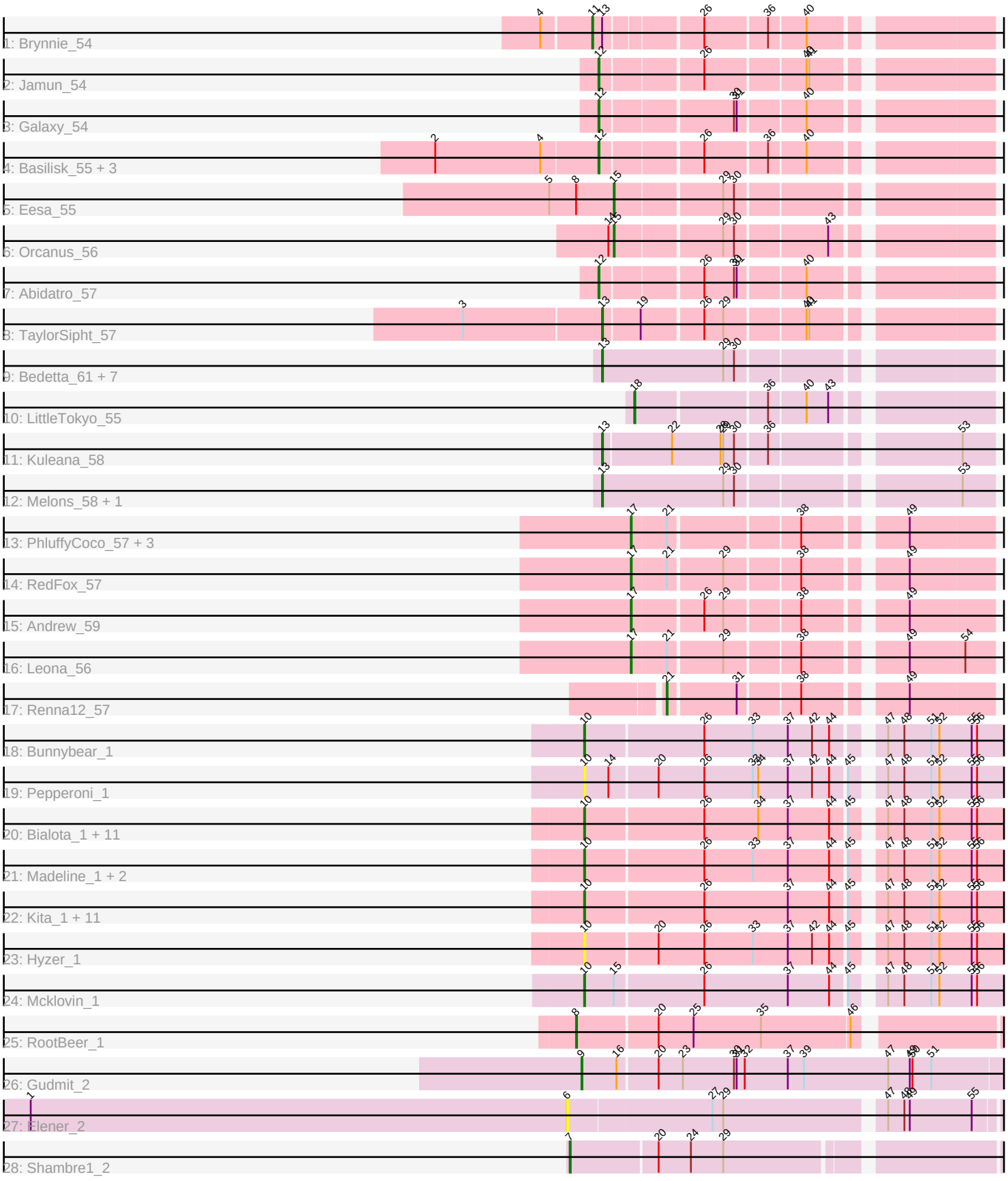
Pham 196528


1: Brynnie_54
2: Jamun_54
3: Galaxy_54
4: Basilisk_55 + 3
5: Eesa_55
6: Orcanus_56
7: Abidatro_57
8: TaylorSipht_57
9: Bedetta_61 + 7
10: LittleTokyo_55
11: Kuleana_58
12: Melons_58 + 1
13: PhluffyCoco_57 + 3
14: RedFox_57
15: Andrew_59
16: Leona_56
17: Renna12_57
18: Bunnybear_1
19: Pepperoni_1
20: Bialota_1 + 11
21: Madeline_1 + 2
22: Kita_1 + 11
23: Hyzer_1
24: Mcklovin_1
25: RootBeer_1
26: Gudmit_2
27: Elener_2
28: Shambre1_2

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 196528 Report

This analysis was run 12/09/24 on database version 580.

Pham number 196528 has 66 members, 7 are drafts.

Phages represented in each track:
• Track 1 : Brynnie_54
• Track 2 : Jamun_54
• Track 3 : Galaxy_54
• Track 4 : Basilisk_55, Vulpecula_54, Chickaboom_56, Ruchi_54
• Track 5 : Eesa_55
• Track 6 : Orcanus_56
• Track 7 : Abidatro_57
• Track 8 : TaylorSipht_57
• Track 9 : Bedetta_61, Kepler_58, HannahPhantana_58, Amelia_56, Cote_59, Coral_56, Polka_56, Lunar_58
• Track 10 : LittleTokyo_55
• Track 11 : Kuleana_58
• Track 12 : Melons_58, Daob_58
• Track 13 : PhluffyCoco_57, Juno112_56, Camara_57, KHumphrey_57
• Track 14 : RedFox_57
• Track 15 : Andrew_59
• Track 16 : Leona_56
• Track 17 : Renna12_57
• Track 18 : Bunnybear_1
• Track 19 : Pepperoni_1
• Track 20 : Bialota_1, Agueybana_1, Hugley_1, Eviarto_1, AlumE_1, BatStarr_1, BoyNamedSue_1, Nymphadora_1, TimTam_1, Zirinka_1, Bosnia_1, Herod_1
• Track 21 : Madeline_1, ThankyouJordi_1, WelcomeAyanna_1
• Track 22 : Kita_1, Antonio_1, RavenCo17_1, Polly_1, Suscepit_1, Zameen_1, Maridalia_1, Eudoria_1, Manasvini_1, Trumpet_1, Tayonia_1, Neobush_1
• Track 23 : Hyzer_1
• Track 24 : Mcklovin_1
• Track 25 : RootBeer_1
• Track 26 : Gudmit_2
• Track 27 : Elener_2
• Track 28 : Shambre1_2

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

The start number called the most often in the published annotations is 10, it was called in 28 of the 59 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Agueybana_1, AlumE_1, Antonio_1, BatStarr_1, Bialota_1, Bosnia_1, BoyNamedSue_1, Bunnybear_1, Eudoria_1, Eviarto_1, Herod_1, Hugley_1, Hyzer_1, Kita_1, Madeline_1, Manasvini_1, Maridalia_1, Mcklovin_1, Neobush_1, Nymphadora_1, Pepperoni_1, Polly_1, RavenCo17_1, Suscepit_1, Tayonia_1, ThankyouJordi_1, TimTam_1, Trumpet_1, WelcomeAyanna_1, Zameen_1, Zirinka_1,

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

Genes that do not have the "Most Annotated" start:
• Abidatro_57, Amelia_56, Andrew_59, Basilisk_55, Bedetta_61, Brynnie_54, Camara_57, Chickaboom_56, Coral_56, Cote_59, Daob_58, Eesa_55, Elener_2, Galaxy_54, Gudmit_2, HannahPhantana_58, Jamun_54, Juno112_56, KHumphrey_57, Kepler_58, Kuleana_58, Leona_56, LittleTokyo_55, Lunar_58, Melons_58, Orcanus_56, PhluffyCoco_57, Polka_56, RedFox_57, Renna12_57, RootBeer_1, Ruchi_54, Shambre1_2, TaylorSipht_57, Vulpecula_54,

Summary by start number:

Start 6:
• Found in 1 of 66 (1.5%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Elener_2 (singleton),

Start 7:
• Found in 1 of 66 (1.5%) of genes in pham
• Manual Annotations of this start: 1 of 59
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Shambre1_2 (singleton),

Start 8:
• Found in 2 of 66 (3.0%) of genes in pham
• Manual Annotations of this start: 1 of 59
• Called 50.0% of time when present
• Phage (with cluster) where this start called: RootBeer_1 (FA),

Start 9:
• Found in 1 of 66 (1.5%) of genes in pham
• Manual Annotations of this start: 1 of 59
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Gudmit_2 (singleton),

Start 10:
• Found in 31 of 66 (47.0%) of genes in pham
• Manual Annotations of this start: 28 of 59
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Agueybana_1 (CZ1), AlumE_1 (CZ1), Antonio_1 (CZ1), BatStarr_1 (CZ1), Bialota_1 (CZ1), Bosnia_1 (CZ1),

BoyNamedSue_1 (CZ1), Bunnybear_1 (CZ), Eudoria_1 (CZ1), Eviarto_1 (CZ1), Herod_1 (CZ1), Hugley_1 (CZ1), Hyzer_1 (CZ1), Kita_1 (CZ1), Madeline_1 (CZ1), Manasvini_1 (CZ1), Maridalia_1 (CZ1), Mcklovin_1 (CZ4), Neobush_1 (CZ1), Nymphadora_1 (CZ1), Pepperoni_1 (CZ), Polly_1 (CZ1), RavenCo17_1 (CZ8), Suscepit_1 (CZ1), Tayonia_1 (CZ1), ThankyouJordi_1 (CZ1), TimTam_1 (CZ1), Trumpet_1 (CZ1), WelcomeAyanna_1 (CZ1), Zameen_1 (CZ1), Zirinka_1 (CZ1),

Start 11:
• Found in 1 of 66 (1.5%) of genes in pham
• Manual Annotations of this start: 1 of 59
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Brynnie_54 (AS1),

Start 12:
• Found in 7 of 66 (10.6%) of genes in pham
• Manual Annotations of this start: 7 of 59
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Abidatro_57 (AS1), Basilisk_55 (AS1), Chickaboom_56 (AS1), Galaxy_54 (AS1), Jamun_54 (AS1), Ruchi_54 (AS1), Vulpecula_54 (AS1),

Start 13:
• Found in 13 of 66 (19.7%) of genes in pham
• Manual Annotations of this start: 11 of 59
• Called 92.3% of time when present
• Phage (with cluster) where this start called: Amelia_56 (AS2), Bedetta_61 (AS2), Coral_56 (AS2), Cote_59 (AS2), Daob_58 (AS2), HannahPhantana_58 (AS2), Kepler_58 (AS2), Kuleana_58 (AS2), Lunar_58 (AS2), Melons_58 (AS2), Polka_56 (AS2), TaylorSipht_57 (AS1),

Start 15:
• Found in 3 of 66 (4.5%) of genes in pham
• Manual Annotations of this start: 2 of 59
• Called 66.7% of time when present
• Phage (with cluster) where this start called: Eesa_55 (AS1), Orcanus_56 (AS1),

Start 17:
• Found in 7 of 66 (10.6%) of genes in pham
• Manual Annotations of this start: 5 of 59
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Andrew_59 (AS3), Camara_57 (AS3), Juno112_56 (AS3), KHumphrey_57 (AS3), Leona_56 (AS3), PhluffyCoco_57 (AS3), RedFox_57 (AS3),

Start 18:
• Found in 1 of 66 (1.5%) of genes in pham
• Manual Annotations of this start: 1 of 59
• Called 100.0% of time when present
• Phage (with cluster) where this start called: LittleTokyo_55 (AS2),

Start 21:
• Found in 7 of 66 (10.6%) of genes in pham
• Manual Annotations of this start: 1 of 59

• Called 14.3% of time when present
• Phage (with cluster) where this start called: Renna12_57 (AS3),

Summary by clusters:

There are 9 clusters represented in this pham: AS3, AS2, AS1, CZ, CZ1, singleton, CZ4, FA, CZ8,

Info for manual annotations of cluster AS1:
•Start number 11 was manually annotated 1 time for cluster AS1.
•Start number 12 was manually annotated 7 times for cluster AS1.
•Start number 13 was manually annotated 1 time for cluster AS1.
•Start number 15 was manually annotated 2 times for cluster AS1.

Info for manual annotations of cluster AS2:
•Start number 13 was manually annotated 10 times for cluster AS2.
•Start number 18 was manually annotated 1 time for cluster AS2.

Info for manual annotations of cluster AS3:
•Start number 17 was manually annotated 5 times for cluster AS3.
•Start number 21 was manually annotated 1 time for cluster AS3.

Info for manual annotations of cluster CZ:
•Start number 10 was manually annotated 1 time for cluster CZ.

Info for manual annotations of cluster CZ1:
•Start number 10 was manually annotated 25 times for cluster CZ1.

Info for manual annotations of cluster CZ4:
•Start number 10 was manually annotated 1 time for cluster CZ4.

Info for manual annotations of cluster CZ8:
•Start number 10 was manually annotated 1 time for cluster CZ8.

Info for manual annotations of cluster FA:
•Start number 8 was manually annotated 1 time for cluster FA.

Gene Information:

Gene: Abidatro_57 Start: 35985, Stop: 36374, Start Num: 12
Candidate Starts for Abidatro_57:
(Start: 12 @35985 has 7 MA's), (26, 36087), (30, 36120), (31, 36123), (40, 36192),

Gene: Agueybana_1 Start: 56, Stop: 520, Start Num: 10
Candidate Starts for Agueybana_1:
(Start: 10 @56 has 28 MA's), (26, 185), (34, 245), (37, 278), (44, 323), (45, 338), (47, 365), (48, 383), (51, 413), (52, 422), (55, 458), (56, 464),

Gene: AlumE_1 Start: 56, Stop: 520, Start Num: 10
Candidate Starts for AlumE_1:

(Start: 10 @56 has 28 MA's), (26, 185), (34, 245), (37, 278), (44, 323), (45, 338), (47, 365), (48, 383), (51, 413), (52, 422), (55, 458), (56, 464),

Gene: Amelia_56 Start: 33981, Stop: 34379, Start Num: 13
Candidate Starts for Amelia_56:
(Start: 13 @33981 has 11 MA's), (29, 34113), (30, 34125),

Gene: Andrew_59 Start: 35202, Stop: 35561, Start Num: 17
Candidate Starts for Andrew_59:
(Start: 17 @35202 has 5 MA's), (26, 35274), (29, 35295), (38, 35373), (49, 35469),

Gene: Antonio_1 Start: 56, Stop: 520, Start Num: 10
Candidate Starts for Antonio_1:
(Start: 10 @56 has 28 MA's), (26, 185), (37, 278), (44, 323), (45, 338), (47, 365), (48, 383), (51, 413), (52, 422), (55, 458), (56, 464),

Gene: Basilisk_55 Start: 35212, Stop: 35601, Start Num: 12
Candidate Starts for Basilisk_55:
(2, 35035), (4, 35152), (Start: 12 @35212 has 7 MA's), (26, 35314), (36, 35380), (40, 35419),

Gene: BatStarr_1 Start: 56, Stop: 520, Start Num: 10
Candidate Starts for BatStarr_1:
(Start: 10 @56 has 28 MA's), (26, 185), (34, 245), (37, 278), (44, 323), (45, 338), (47, 365), (48, 383), (51, 413), (52, 422), (55, 458), (56, 464),

Gene: Bedetta_61 Start: 34141, Stop: 34539, Start Num: 13
Candidate Starts for Bedetta_61:
(Start: 13 @34141 has 11 MA's), (29, 34273), (30, 34285),

Gene: Bialota_1 Start: 56, Stop: 520, Start Num: 10
Candidate Starts for Bialota_1:
(Start: 10 @56 has 28 MA's), (26, 185), (34, 245), (37, 278), (44, 323), (45, 338), (47, 365), (48, 383), (51, 413), (52, 422), (55, 458), (56, 464),

Gene: Bosnia_1 Start: 56, Stop: 520, Start Num: 10
Candidate Starts for Bosnia_1:
(Start: 10 @56 has 28 MA's), (26, 185), (34, 245), (37, 278), (44, 323), (45, 338), (47, 365), (48, 383), (51, 413), (52, 422), (55, 458), (56, 464),

Gene: BoyNamedSue_1 Start: 56, Stop: 520, Start Num: 10
Candidate Starts for BoyNamedSue_1:
(Start: 10 @56 has 28 MA's), (26, 185), (34, 245), (37, 278), (44, 323), (45, 338), (47, 365), (48, 383), (51, 413), (52, 422), (55, 458), (56, 464),

Gene: Brynnie_54 Start: 35104, Stop: 35496, Start Num: 11
Candidate Starts for Brynnie_54:
(4, 35053), (Start: 11 @35104 has 1 MA's), (Start: 13 @35113 has 11 MA's), (26, 35209), (36, 35275), (40, 35314),

Gene: Bunnybear_1 Start: 56, Stop: 520, Start Num: 10
Candidate Starts for Bunnybear_1:
(Start: 10 @56 has 28 MA's), (26, 185), (33, 239), (37, 278), (42, 305), (44, 323), (47, 365), (48, 383), (51, 413), (52, 422), (55, 458), (56, 464),

Gene: Camara_57 Start: 34795, Stop: 35154, Start Num: 17
Candidate Starts for Camara_57:
(Start: 17 @34795 has 5 MA's), (Start: 21 @34831 has 1 MA's), (38, 34966), (49, 35062),

Gene: Chickaboom_56 Start: 35548, Stop: 35937, Start Num: 12
Candidate Starts for Chickaboom_56:
(2, 35371), (4, 35488), (Start: 12 @35548 has 7 MA's), (26, 35650), (36, 35716), (40, 35755),

Gene: Coral_56 Start: 33886, Stop: 34284, Start Num: 13
Candidate Starts for Coral_56:
(Start: 13 @33886 has 11 MA's), (29, 34018), (30, 34030),

Gene: Cote_59 Start: 34319, Stop: 34717, Start Num: 13
Candidate Starts for Cote_59:
(Start: 13 @34319 has 11 MA's), (29, 34451), (30, 34463),

Gene: Daob_58 Start: 34330, Stop: 34728, Start Num: 13
Candidate Starts for Daob_58:
(Start: 13 @34330 has 11 MA's), (29, 34462), (30, 34474), (53, 34693),

Gene: Eesa_55 Start: 36339, Stop: 36716, Start Num: 15
Candidate Starts for Eesa_55:
(5, 36270), (Start: 8 @36300 has 1 MA's), (Start: 15 @36339 has 2 MA's), (29, 36450), (30, 36462),

Gene: Elener_2 Start: 1391, Stop: 1867, Start Num: 6
Candidate Starts for Elener_2:
(1, 794), (6, 1391), (27, 1547), (29, 1559), (47, 1724), (48, 1742), (49, 1748), (55, 1817),

Gene: Eudoria_1 Start: 56, Stop: 520, Start Num: 10
Candidate Starts for Eudoria_1:
(Start: 10 @56 has 28 MA's), (26, 185), (37, 278), (44, 323), (45, 338), (47, 365), (48, 383), (51, 413), (52, 422), (55, 458), (56, 464),

Gene: Eviarto_1 Start: 56, Stop: 520, Start Num: 10
Candidate Starts for Eviarto_1:
(Start: 10 @56 has 28 MA's), (26, 185), (34, 245), (37, 278), (44, 323), (45, 338), (47, 365), (48, 383), (51, 413), (52, 422), (55, 458), (56, 464),

Gene: Galaxy_54 Start: 34402, Stop: 34791, Start Num: 12
Candidate Starts for Galaxy_54:
(Start: 12 @34402 has 7 MA's), (30, 34537), (31, 34540), (40, 34609),

Gene: Gudmit_2 Start: 492, Stop: 980, Start Num: 9
Candidate Starts for Gudmit_2:
(Start: 9 @492 has 1 MA's), (16, 531), (20, 573), (23, 600), (30, 657), (31, 660), (32, 669), (37, 717), (39, 735), (47, 828), (49, 852), (50, 855), (51, 876),

Gene: HannahPhantana_58 Start: 33976, Stop: 34374, Start Num: 13
Candidate Starts for HannahPhantana_58:
(Start: 13 @33976 has 11 MA's), (29, 34108), (30, 34120),

Gene: Herod_1 Start: 56, Stop: 520, Start Num: 10

Candidate Starts for Herod_1:
(Start: 10 @56 has 28 MA's), (26, 185), (34, 245), (37, 278), (44, 323), (45, 338), (47, 365), (48, 383), (51, 413), (52, 422), (55, 458), (56, 464),

Gene: Hugley_1 Start: 56, Stop: 520, Start Num: 10
Candidate Starts for Hugley_1:
(Start: 10 @56 has 28 MA's), (26, 185), (34, 245), (37, 278), (44, 323), (45, 338), (47, 365), (48, 383), (51, 413), (52, 422), (55, 458), (56, 464),

Gene: Hyzer_1 Start: 56, Stop: 520, Start Num: 10
Candidate Starts for Hyzer_1:
(Start: 10 @56 has 28 MA's), (20, 134), (26, 185), (33, 239), (37, 278), (42, 305), (44, 323), (45, 338), (47, 365), (48, 383), (51, 413), (52, 422), (55, 458), (56, 464),

Gene: Jamun_54 Start: 35634, Stop: 36023, Start Num: 12
Candidate Starts for Jamun_54:
(Start: 12 @35634 has 7 MA's), (26, 35736), (40, 35841), (41, 35844),

Gene: Juno112_56 Start: 34906, Stop: 35265, Start Num: 17
Candidate Starts for Juno112_56:
(Start: 17 @34906 has 5 MA's), (Start: 21 @34942 has 1 MA's), (38, 35077), (49, 35173),

Gene: KHumphrey_57 Start: 34794, Stop: 35153, Start Num: 17
Candidate Starts for KHumphrey_57:
(Start: 17 @34794 has 5 MA's), (Start: 21 @34830 has 1 MA's), (38, 34965), (49, 35061),

Gene: Kepler_58 Start: 34097, Stop: 34495, Start Num: 13
Candidate Starts for Kepler_58:
(Start: 13 @34097 has 11 MA's), (29, 34229), (30, 34241),

Gene: Kita_1 Start: 56, Stop: 520, Start Num: 10
Candidate Starts for Kita_1:
(Start: 10 @56 has 28 MA's), (26, 185), (37, 278), (44, 323), (45, 338), (47, 365), (48, 383), (51, 413), (52, 422), (55, 458), (56, 464),

Gene: Kuleana_58 Start: 34415, Stop: 34810, Start Num: 13
Candidate Starts for Kuleana_58:
(Start: 13 @34415 has 11 MA's), (22, 34487), (28, 34541), (29, 34544), (30, 34556), (36, 34589), (53, 34775),

Gene: Leona_56 Start: 34989, Stop: 35348, Start Num: 17
Candidate Starts for Leona_56:
(Start: 17 @34989 has 5 MA's), (Start: 21 @35025 has 1 MA's), (29, 35082), (38, 35160), (49, 35256), (54, 35316),

Gene: LittleTokyo_55 Start: 33618, Stop: 33974, Start Num: 18
Candidate Starts for LittleTokyo_55:
(Start: 18 @33618 has 1 MA's), (36, 33753), (40, 33792), (43, 33816),

Gene: Lunar_58 Start: 34009, Stop: 34407, Start Num: 13
Candidate Starts for Lunar_58:
(Start: 13 @34009 has 11 MA's), (29, 34141), (30, 34153),

Gene: Madeline_1 Start: 56, Stop: 520, Start Num: 10
Candidate Starts for Madeline_1:
(Start: 10 @56 has 28 MA's), (26, 185), (33, 239), (37, 278), (44, 323), (45, 338), (47, 365), (48, 383), (51, 413), (52, 422), (55, 458), (56, 464),

Gene: Manasvini_1 Start: 56, Stop: 520, Start Num: 10
Candidate Starts for Manasvini_1:
(Start: 10 @56 has 28 MA's), (26, 185), (37, 278), (44, 323), (45, 338), (47, 365), (48, 383), (51, 413), (52, 422), (55, 458), (56, 464),

Gene: Maridalia_1 Start: 56, Stop: 520, Start Num: 10
Candidate Starts for Maridalia_1:
(Start: 10 @56 has 28 MA's), (26, 185), (37, 278), (44, 323), (45, 338), (47, 365), (48, 383), (51, 413), (52, 422), (55, 458), (56, 464),

Gene: Mcklovin_1 Start: 57, Stop: 521, Start Num: 10
Candidate Starts for Mcklovin_1:
(Start: 10 @57 has 28 MA's), (Start: 15 @90 has 2 MA's), (26, 186), (37, 279), (44, 324), (45, 339), (47, 366), (48, 384), (51, 414), (52, 423), (55, 459), (56, 465),

Gene: Melons_58 Start: 33823, Stop: 34221, Start Num: 13
Candidate Starts for Melons_58:
(Start: 13 @33823 has 11 MA's), (29, 33955), (30, 33967), (53, 34186),

Gene: Neobush_1 Start: 56, Stop: 520, Start Num: 10
Candidate Starts for Neobush_1:
(Start: 10 @56 has 28 MA's), (26, 185), (37, 278), (44, 323), (45, 338), (47, 365), (48, 383), (51, 413), (52, 422), (55, 458), (56, 464),

Gene: Nymphadora_1 Start: 56, Stop: 520, Start Num: 10
Candidate Starts for Nymphadora_1:
(Start: 10 @56 has 28 MA's), (26, 185), (34, 245), (37, 278), (44, 323), (45, 338), (47, 365), (48, 383), (51, 413), (52, 422), (55, 458), (56, 464),

Gene: Orcanus_56 Start: 36030, Stop: 36407, Start Num: 15
Candidate Starts for Orcanus_56:
(14, 36024), (Start: 15 @36030 has 2 MA's), (29, 36141), (30, 36153), (43, 36249),

Gene: Pepperoni_1 Start: 56, Stop: 520, Start Num: 10
Candidate Starts for Pepperoni_1:
(Start: 10 @56 has 28 MA's), (14, 83), (20, 134), (26, 185), (33, 239), (34, 245), (37, 278), (42, 305), (44, 323), (45, 338), (47, 365), (48, 383), (51, 413), (52, 422), (55, 458), (56, 464),

Gene: PhluffyCoco_57 Start: 35005, Stop: 35364, Start Num: 17
Candidate Starts for PhluffyCoco_57:
(Start: 17 @35005 has 5 MA's), (Start: 21 @35041 has 1 MA's), (38, 35176), (49, 35272),

Gene: Polka_56 Start: 33831, Stop: 34229, Start Num: 13
Candidate Starts for Polka_56:
(Start: 13 @33831 has 11 MA's), (29, 33963), (30, 33975),

Gene: Polly_1 Start: 56, Stop: 520, Start Num: 10
Candidate Starts for Polly_1:

(Start: 10 @56 has 28 MA's), (26, 185), (37, 278), (44, 323), (45, 338), (47, 365), (48, 383), (51, 413), (52, 422), (55, 458), (56, 464),

Gene: RavenCo17_1 Start: 56, Stop: 520, Start Num: 10
Candidate Starts for RavenCo17_1:
(Start: 10 @56 has 28 MA's), (26, 185), (37, 278), (44, 323), (45, 338), (47, 365), (48, 383), (51, 413), (52, 422), (55, 458), (56, 464),

Gene: RedFox_57 Start: 35003, Stop: 35362, Start Num: 17
Candidate Starts for RedFox_57:
(Start: 17 @35003 has 5 MA's), (Start: 21 @35039 has 1 MA's), (29, 35096), (38, 35174), (49, 35270),

Gene: Renna12_57 Start: 35155, Stop: 35478, Start Num: 21
Candidate Starts for Renna12_57:
(Start: 21 @35155 has 1 MA's), (31, 35227), (38, 35290), (49, 35386),

Gene: RootBeer_1 Start: 41, Stop: 505, Start Num: 8
Candidate Starts for RootBeer_1:
(Start: 8 @41 has 1 MA's), (20, 128), (25, 167), (35, 242), (46, 338),

Gene: Ruchi_54 Start: 35134, Stop: 35523, Start Num: 12
Candidate Starts for Ruchi_54:
(2, 34957), (4, 35074), (Start: 12 @35134 has 7 MA's), (26, 35236), (36, 35302), (40, 35341),

Gene: Shambre1_2 Start: 1495, Stop: 1965, Start Num: 7
Candidate Starts for Shambre1_2:
(Start: 7 @1495 has 1 MA's), (20, 1588), (24, 1624), (29, 1660),

Gene: Suscepit_1 Start: 56, Stop: 520, Start Num: 10
Candidate Starts for Suscepit_1:
(Start: 10 @56 has 28 MA's), (26, 185), (37, 278), (44, 323), (45, 338), (47, 365), (48, 383), (51, 413), (52, 422), (55, 458), (56, 464),

Gene: TaylorSipht_57 Start: 35813, Stop: 36202, Start Num: 13
Candidate Starts for TaylorSipht_57:
(3, 35663), (Start: 13 @35813 has 11 MA's), (19, 35852), (26, 35915), (29, 35936), (40, 36020), (41, 36023),

Gene: Tayonia_1 Start: 56, Stop: 520, Start Num: 10
Candidate Starts for Tayonia_1:
(Start: 10 @56 has 28 MA's), (26, 185), (37, 278), (44, 323), (45, 338), (47, 365), (48, 383), (51, 413), (52, 422), (55, 458), (56, 464),

Gene: ThankyouJordi_1 Start: 56, Stop: 520, Start Num: 10
Candidate Starts for ThankyouJordi_1:
(Start: 10 @56 has 28 MA's), (26, 185), (33, 239), (37, 278), (44, 323), (45, 338), (47, 365), (48, 383), (51, 413), (52, 422), (55, 458), (56, 464),

Gene: TimTam_1 Start: 56, Stop: 520, Start Num: 10
Candidate Starts for TimTam_1:
(Start: 10 @56 has 28 MA's), (26, 185), (34, 245), (37, 278), (44, 323), (45, 338), (47, 365), (48, 383), (51, 413), (52, 422), (55, 458), (56, 464),

Gene: Trumpet_1 Start: 56, Stop: 520, Start Num: 10
Candidate Starts for Trumpet_1:
(Start: 10 @56 has 28 MA's), (26, 185), (37, 278), (44, 323), (45, 338), (47, 365), (48, 383), (51, 413), (52, 422), (55, 458), (56, 464),

Gene: Vulpecula_54 Start: 34794, Stop: 35183, Start Num: 12
Candidate Starts for Vulpecula_54:
(2, 34617), (4, 34734), (Start: 12 @34794 has 7 MA's), (26, 34896), (36, 34962), (40, 35001),

Gene: WelcomeAyanna_1 Start: 56, Stop: 520, Start Num: 10
Candidate Starts for WelcomeAyanna_1:
(Start: 10 @56 has 28 MA's), (26, 185), (33, 239), (37, 278), (44, 323), (45, 338), (47, 365), (48, 383), (51, 413), (52, 422), (55, 458), (56, 464),

Gene: Zameen_1 Start: 56, Stop: 520, Start Num: 10
Candidate Starts for Zameen_1:
(Start: 10 @56 has 28 MA's), (26, 185), (37, 278), (44, 323), (45, 338), (47, 365), (48, 383), (51, 413), (52, 422), (55, 458), (56, 464),

Gene: Zirinka_1 Start: 56, Stop: 520, Start Num: 10
Candidate Starts for Zirinka_1:
(Start: 10 @56 has 28 MA's), (26, 185), (34, 245), (37, 278), (44, 323), (45, 338), (47, 365), (48, 383), (51, 413), (52, 422), (55, 458), (56, 464),