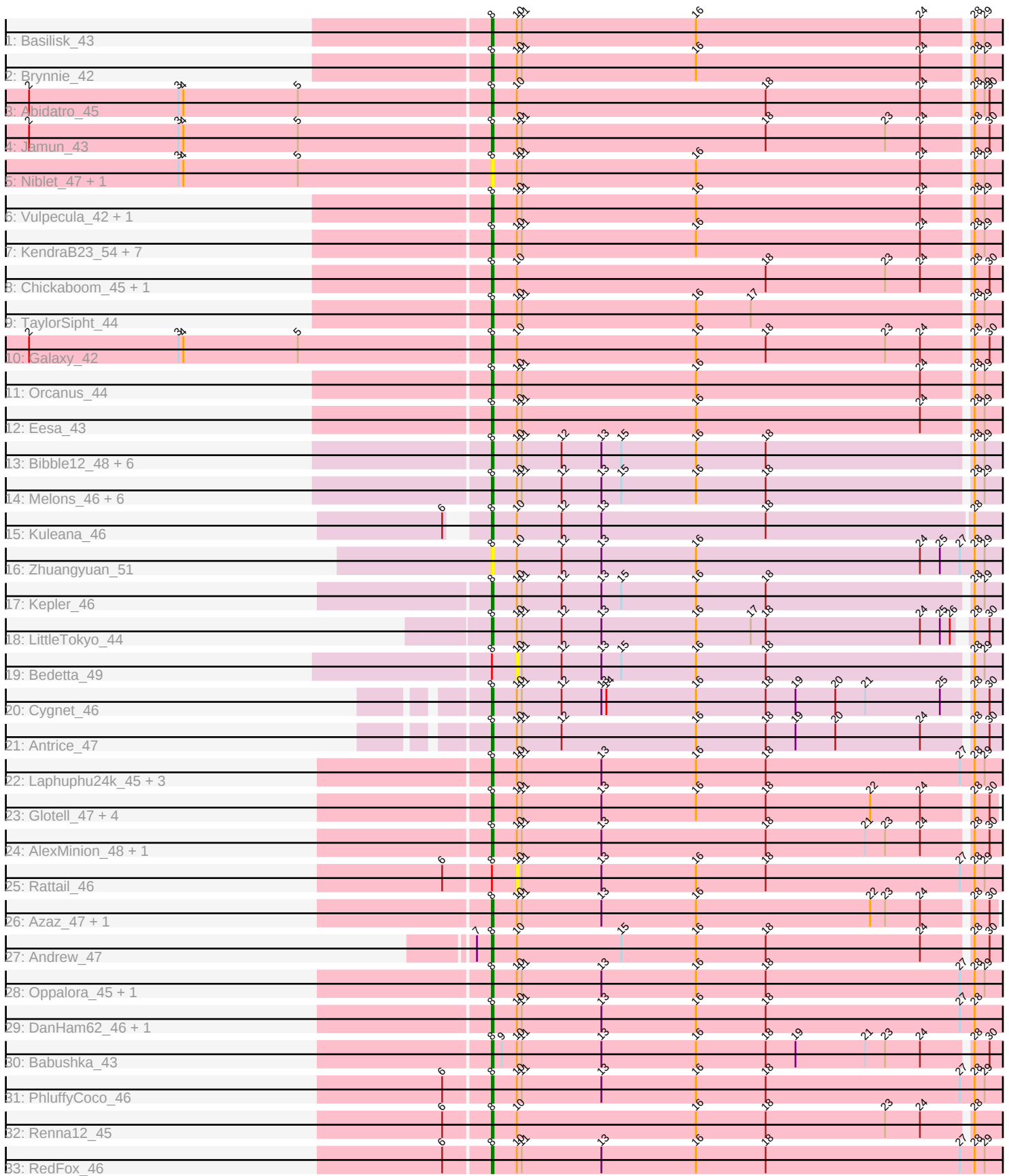


Zoomed Pham 274303



Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. If this default region is judged to be packed too tightly with annotated starts, the track will be further scaled to only show that region of the ORF with annotated starts. This action will be indicated by adding "Zoomed" to the title. For starts, yellow indicates the location of called starts comprised solely of Glimmer/GeneMark auto-annotations, green indicates the location of called starts with at least 1 manual gene annotation.

Pham 274303 Report

This analysis was run 02/07/26 on database version 634.

Pham number 274303 has 66 members, 25 are drafts.

Phages represented in each track:

- Track 1 : Basilisk_43
- Track 2 : Brynnie_42
- Track 3 : Abidatro_45
- Track 4 : Jamun_43
- Track 5 : Niblet_47, Chicken_44
- Track 6 : Vulpecula_42, Ruchi_42
- Track 7 : KendraB23_54, Toad24_46, Gravel_53, Westrich_52, Pelletreau_53, Amanises_53, Zixiang_47, Shen_43
- Track 8 : Chickaboom_45, WileyE_49
- Track 9 : TaylorSipht_44
- Track 10 : Galaxy_42
- Track 11 : Orcanus_44
- Track 12 : Eesa_43
- Track 13 : Bible12_48, Colusalem_45, OtsoOtso_45, Amelia_44, Jerole_45, HannahPhantana_45, Polka_44
- Track 14 : Melons_46, Lunar_46, Pineda_47, Daob_46, PhirstandPhine_53, Coral_44, Cote_46
- Track 15 : Kuleana_46
- Track 16 : Zhuangyuan_51
- Track 17 : Kepler_46
- Track 18 : LittleTokyo_44
- Track 19 : Bedetta_49
- Track 20 : Cygnet_46
- Track 21 : Antrice_47
- Track 22 : Laphuphu24k_45, Juno112_45, Fingolfin_46, HamCheese_46
- Track 23 : Glotell_47, Camara_46, AdoptaAdorbs_45, Amphitrite_46, KHumphrey_46
- Track 24 : AlexMinion_48, StuartMinion_38
- Track 25 : Rattail_46
- Track 26 : Azaz_47, Leona_45
- Track 27 : Andrew_47
- Track 28 : Oppalora_45, Atlantica_46
- Track 29 : DanHam62_46, AmiCi24_45
- Track 30 : Babushka_43
- Track 31 : PhluffyCoco_46
- Track 32 : Renna12_45
- Track 33 : RedFox_46

Summary of Final Annotations (See graph section above for start numbers):

The start number called the most often in the published annotations is 8, it was called in 41 of the 41 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abidatro_45, AdoptaAdorbs_45, AlexMinion_48, Amanises_53, Amelia_44, AmiCi24_45, Amphitrite_46, Andrew_47, Antrice_47, Atlantica_46, Azaz_47, Babushka_43, Basilisk_43, Bibble12_48, Brynnie_42, Camara_46, Chickaboom_45, Chicken_44, Colusalem_45, Coral_44, Cote_46, Cygnet_46, DanHam62_46, Daob_46, Eesa_43, Fingolfin_46, Galaxy_42, Glotell_47, Gravel_53, HamCheese_46, HannahPhantana_45, Jamun_43, Jerole_45, Juno112_45, KHumphrey_46, KendraB23_54, Kepler_46, Kuleana_46, Laphuphu24k_45, Leona_45, LittleTokyo_44, Lunar_46, Melons_46, Niblet_47, Oppalora_45, Orcanus_44, OtsoOtso_45, Pelletreau_53, PhirstandPhine_53, PhluffyCoco_46, Pineda_47, Polka_44, RedFox_46, Renna12_45, Ruchi_42, Shen_43, StuartMinion_38, TaylorSipht_44, Toad24_46, Vulpecula_42, Westrich_52, WileyE_49, Zhuangyuan_51, Zixiang_47,

Genes that have the "Most Annotated" start but do not call it:

- Bedetta_49, Rattail_46,

Genes that do not have the "Most Annotated" start:

-

Summary by start number:

Start 8:

- Found in 66 of 66 (100.0%) of genes in pham
- Manual Annotations of this start: 41 of 41
- Called 97.0% of time when present
- Phage (with cluster) where this start called: Abidatro_45 (AS1), AdoptaAdorbs_45 (AS3), AlexMinion_48 (AS3), Amanises_53 (AS1), Amelia_44 (AS2), AmiCi24_45 (AS3), Amphitrite_46 (AS3), Andrew_47 (AS3), Antrice_47 (AS2), Atlantica_46 (AS3), Azaz_47 (AS3), Babushka_43 (AS3), Basilisk_43 (AS1), Bibble12_48 (AS2), Brynnie_42 (AS1), Camara_46 (AS3), Chickaboom_45 (AS1), Chicken_44 (AS1), Colusalem_45 (AS2), Coral_44 (AS2), Cote_46 (AS2), Cygnet_46 (AS2), DanHam62_46 (AS3), Daob_46 (AS2), Eesa_43 (AS1), Fingolfin_46 (AS3), Galaxy_42 (AS1), Glotell_47 (AS3), Gravel_53 (AS1), HamCheese_46 (AS3), HannahPhantana_45 (AS2), Jamun_43 (AS1), Jerole_45 (AS2), Juno112_45 (AS3), KHumphrey_46 (AS3), KendraB23_54 (AS1), Kepler_46 (AS2), Kuleana_46 (AS2), Laphuphu24k_45 (AS3), Leona_45 (AS3), LittleTokyo_44 (AS2), Lunar_46 (AS2), Melons_46 (AS2), Niblet_47 (AS1), Oppalora_45 (AS3), Orcanus_44 (AS1), OtsoOtso_45 (AS2), Pelletreau_53 (AS1), PhirstandPhine_53 (AS2), PhluffyCoco_46 (AS3), Pineda_47 (AS2), Polka_44 (AS2), RedFox_46 (AS3), Renna12_45 (AS3), Ruchi_42 (AS1), Shen_43 (AS1), StuartMinion_38 (AS3), TaylorSipht_44 (AS1), Toad24_46 (AS1), Vulpecula_42 (AS1), Westrich_52 (AS1), WileyE_49 (AS1), Zhuangyuan_51 (AS2), Zixiang_47 (AS1),

Start 10:

- Found in 66 of 66 (100.0%) of genes in pham
- No Manual Annotations of this start.
- Called 3.0% of time when present
- Phage (with cluster) where this start called: Bedetta_49 (AS2), Rattail_46 (AS3),

Summary by clusters:

There are 3 clusters represented in this pham: AS3, AS2, AS1,

Info for manual annotations of cluster AS1:

- Start number 8 was manually annotated 12 times for cluster AS1.

Info for manual annotations of cluster AS2:

- Start number 8 was manually annotated 16 times for cluster AS2.

Info for manual annotations of cluster AS3:

- Start number 8 was manually annotated 13 times for cluster AS3.

Gene Information:

Gene: Abidatro_45 Start: 29469, Stop: 30263, Start Num: 8

Candidate Starts for Abidatro_45:

(2, 29193), (3, 29283), (4, 29286), (5, 29355), (Start: 8 @29469 has 41 MA's), (10, 29484), (18, 29634), (24, 29727), (28, 29754), (29, 29760), (30, 29763), (32, 29784), (38, 29850), (39, 29856), (42, 29889), (44, 29913), (45, 29973), (47, 30192),

Gene: AdoptaAdorbs_45 Start: 28706, Stop: 29476, Start Num: 8

Candidate Starts for AdoptaAdorbs_45:

(Start: 8 @28706 has 41 MA's), (10, 28721), (11, 28724), (13, 28772), (16, 28829), (18, 28871), (22, 28934), (24, 28964), (28, 28991), (30, 29000), (33, 29030), (38, 29075), (39, 29081), (42, 29114), (47, 29414),

Gene: AlexMinion_48 Start: 28962, Stop: 29759, Start Num: 8

Candidate Starts for AlexMinion_48:

(Start: 8 @28962 has 41 MA's), (10, 28977), (11, 28980), (13, 29028), (18, 29127), (21, 29187), (23, 29199), (24, 29220), (28, 29247), (30, 29256), (34, 29304), (37, 29319), (40, 29349), (42, 29379), (47, 29679),

Gene: Amanises_53 Start: 30394, Stop: 31191, Start Num: 8

Candidate Starts for Amanises_53:

(Start: 8 @30394 has 41 MA's), (10, 30409), (11, 30412), (16, 30517), (24, 30652), (28, 30679), (29, 30685), (31, 30697), (32, 30709), (41, 30784), (42, 30814), (44, 30838), (50, 31144),

Gene: Amelia_44 Start: 27749, Stop: 28534, Start Num: 8

Candidate Starts for Amelia_44:

(Start: 8 @27749 has 41 MA's), (10, 27764), (11, 27767), (12, 27791), (13, 27815), (15, 27827), (16, 27872), (18, 27914), (28, 28034), (29, 28040), (32, 28064), (41, 28139), (42, 28169), (44, 28193), (47, 28475),

Gene: AmiCi24_45 Start: 28806, Stop: 29585, Start Num: 8

Candidate Starts for AmiCi24_45:

(Start: 8 @28806 has 41 MA's), (10, 28821), (11, 28824), (13, 28872), (16, 28929), (18, 28971), (27, 29088), (28, 29097), (31, 29115), (32, 29127), (41, 29202), (42, 29232), (44, 29256), (47, 29523),

Gene: Amphitrite_46 Start: 28705, Stop: 29475, Start Num: 8

Candidate Starts for Amphitrite_46:

(Start: 8 @28705 has 41 MA's), (10, 28720), (11, 28723), (13, 28771), (16, 28828), (18, 28870), (22, 28933), (24, 28963), (28, 28990), (30, 28999), (33, 29029), (38, 29074), (39, 29080), (42, 29113), (47, 29413),

Gene: Andrew_47 Start: 28685, Stop: 29464, Start Num: 8

Candidate Starts for Andrew_47:

(7, 28676), (Start: 8 @28685 has 41 MA's), (10, 28700), (15, 28763), (16, 28808), (18, 28850), (24, 28943), (28, 28970), (30, 28979), (32, 29000), (38, 29066), (39, 29072), (42, 29105), (43, 29117), (47, 29405),

Gene: Antrice_47 Start: 28916, Stop: 29704, Start Num: 8

Candidate Starts for Antrice_47:

(Start: 8 @28916 has 41 MA's), (10, 28931), (11, 28934), (12, 28958), (16, 29039), (18, 29081), (19, 29099), (20, 29123), (24, 29174), (28, 29201), (30, 29210), (34, 29258), (37, 29273), (40, 29303), (42, 29333), (47, 29624),

Gene: Atlantica_46 Start: 28808, Stop: 29587, Start Num: 8

Candidate Starts for Atlantica_46:

(Start: 8 @28808 has 41 MA's), (10, 28823), (11, 28826), (13, 28874), (16, 28931), (18, 28973), (27, 29090), (28, 29099), (29, 29105), (31, 29117), (32, 29129), (41, 29204), (42, 29234), (44, 29258), (47, 29525),

Gene: Azaz_47 Start: 28886, Stop: 29668, Start Num: 8

Candidate Starts for Azaz_47:

(Start: 8 @28886 has 41 MA's), (10, 28901), (11, 28904), (13, 28952), (16, 29009), (22, 29114), (23, 29123), (24, 29144), (28, 29171), (30, 29180), (33, 29210), (38, 29255), (39, 29261), (42, 29294), (47, 29594),

Gene: Babushka_43 Start: 28633, Stop: 29409, Start Num: 8

Candidate Starts for Babushka_43:

(Start: 8 @28633 has 41 MA's), (9, 28639), (10, 28648), (11, 28651), (13, 28699), (16, 28756), (18, 28798), (19, 28816), (21, 28858), (23, 28870), (24, 28891), (28, 28918), (30, 28927), (37, 28990), (40, 29020), (42, 29050), (47, 29350),

Gene: Basilisk_43 Start: 28639, Stop: 29460, Start Num: 8

Candidate Starts for Basilisk_43:

(Start: 8 @28639 has 41 MA's), (10, 28654), (11, 28657), (16, 28762), (24, 28897), (28, 28924), (29, 28930), (32, 28954), (41, 29029), (42, 29059), (44, 29083), (46, 29293), (51, 29398), (53, 29407), (55, 29416),

Gene: Bedetta_49 Start: 27911, Stop: 28705, Start Num: 10

Candidate Starts for Bedetta_49:

(Start: 8 @27896 has 41 MA's), (10, 27911), (11, 27914), (12, 27938), (13, 27962), (15, 27974), (16, 28019), (18, 28061), (28, 28181), (29, 28187), (32, 28211), (41, 28286), (42, 28316), (44, 28340), (47, 28622), (52, 28658),

Gene: Bibble12_48 Start: 27744, Stop: 28529, Start Num: 8

Candidate Starts for Bibble12_48:

(Start: 8 @27744 has 41 MA's), (10, 27759), (11, 27762), (12, 27786), (13, 27810), (15, 27822), (16, 27867), (18, 27909), (28, 28029), (29, 28035), (32, 28059), (41, 28134), (42, 28164), (44, 28188), (47, 28470),

Gene: Brynnie_42 Start: 28517, Stop: 29317, Start Num: 8

Candidate Starts for Brynnie_42:

(Start: 8 @28517 has 41 MA's), (10, 28532), (11, 28535), (16, 28640), (24, 28775), (28, 28802), (29, 28808), (32, 28832), (41, 28907), (42, 28937), (44, 28961), (46, 29171), (49, 29237), (52, 29267), (57, 29288),

Gene: Camara_46 Start: 28708, Stop: 29478, Start Num: 8

Candidate Starts for Camara_46:

(Start: 8 @28708 has 41 MA's), (10, 28723), (11, 28726), (13, 28774), (16, 28831), (18, 28873), (22, 28936), (24, 28966), (28, 28993), (30, 29002), (33, 29032), (38, 29077), (39, 29083), (42, 29116), (47, 29416),

Gene: Chickaboom_45 Start: 29238, Stop: 30044, Start Num: 8

Candidate Starts for Chickaboom_45:

(Start: 8 @29238 has 41 MA's), (10, 29253), (18, 29403), (23, 29475), (24, 29496), (28, 29523), (30, 29532), (32, 29553), (36, 29592), (38, 29619), (39, 29625), (42, 29658), (44, 29682), (45, 29742), (49, 29967), (54, 29997),

Gene: Chicken_44 Start: 29695, Stop: 30501, Start Num: 8

Candidate Starts for Chicken_44:

(1, 29356), (3, 29509), (4, 29512), (5, 29581), (Start: 8 @29695 has 41 MA's), (10, 29710), (11, 29713), (16, 29818), (24, 29953), (28, 29980), (29, 29986), (31, 29998), (32, 30010), (41, 30085), (42, 30115), (44, 30139), (56, 30469),

Gene: Colusalem_45 Start: 27726, Stop: 28511, Start Num: 8

Candidate Starts for Colusalem_45:

(Start: 8 @27726 has 41 MA's), (10, 27741), (11, 27744), (12, 27768), (13, 27792), (15, 27804), (16, 27849), (18, 27891), (28, 28011), (29, 28017), (32, 28041), (41, 28116), (42, 28146), (44, 28170), (47, 28452),

Gene: Coral_44 Start: 27597, Stop: 28406, Start Num: 8

Candidate Starts for Coral_44:

(Start: 8 @27597 has 41 MA's), (10, 27612), (11, 27615), (12, 27639), (13, 27663), (15, 27675), (16, 27720), (18, 27762), (28, 27882), (29, 27888), (32, 27912), (41, 27987), (42, 28017), (44, 28041), (47, 28323), (52, 28359),

Gene: Cote_46 Start: 28074, Stop: 28883, Start Num: 8

Candidate Starts for Cote_46:

(Start: 8 @28074 has 41 MA's), (10, 28089), (11, 28092), (12, 28116), (13, 28140), (15, 28152), (16, 28197), (18, 28239), (28, 28359), (29, 28365), (32, 28389), (41, 28464), (42, 28494), (44, 28518), (47, 28800), (52, 28836),

Gene: Cygnet_46 Start: 29526, Stop: 30314, Start Num: 8

Candidate Starts for Cygnet_46:

(Start: 8 @29526 has 41 MA's), (10, 29541), (11, 29544), (12, 29568), (13, 29592), (14, 29595), (16, 29649), (18, 29691), (19, 29709), (20, 29733), (21, 29751), (25, 29796), (28, 29811), (30, 29820), (34, 29868), (37, 29883), (40, 29913), (42, 29943), (47, 30234),

Gene: DanHam62_46 Start: 28807, Stop: 29586, Start Num: 8

Candidate Starts for DanHam62_46:

(Start: 8 @28807 has 41 MA's), (10, 28822), (11, 28825), (13, 28873), (16, 28930), (18, 28972), (27, 29089), (28, 29098), (31, 29116), (32, 29128), (41, 29203), (42, 29233), (44, 29257), (47, 29524),

Gene: Daob_46 Start: 28082, Stop: 28891, Start Num: 8

Candidate Starts for Daob_46:

(Start: 8 @28082 has 41 MA's), (10, 28097), (11, 28100), (12, 28124), (13, 28148), (15, 28160), (16, 28205), (18, 28247), (28, 28367), (29, 28373), (32, 28397), (41, 28472), (42, 28502), (44, 28526), (47, 28808), (52, 28844),

Gene: Eesa_43 Start: 30117, Stop: 30914, Start Num: 8

Candidate Starts for Eesa_43:

(Start: 8 @30117 has 41 MA's), (10, 30132), (11, 30135), (16, 30240), (24, 30375), (28, 30402), (29, 30408), (32, 30432), (41, 30507), (42, 30537), (44, 30561), (50, 30867),

Gene: Fingolfin_46 Start: 28810, Stop: 29589, Start Num: 8

Candidate Starts for Fingolfin_46:

(Start: 8 @28810 has 41 MA's), (10, 28825), (11, 28828), (13, 28876), (16, 28933), (18, 28975), (27, 29092), (28, 29101), (29, 29107), (31, 29119), (32, 29131), (41, 29206), (42, 29236), (43, 29248), (44, 29260), (47, 29527),

Gene: Galaxy_42 Start: 27889, Stop: 28683, Start Num: 8

Candidate Starts for Galaxy_42:

(2, 27613), (3, 27703), (4, 27706), (5, 27775), (Start: 8 @27889 has 41 MA's), (10, 27904), (16, 28012), (18, 28054), (23, 28126), (24, 28147), (28, 28174), (30, 28183), (32, 28204), (38, 28270), (39, 28276), (42, 28309), (44, 28333), (45, 28393), (47, 28612),

Gene: Glotell_47 Start: 28864, Stop: 29634, Start Num: 8

Candidate Starts for Glotell_47:

(Start: 8 @28864 has 41 MA's), (10, 28879), (11, 28882), (13, 28930), (16, 28987), (18, 29029), (22, 29092), (24, 29122), (28, 29149), (30, 29158), (33, 29188), (38, 29233), (39, 29239), (42, 29272), (47, 29572),

Gene: Gravel_53 Start: 30207, Stop: 31004, Start Num: 8

Candidate Starts for Gravel_53:

(Start: 8 @30207 has 41 MA's), (10, 30222), (11, 30225), (16, 30330), (24, 30465), (28, 30492), (29, 30498), (31, 30510), (32, 30522), (41, 30597), (42, 30627), (44, 30651), (50, 30957),

Gene: HamCheese_46 Start: 28794, Stop: 29573, Start Num: 8

Candidate Starts for HamCheese_46:

(Start: 8 @28794 has 41 MA's), (10, 28809), (11, 28812), (13, 28860), (16, 28917), (18, 28959), (27, 29076), (28, 29085), (29, 29091), (31, 29103), (32, 29115), (41, 29190), (42, 29220), (43, 29232), (44, 29244), (47, 29511),

Gene: HannahPhantana_45 Start: 27744, Stop: 28529, Start Num: 8

Candidate Starts for HannahPhantana_45:

(Start: 8 @27744 has 41 MA's), (10, 27759), (11, 27762), (12, 27786), (13, 27810), (15, 27822), (16, 27867), (18, 27909), (28, 28029), (29, 28035), (32, 28059), (41, 28134), (42, 28164), (44, 28188), (47, 28470),

Gene: Jamun_43 Start: 29398, Stop: 30198, Start Num: 8

Candidate Starts for Jamun_43:

(2, 29122), (3, 29212), (4, 29215), (5, 29284), (Start: 8 @29398 has 41 MA's), (10, 29413), (11, 29416), (18, 29563), (23, 29635), (24, 29656), (28, 29683), (30, 29692), (32, 29713), (38, 29779), (39, 29785), (42, 29818), (44, 29842), (45, 29902), (49, 30127),

Gene: Jerole_45 Start: 27868, Stop: 28653, Start Num: 8

Candidate Starts for Jerole_45:

(Start: 8 @27868 has 41 MA's), (10, 27883), (11, 27886), (12, 27910), (13, 27934), (15, 27946), (16, 27991), (18, 28033), (28, 28153), (29, 28159), (32, 28183), (41, 28258), (42, 28288), (44, 28312), (47, 28594),

Gene: Juno112_45 Start: 28810, Stop: 29589, Start Num: 8

Candidate Starts for Juno112_45:

(Start: 8 @28810 has 41 MA's), (10, 28825), (11, 28828), (13, 28876), (16, 28933), (18, 28975), (27, 29092), (28, 29101), (29, 29107), (31, 29119), (32, 29131), (41, 29206), (42, 29236), (43, 29248), (44, 29260), (47, 29527),

Gene: KHumphrey_46 Start: 28707, Stop: 29477, Start Num: 8

Candidate Starts for KHumphrey_46:

(Start: 8 @28707 has 41 MA's), (10, 28722), (11, 28725), (13, 28773), (16, 28830), (18, 28872), (22, 28935), (24, 28965), (28, 28992), (30, 29001), (33, 29031), (38, 29076), (39, 29082), (42, 29115), (47, 29415),

Gene: KendraB23_54 Start: 30394, Stop: 31191, Start Num: 8

Candidate Starts for KendraB23_54:

(Start: 8 @30394 has 41 MA's), (10, 30409), (11, 30412), (16, 30517), (24, 30652), (28, 30679), (29, 30685), (31, 30697), (32, 30709), (41, 30784), (42, 30814), (44, 30838), (50, 31144),

Gene: Kepler_46 Start: 28492, Stop: 29301, Start Num: 8

Candidate Starts for Kepler_46:

(Start: 8 @28492 has 41 MA's), (10, 28507), (11, 28510), (12, 28534), (13, 28558), (15, 28570), (16, 28615), (18, 28657), (28, 28777), (29, 28783), (32, 28807), (41, 28882), (42, 28912), (44, 28936), (47, 29218), (52, 29254),

Gene: Kuleana_46 Start: 28067, Stop: 28864, Start Num: 8

Candidate Starts for Kuleana_46:

(6, 28052), (Start: 8 @28067 has 41 MA's), (10, 28082), (12, 28109), (13, 28133), (18, 28232), (28, 28355), (32, 28385), (36, 28424), (38, 28451), (42, 28490), (44, 28514), (47, 28796), (48, 28799),

Gene: Laphuphu24k_45 Start: 28794, Stop: 29573, Start Num: 8

Candidate Starts for Laphuphu24k_45:

(Start: 8 @28794 has 41 MA's), (10, 28809), (11, 28812), (13, 28860), (16, 28917), (18, 28959), (27, 29076), (28, 29085), (29, 29091), (31, 29103), (32, 29115), (41, 29190), (42, 29220), (43, 29232), (44, 29244), (47, 29511),

Gene: Leona_45 Start: 28887, Stop: 29669, Start Num: 8

Candidate Starts for Leona_45:

(Start: 8 @28887 has 41 MA's), (10, 28902), (11, 28905), (13, 28953), (16, 29010), (22, 29115), (23, 29124), (24, 29145), (28, 29172), (30, 29181), (33, 29211), (38, 29256), (39, 29262), (42, 29295), (47, 29595),

Gene: LittleTokyo_44 Start: 27580, Stop: 28368, Start Num: 8

Candidate Starts for LittleTokyo_44:

(Start: 8 @27580 has 41 MA's), (10, 27595), (11, 27598), (12, 27622), (13, 27646), (16, 27703), (17, 27736), (18, 27745), (24, 27838), (25, 27850), (26, 27856), (28, 27862), (30, 27871), (32, 27892), (38, 27958), (42, 27997), (44, 28021), (47, 28288), (58, 28345),

Gene: Lunar_46 Start: 28408, Stop: 29217, Start Num: 8

Candidate Starts for Lunar_46:

(Start: 8 @28408 has 41 MA's), (10, 28423), (11, 28426), (12, 28450), (13, 28474), (15, 28486), (16, 28531), (18, 28573), (28, 28693), (29, 28699), (32, 28723), (41, 28798), (42, 28828), (44, 28852), (47, 29134), (52, 29170),

Gene: Melons_46 Start: 28222, Stop: 29031, Start Num: 8

Candidate Starts for Melons_46:

(Start: 8 @28222 has 41 MA's), (10, 28237), (11, 28240), (12, 28264), (13, 28288), (15, 28300), (16, 28345), (18, 28387), (28, 28507), (29, 28513), (32, 28537), (41, 28612), (42, 28642), (44, 28666), (47, 28948), (52, 28984),

Gene: Niblet_47 Start: 29782, Stop: 30588, Start Num: 8

Candidate Starts for Niblet_47:

(1, 29443), (3, 29596), (4, 29599), (5, 29668), (Start: 8 @29782 has 41 MA's), (10, 29797), (11, 29800), (16, 29905), (24, 30040), (28, 30067), (29, 30073), (31, 30085), (32, 30097), (41, 30172), (42, 30202), (44, 30226), (56, 30556),

Gene: Oppalora_45 Start: 28808, Stop: 29587, Start Num: 8

Candidate Starts for Oppalora_45:

(Start: 8 @28808 has 41 MA's), (10, 28823), (11, 28826), (13, 28874), (16, 28931), (18, 28973), (27, 29090), (28, 29099), (29, 29105), (31, 29117), (32, 29129), (41, 29204), (42, 29234), (44, 29258), (47, 29525),

Gene: Orcanus_44 Start: 29751, Stop: 30572, Start Num: 8

Candidate Starts for Orcanus_44:

(Start: 8 @29751 has 41 MA's), (10, 29766), (11, 29769), (16, 29874), (24, 30009), (28, 30036), (29, 30042), (32, 30066), (41, 30141), (42, 30171), (44, 30195), (51, 30510), (55, 30528),

Gene: OtsoOtso_45 Start: 27598, Stop: 28383, Start Num: 8

Candidate Starts for OtsoOtso_45:

(Start: 8 @27598 has 41 MA's), (10, 27613), (11, 27616), (12, 27640), (13, 27664), (15, 27676), (16, 27721), (18, 27763), (28, 27883), (29, 27889), (32, 27913), (41, 27988), (42, 28018), (44, 28042), (47, 28324),

Gene: Pelletreau_53 Start: 30207, Stop: 31004, Start Num: 8

Candidate Starts for Pelletreau_53:

(Start: 8 @30207 has 41 MA's), (10, 30222), (11, 30225), (16, 30330), (24, 30465), (28, 30492), (29, 30498), (31, 30510), (32, 30522), (41, 30597), (42, 30627), (44, 30651), (50, 30957),

Gene: PhirstandPhine_53 Start: 28368, Stop: 29177, Start Num: 8

Candidate Starts for PhirstandPhine_53:

(Start: 8 @28368 has 41 MA's), (10, 28383), (11, 28386), (12, 28410), (13, 28434), (15, 28446), (16, 28491), (18, 28533), (28, 28653), (29, 28659), (32, 28683), (41, 28758), (42, 28788), (44, 28812), (47, 29094), (52, 29130),

Gene: PhluffyCoco_46 Start: 28908, Stop: 29687, Start Num: 8

Candidate Starts for PhluffyCoco_46:

(6, 28881), (Start: 8 @28908 has 41 MA's), (10, 28923), (11, 28926), (13, 28974), (16, 29031), (18, 29073), (27, 29190), (28, 29199), (29, 29205), (31, 29217), (32, 29229), (41, 29304), (42, 29334), (44, 29358), (47, 29625),

Gene: Pineda_47 Start: 27894, Stop: 28703, Start Num: 8

Candidate Starts for Pineda_47:

(Start: 8 @27894 has 41 MA's), (10, 27909), (11, 27912), (12, 27936), (13, 27960), (15, 27972), (16, 28017), (18, 28059), (28, 28179), (29, 28185), (32, 28209), (41, 28284), (42, 28314), (44, 28338), (47, 28620), (52, 28656),

Gene: Polka_44 Start: 27598, Stop: 28383, Start Num: 8

Candidate Starts for Polka_44:

(Start: 8 @27598 has 41 MA's), (10, 27613), (11, 27616), (12, 27640), (13, 27664), (15, 27676), (16, 27721), (18, 27763), (28, 27883), (29, 27889), (32, 27913), (41, 27988), (42, 28018), (44, 28042), (47, 28324),

Gene: Rattail_46 Start: 29009, Stop: 29773, Start Num: 10

Candidate Starts for Rattail_46:

(6, 28967), (Start: 8 @28994 has 41 MA's), (10, 29009), (11, 29012), (13, 29060), (16, 29117), (18, 29159), (27, 29276), (28, 29285), (29, 29291), (31, 29303), (32, 29315), (41, 29390), (42, 29420), (44, 29444), (47, 29711),

Gene: RedFox_46 Start: 28907, Stop: 29686, Start Num: 8

Candidate Starts for RedFox_46:

(6, 28880), (Start: 8 @28907 has 41 MA's), (10, 28922), (11, 28925), (13, 28973), (16, 29030), (18, 29072), (27, 29189), (28, 29198), (29, 29204), (31, 29216), (32, 29228), (41, 29303), (42, 29333), (43, 29345), (44, 29357), (47, 29624),

Gene: Renna12_45 Start: 28764, Stop: 29543, Start Num: 8

Candidate Starts for Renna12_45:

(6, 28737), (Start: 8 @28764 has 41 MA's), (10, 28779), (16, 28887), (18, 28929), (23, 29001), (24, 29022), (28, 29049), (32, 29079), (38, 29145), (39, 29151), (42, 29184), (43, 29196), (47, 29484),

Gene: Ruchi_42 Start: 28585, Stop: 29382, Start Num: 8

Candidate Starts for Ruchi_42:

(Start: 8 @28585 has 41 MA's), (10, 28600), (11, 28603), (16, 28708), (24, 28843), (28, 28870), (29, 28876), (32, 28900), (41, 28975), (42, 29005), (44, 29029), (46, 29239), (49, 29305), (52, 29335),

Gene: Shen_43 Start: 28308, Stop: 29105, Start Num: 8

Candidate Starts for Shen_43:

(Start: 8 @28308 has 41 MA's), (10, 28323), (11, 28326), (16, 28431), (24, 28566), (28, 28593), (29, 28599), (31, 28611), (32, 28623), (41, 28698), (42, 28728), (44, 28752), (50, 29058),

Gene: StuartMinion_38 Start: 25861, Stop: 26658, Start Num: 8

Candidate Starts for StuartMinion_38:

(Start: 8 @25861 has 41 MA's), (10, 25876), (11, 25879), (13, 25927), (18, 26026), (21, 26086), (23, 26098), (24, 26119), (28, 26146), (30, 26155), (34, 26203), (37, 26218), (40, 26248), (42, 26278), (47, 26578),

Gene: TaylorSipht_44 Start: 29156, Stop: 29947, Start Num: 8

Candidate Starts for TaylorSipht_44:

(Start: 8 @29156 has 41 MA's), (10, 29171), (11, 29174), (16, 29279), (17, 29312), (28, 29441), (29, 29447), (32, 29471), (41, 29546), (42, 29576), (44, 29600), (46, 29819), (47, 29876),

Gene: Toad24_46 Start: 30447, Stop: 31244, Start Num: 8

Candidate Starts for Toad24_46:

(Start: 8 @30447 has 41 MA's), (10, 30462), (11, 30465), (16, 30570), (24, 30705), (28, 30732), (29, 30738), (31, 30750), (32, 30762), (41, 30837), (42, 30867), (44, 30891), (50, 31197),

Gene: Vulpecula_42 Start: 28262, Stop: 29059, Start Num: 8

Candidate Starts for Vulpecula_42:

(Start: 8 @28262 has 41 MA's), (10, 28277), (11, 28280), (16, 28385), (24, 28520), (28, 28547), (29, 28553), (32, 28577), (41, 28652), (42, 28682), (44, 28706), (46, 28916), (49, 28982), (52, 29012),

Gene: Westrich_52 Start: 30131, Stop: 30928, Start Num: 8

Candidate Starts for Westrich_52:

(Start: 8 @30131 has 41 MA's), (10, 30146), (11, 30149), (16, 30254), (24, 30389), (28, 30416), (29, 30422), (31, 30434), (32, 30446), (41, 30521), (42, 30551), (44, 30575), (50, 30881),

Gene: WileyE_49 Start: 29238, Stop: 30044, Start Num: 8

Candidate Starts for WileyE_49:

(Start: 8 @29238 has 41 MA's), (10, 29253), (18, 29403), (23, 29475), (24, 29496), (28, 29523), (30, 29532), (32, 29553), (36, 29592), (38, 29619), (39, 29625), (42, 29658), (44, 29682), (45, 29742), (49, 29967), (54, 29997),

Gene: Zhuangyuan_51 Start: 29358, Stop: 30155, Start Num: 8

Candidate Starts for Zhuangyuan_51:

(Start: 8 @29358 has 41 MA's), (10, 29373), (12, 29400), (13, 29424), (16, 29481), (24, 29616), (25, 29628), (27, 29640), (28, 29649), (29, 29655), (31, 29667), (32, 29679), (35, 29709), (41, 29754), (42, 29784), (43, 29796), (44, 29808), (47, 30075),

Gene: Zixiang_47 Start: 29812, Stop: 30609, Start Num: 8

Candidate Starts for Zixiang_47:

(Start: 8 @29812 has 41 MA's), (10, 29827), (11, 29830), (16, 29935), (24, 30070), (28, 30097), (29, 30103), (31, 30115), (32, 30127), (41, 30202), (42, 30232), (44, 30256), (50, 30562),