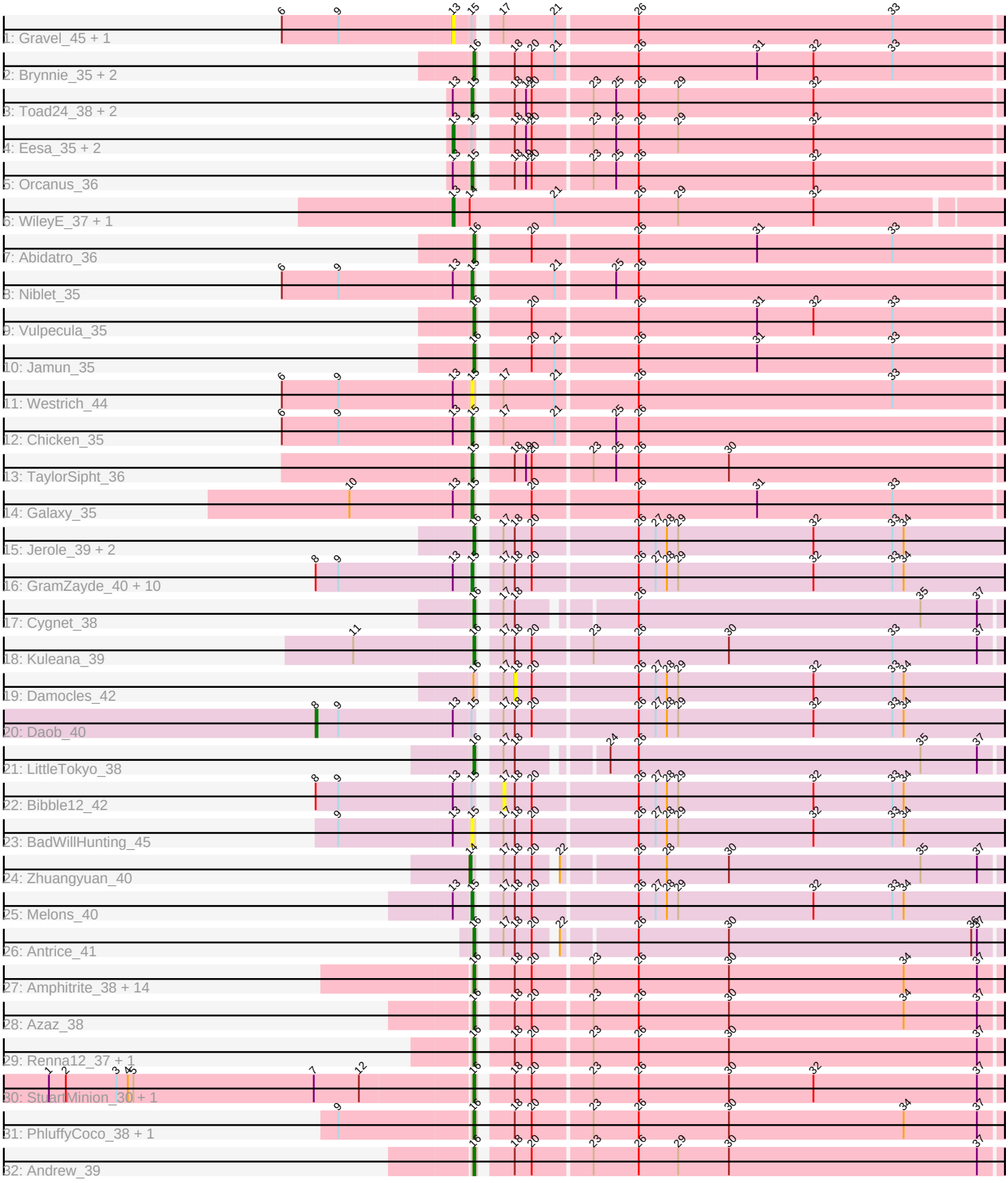
Pham 319369


1: Gravel_45 + 1
2: Brynnie_35 + 2
3: Toad24_38 + 2
4: Eesa_35 + 2
5: Orcanus_36
6: WileyE_37 + 1
7: Abidatro_36
8: Niblet_35
9: Vulpecula_35
10: Jamun_35
11: Westrich_44
12: Chicken_35
13: TaylorSipht_36
14: Galaxy_35
15: Jerole_39 + 2
16: GramZayde_40 + 10
17: Cygnet_38
18: Kuleana_39
19: Damocles_42
20: Daob_40
21: LittleTokyo_38
22: Bibble12_42
23: BadWillHunting_45
24: Zhuangyuan_40
25: Melons_40
26: Antrice_41
27: Amphitrite_38 + 14
28: Azaz_38
29: Renna12_37 + 1
30: StuartMinion_30 + 1
31: PhluffyCoco_38 + 1
32: Andrew_39

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 319369 Report

This analysis was run 09/05/26 on database version 662.

Pham number 319369 has 69 members, 14 are drafts.

Phages represented in each track:
- Track 1 : Gravel_45, Pelletreau_45
- Track 2 : Brynnie_35, Basilisk_36, Ruchi_35
- Track 3 : Toad24_38, Zixiang_35, Amanises_38
- Track 4 : Eesa_35, Shen_35, KendraB23_46
- Track 5 : Orcanus_36
- Track 6 : WileyE_37, Chickaboom_37
- Track 7 : Abidatro_36
- Track 8 : Niblet_35
- Track 9 : Vulpecula_35
- Track 10 : Jamun_35
- Track 11 : Westrich_44
- Track 12 : Chicken_35
- Track 13 : TaylorSipht_36
- Track 14 : Galaxy_35
- Track 15 : Jerole_39, Amelia_38, Colusalem_39
- Track 16 : GramZayde_40, PhirstandPhine_40, Cote_40, Pineda_40, Coral_38, Kepler_40, Lunar_40, Polka_38, OtsoOtso_39, HannahPhantana_39, Bedetta_43
- Track 17 : Cygnet_38
- Track 18 : Kuleana_39
- Track 19 : Damocles_42
- Track 20 : Daob_40
- Track 21 : LittleTokyo_38
- Track 22 : Bibble12_42
- Track 23 : BadWillHunting_45
- Track 24 : Zhuangyuan_40
- Track 25 : Melons_40
- Track 26 : Antrice_41
- Track 27 : Amphitrite_38, Fingolfin_38, Leona_37, AdoptaAdorbs_37, Camara_38, Atlantica_38, Juno112_37, KHumphrey_38, HamCheese_38, DanHam62_38, Glotell_39, Laphuphu24k_36, RedFox_38, Oppalora_37, AmiCi24_37
- Track 28 : Azaz_38
- Track 29 : Renna12_37, Babushka_35
- Track 30 : StuartMinion_30, AlexMinion_38
- Track 31 : PhluffyCoco_38, Rattail_38
- Track 32 : Andrew_39

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

The start number called the most often in the published annotations is 16, it was called in 32 of the 55 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Abidatro_36, AdoptaAdorbs_37, AlexMinion_38, Amelia_38, AmiCi24_37, Amphitrite_38, Andrew_39, Antrice_41, Atlantica_38, Azaz_38, Babushka_35, Basilisk_36, Brynnie_35, Camara_38, Colusalem_39, Cygnet_38, DanHam62_38, Fingolfin_38, Glotell_39, HamCheese_38, Jamun_35, Jerole_39, Juno112_37, KHumphrey_38, Kuleana_39, Laphuphu24k_36, Leona_37, LittleTokyo_38, Oppalora_37, PhluffyCoco_38, Rattail_38, RedFox_38, Renna12_37, Ruchi_35, StuartMinion_30, Vulpecula_35,

Genes that have the "Most Annotated" start but do not call it:
• Damocles_42,

Genes that do not have the "Most Annotated" start:
• Amanises_38, BadWillHunting_45, Bedetta_43, Bibble12_42, Chickaboom_37, Chicken_35, Coral_38, Cote_40, Daob_40, Eesa_35, Galaxy_35, GramZayde_40, Gravel_45, HannahPhantana_39, KendraB23_46, Kepler_40, Lunar_40, Melons_40, Niblet_35, Orcanus_36, OtsoOtso_39, Pelletreau_45, PhirstandPhine_40, Pineda_40, Polka_38, Shen_35, TaylorSipht_36, Toad24_38, Westrich_44, WileyE_37, Zhuangyuan_40, Zixiang_35,

Summary by start number:

Start 8:
• Found in 13 of 69 (18.8%) of genes in pham
• Manual Annotations of this start: 1 of 55
• Called 7.7% of time when present
• Phage (with cluster) where this start called: Daob_40 (AS2),

Start 13:
• Found in 30 of 69 (43.5%) of genes in pham
• Manual Annotations of this start: 3 of 55
• Called 23.3% of time when present
• Phage (with cluster) where this start called: Chickaboom_37 (AS1), Eesa_35 (AS1), Gravel_45 (AS1), KendraB23_46 (AS1), Pelletreau_45 (AS1), Shen_35 (AS1), WileyE_37 (AS1),

Start 14:
• Found in 3 of 69 (4.3%) of genes in pham
• Manual Annotations of this start: 1 of 55
• Called 33.3% of time when present
• Phage (with cluster) where this start called: Zhuangyuan_40 (AS2),

Start 15:
• Found in 29 of 69 (42.0%) of genes in pham
• Manual Annotations of this start: 18 of 55
• Called 75.9% of time when present

• Phage (with cluster) where this start called: Amanises_38 (AS1), BadWillHunting_45 (AS2), Bedetta_43 (AS2), Chicken_35 (AS1), Coral_38 (AS2), Cote_40 (AS2), Galaxy_35 (AS1), GramZayde_40 (AS2), HannahPhantana_39 (AS2), Kepler_40 (AS2), Lunar_40 (AS2), Melons_40 (AS2), Niblet_35 (AS1), Orcanus_36 (AS1), OtsoOtso_39 (AS2), PhirstandPhine_40 (AS2), Pineda_40 (AS2), Polka_38 (AS2), TaylorSipht_36 (AS1), Toad24_38 (AS1), Westrich_44 (AS1), Zixiang_35 (AS1),

Start 16:
• Found in 37 of 69 (53.6%) of genes in pham
• Manual Annotations of this start: 32 of 55
• Called 97.3% of time when present
• Phage (with cluster) where this start called: Abidatro_36 (AS1), AdoptaAdorbs_37 (AS3), AlexMinion_38 (AS3), Amelia_38 (AS2), AmiCi24_37 (AS3), Amphitrite_38 (AS3), Andrew_39 (AS3), Antrice_41 (AS2), Atlantica_38 (AS3), Azaz_38 (AS3), Babushka_35 (AS3), Basilisk_36 (AS1), Brynnie_35 (AS1), Camara_38 (AS3), Colusalem_39 (AS2), Cygnet_38 (AS2), DanHam62_38 (AS3), Fingolfin_38 (AS3), Glotell_39 (AS3), HamCheese_38 (AS3), Jamun_35 (AS1), Jerole_39 (AS2), Juno112_37 (AS3), KHumphrey_38 (AS3), Kuleana_39 (AS2), Laphuphu24k_36 (AS3), Leona_37 (AS3), LittleTokyo_38 (AS2), Oppalora_37 (AS3), PhluffyCoco_38 (AS3), Rattail_38 (AS3), RedFox_38 (AS3), Renna12_37 (AS3), Ruchi_35 (AS1), StuartMinion_30 (AS3), Vulpecula_35 (AS1),

Start 17:
• Found in 28 of 69 (40.6%) of genes in pham
• No Manual Annotations of this start.
• Called 3.6% of time when present
• Phage (with cluster) where this start called: Bibble12_42 (AS2),

Start 18:
• Found in 58 of 69 (84.1%) of genes in pham
• No Manual Annotations of this start.
• Called 1.7% of time when present
• Phage (with cluster) where this start called: Damocles_42 (AS2),

Summary by clusters:

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

Info for manual annotations of cluster AS1:
•Start number 13 was manually annotated 3 times for cluster AS1.
•Start number 15 was manually annotated 8 times for cluster AS1.
•Start number 16 was manually annotated 6 times for cluster AS1.

Info for manual annotations of cluster AS2:
•Start number 8 was manually annotated 1 time for cluster AS2.
•Start number 14 was manually annotated 1 time for cluster AS2.
•Start number 15 was manually annotated 10 times for cluster AS2.
•Start number 16 was manually annotated 7 times for cluster AS2.

Info for manual annotations of cluster AS3:
•Start number 16 was manually annotated 19 times for cluster AS3.

Gene Information:

Gene: Abidatro_36 Start: 24827, Stop: 25096, Start Num: 16
Candidate Starts for Abidatro_36:
(Start: 16 @24827 has 32 MA's), (20, 24851), (26, 24905), (31, 24968), (33, 25040),

Gene: AdoptaAdorbs_37 Start: 24504, Stop: 24773, Start Num: 16
Candidate Starts for AdoptaAdorbs_37:
(Start: 16 @24504 has 32 MA's), (18, 24519), (20, 24528), (23, 24558), (26, 24582), (30, 24630), (34, 24723), (37, 24762),

Gene: AlexMinion_38 Start: 24661, Stop: 24930, Start Num: 16
Candidate Starts for AlexMinion_38:
(1, 24439), (2, 24448), (3, 24475), (4, 24481), (5, 24484), (7, 24580), (12, 24604), (Start: 16 @24661 has 32 MA's), (18, 24676), (20, 24685), (23, 24715), (26, 24739), (30, 24787), (32, 24832), (37, 24919),

Gene: Amanises_38 Start: 25841, Stop: 26110, Start Num: 15
Candidate Starts for Amanises_38:
(Start: 13 @25832 has 3 MA's), (Start: 15 @25841 has 18 MA's), (18, 25856), (19, 25862), (20, 25865), (23, 25895), (25, 25907), (26, 25919), (29, 25940), (32, 26012),

Gene: Amelia_38 Start: 24587, Stop: 24859, Start Num: 16
Candidate Starts for Amelia_38:
(Start: 16 @24587 has 32 MA's), (17, 24596), (18, 24602), (20, 24611), (26, 24665), (27, 24674), (28, 24680), (29, 24686), (32, 24758), (33, 24800), (34, 24806),

Gene: AmiCi24_37 Start: 24502, Stop: 24771, Start Num: 16
Candidate Starts for AmiCi24_37:
(Start: 16 @24502 has 32 MA's), (18, 24517), (20, 24526), (23, 24556), (26, 24580), (30, 24628), (34, 24721), (37, 24760),

Gene: Amphitrite_38 Start: 24503, Stop: 24772, Start Num: 16
Candidate Starts for Amphitrite_38:
(Start: 16 @24503 has 32 MA's), (18, 24518), (20, 24527), (23, 24557), (26, 24581), (30, 24629), (34, 24722), (37, 24761),

Gene: Andrew_39 Start: 24396, Stop: 24665, Start Num: 16
Candidate Starts for Andrew_39:
(Start: 16 @24396 has 32 MA's), (18, 24411), (20, 24420), (23, 24450), (26, 24474), (29, 24495), (30, 24522), (37, 24654),

Gene: Antrice_41 Start: 25752, Stop: 26012, Start Num: 16
Candidate Starts for Antrice_41:
(Start: 16 @25752 has 32 MA's), (17, 25761), (18, 25767), (20, 25776), (22, 25785), (26, 25821), (30, 25869), (36, 25998), (37, 26001),

Gene: Atlantica_38 Start: 24504, Stop: 24773, Start Num: 16
Candidate Starts for Atlantica_38:
(Start: 16 @24504 has 32 MA's), (18, 24519), (20, 24528), (23, 24558), (26, 24582), (30, 24630), (34, 24723), (37, 24762),

Gene: Azaz_38 Start: 24576, Stop: 24845, Start Num: 16
Candidate Starts for Azaz_38:

(Start: 16 @24576 has 32 MA's), (18, 24591), (20, 24600), (23, 24630), (26, 24654), (30, 24702), (34, 24795), (37, 24834),

Gene: Babushka_35 Start: 24426, Stop: 24695, Start Num: 16
Candidate Starts for Babushka_35:
(Start: 16 @24426 has 32 MA's), (18, 24441), (20, 24450), (23, 24480), (26, 24504), (30, 24552), (37, 24684),

Gene: BadWillHunting_45 Start: 25066, Stop: 25338, Start Num: 15
Candidate Starts for BadWillHunting_45:
(9, 24997), (Start: 13 @25057 has 3 MA's), (Start: 15 @25066 has 18 MA's), (17, 25075), (18, 25081), (20, 25090), (26, 25144), (27, 25153), (28, 25159), (29, 25165), (32, 25237), (33, 25279), (34, 25285),

Gene: Basilisk_36 Start: 25305, Stop: 25574, Start Num: 16
Candidate Starts for Basilisk_36:
(Start: 16 @25305 has 32 MA's), (18, 25320), (20, 25329), (21, 25341), (26, 25383), (31, 25446), (32, 25476), (33, 25518),

Gene: Bedetta_43 Start: 24734, Stop: 25006, Start Num: 15
Candidate Starts for Bedetta_43:
(Start: 8 @24653 has 1 MA's), (9, 24665), (Start: 13 @24725 has 3 MA's), (Start: 15 @24734 has 18 MA's), (17, 24743), (18, 24749), (20, 24758), (26, 24812), (27, 24821), (28, 24827), (29, 24833), (32, 24905), (33, 24947), (34, 24953),

Gene: Bibble12_42 Start: 24591, Stop: 24854, Start Num: 17
Candidate Starts for Bibble12_42:
(Start: 8 @24501 has 1 MA's), (9, 24513), (Start: 13 @24573 has 3 MA's), (Start: 15 @24582 has 18 MA's), (17, 24591), (18, 24597), (20, 24606), (26, 24660), (27, 24669), (28, 24675), (29, 24681), (32, 24753), (33, 24795), (34, 24801),

Gene: Brynnie_35 Start: 25183, Stop: 25452, Start Num: 16
Candidate Starts for Brynnie_35:
(Start: 16 @25183 has 32 MA's), (18, 25198), (20, 25207), (21, 25219), (26, 25261), (31, 25324), (32, 25354), (33, 25396),

Gene: Camara_38 Start: 24506, Stop: 24775, Start Num: 16
Candidate Starts for Camara_38:
(Start: 16 @24506 has 32 MA's), (18, 24521), (20, 24530), (23, 24560), (26, 24584), (30, 24632), (34, 24725), (37, 24764),

Gene: Chickaboom_37 Start: 24787, Stop: 25074, Start Num: 13
Candidate Starts for Chickaboom_37:
(Start: 13 @24787 has 3 MA's), (Start: 14 @24796 has 1 MA's), (21, 24841), (26, 24886), (29, 24907), (32, 24979),

Gene: Chicken_35 Start: 25145, Stop: 25414, Start Num: 15
Candidate Starts for Chicken_35:
(6, 25046), (9, 25076), (Start: 13 @25136 has 3 MA's), (Start: 15 @25145 has 18 MA's), (17, 25154), (21, 25181), (25, 25211), (26, 25223),

Gene: Colusalem_39 Start: 24564, Stop: 24836, Start Num: 16
Candidate Starts for Colusalem_39:

(Start: 16 @24564 has 32 MA's), (17, 24573), (18, 24579), (20, 24588), (26, 24642), (27, 24651), (28, 24657), (29, 24663), (32, 24735), (33, 24777), (34, 24783),

Gene: Coral_38 Start: 24435, Stop: 24707, Start Num: 15
Candidate Starts for Coral_38:
(Start: 8 @24354 has 1 MA's), (9, 24366), (Start: 13 @24426 has 3 MA's), (Start: 15 @24435 has 18 MA's), (17, 24444), (18, 24450), (20, 24459), (26, 24513), (27, 24522), (28, 24528), (29, 24534), (32, 24606), (33, 24648), (34, 24654),

Gene: Cote_40 Start: 24912, Stop: 25184, Start Num: 15
Candidate Starts for Cote_40:
(Start: 8 @24831 has 1 MA's), (9, 24843), (Start: 13 @24903 has 3 MA's), (Start: 15 @24912 has 18 MA's), (17, 24921), (18, 24927), (20, 24936), (26, 24990), (27, 24999), (28, 25005), (29, 25011), (32, 25083), (33, 25125), (34, 25131),

Gene: Cygnet_38 Start: 25350, Stop: 25610, Start Num: 16
Candidate Starts for Cygnet_38:
(Start: 16 @25350 has 32 MA's), (17, 25359), (18, 25365), (26, 25419), (35, 25569), (37, 25599),

Gene: Damocles_42 Start: 24738, Stop: 24995, Start Num: 18
Candidate Starts for Damocles_42:
(Start: 16 @24723 has 32 MA's), (17, 24732), (18, 24738), (20, 24747), (26, 24801), (27, 24810), (28, 24816), (29, 24822), (32, 24894), (33, 24936), (34, 24942),

Gene: DanHam62_38 Start: 24503, Stop: 24772, Start Num: 16
Candidate Starts for DanHam62_38:
(Start: 16 @24503 has 32 MA's), (18, 24518), (20, 24527), (23, 24557), (26, 24581), (30, 24629), (34, 24722), (37, 24761),

Gene: Daob_40 Start: 24839, Stop: 25192, Start Num: 8
Candidate Starts for Daob_40:
(Start: 8 @24839 has 1 MA's), (9, 24851), (Start: 13 @24911 has 3 MA's), (Start: 15 @24920 has 18 MA's), (17, 24929), (18, 24935), (20, 24944), (26, 24998), (27, 25007), (28, 25013), (29, 25019), (32, 25091), (33, 25133), (34, 25139),

Gene: Eesa_35 Start: 25666, Stop: 25944, Start Num: 13
Candidate Starts for Eesa_35:
(Start: 13 @25666 has 3 MA's), (Start: 15 @25675 has 18 MA's), (18, 25690), (19, 25696), (20, 25699), (23, 25729), (25, 25741), (26, 25753), (29, 25774), (32, 25846),

Gene: Fingolfin_38 Start: 24506, Stop: 24775, Start Num: 16
Candidate Starts for Fingolfin_38:
(Start: 16 @24506 has 32 MA's), (18, 24521), (20, 24530), (23, 24560), (26, 24584), (30, 24632), (34, 24725), (37, 24764),

Gene: Galaxy_35 Start: 24593, Stop: 24862, Start Num: 15
Candidate Starts for Galaxy_35:
(10, 24530), (Start: 13 @24584 has 3 MA's), (Start: 15 @24593 has 18 MA's), (20, 24617), (26, 24671), (31, 24734), (33, 24806),

Gene: Glotell_39 Start: 24662, Stop: 24931, Start Num: 16
Candidate Starts for Glotell_39:

(Start: 16 @24662 has 32 MA's), (18, 24677), (20, 24686), (23, 24716), (26, 24740), (30, 24788), (34, 24881), (37, 24920),

Gene: GramZayde_40 Start: 24748, Stop: 25020, Start Num: 15
Candidate Starts for GramZayde_40:
(Start: 8 @24667 has 1 MA's), (9, 24679), (Start: 13 @24739 has 3 MA's), (Start: 15 @24748 has 18 MA's), (17, 24757), (18, 24763), (20, 24772), (26, 24826), (27, 24835), (28, 24841), (29, 24847), (32, 24919), (33, 24961), (34, 24967),

Gene: Gravel_45 Start: 25645, Stop: 25923, Start Num: 13
Candidate Starts for Gravel_45:
(6, 25555), (9, 25585), (Start: 13 @25645 has 3 MA's), (Start: 15 @25654 has 18 MA's), (17, 25663), (21, 25690), (26, 25732), (33, 25867),

Gene: HamCheese_38 Start: 24490, Stop: 24759, Start Num: 16
Candidate Starts for HamCheese_38:
(Start: 16 @24490 has 32 MA's), (18, 24505), (20, 24514), (23, 24544), (26, 24568), (30, 24616), (34, 24709), (37, 24748),

Gene: HannahPhantana_39 Start: 24582, Stop: 24854, Start Num: 15
Candidate Starts for HannahPhantana_39:
(Start: 8 @24501 has 1 MA's), (9, 24513), (Start: 13 @24573 has 3 MA's), (Start: 15 @24582 has 18 MA's), (17, 24591), (18, 24597), (20, 24606), (26, 24660), (27, 24669), (28, 24675), (29, 24681), (32, 24753), (33, 24795), (34, 24801),

Gene: Jamun_35 Start: 24845, Stop: 25114, Start Num: 16
Candidate Starts for Jamun_35:
(Start: 16 @24845 has 32 MA's), (20, 24869), (21, 24881), (26, 24923), (31, 24986), (33, 25058),

Gene: Jerole_39 Start: 24706, Stop: 24978, Start Num: 16
Candidate Starts for Jerole_39:
(Start: 16 @24706 has 32 MA's), (17, 24715), (18, 24721), (20, 24730), (26, 24784), (27, 24793), (28, 24799), (29, 24805), (32, 24877), (33, 24919), (34, 24925),

Gene: Juno112_37 Start: 24506, Stop: 24775, Start Num: 16
Candidate Starts for Juno112_37:
(Start: 16 @24506 has 32 MA's), (18, 24521), (20, 24530), (23, 24560), (26, 24584), (30, 24632), (34, 24725), (37, 24764),

Gene: KHumphrey_38 Start: 24505, Stop: 24774, Start Num: 16
Candidate Starts for KHumphrey_38:
(Start: 16 @24505 has 32 MA's), (18, 24520), (20, 24529), (23, 24559), (26, 24583), (30, 24631), (34, 24724), (37, 24763),

Gene: KendraB23_46 Start: 25832, Stop: 26110, Start Num: 13
Candidate Starts for KendraB23_46:
(Start: 13 @25832 has 3 MA's), (Start: 15 @25841 has 18 MA's), (18, 25856), (19, 25862), (20, 25865), (23, 25895), (25, 25907), (26, 25919), (29, 25940), (32, 26012),

Gene: Kepler_40 Start: 25330, Stop: 25602, Start Num: 15
Candidate Starts for Kepler_40:
(Start: 8 @25249 has 1 MA's), (9, 25261), (Start: 13 @25321 has 3 MA's), (Start: 15 @25330 has 18 MA's), (17, 25339), (18, 25345), (20, 25354), (26, 25408), (27, 25417), (28, 25423), (29, 25429), (32,

25501), (33, 25543), (34, 25549),

Gene: Kuleana_39 Start: 24757, Stop: 25026, Start Num: 16
Candidate Starts for Kuleana_39:
(11, 24694), (Start: 16 @24757 has 32 MA's), (17, 24766), (18, 24772), (20, 24781), (23, 24811), (26, 24835), (30, 24883), (33, 24970), (37, 25015),

Gene: Laphuphu24k_36 Start: 24490, Stop: 24759, Start Num: 16
Candidate Starts for Laphuphu24k_36:
(Start: 16 @24490 has 32 MA's), (18, 24505), (20, 24514), (23, 24544), (26, 24568), (30, 24616), (34, 24709), (37, 24748),

Gene: Leona_37 Start: 24577, Stop: 24846, Start Num: 16
Candidate Starts for Leona_37:
(Start: 16 @24577 has 32 MA's), (18, 24592), (20, 24601), (23, 24631), (26, 24655), (30, 24703), (34, 24796), (37, 24835),

Gene: LittleTokyo_38 Start: 24443, Stop: 24703, Start Num: 16
Candidate Starts for LittleTokyo_38:
(Start: 16 @24443 has 32 MA's), (17, 24452), (18, 24458), (24, 24497), (26, 24512), (35, 24662), (37, 24692),

Gene: Lunar_40 Start: 25246, Stop: 25518, Start Num: 15
Candidate Starts for Lunar_40:
(Start: 8 @25165 has 1 MA's), (9, 25177), (Start: 13 @25237 has 3 MA's), (Start: 15 @25246 has 18 MA's), (17, 25255), (18, 25261), (20, 25270), (26, 25324), (27, 25333), (28, 25339), (29, 25345), (32, 25417), (33, 25459), (34, 25465),

Gene: Melons_40 Start: 25060, Stop: 25332, Start Num: 15
Candidate Starts for Melons_40:
(Start: 13 @25051 has 3 MA's), (Start: 15 @25060 has 18 MA's), (17, 25069), (18, 25075), (20, 25084), (26, 25138), (27, 25147), (28, 25153), (29, 25159), (32, 25231), (33, 25273), (34, 25279),

Gene: Niblet_35 Start: 25232, Stop: 25501, Start Num: 15
Candidate Starts for Niblet_35:
(6, 25133), (9, 25163), (Start: 13 @25223 has 3 MA's), (Start: 15 @25232 has 18 MA's), (21, 25268), (25, 25298), (26, 25310),

Gene: Oppalora_37 Start: 24504, Stop: 24773, Start Num: 16
Candidate Starts for Oppalora_37:
(Start: 16 @24504 has 32 MA's), (18, 24519), (20, 24528), (23, 24558), (26, 24582), (30, 24630), (34, 24723), (37, 24762),

Gene: Orcanus_36 Start: 25204, Stop: 25473, Start Num: 15
Candidate Starts for Orcanus_36:
(Start: 13 @25195 has 3 MA's), (Start: 15 @25204 has 18 MA's), (18, 25219), (19, 25225), (20, 25228), (23, 25258), (25, 25270), (26, 25282), (32, 25375),

Gene: OtsoOtso_39 Start: 24436, Stop: 24708, Start Num: 15
Candidate Starts for OtsoOtso_39:
(Start: 8 @24355 has 1 MA's), (9, 24367), (Start: 13 @24427 has 3 MA's), (Start: 15 @24436 has 18 MA's), (17, 24445), (18, 24451), (20, 24460), (26, 24514), (27, 24523), (28, 24529), (29, 24535), (32, 24607), (33, 24649), (34, 24655),

Gene: Pelletreau_45 Start: 25645, Stop: 25923, Start Num: 13
Candidate Starts for Pelletreau_45:
(6, 25555), (9, 25585), (Start: 13 @25645 has 3 MA's), (Start: 15 @25654 has 18 MA's), (17, 25663), (21, 25690), (26, 25732), (33, 25867),

Gene: PhirstandPhine_40 Start: 25206, Stop: 25478, Start Num: 15
Candidate Starts for PhirstandPhine_40:
(Start: 8 @25125 has 1 MA's), (9, 25137), (Start: 13 @25197 has 3 MA's), (Start: 15 @25206 has 18 MA's), (17, 25215), (18, 25221), (20, 25230), (26, 25284), (27, 25293), (28, 25299), (29, 25305), (32, 25377), (33, 25419), (34, 25425),

Gene: PhluffyCoco_38 Start: 24502, Stop: 24771, Start Num: 16
Candidate Starts for PhluffyCoco_38:
(9, 24433), (Start: 16 @24502 has 32 MA's), (18, 24517), (20, 24526), (23, 24556), (26, 24580), (30, 24628), (34, 24721), (37, 24760),

Gene: Pineda_40 Start: 24732, Stop: 25004, Start Num: 15
Candidate Starts for Pineda_40:
(Start: 8 @24651 has 1 MA's), (9, 24663), (Start: 13 @24723 has 3 MA's), (Start: 15 @24732 has 18 MA's), (17, 24741), (18, 24747), (20, 24756), (26, 24810), (27, 24819), (28, 24825), (29, 24831), (32, 24903), (33, 24945), (34, 24951),

Gene: Polka_38 Start: 24436, Stop: 24708, Start Num: 15
Candidate Starts for Polka_38:
(Start: 8 @24355 has 1 MA's), (9, 24367), (Start: 13 @24427 has 3 MA's), (Start: 15 @24436 has 18 MA's), (17, 24445), (18, 24451), (20, 24460), (26, 24514), (27, 24523), (28, 24529), (29, 24535), (32, 24607), (33, 24649), (34, 24655),

Gene: Rattail_38 Start: 24588, Stop: 24857, Start Num: 16
Candidate Starts for Rattail_38:
(9, 24519), (Start: 16 @24588 has 32 MA's), (18, 24603), (20, 24612), (23, 24642), (26, 24666), (30, 24714), (34, 24807), (37, 24846),

Gene: RedFox_38 Start: 24501, Stop: 24770, Start Num: 16
Candidate Starts for RedFox_38:
(Start: 16 @24501 has 32 MA's), (18, 24516), (20, 24525), (23, 24555), (26, 24579), (30, 24627), (34, 24720), (37, 24759),

Gene: Renna12_37 Start: 24541, Stop: 24810, Start Num: 16
Candidate Starts for Renna12_37:
(Start: 16 @24541 has 32 MA's), (18, 24556), (20, 24565), (23, 24595), (26, 24619), (30, 24667), (37, 24799),

Gene: Ruchi_35 Start: 25251, Stop: 25520, Start Num: 16
Candidate Starts for Ruchi_35:
(Start: 16 @25251 has 32 MA's), (18, 25266), (20, 25275), (21, 25287), (26, 25329), (31, 25392), (32, 25422), (33, 25464),

Gene: Shen_35 Start: 23746, Stop: 24024, Start Num: 13
Candidate Starts for Shen_35:
(Start: 13 @23746 has 3 MA's), (Start: 15 @23755 has 18 MA's), (18, 23770), (19, 23776), (20, 23779), (23, 23809), (25, 23821), (26, 23833), (29, 23854), (32, 23926),

Gene: StuartMinion_30 Start: 21560, Stop: 21829, Start Num: 16
Candidate Starts for StuartMinion_30:
(1, 21338), (2, 21347), (3, 21374), (4, 21380), (5, 21383), (7, 21479), (12, 21503), (Start: 16 @21560 has 32 MA's), (18, 21575), (20, 21584), (23, 21614), (26, 21638), (30, 21686), (32, 21731), (37, 21818),

Gene: TaylorSipht_36 Start: 24624, Stop: 24893, Start Num: 15
Candidate Starts for TaylorSipht_36:
(Start: 15 @24624 has 18 MA's), (18, 24639), (19, 24645), (20, 24648), (23, 24678), (25, 24690), (26, 24702), (30, 24750),

Gene: Toad24_38 Start: 25894, Stop: 26163, Start Num: 15
Candidate Starts for Toad24_38:
(Start: 13 @25885 has 3 MA's), (Start: 15 @25894 has 18 MA's), (18, 25909), (19, 25915), (20, 25918), (23, 25948), (25, 25960), (26, 25972), (29, 25993), (32, 26065),

Gene: Vulpecula_35 Start: 24928, Stop: 25197, Start Num: 16
Candidate Starts for Vulpecula_35:
(Start: 16 @24928 has 32 MA's), (20, 24952), (26, 25006), (31, 25069), (32, 25099), (33, 25141),

Gene: Westrich_44 Start: 25578, Stop: 25847, Start Num: 15
Candidate Starts for Westrich_44:
(6, 25479), (9, 25509), (Start: 13 @25569 has 3 MA's), (Start: 15 @25578 has 18 MA's), (17, 25587), (21, 25614), (26, 25656), (33, 25791),

Gene: WileyE_37 Start: 24787, Stop: 25074, Start Num: 13
Candidate Starts for WileyE_37:
(Start: 13 @24787 has 3 MA's), (Start: 14 @24796 has 1 MA's), (21, 24841), (26, 24886), (29, 24907), (32, 24979),

Gene: Zhuangyuan_40 Start: 25278, Stop: 25538, Start Num: 14
Candidate Starts for Zhuangyuan_40:
(Start: 14 @25278 has 1 MA's), (17, 25287), (18, 25293), (20, 25302), (22, 25311), (26, 25347), (28, 25362), (30, 25395), (35, 25497), (37, 25527),

Gene: Zixiang_35 Start: 25259, Stop: 25528, Start Num: 15
Candidate Starts for Zixiang_35:
(Start: 13 @25250 has 3 MA's), (Start: 15 @25259 has 18 MA's), (18, 25274), (19, 25280), (20, 25283), (23, 25313), (25, 25325), (26, 25337), (29, 25358), (32, 25430),