Pyridine nucleotide-disulphide oxidoreductase family protein
malate dehydrogenase
myb domain protein 94

WRKY DNA-binding protein 72
aldehyde dehydrogenase 12A1

Major facilitator superfamily protein
AAA-ATPase 1
Dynein light chain type 1 family protein
response regulator 5
ubiquitin-conjugating enzyme 5
Transducin family protein / WD-40 repeat family protein
Leucine-rich receptor-like protein kinase family protein
Ribosomal protein L18e/L15 superfamily protein
Concanavalin A-like lectin protein kinase family protein
RAB GTPase homolog E1B
nitrate transmembrane transporters
cytochrome P450, family 71, subfamily A, polypeptide 20
proline transporter 1

BTB and TAZ domain protein 2
Pectin lyase-like superfamily protein

AAA-type ATPase family protein	
GDSL-like Lipase/Acylhydrolase superfamily protein	
Protein kinase superfamily protein	
nucleoside diphosphate kinase 2	
Putative endonuclease or glycosyl hydrolase	
ATP synthase delta-subunit gene	
GRAS family transcription factor	
phloem protein 2-A12	
BCL-2-associated athanogene 1	
Glucose-methanol-choline (GMC) oxidoreductase family protein	
TCP family transcription factor	
myb domain protein 85	
cytochrome P450, family 707, subfamily A, polypeptide 1	
ribosomal protein S13A	
AT-hook motif nuclear-localized protein 1	
MATE efflux family protein	
nudix hydrolase homolog 14	
nudix hydrolase homolog 14	
beta vacuolar processing enzyme	
Plant-specific transcription factor YABBY family protein	
Aldolase superfamily protein	
Ribosomal protein S30 family protein	
Protein of unknown function, DUF547	
Pentatricopeptide repeat (PPR) superfamily protein	
Integrase-type DNA-binding superfamily protein	
2-oxoglutarate (2OG) and Fe(II)-dependent oxygenase superfamily protein	
PPPDE putative thiol peptidase family protein	
ethylene responsive element binding factor 5	
Major facilitator superfamily protein	
Chlorophyll A-B binding family protein	
Histone H3 K4-specific methyltransferase SET7/9 family protein	
Protein of unknown function (DUF581)	
Ras-related small GTP-binding family protein	
expansin-like B1	
DYNAMIN-like 1C	
nitrate transporter 1.5	
Ankyrin repeat family protein	
photosystem II reaction center protein C	
AMP-dependent synthetase and ligase family protein	
Pyruvate kinase family protein	
gibberellin 2-oxidase 8	
P-loop containing nucleoside triphosphate hydrolases superfamily protein	
Protein of unknown function (DUF579)	
Amino acid kinase family protein	

heat shock factor 4
MRG family protein

Auxin-responsive GH3 family protein
natural resistance-associated macrophage protein 3
arabinogalactan protein 18
ARM-repeat/Tetratricopeptide repeat (TPR)-like protein
alpha/beta-Hydrolases superfamily protein
LOB domain-containing protein 39
Tetratricopeptide repeat (TPR)-like superfamily protein

phytosulfokine 5 precursor
Leucine-rich receptor-like protein kinase family protein
AT hook motif DNA-binding family protein
2Fe-2S ferredoxin-like superfamily protein
lsd one like 1
aluminum-activated, malate transporter 12
Pectin lyase-like superfamily protein
GDLS-like Lipase/Acylhydrolase superfamily protein
alternative oxidase 2

light harvesting complex photosystem II subunit 6
Bifunctional inhibitor/lipid-transfer protein/seed storage 2S albumin superfamily protein
loricrin-related

P-loop containing nucleoside triphosphate hydrolases superfamily protein

Protein of unknown function (DUF640)
FAD-binding Berberine family protein
Leucine-rich repeat transmembrane protein kinase
WRKY DNA-binding protein 28
Small nuclear ribonucleoprotein family protein
light-harvesting chlorophyll-protein complex II subunit B1

P-loop containing nucleoside triphosphate hydrolases superfamily protein
peptide transporter 2
DNase I-like superfamily protein
hydroxyproline-rich glycoprotein family protein
Protein of unknown function (DUF789)
Protein kinase superfamily protein

ENTH/ANTH/VHS superfamily protein
Aldolase-type TIM barrel family protein
RNA-binding KH domain-containing protein

inositol transporter 2

Remorin family protein
response regulator 11
Zn-dependent exopeptidases superfamily protein
caffeoyl-CoA 3-O-methyltransferase
cytochrome P450, family 78, subfamily A, polypeptide 5
Rubber elongation factor protein (REF)
Protein of unknown function (DUF579)
Sec23/Sec24 protein transport family protein
indole-3-acetate beta-D-glucosyltransferase
AMP-dependent synthetase and ligase family protein
ralf-like 32

HXXXD-type acyl-transferase family protein

Protein of unknown function (DUF803)

acyl-activating enzyme 18

Leucine-rich repeat protein kinase family protein

FASCICLIN-like arabinogalactan-protein 12

FASCICLIN-like arabinogalactan-protein 11

plant U-box 17

receptor-like kinase in flowers 1

RNA ligase/cyclic nucleotide phosphodiesterase family protein

F-box and associated interaction domains-containing protein

plantacyanin

transducin family protein / WD-40 repeat family protein

Subtilase family protein

photosystem II BY

Melibiose family protein

60S acidic ribosomal protein family

GTP cyclohydrolase II

Haloacid dehalogenase-like hydrolase (HAD) superfamily protein

annexin 2

Phosphoglycerate mutase family protein

myo-inositol-1-phosphate synthase 3

alanine:glyoxylate aminotransferase 2

WRKY DNA-binding protein 51

essential meiotic endonuclease 1B

Transcription elongation factor (TFIIS) family protein

nodulin MtN21 /EamA-like transporter family protein

Plastid-lipid associated protein PAP / fibrillin family protein

Protein of unknown function (DUF506)
Eukaryotic aspartyl protease family protein
MAC/Perforin domain-containing protein
phosphatidylinositol-4-phosphate 5-kinase 1
Mitochondrial substrate carrier family protein
Rubredoxin-like superfamily protein
Sec14p-like phosphatidylinositol transfer family protein
magnesium-protoporphyrin IX methyltransferase
acyl carrier protein 4
DHHC-type zinc finger family protein
HXXXD-type acyl-transferase family protein
Heavy metal transport/detoxification superfamily protein
Protein of unknown function (DUF 3339)
osmotin 34
osmotin 34
beta-6 tubulin
Haloacid dehalogenase-like hydrolase (HAD) superfamily protein
Mitochondrial substrate carrier family protein
cytochrome P450, family 86, subfamily A, polypeptide 8
Disease resistance protein (TIR-NBS class)
ubiquitin-conjugating enzyme 5
Pectin lyase-like superfamily protein
ACC synthase 1
Protein of unknown function (DUF567)
respiratory burst oxidase protein F
6-phosphogluconate dehydrogenase family protein
Leucine-rich repeat protein kinase family protein
HMG (high mobility group) box protein
Nucleoside diphosphate kinase family protein
3-ketoacyl-acyl carrier protein synthase I
Translation elongation factor EF1B/ribosomal protein S6 family protein
myb-like transcription factor family protein
CCCH-type zinc finger family protein
phosphofructokinase 3
Integrase-type DNA-binding superfamily protein
Regulator of Vps4 activity in the MVB pathway protein
aldehyde dehydrogenase 2C4
Fibronectin type III domain-containing protein
B-box type zinc finger protein with CCT domain
BR enhanced expression 1
myb domain protein 116
Plant invertase/pectin methylesterase inhibitor superfamily protein

Phosphoglucosyltransferase/phosphomannosyltransferase family protein
Calmodulin binding protein-like

Rubisco methyltransferase family protein
EF hand calcium-binding protein family
semialdehyde dehydrogenase family protein

Protein of unknown function, DUF599

PEBP (phosphatidylethanolamine-binding protein) family protein
Tetratricopeptide repeat (TPR)-like superfamily protein
S-adenosyl-L-methionine-dependent methyltransferases superfamily protein
receptor-like kinase 1
STELAR K⁺ outward rectifier
purple acid phosphatase 17
Arabidopsis phospholipase-like protein (PEARLI 4) family
myb domain protein 4
Pollen Ole e 1 allergen and extensin family protein
Plant neutral invertase family protein
Calcium-binding EF-hand family protein
conserved peptide upstream open reading frame 2

Ribosomal protein S25 family protein
Arabidopsis protein of unknown function (DUF241)
NmrA-like negative transcriptional regulator family protein
Protein kinase superfamily protein

unknown seed protein like 1

Photosystem II reaction center PsbP family protein
RING/U-box superfamily protein
Plant regulator RWP-RK family protein

plastocyanin 1
DC1 domain-containing protein
GDSL-like Lipase/Acylhydrolase superfamily protein

Pathogenesis-related thaumatin superfamily protein

Plant protein of unknown function (DUF827)
lysine decarboxylase family protein
IQ-domain 32
Walls Are Thin 1
purple acid phosphatase 12
Sec14p-like phosphatidylinositol transfer family protein
NmrA-like negative transcriptional regulator family protein

RAD-like 6

J-domain protein required for chloroplast accumulation response 1
Nucleotide-diphospho-sugar transferases superfamily protein
calmodulin-like 41

cytochrome P450, family 82, subfamily C, polypeptide 4
cytochrome P450, family 82, subfamily C, polypeptide 4

cytochrome b6f complex subunit (petM), putative
Protein of unknown function (DUF1645)
Protein of unknown function, DUF547
uroporphyrinogen-III synthase family protein

BR11 kinase inhibitor 1
photosystem I light harvesting complex gene 5
Serine/threonine-protein kinase WNK (With No Lysine)-related
CYCLIN D3;1
Gibberellin-regulated family protein
differentiation and greening-like 1
ankyrin repeat family protein
Subtilase family protein
Galactose oxidase/kelch repeat superfamily protein
ARM repeat superfamily protein
autoinhibited Ca²⁺-ATPase 1

FAD/NAD(P)-binding oxidoreductase family protein
PYR1-like 2
iron regulated transporter 3

Thioredoxin superfamily protein
17.6 kDa class II heat shock protein
photosystem II subunit X
Chaperone DnaJ-domain superfamily protein

YGGT family protein
copper transporter 5
3-ketoacyl-CoA synthase 10
F-box family protein
glutamine dumper 3
CONSTANS-like 4
HOPW1-1-interacting 2
early nodulin-like protein 14
chorismate mutase 2
WRKY DNA-binding protein 40

ARM repeat superfamily protein	
Polynucleotidyl transferase, ribonuclease H-like superfamily protein	
response regulator 12	
cellulose synthase family protein	
serine-rich protein-related	
Bifunctional inhibitor/lipid-transfer protein/seed storage 2S albumin superfamily protein	
Protein kinase superfamily protein	
ATPase, F0 complex, subunit B/B', bacterial/chloroplast	
indole-3-acetic acid inducible 29	
Integrase-type DNA-binding superfamily protein	
SPX domain gene 2	
K ⁺ transporter 1	
cyclic nucleotide-gated channel 14	
ChaC-like family protein	
Protein of unknown function, DUF599	
BURP domain-containing protein	
Protein kinase superfamily protein	
Phosphorylase superfamily protein	
tonoplast intrinsic protein 4;1	
Exostosin family protein	
Integrase-type DNA-binding superfamily protein	
Protein of unknown function (DUF1005)	
plastid-specific 50S ribosomal protein 6	
RNA-binding KH domain-containing protein	
amino acid permease 6	
Putative serine esterase family protein	
tubulin alpha-2 chain	
MATE efflux family protein	
Zinc finger (C3HC4-type RING finger) family protein	
beta HLH protein 93	
Pentatricopeptide repeat (PPR-like) superfamily protein	
FH interacting protein 1	
MSCS-like 2	
ubiquitin-protein ligase 1	
purine permease 1	
RNA-binding (RRM/RBD/RNP motifs) family protein	
Cupredoxin superfamily protein	
Outer arm dynein light chain 1 protein	
Sec14p-like phosphatidylinositol transfer family protein	
DNA binding	
nitrate reductase 1	
cold shock domain protein 1	

nodulin MtN21 /EamA-like transporter family protein
nodulin MtN21 /EamA-like transporter family protein
long chain acyl-CoA synthetase 9
PDI-like 1-2
response regulator 9
IAA-leucine resistant (ILR)-like gene 6
DPP6 N-terminal domain-like protein
amino acid permease 3
NAD kinase 2
Chalcone and stilbene synthase family protein
wall associated kinase 3

alcohol dehydrogenase 1
TRICHOME BIREFRINGENCE-LIKE 7
nodulin MtN21 /EamA-like transporter family protein
glycolipid transfer protein 2
Leucine-rich repeat transmembrane protein kinase family protein
Nodulin MtN3 family protein
spermidine synthase 3
NADH-dependent glutamate synthase 1
CCT motif family protein
pectin methylesterase PCR fragment F
Calcium-binding EF-hand family protein
IQ-domain 21

Tetratricopeptide repeat (TPR)-like superfamily protein
Rhodanese/Cell cycle control phosphatase superfamily protein
NAD(P)-linked oxidoreductase superfamily protein
heat shock protein 21
30S ribosomal protein, putative
O-methyltransferase 1
double-stranded DNA binding
response to low sulfur 2
Peptidase C78, ubiquitin fold modifier-specific peptidase 1/ 2
cytochrome P450, family 714, subfamily A, polypeptide 1
methyl esterase 17
Transducin/WD40 repeat-like superfamily protein

Leucine-rich repeat protein kinase family protein
Chalcone-flavanone isomerase family protein
expansin A8
potassium transporter 2
Peroxidase superfamily protein
Disease resistance protein (TIR-NBS-LRR class) family

Leucine-rich receptor-like protein kinase family protein	
nodulin MtN21 /EamA-like transporter family protein	
photosystem I reaction center subunit PSI-N, chloroplast, putative / PSI-N, putative (PSAN)	
Transducin/WD40 repeat-like superfamily protein	
PRLI-interacting factor, putative	
NAD(P)H:plastoquinone dehydrogenase complex subunit O	
plant U-box 22	
embryo defective 2170	
Photosystem II reaction center PsbP family protein	
NAC (No Apical Meristem) domain transcriptional regulator superfamily protein	
Eukaryotic aspartyl protease family protein	
phosphatidylinositol-4-phosphate 5-kinase 1	
Protein kinase superfamily protein	
Sec14p-like phosphatidylinositol transfer family protein	
myb domain protein 4	
Clp ATPase	
Rubredoxin-like superfamily protein	
Integrase-type DNA-binding superfamily protein	
translocase inner membrane subunit 8	
Nodulin MtN3 family protein	
HVA22 homologue E	
Squamosa promoter-binding protein-like (SBP domain) transcription factor family protein	
Pyridoxal phosphate (PLP)-dependent transferases superfamily protein	
purple acid phosphatase 24	
cyclopropyl isomerase	
Leucine-rich repeat protein kinase family protein	
Xanthine/uracil permease family protein	
Cysteine proteinases superfamily protein	
Leucine-rich repeat protein kinase family protein	
RAB GTPase homolog E1B	
Octicosapeptide/Phox/Bem1p family protein	
Copper amine oxidase family protein	
Raffinose synthase family protein	
NAD(P)-binding Rossmann-fold superfamily protein	
ARM repeat superfamily protein	
HCO3- transporter family	
pantothenate kinase 2	
Xanthine/uracil permease family protein	
response regulator 6	
Protein of unknown function (DUF1118)	
ABC2 homolog 6	
organic cation/carnitine transporter 3	

glutathione S-transferase tau 9 Gibberellin-regulated family protein GDSL-like Lipase/Acylhydrolase superfamily protein light-harvesting chlorophyll-protein complex I subunit A4 NAC domain containing protein 100 Leucine-rich repeat protein kinase family protein Flavin-binding monooxygenase family protein P-loop nucleoside triphosphate hydrolases superfamily protein with CH (Calponin Homology) CYCLIN D7;1 soluble N-ethylmaleimide-sensitive factor adaptor protein 33 Nodulin MtN3 family protein dentin sialophosphoprotein-related heat shock protein 101 Cytochrome P450 superfamily protein ABI five binding protein 3 Protein of unknown function (DUF1118) Hydroxyproline-rich glycoprotein family protein fatty acyl-ACP thioesterases B GRAS family transcription factor family protein PHD finger transcription factor, putative Homeodomain-like superfamily protein alpha/beta-Hydrolases superfamily protein nudix hydrolase homolog 19 Thioredoxin superfamily protein Peroxidase superfamily protein DnaJ/Hsp40 cysteine-rich domain superfamily protein Cellulose synthase family protein Cellulose synthase family protein Plant protein of unknown function (DUF641) phosphoenolpyruvate carboxylase 3 P-loop containing nucleoside triphosphate hydrolases superfamily protein TEOSINTE BRANCHED 1, cycloidea and PCF transcription factor 3 IQ-domain 10 homogentisate 1,2-dioxygenase homogentisate 1,2-dioxygenase RING/U-box superfamily protein chloroplast 30S ribosomal protein S20, putative Pentatricopeptide repeat (PPR-like) superfamily protein thioredoxin M-type 4 protochlorophyllide oxidoreductase A	
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NAC domain containing protein 2 3-hydroxyacyl-CoA dehydrogenase family protein Disease resistance protein (TIR-NBS-LRR class) family S-locus lectin protein kinase family protein S-locus lectin protein kinase family protein receptor kinase 3 S-locus lectin protein kinase family protein disease resistance protein (TIR-NBS-LRR class), putative disease resistance protein (TIR-NBS-LRR class), putative	
disease resistance protein (TIR-NBS-LRR class), putative disease resistance protein (TIR-NBS-LRR class), putative GRAS family transcription factor Protein kinase superfamily protein disease resistance protein (TIR-NBS-LRR class), putative disease resistance protein (TIR-NBS-LRR class), putative Tetratricopeptide repeat (TPR)-like superfamily protein ortholog of human splicing factor SC35 thiazole biosynthetic enzyme, chloroplast (ARA6) (THI1) (THI4)	
Dynein light chain type 1 family protein	
phloem protein 2-B10	
aspartate aminotransferase 1 Peroxidase superfamily protein SAUR-like auxin-responsive protein family SAUR-like auxin-responsive protein family SAUR-like auxin-responsive protein family TRICHOME BIREFRINGENCE-LIKE 39 late embryogenesis abundant domain-containing protein / LEA domain-containing protein disease resistance protein (TIR-NBS-LRR class), putative S-locus lectin protein kinase family protein Reticulon family protein erf domain protein 9 Uncharacterised protein family (UPF0497)	
ELMO/CED-12 family protein	
PapD-like superfamily protein Wound-responsive family protein	

photosystem II reaction center PSB29 protein
Cyclin D6;1
B-box type zinc finger family protein

terpene synthase-like sequence-1,8-cineole
SKU5 similar 5
cellulose synthase-like B4

RAD-like 1
Disease resistance protein (TIR-NBS-LRR class) family
alpha/beta-Hydrolases superfamily protein
nodulin MtN21 /EamA-like transporter family protein
global transcription factor group B1
zinc induced facilitator-like 1
aminophospholipid ATPase 1
NAD(P)-binding Rossmann-fold superfamily protein
U-box domain-containing protein kinase family protein
PLAC8 family protein
RNI-like superfamily protein
Major facilitator superfamily protein
Leucine-rich repeat (LRR) family protein
photosystem I subunit G

Sucrose-phosphate synthase family protein
PLC-like phosphodiesterases superfamily protein
GDLS-like Lipase/Acylhydrolase superfamily protein
Protein of unknown function (DUF179)
alpha/beta-Hydrolases superfamily protein
Protein kinase protein with adenine nucleotide alpha hydrolases-like domain
Plastid-lipid associated protein PAP / fibrillin family protein
Cellulose-synthase-like C5

IQ-domain 8
heat shock protein 60-3A
Late embryogenesis abundant (LEA) hydroxyproline-rich glycoprotein family
Glucose-methanol-choline (GMC) oxidoreductase family protein
beta galactosidase 1
multidrug resistance-associated protein 6
multidrug resistance-associated protein 6
Pyridoxal phosphate phosphatase-related protein
Pyridoxal phosphate phosphatase-related protein
DOF zinc finger protein 1
GDLS-like Lipase/Acylhydrolase superfamily protein
HAD superfamily, subfamily IIIB acid phosphatase
HAD superfamily, subfamily IIIB acid phosphatase

protein kinase family protein / peptidoglycan-binding LysM domain-containing protein	
HPT phosphotransmitter 4	
Integrase-type DNA-binding superfamily protein	
delta tonoplast integral protein	
basic helix-loop-helix (bHLH) DNA-binding superfamily protein	
photosystem I subunit H2	
Core-2/I-branching beta-1,6-N-acetylglucosaminyltransferase family protein	
NDH-dependent cyclic electron flow 1	
C2H2 and C2HC zinc fingers superfamily protein	
NAD(P)-binding Rossmann-fold superfamily protein	
CemA-like proton extrusion protein-related	
Inorganic H pyrophosphatase family protein	
fatty acid desaturase 5	
Tetratricopeptide repeat (TPR)-like superfamily protein	
Galactose oxidase/kelch repeat superfamily protein	
nucleotide transporter 1	
Tetratricopeptide repeat (TPR)-like superfamily protein	
lipxygenase 1	
germin-like protein 1	
RELA/SPOT homolog 3	
jasmonate-zim-domain protein 6	
CCAAT-binding factor	
Subtilase family protein	
Protein of unknown function (DUF581)	
photosystem I light harvesting complex gene 2	
NAC transcription factor-like 9	
O-methyltransferase 1	
O-methyltransferase 1	
photosystem I P subunit	
pseudo-response regulator 5	
UDP-Glycosyltransferase superfamily protein	
endonuclease 2	
NAC (No Apical Meristem) domain transcriptional regulator superfamily protein	
S-adenosyl-L-methionine-dependent methyltransferases superfamily protein	
homeobox 7	
cytochrome P450, family 78, subfamily A, polypeptide 6	
auxin response factor 18	
Integrase-type DNA-binding superfamily protein	
Cytochrome b561/ferric reductase transmembrane with DOMON related domain	

RING/U-box superfamily protein thylakoid rhodanese-like TRICHOME BIREFRINGENCE-LIKE 25 Cytochrome b561/ferric reductase transmembrane with DOMON related domain ribonuclease 2 NB-ARC domain-containing disease resistance protein NB-ARC domain-containing disease resistance protein Dihydroneopterin aldolase cytochrome P450, family 86, subfamily A, polypeptide 8 glycerol-3-phosphate acyltransferase 8 alpha/beta-Hydrolases superfamily protein K ⁺ efflux antiporter 2 NAD(P)-binding Rossmann-fold superfamily protein NAD(P)-binding Rossmann-fold superfamily protein homeodomain GLABROUS 1 S-adenosyl-L-methionine-dependent methyltransferases superfamily protein TCP family transcription factor mitotic-like cyclin 3B from Arabidopsis Tho complex subunit 7/Mft1p glutaredoxin-related SIN3 associated polypeptide P18 D-isomer specific 2-hydroxyacid dehydrogenase family protein alpha/beta-Hydrolases superfamily protein cytochrome P450, family 704, subfamily A, polypeptide 2 cytochrome P450, family 704, subfamily A, polypeptide 2 ABI-1-like 1 Adenine nucleotide alpha hydrolases-like superfamily protein polyol/monosaccharide transporter 5 heat shock transcription factor C1 serine-rich protein-related arabinogalactan protein 22 cytochrome P450, family 71, subfamily A, polypeptide 22 DNase I-like superfamily protein DNase I-like superfamily protein Complex I subunit NDUFS6 C2 domain-containing protein Calmodulin binding protein-like ATP-binding cassette A2 Protein kinase superfamily protein Protein kinase superfamily protein	
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chlorophyllase 1

Protein phosphatase 2C family protein
Calcium-dependent lipid-binding (CaLB domain) family protein
MAP kinase kinase 9

Matrixin family protein
Plant protein of unknown function (DUF247)
photosystem II subunit Q-2
ribosomal protein L4

Acyl transferase/acyl hydrolase/lysophospholipase superfamily protein
Acyl transferase/acyl hydrolase/lysophospholipase superfamily protein
Nucleoside diphosphate kinase family protein
basic helix-loop-helix (bHLH) DNA-binding superfamily protein
basic helix-loop-helix (bHLH) DNA-binding superfamily protein
Histone H3 K4-specific methyltransferase SET7/9 family protein
Zinc-binding ribosomal protein family protein
2-oxoglutarate (2OG) and Fe(II)-dependent oxygenase superfamily protein
DYNAMIN-like 1E

Fatty acid hydroxylase superfamily
multidrug resistance-associated protein 9
Calcium-binding EF hand family protein
myo-inositol oxygenase 4
CCCH-type zinc finger family protein
Leucine-rich repeat transmembrane protein kinase protein
tetraspanin2
cytidine deaminase 1

Transcriptional factor B3 family protein / auxin-responsive factor AUX/IAA-related
Pectinacetylsterase family protein
Pectinacetylsterase family protein
Pentatricopeptide repeat (PPR-like) superfamily protein
proteolysis 6
Barwin-like endoglucanases superfamily protein

GRAS family transcription factor
laccase 17
laccase 17

Concanavalin A-like lectin protein kinase family protein

NAD(P)-binding Rossmann-fold superfamily protein
NAD(P)-binding Rossmann-fold superfamily protein

conserved peptide upstream open reading frame 7

TTF-type zinc finger protein with HAT dimerisation domain

Bifunctional inhibitor/lipid-transfer protein/seed storage 2S albumin superfamily protein

glutathione S-transferase TAU 8

glutathione S-transferase TAU 8

glutathione S-transferase TAU 8

glutathione S-transferase tau 7

glutathione S-transferase TAU 8

RING/FYVE/PHD zinc finger superfamily protein

Laccase/Diphenol oxidase family protein

receptor like protein 21

phosphate transporter 4;2

peptide transporter 1

glycerol-3-phosphate acyltransferase 6

Transmembrane amino acid transporter family protein

GroES-like zinc-binding dehydrogenase family protein

cation exchanger 3

SGNH hydrolase-type esterase superfamily protein

Plant protein of unknown function (DUF828)

Protein of unknown function (DUF688)

PYR1-like 4

TRICHOME BIREFRINGENCE-LIKE 34

Leucine-rich repeat protein kinase family protein

MATE efflux family protein

Disease resistance-responsive (dirigent-like protein) family protein

cytochrome P450, family 71, subfamily B, polypeptide 35

exocyst complex component sec10

allene oxide synthase

cytochrome b6f complex subunit (petM), putative

2-oxoglutarate (2OG) and Fe(II)-dependent oxygenase superfamily protein

basic helix-loop-helix (bHLH) DNA-binding superfamily protein

CHASE domain containing histidine kinase protein

endonucleases

embryo defective 1273

conserved peptide upstream open reading frame 37

dynamamin-related protein 3A
basic helix-loop-helix (bHLH) DNA-binding superfamily protein
CBS domain-containing protein with a domain of unknown function (DUF21)

terpene synthase 14
Octicosapeptide/Phox/Bem1p family protein
F-box family protein

HAL2-like

Pentatricopeptide repeat (PPR) superfamily protein
phosphate 2
MIF4G domain-containing protein / MA3 domain-containing protein
Ribosomal protein S5 family protein

Glucose-6-phosphate/phosphate translocator-related
glutamate receptor 2.7

Cysteine proteinases superfamily protein
Actin-binding FH2 (formin homology 2) family protein
Haloacid dehalogenase-like hydrolase (HAD) superfamily protein

Plant stearyl-acyl-carrier-protein desaturase family protein

myb-like transcription factor family protein

alpha/beta-Hydrolases superfamily protein
Cyclin-dependent kinase inhibitor family protein
protein disulfide isomerases
LAG1 homologue 2
cytochrome P450, family 707, subfamily A, polypeptide 4
nitrite reductase 1

Protein kinase superfamily protein
Nucleic acid-binding, OB-fold-like protein
plant U-box 26
RNA-binding (RRM/RBD/RNP motifs) family protein
Plant protein of unknown function (DUF869)
Leucine-rich repeat (LRR) family protein

hydroxyproline-rich glycoprotein family protein

serine carboxypeptidase-like 50
sulfate transporter 91
Calcium-dependent lipid-binding (CaLB domain) family protein
Cytochrome c

phloem protein 2-A1
SBP (S-ribonuclease binding protein) family protein

Rubisco methyltransferase family protein
expansin A15
Calcium-binding EF-hand family protein
RING/U-box superfamily protein

S-adenosyl-L-methionine-dependent methyltransferases superfamily protein
S-adenosylmethionine synthetase 2
Protein of unknown function, DUF538
Tetratricopeptide repeat (TPR)-like superfamily protein
molybdopterin biosynthesis MoaE family protein
molybdopterin biosynthesis MoaE family protein
homolog of yeast oxidase assembly 1 (OXA1)
ribosomal protein S1
Plant neutral invertase family protein

Plant invertase/pectin methylesterase inhibitor superfamily protein
sequence-specific DNA binding transcription factors
PAS domain-containing protein tyrosine kinase family protein

lipoamide dehydrogenase 1
Ribosomal L29e protein family
MLP-like protein 423
MLP-like protein 423
MLP-like protein 423
Pectin lyase-like superfamily protein
ethylene-responsive element binding protein
ralf-like 33

alanine-tRNA ligases;nucleic acid binding;ligases, forming aminoacyl-tRNA and related comp
CW-type Zinc Finger
Thioredoxin superfamily protein
Glutaredoxin family protein
Uncharacterised protein family (UPF0497)
Uncharacterised protein family (UPF0497)
pyruvate orthophosphate dikinase
UDP-Glycosyltransferase superfamily protein
UDP-glycosyltransferase 73B4
alpha/beta-Hydrolases superfamily protein
alpha/beta-Hydrolases superfamily protein
RNA-binding (RRM/RBD/RNP motifs) family protein

SNARE associated Golgi protein family

beta glucosidase 46
Protein of unknown function, DUF584
Peroxidase superfamily protein
Met-10+ like family protein / kelch repeat-containing protein
ethylene-forming enzyme
Phosphotyrosine protein phosphatases superfamily protein
Protein of unknown function (DUF506)
Cystatin/monellin superfamily protein
Inositol monophosphatase family protein
oligopeptide transporter
5'-AMP-activated protein kinase beta-2 subunit protein
O-Glycosyl hydrolases family 17 protein

fatty acid amide hydrolase
SAUR-like auxin-responsive protein family
Sec14p-like phosphatidylinositol transfer family protein
Rubredoxin-like superfamily protein
Homeodomain-like superfamily protein
magnesium-protoporphyrin IX methyltransferase
acyl carrier protein 4
basic helix-loop-helix (bHLH) DNA-binding superfamily protein
homolog of Medicago truncatula MTN3
beta-6 tubulin
plasma membrane intrinsic protein 1;4
Protein kinase superfamily protein
Protein of unknown function (DUF604)
Pectin lyase-like superfamily protein
myb domain protein 103
from the Czech '\roh\' meaning '\corner\'
monodehydroascorbate reductase 6
1-aminocyclopropane-1-carboxylic acid (acc) synthase 6
WRKY family transcription factor
Protein of unknown function (DUF567)

HMG (high mobility group) box protein
glycosyl hydrolase 9C2
Translation elongation factor EF1B/ribosomal protein S6 family protein
CCCH-type zinc finger family protein
O-Glycosyl hydrolases family 17 protein
6-phosphogluconate dehydrogenase family protein
Nucleotide-diphospho-sugar transferases superfamily protein
Senescence/dehydration-associated protein-related

phytochrome-associated protein 2

BURP domain-containing protein	
Regulator of Vps4 activity in the MVB pathway protein	
alpha/beta-Hydrolases superfamily protein	
O-Glycosyl hydrolases family 17 protein	
Plant invertase/pectin methylesterase inhibitor superfamily protein	
tRNA synthetase class II (D, K and N) family protein	
Plant invertase/pectin methylesterase inhibitor superfamily	
Phosphoglucosyltransferase/phosphomannosyltransferase family protein	
Protein kinase superfamily protein	
TRF-like 5	
RING/U-box superfamily protein	
Protein of unknown function, DUF599	
FKBP-like peptidyl-prolyl cis-trans isomerase family protein	
Calcium-binding EF-hand family protein	
Pathogenesis-related thaumatin superfamily protein	
ABC-2 type transporter family protein	
tetratricopeptide domain-containing thioredoxin	
purple acid phosphatase 17	
annexin 5	
alpha/beta-Hydrolases superfamily protein	
sugar transporter 1	
Octicosapeptide/Phox/Bem1p family protein	
PLAC8 family protein	
BAK1-interacting receptor-like kinase 1	
NAD(P)-linked oxidoreductase superfamily protein	
UDP-glucosyl transferase 78D2	
Haloacid dehalogenase-like hydrolase (HAD) superfamily protein	
Core-2/I-branching beta-1,6-N-acetylglucosaminyltransferase family protein	
HSP20-like chaperones superfamily protein	
HSP20-like chaperones superfamily protein	
conserved peptide upstream open reading frame 37	
RING/U-box superfamily protein	
LMBR1-like membrane protein	
white-brown complex homolog protein 11	
white-brown complex homolog protein 11	
tobamovirus multiplication 1	
Thioesterase superfamily protein	

light harvesting complex photosystem II subunit 6	
loricrin-related	
Pyridoxal phosphate (PLP)-dependent transferases superfamily protein	
G-box binding factor 4	
P-loop containing nucleoside triphosphate hydrolases superfamily protein	
FAD-binding Berberine family protein	
FAD-binding Berberine family protein	
chlorophyll A/B binding protein 1	
RECQ helicase 11	
FK506-binding protein 13	
potassium transporter 1	
Malectin/receptor-like protein kinase family protein	
purple acid phosphatase 3	
purple acid phosphatase 8	
cytochrome P450, family 77, subfamily A, polypeptide 5 pseudogene	
inorganic carbon transport protein-related	
conserved peptide upstream open reading frame 29	
Aldolase-type TIM barrel family protein	
TEOSINTE BRANCHED 1, cycloidea and PCF transcription factor 2	
inositol transporter 2	
Chaperone DnaJ-domain superfamily protein	
Remorin family protein	
cytochrome P450, family 78, subfamily A, polypeptide 5	
Rubber elongation factor protein (REF)	
Ribosome associated membrane protein RAMP4	
K-box region and MADS-box transcription factor family protein	
Amidase family protein	
Amidase family protein	
FKBP-type peptidyl-prolyl cis-trans isomerase family protein	
Mitochondrial transcription termination factor family protein	
xyloglucan endotransglucosylase/hydrolase 16	
UDP-D-glucuronate 4-epimerase 6	
Chalcone and stilbene synthase family protein	
Subtilisin-like serine endopeptidase family protein	
Chalcone and stilbene synthase family protein	
Chalcone and stilbene synthase family protein	
Chalcone and stilbene synthase family protein	
Protein of unknown function, DUF538	
Ribosomal protein L32e	
conserved peptide upstream open reading frame 5	
Granulin repeat cysteine protease family protein	

Leucine-rich repeat protein kinase family protein
cellulose synthase family protein
Transducin/WD40 repeat-like superfamily protein

glutathione S-transferase tau 7
ER lumen protein retaining receptor family protein
FASCICLIN-like arabinogalactan-protein 12
FASCICLIN-like arabinogalactan-protein 11
SH3 domain-containing protein
Adenine nucleotide alpha hydrolases-like superfamily protein
Protein kinase superfamily protein
2Fe-2S ferredoxin-like superfamily protein
endoplasmic reticulum-type calcium-transporting ATPase 3
Protein kinase superfamily protein
RAB GTPase homolog A4A
Lipase/lipoxygenase, PLAT/LH2 family protein
VQ motif-containing protein

sulfate transporter 2;1
FK506-binding protein 16-2
bZIP transcription factor family protein
ferulic acid 5-hydroxylase 1
ABC2 homolog 13

S-adenosylmethionine carrier 1
alkaline/neutral invertase
nodulin MtN21 /EamA-like transporter family protein

Plastid-lipid associated protein PAP / fibrillin family protein
Autophagy-related protein 13
GRAS family transcription factor
Transducin/WD40 repeat-like superfamily protein
Protein of unknown function (DUF506)
Plant invertase/pectin methylesterase inhibitor superfamily
peptide transporter 2
beta glucosidase 17
O-fucosyltransferase family protein
uroporphyrin methylase 1

Thioredoxin superfamily protein
basic helix-loop-helix (bHLH) DNA-binding superfamily protein
Leucine-rich repeat (LRR) family protein
Mog1/PsbP/DUF1795-like photosystem II reaction center PsbP family protein
C2H2-type zinc finger family protein

SAUR-like auxin-responsive protein family
callose synthase 5
cofactor of nitrate reductase and xanthine dehydrogenase 2

Myosin family protein with Dil domain
Protein of Unknown Function (DUF239)
Bifunctional inhibitor/lipid-transfer protein/seed storage 2S albumin superfamily protein
Eukaryotic aspartyl protease family protein
Phosphoglycerate kinase family protein
Eukaryotic aspartyl protease family protein
SAUR-like auxin-responsive protein family
LOB domain-containing protein 4
Galactose oxidase/kelch repeat superfamily protein
DNA-binding HORMA family protein

NAC domain containing protein 1
Leucine-rich receptor-like protein kinase family protein
glutathione S-transferase TAU 19
Nucleic acid-binding, OB-fold-like protein
nine-cis-epoxycarotenoid dioxygenase 3

Aldolase-type TIM barrel family protein
UDP-glucosyl transferase 85A2
pumilio 7
Peroxidase superfamily protein
Peroxidase superfamily protein
light harvesting complex photosystem II subunit 6
AGD2-like defense response protein 1
beta-D-xylosidase 4
Zinc-binding ribosomal protein family protein
nodulin MtN21 /EamA-like transporter family protein
Putative serine esterase family protein
HSP20-like chaperones superfamily protein
thiamin biosynthesis protein, putative
2Fe-2S ferredoxin-like superfamily protein
lipoxygenase 1
Pyridoxal phosphate phosphatase-related protein
Pyridoxal phosphate phosphatase-related protein
Pyridoxal phosphate phosphatase-related protein
translocon at the outer membrane of chloroplasts 64-III
Leucine-rich repeat protein kinase family protein
Leucine-rich repeat protein kinase family protein
Leucine-rich repeat protein kinase family protein

Leucine-rich repeat transmembrane protein kinase protein GDSL-like Lipase/Acylhydrolase superfamily protein HAD superfamily, subfamily IIIB acid phosphatase HAD superfamily, subfamily IIIB acid phosphatase HAD superfamily, subfamily IIIB acid phosphatase HPT phosphotransmitter 4 NADP-malic enzyme 4 Integrase-type DNA-binding superfamily protein delta tonoplast integral protein basic helix-loop-helix (bHLH) DNA-binding superfamily protein
photosystem I subunit H2 Mitochondrial substrate carrier family protein
gibberellin 3-oxidase 1
Tetratricopeptide repeat (TPR)-like superfamily protein fatty acid desaturase 5 phosphatidic acid phosphatase-related / PAP2-related Inorganic H pyrophosphatase family protein Transducin family protein / WD-40 repeat family protein Ribose 5-phosphate isomerase, type A protein basic helix-loop-helix (bHLH) DNA-binding superfamily protein basic helix-loop-helix (bHLH) DNA-binding superfamily protein S15/NS1, RNA-binding protein NAD(P)-binding Rossmann-fold superfamily protein NOD26-like intrinsic protein 6;1 Tudor/PWWP/MBT superfamily protein NRAMP metal ion transporter 6
Chaperone DnaJ-domain superfamily protein Core-2/I-branching beta-1,6-N-acetylglucosaminyltransferase family protein
Cellulose-synthase-like C5 Protein kinase superfamily protein YGGT family protein Ergosterol biosynthesis ERG4/ERG24 family SWIM zinc finger family protein ABA-responsive element binding protein 3 MLP-like protein 43 Metallo-hydrolase/oxidoreductase superfamily protein prohibitin 3
Ca(2)-dependent phospholipid-binding protein (Copine) family kunitz trypsin inhibitor 1 Leucine-rich repeat transmembrane protein kinase

Sec14p-like phosphatidylinositol transfer family protein
Acyl-CoA N-acyltransferases (NAT) superfamily protein
SNF1 kinase homolog 10
Tetratricopeptide repeat (TPR)-like superfamily protein
casein lytic proteinase B3
cytochrome P450, family 716, subfamily A, polypeptide 1
UDP-Glycosyltransferase superfamily protein
UDP-Glycosyltransferase superfamily protein
O-methyltransferase family protein
methyl esterase 11
Malectin/receptor-like protein kinase family protein
NB-ARC domain-containing disease resistance protein

Malectin/receptor-like protein kinase family protein
HXXXD-type acyl-transferase family protein
COBRA-like extracellular glycosyl-phosphatidyl inositol-anchored protein family
brassinosteroid-6-oxidase 2
auxin transport protein (BIG)
Ribosomal RNA processing Brix domain protein
conserved peptide upstream open reading frame 10

Integrase-type DNA-binding superfamily protein
Chitinase family protein
NAD(P)-linked oxidoreductase superfamily protein
Ycf1 protein
zinc ion binding;nucleic acid binding;hydrolases, acting on acid anhydrides, in phosphorus-co
Aluminium activated malate transporter family protein
Integrase-type DNA-binding superfamily protein
CLAVATA3/ESR-RELATED 27
DNA glycosylase superfamily protein
Plant protein of unknown function (DUF827)
Calcium-dependent phosphotriesterase superfamily protein

indole-3-acetic acid inducible 9
hydroxyproline-rich glycoprotein family protein
Deoxyxylulose-5-phosphate synthase
CYCLIN D4;1
Tetratricopeptide repeat (TPR)-like superfamily protein
MATE efflux family protein
nitrate transporter2.5
pantothenate kinase 2
Zinc finger (CCCH-type/C3HC4-type RING finger) family protein
spermidine synthase 1

K⁺ uptake permease 6

Duplicated homeodomain-like superfamily protein

Purple acid phosphatases superfamily protein

SIN3-like 3

Leucine-rich repeat receptor-like protein kinase family protein

homeobox 1

voltage dependent anion channel 1

basic helix-loop-helix (bHLH) DNA-binding superfamily protein

Galactose oxidase/kelch repeat superfamily protein

phytochrome kinase substrate 1

chromatin remodeling 5

Pectin lyase-like superfamily protein

disease resistance protein (TIR-NBS-LRR class), putative

polyamine oxidase 2

photosystem II subunit P-1

Tetratricopeptide repeat (TPR)-like superfamily protein

PHYTOENE SYNTHASE

GDSL-like Lipase/Acylhydrolase superfamily protein

glucan synthase-like 11

sucrose phosphate synthase 3F

spermidine hydroxycinnamoyl transferase

glucose 6-phosphate/phosphate translocator 1

DEA(D/H)-box RNA helicase family protein

polymerase gamma 2

transcription factor jumonji (jmjC) domain-containing protein

fatty acid desaturase A

Protein of unknown function (DUF594)

Protein of unknown function, DUF584

NB-ARC domain-containing disease resistance protein

Eukaryotic aspartyl protease family protein

Eukaryotic aspartyl protease family protein

S-locus lectin protein kinase family protein

ENHANCED DOWNY MILDEW 2

ENHANCED DOWNY MILDEW 2

CCCH-type zinc fingerfamily protein with RNA-binding domain

multidrug resistance-associated protein 3

multidrug resistance-associated protein 3

FASCICLIN-like arabinogalactan 1

nudix hydrolase homolog 2

cellulose synthase like E1

Sec14p-like phosphatidylinositol transfer family protein
FKBP-like peptidyl-prolyl cis-trans isomerase family protein
uridine kinase-like 4
alpha-glucan phosphorylase 2
Plant protein of unknown function (DUF641)
proliferating cell nuclear antigen 2
cation exchanger 5
Chaperone DnaJ-domain superfamily protein
BTB/POZ domain-containing protein
UDP-Glycosyltransferase superfamily protein
UDP-Glycosyltransferase superfamily protein
AP2/B3-like transcriptional factor family protein

DYNAMIN-like 1E
protein kinase family protein
Kunitz family trypsin and protease inhibitor protein
kunitz trypsin inhibitor 1
kunitz trypsin inhibitor 1
kunitz trypsin inhibitor 1
kunitz trypsin inhibitor 1
Lactoylglutathione lyase / glyoxalase I family protein
stomagen
Protein of unknown function (DUF760)
Oxidoreductase, zinc-binding dehydrogenase family protein
UDP-glucosyl transferase 73B1
purple acid phosphatase 15
Protein with RNI-like/FBD-like domains

2-oxoglutarate (2OG) and Fe(II)-dependent oxygenase superfamily protein
protein serine/threonine kinases;protein kinases;ATP binding;sugar binding;kinases;carbohydrate
protein serine/threonine kinases;protein kinases;ATP binding;sugar binding;kinases;carbohydrate
Ribosomal protein L13 family protein
CLAVATA3/ESR-RELATED 41
Tetratricopeptide repeat (TPR)-like superfamily protein
Leucine-rich repeat transmembrane protein kinase family protein

inositol transporter 1

Aldolase-type TIM barrel family protein
YCF9

Protein of unknown function (DUF1624)
Ribosomal protein PSRP-3/Ycf65
LOB domain-containing protein 41
zeaxanthin epoxidase (ZEP) (ABA1)
ribosomal protein 1
O-fucosyltransferase family protein

aspartic proteinase A1
STRUBBELIG-receptor family 8

Phosphofructokinase family protein
ethylene-forming enzyme
Protein of unknown function (DUF3537)
indole-3-butyric acid response 1
Protein kinase superfamily protein

cationic amino acid transporter 8
acyl-CoA sterol acyl transferase 1

Inositol monophosphatase family protein

mitochondrial acyl carrier protein 3
nuclear factor Y, subunit B3
Calcium-dependent lipid-binding (CaLB domain) family protein
Wall-associated kinase family protein
Copper transport protein family
seed imbibition 2
Zinc finger (C3HC4-type RING finger) family protein

Leucine-rich repeat protein kinase family protein
O-fucosyltransferase family protein
NB-ARC domain-containing disease resistance protein
peroxidase 2
Peroxidase superfamily protein
Peroxidase superfamily protein
nuclear factor Y, subunit A7

Leucine-rich receptor-like protein kinase family protein
dicer-like 2
fatty acid hydroxylase 1
Wall-associated kinase family protein
Wall-associated kinase family protein
FAD-binding Berberine family protein

homolog of yeast FIP1 [V]
aldehyde dehydrogenase 22A1

Ribosomal L29e protein family
chitinase-like protein 2
cAMP-regulated phosphoprotein 19-related protein

Glycine-rich protein family

ethylene-responsive element binding protein

2-oxoglutarate (2OG) and Fe(II)-dependent oxygenase superfamily protein

plasma-membrane associated cation-binding protein 1

Domain of unknown function (DUF23)

cytochrome P450, family 81, subfamily D, polypeptide 3

Leucine-rich repeat protein kinase family protein

VQ motif-containing protein

FTSH protease 8

Ankyrin repeat family protein

Ankyrin repeat family protein

Ankyrin repeat family protein

metaxin-related

OSBP(oxysterol binding protein)-related protein 4B

PA-domain containing subtilase family protein

proteasome inhibitor-related

DNA ligase IV

basic helix-loop-helix (bHLH) DNA-binding superfamily protein

Ribosomal protein L30/L7 family protein

plant intracellular ras group-related LRR 6

NB-ARC domain-containing disease resistance protein

xyloglucan endotransglycosylase 6

beta-galactosidase 12

polyamine oxidase 5

cytokinin oxidase 3

DNA-directed RNA polymerase family protein

AGC (cAMP-dependent, cGMP-dependent and protein kinase C) kinase family protein

homology to ABI1

homolog of CFIM-25

tolB protein-related

photosystem II subunit X

BREVIS RADIX-like 4

Acyl-CoA N-acyltransferases (NAT) superfamily protein

Cysteine proteinases superfamily protein

DEAD/DEAH box RNA helicase family protein

DEAD/DEAH box RNA helicase family protein

photosystem I light harvesting complex gene 6

jasmonate-zim-domain protein 1

protein kinase family protein / C-type lectin domain-containing protein

Riboflavin synthase-like superfamily protein

photosystem II subunit X Plant invertase/pectin methylesterase inhibitor superfamily Ribosomal L18p/L5e family protein Nucleotide-sugar transporter family protein aspartic proteinase A1 Subtilase family protein UDP-glucosyl transferase 71C4 inositol transporter 2 inositol transporter 2 photosystem I subunit K Tetratricopeptide repeat (TPR)-like superfamily protein Mitochondrial transcription termination factor family protein Photosystem I, PsaA/PsaB protein	
flavin-dependent monooxygenase 1 Cyclophilin-like peptidyl-prolyl cis-trans isomerase family protein	
SOS3-interacting protein 3 S-locus lectin protein kinase family protein nodulin MtN21 /EamA-like transporter family protein zinc finger protein 8 actin 1 fatty acid desaturase 2 F-box family protein with a domain of unknown function (DUF295) cytochrome P450, family 721, subfamily A, polypeptide 1	
amino acid transporter 1 Caleosin-related family protein hAT dimerisation domain-containing protein / transposase-related Caleosin-related family protein SLAC1 homologue 3 UDP-glucosyl transferase 88A1 Nucleolar GTP-binding protein FBD, F-box, Skp2-like and Leucine Rich Repeat domains containing protein	
beta-hydroxylase 1	
Calcium-dependent lipid-binding (CaLB domain) family protein HXXXD-type acyl-transferase family protein hydroxyproline-rich glycoprotein family protein AMP-dependent synthetase and ligase family protein Arabidopsis thaliana protein of unknown function (DUF821) Ribosomal protein L6 family S-adenosyl-L-methionine-dependent methyltransferases superfamily protein	

cytochrome P450, family 716, subfamily A, polypeptide 2
phloem protein 2-A13
SEUSS-like 2
carboxyesterase 20
Protein kinase superfamily protein
cysteine-rich RLK (RECEPTOR-like protein kinase) 25
cysteine-rich RLK (RECEPTOR-like protein kinase) 10
2 iron, 2 sulfur cluster binding
Protein of unknown function (DUF668)
Enolase
Leucine-rich repeat protein kinase family protein
light harvesting complex of photosystem II 5
Arabidopsis thaliana protein of unknown function (DUF794)
RmlC-like cupins superfamily protein

Kunitz family trypsin and protease inhibitor protein
chloride channel C
Protein of unknown function, DUF599
Protein of unknown function (DUF789)
Endosomal targeting BRO1-like domain-containing protein
Kunitz family trypsin and protease inhibitor protein

GRAM domain-containing protein / ABA-responsive protein-related

Protein of unknown function (DUF761)
beta-amylase 1
glutamate decarboxylase 5
NAD(P)-linked oxidoreductase superfamily protein
embryo sac development arrest 7
Homeodomain-like superfamily protein
Tetratricopeptide repeat (TPR)-like superfamily protein
MAP kinase kinase 9
ATP binding;nucleic acid binding;helicases
S-adenosyl-L-methionine-dependent methyltransferases superfamily protein
Auxin efflux carrier family protein
ATP binding;nucleic acid binding;helicases
zinc finger (Ran-binding) family protein
MATE efflux family protein

Heavy metal transport/detoxification superfamily protein
Octicosaepptide/Phox/Bem1p family protein
RING/U-box superfamily protein
Protein kinase superfamily protein
Calmodulin binding protein-like
ortholog of human splicing factor SC35
B-box type zinc finger protein with CCT domain

C-8,7 sterol isomerase
alpha/beta-Hydrolases superfamily protein
sulfate transporter 3;5
arabinogalactan protein 22
serine-rich protein-related
Adenine nucleotide alpha hydrolases-like superfamily protein

Exostosin family protein
plant intracellular ras group-related LRR 4
O-acyltransferase (WSD1-like) family protein
RING/U-box superfamily protein
Endoribonuclease/protein kinase IRE1-like
Protein kinase superfamily protein
Protein kinase superfamily protein
Disease resistance-responsive (dirigent-like protein) family protein

Dof-type zinc finger DNA-binding family protein
Protein of unknown function (duplicated DUF1399)
phosphoenolpyruvate carboxykinase 1

starch synthase 4
Polyketide cyclase/dehydrase and lipid transport superfamily protein
RNA-binding (RRM/RBD/RNP motifs) family protein
P-glycoprotein 2

Transcription factor jumonji (jnj) family protein / zinc finger (C5HC2 type) family protein
homeobox-7
NB-ARC domain-containing disease resistance protein
NB-ARC domain-containing disease resistance protein
Protein of unknown function (DUF3464)
DZC (Disease resistance/zinc finger/chromosome condensation-like region) domain containin
conserved peptide upstream open reading frame 25

Pectinacetylerase family protein

Uncharacterised protein family (UPF0114)
Long-chain fatty alcohol dehydrogenase family protein
cytochrome P450, family 707, subfamily A, polypeptide 1
SAUR-like auxin-responsive protein family
SAUR-like auxin-responsive protein family
SAUR-like auxin-responsive protein family
SAUR-like auxin-responsive protein family
SAUR-like auxin-responsive protein family

phosphate starvation-induced gene 3	
peroxin 11B	
Protein kinase superfamily protein	
Nucleic acid-binding, OB-fold-like protein	
2-oxoglutarate (2OG) and Fe(II)-dependent oxygenase superfamily protein	
purple acid phosphatase 10	
C2H2-like zinc finger protein	
Glycosyl hydrolases family 32 protein	
Plant invertase/pectin methylesterase inhibitor superfamily protein	
P-loop containing nucleoside triphosphate hydrolases superfamily protein	
EXORDIUM like 3	
pectin methylesterase 31	
EXS (ERD1/XPR1/SYG1) family protein	
nitrate transporter 1.5	
GAST1 protein homolog 4	
myb domain protein 30	
O-acyltransferase (WSD1-like) family protein	
Galactose mutarotase-like superfamily protein	
homeobox-leucine zipper protein 3	
Protein kinase superfamily protein	
Rhodanese/Cell cycle control phosphatase superfamily protein	
isopentenyl pyrophosphate:dimethylallyl pyrophosphate isomerase 2	
photosystem I subunit I	
Auxin efflux carrier family protein	
Heavy metal transport/detoxification superfamily protein	
Ribosomal L5P family protein	
Pectin lyase-like superfamily protein	
cysteine synthase C1	
C2 calcium/lipid-binding plant phosphoribosyltransferase family protein	
Major Facilitator Superfamily with SPX (SYG1/Pho81/XPR1) domain-containing protein	
xylem serine peptidase 1	
Tetratricopeptide repeat (TPR)-like superfamily protein	
calmodulin like 42	
disease resistance family protein / LRR family protein	
disease resistance family protein / LRR family protein	
serine/threonine protein kinase 2	
Protein of unknown function, DUF599	
RING/U-box superfamily protein	
MAC/Perforin domain-containing protein	
Peroxidase superfamily protein	
ENTH/VHS/GAT family protein	

Nuclear transport factor 2 (NTF2) family protein
Protein phosphatase 2C family protein
O-methyltransferase 1
uridine-ribohydrolase 2

CBL-interacting protein kinase 7
3-ketoacyl-CoA synthase 11
Protein of unknown function (DUF506)
rna processing factor 2

peptide transporter 3

Lactate/malate dehydrogenase family protein
ethylene response factor 1

WRKY DNA-binding protein 23
basic region/leucine zipper motif 53
thioredoxin family protein

Pectin lyase-like superfamily protein
senescence-associated gene 21
poly(ADP-ribose) polymerase
magnesium/proton exchanger
putative indole-3-acetic acid-amido synthetase GH3.9
Thioredoxin superfamily protein
B-box type zinc finger protein with CCT domain
oxidoreductase, 2OG-Fe(II) oxygenase family protein

receptor-like protein kinase-related family protein
Protein of unknown function (DUF3049)
chloroplast stem-loop binding protein of 41 kDa
ribosome recycling factor, chloroplast precursor
Plant protein of unknown function (DUF868)
Bifunctional inhibitor/lipid-transfer protein/seed storage 2S albumin superfamily protein
DNase I-like superfamily protein
heat shock transcription factor A6B

AUX/IAA transcriptional regulator family protein
photosystem II reaction center W
galacturonosyltransferase 6
winged-helix DNA-binding transcription factor family protein
Myosin family protein with Dil domain
phosphate transporter 1;4

phosphate starvation response 1
photosystem II reaction center PSB28 protein
photosystem I subunit E-2
photosystem I subunit E-2
Protein of unknown function (DUF3741)
CLIP-associated protein
pyrophosphorylase 4
aluminum sensitive 3
Glutathione S-transferase family protein
Ypt/Rab-GAP domain of gyp1p superfamily protein
alpha/beta-Hydrolases superfamily protein

Peroxidase superfamily protein

Protein kinase superfamily protein
Putative lysine decarboxylase family protein
cyclic nucleotide-gated channel 15

spermidine hydroxycinnamoyl transferase
Pathogenesis-related thaumatin superfamily protein

Pathogenesis-related thaumatin superfamily protein
Pathogenesis-related thaumatin superfamily protein

PLATZ transcription factor family protein
Aldolase superfamily protein
Leucine-rich repeat protein kinase family protein
Ubiquitin C-terminal hydrolases superfamily protein

F-box family protein
AP2/B3-like transcriptional factor family protein
Ovate family protein
Thioredoxin superfamily protein
Double Clp-N motif-containing P-loop nucleoside triphosphate hydrolases superfamily protein

nuclear factor Y, subunit A10
MD-2-related lipid recognition domain-containing protein / ML domain-containing protein
Sucrose-6F-phosphate phosphohydrolase family protein
alpha/beta-Hydrolases superfamily protein
actin-related protein 7
Photosystem II 5 kD protein
photosystem II subunit T

topoisomerase II	
sterol methyltransferase 1	
2-oxoglutarate (2OG) and Fe(II)-dependent oxygenase superfamily protein	
Protein kinase superfamily protein	
Protein kinase superfamily protein	
L-galactono-1,4-lactone dehydrogenase	
UDP-Glycosyltransferase superfamily protein	
IQ-domain 12	
MAP kinase kinase 6	
UDP-Glycosyltransferase superfamily protein	
S-adenosyl-L-methionine-dependent methyltransferases superfamily protein	
tRNA synthetase beta subunit family protein	
Integrase-type DNA-binding superfamily protein	
microtubule-associated protein 65-7	
exocyst subunit exo70 family protein A1	
MUTL protein homolog 1	
expansin B2	
P-loop containing nucleoside triphosphate hydrolases superfamily protein	
BLISTER	
Ran BP2/NZF zinc finger-like superfamily protein	
Ran BP2/NZF zinc finger-like superfamily protein	
triglyceride lipases;triglyceride lipases	
ammonium transporter 1;1	
S-adenosyl-L-methionine-dependent methyltransferases superfamily protein	
proton gradient regulation 5	
actin-related protein C2B	
RAD-like 3	
WRKY family transcription factor	
Pectinacetylerase family protein	
rotamase CYP 4	
germin-like protein 10	
germin-like protein 10	
Pectinacetylerase family protein	
myb domain protein 61	
neurofilament protein-related	
phytochrome interacting factor 3	
Protein kinase superfamily protein	
galactinol synthase 1	

Protein of unknown function, DUF538
Metallopeptidase M24 family protein

Calmodulin-binding protein
Tetratricopeptide repeat (TPR)-like superfamily protein
translationally controlled tumor protein
rapid alkalization factor 1
Photosystem II reaction center PsbP family protein
Heavy metal transport/detoxification superfamily protein
RING/U-box superfamily protein
thylakoid lumen 18.3 kDa protein
ROP binding protein kinases 2

cysteine synthase D1
Cytidine/deoxycytidylate deaminase family protein
Duplicated homeodomain-like superfamily protein

NAD(P)-linked oxidoreductase superfamily protein
calmodulin 8
Bacterial sec-independent translocation protein mttA/Hcf106
Pentatricopeptide repeat (PPR) superfamily protein
winged-helix DNA-binding transcription factor family protein
Plant protein of unknown function (DUF946)
phosphoenolpyruvate carboxylase kinase 1

ammonium transporter 1;2
ammonium transporter 1;2
Heavy metal transport/detoxification superfamily protein
Transcription factor jumonji (jmj) family protein / zinc finger (C5HC2 type) family protein
Polyketide cyclase/dehydrase and lipid transport superfamily protein
alpha/beta-Hydrolases superfamily protein
Yippee family putative zinc-binding protein

RING/FYVE/PHD zinc finger superfamily protein
light harvesting complex of photosystem II 5
EXORDIUM like 5
CBL-interacting protein kinase 4
indole-3-acetic acid inducible 14
myb domain protein 15
Protein phosphatase 2C family protein
phosphate 1
disease resistance protein (TIR-NBS-LRR class), putative
Serine protease inhibitor, potato inhibitor I-type family protein
phosphate transporter 1;7
proline-rich protein 1

HR-like lesion-inducing protein-related
Signal transduction histidine kinase, hybrid-type, ethylene sensor
Cyclopropane-fatty-acyl-phospholipid synthase
GRAS family transcription factor family protein
Tetratricopeptide repeat (TPR)-like superfamily protein
glutathione S-transferase TAU 15
Tetratricopeptide repeat (TPR)-like superfamily protein
Fe superoxide dismutase 2
Cupredoxin superfamily protein
UDP-Glycosyltransferase superfamily protein
Protein of unknown function (DUF594)
vitamin E pathway gene 5
Pyruvate kinase family protein
Cysteine proteinases superfamily protein
cytochrome P450, family 77, subfamily A, polypeptide 4
cytochrome P450, family 76, subfamily C, polypeptide 1
Zn-dependent exopeptidases superfamily protein
myb-like transcription factor family protein
ROTUNDIFOLIA like 17
phosphoenolpyruvate carboxylase 4
ABC-2 type transporter family protein

basic helix-loop-helix (bHLH) DNA-binding superfamily protein

DVL family protein
Transmembrane amino acid transporter family protein
photosystem I subunit I
phenylalanine ammonia-lyase 2
para-aminobenzoate (PABA) synthase family protein
tetraspanin6
serine carboxypeptidase-like 27
GTP binding Elongation factor Tu family protein

LOB domain-containing protein 1

SNARE associated Golgi protein family
Subunits of heterodimeric actin filament capping protein Capz superfamily
NOD26-like intrinsic protein 5;1
Protein kinase superfamily protein
Protein of unknown function (DUF3511)
Peroxidase superfamily protein
Ribosomal protein S13/S18 family

Inositol monophosphatase family protein

nucleotide binding;nucleic acid binding
RING/FYVE/PHD zinc finger superfamily protein
disease resistance family protein / LRR family protein
Protein kinase superfamily protein
SLAC1 homologue 3
detoxifying efflux carrier 35
Divalent ion symporter

alpha/beta-Hydrolases superfamily protein
SIGNAL PEPTIDE PEPTIDASE-LIKE 1

Pectinacetylesterase family protein
SNARE-like superfamily protein
Sugar isomerase (SIS) family protein
phloem protein 2-A13
phosphoglucomutase
2-oxoglutarate (2OG) and Fe(II)-dependent oxygenase superfamily protein
alpha-L-fucosidase 1
heat shock transcription factor A6B
Leucine-rich repeat (LRR) family protein
Bifunctional inhibitor/lipid-transfer protein/seed storage 2S albumin superfamily protein
Protein of unknown function (DUF1677)
photosystem I subunit D-2
time for coffee
alpha/beta-Hydrolases superfamily protein
Glycoprotein membrane precursor GPI-anchored
thiazole biosynthetic enzyme, chloroplast (ARA6) (THI1) (THI4)

cysteine-rich RLK (RECEPTOR-like protein kinase) 29
Inositol 1,3,4-trisphosphate 5/6-kinase family protein

Glycosyl hydrolase family 10 protein
1,2-alpha-L-fucosidases
stress enhanced protein 1
Leucine-rich repeat (LRR) family protein
Heavy metal transport/detoxification superfamily protein
MATE efflux family protein

RING-H2 finger A2A
B-box zinc finger family protein

trehalose phosphatase/synthase 5

3-ketoacyl-CoA synthase 6
Integrase-type DNA-binding superfamily protein

conserved peptide upstream open reading frame 53
Aluminium activated malate transporter family protein
Major facilitator superfamily protein
Major facilitator superfamily protein
ovate family protein 13

Homeodomain-like superfamily protein
ACT-like protein tyrosine kinase family protein
Transcription factor jumonji (jnjC) domain-containing protein
alpha/beta-Hydrolases superfamily protein
COP1-interacting protein 8
2-oxoglutarate dehydrogenase, E1 component
beta-hexosaminidase 1
Plant protein 1589 of unknown function
dehydroascorbate reductase 2
Chalcone-flavanone isomerase family protein
Leucine-rich repeat (LRR) family protein

vacuolar sorting receptor 3
gibberellin 2-oxidase 8
ribosomal protein S15A
ribosomal protein S15A
Protein of unknown function (DUF1677)
RNA-DIRECTED DNA METHYLATION 1
Bifunctional inhibitor/lipid-transfer protein/seed storage 2S albumin superfamily protein
Tetratricopeptide repeat (TPR)-like superfamily protein
4-coumarate:CoA ligase 3
Plant protein of unknown function (DUF946)
Integrase-type DNA-binding superfamily protein
acyl activating enzyme 1
SGNH hydrolase-type esterase superfamily protein
phosphoinositide 4-kinase gamma 4

AMP-dependent synthetase and ligase family protein
Protein kinase family protein
cytokinin response factor 2

brassinosteroid-responsive RING-H2
Disease resistance protein (TIR-NBS class)
SNARE associated Golgi protein family

myb domain protein 85
adenine phosphoribosyl transferase 3

plant VAP homolog 12 Eukaryotic aspartyl protease family protein Matrixin family protein Integrase-type DNA-binding superfamily protein Ribosomal protein L19 family protein TIFY domain/Divergent CCT motif family protein Haloacid dehalogenase-like hydrolase (HAD) superfamily protein plastidic pyruvate kinase beta subunit 1 nitrate transporter 1.5 glycine decarboxylase complex H basic helix-loop-helix (bHLH) DNA-binding superfamily protein Leucine-rich receptor-like protein kinase family protein peroxisomal NAD-malate dehydrogenase 2 tubulin alpha-2 chain xyloglucan endotransglucosylase/hydrolase 6 phytosulfokine 4 precursor LOB domain-containing protein 38 acyl-CoA-binding domain 3 arabinogalactan protein 18 natural resistance-associated macrophage protein 3 cytochrome P450, family 81, subfamily D, polypeptide 3 myb domain protein 73 CYCLIN D3;2 PTEN 2 Nucleotide-diphospho-sugar transferases superfamily protein Protein of unknown function (DUF579) Cystathionine beta-synthase (CBS) family protein Integrase-type DNA-binding superfamily protein S-adenosyl-L-methionine-dependent methyltransferases superfamily protein Protein of unknown function (DUF1685) Cyclin-dependent kinase inhibitor family protein Protein of unknown function, DUF547 methyl esterase 3 methyl esterase 1 GDLS-like Lipase/Acylhydrolase superfamily protein PS II oxygen-evolving complex 1 GNS1/SUR4 membrane protein family aminopeptidase P1 G-box binding factor 1 Protein phosphatase 2C family protein Late embryogenesis abundant (LEA) protein

Galactose mutarotase-like superfamily protein	
Tetratricopeptide repeat (TPR)-like superfamily protein	
NmrA-like negative transcriptional regulator family protein	
Chaperone DnaJ-domain superfamily protein	
Glycosyl hydrolase superfamily protein	
P-loop containing nucleoside triphosphate hydrolases superfamily protein	
Walls Are Thin 1	
thioredoxin H-type 1	
ferulic acid 5-hydroxylase 1	
vacuolar H ⁺ -pumping ATPase 16 kDa proteolipid subunit 4	
vascular related NAC-domain protein 1	
histone H1-3	
Pathogenesis-related thaumatin superfamily protein	
histidine kinase 1	
Putative methyltransferase family protein	
Peroxidase superfamily protein	
SEC14 cytosolic factor family protein / phosphoglyceride transfer family protein	
Arabidopsis protein of unknown function (DUF241)	
Transducin/WD40 repeat-like superfamily protein	
Auxin efflux carrier family protein	
RING/U-box superfamily protein	
plant intracellular ras group-related LRR 4	
hydroxy methylglutaryl CoA reductase 1	
Subtilisin-like serine endopeptidase family protein	
nodulin MtN21 /EamA-like transporter family protein	
SBP (S-ribonuclease binding protein) family protein	
Protein of unknown function (DUF1218)	
Glycosyl hydrolase superfamily protein	
chloroplast signal recognition particle component (CAO)	
SKU5 similar 5	
Protein of unknown function (DUF3414)	
rotamase CYP 3	
ribosomal protein L12-A	
serine carboxypeptidase-like 34	
cytochrome P450, family 86, subfamily B, polypeptide 1	
photosystem II stability/assembly factor, chloroplast (HCF136)	
glycosyl hydrolase 9C1	
Calcium-dependent lipid-binding (CaLB domain) family protein	
Major facilitator superfamily protein	
Senescence/dehydration-associated protein-related	

glycosyl hydrolase family 35 protein

fructose-bisphosphate aldolase 2

glycosyl hydrolase 9B18

salt tolerance homolog2

ARM repeat superfamily protein

conserved peptide upstream open reading frame 2

cryptochrome-interacting basic-helix-loop-helix 1

RAD-like 6

Mitochondrial transcription termination factor family protein

Mitochondrial transcription termination factor family protein

polyol/monosaccharide transporter 5

NAD(P)-binding Rossmann-fold superfamily protein

hemoglobin 1

hemoglobin 1

Cysteine/Histidine-rich C1 domain family protein

Transducin/WD40 repeat-like superfamily protein

FKBP-like peptidyl-prolyl cis-trans isomerase family protein

Plant regulator RWP-RK family protein

pfkB-like carbohydrate kinase family protein

enzyme binding;tetrapyrrole binding

calcium-dependent protein kinase 24

beta glucosidase 35

lipoxygenase 2

myb domain protein 83

MATE efflux family protein

plastid transcriptionally active 16

SCARECROW-like 14

Tim10/DDP family zinc finger protein

Histone superfamily protein

tonoplast intrinsic protein 1;3

Protein of unknown function, DUF584

plasma membrane intrinsic protein 2;4

CCT motif family protein

proline-rich family protein

FASCICLIN-like arabinogalactan-protein 11

FASCICLIN-like arabinogalactan-protein 11

FASCICLIN-like arabinogalactan-protein 11
FASCICLIN-like arabinogalactan-protein 12
FASCICLIN-like arabinogalactan-protein 11
FASCICLIN-like arabinogalactan-protein 11
FASCICLIN-like arabinogalactan-protein 12

dehydration-induced protein (ERD15)
Serine protease inhibitor, potato inhibitor I-type family protein
ribosomal protein large subunit 27

Seven transmembrane MLO family protein
response regulator 9

FASCICLIN-like arabinogalactan-protein 11
FASCICLIN-like arabinogalactan-protein 11
pheophytinase
expansin A8
Protein of unknown function (DUF3411)

Lung seven transmembrane receptor family protein
Lung seven transmembrane receptor family protein
glutamate dehydrogenase 1
Peroxidase superfamily protein

Major facilitator superfamily protein
WRKY DNA-binding protein 26
NAD(P)-binding Rossmann-fold superfamily protein
tetratricopeptide repeat (TPR)-containing protein
pentatricopeptide (PPR) repeat-containing protein

Acyl-CoA N-acyltransferases (NAT) superfamily protein

potassium transporter 1
Protein phosphatase 2C family protein

glutamine-dependent asparagine synthase 1
cleavage and polyadenylation specificity factor 100

glutamine-dependent asparagine synthase 1

Protein phosphatase 2C family protein

fructose-2,6-bisphosphatase

2-oxoglutarate (2OG) and Fe(II)-dependent oxygenase superfamily protein

Mannose-binding lectin superfamily protein

Double Clp-N motif-containing P-loop nucleoside triphosphate hydrolases superfamily protein

cytochrome P450, family 87, subfamily A, polypeptide 2

Histone superfamily protein

non-specific phospholipase C1

conserved peptide upstream open reading frame 6

NIMA (never in mitosis, gene A)-related 6

photosystem I subunit O

Protein of unknown function, DUF584

Protein of unknown function (DUF3049)

Homeodomain-like superfamily protein

WIP domain protein 3

Jojoba acyl CoA reductase-related male sterility protein

Stress responsive A/B Barrel Domain

Ribosomal protein L24e family protein

cellulose synthase-like A02

UDP-D-apiose/UDP-D-xylose synthase 2

serine carboxypeptidase-like 51

ribosomal protein L9

C2H2-type zinc finger family protein

copper/zinc superoxide dismutase 2

DNA ligase 1

Heavy metal transport/detoxification superfamily protein

Putative glycosyl hydrolase of unknown function (DUF1680)

PsbQ-like 3

cysteine-rich RLK (RECEPTOR-like protein kinase) 2

zinc ion binding;DNA binding

Concanavalin A-like lectin protein kinase family protein

TPX2 (targeting protein for Xklp2) protein family

Eukaryotic aspartyl protease family protein

Tetratricopeptide repeat (TPR)-like superfamily protein

ARM repeat superfamily protein

nudix hydrolase homolog 17

myb domain protein 20

RGA-like 2

RNA polymerase II, Rpb4, core protein

Calcium-binding EF-hand family protein

Eukaryotic aspartyl protease family protein
Tetratricopeptide repeat (TPR)-like superfamily protein
NAD(P)-binding Rossmann-fold superfamily protein
protein phosphatase 2CA
DA1-related protein 2
UDP-Glycosyltransferase superfamily protein
Protein of unknown function (DUF620)
Nucleotide-sugar transporter family protein
Duplicated homeodomain-like superfamily protein
light harvesting complex photosystem II
Alpha/beta hydrolase related protein
CRINKLY4 related 3
CRINKLY4 related 3
2-oxoglutarate (2OG) and Fe(II)-dependent oxygenase superfamily protein
LOB domain-containing protein 21
HXXXD-type acyl-transferase family protein
UDP-glucose pyrophosphorylase 3
Eukaryotic translation initiation factor 2 subunit 1
laccase 5
biotin/lipoyl attachment domain-containing protein
arogenate dehydrogenase
senescence associated gene 20
BTB/POZ domain-containing protein
Major facilitator superfamily protein
SOS3-interacting protein 1
gamma-glutamyl transpeptidase 1
gamma-glutamyl transpeptidase 1
alanine:glyoxylate aminotransferase 2
RING-H2 finger A2A
MAR binding filament-like protein 1
Eukaryotic aspartyl protease family protein
aspartate aminotransferase
sulfate transporter 2;1
Haloacid dehalogenase-like hydrolase (HAD) superfamily protein
Lipase/lipoxygenase, PLAT/LH2 family protein
RING/U-box superfamily protein
Pyridoxal-5'-phosphate-dependent enzyme family protein
photosystem II BY
heat shock protein 21
glyceraldehyde-3-phosphate dehydrogenase C subunit 1
Acid phosphatase/vanadium-dependent haloperoxidase-related protein
glycosylphosphatidylinositol-anchored lipid protein transfer 1

Calmodulin-binding transcription activator protein with CG-1 and Ankyrin domains	
MAC/Perforin domain-containing protein	
Protein of unknown function (DUF1264)	
xyloglucan endotransglucosylase/hydrolase 16	
S-adenosyl-L-homocysteine hydrolase	
UDP-D-glucuronate 4-epimerase 6	
O-methyltransferase family protein	
Sec14p-like phosphatidylinositol transfer family protein	
EXORDIUM like 3	
Plant invertase/pectin methylesterase inhibitor superfamily protein	
Leucine-rich repeat protein kinase family protein	
Leucine-rich repeat receptor-like protein kinase family protein	
Uncharacterized protein	
ROTUNDIFOLIA like 17	
sterol methyltransferase 1	
Ribosomal protein L1p/L10e family	
P-loop containing nucleoside triphosphate hydrolases superfamily protein	
phosphate starvation-induced gene 3	
gamma-tocopherol methyltransferase	
Nucleotide-diphospho-sugar transferases superfamily protein	
origin recognition complex subunit 3	
Frigida-like protein	
GRAS family transcription factor	
hydroxymethylbilane synthase	
ubiquitin-conjugating enzyme19	
GRAS family transcription factor	
expansin-like A1	
Protein of unknown function (DUF3414)	
rotamase CYP 3	
ribosomal protein L12-C	
photosystem II stability/assembly factor, chloroplast (HCF136)	
Disease resistance-responsive (dirigent-like protein) family protein	
Pathogenesis-related thaumatin superfamily protein	
Pathogenesis-related thaumatin superfamily protein	
amino acid permease 2	
myb domain protein 32	
Protein kinase protein with adenine nucleotide alpha hydrolases-like domain	
SAUR-like auxin-responsive protein family	

SAUR-like auxin-responsive protein family
B-box type zinc finger family protein
Kinesin motor family protein

Leucine-rich receptor-like protein kinase family protein
conserved peptide upstream open reading frame 2
Glucose-1-phosphate adenylyltransferase family protein
Mitochondrial transcription termination factor family protein
Erythronate-4-phosphate dehydrogenase family protein
unknown seed protein like 1

Transducin/WD40 repeat-like superfamily protein

FKBP-like peptidyl-prolyl cis-trans isomerase family protein
P-loop containing nucleoside triphosphate hydrolases superfamily protein
3-beta hydroxysteroid dehydrogenase/isomerase family protein
pfkB-like carbohydrate kinase family protein
enzyme binding;tetrapyrrole binding
AMP-dependent synthetase and ligase family protein

Nucleolar GTP-binding protein
NAD(P)-binding Rossmann-fold superfamily protein
plastid transcriptionally active 16
FTSH protease 10
expansin A4

cytochrome P450, family 93, subfamily D, polypeptide 1
FASCICLIN-like arabinogalactan-protein 11

FASCICLIN-like arabinogalactan-protein 11
FASCICLIN-like arabinogalactan-protein 11
FASCICLIN-like arabinogalactan-protein 11
FASCICLIN-like arabinogalactan-protein 11
Seven transmembrane MLO family protein
Ankyrin repeat family protein
3-ketoacyl-CoA synthase 12
Heavy metal transport/detoxification superfamily protein
plasma membrane intrinsic protein 2;4
Protein of unknown function, DUF584
cyclic nucleotide-gated channel 15

damaged DNA binding protein 1A
Heavy metal transport/detoxification superfamily protein
copper/zinc superoxide dismutase 2
Lecithin:cholesterol acyltransferase family protein

UDP-D-apiose/UDP-D-xylose synthase 2 Pentatricopeptide repeat (PPR) superfamily protein arogenate dehydratase 6 nucleobase-ascorbate transporter 12 protein tyrosine phosphatases;protein tyrosine phosphatases Glycosyltransferase family 29 (sialyltransferase) family protein alpha/beta-Hydrolases superfamily protein Protein of unknown function (DUF3049) Pollen Ole e 1 allergen and extensin family protein photosystem I subunit O NAD(P)-binding Rossmann-fold superfamily protein NAD(P)-binding Rossmann-fold superfamily protein hydroxyproline-rich glycoprotein family protein Leucine-rich repeat protein kinase family protein conserved peptide upstream open reading frame 6 Protein of unknown function (DUF3049) WRKY family transcription factor small and basic intrinsic protein 1A Polynucleotidyl transferase, ribonuclease H fold protein with HRDC domain Polynucleotidyl transferase, ribonuclease H fold protein with HRDC domain Homeodomain-like superfamily protein Tetratricopeptide repeat (TPR)-like superfamily protein beta-amylase 5 Integrase-type DNA-binding superfamily protein B-box type zinc finger family protein Major facilitator superfamily protein photosystem II reaction center PSB29 protein ELMO/CED-12 family protein RING membrane-anchor 1 glucan synthase-like 5 Leucine-rich repeat (LRR) family protein Thioredoxin superfamily protein Basic-leucine zipper (bZIP) transcription factor family protein late embryogenesis abundant domain-containing protein / LEA domain-containing protein TRICHOME BIREFRINGENCE-LIKE 39 alpha/beta-Hydrolases superfamily protein disease resistance protein (TIR-NBS-LRR class), putative	
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UDP-Glycosyltransferase superfamily protein

Ubiquitin carboxyl-terminal hydrolase family protein

Dynein light chain type 1 family protein

early nodulin-like protein 9

kinesin 3

zinc finger protein-related

terpene synthase 21

terpene synthase 21

S-locus lectin protein kinase family protein

Auxin-responsive GH3 family protein

receptor kinase 3

S-locus lectin protein kinase family protein

S-locus lectin protein kinase family protein

NAC domain containing protein 2

Transducin/WD40 repeat-like superfamily protein

Leucine-rich repeat transmembrane protein kinase

chitinase A

Plant protein of unknown function (DUF641)

TEOSINTE BRANCHED 1, cycloidea and PCF transcription factor 3

phytosylfokine-alpha receptor 2

Arabidopsis thaliana protein of unknown function (DUF794)

evolutionarily conserved C-terminal region 11

2Fe-2S ferredoxin-like superfamily protein

2Fe-2S ferredoxin-like superfamily protein

2Fe-2S ferredoxin-like superfamily protein

aconitase 2

RING/U-box superfamily protein

FASCICLIN-like arabinogalactan-protein 11

alpha-L-fucosidase 1

serine carboxypeptidase-like 48

Domain of unknown function (DUF966)

copper/zinc superoxide dismutase 2

GDSL-like Lipase/Acylhydrolase superfamily protein

cytochrome-c oxidases;electron carriers

Protein kinase superfamily protein

Homeodomain-like superfamily protein

Rho GTPase activating protein with PAK-box/P21-Rho-binding domain

Protein of unknown function, DUF584

F-box family protein

Polynucleotidyl transferase, ribonuclease H-like superfamily protein Late embryogenesis abundant (LEA) hydroxyproline-rich glycoprotein family BEL1-like homeodomain 1 Protein of unknown function (DUF3049) Core-2/I-branching beta-1,6-N-acetylglucosaminyltransferase family protein cellulose synthase-like B3 Exostosin family protein alkenal reductase homeodomain GLABROUS 2 Peroxidase superfamily protein proline-rich family protein xyloglucan endotransglucosylase/hydrolase 9 B-box type zinc finger family protein photosynthetic electron transfer C PapD-like superfamily protein Wound-responsive family protein photosystem II family protein Regulator of Vps4 activity in the MVB pathway protein NAC domain containing protein 73 Thioredoxin superfamily protein FASCICLIN-like arabinogalactan 9 TCP family transcription factor 4 Adaptin ear-binding coat-associated protein 1 NECAP-1 riboflavin kinase/FMN hydrolase phosphoenolpyruvate carboxylase 2 early nodulin-like protein 9 gibberellin 2-oxidase 8 C-terminal cysteine residue is changed to a serine 1 PsbQ-like 1 zinc finger protein-related organic cation/carnitine transporter4 BURP domain-containing protein Dynein light chain type 1 family protein light-harvesting chlorophyll B-binding protein 3 Protein of unknown function (DUF761) protochlorophyllide oxidoreductase A Regulator of chromosome condensation (RCC1) family protein early nodulin-like protein 1 Protein phosphatase 2C family protein ethylene responsive element binding factor 4 Yippee family putative zinc-binding protein	
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general regulatory factor 9
 Protein of unknown function (DUF640)
 Plant protein of unknown function (DUF641)
 BES1/BZR1 homolog 4
 ATPase, F0 complex, subunit B/B', bacterial/chloroplast
 ATP synthase subunit alpha
 ribosomal protein L20
 ribosomal protein S18
 ribosomal protein L33
 PSAJ
 Leucine-rich repeat transmembrane protein kinase
 TRICHOME BIREFRINGENCE-LIKE 41
 TRICHOME BIREFRINGENCE-LIKE 42
 receptor like protein 1
 receptor like protein 9
 receptor like protein 56
 Protein of unknown function DUF92, transmembrane
 Kunitz family trypsin and protease inhibitor protein
 Kunitz family trypsin and protease inhibitor protein
 senescence-related gene 1

 NAD(P)-binding Rossmann-fold superfamily protein
 O-fucosyltransferase family protein
 ribosomal protein 1
 ERD (early-responsive to dehydration stress) family protein
 C2 calcium/lipid-binding plant phosphoribosyltransferase family protein
 Bifunctional inhibitor/lipid-transfer protein/seed storage 2S albumin superfamily protein

 RING/U-box superfamily protein

 ubiquitin-specific protease 12
 disease resistance protein (TIR-NBS-LRR class), putative
 photosystem II reaction center protein A
 DNA-directed DNA polymerases
 high mobility group B2
 Protein kinase superfamily protein
 Protein kinase superfamily protein
 suppressor of npr1-1 constitutive 4
 K-box region and MADS-box transcription factor family protein
 wall associated kinase 5
 wall associated kinase 5

GDSL-like Lipase/Acylhydrolase superfamily protein
Mannose-6-phosphate isomerase, type I
Ribulose biphosphate carboxylase (small chain) family protein
LOB domain-containing protein 41

2-oxoglutarate (2OG) and Fe(II)-dependent oxygenase superfamily protein
tryptophan synthase beta type 2
Methylenetetrahydrofolate reductase family protein
UDP-glucosyl transferase 85A2
Pollen Ole e 1 allergen and extensin family protein

BTB/POZ domain-containing protein
Malectin/receptor-like protein kinase family protein
Malectin/receptor-like protein kinase family protein
Malectin/receptor-like protein kinase family protein

UDP-Glycosyltransferase superfamily protein
UDP-Glycosyltransferase superfamily protein
UDP-glucose 6-dehydrogenase family protein
Plant calmodulin-binding protein-related

cycling DOF factor 2
ATP binding cassette subfamily B19
H(+)-ATPase 11
Phosphoglycerate mutase-like family protein

ferredoxin thioredoxin reductase catalytic beta chain family protein
RING/U-box superfamily protein with ARM repeat domain
senescence-associated gene 101
Peroxidase superfamily protein
nodulin MtN21 /EamA-like transporter family protein
Glutathione S-transferase, C-terminal-like; Translation elongation factor EF1B/ribosomal prot

protein kinase 2A
sinapoylglucose 1
Bifunctional inhibitor/lipid-transfer protein/seed storage 2S albumin superfamily protein
PLAT/LH2 domain-containing lipoxygenase family protein
Disease resistance protein (TIR-NBS-LRR class) family
Protein of unknown function (DUF630 and DUF632)
Plant L-ascorbate oxidase
nodulin MtN21 /EamA-like transporter family protein

long chain acyl-CoA synthetase 9
nodulin MtN21 /EamA-like transporter family protein
flavonol synthase 1
O-fucosyltransferase family protein

Protein of unknown function (DUF581)

Phosphoglycerate mutase family protein
annexin 1

glycine-rich protein
glycine-rich protein
nodulin MtN21 /EamA-like transporter family protein
Plant protein of unknown function (DUF828) with plant pleckstrin homology-like region
Acyl-CoA N-acyltransferases (NAT) superfamily protein
ADR1-like 1
glutamine dumper 3
xyloglucan endotransglycosylase 6
Uncharacterised protein family (UPF0497)
homogentisate phytyltransferase 1
H(+)-ATPase 2
villin 4
BTB/POZ domain-containing protein
Tautomerase/MIF superfamily protein
beta galactosidase 1
Protein kinase superfamily protein
Protein of unknown function (DUF761)
cytokinin oxidase 3
Subtilase family protein
jasmonate-zim-domain protein 1
chaperonin 20

flavin-dependent monooxygenase 1
Thioredoxin superfamily protein
alpha/beta-Hydrolases superfamily protein
sucrose synthase 4
Plant invertase/pectin methylesterase inhibitor superfamily
lysine-ketoglutarate reductase/saccharopine dehydrogenase bifunctional enzyme
Major facilitator superfamily protein
WRKY family transcription factor
P-glycoprotein 11
Pseudouridine synthase family protein

pectin-related
Protein of unknown function, DUF593
cytochrome P450, family 94, subfamily B, polypeptide 1
Transducin/WD40 repeat-like superfamily protein
Ypt/Rab-GAP domain of gyp1p superfamily protein
photosystem I subunit E-2
photosystem I subunit E-2
HSP20-like chaperones superfamily protein
NAD(P)-binding Rossmann-fold superfamily protein
pyrophosphorylase 4
Tetratricopeptide repeat (TPR)-like superfamily protein

Glutathione S-transferase family protein

C2H2-like zinc finger protein
RING/U-box superfamily protein
RING/U-box superfamily protein

auxin response factor 16
lysine decarboxylase family protein
cyclic nucleotide-gated channel 15

Heavy metal transport/detoxification superfamily protein
triosephosphate isomerase
Histone superfamily protein

L-O-methylthreonine resistant 1
Pyruvate kinase family protein
demeter-like 1
cytochrome P450, family 94, subfamily C, polypeptide 1
Leucine-rich repeat protein kinase family protein
homogentisate phytyltransferase 1
homogentisate phytyltransferase 1
Thioredoxin family protein

temperature-induced lipocalin
Domain of unknown function (DUF298)
D111/G-patch domain-containing protein

beta-1,4-N-acetylglucosaminyltransferase family protein
Exostosin family protein
heptahelical transmembrane protein1
monogalactosyldiacylglycerol synthase 2

Octicosapeptide/Phox/Bem1p (PB1) domain-containing protein / tetratricopeptide repeat (TPF

serine-rich protein-related

chlororespiratory reduction 6

DNA-binding protein phosphatase 1

callose synthase 5

Nucleoside transporter family protein

SPX domain gene 2

DnaJ/Hsp40 cysteine-rich domain superfamily protein

Ribosomal protein L7Ae/L30e/S12e/Gadd45 family protein

cyclophilin 38

homeobox 1

Tetratricopeptide repeat (TPR)-like superfamily protein

GDSL-like Lipase/Acylhydrolase superfamily protein

O-methyltransferase family protein

NAC domain containing protein 73

HAESA-like 1

Ribosomal protein S5 family protein

HAL2-like

zinc induced facilitator-like 1

zinc induced facilitator-like 1

cysteine-rich RLK (RECEPTOR-like protein kinase) 7

nodulin MtN21 /EamA-like transporter family protein

Disease resistance protein (TIR-NBS-LRR class) family

Peptidase S24/S26A/S26B/S26C family protein

Lateral root primordium (LRP) protein-related

Tetratricopeptide repeat (TPR)-like superfamily protein

annexin 8

Flavin-binding monooxygenase family protein

ATPase, F1 complex, gamma subunit protein

Protein of unknown function, DUF584

HSP20-like chaperones superfamily protein

peroxiredoxin IIF

peroxiredoxin IIF

NAD(P)-binding Rossmann-fold superfamily protein

Aluminium induced protein with YGL and LRDR motifs

Eukaryotic aspartyl protease family protein

isopentenyltransferase 5

alpha/beta-Hydrolases superfamily protein
 DNase I-like superfamily protein
 DUF679 domain membrane protein 2
 Deoxyxylulose-5-phosphate synthase
 acyl carrier protein 4
 beta-amylase 3
 NAD(P)-binding Rossmann-fold superfamily protein
 NAD(P)-binding Rossmann-fold superfamily protein
 CHY-type/CTCHY-type/RING-type Zinc finger protein
 Thioredoxin superfamily protein
 Galactose oxidase/kelch repeat superfamily protein
 cytochrome P450, family 710, subfamily A, polypeptide 1
 Intron maturase, type II family protein
 gibberellin 2-oxidase
 cullin4
 BCL-2-associated athanogene 2
 Metallo-hydrolase/oxidoreductase superfamily protein
 Pentatricopeptide repeat (PPR) superfamily protein
 subtilase family protein

GDSL-like Lipase/Acylhydrolase superfamily protein
 Protein kinase superfamily protein
 Dynamin related protein 4C
 Dynamin related protein 4C
 FASCICLIN-like arabinogalactan-protein 11
 AAA-type ATPase family protein
 receptor like protein 51
 CBL-interacting protein kinase 12
 myb-like HTH transcriptional regulator family protein
 Ribosomal protein L34
 alpha/beta-Hydrolases superfamily protein
 GDSL-like Lipase/Acylhydrolase superfamily protein
 SGNH hydrolase-type esterase superfamily protein
 HXXXD-type acyl-transferase family protein
 P-loop containing nucleoside triphosphate hydrolases superfamily protein
 nudix hydrolase homolog 15

squamosa promoter binding protein-like 3
 Concanavalin A-like lectin protein kinase family protein
 Protein of unknown function (DUF616)
 phosphate 2
 silencing defective 5
 sensitive to freezing 6

disease resistance protein (TIR class), putative
 Protein of unknown function (DUF761)

S-locus lectin protein kinase family protein
receptor kinase 3
plant U-box 8
basic helix-loop-helix (bHLH) DNA-binding superfamily protein
terpene synthase 14
Phototropic-responsive NPH3 family protein

C-terminal cysteine residue is changed to a serine 1
FAD/NAD(P)-binding oxidoreductase family protein
pyrophosphorylase 6
Major facilitator superfamily protein
Octicosaepptide/Phox/Bem1p family protein

AGAMOUS-like 21
UDP-glucosyl transferase 78D2

hydroxyproline-rich glycoprotein family protein
hydroxyproline-rich glycoprotein family protein
GPI transamidase component Gpi16 subunit family protein
interactor of constitutive active rops 1
Arabidopsis thaliana gibberellin 2-oxidase 1

Carbohydrate-binding X8 domain superfamily protein
Chalcone-flavanone isomerase family protein
senescence-related gene 1

TRICHOME BIREFRINGENCE-LIKE 42
Leucine-rich repeat transmembrane protein kinase
BES1/BZR1 homolog 4
gamma-glutamyl hydrolase 1
Plant protein of unknown function (DUF641)
phosphoenolpyruvate carboxylase 3
general regulatory factor 9
early nodulin-like protein 1

Seven transmembrane MLO family protein
NAC domain containing protein 2

Protein of unknown function (DUF761)
light-harvesting chlorophyll B-binding protein 3
S-locus lectin protein kinase family protein
BURP domain-containing protein
S-locus lectin protein kinase family protein
basic helix-loop-helix (bHLH) DNA-binding superfamily protein

zinc finger protein-related
PsbQ-like 1
Domain of unknown function (DUF1995)
UDP-Glycosyltransferase superfamily protein
Protein of unknown function (DUF640)
riboflavin kinase/FMN hydrolase
Adaptin ear-binding coat-associated protein 1 NECAP-1
Protein of unknown function DUF455
plasmodesmata callose-binding protein 5
FASCICLIN-like arabinogalactan 6
NAC domain containing protein 73
Concanavalin A-like lectin protein kinase family protein
Glycosyl hydrolase superfamily protein
Protein of unknown function (DUF1421)

alpha/beta-Hydrolases superfamily protein
photosystem II family protein

Wound-responsive family protein
photosystem II reaction center PSB29 protein
HXXXD-type acyl-transferase family protein

FASCICLIN-like arabinogalactan protein 21 precursor
xyloglucan endotransglucosylase/hydrolase 9
Receptor-like protein kinase-related family protein

cellulose synthase-like B3
MD-2-related lipid recognition domain-containing protein

Rho GTPase activating protein with PAK-box/P21-Rho-binding domain

Protein kinase superfamily protein

PHYTOSULFOKINE 3 PRECURSOR
cellulose synthase-like A02
Transmembrane amino acid transporter family protein
serine carboxypeptidase-like 51
Domain of unknown function (DUF966)
Protein of unknown function (DUF1635)

Protein kinase superfamily protein
Putative lysine decarboxylase family protein

Protein of unknown function, DUF584	
FASCICLIN-like arabinogalactan-protein 11	
FASCICLIN-like arabinogalactan-protein 11	
DHBP synthase RibB-like alpha/beta domain;GTP cyclohydrolase II	
myb domain protein 48	
UDP-XYL synthase 5	
triosephosphate isomerase	
Ubiquitin fusion degradation UFD1 family protein	
RING-H2 finger C2A	
aldehyde dehydrogenase 3F1	
Leucine-rich repeat (LRR) family protein	
beta glucosidase 32	
lipoxygenase 1	
ATPase E1-E2 type family protein / haloacid dehalogenase-like hydrolase family protein	
glyoxylate reductase 2	
nucleosome assembly protein1;1	
indeterminate(ID)-domain 7	
Protein kinase superfamily protein	
Late embryogenesis abundant (LEA) hydroxyproline-rich glycoprotein family	
Protein kinase superfamily protein	
Protein kinase protein with adenine nucleotide alpha hydrolases-like domain	
Pyridoxal phosphate phosphatase-related protein	
Mannose-binding lectin superfamily protein	
GDSL-like Lipase/Acylhydrolase superfamily protein	
Tetratricopeptide repeat (TPR)-like superfamily protein	
Homeodomain-like superfamily protein	
Protein of unknown function (DUF1677)	
NDH-dependent cyclic electron flow 1	
ribosomal protein S17	
photosystem I subunit H2	
sulfate transporter 3;4	
Coatomer, beta\' subunit	
RING/U-box superfamily protein	
AUX/IAA transcriptional regulator family protein	
cadmium tolerance 1	
pleiotropic drug resistance 12	
Phototropic-responsive NPH3 family protein	
nucleotide transporter 1	
bromo-adjacent homology (BAH) domain-containing protein	
aspartate-glutamate racemase family	
Tetratricopeptide repeat (TPR)-like superfamily protein	
S-domain-2 5	

methyl-CPG-binding domain 10

WRKY DNA-binding protein 40

Leucine-rich receptor-like protein kinase family protein

RAD3-like DNA-binding helicase protein

VQ motif-containing protein

AAA-type ATPase family protein

photosystem I light harvesting complex gene 3

5'-AMP-activated protein kinase beta-2 subunit protein

FASCICLIN-like arabinogalactan 2

Protein kinase superfamily protein

FASCICLIN-like arabinogalactan 7

photosystem II light harvesting complex gene 2.1

Chaperone DnaJ-domain superfamily protein

Aldolase superfamily protein

uridine kinase-like 4

kinesin-like protein 1

Nucleotide/sugar transporter family protein

oligopeptide transporter 1

receptor like protein 6

CCCH-type zinc fingerfamily protein with RNA-binding domain

microtubule-associated proteins 65-1

O-Glycosyl hydrolases family 17 protein

RNAse THREE-like protein 2

GDSL-like Lipase/Acylhydrolase superfamily protein

OTU-like cysteine protease family protein

glucose 6-phosphate/phosphate translocator 1

glycerol-3-phosphate acyltransferase 1

WRKY DNA-binding protein 28

NAC domain containing protein 42

PHYTOENE SYNTHASE

TRAM, LAG1 and CLN8 (TLC) lipid-sensing domain containing protein

helicase in vascular tissue and tapetum

photosystem II subunit P-1

Pectin lyase-like superfamily protein

Actin-like ATPase superfamily protein

dgd1 suppressor 1
cystatin B
cystatin B
Ankyrin repeat family protein
cystatin A
nuclear factor Y, subunit C11
Zinc-binding alcohol dehydrogenase family protein
receptor like protein 35
abscisic aldehyde oxidase 3
Leucine-rich repeat receptor-like protein kinase family protein
Phosphotyrosine protein phosphatases superfamily protein
GDLS-like Lipase/Acylhydrolase superfamily protein
GDLS-like Lipase/Acylhydrolase superfamily protein
IQ-domain 33

Peptide-N4-(N-acetyl-beta-glucosaminyl)asparagine amidase A protein
basic helix-loop-helix (bHLH) DNA-binding superfamily protein
Plant protein of unknown function (DUF828)
Transmembrane amino acid transporter family protein
ortholog of sugar beet HS1 PRO-1 2
HXXXD-type acyl-transferase family protein
Duplicated homeodomain-like superfamily protein
Laccase/Diphenol oxidase family protein
Ribosomal protein L35Ae family protein

Mitochondrial substrate carrier family protein
Mitochondrial glycoprotein family protein
Glucose-1-phosphate adenylyltransferase family protein
Regulator of chromosome condensation (RCC1) family protein

protein phosphatase 2CA
RAD-like 6
glycerol-3-phosphate acyltransferase 5
ROTUNDIFOLIA like 8
Calcium-dependent lipid-binding (CaLB domain) family protein
Protein kinase superfamily protein

LisH and RanBPM domains containing protein
thioredoxin H-type 1
inositol-pentakisphosphate 2-kinase 1
jasmonic acid carboxyl methyltransferase
ADPGLC-PPase large subunit
Glycosyl hydrolase superfamily protein

ARM repeat superfamily protein	
3-ketoacyl-CoA synthase 4	
Protein of unknown function (DUF1195)	
Protein of unknown function (DUF607)	
Protein kinase protein with adenine nucleotide alpha hydrolases-like domain	
Homeodomain-like superfamily protein	
Protein of unknown function (DUF1645)	
Calcineurin-like metallo-phosphoesterase superfamily protein	
alpha/beta-Hydrolases superfamily protein	
plant glycogenin-like starch initiation protein 3	
Plant protein of unknown function (DUF827)	
NAC domain containing protein 11	
WUSCHEL related homeobox 4	
proteinaceous RNase P 1	
Granulin repeat cysteine protease family protein	
Granulin repeat cysteine protease family protein	
N-terminal nucleophile aminohydrolases (Ntn hydrolases) superfamily protein	
WPP domain protein 1	
Protein of unknown function (DUF620)	
NAD(P)-binding Rossmann-fold superfamily protein	
Subtilase family protein	
acyl-CoA-binding domain 3	
alpha/beta-Hydrolases superfamily protein	
interferon-related developmental regulator family protein / IFRD protein family	
hydroxyproline-rich glycoprotein family protein	
Cellulose-synthase-like C12	
FAD/NAD(P)-binding oxidoreductase family protein	
Pseudouridine synthase family protein	
myb domain protein 68	
gamma vacuolar processing enzyme	
N-MYC downregulated-like 2	
Fatty acid/sphingolipid desaturase	
Phosphofructokinase family protein	
Thioredoxin superfamily protein	
Chalcone-flavanone isomerase family protein	
17.6 kDa class II heat shock protein	
Concanavalin A-like lectin protein kinase family protein	
Phototropic-responsive NPH3 family protein	
WRKY DNA-binding protein 40	
WRKY DNA-binding protein 40	
Protein of unknown function (DUF1677)	

ARM repeat superfamily protein

Protein kinase superfamily protein

serine-rich protein-related

calcium-binding EF hand family protein

Galactosyltransferase family protein

KNOTTED1-like homeobox gene 4

Mono-/di-acylglycerol lipase, N-terminal;Lipase, class 3

Bifunctional inhibitor/lipid-transfer protein/seed storage 2S albumin superfamily protein

Protein kinase superfamily protein

Ubiquitin-like superfamily protein

F-box/RNI-like superfamily protein

O-fucosyltransferase family protein

alcohol dehydrogenase 1

Acyl-CoA N-acyltransferases (NAT) superfamily protein

Protein of unknown function, DUF642

BES1/BZR1 homolog 2

pyruvate dehydrogenase kinase

2Fe-2S ferredoxin-like superfamily protein

embryo defective 2410

Plant calmodulin-binding protein-related

Cellulose-synthase-like C5

DNA topoisomerase, type IA, core

ABL interactor-like protein 2

Protein of unknown function, DUF599

Flavin-binding monooxygenase family protein

Transmembrane Fragile-X-F-associated protein

Sulfite exporter TauE/SafE family protein

ENTH/VHS/GAT family protein

haloacid dehalogenase-like hydrolase family protein

Protein kinase family protein with leucine-rich repeat domain

GDSDL-like Lipase/Acylhydrolase superfamily protein

GDSDL-like Lipase/Acylhydrolase superfamily protein

amino acid permease 3

nucleotide binding;nucleic acid binding;RNA binding

Protein of unknown function (DUF3741)

Pentatricopeptide repeat (PPR) superfamily protein

wall-associated kinase 2

wall-associated kinase 2

IQ-domain 21

pectin methylesterase PCR fragment F

Nodulin MtN3 family protein

Folypolyglutamate synthetase family protein

alpha/beta-Hydrolases superfamily protein

nitrate reductase 1

nitrate reductase 1

Eukaryotic aspartyl protease family protein

ankyrin repeat protein

sulfate transporter 2;1

lipoxygenase 1

receptor like protein 43

Outer arm dynein light chain 1 protein

S-adenosyl-L-methionine-dependent methyltransferases superfamily protein

Phosphate-responsive 1 family protein

ascorbate peroxidase 4

Cupredoxin superfamily protein

2-oxoglutarate (2OG) and Fe(II)-dependent oxygenase superfamily protein

ENTH/ANTH/VHS superfamily protein

phosphoenolpyruvate carboxylase-related kinase 2

conserved peptide upstream open reading frame 37

CYCLIN D4;1

Adenine nucleotide alpha hydrolases-like superfamily protein

beta carbonic anhydrase 5

Protein kinase superfamily protein

ubiquitin-protein ligase 2

indole-3-acetic acid inducible 9

Zinc finger (C3HC4-type RING finger) family protein

Glutamyl-tRNA reductase family protein

vacuolar iron transporter (VIT) family protein

serine/threonine protein kinase 2

DNA mismatch repair protein MutS, type 2

Laccase/Diphenol oxidase family protein

cytochrome P450, family 86, subfamily A, polypeptide 1

UDP-glucosyl transferase 71C4

pfkB-like carbohydrate kinase family protein

Double Clp-N motif-containing P-loop nucleoside triphosphate hydrolases superfamily protein

fatty acid desaturase 8

glutamine-dependent asparagine synthase 1
mitogen-activated protein kinase kinase kinase 14

exocyst subunit exo70 family protein B1
exocyst subunit exo70 family protein B1
exocyst subunit exo70 family protein B1
O-methyltransferase family protein
O-methyltransferase family protein
O-methyltransferase family protein
ovate family protein 3

glucan synthase-like 3

Uncharacterised protein family (UPF0497)
Bromodomain transcription factor
AMP-dependent synthetase and ligase family protein
sucrose synthase 6
UDP-glucose pyrophosphorylase 2
zinc finger protein 4

Eukaryotic aspartyl protease family protein
myb domain protein 43
receptor-like kinase 1
HSP20-like chaperones superfamily protein
Protein of unknown function DUF2359, transmembrane
Papain family cysteine protease
SHI-related sequence 7
salt tolerance homolog2
glyoxal oxidase-related protein

Transcriptional factor B3 family protein / auxin-responsive factor AUX/IAA-related

DnaJ/Hsp40 cysteine-rich domain superfamily protein
C2H2-like zinc finger protein
Calcium-dependent lipid-binding (CaLB domain) family protein
P-glycoprotein 13
SGNH hydrolase-type esterase superfamily protein
cinnamyl alcohol dehydrogenase 9
RING/U-box superfamily protein
12-oxophytodienoate reductase 1

Protein of unknown function (DUF3754)
GA requiring 3
Eukaryotic aspartyl protease family protein
zinc ion binding
WRKY DNA-binding protein 40
photosystem I subunit I
NOD26-like intrinsic protein 6;1

Protein kinase superfamily protein
Phox (PX) domain-containing protein
Protein of unknown function (DUF567)
methyl-CPG-binding domain 10
phospholipase D alpha 1
phospholipase D alpha 2
phospholipase D alpha 1
Embryo-specific protein 3, (ATS3)
peptide deformylase 1A
aspartate-glutamate racemase family
Rubredoxin-like superfamily protein
HCO₃⁻ transporter family
pleiotropic drug resistance 12
gibberellin 3-oxidase 1
AUX/IAA transcriptional regulator family protein
RING/U-box superfamily protein
BRCT domain-containing DNA repair protein
sulfate transporter 3;4
RHO guanyl-nucleotide exchange factor 12
photosystem I subunit H2
ribosomal protein S17
PLAC8 family protein
phytochrome-associated protein 2
NDH-dependent cyclic electron flow 1
delta tonoplast integral protein
Integrase-type DNA-binding superfamily protein
HPT phosphotransmitter 4
ARM repeat superfamily protein

phytochrome-associated protein 1
GDSL-like Lipase/Acylhydrolase superfamily protein
Leucine-rich repeat transmembrane protein kinase protein
RNA methyltransferase family protein
peptidase M20/M25/M40 family protein
Late embryogenesis abundant (LEA) hydroxyproline-rich glycoprotein family
indeterminate(ID)-domain 11
Glycosyl hydrolases family 32 protein
Protein of unknown function (DUF3511)
lipxygenase 1

pfkB-like carbohydrate kinase family protein
Calcium-binding EF-hand family protein

Histone superfamily protein
Protein of unknown function (DUF3527)

zinc finger (C3HC4-type RING finger) family protein
TRF-like 2
triosephosphate isomerase
outer plastid envelope protein 16-1

XB3 ortholog 1 in *Arabidopsis thaliana*
UDP-XYL synthase 5
C2H2-type zinc finger family protein
phototropin 1
Dof-type zinc finger DNA-binding family protein
cytochrome P450, family 71, subfamily B, polypeptide 37
tetratricopeptide repeat (TPR)-containing protein
Pyridoxal phosphate (PLP)-dependent transferases superfamily protein
UDP-Glycosyltransferase superfamily protein
light harvesting complex photosystem II subunit 6
translocon at the outer membrane of chloroplasts 64-V
metacaspase 1
UDP-glucosyl transferase 85A7
EXORDIUM like 2
3-deoxy-d-arabino-heptulosonate 7-phosphate synthase
dicarboxylate transport 2.1

hydroxyproline-rich glycoprotein family protein
hydroxyproline-rich glycoprotein family protein

Exostosin family protein
Transducin/WD40 repeat-like superfamily protein

Octicosapeptide/Phox/Bem1p family protein
FAD/NAD(P)-binding oxidoreductase family protein
basic pathogenesis-related protein 1
basic pathogenesis-related protein 1
CAP (Cysteine-rich secretory proteins, Antigen 5, and Pathogenesis-related 1 protein) superfa
basic helix-loop-helix (bHLH) DNA-binding superfamily protein
S-locus lectin protein kinase family protein
receptor kinase 3
S-locus lectin protein kinase family protein

Calmodulin-binding protein
glycine-rich protein
Protein of unknown function (DUF707)

Aluminium induced protein with YGL and LRDR motifs
glucan synthase-like 1
phosphate 2

VQ motif-containing protein
DNAJ heat shock family protein

GDSL-like Lipase/Acylhydrolase superfamily protein
GDSL-like Lipase/Acylhydrolase superfamily protein
Hydroxyproline-rich glycoprotein family protein
TRICHOME BIREFRINGENCE-LIKE 38
Ribosomal protein L34

AAA-type ATPase family protein
FASCICLIN-like arabinogalactan-protein 12
FASCICLIN-like arabinogalactan-protein 11
RING/FYVE/PHD-type zinc finger family protein
Aldolase-type TIM barrel family protein
NOD26-like intrinsic protein 1;2
heat shock protein 70B
nitrate transporter 1:2
GDSL-like Lipase/Acylhydrolase superfamily protein
BCL-2-associated athanogene 2
multidrug resistance-associated protein 2
Glycosyl hydrolase superfamily protein
Protein of unknown function, DUF642
Thioredoxin superfamily protein
CHY-type/CTCHY-type/RING-type Zinc finger protein
NAD(P)-binding Rossmann-fold superfamily protein
vamp/synaptobrevin-associated protein 27-2
acyl carrier protein 4
Protein kinase family protein with ARM repeat domain
Serine-domain containing serine and sphingolipid biosynthesis protein
isopentenyltransferase 5
Eukaryotic aspartyl protease family protein
peroxiredoxin IIF
RING-H2 group F2A
glucose-6-phosphate/phosphate translocator 2
HSP20-like chaperones superfamily protein
MATE efflux family protein
Protein of unknown function, DUF584
DNA/RNA polymerases superfamily protein
aspartic proteinase A1
Predicted pyridoxal phosphate-dependent enzyme, YBL036C type
chitin elicitor receptor kinase 1
STRUBBELIG-receptor family 8
Phosphofructokinase family protein
ethylene-forming enzyme
Pentatricopeptide repeat (PPR) superfamily protein

Protein of unknown function (DUF506)

photosynthetic electron transfer D

Inositol monophosphatase family protein

Uncharacterised protein family (UPF0497)

microtubule-associated proteins 70-5

Heavy metal transport/detoxification superfamily protein

Heavy metal transport/detoxification superfamily protein

nuclear factor Y, subunit B3

Copper transport protein family

Homeodomain-like superfamily protein

myb-like HTH transcriptional regulator family protein

Pyridoxal phosphate (PLP)-dependent transferases superfamily protein

Glycolipid transfer protein (GLTP) family protein

Peroxidase superfamily protein

Peroxidase superfamily protein

peroxidase 2

nuclear factor Y, subunit A7

dicer-like 2

Major facilitator superfamily protein

ent-kaurenoic acid hydroxylase 2

cell division control 2

NAD(P)-binding Rossmann-fold superfamily protein

sequence-specific DNA binding transcription factors

ATP-citrate lyase B-1

lipoamide dehydrogenase 1

chitinase-like protein 2

beta-xylosidase 1

cAMP-regulated phosphoprotein 19-related protein

Glycine-rich protein family

MLP-like protein 423

Nodulin MtN3 family protein

Protein of unknown function (DUF581)

ethylene-responsive element binding protein

plasma-membrane associated cation-binding protein 1

Domain of unknown function (DUF23)

cellulose synthase family protein

phosphorylcholine cytidyltransferase

VQ motif-containing protein

FTSH protease 8

Ankyrin repeat family protein

HISTIDINE TRIAD NUCLEOTIDE-BINDING 2

Protein kinase family protein

H(+)-ATPase 2

Protein of unknown function (DUF630 and DUF632)

OSBP(oxysterol binding protein)-related protein 4B

plant intracellular ras group-related LRR 6

xyloglucan endotransglycosylase 6

beta-galactosidase 12

polyamine oxidase 5

cytokinin oxidase 3

Lycopene beta/epsilon cyclase protein

hydroxyproline-rich glycoprotein family protein

nuclear factor Y, subunit A3

photosystem II subunit X

Duplicated homeodomain-like superfamily protein

ELF4-like 3

germin 3

Cysteine proteinases superfamily protein

photosystem I light harvesting complex gene 6

Pectin lyase-like superfamily protein

jasmonate-zim-domain protein 1

P-loop containing nucleoside triphosphate hydrolases superfamily protein

Riboflavin synthase-like superfamily protein

GDSL-motif lipase 5

Ribosomal L18p/L5e family protein

WRKY family transcription factor

NADH dehydrogenase 5A

Subtilase family protein

Outer arm dynein light chain 1 protein

photosystem I subunit K

Chaperone DnaJ-domain superfamily protein

Mitochondrial transcription termination factor family protein

glucuronidase 3

flavin-dependent monooxygenase 1

Cyclophilin-like peptidyl-prolyl cis-trans isomerase family protein

Pentatricopeptide repeat (PPR) superfamily protein

Ribosomal protein L39 family protein

cytochrome P450, family 82, subfamily C, polypeptide 4

alpha/beta-Hydrolases superfamily protein
Protein of unknown function (DUF1336)
polygalacturonase inhibiting protein 1
Kunitz family trypsin and protease inhibitor protein

Nodulin MtN3 family protein
lectin protein kinase family protein
aminophospholipid ATPase 1
MLP-like protein 43
HAD superfamily, subfamily IIIB acid phosphatase
Transducin/WD40 repeat-like superfamily protein
MLP-like protein 43
UDP-glucosyl transferase 73B3
calmodulin-domain protein kinase cdpk isoform 2

cysteine-rich RLK (RECEPTOR-like protein kinase) 25
cysteine-rich RLK (RECEPTOR-like protein kinase) 10
Ubiquitin-associated/translation elongation factor EF1B protein
protein kinases;ubiquitin-protein ligases
protein kinases;ubiquitin-protein ligases
Phosphatidylinositol-4-phosphate 5-kinase family protein
Ribosomal protein L1p/L10e family
adenine nucleotide transporter 1
Amidohydrolase family
Major facilitator superfamily protein
annexin 8
annexin 4

ribosomal protein S18
ribosomal protein L33
Chalcone-flavanone isomerase family protein
Carbohydrate-binding X8 domain superfamily protein
cytochrome p450 72c1

embryo defective 3012
receptor like protein 33

Arabidopsis thaliana gibberellin 2-oxidase 1
acetyl-CoA carboxylase carboxyl transferase subunit beta

nine-cis-epoxycarotenoid dioxygenase 3
receptor-like protein kinase 1
glutathione S-transferase TAU 19
glutathione S-transferase TAU 19
glutathione S-transferase TAU 19
photosystem II subunit R

NAC domain containing protein 1	
BTB/POZ domain-containing protein	
ATP binding microtubule motor family protein	
NAC (No Apical Meristem) domain transcriptional regulator superfamily protein	
receptor-like protein kinase 1	
nuclear factor Y, subunit C2	
Phosphoglycerate kinase family protein	
Cation efflux family protein	
cysteine synthase D1	
Uncharacterized conserved protein (DUF2358)	
Terpenoid cyclases/Protein prenyltransferases superfamily protein	
Protein of unknown function (DUF620)	
Protein of Unknown Function (DUF239)	
myosin-like protein XIF	
Plant protein of unknown function (DUF946)	
RING/U-box superfamily protein	
cofactor of nitrate reductase and xanthine dehydrogenase 2	
PRLI-interacting factor, putative	
DNA-binding bromodomain-containing protein	
urophorphyrin methylase 1	
RNA-binding (RRM/RBD/RNP motifs) family protein	
Mog1/PsbP/DUF1795-like photosystem II reaction center PsbP family protein	
Photosystem II 5 kD protein	
Photosystem II 5 kD protein	
Protein of unknown function, DUF642	
magnesium ion binding;thiamin pyrophosphate binding;hydro-lyases;catalytics;2-succinyl-5-e	
Ribosomal protein L22p/L17e family protein	
glutamine-rich protein 23	
Protein of unknown function (DUF579)	
germin-like protein 1	
RELA/SPOT homolog 3	
Protein kinase superfamily protein	
Dormancy/auxin associated family protein	
GDSL-motif lipase 5	
purple acid phosphatase 29	
NAC 014	
NAC 014	
pyrophosphorylase 1	

basic helix-loop-helix (bHLH) DNA-binding superfamily protein pseudo-response regulator 5 NAC (No Apical Meristem) domain transcriptional regulator superfamily protein D-arabinono-1,4-lactone oxidase family protein CBL-interacting protein kinase 9	
P-loop containing nucleoside triphosphate hydrolases superfamily protein transducin family protein / WD-40 repeat family protein basic helix-loop-helix (bHLH) DNA-binding superfamily protein Protein of unknown function (DUF 3339) thylakoid rhodanese-like TRICHOME BIREFRINGENCE-LIKE 25 formin homology 1	
Dihydrodipicolinate reductase, bacterial/plant GDSL-like Lipase/Acylhydrolase superfamily protein	
POZ/BTB containin G-protein 1	
UDP-glycosyltransferase 73B4	
ankyrin repeat family protein / regulator of chromosome condensation (RCC1) family protein Arabidopsis NAC domain containing protein 87 apyrase 2 apyrase 2 HXXXD-type acyl-transferase family protein Transducin/WD40 repeat-like superfamily protein ribosomal protein S27 Protein kinase superfamily protein	
GRAM domain family protein PLC-like phosphodiesterases superfamily protein GRAS family transcription factor HXXXD-type acyl-transferase family protein YELLOW STRIPE like 6 WRKY DNA-binding protein 75 Ferritin/ribonucleotide reductase-like family protein peptidyl-prolyl cis-trans isomerases;hydrolases;nucleoside-triphosphatases;ATP binding;nucle chloride channel B	
DNA-binding storekeeper protein-related F-box and associated interaction domains-containing protein Leucine-rich repeat receptor-like protein kinase family protein Chloroplast Ycf2;ATPase, AAA type, core RNI-like superfamily protein	

UDP-Glycosyltransferase superfamily protein
Pectinacetyltransferase family protein

Long-chain fatty alcohol dehydrogenase family protein
ATP-binding cassette 14

chromatin protein family
NADP-malic enzyme 4
HAD-superfamily hydrolase, subfamily IG, 5'-nucleotidase
Yippee family putative zinc-binding protein
cyclin p4;1
Ankyrin repeat family protein
Actin binding Calponin homology (CH) domain-containing protein

auxin-responsive family protein
Protein of unknown function (DUF506)
PAS/LOV protein B
Protein kinase superfamily protein
Calcium-dependent phosphotriesterase superfamily protein
tRNAHis guanylyltransferase
phosphoglucosamine mutase-related
Protein of unknown function, DUF593

lipoxygenase 1

mechanosensitive channel of small conductance-like 10
S-adenosyl-L-methionine-dependent methyltransferases superfamily protein
Pectinacetyltransferase family protein
Long-chain fatty alcohol dehydrogenase family protein
cytochrome P450, family 707, subfamily A, polypeptide 1
ATP-binding cassette 14
Tetratricopeptide repeat (TPR)-like superfamily protein
Transducin/WD40 repeat-like superfamily protein
tRNAHis guanylyltransferase
tRNAHis guanylyltransferase
basic chitinase

GDSL-like Lipase/Acylhydrolase superfamily protein
NEP-interacting protein 2
Eukaryotic aspartyl protease family protein
disease resistance family protein / LRR family protein
disease resistance family protein / LRR family protein
armadillo repeat only 2

zinc ion binding;nucleic acid binding;hydrolases, acting on acid anhydrides, in phosphorus-co
 ATP binding microtubule motor family protein
 ferulic acid 5-hydroxylase 1
 cytochrome BC1 synthesis
 Disease resistance protein (TIR-NBS-LRR class) family
 disease resistance protein (TIR-NBS-LRR class), putative
 RAD-like 5
 Maf-like protein
 Leucine-rich repeat (LRR) family protein
 Protein phosphatase 2C family protein
 Protein of unknown function (DUF607)
 GNS1/SUR4 membrane protein family
 PQ-loop repeat family protein / transmembrane family protein

 Protein of unknown function, DUF547
 photosystem II subunit O-2
 Phototropic-responsive NPH3 family protein
 GDLS-like Lipase/Acylhydrolase superfamily protein
 photosystem I light harvesting complex gene 1

 Protein of unknown function (DUF3754)
 Bifunctional inhibitor/lipid-transfer protein/seed storage 2S albumin superfamily protein
 HXXXD-type acyl-transferase family protein
 NAC domain containing protein 47
 GATA transcription factor 9

 syntaxin of plants 131
 GATA transcription factor 4
 leucine-rich repeat transmembrane protein kinase family protein
 sucrose-proton symporter 2

 gigantea protein (GI)

 one-helix protein 2
 Peroxidase superfamily protein
 light-harvesting chlorophyll-protein complex II subunit B1
 light-harvesting chlorophyll-protein complex II subunit B1
 light-harvesting chlorophyll-protein complex II subunit B1
 Vacuolar iron transporter (VIT) family protein
 receptor like protein 19
 receptor like protein 32
 receptor like protein 19
 receptor like protein 6
 receptor like protein 53
 receptor like protein 19

receptor like protein 32

receptor like protein 27

disease resistance family protein / LRR family protein

disease resistance family protein / LRR family protein

disease resistance family protein / LRR family protein

disease resistance family protein / LRR family protein

disease resistance family protein / LRR family protein

multidrug resistance-associated protein 14

chitinase A

SLAC1 homologue 3

Leucine-rich repeat (LRR) family protein

P-loop containing nucleoside triphosphate hydrolases superfamily protein

disease resistance family protein / LRR family protein

disease resistance family protein / LRR family protein

receptor like protein 19

disease resistance family protein / LRR family protein

UDP-glucosyl transferase 88A1

UDP-glucosyl transferase 88A1

UDP-glucosyl transferase 88A1

UDP-glucosyl transferase 88A1

Leucine-rich repeat transmembrane protein kinase

disease resistance family protein / LRR family protein

Pentatricopeptide repeat (PPR) superfamily protein

Heavy metal transport/detoxification superfamily protein

beta-hydroxylase 1

HXXXD-type acyl-transferase family protein

SKP1-like 21

disease resistance family protein / LRR family protein

disease resistance family protein / LRR family protein

Bifunctional inhibitor/lipid-transfer protein/seed storage 2S albumin superfamily protein

disease resistance family protein / LRR family protein

receptor like protein 12

disease resistance family protein / LRR family protein

disease resistance family protein / LRR family protein

disease resistance family protein / LRR family protein

disease resistance family protein / LRR family protein

disease resistance family protein / LRR family protein

disease resistance family protein / LRR family protein

disease resistance family protein / LRR family protein

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disease resistance family protein / LRR family protein

disease resistance family protein / LRR family protein

disease resistance family protein / LRR family protein

disease resistance family protein / LRR family protein

disease resistance family protein / LRR family protein
receptor like protein 19

PAR1 protein

disease resistance family protein / LRR family protein

disease resistance family protein / LRR family protein

disease resistance family protein / LRR family protein

disease resistance family protein / LRR family protein

disease resistance family protein / LRR family protein

receptor like protein 9

Protein kinase family protein with leucine-rich repeat domain

Arabidopsis thaliana protein of unknown function (DUF821)

disease resistance family protein / LRR family protein

disease resistance family protein / LRR family protein

Leucine-rich repeat transmembrane protein kinase

disease resistance family protein / LRR family protein

disease resistance family protein / LRR family protein

disease resistance family protein / LRR family protein

disease resistance family protein / LRR family protein

Bifunctional inhibitor/lipid-transfer protein/seed storage 2S albumin superfamily protein

disease resistance family protein / LRR family protein

disease resistance family protein / LRR family protein

disease resistance family protein / LRR family protein

disease resistance family protein / LRR family protein

disease resistance family protein / LRR family protein

disease resistance family protein / LRR family protein

Pentatricopeptide repeat (PPR) superfamily protein

F-box/RNI-like superfamily protein

peptidoglycan-binding LysM domain-containing protein

carboxyesterase 20

Protein kinase superfamily protein

cysteine-rich RLK (RECEPTOR-like protein kinase) 23

2 iron, 2 sulfur cluster binding

ERECTA-like 1

Enolase

Leucine-rich repeat protein kinase family protein

light harvesting complex of photosystem II 5

RmlC-like cupins superfamily protein

RmlC-like cupins superfamily protein

Protein of unknown function (DUF789)

Tetratricopeptide repeat (TPR)-like superfamily protein

alpha-galactosidase 2

Protein kinase family protein with leucine-rich repeat domain

Disease resistance protein (TIR-NBS-LRR class) family

RNA-binding (RRM/RBD/RNP motifs) family protein
homeodomain GLABROUS 11
cyclic nucleotide-binding transporter 1
HAD superfamily, subfamily IIIB acid phosphatase
HAD superfamily, subfamily IIIB acid phosphatase
FAD/NAD(P)-binding oxidoreductase family protein
NAC domain containing protein 35
Phototropic-responsive NPH3 family protein
Heavy metal transport/detoxification superfamily protein
Outward rectifying potassium channel protein

ARM repeat superfamily protein

Glycine cleavage T-protein family
Peroxidase superfamily protein
Protein of unknown function, DUF584
cytochrome P450, family 77, subfamily B, polypeptide 1
glucose-6-phosphate/phosphate translocator 2
P-loop containing nucleoside triphosphate hydrolases superfamily protein
Aluminium induced protein with YGL and LRDR motifs
Eukaryotic aspartyl protease family protein
isopentenyltransferase 5
RNA-binding (RRM/RBD/RNP motifs) family protein
Major facilitator superfamily protein
Uncharacterised protein family (UPF0497)
Uncharacterised protein family (UPF0497)
Thioredoxin superfamily protein
CW-type Zinc Finger
Exostosin family protein
alanine-tRNA ligases;nucleic acid binding;ligases, forming aminoacyl-tRNA and related com
multifunctional protein 2
Protein of unknown function (DUF581)
alpha/beta-Hydrolases superfamily protein
glycine-rich protein
pumilio 24
MLP-like protein 423

MLP-like protein 423
response regulator 1

Protein phosphatase 2C family protein

serine carboxypeptidase-like 33
Plant neutral invertase family protein

ribosomal protein S1
lipoamide dehydrogenase 2
ARM repeat superfamily protein
Protein of unknown function, DUF538

hydroxyproline-rich glycoprotein family protein

Major facilitator superfamily protein
Alkaline-phosphatase-like family protein
jasmonate-zim-domain protein 12
alpha/beta-Hydrolases superfamily protein
Thioredoxin superfamily protein
flavin-dependent monooxygenase 1

chaperonin 20
germin 3
calmodulin-binding family protein
polyamine oxidase 5

ENTH/ANTH/VHS superfamily protein
Ypt/Rab-GAP domain of gyp1p superfamily protein
OSBP(oxysterol binding protein)-related protein 4B
OSBP(oxysterol binding protein)-related protein 4B

H(+)-ATPase 5
homogentisate phytyltransferase 1
small nuclear ribonucleoprotein F

glutamate receptor 2.5

RING/U-box superfamily protein

nodulin MtN21 /EamA-like transporter family protein
tetraspanin8

Leucine-rich repeat protein kinase family protein
Class I glutamine amidotransferase-like superfamily protein

Ribosomal protein L35

DNA/RNA polymerases superfamily protein
Cellulose synthase family protein
heat shock protein 70B
alpha/beta-Hydrolases superfamily protein

LJRHL1-like 1	
Ribosomal protein L10 family protein	
response regulator 12	
diacylglycerol kinase1	
plasmodesmata callose-binding protein 3	
PLC-like phosphodiesterases superfamily protein	
mitochondrial import receptor subunit TOM5 homolog	
BSD domain-containing protein	
O-fucosyltransferase family protein	
calcium sensing receptor	
ubiquitin-associated (UBA)/TS-N domain-containing protein / octicosapeptide/Phox/Bemp1 (	
armadillo repeat only 4	
S-adenosyl-L-methionine-dependent methyltransferases superfamily protein	
Protein phosphatase 2C family protein	
NAD(P)-binding Rossmann-fold superfamily protein	
SOUL heme-binding family protein	
Histidine kinase-, DNA gyrase B-, and HSP90-like ATPase family protein	
Glucose-6-phosphate/phosphate translocator-related	
HCO ₃ ⁻ transporter family	
Transducin family protein / WD-40 repeat family protein	
pantothenate kinase 2	
basic helix-loop-helix (bHLH) DNA-binding superfamily protein	
response regulator 5	
AAA-ATPase 1	
Major facilitator superfamily protein	
Integral membrane HPP family protein	
nitrate transporter 1:2	
myb domain protein 94	
Pyridine nucleotide-disulphide oxidoreductase family protein	
GDLS-like Lipase/Acylhydrolase superfamily protein	
NAC domain containing protein 100	
Protein of unknown function, DUF538	
KNOTTED1-like homeobox gene 3	
DNA-binding protein phosphatase 1	
chlororespiratory reduction 6	
Octicosapeptide/Phox/Bem1p (PB1) domain-containing protein / tetratricopeptide repeat (TPP	
Leucine-rich repeat family protein	
glucuronidase 3	
monogalactosyldiacylglycerol synthase 2	

xylogalacturonan deficient 1	
Bifunctional inhibitor/lipid-transfer protein/seed storage 2S albumin superfamily protein	
Calcium-binding EF-hand family protein	
Nucleoside transporter family protein	
SPX domain gene 2	
Major facilitator superfamily protein	
Ribosomal protein L7Ae/L30e/S12e/Gadd45 family protein	
aspartate-glutamate racemase family	
Stabilizer of iron transporter SufD / Polynucleotidyl transferase	
Leucine-rich repeat protein kinase family protein	
pleiotropic drug resistance 4	
Cyclophilin-like peptidyl-prolyl cis-trans isomerase family protein	
RAB GTPase homolog E1B	
RAB GTPase homolog E1B	
Transducin/WD40 repeat-like superfamily protein	
Pectin lyase-like superfamily protein	
GDSL-like Lipase/Acylhydrolase superfamily protein	
nucleoside diphosphate kinase 2	
uridine kinase/uracil phosphoribosyltransferase 1	
ATP synthase delta-subunit gene	
IQ-domain 22	
BCL-2-associated athanogene 1	
Glucose-methanol-choline (GMC) oxidoreductase family protein	
TCP family transcription factor	
Intron maturase, type II family protein	
AT-hook motif nuclear-localized protein 1	
Plant-specific transcription factor YABBY family protein	
nitrate transporter 1.1	
Lactate/malate dehydrogenase family protein	
Plant protein of unknown function (DUF828) with plant pleckstrin homology-like region	
Oxidoreductase family protein	
Integrase-type DNA-binding superfamily protein	
homeobox protein 2	
hydroxyproline-rich glycoprotein family protein	
PPPDE putative thiol peptidase family protein	

ethylene responsive element binding factor 1	
Plant VAMP (vesicle-associated membrane protein) family protein	
ureidoglycine aminohydrolase	
Putative membrane lipoprotein	
HXXXD-type acyl-transferase family protein	
poltergeist like 1	
aluminum-activated, malate transporter 12	
lsd one like 1	
ATP binding microtubule motor family protein	
formin homolog 6	
Phototropic-responsive NPH3 family protein	
Acyl-CoA N-acyltransferases (NAT) superfamily protein	
root hair specific 19	
arabinogalactan protein 18	
GDSL-like Lipase/Acylhydrolase superfamily protein	
MRG family protein	
CYCLIN D3;2	
Granulin repeat cysteine protease family protein	
2-oxoglutarate (2OG) and Fe(II)-dependent oxygenase superfamily protein	
Protein of unknown function (DUF579)	
Leucine-rich repeat protein kinase family protein	
P-loop containing nucleoside triphosphate hydrolases superfamily protein	
mitogen-activated protein kinase kinase kinase 21	
Ras-related small GTP-binding family protein	
Cyclin-dependent kinase inhibitor family protein	
Protein of unknown function, DUF547	
Homeodomain-like superfamily protein	
Ribosomal protein S21 family protein	
ATP binding;valine-tRNA ligases;aminoacyl-tRNA ligases;nucleotide binding;ATP binding;a	
ATP binding;valine-tRNA ligases;aminoacyl-tRNA ligases;nucleotide binding;ATP binding;a	
HSP20-like chaperones superfamily protein	
Protein of unknown function, DUF599	
chloride channel C	
amino acid permease 6	
GATA transcription factor 12	
D-arabinono-1,4-lactone oxidase family protein	
DNA topoisomerase, type IA, core	
Cellulose-synthase-like C5	
H(+)-ATPase 5	

Protein of unknown function (DUF1997)

HCO3- transporter family

Protein of unknown function, DUF642

adenine phosphoribosyltransferase 5

Bifunctional inhibitor/lipid-transfer protein/seed storage 2S albumin superfamily protein

serine-rich protein-related

Protein kinase superfamily protein

Protein kinase superfamily protein

receptor serine/threonine kinase, putative

Concanavalin A-like lectin protein kinase family protein

Protein kinase superfamily protein

Integrase-type DNA-binding superfamily protein

Pentatricopeptide repeat (PPR) superfamily protein

glutamine dumper 1

WRKY DNA-binding protein 40

WRKY DNA-binding protein 40

WRKY DNA-binding protein 50

17.6 kDa class II heat shock protein

myosin, putative

Thioredoxin superfamily protein

Fatty acid/sphingolipid desaturase

iron regulated transporter 3

myb-like transcription factor family protein

metallothionein 2A

gamma vacuolar processing enzyme

FAD/NAD(P)-binding oxidoreductase family protein

hydroxyproline-rich glycoprotein family protein

phytosulfokine 4 precursor

interferon-related developmental regulator family protein / IFRD protein family

Subtilase family protein

WPP domain protein 1

N-terminal nucleophile aminohydrolases (Ntn hydrolases) superfamily protein

CYCLIN D3;1

Granulin repeat cysteine protease family protein

alpha-amylase-like

plant glycogenin-like starch initiation protein 3

phosphatidic acid phosphohydrolase 2

P-loop containing nucleoside triphosphate hydrolases superfamily protein

Homeodomain-like superfamily protein

ribosomal protein S9 galacturonosyltransferase-like 2 PPPDE putative thiol peptidase family protein tubby like protein 6 Ribosomal protein L31 jasmonic acid carboxyl methyltransferase basic leucine-zipper 44 TRAM, LAG1 and CLN8 (TLC) lipid-sensing domain containing protein UDP-Glycosyltransferase superfamily protein thioredoxin H-type 1 salt tolerance homolog2 Chaperone DnaJ-domain superfamily protein DnaJ/Hsp40 cysteine-rich domain superfamily protein eukaryotic initiation factor 3 gamma subunit family protein GAST1 protein homolog 1 Protein of unknown function (DUF668) P-glycoprotein 13 GDSL-like Lipase/Acylhydrolase superfamily protein SGNH hydrolase-type esterase superfamily protein UDP-D-glucuronate 4-epimerase 6 selenium-binding protein 1 xyloglucan endotransglucosylase/hydrolase 16 Calmodulin-binding transcription activator protein with CG-1 and Ankyrin domains glycosylphosphatidylinositol-anchored lipid protein transfer 1 oxidoreductase, 2OG-Fe(II) oxygenase family protein translocase outer membrane 20-2 microtubule-associated protein 65-8 Ribosomal protein L22p/L17e family protein Acid phosphatase/vanadium-dependent haloperoxidase-related protein glyceraldehyde-3-phosphate dehydrogenase C subunit 1 B12D protein photosystem II BY Pectin lyase-like superfamily protein helicase domain-containing protein / IBR domain-containing protein / zinc finger protein-relat GCR2-like 1 VQ motif-containing protein Haloacid dehalogenase-like hydrolase (HAD) superfamily protein Integrase-type DNA-binding superfamily protein myo-inositol-1-phosphate synthase 2 sulfate transporter 2;1 senescence associated gene 20	
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biotin/lipoyl attachment domain-containing protein
 laccase 5
 TRICHOME BIREFRINGENCE-LIKE 33
 UDP-glucose pyrophosphorylase 3
 LOB domain-containing protein 21
 RING/U-box superfamily protein
 phosphoribosylanthranilate isomerase 1
 2-oxoglutarate (2OG) and Fe(II)-dependent oxygenase superfamily protein
 Double Clp-N motif-containing P-loop nucleoside triphosphate hydrolases superfamily protein
 light harvesting complex photosystem II
 anthranilate synthase alpha subunit 1
 Transmembrane amino acid transporter family protein
 plasma membrane intrinsic protein 1;5
 HAD superfamily, subfamily IIIB acid phosphatase
 Transport protein particle (TRAPP) component
 GATA type zinc finger transcription factor family protein
 ROP guanine nucleotide exchange factor 5
 maternal effect embryo arrest 60
 subtilase 4.13
 DA1-related protein 2
 Tetratricopeptide repeat (TPR)-like superfamily protein
 Calcium-binding EF-hand family protein
 Calcium-dependent lipid-binding (CaLB domain) family protein

 RGA-like 2
 Eukaryotic aspartyl protease family protein
 Zn-dependent exopeptidases superfamily protein
 AGAMOUS-like 80
 TPX2 (targeting protein for Xklp2) protein family
 UDP-glucose pyrophosphorylase 2

 PsbQ-like 3

 FRAGILE HISTIDINE TRIAD
 Ribosomal protein L17 family protein
 high-level expression of sugar-inducible gene 2
 Bifunctional inhibitor/lipid-transfer protein/seed storage 2S albumin superfamily protein
 expansin A8
 Major facilitator superfamily protein
 WRKY DNA-binding protein 33
 Tetratricopeptide repeat (TPR)-like superfamily protein
 Protein of unknown function (DUF640)
 Acyl-CoA N-acyltransferases (NAT) superfamily protein

 glutamine-dependent asparagine synthase 1
 alternative NAD(P)H dehydrogenase 1

fatty acid desaturase 8 Double Clp-N motif-containing P-loop nucleoside triphosphate hydrolases superfamily protein non-specific phospholipase C1 Laccase/Diphenol oxidase family protein zinc finger (C2H2 type) family protein Plant protein of unknown function (DUF641) proteasome activating protein 200 myb domain protein 103 Chaperone DnaJ-domain superfamily protein RNA-binding KH domain-containing protein BTB/POZ domain-containing protein uridine kinase-like 4 Leucine-rich receptor-like protein kinase family protein nudix hydrolase homolog 2 Ribosomal protein S10p/S20e family protein serine acetyltransferase 2;2 Kinesin motor family protein NB-ARC domain-containing disease resistance protein PLC-like phosphodiesterase family protein Eukaryotic aspartyl protease family protein CCCH-type zinc finger family protein WRKY family transcription factor nitrate transporter 1.5 alpha/beta-Hydrolases superfamily protein centrin2 tryptophan synthase beta-subunit 2 spermidine hydroxycinnamoyl transferase Protein kinase superfamily protein Ribosomal protein L18ae/LX family protein GDSL-like Lipase/Acylhydrolase superfamily protein voltage dependent anion channel 1 nitrate transporter 1.7 AMP deaminase, putative / myoadenylate deaminase, putative DNAJ heat shock family protein arginine biosynthesis protein ArgJ family Cupredoxin superfamily protein P-loop containing nucleoside triphosphate hydrolases superfamily protein	
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K⁺ uptake permease 6 enoyl-CoA hydratase/isomerase D Kelch repeat-containing F-box family protein nitrate transporter2.5 Pyruvate phosphate dikinase, PEP/pyruvate binding domain SOUL heme-binding family protein phosphofructokinase 5 Protein-tyrosine phosphatase-like, PTPLA UDP-Glycosyltransferase superfamily protein Rhamnogalacturonate lyase family protein myb-like HTH transcriptional regulator family protein Bifunctional inhibitor/lipid-transfer protein/seed storage 2S albumin superfamily protein receptor-like protein kinase-related family protein Lactoylglutathione lyase / glyoxalase I family protein hydroxyproline-rich glycoprotein family protein Auxin-responsive family protein Ycf1 protein Protein kinase superfamily protein multidrug resistance-associated protein 3 GTP cyclohydrolase I 2-oxoglutarate (2OG) and Fe(II)-dependent oxygenase superfamily protein Sterile alpha motif (SAM) domain-containing protein Tetratricopeptide repeat (TPR)-like superfamily protein RING/U-box superfamily protein myb-like HTH transcriptional regulator family protein expansin A4 laccase 17 laccase 17 fimbrin-like protein 2 2-oxoglutarate (2OG) and Fe(II)-dependent oxygenase superfamily protein 2-oxoglutarate (2OG) and Fe(II)-dependent oxygenase superfamily protein 2-oxoglutarate (2OG) and Fe(II)-dependent oxygenase superfamily protein Protein of unknown function (DUF3411) POX (plant homeobox) family protein Bifunctional inhibitor/lipid-transfer protein/seed storage 2S albumin superfamily protein RING/FYVE/PHD zinc finger superfamily protein Laccase/Diphenol oxidase family protein receptor like protein 13 glycerol-3-phosphate acyltransferase 6 2-oxoglutarate (2OG) and Fe(II)-dependent oxygenase superfamily protein

2-oxoglutarate (2OG) and Fe(II)-dependent oxygenase superfamily protein

Plant protein of unknown function (DUF828)

pyruvate decarboxylase-2

BCL-2-associated athanogene 4

ferretin 1

PYR1-like 4

MATE efflux family protein

Protein phosphatase 2C family protein

SCAR homolog 2

PYRIMIDINE 4

Peroxidase superfamily protein

Peroxidase superfamily protein

Plant protein of unknown function (DUF827)

TATA binding protein 2

SOS3-interacting protein 4

serine/threonine protein kinase 2

WRKY DNA-binding protein 70

Protein of unknown function, DUF599

with no lysine (K) kinase 5

Phototropic-responsive NPH3 family protein

Phosphoglycerate mutase, 2,3-bisphosphoglycerate-independent

cysteine-rich RLK (RECEPTOR-like protein kinase) 25

cysteine-rich RLK (RECEPTOR-like protein kinase) 23

phosphorylethanolamine cytidylyltransferase 1

protein binding

S-adenosyl-L-methionine-dependent methyltransferases superfamily protein

Protein of unknown function (DUF674)

ARM repeat superfamily protein

UDP-galactose transporter 2

peptidoglycan-binding LysM domain-containing protein

Major Facilitator Superfamily with SPX (SYG1/Pho81/XPR1) domain-containing protein

NAD-dependent malic enzyme 2

Remorin family protein

C2 calcium/lipid-binding plant phosphoribosyltransferase family protein

Ribosomal L5P family protein

cysteine-rich RLK (RECEPTOR-like protein kinase) 29

Heavy metal transport/detoxification superfamily protein

Subtilisin-like serine endopeptidase family protein

CAX interacting protein 1
Auxin efflux carrier family protein
photosystem I subunit I
Tyrosine phosphatase family protein

UDP-Glycosyltransferase superfamily protein
Ankyrin repeat family protein
ELMO/CED-12 family protein
Subtilisin-like serine endopeptidase family protein
Subtilisin-like serine endopeptidase family protein
Leucine-rich repeat receptor-like protein kinase family protein
Proteasome component (PCI) domain protein
Ran BP2/NZF zinc finger-like superfamily protein
homeobox-leucine zipper protein 3
AAA-ATPase 1
Leucine-rich repeat receptor-like protein kinase family protein
Phosphoglycerate mutase-like family protein
RNA-binding (RRM/RBD/RNP motifs) family protein
NOD26-like intrinsic protein 4;2
FTSH protease 6
nitrate transporter 1.5
Calcium-binding EF-hand family protein
NAC domain containing protein 100

Cyclic nucleotide-regulated ion channel family protein
casein lytic proteinase B3
UDP-Glycosyltransferase superfamily protein
serine carboxypeptidase-like 25
O-methyltransferase family protein
Leucine-rich repeat receptor-like protein kinase family protein
HXXXD-type acyl-transferase family protein
HXXXD-type acyl-transferase family protein
HXXXD-type acyl-transferase family protein
Malectin/receptor-like protein kinase family protein
Malectin/receptor-like protein kinase family protein

Malectin/receptor-like protein kinase family protein
Malectin/receptor-like protein kinase family protein
COBRA-like extracellular glycosyl-phosphatidyl inositol-anchored protein family
COBRA-like extracellular glycosyl-phosphatidyl inositol-anchored protein family
2-oxoglutarate (2OG) and Fe(II)-dependent oxygenase superfamily protein
AGAMOUS-like 8
NSP-interacting kinase 1
Late embryogenesis abundant protein (LEA) family protein
conserved peptide upstream open reading frame 10
Methylenetetrahydrofolate reductase family protein

TRICHOME BIREFRINGENCE-LIKE 19

TCP family transcription factor
Ribosomal protein L7Ae/L30e/S12e/Gadd45 family protein
Integrase-type DNA-binding superfamily protein
Protein kinase superfamily protein
Protein of unknown function (DUF1664)
glucose-6-phosphate dehydrogenase 2
BCL-2-associated athanogene 5
catalytics;hydrolases
BCL-2-associated athanogene 5
adenylate cyclases
NAD(P)-linked oxidoreductase superfamily protein
sulfate transporter 4.1
PsbP-like protein 1
NB-ARC domain-containing disease resistance protein
C2H2 and C2HC zinc fingers superfamily protein

heat shock cognate protein 70-1
Uncharacterised protein family (UPF0497)
Calcium-binding EF-hand family protein

Heavy metal transport/detoxification superfamily protein

Bifunctional inhibitor/lipid-transfer protein/seed storage 2S albumin superfamily protein
Protein kinase superfamily protein
Protein kinase family protein
50S ribosomal protein-related
Mannose-6-phosphate isomerase, type I
alpha/beta-Hydrolases superfamily protein

LOB domain-containing protein 41

Protein of unknown function (DUF1624)
PEBP (phosphatidylethanolamine-binding protein) family protein
PEBP (phosphatidylethanolamine-binding protein) family protein
Phosphoenolpyruvate carboxylase family protein

Plant U-Box 15

ribosomal protein L22
Bifunctional inhibitor/lipid-transfer protein/seed storage 2S albumin superfamily protein
Galactose mutarotase-like superfamily protein
cysteine-rich RLK (RECEPTOR-like protein kinase) 42

carbonic anhydrase 1
 DegP protease 1
 GDSL-like Lipase/Acylhydrolase superfamily protein
 Tetratricopeptide repeat (TPR)-like superfamily protein
 Oxidoreductase, zinc-binding dehydrogenase family protein
 Oxidoreductase, zinc-binding dehydrogenase family protein
 cyclophilin 38
 homeobox 1
 nodulin MtN21 /EamA-like transporter family protein
 HSP20-like chaperones superfamily protein
 Peroxidase superfamily protein
 Peroxidase superfamily protein
 Heavy metal transport/detoxification superfamily protein
 ferredoxin thioredoxin reductase catalytic beta chain family protein
 Matrixin family protein
 cytochrome P450, family 82, subfamily C, polypeptide 2
 ABC transporter family protein
 ABC transporter family protein

 AAA-ATPase 1
 H(+)-ATPase 4
 Pentatricopeptide repeat (PPR) superfamily protein
 protein kinase family protein
 Galactose mutarotase-like superfamily protein
 basic helix-loop-helix (bHLH) DNA-binding family protein
 expansin A15
 Uridine diphosphate glycosyltransferase 74E2
 UDP-glycosyltransferase 74 F1
 purple acid phosphatase 23

 Glycosyl transferase, family 35
 UDP-glucose 6-dehydrogenase family protein
 biotin carboxyl carrier protein 2
 HXXXD-type acyl-transferase family protein

 Pollen Ole e 1 allergen and extensin family protein
 Transmembrane amino acid transporter family protein
 HXXXD-type acyl-transferase family protein

 TRICHOME BIREFRINGENCE-LIKE 19
 Methylenetetrahydrofolate reductase family protein

 Ribulose biphosphate carboxylase (small chain) family protein
 Ribulose biphosphate carboxylase (small chain) family protein
 Ribulose biphosphate carboxylase (small chain) family protein

Ribosomal protein L36e family protein Mannose-6-phosphate isomerase, type I GDSL-like Lipase/Acylhydrolase superfamily protein GDSL-like Lipase/Acylhydrolase superfamily protein NAD-dependent glycerol-3-phosphate dehydrogenase family protein
disease resistance protein (TIR-NBS-LRR class), putative PQ-loop repeat family protein / transmembrane family protein NAC (No Apical Meristem) domain transcriptional regulator superfamily protein beta-1,4-N-acetylglucosaminyltransferase family protein cytochrome P450, family 96, subfamily A, polypeptide 1
DNAJ heat shock N-terminal domain-containing protein
NADH-dependent glutamate synthase 1 alpha/beta-Hydrolases superfamily protein Translation protein SH3-like family protein
highly ABA-induced PP2C gene 3 ATPase, AAA-type, CDC48 protein RNA binding (RRM/RBD/RNP motifs) family protein Ankyrin repeat family protein
PQ-loop repeat family protein / transmembrane family protein Leucine-rich repeat receptor-like protein kinase family protein lysine histidine transporter 1 DNA-binding storekeeper protein-related Basic-leucine zipper (bZIP) transcription factor family protein LRR and NB-ARC domains-containing disease resistance protein Leucine-rich repeat protein kinase family protein P-loop containing nucleoside triphosphate hydrolases superfamily protein
chloride channel B Ribosomal protein S21 family protein
WRKY DNA-binding protein 75 HXXXD-type acyl-transferase family protein senescence-related gene 3 aspartate kinase 1 Galactose mutarotase-like superfamily protein

Chalcone and stilbene synthase family protein ribosomal protein S27 glyceraldehyde 3-phosphate dehydrogenase A subunit 2 Tetratricopeptide repeat (TPR)-like superfamily protein xyloglucan endotransglucosylase/hydrolase 8 GATA transcription factor 9 SOS3-interacting protein 1 saposin B domain-containing protein Plant protein of unknown function (DUF827) Chaperone DnaJ-domain superfamily protein arabinogalactan protein 14 Exostosin family protein ankyrin repeat family protein / regulator of chromosome condensation (RCC1) family protein	
myb domain protein 60 F-box family protein ARF GAP-like zinc finger-containing protein ZIGA4 MATE efflux family protein ABA-responsive element binding protein 3 NHL domain-containing protein nodulin MtN21 /EamA-like transporter family protein Cam interacting protein 111 RAD-like 6 dual specificity protein phosphatase-related F-box family protein VQ motif-containing protein Glutaredoxin family protein response regulator 9 Calcium-binding EF-hand family protein sulfoquinovosyldiacylglycerol 1 2-oxoglutarate (2OG) and Fe(II)-dependent oxygenase superfamily protein beta-1,3-glucanase 1	
heat shock transcription factor B3 Integrase-type DNA-binding superfamily protein NB-ARC domain-containing disease resistance protein Uncharacterized protein Uncharacterized protein C2H2-type zinc finger family protein Leucine-rich repeat receptor-like protein kinase family protein Leucine-rich repeat protein kinase family protein	

cytochrome P450, family 712, subfamily A, polypeptide 1
Rhodanese/Cell cycle control phosphatase superfamily protein
squamosa promoter binding protein-like 9
myb-like HTH transcriptional regulator family protein
spindle pole body component 98
Disease resistance-responsive (dirigent-like protein) family protein
Disease resistance-responsive (dirigent-like protein) family protein
RNI-like superfamily protein
Major facilitator superfamily protein
oxidoreductase, 2OG-Fe(II) oxygenase family protein
CBS domain-containing protein with a domain of unknown function (DUF21)
isopentenyltransferase 3
outer envelope membrane protein 7
Galactose oxidase/kelch repeat superfamily protein

indole-3-acetic acid inducible 14
photosystem II reaction center W
PRA1 (Prenylated rab acceptor) family protein

Galactose oxidase/kelch repeat superfamily protein
conserved peptide upstream open reading frame 7
phosphate transporter 1;7
breast cancer associated RING 1
Leucine-rich repeat receptor-like protein kinase family protein
auxin-induced protein 13
multidrug resistance-associated protein 5
MIRO-related GTP-ase 2
NAD(P)-binding Rossmann-fold superfamily protein
Major facilitator superfamily protein
pyrophosphorylase 4
nodulin MtN21 /EamA-like transporter family protein
ankyrin repeat family protein
ATP phosphoribosyl transferase 2
Protein kinase superfamily protein
Homeodomain-like superfamily protein
Ribosomal protein L4/L1 family

Seven transmembrane MLO family protein

FASCICLIN-like arabinogalactan-protein 11
Heavy metal transport/detoxification superfamily protein
Major facilitator superfamily protein
Major facilitator superfamily protein

triosephosphate isomerase
gamma tonoplast intrinsic protein
RAB GTPase homolog C2A

sequence-specific DNA binding transcription factors
Pyruvate kinase family protein
Nucleotide-diphospho-sugar transferases superfamily protein
Thioredoxin superfamily protein
starch branching enzyme 2.2
uridine-ribohydrolase 1
Purple acid phosphatases superfamily protein
alpha/beta-Hydrolases superfamily protein
alpha/beta-Hydrolases superfamily protein
NAD(P)-binding Rossmann-fold superfamily protein

alpha/beta-Hydrolases superfamily protein

Eukaryotic aspartyl protease family protein
NDR1/HIN1-like 1
UDP-Glycosyltransferase superfamily protein
nuclear factor Y, subunit A10

TPX2 (targeting protein for Xklp2) protein family
FASCICLIN-like arabinogalactan protein 16 precursor
ABC-2 type transporter family protein

CW-type Zinc Finger
multidrug resistance-associated protein 4
beta-xylosidase 2
TRICHOME BIREFRINGENCE-LIKE 6
WRKY DNA-binding protein 35
stachyose synthase
WRKY DNA-binding protein 23
glycerol-3-phosphate acyltransferase 2
myb domain protein 112
galactinol synthase 1
HCO₃⁻ transporter family
NAD(P)-binding Rossmann-fold superfamily protein
RAD-like 6
phytochrome interacting factor 3
myb domain protein 55

Haloacid dehalogenase-like hydrolase (HAD) superfamily protein
rotamase CYP 4
Protein phosphatase 2C family protein

Glycosyl hydrolase superfamily protein	
nitrate transporter 1:2	
phytochrome interacting factor 3	
Low temperature and salt responsive protein family	
Pyridoxal phosphate (PLP)-dependent transferases superfamily protein	
Pectin lyase-like superfamily protein	
NIM1-interacting 1	
GDSL-like Lipase/Acylhydrolase superfamily protein	
basic helix-loop-helix (bHLH) DNA-binding superfamily protein	
KNOTTED1-like homeobox gene 6	
nicotianamine synthase 2	
Calmodulin-binding protein	
Polynucleotidyl transferase, ribonuclease H-like superfamily protein	
alpha/beta-Hydrolases superfamily protein	
respiratory burst oxidase homolog B	
DNA-damage-repair/toleration protein (DRT102)	
Plant protein of unknown function (DUF868)	
GDP-D-mannose 3',5'-epimerase	
bZIP transcription factor family protein	
pathogenesis-related 4	
pathogenesis-related 4	
Alba DNA/RNA-binding protein	
Plant protein of unknown function (DUF946)	
Galactose oxidase/kelch repeat superfamily protein	
3'-5'-exoribonuclease family protein	
UDP-Glycosyltransferase superfamily protein	
alpha/beta-Hydrolases superfamily protein	
Plant protein 1589 of unknown function	
cyclic nucleotide gated channel 1	
Cytochrome b561/ferric reductase transmembrane with DOMON related domain	
Acid phosphatase/vanadium-dependent haloperoxidase-related protein	
Integrase-type DNA-binding superfamily protein	
RAB GTPase homolog A3	
cytochrome P450, family 78, subfamily A, polypeptide 6	
photosystem I P subunit	
O-methyltransferase 1	
Chlorophyll A-B binding family protein	
B-block binding subunit of TFIIC	
D111/G-patch domain-containing protein	
DNAJ heat shock N-terminal domain-containing protein	
O-methyltransferase 1	

Exostosin family protein	
Cyclophilin-like peptidyl-prolyl cis-trans isomerase family protein	
cytochrome P450, family 71, subfamily B, polypeptide 24	
cytochrome P450, family 71, subfamily B, polypeptide 34	
cytochrome P450, family 71, subfamily B, polypeptide 34	
cytochrome P450, family 71, subfamily B, polypeptide 34	
Phosphofructokinase family protein	
cytochrome P450, family 71, subfamily A, polypeptide 22	
cytochrome b6f complex subunit (petM), putative	
hydroxyproline-rich glycoprotein family protein	
TPX2 (targeting protein for Xklp2) protein family	
homeobox-leucine zipper protein 17	
Mitochondrial substrate carrier family protein	
Polyketide cyclase/dehydrase and lipid transport superfamily protein	
pfkB-like carbohydrate kinase family protein	
DCD (Development and Cell Death) domain protein	
Trypsin family protein	
Cytochrome c	
phloem protein 2-A1	
LOB domain-containing protein 4	
alpha/beta-Hydrolases superfamily protein	
Glycosyl transferase, family 35	
Purple acid phosphatases superfamily protein	
Uncharacterised protein family (UPF0114)	
Protein of unknown function (DUF567)	
VH1-interacting kinase	
O-fucosyltransferase family protein	
Ribosomal protein L7Ae/L30e/S12e/Gadd45 family protein	
expansin A15	
Calcium-binding EF-hand family protein	
Peptidase C13 family	
ribonuclease 1	
RING/U-box superfamily protein	
ABC-2 type transporter family protein	
non-specific phospholipase C2	
Got1/Sft2-like vesicle transport protein family	
CRT (chloroquine-resistance transporter)-like transporter 3	
molybdopterin biosynthesis MoaE family protein	

Galactose oxidase/kelch repeat superfamily protein
spermidine hydroxycinnamoyl transferase
nudix hydrolase homolog 3
nudix hydrolase homolog 3
4-(cytidine 5'-phospho)-2-C-methyl-D-erithritol kinase

Cofactor-independent phosphoglycerate mutase
RING/U-box superfamily protein
NB-ARC domain-containing disease resistance protein
LRR and NB-ARC domains-containing disease resistance protein
Protein of unknown function (DUF630 and DUF632)

ABC-2 type transporter family protein
lipoxygenase 2
ubiquitin-specific protease 12

Xanthine/uracil permease family protein
GDA1/CD39 nucleoside phosphatase family protein
hydroxy methylglutaryl CoA reductase 1
Six-hairpin glycosidases superfamily protein
nudix hydrolase homolog 2
bidirectional amino acid transporter 1
cytochrome p450 79a2
Exostosin family protein
heat shock protein 70 (Hsp 70) family protein
ERD (early-responsive to dehydration stress) family protein
oligopeptide transporter 7

YELLOW STRIPE like 1
Integrase-type DNA-binding superfamily protein
blue-copper-binding protein

triglyceride lipases; triglyceride lipases
CCT motif family protein
eukaryotic initiation factor 4B2
Target SNARE coiled-coil domain protein

germin-like protein 10
Pectinacetyl esterase family protein
neurofilament protein-related
Low temperature and salt responsive protein family

Adenine nucleotide alpha hydrolases-like superfamily protein PsbP-like protein 2 tonoplast intrinsic protein 1;3 2-oxoglutarate dehydrogenase, E1 component COP1-interacting protein 8 alpha/beta-Hydrolases superfamily protein probable small nuclear ribonucleoprotein G Drought-responsive family protein ACT-like protein tyrosine kinase family protein Major facilitator superfamily protein P-loop containing nucleoside triphosphate hydrolases superfamily protein	
Pentatricopeptide repeat (PPR-like) superfamily protein 3-ketoacyl-CoA synthase 6 ribosomal protein L15 endonuclease 2 glutamine-tRNA ligase, putative / glutaminyl-tRNA synthetase, putative / GlnRS, putative Protein kinase superfamily protein receptor serine/threonine kinase, putative receptor serine/threonine kinase, putative receptor serine/threonine kinase, putative trehalose phosphatase/synthase 5 B-box zinc finger family protein	
RING-H2 finger A2A	
transcription regulators Leucine-rich repeat (LRR) family protein UDP-Glycosyltransferase superfamily protein translocon at inner membrane of chloroplasts 21 Leucine-rich repeat protein kinase family protein Domain of unknown function (DUF303) sodium:hydrogen antiporter 1 stress enhanced protein 1 Plant basic secretory protein (BSP) family protein Plant basic secretory protein (BSP) family protein 1,2-alpha-L-fucosidases ADP-ribosylation factor-like A1D	
Xanthine/uracil permease family protein phytosulfokine 4 precursor Pyruvate kinase family protein cysteine-rich RLK (RECEPTOR-like protein kinase) 26 cysteine-rich RLK (RECEPTOR-like protein kinase) 29 cysteine-rich RLK (RECEPTOR-like protein kinase) 25 cysteine-rich RLK (RECEPTOR-like protein kinase) 25	

gibberellin 2-oxidase 8	
thiazole biosynthetic enzyme, chloroplast (ARA6) (THI1) (THI4)	
Glycoprotein membrane precursor GPI-anchored	
time for coffee	
PLAT/LH2 domain-containing lipxygenase family protein	
photosystem I subunit D-2	
L-Aspartase-like family protein	
O-acetylserine (thiol) lyase (OAS-TL) isoform A1	
CVP2 like 1	
homocysteine S-methyltransferase 3	
Leucine-rich repeat (LRR) family protein	
protein serine/threonine kinases;protein tyrosine kinases;ATP binding;protein kinases	
ATP sulfurylase 1	
cytochrome P450, family 704, subfamily A, polypeptide 2	
alpha-L-fucosidase 1	
Protein kinase superfamily protein	
carboxyesterase 20	
K-box region and MADS-box transcription factor family protein	
peptidoglycan-binding LysM domain-containing protein	
TraB family protein	
Dihydrodipicolinate reductase, bacterial/plant	
phloem protein 2-A13	
FAR1-related sequence 2	
SNARE-like superfamily protein	
CAP160 protein	
detoxifying efflux carrier 35	
SCARECROW-like 8	
Protein kinase superfamily protein	
WRKY family transcription factor	
Protein kinase superfamily protein	
chitinase A	
multidrug resistance-associated protein 14	
RING/FYVE/PHD zinc finger superfamily protein	
Basic-leucine zipper (bZIP) transcription factor family protein	
Peroxidase superfamily protein	
Protein of unknown function (DUF3511)	
Oxidoreductase family protein	
calcium-dependent protein kinase 4	
Ribosomal protein L21	
LOB domain-containing protein 1	
Transmembrane amino acid transporter family protein	
DVL family protein	

plant U-box 14

ABC-2 type transporter family protein
ROTUNDIFOLIA like 17
Di-glucose binding protein with Leucine-rich repeat domain
myb-like transcription factor family protein
homolog of anti-oxidant 1
Protein kinase superfamily protein
cytochrome P450, family 77, subfamily A, polypeptide 4
vitamin E pathway gene 5
cycloartenol synthase 1
Protein of unknown function (DUF1635)
Double Clp-N motif-containing P-loop nucleoside triphosphate hydrolases superfamily protein

Fe superoxide dismutase 2
Integrase-type DNA-binding superfamily protein

Peptidase S41 family protein
Haloacid dehalogenase-like hydrolase (HAD) superfamily protein
Calcium-dependent lipid-binding (CaLB domain) family protein
Protein of unknown function (DUF3527)

Cyclopropane-fatty-acyl-phospholipid synthase
nodulin MtN21 /EamA-like transporter family protein
Integrase-type DNA-binding superfamily protein
proline-rich protein 1

Serine protease inhibitor, potato inhibitor I-type family protein

Eukaryotic aspartyl protease family protein
indole-3-acetic acid inducible 14
AUX/IAA transcriptional regulator family protein
CBL-interacting protein kinase 4
3-ketoacyl-CoA synthase 11
EXORDIUM like 5
light harvesting complex of photosystem II 5
Protein of unknown function, DUF599

alpha/beta-Hydrolases superfamily protein
UDP-Glycosyltransferase superfamily protein
Protein kinase family protein with ARM repeat domain

phosphoenolpyruvate carboxylase kinase 1	
calmodulin 8	
winged-helix DNA-binding transcription factor family protein	
DNA-binding storekeeper protein-related transcriptional regulator	
cysteine synthase D1	
vamp/synaptobrevin-associated protein 27-2	
homolog of yeast autophagy 18 (ATG18) H	
ROP binding protein kinases 2	
thylakoid lumen 18.3 kDa protein	
Mog1/PsbP/DUF1795-like photosystem II reaction center PsbP family protein	
Heavy metal transport/detoxification superfamily protein	
Signal peptidase subunit	
rapid alkalization factor 1	
Hypoxia-responsive family protein	
Dormancy/auxin associated family protein	
alpha/beta-Hydrolases superfamily protein	
Protein of unknown function (DUF1399)	
phospholipase D P1	
PsbP-like protein 2	
alpha/beta-Hydrolases superfamily protein	
3-ketoacyl-CoA synthase 19	
Chalcone-flavanone isomerase family protein	
ABC-2 type transporter family protein	
Ypt/Rab-GAP domain of gyp1p superfamily protein	
Plastid-lipid associated protein PAP / fibrillin family protein	
inositol transporter 1	
Major facilitator superfamily protein	
disease resistance family protein / LRR family protein	
disease resistance family protein / LRR family protein	
disease resistance family protein / LRR family protein	
disease resistance family protein / LRR family protein	
disease resistance family protein / LRR family protein	
receptor like protein 9	
alpha/beta-Hydrolases superfamily protein	
Carbohydrate-binding-like fold	
Malectin/receptor-like protein kinase family protein	
Peroxisomal membrane 22 kDa (Mpv17/PMP22) family protein	
Auxin efflux carrier family protein	
annexin 8	
60S acidic ribosomal protein family	
KCBP-interacting protein kinase	

NB-ARC domain-containing disease resistance protein
damaged DNA binding protein 1A
disease resistance family protein / LRR family protein
Pseudouridine synthase family protein
S-locus lectin protein kinase family protein
receptor like protein 33
disease resistance family protein / LRR family protein

;aminoacyl-tRNA ligases

1 (CNX1)

elicasases;nucleic acid binding;ATP binding;RNA binding;elicasases

utative (CHLH)

XD1)

) domain

pounds;nucleotide binding;ATP binding

containing anhydrides

rate binding
rate binding

lg protein

tein S6

2)-containing protein

family protein

enolpyruvyl-6-hydroxy-3-cyclohexene-1-carboxylic-acid synthases

peptide binding;ATPases

containing anhydrides

pounds;nucleotide binding;ATP binding

PB1) domain-containing protein

2)-containing protein

aminoacyl-tRNA ligases
aminoacyl-tRNA ligases