## OG\_104084

## ★Interspecific gene duplication event

Phaseolus vulgaris Phvul. 009c115600.4 Phaseolus vulgaris Phvul. 009c115600.5 Phaseolus vulgaris Phvaseolus vulgaris Phoseolus vulgaris Phvaseolus vulgaris Phoseolus vulgaris Phvaseolus Vulgaris Vulgaris Phvaseolus Vulgaris Vulgaris Phvaseolus Vulgaris Vulga	Disease Lea and Jacobs Disease 2000C11FC00.2	Discount of the section of the secti
Phaseolus vulgaris. Phvul.009G115600.5 Phaseolus vulgaris Phvul.009G115600.3 Glycine_max_lcl.INC_03824.2_cds_XP_005526745.1_17797 Glycine_max_lcl.INC_03824.2_cds_XP_005526745.1_17797 Glycine_max_lcl.INC_03824.2_cds_XP_005523980.1_10874 Medicago_truncatula_lcl.INC_037618.1_cds_XP_025688214.1_293 Arachis_hypogaea_lcl.INC_037618.1_cds_XP_025688214.1_293 Arachis_hypogaea_lcl.INC_037618.1_cds_XP_025688214.1_293 Arachis_hypogaea_lcl.INC_037618.1_cds_XP_025688214.1_293 Arachis_hypogaea_lcl.INC_037618.1_cds_XP_025688214.1_293 Arachis_hypogaea_lcl.INC_037618.1_cds_XP_025688214.1_293 Arachis_hypogaea_lcl.INC_037618.1_cds_XP_025688214.1_293 Arachis_hypogaea_lcl.INC_037618.1_cds_XP_025688214.1_293 Arachis_hypogaea_lcl.INC_037618.1_cds_XP_025688204.1_293 Arachis_hypogaea_lcl.INC_037618.1_cds_XP_016182774.1_1037 Cercis_chinensis_GWHTBHAK027154 Prunus_persica_Prupe_8G179800.6 Prunus_persica_Prupe_8G179800.3 Prunus_persica_Prupe_8G179800.3 Prunus_persica_Prupe_8G179800.1 Prunus_persica_Prupe_8G179800.2 Prunus_persica_Prupe_8G179800.2 Prunus_persica_Prupe_8G179800.2 Prunus_persica_Prupe_8G179800.2 Prunus_persica_Prupe_8G179800.1 Prunus_persica_Prupe_8G179800.1 Prunus_persica_Prupe_8G179800.1 Prunus_persica_Prupe_8G179800.1 Prunus_persica_Prupe_8G179800.1 Prunus_persica_Prupe_8G179800.1 Prunus_persica_Prupe_BG179800.2 Prunus_persica_Prupe_BG179800.1 Prunus_persica_Prupe	Phaseolus_vulgaris_Phvul.009G115600.2	Phaseolus_vulgaris
haseolus_vulgaris_Phvul.0096115600.3    Glycine_max_kclNC_038242_2_cds_XP_003526745.1_17797   Glycine_max_kclNC_038242_2_cds_XP_003523808.1_10874   Glycine_max_kclNC_038242_2_cds_XP_003523808.1_10874   Glycine_max_kclNC_036091.4_cds_XP_003523808.1_10874   Glycine_max_kclNC_036091.4_cds_XP_003523808.1_10874   Glycine_max_kclNC_036091.2_cds_XP_015959542_1_309   Arachis_hypogaea_lclNC_037618.1_cds_XP_025688214.1_293   Arachis_hypogaea_lclNC_037618.0_0.1   Araulis_persica_Prupe_8G179800.7   Araulis_persica_Prupe_8G179800.3   Araulis_persica_Prupe_8G179800.1   Araulis_persica_Prupe_8G179800.1   Araulis_persica_Prupe_8G179800.2   Araulis_persica_Prupe_8G179800.1   Araulis_persica_Prupe_8G179800.1   Araulis_persica_Prupe_8G179800.2   Araulis_persica_Prupe_8G179800.1		
Glycine max JcINC 038242.2 cds XP 003526745.1 17797 Glycine max JcINC 038242.2 cds XP 00558075.1 17798 Glycine max JcINC 03691.4 cds XP 003523980.1 10874 Medicago truncatula JcINC 037618.1 cds XP 024635233.1 17128 Arachis Jupogaea JcINC 037618.1 cds XP 025688241.1 293 Arachis Jupogaea JcINC 037618.1 cds XP 025688241.1 293 Arachis Jupogaea JcINC 037628.1 cds XP 025688241.1 293 Arachis Jupogaea JcINC 037628.1 cds XP 025688291.1 48121 Arachis Jupogaea JcINC 037628.1 cds XP 025688291.1 48121 Arachis Jupogaea JcINC 037628.2 cds XP 025688291.1 48121 Arachis Jupogaea JcINC 037628.2 cds XP 025688291.1 48121 Arachis Jupogaea JcINC 037628.2 cds XP 025688291.1 48121 Arachis Jupogaea JcINC 037628.1 cds XP 025688291.1 49018.1 149018		
Glycine max IcIINC 038242.2 cds XP 005681075. I 17798 Glycine max IcIINC 0169014 cds XP 00353980.1 10874 Medicago_truncatula_IcI NC 037618.1 cds XP 024535233.1 17128 Medicago_truncatula_IcI NC 037618.1 cds XP 025568214.1 293 Arachis_hypogaea_IcI NC 037618.1 cds XP 0255688214.1 293 Arachis_hypogaea_IcINC 037618.1 cds XP 0255688214.1 293 Arachis_hypogaea_IcINC 037628.1 cds XP 025688204.1 293 Arachis_hypogaea_IcINC 037628.1 cds XP 025688214.1 293 Arachis_hypogaea_IcINC 037628.1 cds XP 025688214.1 293 Arachis_hypogaea_IcINC 037628.2 cds XP 016182774.1 1037 Ceratopteris_classed_INC 037628.2 cds XP 016182774.1 1037 Ceratopteris_classed_INC 037628.2 cds XP 025688214.1 293 Arachis_hypogaea_IcINC 037628.2 cds XP 016182774.1 1037 Ceratopteris_classed_INC 037628.2 cds XP 025688214.1 293 Arachis_hypogaea_IcINC 037628.2 cds XP 025688214.1 293 Arachis_hypogaea_IcINC 037628.2 cds XP 016182774.1 1037 Ceratopteris_classed_INC 037628.2 cds XP 016182774.1 1037 Ceratopteris_clas		
Medicago truncatula (LINC 05041.1 cds XP 003523980.1 10874 Medicago truncatula (LINC 05041.1 cds XP 024535233.1 17128 Arachis duranensis (LINC 029772.2 cds XP 015959542.1 309 Arachis hypogaea (LINC 037618.1 cds XP 025688204.1 293 Arachis hypogaea (LINC 037618.1 cds XP 025688204.1 293 Arachis hypogaea (LINC 037628.1 cds XP 025688204.1 293 Arachis hypogaea (Arachis hypogaea Arachis hy	Glycine_max_lcl\NC_038242.2_cds_XP_003526745.1_17797	
Medicago truncatula   Crinco 053044.1 cds   XP 01599542.1 309     Arachis   duranensis   Crinco 037618.1 cds   XP 01599542.1 309     Arachis   hypogaea   cl NC 037618.1 cds   XP 025688204.1 292     Arachis   hypogaea   cl NC 037628.1 cds   XP 025688204.1 292     Arachis   hypogaea   cl NC 037628.1 cds   XP 025688204.1 292     Arachis   hypogaea   cl NC 037628.1 cds   XP 025688204.1 292     Arachis   hypogaea   cl NC 037628.1 cds   XP 025682697.1 48121     Arachis   hypogaea   cl NC 037628.1 cds   XP 0256826897.1 48121     Arachis   hypogaea   Arachis   hypogaea   Arachis   hypogaea     Arachis   hypogaea   cl NC 037618.1   cds   XP 0256826097.1     Arachis   hypogaea   hypoga	Glycine_max_lcl\NC_038242.2_cds_XP_006581075.1_17798	
Arachis, duranensis, IcINC 029772.2 cds. XP 015959542.1 309   Arachis hypogaea IcINC 037618.1 cds XP 025688204.1 292   Arachis hypogaea IcINC 037618.1 cds XP 025688204.1 292   Arachis hypogaea IcINC 037628.1 cds XP 025688204.1 292   Arachis hypogaea Arac	" " Glycine_max_lcl\NC_016091.4_cds_XP_003523980.1_10874	<del>-</del>
Arachis, hypogaea _cl NC_037618.1_cds_XP_025688204.1_292 Arachis hypogaea _cl NC_037628.1_cds_XP_025688204.1_292 Arachis hypogaea _cl NC_037628.1_cds_XP_0256826897.1_48121 Arachis _hypogaea _cl NC_037628.1_cds_XP_025626897.1_48121 Arachis _hypogaea _cl NC_029785.2_cds_XP_016182774.1_1037 Cercis_chinensis_GWHT BHAK027154 Prunus_persica _Prupe.8G179800.7 Prunus_persica _Prupe.8G179800.3 Prunus_persica _Prupe.8G179800.1 Prunus_persica _Prupe.8G179800.2 Prunus_persica _Prupe.8G179800.4 Prunus_persica _Prupe.8G179800.4 Prunus_persica _Prupe.8G179800.4 Prunus_persica _Prupe.8G179800.4 Prunus_persica _Prupe.8G179800.7 Prunus_p		
Arachis, hypogaea_cl/INC_037618.1_cds_XP_025688204.1_292 Arachis_ipaensis_cl/INC_027628.1_cds_XP_0256887.1_48121 Arachis_ipaensis_cl/INC_027828.2_cds_XP_016182774.1_1037 Cercis_chinensis_GWHT BHAK027154 Prunus_persica_Prupe.86179800.6 Prunus_persica_Prupe.86179800.7 Prunus_persica_Prupe.86179800.1 Prunus_persica_Prupe.86179800.1 Prunus_persica_Prupe.86179800.2 Prunus_persica_Prupe.86179800.2 Prunus_persica_Prupe.86179800.2 Prunus_persica_Prupe.86179800.1 Prunus_persica_Prupe.86179800.1 Prunus_persica_Prupe.86179800.1 Prunus_persica_Prupe.86179800.1 Prunus_persica_Prupe.86179800.1 Prunus_persica_Prupe.86179800.1 Prunus_persica_Prupe.86179800.1 Populus_trichocarpa_Potri.0046206900.1 Populus_trichocarpa_Potri.004620690.1 Populus_trichocarpa_Potri.0046206900.1 Populus_trichocarpa_Potri.0046206900.1 Populus_trichocarpa_Potri.0046206900.1 Populus_trichocarpa_Potri.0046206900.1 Populus_trichocarpa_Potri.0046206900.1 Populus_trichocarpa_Potri.0046206900.1 Populus_trichocarpa_Populus_trichocarpa_Populus_trichocarpa_Populus_trichocarpa_Populus_trichocarpa_Populus_trichocarpa_Populus_trichocarpa_Populus_		<u> </u>
Arachis, hypogaea, Icl/INC, 037628.1, cds, XP, 025626897.1, 48121   Arachis, ipaensis, Icl/INC, 039765.2, cds, XP, 016182774.1, 1037   Arachis, ipaensis, Icl/INC, 039765.2, cds, XP, 016182774.1, 1037   Arachis, ipaensis, Icl/INC, 037628.1, and inclination of the prunus, persica, Prupe, 86179800.6   Prunus, persica, Prupe, 86179800.3   Prunus, persica, Prupe, 86179800.1   Prunus, persica, Prupe, 86179800.1   Prunus, persica, Prupe, 86179800.2   Prunus, persica, Prupe, 86179800.2   Prunus, persica, Prupe, 86179800.2   Prunus, persica, Prupe, 86179800.5   Populus, trichocarpa, Potri, 0046206900.4   Populus, trichocarpa, Potri, 0046206900.1   Populus, trichocarpa, Populus, trichocarpa, Populus, trichocarpa, Populus, trichocarpa, Populus, trichocarpa, Populus, Trichocarpa, Populus, Prichocarpa, Populus, Pr	7 demo_nypogaea_lenive_037010.1_eas_x1_023000211.1_233	
Arachis_ipaensis_Cercis_chinensis_GMHTBHAK027154 Prunus_persica_Prupe.8G179800.6 Prunus_persica_Prupe.8G179800.7 Prunus_persica_Prupe.8G179800.3 Prunus_persica_Prupe.8G179800.1 Prunus_persica_Prupe.8G179800.1 Prunus_persica_Prupe.8G179800.1 Prunus_persica_Prupe.8G179800.2 Prunus_persica_Prupe.8G179800.2 Prunus_persica_Prupe.8G179800.2 Prunus_persica_Prupe.8G179800.2 Prunus_persica_Prupe.8G179800.1 Prunus_persica_Prupe.8G179800.1 Prunus_persica_Prupe.8G179800.2 Prunus_persica_Prupe.8G179800.1 Prunus_persica_Prupe.8G179800.2 Prunus_persica_Prupe.8G179800.1 Populus_trichocarpa_Potri.0046206900.4 Populus_trichocarpa_Potri.0046206900.1 Populus_trichocarpa_Potri.0064206900.1 Populus_trichocarpa_Potri.006469000.1 Populus_trichocarpa_Potri.00642060000.1 Populus_trichocarpa_Potri.006420600000000000000000000000000000000		
Cercis_chinensis_Prunus_persica_Prupe.8G179800.6 Prunus_persica_Prupe.8G179800.7 Prunus_persica_Prupe.8G179800.3 Prunus_persica_Prupe.8G179800.1 Prunus_persica_Prupe.8G179800.1 Prunus_persica_Prupe.8G179800.2 Prunus_persica_Prupe.8G179800.2 Prunus_persica_Prupe.8G179800.5 Populus_trichocarpa_Potri.004G206900.4 Populus_trichocarpa_Potri.004G206900.1 Populus_trichocarpa_Potri.004G206900.1 Populus_trichocarpa_Potri.004G206900.1 Populus_trichocarpa_Potri.004G206900.1 Populus_trichocarpa_Potri.004G206900.1 Populus_trichocarpa_Potri.004G206900.1 Populus_trichocarpa_Potri.009G168000.2 Cucumis_sativus_Cucsa.099720.1 PACid16958459 Cucumis_sativus_Cucsa.099720.2 PACid16958450 Cucumis_sativus_Cucsa.099720.2 PACid16958450 Cucumis_sativus_Cucsa.099720.2 PACid16958450 Cucumis_sativus_Cucsa.099720.1 PACid16958460 Cucumis_sativus_Cucsa.099720.1 PACid16958460 Cucumis_sativus_Cucsa.099720.1 PACid16958460 Cucumis_sativus_Cucsa.099720.1 PACid16958450 Cucumis_sativus_Cucumis_sativ		
Prunus_persica_Prupe.8G179800.6   Prunus_persica_Prupe.8G179800.7   Prunus_persica_Prupe.8G179800.1   Prunus_persica_Prupe.8G179800.1   Prunus_persica_Prupe.8G179800.1   Prunus_persica_Prupe.8G179800.2   Prunus_persica_Prupe.8G179800.5   Prunus_persica_Prupe.8G179800.1   Prunus_persica_Prun		Arachis_ipaensis
Prunus_persica_Prupe.8G179800.7 Prunus_persica_Prupe.8G179800.1 Prunus_persica_Prupe.8G179800.1 Prunus_persica_Prupe.8G179800.4 Prunus_persica_Prupe.8G179800.2 Prunus_persica_Prupe.8G179800.5 Populus_trichocarpa_Potri.004G206900.1 Populus_trichocarpa_Potri.004G206900.1 Populus_trichocarpa_Potri.004G206900.1 Populus_trichocarpa_Potri.004G206900.1 Populus_trichocarpa_Potri.004G206900.2 Cucumis_sativus_Cucsa.099720.1 PACid16958459 Cucumis_sativus_Cucsa.099720.2 PACid16958460 Cucumis_sativus_Cucsa.099720.2 PACid16958460 Populus_trichocarpa_Populus_trichocarpa Populus_trichocarpa_Populus_trichocarpa Populus_trichocarpa_Populus_trichocarpa Populus_trichocarpa_Populus_trichocarpa Populus_trichocarpa Popu	Cercis_chinensis_GWHTBHAK027154	Cercis_chinensis
Prunus_persica_Prupe.8G179800.3 Prunus_persica_Prupe.8G179800.1 Prunus_persica_Prupe.8G179800.2 Prunus_persica_Prupe.8G179800.2 Prunus_persica_Prupe.8G179800.5 Populus_trichocarpa_Potri.004G206900.1 Populus_trichocarpa_Populus_trichocarpa Populus_trichocarpa Cucumis_sativus Cucumis_sati	_ Prunus_persica_Prupe.8G179800.6	Prunus_persica
Prunus_persica_Prupe.8G179800.1 Prunus_persica_Prupe.8G179800.4 Prunus_persica_Prupe.8G179800.5 Prunus_persica_Prupus_Prunus_persica Prunus_persica Populus_trichocata Populus_trichocata Populus_trichocata Prunus_persica Populus_trichocata Populus_trichocata Prunus_persica Populus_trichocata Pop	1 _1 Prunus_persica_Prupe.8G179800.7	Prunus_persica
Prunus_persica_Prupe. 8G179800. 4 Prunus_persica_Prupe. 8G179800. 5 Prunus_persica_Prupe. 8G179800. 5 Prunus_persica_Prupe. 8G179800. 5 Populus_trichocarpa_Potri. 004G206900. 1 Populus_trichocarpa_Potri. 004G206900. 1 Populus_trichocarpa_Potri. 004G206900. 1 Populus_trichocarpa_Potri. 004G206900. 1 Populus_trichocarpa_Potri. 009G168000. 2 Cucumis_sativus_Cucsa. 099720. 1   PACid16958459 Cucumis_sativus_Cucsa. 099720. 2   PACid16958460 Coffea_canephora_lc    HG974436. 1_cds_CDP14492. 1_21958	Prunus_persica_Prupe.8G179800.3	Prunus_persica
Prunus_persica_Prupe.8G179800.2 Prunus_persica_Prupe.8G179800.5 Populus_trichocarpa_Potri.004G206900.4 Populus_trichocarpa_Potri.004G206900.1 Populus_trichocarpa_Potri.005I68000.2   Cucumis_sativus_Cucsa.099720.1 PACid16958459   Cucumis_sativus_Cucsa.099720.2 PACid16958460   Coffea_canephora_lcl HC974436.1_cds_CDP14492.1_21958   Mimulus_guttatus_Migut_B00006.1   Solanum_lycopersicum_Solyc01g112240   Helianthus_annuus_HanXRQChr15g0476431   Helianthus_annuus_HanXRQChr15g0476431   Helianthus_annuus_HanXRQChr10g0298431   Vitis_vinifera_VIT_200s0585g00030.1   Arabidopsis_thaliana_AT4G38240.1   Aquilegia_coerulea_Aqcoe5G118400.3   Aquilegia_coerulea_Aqcoe5G118400.3   Aquilegia_coerulea_Aqcoe5G118400.2   Liriodendron_tulipifera_Litul.04G80300.1   Cinnamomum_kanehirae_CKAN_01339500   Brachypodium_distachyon_Bradi3g60820.2   Oryza_sativa_LOC_Os02g58590.1   Brachypodium_distachyon_Bradi3g60820.2   Oryza_sativa_LOC_Os02g58590.1   Asparagus_officinalis_evm.model.AsparagusV1_07.2336   Amborella_trichopoda_AmTrH1.09G039100.1   Nymphaea_colorata_Nycol.100629.1   Ginkgo_biloba_evm.model.chr10.1530   Ceratopteris_richardii_Ceric.38G066700.2   Ceratopteris_richardii_Ceric.38G066700.2   Ceratopteris_richardii_Ceric.38G066700.3	Prunus_persica_Prupe.8G179800.1	Prunus_persica
Prunus_persica Prupe.86179800.5 Populus_trichocarpa_Potri.0046206900.4 Populus_trichocarpa_Potri.0046206900.1 Populus_trichocarpa_Potri.0096168000.2 Cucumis_sativus_Cucsa.099720.1 PACid16958459 Cucumis_sativus_Cucsa.099720.2 PACid16958460 Coffea_canephora_Ic  H6974436.1_cds_CDP14492.1_21958	Prunus_persica_Prupe.8G179800.4	Prunus_persica
Populus_trichocarpa Potri.004G206900.4   Populus_trichocarpa Cucumis_sativus Cucumis	☐ ☐ Prunus_persica_Prupe.8G179800.2	Prunus_persica
Populus_trichocarpa	Prunus_persica_Prupe.8G179800.5	Prunus_persica
Populus_trichocarpa	Populus_trichocarpa_Potri.004G206900.4	Populus_trichocarpa
Cucumis_sativus_Cucsa.099/20.1 PACid16958459  Cucumis_sativus Cucumis_sativus Cucumis_sativus Coffea_canephora lcl HG974436.1_cds_CDP14492.1_21958 In Mimulus_guttatus_Migut.B00006.1 Solanum_lycopersicum_Solyc01g112240 Helianthus_annuus_HanXRQChr15g0476431 Helianthus_annuus_HanXRQChr15g0476431 Helianthus_annuus_HanXRQChr10g0298431 Vitis_vinifera_VIT_200s0585g00030.1 Arabidopsis_thaliana_AT4G38240.1 Aquilegia_coerulea_Aqcoe5G118400.3 Aquilegia_coerulea_Aqcoe5G118400.4 Aquilegia_coerulea_Aqcoe5G118400.2 Liriodendron_tulipifera_Litul.04G080300.1 Liriodendron_tulipifera_Litul.04G080300.1 Brachypodium_distachyon_Bradi3g60820.1 Brachypodium_distachyon_Bradi3g60820.2 Oryza_sativa_LOC_0s02g58590.1 Asparagus_officinalis_evm.model.AsparagusV1_07.2336 Amborella_trichopoda_AmTrH1.09G039100.1 Nymphaea_colorata_Nycol.100629.2 Nymphaea_colorata_Nycol.100629.1 Ginkgo_biloba_evm.model.chr10.1530 Ceratopteris_richardii_Ceric.38G066700.2 Ceratopteris_richardii_Ceric.38G066700.2 Ceratopteris_richardii_Ceric.38G066700.2 Ceratopteris_richardii_Ceric.38G066700.3 Ceratopteris_richardii_Ceric.38G066700.3		Populus_trichocarpa
Cucumis_sativus_Cucsa.099/20.1 PACid16958459  Cucumis_sativus Cucumis_sativus Cucumis_sativus Coffea_canephora lcl HG974436.1_cds_CDP14492.1_21958 In Mimulus_guttatus_Migut.B00006.1 Solanum_lycopersicum_Solyc01g112240 Helianthus_annuus_HanXRQChr15g0476431 Helianthus_annuus_HanXRQChr15g0476431 Helianthus_annuus_HanXRQChr10g0298431 Vitis_vinifera_VIT_200s0585g00030.1 Arabidopsis_thaliana_AT4G38240.1 Aquilegia_coerulea_Aqcoe5G118400.3 Aquilegia_coerulea_Aqcoe5G118400.4 Aquilegia_coerulea_Aqcoe5G118400.2 Liriodendron_tulipifera_Litul.04G080300.1 Liriodendron_tulipifera_Litul.04G080300.1 Brachypodium_distachyon_Bradi3g60820.1 Brachypodium_distachyon_Bradi3g60820.2 Oryza_sativa_LOC_0s02g58590.1 Asparagus_officinalis_evm.model.AsparagusV1_07.2336 Amborella_trichopoda_AmTrH1.09G039100.1 Nymphaea_colorata_Nycol.100629.2 Nymphaea_colorata_Nycol.100629.1 Ginkgo_biloba_evm.model.chr10.1530 Ceratopteris_richardii_Ceric.38G066700.2 Ceratopteris_richardii_Ceric.38G066700.2 Ceratopteris_richardii_Ceric.38G066700.2 Ceratopteris_richardii_Ceric.38G066700.3 Ceratopteris_richardii_Ceric.38G066700.3	<sup>1</sup> Populus_trichocarpa_Potri.009G168000.2	Populus_trichocarpa
Coffea_canephora_lcl HG974436.1_cds_CDP14492.1_21958    Mimulus_guttatus_Migut.B00006.1	_ 1 Cucumis_sativus_Cucsa.099720.1   PACid16958459	Cucumis_sativus
Mimulus_guttatus_Migut.800006.1  Solanum_lycopersicum_Solyc01g112240  Helianthus_annuus_HanXRQChr15g0476431 Helianthus_annuus_HanXRQChr10g0298431 Vitis_vinifera_VIT_200s0585g00030.1 Arabidopsis_thaliana_AT4G38240.1 Aquilegia_coerulea_Aqcoe5G118400.1 Aquilegia_coerulea_Aqcoe5G118400.3 Aquilegia_coerulea_Aqcoe5G118400.4 Aquilegia_coerulea_Aqcoe5G118400.2 Liriodendron_tulipifera_Litul.04G080300.1  Brachypodium_distachyon_Bradi3g60820.1 Brachypodium_distachyon_Bradi3g60820.2 Oryza_sativa_LOC_0s02g58590.1 Asparagus_officinalis_evm.model.AsparagusV1_07.2336 Amborella_trichopoda_AmTrH1.09G039100.1 Nymphaea_colorata_Nycol.100629.2 Nymphaea_colorata_Nycol.100629.1 Ginkgo_biloba_evm.model.chr10.1530 Ceratopteris_richardii_Ceric.38G066700.2 Ceratopteris_richardii_Ceric.38G066700.2 Ceratopteris_richardii_Ceric.38G066700.3  Mimulus_guttatus Solanum_lycopersicum Helianthus_annuus Helianthus_annuus Helianthus_annuus Helianthus_annuus Helianthus_annuus Helianthus_annuus Helianthus_annuus Vitis_vinifera Arabidopsis_thaliana Aquilegia_coerulea Aquilegia_coerul	Cucumis_sativus_Cucsa.099720.2\PACid16958460	Cucumis_sativus
Solanum_lycopersicum Helianthus_annuus HanXRQChr15g0476431 Helianthus_annuus HanXRQChr15g0476431 Vitis_vinifera_VIT_200s0585g00030.1  Arabidopsis_thaliana_AT4G38240.1 Aquilegia_coerulea_Aqcoe5G118400.1 Aquilegia_coerulea_Aqcoe5G118400.3 Aquilegia_coerulea_Aqcoe5G118400.2 Liriodendron_tulipifera_Litul.04G080300.1  Brachypodium_distachyon_Bradi3g60820.2  Dryza_sativa_LOC_0s02g58590.1 Asparagus_officinalis_evm.model.AsparagusV1_07.2336 Amborella_trichopoda_AmTrH1.09G039100.1 Nymphaea_colorata_Nycol.100629.2 Nymphaea_colorata_Nycol.100629.1 Ginkgo_biloba_evm.model.chr10.1530 Ceratopteris_richardii_Ceric.38G066700.2 Ceratopteris_richardii_Ceric.38G066700.3 Solanum_lycopersicum Helianthus_annuus Vitis_vinifera Arabidopsis_thaliana Aquilegia_coerulea Autileana Arabidopsis_thaliana Arabidopsis_thaliana Arabidopsis_thaliana Arabidopsis_thaliana Arabidopsis_thaliana Arabidopsis_thaliana Arabidopsis_thaliana Arabidopsis_thaliana Arabidopsis_thaliana Arabidopsis_theliana	Coffea_canephora_lcl\HG974436.1_cds_CDP14492.1_21958	
Helianthus_annuus_HanXRQChr15g0476431  Helianthus_annuus_HanXRQChr10g0298431  Vitis_vinifera_VIT_200s0585g00030.1  Arabidopsis_thaliana_AT4G38240.1  Aquilegia_coerulea_Aqcoe5G118400.1  Aquilegia_coerulea_Aqcoe5G118400.3  Aquilegia_coerulea_Aqcoe5G118400.2  Liriodendron_tulipifera_Litul.04G080300.1  Cinnamomum_kanehirae_CKAN_01339500  Brachypodium_distachyon_Bradi3g60820.2  Oryza_sativa_LOC_0s02g58590.1  Asparagus_officinalis_evm.model.AsparagusV1_07.2336  Amborella_trichopoda_AmTrH1.09G039100.1  Nymphaea_colorata_Nycol.100629.2  Nymphaea_colorata_Nycol.100629.1  Ginkgo_biloba_evm.model.chr10.1530  Ceratopteris_richardii_Ceric.38G066700.2  Ceratopteris_richardii_Ceric.38G066700.3  Helianthus_annuus  Helianthus_annuus  Helianthus_annuus  Helianthus_annuus  Helianthus_annuus  Helianthus_annuus  Helianthus_annuus  Helianthus_annuus  Vitis_vinifera  Arabidopsis_thaliana  Arabidopsis_thaliana  Aquilegia_coerulea  Aquil		Mimulus_guttatus
Helianthus_annuus_HanXRQChr10g0298431  Vitis_vinifera_VIT_200s0585g00030.1  Arabidopsis_thaliana_AT4G38240.1  Aquilegia_coerulea_Aqcoe5G118400.1  Aquilegia_coerulea_Aqcoe5G118400.3  Aquilegia_coerulea_Aqcoe5G118400.4  Aquilegia_coerulea_Aqcoe5G118400.2  Liriodendron_tulipifera_Litul.04G080300.1  Cinnamomum_kanehirae_CKAN_01339500  Brachypodium_distachyon_Bradi3g60820.2  Oryza_sativa_LOC_Os02g58590.1  Asparagus_officinalis_evm.model.AsparagusV1_07.2336  Amborella_trichopoda_AmTrH1.09G039100.1  Nymphaea_colorata_Nycol.100629.2  Nymphaea_colorata_Nycol.100629.1  Ginkgo_biloba_evm.model.chr10.1530  Ceratopteris_richardii_Ceric.38G066700.2  Ceratopteris_richardii_Ceric.38G066700.3  Helianthus_annuus  Vitis_vinifera  Arabidopsis_thaliana  Aquilegia_coerulea  Aqu		
Vitis_vinifera_VIT_200s0585g00030.1  Arabidopsis_thaliana_AT4G38240.1  Aquilegia_coerulea_Aqcoe5G118400.1  Aquilegia_coerulea_Aqcoe5G118400.4  Aquilegia_coerulea_Aqcoe5G118400.2  Liriodendron_tulipifera_Litul.04G080300.1  Cinnamomum_kanehirae_CKAN_01339500  Brachypodium_distachyon_Bradi3g60820.1  Brachypodium_distachyon_Bradi3g60820.2  Oryza_sativa_LOC_0s02g58590.1  Asparagus_officinalis_evm.model.AsparagusV1_07.2336  Amborella_trichopoda_AmTrH1.09G039100.1  Nymphaea_colorata_Nycol.100629.2  Nymphaea_colorata_Nycol.100629.1  Ginkgo_biloba_evm.model.chr10.1530  Ceratopteris_richardii_Ceric.38G066700.2  Ceratopteris_richardii_Ceric.38G066700.3  Vitis_vinifera Arabidopsis_thaliana Aquilegia_coerulea Apuilegia_coerulea Aquilegia_coerulea Apuilegia_coerulea Aquilegia_coerulea Aquilegia_coerulea Aquilegia_coerulea Aquilegia_coerulea Apuilegia_	1 <sub>_</sub> Helianthus_annuus_HanXRQChr15g0476431	Helianthus_annuus
Arabidopsis_thaliana_AT4G38240.1		
Aquilegia_coerulea_Aqcoe5G118400.1   Aquilegia_coerulea_Aqcoe5G118400.3   Aquilegia_coerulea_Aquilegia_coerulea   Aquilegia_coerulea_Aqcoe5G118400.4   Aquilegia_coerulea_Aqcoe5G118400.2     Liriodendron_tulipifera_Litul.04G080300.1   Liriodendron_tulipifera   Brachypodium_distachyon_Bradi3g60820.1   Brachypodium_distachyon_Bradi3g60820.2     Oryza_sativa_LOC_Os02g58590.1   Asparagus_officinalis_evm.model.AsparagusV1_07.2336   Amborella_trichopoda_AmTrH1.09G039100.1     Nymphaea_colorata_Nycol.I00629.2   Nymphaea_colorata_Nycol.I00629.1     Ginkgo_biloba_evm.model.chr10.1530   Ceratopteris_richardii_Ceric.38G066700.2   Ceratopteris_richardii_Ceric.38G066700.3     Aquilegia_coerulea		
Aquilegia_coerulea_Aqcoe5G118400.3  Aquilegia_coerulea_Aqcoe5G118400.4  Aquilegia_coerulea_Aqcoe5G118400.2  Liriodendron_tulipifera_Litul.04G080300.1  Cinnamomum_kanehirae_CKAN_01339500  Brachypodium_distachyon_Bradi3g60820.1  Brachypodium_distachyon_Bradi3g60820.2  Oryza_sativa_LOC_Os02g58590.1  Asparagus_officinalis_evm.model.AsparagusV1_07.2336  Amborella_trichopoda_AmTrH1.09G039100.1  Nymphaea_colorata_Nycol.100629.2  Nymphaea_colorata_Nycol.100629.1  Ginkgo_biloba_evm.model.chr10.1530  Ceratopteris_richardii_Ceric.38G066700.2  Ceratopteris_richardii_Ceric.38G066700.3  Aquilegia_coerulea Liriodendron_tulipifera Cinnamomum_kanehirae Brachypodium_distachyon Oryza_sativa Asparagus_officinalis Amborella_trichopoda Nymphaea_colorata Nymphaea_colorata Nymphaea_colorata Cinnamomum_kanehirae Brachypodium_distachyon Oryza_sativa Asparagus_officinalis Amborella_trichopoda Nymphaea_colorata Nymphaea_colorata Cinnamomum_kanehirae Brachypodium_distachyon Oryza_sativa Asparagus_officinalis Amborella_trichopoda Nymphaea_colorata Nymphaea_colorata Nymphaea_colorata Cinnamomum_kanehirae Brachypodium_distachyon Oryza_sativa Asparagus_officinalis Amborella_trichopoda Asparagus_officinalis Amborella_trichopoda Asparagus_officinalis Ceratopteris_richardii Ceratopteris_richardii Ceratopteris_richardii	<sup>1</sup>	Arabidopsis_thaliana
Aquilegia_coerulea_Aqcoe5G118400.4	Aquilegia_coerulea_Aqcoe5G118400.1	Aquilegia_coerulea
Aquilegia_coerulea_Aqcoe5G118400.2 Liriodendron_tulipifera_Litul.04G080300.1		Aquilegia_coerulea
Liriodendron_tulipifera_Litul.04G080300.1    Cinnamomum_kanehirae_CKAN_01339500	<sup>1</sup> 1 <sub>_1</sub> Aquilegia_coerulea_Aqcoe5G118400.4	Aquilegia_coerulea
Cinnamomum_kanehirae_CKAN_01339500  Brachypodium_distachyon_Bradi3g60820.1  Brachypodium_distachyon_Bradi3g60820.2  Oryza_sativa_LOC_Os02g58590.1  Asparagus_officinalis_evm.model.AsparagusV1_07.2336  Amborella_trichopoda_AmTrH1.09G039100.1  Nymphaea_colorata_Nycol.100629.2  Nymphaea_colorata_Nycol.100629.1  Ginkgo_biloba_evm.model.chr10.1530  Ceratopteris_richardii_Ceric.38G066700.2  Ceratopteris_richardii_Ceric.38G066700.3  Cinnamomum_kanehirae  Brachypodium_distachyon  Oryza_sativa  Asparagus_officinalis  Amborella_trichopoda  Nymphaea_colorata  Nymphaea_colorata  Nymphaea_colorata  Ginkgo_biloba  Ceratopteris_richardii Ceratopteris_richardii Ceratopteris_richardii Ceratopteris_richardii Ceratopteris_richardii Ceratopteris_richardii	7 194110914_0001 4104_7 1900030110 10012	Aquilegia_coerulea
Brachypodium_distachyon_Bradi3g60820.1  Brachypodium_distachyon_Bradi3g60820.2  Oryza_sativa_LOC_Os02g58590.1  Asparagus_officinalis_evm.model.AsparagusV1_07.2336  Amborella_trichopoda_AmTrH1.09G039100.1  Nymphaea_colorata_Nycol.I00629.2  Nymphaea_colorata_Nycol.I00629.1  Ginkgo_biloba_evm.model.chr10.1530  Ceratopteris_richardii_Ceric.38G066700.2  Ceratopteris_richardii_Ceric.38G066700.3  Brachypodium_distachyon  Oryza_sativa  Asparagus_officinalis  Amborella_trichopoda  Nymphaea_colorata  Nymphaea_colorata  Nymphaea_colorata  Ginkgo_biloba  Ceratopteris_richardii Ceratopteris_richardii Ceratopteris_richardii Ceratopteris_richardii Ceratopteris_richardii Ceratopteris_richardii		Liriodendron_tulipifera
Brachypodium_distachyon_Bradi3g60820.2  Oryza_sativa_LOC_Os02g58590.1  Asparagus_officinalis_evm.model.AsparagusV1_07.2336  Amborella_trichopoda_AmTrH1.09G039100.1  Nymphaea_colorata_Nycol.I00629.2  Nymphaea_colorata_Nycol.I00629.1  Ginkgo_biloba_evm.model.chr10.1530  Ceratopteris_richardii_Ceric.38G066700.1  Ceratopteris_richardii_Ceric.38G066700.2  Ceratopteris_richardii_Ceric.38G066700.3  Brachypodium_distachyon Oryza_sativa Asparagus_officinalis Amborella_trichopoda Nymphaea_colorata Nymphaea_colorata Nymphaea_colorata Ginkgo_biloba Ceratopteris_richardii Ceratopteris_richardii Ceratopteris_richardii Ceratopteris_richardii Ceratopteris_richardii Ceratopteris_richardii	<sup>1</sup> 1 <sup>∟</sup> Cinnamomum_kanehirae_CKAN_01339500	
Asparagus_officinalis_evm.model.AsparagusV1_07.2336 Amborella_trichopoda_AmTrH1.09G039100.1 Nymphaea_colorata_Nycol.I00629.2 Nymphaea_colorata_Nycol.I00629.1 Ginkgo_biloba_evm.model.chr10.1530 Ceratopteris_richardii_Ceric.38G066700.2 Ceratopteris_richardii_Ceric.38G066700.3 Asparagus_officinalis Amborella_trichopoda Nymphaea_colorata Nymphaea_colorata Ginkgo_biloba Ceratopteris_richardii Ceratopteris_richardii Ceratopteris_richardii Ceratopteris_richardii Ceratopteris_richardii	_  Brachypodium_distachyon_Bradi3g60820.1	
Asparagus_officinalis_evm.model.AsparagusV1_07.2336 Amborella_trichopoda_AmTrH1.09G039100.1 Nymphaea_colorata_Nycol.I00629.2 Nymphaea_colorata_Nycol.I00629.1 Ginkgo_biloba_evm.model.chr10.1530 Ceratopteris_richardii_Ceric.38G066700.2 Ceratopteris_richardii_Ceric.38G066700.3 Asparagus_officinalis Amborella_trichopoda Nymphaea_colorata Nymphaea_colorata Ginkgo_biloba Ceratopteris_richardii Ceratopteris_richardii Ceratopteris_richardii Ceratopteris_richardii Ceratopteris_richardii	Brachypodium_distachyon_Bradi3g60820.2	
Amborella_trichopoda_AmTrH1.09G039100.1  Nymphaea_colorata_Nycol.I00629.2  Nymphaea_colorata_Nycol.I00629.1  Ginkgo_biloba_evm.model.chr10.1530  Ceratopteris_richardii_Ceric.38G066700.2  Ceratopteris_richardii_Ceric.38G066700.3  Amborella_trichopoda Nymphaea_colorata Nymphaea_colorata Ginkgo_biloba Ceratopteris_richardii Ceratopteris_richardii Ceratopteris_richardii Ceratopteris_richardii Ceratopteris_richardii	¶ └ Oryza_sativa_LOC_Os02g58590.1	Oryza_sativa
Nymphaea_colorata_Nycol.I00629.2  Nymphaea_colorata_Nycol.I00629.1  Ginkgo_biloba_evm.model.chr10.1530  Ceratopteris_richardii_Ceric.38G066700.1  Ceratopteris_richardii_Ceric.38G066700.2  Ceratopteris_richardii_Ceric.38G066700.3  Nymphaea_colorata		
Nymphaea_colorata_Nycol.I00629.1  Ginkgo_biloba_evm.model.chr10.1530 Ceratopteris_richardii_Ceric.38G066700.1 Ceratopteris_richardii_Ceric.38G066700.2 Ceratopteris_richardii_Ceric.38G066700.3  Nymphaea_colorata Ginkgo_biloba Ceratopteris_richardii Ceratopteris_richardii Ceratopteris_richardii Ceratopteris_richardii		<u> </u>
Ginkgo_biloba_evm.model.chr10.1530 Ceratopteris_richardii_Ceric.38G066700.1 Ceratopteris_richardii_Ceric.38G066700.2 Ceratopteris_richardii_Ceric.38G066700.3 Ginkgo_biloba Ceratopteris_richardii Ceratopteris_richardii Ceratopteris_richardii		
Ceratopteris_richardii_Ceric.38G066700.1		
Ceratopteris_richardii_Ceric.38G066700.2 Ceratopteris_richardii Ceratopteris_richardii		
Ceratopteris_richardii_Ceric.38G066700.3 Ceratopteris_richardii		
`── Marchantia_polymorpha_Mapoly0041s0049.1		
	Marchantia_polymorpha_Mapoly0041s0049.1	Marchantia_polymorpha

Fabaceae Rosaceae Rosaceae Rosaceae Rosaceae Rosaceae Rosaceae Rosaceae Salicaceae Salicaceae Salicaceae Rubiaceae Phrymaceae Solanaceae Asteraceae Asteraceae Vitaceae Brassicaceae Ranunculaceae Ranunculaceae Ranunculaceae Ranunculaceae Magnoliaceae Lauraceae Poaceae Poaceae Poaceae Asparagaceae Amborellaceae Nymphaeaceae Nymphaeaceae Ginkgoaceae Marchantiaceae

Fabales **Malpighiales** Malpighiales Malpighiales Gentianales Lamiales Solanales **Asterales Asterales** Vitales Brassicales Ranunculales Ranunculales Ranunculales Ranunculales Magnoliales Laurales Poales Poales Poales Asparagales **Amborellales** Nymphaeales Nymphaeales Ginkgoales Salviniales Salviniales Salviniales Marchantiales