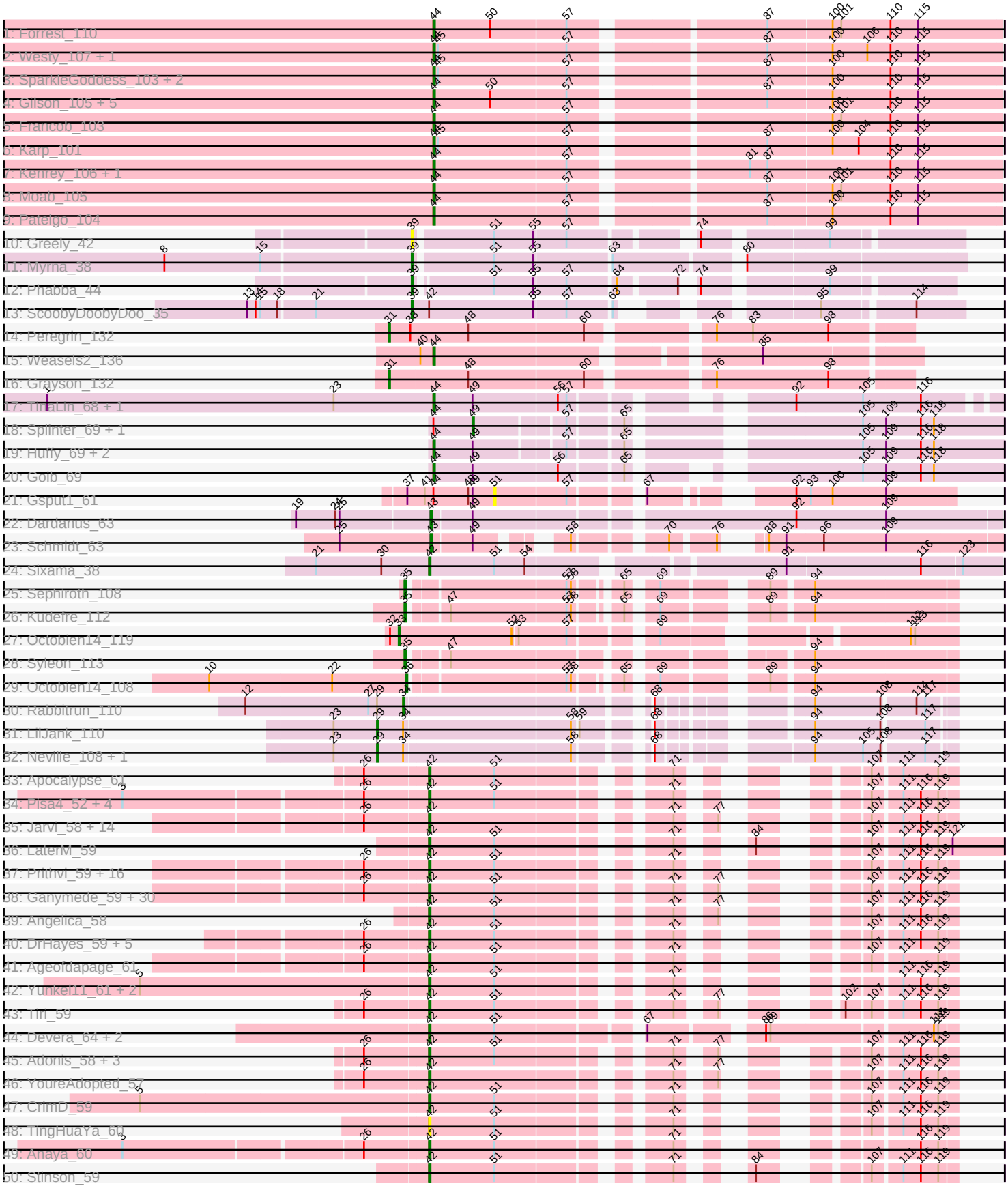
Pham 345422


1: Forrest_110
2: Westy_107 + 1
3: SparkleGoddess_103 + 2
4: Gilson_105 + 5
5: Francob_103
6: Karp_101
7: Kenrey_106 + 1
8: Moab_105
9: Patelgo_104
10: Greely_42
11: Myrna_38
12: Phabba_44
13: ScoobyDoobyDoo_35
14: Peregrin_132
15: Weasels2_136
16: Grayson_132
17: TinaLin_68 + 1
18: Splinter_69 + 1
19: Huffy_69 + 2
20: Golb_69
21: Gsputt_61
22: Dardanus_63
23: Schmidt_63
24: Sixama_38
25: Sephiroth_108
26: Kudeifre_112
27: Octobien14_119
28: Syleon_113
29: Octobien14_108
30: Rabbitrun_110
31: LilJank_110
32: Neville_108 + 1
33: Apocalypse_61
34: Pisa4_52 + 4
35: Jarvi_58 + 14
36: LaterM_59
37: Prithvi_59 + 16
38: Ganymede_59 + 30
39: Angelica_58
40: DrHayes_59 + 5
41: Ageoldapage_61
42: Yunkel11_61 + 21
43: Tiri_59
44: Devera_64 + 2
45: Adonis_58 + 3
46: YoureAdopted_57
47: ChimD_59
48: TingHuaYa_60
49: Anaya_60
50: Stinson_59

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51: Geraldini_61
52: Curiosium_61
53: Hurricane_58 + 1
54: Lea83_58 + 1
55: Keshu_60
56: TribleTrouble_57
57: Pharb_57
58: Machoneese_60
59: Pixie_57
60: Yuna_63
61: SirPhilip_59
62: IPhane7_50 + 7
63: Glaske16_51 + 7
64: RoseMarie_56
65: Reindeer_52
66: Estes_58
67: GenevaB15_56 + 1
68: Rey_57
69: MrMagoo_58 + 1
70: Nanosmite_55
71: Kumao_82

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 345422 Report

This analysis was run 11/14/26 on database version 672.

Pham number 345422 has 179 members, 12 are drafts.

Phages represented in each track:
• Track 1 : Forrest_110
• Track 2 : Westy_107, Belfort_105
• Track 3 : SparkleGoddess_103, Comrade_102, Stigma_102
• Track 4 : Gilson_105, MeganTheeKilla_103, DeluluLabubu_104, Maupel_105, Jada_105, Emma1919_106
• Track 5 : Francob_103
• Track 6 : Karp_101
• Track 7 : Kenrey_106, Phredrick_104
• Track 8 : Moab_105
• Track 9 : Patelgo_104
• Track 10 : Greely_42
• Track 11 : Myrna_38
• Track 12 : Phabba_44
• Track 13 : ScoobyDoobyDoo_35
• Track 14 : Peregrin_132
• Track 15 : Weasels2_136
• Track 16 : Grayson_132
• Track 17 : TinaLin_68, Banquo_68
• Track 18 : Splinter_69, Vendetta_69
• Track 19 : Huffy_69, DinoDaryn_69, TZGordon_70
• Track 20 : Goib_69
• Track 21 : Gsput1_61
• Track 22 : Dardanus_63
• Track 23 : Schmidt_63
• Track 24 : Sixama_38
• Track 25 : Sephiroth_108
• Track 26 : Kudefre_112
• Track 27 : Octobien14_119
• Track 28 : Syleon_113
• Track 29 : Octobien14_108
• Track 30 : Rabbitrun_110
• Track 31 : LilJank_110
• Track 32 : Neville_108, Trax_110
• Track 33 : Apocalypse_61
• Track 34 : Pisa4_52, Bella96_59, DartGoblin_60, Pisa1_58, Murucutumbu_59
• Track 35 : Jarvi_58, Rosmarinus_58, CREW_58, Topper_58, Dalmuri_58, BGlluviae_58, Jeckyll_58, Joy99_58, Inky_58, Lunahalos_58, Capricorn_58,

Belladonna_58, CallaLilly_58, Spock_58, Llorens_58
• Track 36 : LaterM_59
• Track 37 : Prithvi_59, MacKat_53, Megsy_60, LindNT_57, Zabiza_53, ActinUp_58, Zavala_60, Clipper_61, JAWS_58, TreyKay_59, Veliki_59, TaiwanKao_60, Kheparia_58, Mynx_59, HedwigODU_58, Sulley_58, Ramen_59
• Track 38 : Ganymede_59, Peel_58, Lokum_59, TruffulaTree_58, Boiiii_58, Hyperbowlee_58, Asayake_58, Bern_59, AlishaPH_58, Padpat_60, Atiba_59, BEEST_58, BaghaKamala_57, Padfoot_58, Slimphazie_58, CheetoDust_57, Blizzard_58, Durfee_58, Beezoo_60, Rapunzel97_59, Homura_58, BarrelRoll_58, Twitch_58, Emerson_59, QuincyRose_57, ShiaSurprise_59, Tachez_58, Adephagia_58, Piatt_58, CaseJules_60, Pokerus_57
• Track 39 : Angelica_58
• Track 40 : DrHayes_59, TiniBug_59, Urkel_59, LastHope_61, Anma_59, SamuelLPlaqson_59
• Track 41 : Ageofdapage_61
• Track 42 : Yunkel11_61, Guanica15_61, Efra2_62
• Track 43 : Tiri_59
• Track 44 : Devera_64, Illumine_62, Dole_62
• Track 45 : Adonis_58, Deby_58, MeaningOfLife_59, Jayhawk_59
• Track 46 : YoureAdopted_57
• Track 47 : CrimD_59
• Track 48 : TingHuaYa_60
• Track 49 : Anaya_60
• Track 50 : Stinson_59
• Track 51 : Geraldini_61
• Track 52 : Curiosium_61
• Track 53 : Hurricane_58, TBond007_56
• Track 54 : Lea83_58, ShedlockHolmes_59
• Track 55 : Keshu_60
• Track 56 : TribleTrouble_57
• Track 57 : Pharb_57
• Track 58 : MacnCheese_60
• Track 59 : Pixie_57
• Track 60 : Yuna_63
• Track 61 : SirPhilip_59
• Track 62 : IPhane7_50, PegLeg_50, LilhomieP_49, Bongo_50, SlimJimmy_49, TyDawg_50, Skinny_51, TpudiCK_52
• Track 63 : Glaske16_51, KleverKiS_51, Diminimus_51, FreakyGoo_51, Auspice_50, Dulcita_51, Bricole_50, Izel_51
• Track 64 : RoseMarie_56
• Track 65 : Reindeer_52
• Track 66 : Estes_58
• Track 67 : GenevaB15_56, Aziz_56
• Track 68 : Rey_57
• Track 69 : MrMagoo_58, GardenSalsa_58
• Track 70 : Nanosmite_55
• Track 71 : Kumao_82

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

The start number called the most often in the published annotations is 42, it was called in 92 of the 167 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• ActinUp_58, Adephagia_58, Adonis_58, Ageofdapage_61, AlishaPH_58, Anaya_60, Angelica_58, Anma_59, Apocalypse_61, Asayake_58, Atiba_59, BEEST_58, BGlluviae_58, BaghaKamala_57, BarrelRoll_58, Beezoo_60, Bella96_59, Belladonna_58, Bern_59, Blizzard_58, Boiiii_58, CREW_58, CallaLilly_58, Capricorn_58, CaseJules_60, CheetoDust_57, Clipper_61, CrimD_59, Curiosium_61, Dalmuri_58, DartGoblin_60, Deby_58, Devera_64, Dole_62, DrHayes_59, Durfee_58, Efra2_62, Emerson_59, Ganymede_59, Geraldini_61, Guanica15_61, HedwigODU_58, Homura_58, Hyperbowlee_58, Illumine_62, Inky_58, JAWS_58, Jarvi_58, Jayhawk_59, Jeckyll_58, Joy99_58, Kheparia_58, LastHope_61, LaterM_59, LindNT_57, Llorens_58, Lokum_59, Lunahalos_58, MacKat_53, MeaningOfLife_59, Megsy_60, Murucutumbu_59, Mynx_59, Padfoot_58, Padpat_60, Peel_58, Piatt_58, Pisa1_58, Pisa4_52, Pokerus_57, Prithvi_59, QuincyRose_57, Ramen_59, Rapunzel97_59, Rosmarinus_58, SamuelLPlaqson_59, ShiaSurprise_59, SirPhilip_59, Sixama_38, Slimphazie_58, Spock_58, Stinson_59, Sulley_58, Tachez_58, TaiwanKao_60, TingHuaYa_60, TiniBug_59, Tiri_59, Topper_58, TreyKay_59, TruffulaTree_58, Twitch_58, Urkel_59, Veliki_59, YoureAdopted_57, Yunkel11_61, Zabiza_53, Zavala_60,

Genes that have the "Most Annotated" start but do not call it:
• ScoobyDoobyDoo_35, Yuna_63,

Genes that do not have the "Most Annotated" start:
• Auspice_50, Aziz_56, Banquo_68, Belfort_105, Bongo_50, Bricole_50, Comrade_102, Dardanus_63, DeluluLababu_104, Diminimus_51, DinoDaryn_69, Dulcita_51, Emma1919_106, Estes_58, Forrest_110, Francob_103, FreakyGoo_51, GardenSalsa_58, GenevaB15_56, Gilson_105, Glaske16_51, Goib_69, Grayson_132, Greely_42, Gsput1_61, Huffy_69, Hurricane_58, IPhane7_50, Izel_51, Jada_105, Karp_101, Kenrey_106, Keshu_60, KleverKiS_51, Kudefre_112, Kumao_82, Lea83_58, LilJank_110, LilhomieP_49, MacnCheese_60, Maupel_105, MeganTheeKilla_103, Moab_105, MrMagoo_58, Myrna_38, Nanosmite_55, Neville_108, Octobien14_108, Octobien14_119, Patelgo_104, PegLeg_50, Peregrin_132, Phabba_44, Pharb_57, Phredrick_104, Pixie_57, Rabbitrun_110, Reindeer_52, Rey_57, RoseMarie_56, Schmidt_63, Sephiroth_108, ShedlockHolmes_59, Skinny_51, SlimJimmy_49, SparkleGoddess_103, Splinter_69, Stigma_102, Syleon_113, TBond007_56, TZGordon_70, TinaLin_68, TpudiCK_52, Trax_110, TribleTrouble_57, TyDawg_50, Vendetta_69, Weasels2_136, Westy_107,

Summary by start number:

Start 29:
• Found in 4 of 179 (2.2%) of genes in pham
• Manual Annotations of this start: 3 of 167
• Called 75.0% of time when present
• Phage (with cluster) where this start called: LilJank_110 (DU2), Neville_108 (DU2), Trax_110 (DU2),

Start 31:
• Found in 2 of 179 (1.1%) of genes in pham
• Manual Annotations of this start: 2 of 167

• Called 100.0% of time when present
• Phage (with cluster) where this start called: Grayson_132 (CB), Peregrin_132 (CB),

Start 33:
• Found in 1 of 179 (0.6%) of genes in pham
• Manual Annotations of this start: 1 of 167
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Octobien14_119 (DU1),

Start 34:
• Found in 4 of 179 (2.2%) of genes in pham
• Manual Annotations of this start: 1 of 167
• Called 25.0% of time when present
• Phage (with cluster) where this start called: Rabbitrun_110 (DU2),

Start 35:
• Found in 3 of 179 (1.7%) of genes in pham
• Manual Annotations of this start: 3 of 167
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Kudefre_112 (DU1), Sephiroth_108 (DU1), Syleon_113 (DU1),

Start 36:
• Found in 1 of 179 (0.6%) of genes in pham
• Manual Annotations of this start: 1 of 167
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Octobien14_108 (DU1),

Start 39:
• Found in 4 of 179 (2.2%) of genes in pham
• Manual Annotations of this start: 3 of 167
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Greely_42 (C2), Myrna_38 (C2), Phabba_44 (C2), ScoobyDoobyDoo_35 (C2),

Start 41:
• Found in 12 of 179 (6.7%) of genes in pham
• Manual Annotations of this start: 11 of 167
• Called 91.7% of time when present
• Phage (with cluster) where this start called: Hurricane_58 (K3), Keshu_60 (K3), Kumao_82 (singleton), Lea83_58 (K3), MacnCheese_60 (K3), Pharb_57 (K3), Pixie_57 (K3), ShedlockHolmes_59 (K3), TBond007_56 (K3), TribleTrouble_57 (K3), Yuna_63 (K6),

Start 42:
• Found in 100 of 179 (55.9%) of genes in pham
• Manual Annotations of this start: 92 of 167
• Called 98.0% of time when present
• Phage (with cluster) where this start called: ActinUp_58 (K1), Adephagia_58 (K1), Adonis_58 (K1), Ageofdapage_61 (K1), AlishaPH_58 (K1), Anaya_60 (K1), Angelica_58 (K1), Anma_59 (K1), Apocalypse_61 (K1), Asayake_58 (K1), Atiba_59 (K1), BEEST_58 (K1), BGlluviae_58 (K1), BaghaKamala_57 (K1), BarrelRoll_58 (K1), Beezoo_60 (K1), Bella96_59 (K1), Belladonna_58 (K1), Bern_59 (K1), Blizzard_58

(K1), Boiiii_58 (K1), CREW_58 (K1), CallaLilly_58 (K1), Capricorn_58 (K1), CaseJules_60 (K1), CheetoDust_57 (K1), Clipper_61 (K1), CrimD_59 (K1), Curiosium_61 (K1), Dalmuri_58 (K1), DartGoblin_60 (K1), Deby_58 (K1), Devera_64 (K1), Dole_62 (K1), DrHayes_59 (K1), Durfee_58 (K1), Efra2_62 (K1), Emerson_59 (K1), Ganymede_59 (K1), Geraldini_61 (K1), Guanica15_61 (K1), HedwigODU_58 (K1), Homura_58 (K1), Hyperbowlee_58 (K1), Illumine_62 (K1), Inky_58 (K1), JAWS_58 (K1), Jarvi_58 (K1), Jayhawk_59 (K1), Jeckyll_58 (K1), Joy99_58 (K1), Kheparia_58 (K1), LastHope_61 (K1), LaterM_59 (K1), LindNT_57 (K1), Llorens_58 (K1), Lokum_59 (K1), Lunahalos_58 (K1), MacKat_53 (K1), MeaningOfLife_59 (K1), Megsy_60 (K1), Murucutumbu_59 (K1), Mynx_59 (K1), Padfoot_58 (K1), Padpat_60 (K1), Peel_58 (K1), Piatt_58 (K1), Pisa1_58 (K1), Pisa4_52 (K1), Pokerus_57 (K1), Prithvi_59 (K1), QuincyRose_57 (K1), Ramen_59 (K1), Rapunzel97_59 (K1), Rosmarinus_58 (K1), SamuelLPlaqson_59 (K1), ShiaSurprise_59 (K1), SirPhilip_59 (K6), Sixama_38 (DS), Slimphazie_58 (K1), Spock_58 (K1), Stinson_59 (K1), Sulley_58 (K1), Tachez_58 (K1), TaiwanKao_60 (K1), TingHuaYa_60 (K1), TiniBug_59 (K1), Tiri_59 (K1), Topper_58 (K1), TreyKay_59 (K1), TruffulaTree_58 (K1), Twitch_58 (K1), Urkel_59 (K1), Veliki_59 (K1), YoureAdopted_57 (K1), Yunkel11_61 (K1), Zabiza_53 (K1), Zavala_60 (K1),

Start 43:
• Found in 2 of 179 (1.1%) of genes in pham
• Manual Annotations of this start: 2 of 167
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Dardanus_63 (CU3), Schmidt_63 (CU4),

Start 44:
• Found in 53 of 179 (29.6%) of genes in pham
• Manual Annotations of this start: 45 of 167
• Called 92.5% of time when present
• Phage (with cluster) where this start called: Auspice_50 (M1), Aziz_56 (M2), Banquo_68 (CU1), Belfort_105 (BK1), Bongo_50 (M1), Bricole_50 (M1), Comrade_102 (BK1), DeluluLababu_104 (BK1), Diminimus_51 (M1), DinoDaryn_69 (CU1), Dulcita_51 (M1), Emma1919_106 (BK1), Estes_58 (M2), Forrest_110 (BK1), Francob_103 (BK1), FreakyGoo_51 (M1), GardenSalsa_58 (M2), GenevaB15_56 (M2), Gilson_105 (BK1), Glaske16_51 (M1), Goib_69 (CU1), Huffy_69 (CU1), IPhane7_50 (M1), Izel_51 (M1), Jada_105 (BK1), Karp_101 (BK1), Kenrey_106 (BK1), KleverKiS_51 (M1), LilhomieP_49 (M1), Maupel_105 (BK1), MeganTheeKilla_103 (BK1), Moab_105 (BK1), MrMagoo_58 (M2), Nanosmite_55 (M3), Patelgo_104 (BK1), PegLeg_50 (M1), Phredrick_104 (BK1), Reindeer_52 (M1), RoseMarie_56 (M1), Skinny_51 (M1), SlimJimmy_49 (M1), SparkleGoddess_103 (BK1), Stigma_102 (BK1), TZGordon_70 (CU1), TinaLin_68 (CU1), TpudiCK_52 (M1), TyDawg_50 (M1), Weasels2_136 (CB), Westy_107 (BK1),

Start 46:
• Found in 1 of 179 (0.6%) of genes in pham
• Manual Annotations of this start: 1 of 167
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Rey_57 (M2),

Start 49:
• Found in 11 of 179 (6.1%) of genes in pham
• Manual Annotations of this start: 2 of 167
• Called 18.2% of time when present

• Phage (with cluster) where this start called: Splinter_69 (CU1), Vendetta_69 (CU1),

Start 51:
• Found in 114 of 179 (63.7%) of genes in pham
• No Manual Annotations of this start.
• Called 0.9% of time when present
• Phage (with cluster) where this start called: Gsput1_61 (CU2),

Summary by clusters:

There are 17 clusters represented in this pham: singleton, CU4, CU3, CU2, CU1, CB, DU1, K3, K1, M1, BK1, M3, M2, C2, DU2, DS, K6,

Info for manual annotations of cluster BK1:
•Start number 44 was manually annotated 17 times for cluster BK1.

Info for manual annotations of cluster C2:
•Start number 39 was manually annotated 3 times for cluster C2.

Info for manual annotations of cluster CB:
•Start number 31 was manually annotated 2 times for cluster CB.
•Start number 44 was manually annotated 1 time for cluster CB.

Info for manual annotations of cluster CU1:
•Start number 44 was manually annotated 6 times for cluster CU1.
•Start number 49 was manually annotated 2 times for cluster CU1.

Info for manual annotations of cluster CU3:
•Start number 43 was manually annotated 1 time for cluster CU3.

Info for manual annotations of cluster CU4:
•Start number 43 was manually annotated 1 time for cluster CU4.

Info for manual annotations of cluster DS:
•Start number 42 was manually annotated 1 time for cluster DS.

Info for manual annotations of cluster DU1:
•Start number 33 was manually annotated 1 time for cluster DU1.
•Start number 35 was manually annotated 3 times for cluster DU1.
•Start number 36 was manually annotated 1 time for cluster DU1.

Info for manual annotations of cluster DU2:
•Start number 29 was manually annotated 3 times for cluster DU2.
•Start number 34 was manually annotated 1 time for cluster DU2.

Info for manual annotations of cluster K1:
•Start number 42 was manually annotated 90 times for cluster K1.

Info for manual annotations of cluster K3:
•Start number 41 was manually annotated 9 times for cluster K3.

Info for manual annotations of cluster K6:

•Start number 41 was manually annotated 1 time for cluster K6.
•Start number 42 was manually annotated 1 time for cluster K6.

Info for manual annotations of cluster M1:
•Start number 44 was manually annotated 15 times for cluster M1.

Info for manual annotations of cluster M2:
•Start number 44 was manually annotated 5 times for cluster M2.
•Start number 46 was manually annotated 1 time for cluster M2.

Info for manual annotations of cluster M3:
•Start number 44 was manually annotated 1 time for cluster M3.

Gene Information:

Gene: ActinUp_58 Start: 40539, Stop: 40805, Start Num: 42
Candidate Starts for ActinUp_58:
(26, 40497), (Start: 42 @40539 has 92 MA's), (51, 40584), (71, 40680), (107, 40752), (111, 40770), (116, 40782), (119, 40794),

Gene: Adephagia_58 Start: 40540, Stop: 40806, Start Num: 42
Candidate Starts for Adephagia_58:
(26, 40498), (Start: 42 @40540 has 92 MA's), (51, 40585), (71, 40681), (77, 40699), (107, 40753), (111, 40771), (116, 40783), (119, 40795),

Gene: Adonis_58 Start: 40787, Stop: 41053, Start Num: 42
Candidate Starts for Adonis_58:
(26, 40745), (Start: 42 @40787 has 92 MA's), (51, 40832), (71, 40928), (77, 40946), (107, 41000), (111, 41018), (116, 41030), (119, 41042),

Gene: Ageofdapage_61 Start: 41528, Stop: 41794, Start Num: 42
Candidate Starts for Ageofdapage_61:
(26, 41486), (Start: 42 @41528 has 92 MA's), (51, 41573), (71, 41669), (107, 41741), (111, 41759), (119, 41783),

Gene: AlishaPH_58 Start: 40801, Stop: 41067, Start Num: 42
Candidate Starts for AlishaPH_58:
(26, 40759), (Start: 42 @40801 has 92 MA's), (51, 40846), (71, 40942), (77, 40960), (107, 41014), (111, 41032), (116, 41044), (119, 41056),

Gene: Anaya_60 Start: 41056, Stop: 41322, Start Num: 42
Candidate Starts for Anaya_60:
(3, 40858), (26, 41014), (Start: 42 @41056 has 92 MA's), (51, 41101), (71, 41197), (116, 41299), (119, 41311),

Gene: Angelica_58 Start: 40695, Stop: 40961, Start Num: 42
Candidate Starts for Angelica_58:
(Start: 42 @40695 has 92 MA's), (51, 40740), (71, 40836), (77, 40854), (107, 40908), (111, 40926), (116, 40938), (119, 40950),

Gene: Anma_59 Start: 41439, Stop: 41705, Start Num: 42

Candidate Starts for Anma_59:
(26, 41397), (Start: 42 @41439 has 92 MA's), (51, 41484), (71, 41580), (107, 41652), (111, 41670), (116, 41682), (119, 41694),

Gene: Apocalypse_61 Start: 41464, Stop: 41730, Start Num: 42
Candidate Starts for Apocalypse_61:
(26, 41422), (Start: 42 @41464 has 92 MA's), (51, 41509), (71, 41605), (107, 41677), (111, 41695), (119, 41719),

Gene: Asayake_58 Start: 40855, Stop: 41121, Start Num: 42
Candidate Starts for Asayake_58:
(26, 40813), (Start: 42 @40855 has 92 MA's), (51, 40900), (71, 40996), (77, 41014), (107, 41068), (111, 41086), (116, 41098), (119, 41110),

Gene: Atiba_59 Start: 40503, Stop: 40769, Start Num: 42
Candidate Starts for Atiba_59:
(26, 40461), (Start: 42 @40503 has 92 MA's), (51, 40548), (71, 40644), (77, 40662), (107, 40716), (111, 40734), (116, 40746), (119, 40758),

Gene: Auspice_50 Start: 37254, Stop: 37604, Start Num: 44
Candidate Starts for Auspice_50:
(4, 37053), (11, 37113), (17, 37149), (Start: 44 @37254 has 45 MA's), (51, 37296), (58, 37347), (90, 37467), (120, 37563),

Gene: Aziz_56 Start: 39168, Stop: 39545, Start Num: 44
Candidate Starts for Aziz_56:
(Start: 44 @39168 has 45 MA's), (58, 39261), (60, 39270), (66, 39303), (78, 39360), (83, 39381), (94, 39423), (120, 39504),

Gene: BEEST_58 Start: 40855, Stop: 41121, Start Num: 42
Candidate Starts for BEEST_58:
(26, 40813), (Start: 42 @40855 has 92 MA's), (51, 40900), (71, 40996), (77, 41014), (107, 41068), (111, 41086), (116, 41098), (119, 41110),

Gene: BGlluviae_58 Start: 40658, Stop: 40924, Start Num: 42
Candidate Starts for BGlluviae_58:
(26, 40616), (Start: 42 @40658 has 92 MA's), (71, 40799), (77, 40817), (107, 40871), (111, 40889), (116, 40901), (119, 40913),

Gene: BaghaKamala_57 Start: 39896, Stop: 40162, Start Num: 42
Candidate Starts for BaghaKamala_57:
(26, 39854), (Start: 42 @39896 has 92 MA's), (51, 39941), (71, 40037), (77, 40055), (107, 40109), (111, 40127), (116, 40139), (119, 40151),

Gene: Banquo_68 Start: 41213, Stop: 41536, Start Num: 44
Candidate Starts for Banquo_68:
(1, 40946), (23, 41144), (Start: 44 @41213 has 45 MA's), (Start: 49 @41240 has 2 MA's), (56, 41297), (57, 41303), (92, 41408), (105, 41453), (116, 41492),

Gene: BarrelRoll_58 Start: 40519, Stop: 40785, Start Num: 42
Candidate Starts for BarrelRoll_58:
(26, 40477), (Start: 42 @40519 has 92 MA's), (51, 40564), (71, 40660), (77, 40678), (107, 40732), (111, 40750), (116, 40762), (119, 40774),

Gene: Beezoo_60 Start: 41503, Stop: 41769, Start Num: 42
Candidate Starts for Beezoo_60:
(26, 41461), (Start: 42 @41503 has 92 MA's), (51, 41548), (71, 41644), (77, 41662), (107, 41716), (111, 41734), (116, 41746), (119, 41758),

Gene: Belfort_105 Start: 69661, Stop: 70026, Start Num: 44
Candidate Starts for Belfort_105:
(Start: 44 @69661 has 45 MA's), (45, 69664), (57, 69751), (87, 69871), (100, 69913), (106, 69937), (110, 69952), (115, 69970),

Gene: Bella96_59 Start: 41284, Stop: 41550, Start Num: 42
Candidate Starts for Bella96_59:
(3, 41086), (26, 41242), (Start: 42 @41284 has 92 MA's), (51, 41329), (71, 41425), (107, 41497), (111, 41515), (116, 41527), (119, 41539),

Gene: Belladonna_58 Start: 40658, Stop: 40924, Start Num: 42
Candidate Starts for Belladonna_58:
(26, 40616), (Start: 42 @40658 has 92 MA's), (71, 40799), (77, 40817), (107, 40871), (111, 40889), (116, 40901), (119, 40913),

Gene: Bern_59 Start: 39486, Stop: 39752, Start Num: 42
Candidate Starts for Bern_59:
(26, 39444), (Start: 42 @39486 has 92 MA's), (51, 39531), (71, 39627), (77, 39645), (107, 39699), (111, 39717), (116, 39729), (119, 39741),

Gene: Blizzard_58 Start: 40855, Stop: 41121, Start Num: 42
Candidate Starts for Blizzard_58:
(26, 40813), (Start: 42 @40855 has 92 MA's), (51, 40900), (71, 40996), (77, 41014), (107, 41068), (111, 41086), (116, 41098), (119, 41110),

Gene: Boiiii_58 Start: 40857, Stop: 41123, Start Num: 42
Candidate Starts for Boiiii_58:
(26, 40815), (Start: 42 @40857 has 92 MA's), (51, 40902), (71, 40998), (77, 41016), (107, 41070), (111, 41088), (116, 41100), (119, 41112),

Gene: Bongo_50 Start: 37258, Stop: 37608, Start Num: 44
Candidate Starts for Bongo_50:
(6, 37066), (11, 37114), (17, 37150), (Start: 44 @37258 has 45 MA's), (51, 37300), (58, 37351), (73, 37417), (75, 37420), (90, 37471), (120, 37567),

Gene: Bricole_50 Start: 37240, Stop: 37590, Start Num: 44
Candidate Starts for Bricole_50:
(4, 37039), (11, 37099), (17, 37135), (Start: 44 @37240 has 45 MA's), (51, 37282), (58, 37333), (90, 37453), (120, 37549),

Gene: CREW_58 Start: 40658, Stop: 40924, Start Num: 42
Candidate Starts for CREW_58:
(26, 40616), (Start: 42 @40658 has 92 MA's), (71, 40799), (77, 40817), (107, 40871), (111, 40889), (116, 40901), (119, 40913),

Gene: CallaLilly_58 Start: 40581, Stop: 40847, Start Num: 42
Candidate Starts for CallaLilly_58:

(26, 40539), (Start: 42 @40581 has 92 MA's), (71, 40722), (77, 40740), (107, 40794), (111, 40812), (116, 40824), (119, 40836),

Gene: Capricorn_58 Start: 40658, Stop: 40924, Start Num: 42
Candidate Starts for Capricorn_58:
(26, 40616), (Start: 42 @40658 has 92 MA's), (71, 40799), (77, 40817), (107, 40871), (111, 40889), (116, 40901), (119, 40913),

Gene: CaseJules_60 Start: 40855, Stop: 41121, Start Num: 42
Candidate Starts for CaseJules_60:
(26, 40813), (Start: 42 @40855 has 92 MA's), (51, 40900), (71, 40996), (77, 41014), (107, 41068), (111, 41086), (116, 41098), (119, 41110),

Gene: CheetoDust_57 Start: 39940, Stop: 40206, Start Num: 42
Candidate Starts for CheetoDust_57:
(26, 39898), (Start: 42 @39940 has 92 MA's), (51, 39985), (71, 40081), (77, 40099), (107, 40153), (111, 40171), (116, 40183), (119, 40195),

Gene: Clipper_61 Start: 41118, Stop: 41384, Start Num: 42
Candidate Starts for Clipper_61:
(26, 41076), (Start: 42 @41118 has 92 MA's), (51, 41163), (71, 41259), (107, 41331), (111, 41349), (116, 41361), (119, 41373),

Gene: Comrade_102 Start: 68978, Stop: 69343, Start Num: 44
Candidate Starts for Comrade_102:
(Start: 44 @68978 has 45 MA's), (45, 68981), (57, 69068), (87, 69188), (100, 69230), (110, 69269), (115, 69287),

Gene: CrimD_59 Start: 41076, Stop: 41342, Start Num: 42
Candidate Starts for CrimD_59:
(5, 40881), (Start: 42 @41076 has 92 MA's), (51, 41121), (71, 41217), (107, 41289), (111, 41307), (116, 41319), (119, 41331),

Gene: Curiosium_61 Start: 39723, Stop: 40043, Start Num: 42
Candidate Starts for Curiosium_61:
(Start: 42 @39723 has 92 MA's), (51, 39768), (67, 39855), (86, 39921), (89, 39924), (119, 40032),

Gene: Dalmuri_58 Start: 40658, Stop: 40924, Start Num: 42
Candidate Starts for Dalmuri_58:
(26, 40616), (Start: 42 @40658 has 92 MA's), (71, 40799), (77, 40817), (107, 40871), (111, 40889), (116, 40901), (119, 40913),

Gene: Dardanus_63 Start: 39624, Stop: 39992, Start Num: 43
Candidate Starts for Dardanus_63:
(19, 39534), (24, 39561), (25, 39564), (Start: 43 @39624 has 2 MA's), (Start: 49 @39651 has 2 MA's), (92, 39855), (109, 39915),

Gene: DartGoblin_60 Start: 41256, Stop: 41522, Start Num: 42
Candidate Starts for DartGoblin_60:
(3, 41058), (26, 41214), (Start: 42 @41256 has 92 MA's), (51, 41301), (71, 41397), (107, 41469), (111, 41487), (116, 41499), (119, 41511),

Gene: Deby_58 Start: 40717, Stop: 40983, Start Num: 42

Candidate Starts for Deby_58:
(26, 40675), (Start: 42 @40717 has 92 MA's), (51, 40762), (71, 40858), (77, 40876), (107, 40930), (111, 40948), (116, 40960), (119, 40972),

Gene: DeluluLababu_104 Start: 67810, Stop: 68175, Start Num: 44
Candidate Starts for DeluluLababu_104:
(Start: 44 @67810 has 45 MA's), (50, 67849), (57, 67900), (87, 68020), (100, 68062), (110, 68101), (115, 68119),

Gene: Devera_64 Start: 41616, Stop: 41936, Start Num: 42
Candidate Starts for Devera_64:
(Start: 42 @41616 has 92 MA's), (51, 41661), (67, 41748), (86, 41814), (89, 41817), (118, 41922), (119, 41925),

Gene: Diminimus_51 Start: 37253, Stop: 37603, Start Num: 44
Candidate Starts for Diminimus_51:
(4, 37052), (11, 37112), (17, 37148), (Start: 44 @37253 has 45 MA's), (51, 37295), (58, 37346), (90, 37466), (120, 37562),

Gene: DinoDaryn_69 Start: 41479, Stop: 41826, Start Num: 44
Candidate Starts for DinoDaryn_69:
(Start: 44 @41479 has 45 MA's), (Start: 49 @41506 has 2 MA's), (57, 41563), (65, 41596), (105, 41731), (109, 41746), (116, 41770), (118, 41779),

Gene: Dole_62 Start: 41619, Stop: 41939, Start Num: 42
Candidate Starts for Dole_62:
(Start: 42 @41619 has 92 MA's), (51, 41664), (67, 41751), (86, 41817), (89, 41820), (118, 41925), (119, 41928),

Gene: DrHayes_59 Start: 41439, Stop: 41705, Start Num: 42
Candidate Starts for DrHayes_59:
(26, 41397), (Start: 42 @41439 has 92 MA's), (51, 41484), (71, 41580), (107, 41652), (111, 41670), (116, 41682), (119, 41694),

Gene: Dulcita_51 Start: 37254, Stop: 37604, Start Num: 44
Candidate Starts for Dulcita_51:
(4, 37053), (11, 37113), (17, 37149), (Start: 44 @37254 has 45 MA's), (51, 37296), (58, 37347), (90, 37467), (120, 37563),

Gene: Durfee_58 Start: 40855, Stop: 41121, Start Num: 42
Candidate Starts for Durfee_58:
(26, 40813), (Start: 42 @40855 has 92 MA's), (51, 40900), (71, 40996), (77, 41014), (107, 41068), (111, 41086), (116, 41098), (119, 41110),

Gene: Efra2_62 Start: 40615, Stop: 40881, Start Num: 42
Candidate Starts for Efra2_62:
(5, 40420), (Start: 42 @40615 has 92 MA's), (51, 40660), (71, 40756), (111, 40846), (116, 40858), (119, 40870),

Gene: Emerson_59 Start: 40536, Stop: 40802, Start Num: 42
Candidate Starts for Emerson_59:
(26, 40494), (Start: 42 @40536 has 92 MA's), (51, 40581), (71, 40677), (77, 40695), (107, 40749), (111, 40767), (116, 40779), (119, 40791),

Gene: Emma1919_106 Start: 68431, Stop: 68796, Start Num: 44
Candidate Starts for Emma1919_106:
(Start: 44 @68431 has 45 MA's), (50, 68470), (57, 68521), (87, 68641), (100, 68683), (110, 68722), (115, 68740),

Gene: Estes_58 Start: 39425, Stop: 39802, Start Num: 44
Candidate Starts for Estes_58:
(Start: 44 @39425 has 45 MA's), (60, 39527), (66, 39560), (78, 39617), (83, 39638), (120, 39761),

Gene: Forrest_110 Start: 70740, Stop: 71105, Start Num: 44
Candidate Starts for Forrest_110:
(Start: 44 @70740 has 45 MA's), (50, 70779), (57, 70830), (87, 70950), (100, 70992), (101, 70998), (110, 71031), (115, 71049),

Gene: Francob_103 Start: 68601, Stop: 68966, Start Num: 44
Candidate Starts for Francob_103:
(Start: 44 @68601 has 45 MA's), (57, 68691), (100, 68853), (101, 68859), (110, 68892), (115, 68910),

Gene: FreakyGoo_51 Start: 37254, Stop: 37604, Start Num: 44
Candidate Starts for FreakyGoo_51:
(4, 37053), (11, 37113), (17, 37149), (Start: 44 @37254 has 45 MA's), (51, 37296), (58, 37347), (90, 37467), (120, 37563),

Gene: Ganymede_59 Start: 40919, Stop: 41185, Start Num: 42
Candidate Starts for Ganymede_59:
(26, 40877), (Start: 42 @40919 has 92 MA's), (51, 40964), (71, 41060), (77, 41078), (107, 41132), (111, 41150), (116, 41162), (119, 41174),

Gene: GardenSalsa_58 Start: 39575, Stop: 39952, Start Num: 44
Candidate Starts for GardenSalsa_58:
(Start: 44 @39575 has 45 MA's), (58, 39668), (60, 39677), (66, 39710), (78, 39767), (83, 39788), (120, 39911),

Gene: GenevaB15_56 Start: 39168, Stop: 39545, Start Num: 44
Candidate Starts for GenevaB15_56:
(Start: 44 @39168 has 45 MA's), (58, 39261), (60, 39270), (66, 39303), (78, 39360), (83, 39381), (94, 39423), (120, 39504),

Gene: Geraldini_61 Start: 41585, Stop: 41851, Start Num: 42
Candidate Starts for Geraldini_61:
(26, 41543), (Start: 42 @41585 has 92 MA's), (51, 41630), (71, 41726), (77, 41744), (107, 41798), (111, 41816), (116, 41828), (119, 41840),

Gene: Gilson_105 Start: 68393, Stop: 68758, Start Num: 44
Candidate Starts for Gilson_105:
(Start: 44 @68393 has 45 MA's), (50, 68432), (57, 68483), (87, 68603), (100, 68645), (110, 68684), (115, 68702),

Gene: Glaske16_51 Start: 37253, Stop: 37603, Start Num: 44
Candidate Starts for Glaske16_51:
(4, 37052), (11, 37112), (17, 37148), (Start: 44 @37253 has 45 MA's), (51, 37295), (58, 37346), (90, 37466), (120, 37562),

Gene: Goib_69 Start: 42589, Stop: 42924, Start Num: 44
Candidate Starts for Goib_69:
(Start: 44 @42589 has 45 MA's), (Start: 49 @42616 has 2 MA's), (56, 42673), (65, 42712), (105, 42829), (109, 42844), (116, 42868), (118, 42877),

Gene: Grayson_132 Start: 78512, Stop: 78844, Start Num: 31
Candidate Starts for Grayson_132:
(Start: 31 @78512 has 2 MA's), (48, 78566), (60, 78644), (76, 78716), (98, 78791),

Gene: Greely_42 Start: 16620, Stop: 16946, Start Num: 39
Candidate Starts for Greely_42:
(Start: 39 @16620 has 3 MA's), (51, 16671), (55, 16698), (57, 16719), (74, 16788), (99, 16863),

Gene: Gsput1_61 Start: 40315, Stop: 40578, Start Num: 51
Candidate Starts for Gsput1_61:
(37, 40255), (Start: 41 @40267 has 11 MA's), (Start: 44 @40273 has 45 MA's), (48, 40297), (Start: 49 @40300 has 2 MA's), (51, 40315), (57, 40363), (67, 40402), (92, 40471), (93, 40480), (100, 40495), (109, 40531),

Gene: Guanica15_61 Start: 40356, Stop: 40622, Start Num: 42
Candidate Starts for Guanica15_61:
(5, 40161), (Start: 42 @40356 has 92 MA's), (51, 40401), (71, 40497), (111, 40587), (116, 40599), (119, 40611),

Gene: HedwigODU_58 Start: 40539, Stop: 40805, Start Num: 42
Candidate Starts for HedwigODU_58:
(26, 40497), (Start: 42 @40539 has 92 MA's), (51, 40584), (71, 40680), (107, 40752), (111, 40770), (116, 40782), (119, 40794),

Gene: Homura_58 Start: 40658, Stop: 40924, Start Num: 42
Candidate Starts for Homura_58:
(26, 40616), (Start: 42 @40658 has 92 MA's), (51, 40703), (71, 40799), (77, 40817), (107, 40871), (111, 40889), (116, 40901), (119, 40913),

Gene: Huffy_69 Start: 41479, Stop: 41826, Start Num: 44
Candidate Starts for Huffy_69:
(Start: 44 @41479 has 45 MA's), (Start: 49 @41506 has 2 MA's), (57, 41563), (65, 41596), (105, 41731), (109, 41746), (116, 41770), (118, 41779),

Gene: Hurricane_58 Start: 40805, Stop: 41074, Start Num: 41
Candidate Starts for Hurricane_58:
(26, 40766), (Start: 41 @40805 has 11 MA's), (51, 40850), (62, 40916), (67, 40937), (119, 41063),

Gene: Hyperbowlee_58 Start: 40855, Stop: 41121, Start Num: 42
Candidate Starts for Hyperbowlee_58:
(26, 40813), (Start: 42 @40855 has 92 MA's), (51, 40900), (71, 40996), (77, 41014), (107, 41068), (111, 41086), (116, 41098), (119, 41110),

Gene: IPhane7_50 Start: 37258, Stop: 37608, Start Num: 44
Candidate Starts for IPhane7_50:
(6, 37066), (11, 37114), (17, 37150), (Start: 44 @37258 has 45 MA's), (51, 37300), (58, 37351), (73, 37417), (75, 37420), (90, 37471), (120, 37567),

Gene: Illumine_62 Start: 41618, Stop: 41938, Start Num: 42
Candidate Starts for Illumine_62:
(Start: 42 @41618 has 92 MA's), (51, 41663), (67, 41750), (86, 41816), (89, 41819), (118, 41924), (119, 41927),

Gene: Inky_58 Start: 40658, Stop: 40924, Start Num: 42
Candidate Starts for Inky_58:
(26, 40616), (Start: 42 @40658 has 92 MA's), (71, 40799), (77, 40817), (107, 40871), (111, 40889), (116, 40901), (119, 40913),

Gene: Izel_51 Start: 37253, Stop: 37603, Start Num: 44
Candidate Starts for Izel_51:
(4, 37052), (11, 37112), (17, 37148), (Start: 44 @37253 has 45 MA's), (51, 37295), (58, 37346), (90, 37466), (120, 37562),

Gene: JAWS_58 Start: 40525, Stop: 40791, Start Num: 42
Candidate Starts for JAWS_58:
(26, 40483), (Start: 42 @40525 has 92 MA's), (51, 40570), (71, 40666), (107, 40738), (111, 40756), (116, 40768), (119, 40780),

Gene: Jada_105 Start: 68906, Stop: 69271, Start Num: 44
Candidate Starts for Jada_105:
(Start: 44 @68906 has 45 MA's), (50, 68945), (57, 68996), (87, 69116), (100, 69158), (110, 69197), (115, 69215),

Gene: Jarvi_58 Start: 40658, Stop: 40924, Start Num: 42
Candidate Starts for Jarvi_58:
(26, 40616), (Start: 42 @40658 has 92 MA's), (71, 40799), (77, 40817), (107, 40871), (111, 40889), (116, 40901), (119, 40913),

Gene: Jayhawk_59 Start: 40534, Stop: 40800, Start Num: 42
Candidate Starts for Jayhawk_59:
(26, 40492), (Start: 42 @40534 has 92 MA's), (51, 40579), (71, 40675), (77, 40693), (107, 40747), (111, 40765), (116, 40777), (119, 40789),

Gene: Jeckyll_58 Start: 40658, Stop: 40924, Start Num: 42
Candidate Starts for Jeckyll_58:
(26, 40616), (Start: 42 @40658 has 92 MA's), (71, 40799), (77, 40817), (107, 40871), (111, 40889), (116, 40901), (119, 40913),

Gene: Joy99_58 Start: 40587, Stop: 40853, Start Num: 42
Candidate Starts for Joy99_58:
(26, 40545), (Start: 42 @40587 has 92 MA's), (71, 40728), (77, 40746), (107, 40800), (111, 40818), (116, 40830), (119, 40842),

Gene: Karp_101 Start: 68949, Stop: 69314, Start Num: 44
Candidate Starts for Karp_101:
(Start: 44 @68949 has 45 MA's), (45, 68952), (57, 69039), (87, 69159), (100, 69201), (104, 69219), (110, 69240), (115, 69258),

Gene: Kenrey_106 Start: 68621, Stop: 68986, Start Num: 44
Candidate Starts for Kenrey_106:

(Start: 44 @68621 has 45 MA's), (57, 68711), (81, 68819), (87, 68831), (110, 68912), (115, 68930),

Gene: Keshu_60 Start: 40903, Stop: 41172, Start Num: 41
Candidate Starts for Keshu_60:
(26, 40864), (Start: 41 @40903 has 11 MA's), (51, 40948), (62, 41014), (67, 41035), (119, 41161),

Gene: Kheparia_58 Start: 38533, Stop: 38799, Start Num: 42
Candidate Starts for Kheparia_58:
(26, 38491), (Start: 42 @38533 has 92 MA's), (51, 38578), (71, 38674), (107, 38746), (111, 38764), (116, 38776), (119, 38788),

Gene: KleverKiS_51 Start: 37234, Stop: 37584, Start Num: 44
Candidate Starts for KleverKiS_51:
(4, 37033), (11, 37093), (17, 37129), (Start: 44 @37234 has 45 MA's), (51, 37276), (58, 37327), (90, 37447), (120, 37543),

Gene: Kudefre_112 Start: 61740, Stop: 62057, Start Num: 35
Candidate Starts for Kudefre_112:
(Start: 35 @61740 has 3 MA's), (47, 61761), (57, 61839), (58, 61842), (65, 61866), (69, 61881), (89, 61938), (94, 61962),

Gene: Kumao_82 Start: 53900, Stop: 54196, Start Num: 41
Candidate Starts for Kumao_82:
(28, 53870), (Start: 41 @53900 has 11 MA's), (74, 54062), (86, 54089), (97, 54113), (103, 54125), (106, 54131), (118, 54173), (119, 54176),

Gene: LastHope_61 Start: 39701, Stop: 39967, Start Num: 42
Candidate Starts for LastHope_61:
(26, 39659), (Start: 42 @39701 has 92 MA's), (51, 39746), (71, 39842), (107, 39914), (111, 39932), (116, 39944), (119, 39956),

Gene: LaterM_59 Start: 41420, Stop: 41719, Start Num: 42
Candidate Starts for LaterM_59:
(Start: 42 @41420 has 92 MA's), (51, 41465), (71, 41561), (84, 41585), (107, 41633), (111, 41651), (116, 41663), (119, 41675), (121, 41684),

Gene: Lea83_58 Start: 40858, Stop: 41127, Start Num: 41
Candidate Starts for Lea83_58:
(3, 40663), (26, 40819), (Start: 41 @40858 has 11 MA's), (51, 40903), (62, 40969), (67, 40990), (119, 41116),

Gene: LilJank_110 Start: 63800, Stop: 64132, Start Num: 29
Candidate Starts for LilJank_110:
(23, 63770), (Start: 29 @63800 has 3 MA's), (Start: 34 @63818 has 1 MA's), (58, 63929), (59, 63932), (68, 63965), (94, 64043), (108, 64088), (117, 64115),

Gene: LilhomieP_49 Start: 37258, Stop: 37608, Start Num: 44
Candidate Starts for LilhomieP_49:
(6, 37066), (11, 37114), (17, 37150), (Start: 44 @37258 has 45 MA's), (51, 37300), (58, 37351), (73, 37417), (75, 37420), (90, 37471), (120, 37567),

Gene: LindNT_57 Start: 40742, Stop: 41008, Start Num: 42
Candidate Starts for LindNT_57:

(26, 40700), (Start: 42 @40742 has 92 MA's), (51, 40787), (71, 40883), (107, 40955), (111, 40973), (116, 40985), (119, 40997),

Gene: Llorens_58 Start: 40658, Stop: 40924, Start Num: 42
Candidate Starts for Llorens_58:
(26, 40616), (Start: 42 @40658 has 92 MA's), (71, 40799), (77, 40817), (107, 40871), (111, 40889), (116, 40901), (119, 40913),

Gene: Lokum_59 Start: 40659, Stop: 40925, Start Num: 42
Candidate Starts for Lokum_59:
(26, 40617), (Start: 42 @40659 has 92 MA's), (51, 40704), (71, 40800), (77, 40818), (107, 40872), (111, 40890), (116, 40902), (119, 40914),

Gene: Lunahalos_58 Start: 40658, Stop: 40924, Start Num: 42
Candidate Starts for Lunahalos_58:
(26, 40616), (Start: 42 @40658 has 92 MA's), (71, 40799), (77, 40817), (107, 40871), (111, 40889), (116, 40901), (119, 40913),

Gene: MacKat_53 Start: 36002, Stop: 36268, Start Num: 42
Candidate Starts for MacKat_53:
(26, 35960), (Start: 42 @36002 has 92 MA's), (51, 36047), (71, 36143), (107, 36215), (111, 36233), (116, 36245), (119, 36257),

Gene: MacnCheese_60 Start: 41385, Stop: 41663, Start Num: 41
Candidate Starts for MacnCheese_60:
(2, 41154), (3, 41190), (Start: 41 @41385 has 11 MA's), (51, 41430), (61, 41490), (62, 41496), (67, 41517), (122, 41655),

Gene: Maupel_105 Start: 68393, Stop: 68758, Start Num: 44
Candidate Starts for Maupel_105:
(Start: 44 @68393 has 45 MA's), (50, 68432), (57, 68483), (87, 68603), (100, 68645), (110, 68684), (115, 68702),

Gene: MeaningOfLife_59 Start: 41413, Stop: 41679, Start Num: 42
Candidate Starts for MeaningOfLife_59:
(26, 41371), (Start: 42 @41413 has 92 MA's), (51, 41458), (71, 41554), (77, 41572), (107, 41626), (111, 41644), (116, 41656), (119, 41668),

Gene: MeganTheeKilla_103 Start: 67750, Stop: 68115, Start Num: 44
Candidate Starts for MeganTheeKilla_103:
(Start: 44 @67750 has 45 MA's), (50, 67789), (57, 67840), (87, 67960), (100, 68002), (110, 68041), (115, 68059),

Gene: Megsy_60 Start: 40807, Stop: 41073, Start Num: 42
Candidate Starts for Megsy_60:
(26, 40765), (Start: 42 @40807 has 92 MA's), (51, 40852), (71, 40948), (107, 41020), (111, 41038), (116, 41050), (119, 41062),

Gene: Moab_105 Start: 70915, Stop: 71280, Start Num: 44
Candidate Starts for Moab_105:
(Start: 44 @70915 has 45 MA's), (57, 71005), (87, 71125), (100, 71167), (101, 71173), (110, 71206), (115, 71224),

Gene: MrMagoo_58 Start: 39575, Stop: 39952, Start Num: 44
Candidate Starts for MrMagoo_58:
(Start: 44 @39575 has 45 MA's), (58, 39668), (60, 39677), (66, 39710), (78, 39767), (83, 39788), (120, 39911),

Gene: Murucutumbu_59 Start: 41513, Stop: 41779, Start Num: 42
Candidate Starts for Murucutumbu_59:
(3, 41315), (26, 41471), (Start: 42 @41513 has 92 MA's), (51, 41558), (71, 41654), (107, 41726), (111, 41744), (116, 41756), (119, 41768),

Gene: Mynx_59 Start: 40855, Stop: 41121, Start Num: 42
Candidate Starts for Mynx_59:
(26, 40813), (Start: 42 @40855 has 92 MA's), (51, 40900), (71, 40996), (107, 41068), (111, 41086), (116, 41098), (119, 41110),

Gene: Myrna_38 Start: 17055, Stop: 17402, Start Num: 39
Candidate Starts for Myrna_38:
(8, 16887), (15, 16953), (Start: 39 @17055 has 3 MA's), (51, 17106), (55, 17133), (63, 17181), (80, 17259),

Gene: Nanosmite_55 Start: 38885, Stop: 39262, Start Num: 44
Candidate Starts for Nanosmite_55:
(Start: 44 @38885 has 45 MA's), (51, 38927), (57, 38975), (58, 38978), (60, 38987), (62, 38996), (78, 39077), (83, 39098), (120, 39221),

Gene: Neville_108 Start: 62420, Stop: 62755, Start Num: 29
Candidate Starts for Neville_108:
(23, 62390), (Start: 29 @62420 has 3 MA's), (Start: 34 @62438 has 1 MA's), (58, 62549), (68, 62585), (94, 62666), (105, 62699), (108, 62711), (117, 62738),

Gene: Octobien14_119 Start: 65759, Stop: 66097, Start Num: 33
Candidate Starts for Octobien14_119:
(32, 65753), (Start: 33 @65759 has 1 MA's), (52, 65837), (53, 65840), (57, 65873), (69, 65921), (112, 66065), (113, 66068),

Gene: Octobien14_108 Start: 60532, Stop: 60849, Start Num: 36
Candidate Starts for Octobien14_108:
(10, 60397), (22, 60481), (Start: 36 @60532 has 1 MA's), (57, 60631), (58, 60634), (65, 60658), (69, 60673), (89, 60730), (94, 60754),

Gene: Padfoot_58 Start: 40855, Stop: 41121, Start Num: 42
Candidate Starts for Padfoot_58:
(26, 40813), (Start: 42 @40855 has 92 MA's), (51, 40900), (71, 40996), (77, 41014), (107, 41068), (111, 41086), (116, 41098), (119, 41110),

Gene: Padpat_60 Start: 40536, Stop: 40802, Start Num: 42
Candidate Starts for Padpat_60:
(26, 40494), (Start: 42 @40536 has 92 MA's), (51, 40581), (71, 40677), (77, 40695), (107, 40749), (111, 40767), (116, 40779), (119, 40791),

Gene: Patelgo_104 Start: 70001, Stop: 70366, Start Num: 44
Candidate Starts for Patelgo_104:
(Start: 44 @70001 has 45 MA's), (57, 70091), (87, 70211), (100, 70253), (110, 70292), (115, 70310),

Gene: Peel_58 Start: 40660, Stop: 40926, Start Num: 42
Candidate Starts for Peel_58:
(26, 40618), (Start: 42 @40660 has 92 MA's), (51, 40705), (71, 40801), (77, 40819), (107, 40873), (111, 40891), (116, 40903), (119, 40915),

Gene: PegLeg_50 Start: 37257, Stop: 37607, Start Num: 44
Candidate Starts for PegLeg_50:
(6, 37065), (11, 37113), (17, 37149), (Start: 44 @37257 has 45 MA's), (51, 37299), (58, 37350), (73, 37416), (75, 37419), (90, 37470), (120, 37566),

Gene: Peregrin_132 Start: 78720, Stop: 79052, Start Num: 31
Candidate Starts for Peregrin_132:
(Start: 31 @78720 has 2 MA's), (38, 78735), (48, 78774), (60, 78852), (76, 78924), (83, 78948), (98, 78999),

Gene: Phabba_44 Start: 16811, Stop: 17128, Start Num: 39
Candidate Starts for Phabba_44:
(Start: 39 @16811 has 3 MA's), (51, 16859), (55, 16886), (57, 16907), (64, 16937), (72, 16973), (74, 16976), (99, 17051),

Gene: Pharb_57 Start: 40007, Stop: 40276, Start Num: 41
Candidate Starts for Pharb_57:
(Start: 41 @40007 has 11 MA's), (62, 40118), (67, 40139), (119, 40265),

Gene: Phredrick_104 Start: 67726, Stop: 68091, Start Num: 44
Candidate Starts for Phredrick_104:
(Start: 44 @67726 has 45 MA's), (57, 67816), (81, 67924), (87, 67936), (110, 68017), (115, 68035),

Gene: Piatt_58 Start: 40855, Stop: 41121, Start Num: 42
Candidate Starts for Piatt_58:
(26, 40813), (Start: 42 @40855 has 92 MA's), (51, 40900), (71, 40996), (77, 41014), (107, 41068), (111, 41086), (116, 41098), (119, 41110),

Gene: Pisa1_58 Start: 41518, Stop: 41784, Start Num: 42
Candidate Starts for Pisa1_58:
(3, 41320), (26, 41476), (Start: 42 @41518 has 92 MA's), (51, 41563), (71, 41659), (107, 41731), (111, 41749), (116, 41761), (119, 41773),

Gene: Pisa4_52 Start: 36887, Stop: 37153, Start Num: 42
Candidate Starts for Pisa4_52:
(3, 36689), (26, 36845), (Start: 42 @36887 has 92 MA's), (51, 36932), (71, 37028), (107, 37100), (111, 37118), (116, 37130), (119, 37142),

Gene: Pixie_57 Start: 40343, Stop: 40612, Start Num: 41
Candidate Starts for Pixie_57:
(26, 40304), (Start: 41 @40343 has 11 MA's), (51, 40388), (62, 40454), (67, 40475), (107, 40559), (119, 40601),

Gene: Pokerus_57 Start: 40585, Stop: 40851, Start Num: 42
Candidate Starts for Pokerus_57:
(26, 40543), (Start: 42 @40585 has 92 MA's), (51, 40630), (71, 40726), (77, 40744), (107, 40798), (111, 40816), (116, 40828), (119, 40840),

Gene: Prithvi_59 Start: 40742, Stop: 41008, Start Num: 42
Candidate Starts for Prithvi_59:
(26, 40700), (Start: 42 @40742 has 92 MA's), (51, 40787), (71, 40883), (107, 40955), (111, 40973), (116, 40985), (119, 40997),

Gene: QuincyRose_57 Start: 40919, Stop: 41185, Start Num: 42
Candidate Starts for QuincyRose_57:
(26, 40877), (Start: 42 @40919 has 92 MA's), (51, 40964), (71, 41060), (77, 41078), (107, 41132), (111, 41150), (116, 41162), (119, 41174),

Gene: Rabbitrun_110 Start: 63382, Stop: 63696, Start Num: 34
Candidate Starts for Rabbitrun_110:
(12, 63274), (27, 63358), (Start: 29 @63364 has 3 MA's), (Start: 34 @63382 has 1 MA's), (68, 63529), (94, 63607), (108, 63652), (114, 63673), (117, 63679),

Gene: Ramen_59 Start: 40541, Stop: 40807, Start Num: 42
Candidate Starts for Ramen_59:
(26, 40499), (Start: 42 @40541 has 92 MA's), (51, 40586), (71, 40682), (107, 40754), (111, 40772), (116, 40784), (119, 40796),

Gene: Rapunzel97_59 Start: 40534, Stop: 40800, Start Num: 42
Candidate Starts for Rapunzel97_59:
(26, 40492), (Start: 42 @40534 has 92 MA's), (51, 40579), (71, 40675), (77, 40693), (107, 40747), (111, 40765), (116, 40777), (119, 40789),

Gene: Reindeer_52 Start: 38460, Stop: 38810, Start Num: 44
Candidate Starts for Reindeer_52:
(Start: 44 @38460 has 45 MA's), (51, 38502), (58, 38553), (82, 38652), (90, 38673), (120, 38769),

Gene: Rey_57 Start: 39459, Stop: 39827, Start Num: 46
Candidate Starts for Rey_57:
(Start: 44 @39450 has 45 MA's), (Start: 46 @39459 has 1 MA's), (58, 39543), (60, 39552), (66, 39585), (78, 39642), (79, 39648), (94, 39705), (120, 39786),

Gene: RoseMarie_56 Start: 40904, Stop: 41254, Start Num: 44
Candidate Starts for RoseMarie_56:
(7, 40715), (11, 40766), (20, 40820), (Start: 44 @40904 has 45 MA's), (51, 40946), (58, 40997), (60, 41006), (75, 41066), (90, 41117), (120, 41213),

Gene: Rosmarinus_58 Start: 40646, Stop: 40912, Start Num: 42
Candidate Starts for Rosmarinus_58:
(26, 40604), (Start: 42 @40646 has 92 MA's), (71, 40787), (77, 40805), (107, 40859), (111, 40877), (116, 40889), (119, 40901),

Gene: SamuelLPlaqson_59 Start: 41439, Stop: 41705, Start Num: 42
Candidate Starts for SamuelLPlaqson_59:
(26, 41397), (Start: 42 @41439 has 92 MA's), (51, 41484), (71, 41580), (107, 41652), (111, 41670), (116, 41682), (119, 41694),

Gene: Schmidt_63 Start: 39059, Stop: 39370, Start Num: 43
Candidate Starts for Schmidt_63:

(25, 38996), (Start: 43 @39059 has 2 MA's), (Start: 49 @39086 has 2 MA's), (58, 39128), (70, 39179), (76, 39206), (88, 39215), (91, 39227), (96, 39251), (109, 39293),

Gene: ScoobyDoobyDoo_35 Start: 13310, Stop: 13627, Start Num: 39
Candidate Starts for ScoobyDoobyDoo_35:
(13, 13199), (14, 13205), (15, 13208), (18, 13220), (21, 13244), (Start: 39 @13310 has 3 MA's), (Start: 42 @13322 has 92 MA's), (55, 13394), (57, 13415), (63, 13442), (95, 13538), (114, 13595),

Gene: Sephiroth_108 Start: 61495, Stop: 61812, Start Num: 35
Candidate Starts for Sephiroth_108:
(Start: 35 @61495 has 3 MA's), (57, 61594), (58, 61597), (65, 61621), (69, 61636), (89, 61693), (94, 61717),

Gene: ShedlockHolmes_59 Start: 40862, Stop: 41131, Start Num: 41
Candidate Starts for ShedlockHolmes_59:
(3, 40667), (26, 40823), (Start: 41 @40862 has 11 MA's), (51, 40907), (62, 40973), (67, 40994), (119, 41120),

Gene: ShiaSurprise_59 Start: 40855, Stop: 41121, Start Num: 42
Candidate Starts for ShiaSurprise_59:
(26, 40813), (Start: 42 @40855 has 92 MA's), (51, 40900), (71, 40996), (77, 41014), (107, 41068), (111, 41086), (116, 41098), (119, 41110),

Gene: SirPhilip_59 Start: 41271, Stop: 41540, Start Num: 42
Candidate Starts for SirPhilip_59:
(3, 41073), (9, 41124), (Start: 42 @41271 has 92 MA's), (51, 41316), (55, 41343), (67, 41403), (119, 41529),

Gene: Sixama_38 Start: 12651, Stop: 12286, Start Num: 42
Candidate Starts for Sixama_38:
(21, 12729), (30, 12684), (Start: 42 @12651 has 92 MA's), (51, 12606), (54, 12585), (91, 12429), (116, 12339), (123, 12312),

Gene: Skinny_51 Start: 37687, Stop: 38037, Start Num: 44
Candidate Starts for Skinny_51:
(6, 37495), (11, 37543), (17, 37579), (Start: 44 @37687 has 45 MA's), (51, 37729), (58, 37780), (73, 37846), (75, 37849), (90, 37900), (120, 37996),

Gene: SlimJimmy_49 Start: 37241, Stop: 37591, Start Num: 44
Candidate Starts for SlimJimmy_49:
(6, 37049), (11, 37097), (17, 37133), (Start: 44 @37241 has 45 MA's), (51, 37283), (58, 37334), (73, 37400), (75, 37403), (90, 37454), (120, 37550),

Gene: Slimphazie_58 Start: 40534, Stop: 40800, Start Num: 42
Candidate Starts for Slimphazie_58:
(26, 40492), (Start: 42 @40534 has 92 MA's), (51, 40579), (71, 40675), (77, 40693), (107, 40747), (111, 40765), (116, 40777), (119, 40789),

Gene: SparkleGoddess_103 Start: 69278, Stop: 69643, Start Num: 44
Candidate Starts for SparkleGoddess_103:
(Start: 44 @69278 has 45 MA's), (45, 69281), (57, 69368), (87, 69488), (100, 69530), (110, 69569), (115, 69587),

Gene: Splinter_69 Start: 42588, Stop: 42908, Start Num: 49
Candidate Starts for Splinter_69:
(Start: 44 @42561 has 45 MA's), (Start: 49 @42588 has 2 MA's), (57, 42645), (65, 42678), (105, 42813), (109, 42828), (116, 42852), (118, 42861),

Gene: Spock_58 Start: 40659, Stop: 40925, Start Num: 42
Candidate Starts for Spock_58:
(26, 40617), (Start: 42 @40659 has 92 MA's), (71, 40800), (77, 40818), (107, 40872), (111, 40890), (116, 40902), (119, 40914),

Gene: Stigma_102 Start: 69286, Stop: 69651, Start Num: 44
Candidate Starts for Stigma_102:
(Start: 44 @69286 has 45 MA's), (45, 69289), (57, 69376), (87, 69496), (100, 69538), (110, 69577), (115, 69595),

Gene: Stinson_59 Start: 41036, Stop: 41302, Start Num: 42
Candidate Starts for Stinson_59:
(Start: 42 @41036 has 92 MA's), (51, 41081), (71, 41177), (84, 41201), (107, 41249), (111, 41267), (116, 41279), (119, 41291),

Gene: Sulley_58 Start: 40710, Stop: 40976, Start Num: 42
Candidate Starts for Sulley_58:
(26, 40668), (Start: 42 @40710 has 92 MA's), (51, 40755), (71, 40851), (107, 40923), (111, 40941), (116, 40953), (119, 40965),

Gene: Syleon_113 Start: 62277, Stop: 62594, Start Num: 35
Candidate Starts for Syleon_113:
(Start: 35 @62277 has 3 MA's), (47, 62298), (94, 62499),

Gene: TBond007_56 Start: 40342, Stop: 40611, Start Num: 41
Candidate Starts for TBond007_56:
(26, 40303), (Start: 41 @40342 has 11 MA's), (51, 40387), (62, 40453), (67, 40474), (119, 40600),

Gene: TZGordon_70 Start: 41449, Stop: 41796, Start Num: 44
Candidate Starts for TZGordon_70:
(Start: 44 @41449 has 45 MA's), (Start: 49 @41476 has 2 MA's), (57, 41533), (65, 41566), (105, 41701), (109, 41716), (116, 41740), (118, 41749),

Gene: Tachez_58 Start: 40503, Stop: 40769, Start Num: 42
Candidate Starts for Tachez_58:
(26, 40461), (Start: 42 @40503 has 92 MA's), (51, 40548), (71, 40644), (77, 40662), (107, 40716), (111, 40734), (116, 40746), (119, 40758),

Gene: TaiwanKao_60 Start: 40804, Stop: 41070, Start Num: 42
Candidate Starts for TaiwanKao_60:
(26, 40762), (Start: 42 @40804 has 92 MA's), (51, 40849), (71, 40945), (107, 41017), (111, 41035), (116, 41047), (119, 41059),

Gene: TinaLin_68 Start: 41133, Stop: 41456, Start Num: 44
Candidate Starts for TinaLin_68:
(1, 40866), (23, 41064), (Start: 44 @41133 has 45 MA's), (Start: 49 @41160 has 2 MA's), (56, 41217), (57, 41223), (92, 41328), (105, 41373), (116, 41412),

Gene: TingHuaYa_60 Start: 39863, Stop: 40129, Start Num: 42
Candidate Starts for TingHuaYa_60:
(Start: 42 @39863 has 92 MA's), (51, 39908), (71, 40004), (107, 40076), (111, 40094), (116, 40106), (119, 40118),

Gene: TiniBug_59 Start: 41435, Stop: 41701, Start Num: 42
Candidate Starts for TiniBug_59:
(26, 41393), (Start: 42 @41435 has 92 MA's), (51, 41480), (71, 41576), (107, 41648), (111, 41666), (116, 41678), (119, 41690),

Gene: Tiri_59 Start: 40824, Stop: 41090, Start Num: 42
Candidate Starts for Tiri_59:
(26, 40782), (Start: 42 @40824 has 92 MA's), (51, 40869), (71, 40965), (77, 40983), (102, 41022), (107, 41037), (111, 41055), (116, 41067), (119, 41079),

Gene: Topper_58 Start: 40658, Stop: 40924, Start Num: 42
Candidate Starts for Topper_58:
(26, 40616), (Start: 42 @40658 has 92 MA's), (71, 40799), (77, 40817), (107, 40871), (111, 40889), (116, 40901), (119, 40913),

Gene: TpudiCK_52 Start: 37257, Stop: 37607, Start Num: 44
Candidate Starts for TpudiCK_52:
(6, 37065), (11, 37113), (17, 37149), (Start: 44 @37257 has 45 MA's), (51, 37299), (58, 37350), (73, 37416), (75, 37419), (90, 37470), (120, 37566),

Gene: Trax_110 Start: 63415, Stop: 63750, Start Num: 29
Candidate Starts for Trax_110:
(23, 63385), (Start: 29 @63415 has 3 MA's), (Start: 34 @63433 has 1 MA's), (58, 63544), (68, 63580), (94, 63661), (105, 63694), (108, 63706), (117, 63733),

Gene: TreyKay_59 Start: 40742, Stop: 41008, Start Num: 42
Candidate Starts for TreyKay_59:
(26, 40700), (Start: 42 @40742 has 92 MA's), (51, 40787), (71, 40883), (107, 40955), (111, 40973), (116, 40985), (119, 40997),

Gene: TribleTrouble_57 Start: 40818, Stop: 41087, Start Num: 41
Candidate Starts for TribleTrouble_57:
(Start: 41 @40818 has 11 MA's), (51, 40863), (62, 40929), (67, 40950), (119, 41076),

Gene: TruffulaTree_58 Start: 40530, Stop: 40796, Start Num: 42
Candidate Starts for TruffulaTree_58:
(26, 40488), (Start: 42 @40530 has 92 MA's), (51, 40575), (71, 40671), (77, 40689), (107, 40743), (111, 40761), (116, 40773), (119, 40785),

Gene: Twitch_58 Start: 40660, Stop: 40926, Start Num: 42
Candidate Starts for Twitch_58:
(26, 40618), (Start: 42 @40660 has 92 MA's), (51, 40705), (71, 40801), (77, 40819), (107, 40873), (111, 40891), (116, 40903), (119, 40915),

Gene: TyDawg_50 Start: 37258, Stop: 37608, Start Num: 44
Candidate Starts for TyDawg_50:
(6, 37066), (11, 37114), (17, 37150), (Start: 44 @37258 has 45 MA's), (51, 37300), (58, 37351), (73, 37417), (75, 37420), (90, 37471), (120, 37567),

Gene: Urkel_59 Start: 41439, Stop: 41705, Start Num: 42
Candidate Starts for Urkel_59:
(26, 41397), (Start: 42 @41439 has 92 MA's), (51, 41484), (71, 41580), (107, 41652), (111, 41670), (116, 41682), (119, 41694),

Gene: Veliki_59 Start: 40516, Stop: 40782, Start Num: 42
Candidate Starts for Veliki_59:
(26, 40474), (Start: 42 @40516 has 92 MA's), (51, 40561), (71, 40657), (107, 40729), (111, 40747), (116, 40759), (119, 40771),

Gene: Vendetta_69 Start: 42588, Stop: 42908, Start Num: 49
Candidate Starts for Vendetta_69:
(Start: 44 @42561 has 45 MA's), (Start: 49 @42588 has 2 MA's), (57, 42645), (65, 42678), (105, 42813), (109, 42828), (116, 42852), (118, 42861),

Gene: Weasels2_136 Start: 80031, Stop: 80330, Start Num: 44
Candidate Starts for Weasels2_136:
(40, 80022), (Start: 44 @80031 has 45 MA's), (85, 80229),

Gene: Westy_107 Start: 70313, Stop: 70678, Start Num: 44
Candidate Starts for Westy_107:
(Start: 44 @70313 has 45 MA's), (45, 70316), (57, 70403), (87, 70523), (100, 70565), (106, 70589), (110, 70604), (115, 70622),

Gene: YoureAdopted_57 Start: 40659, Stop: 40925, Start Num: 42
Candidate Starts for YoureAdopted_57:
(26, 40617), (Start: 42 @40659 has 92 MA's), (71, 40800), (77, 40818), (107, 40872), (111, 40890), (116, 40902), (119, 40914),

Gene: Yuna_63 Start: 41860, Stop: 42126, Start Num: 41
Candidate Starts for Yuna_63:
(16, 41767), (Start: 41 @41860 has 11 MA's), (Start: 42 @41863 has 92 MA's), (51, 41908), (58, 41959), (67, 41989), (119, 42115),

Gene: Yunkel11_61 Start: 40355, Stop: 40621, Start Num: 42
Candidate Starts for Yunkel11_61:
(5, 40160), (Start: 42 @40355 has 92 MA's), (51, 40400), (71, 40496), (111, 40586), (116, 40598), (119, 40610),

Gene: Zabiza_53 Start: 36844, Stop: 37110, Start Num: 42
Candidate Starts for Zabiza_53:
(26, 36802), (Start: 42 @36844 has 92 MA's), (51, 36889), (71, 36985), (107, 37057), (111, 37075), (116, 37087), (119, 37099),

Gene: Zavala_60 Start: 40815, Stop: 41081, Start Num: 42
Candidate Starts for Zavala_60:
(26, 40773), (Start: 42 @40815 has 92 MA's), (51, 40860), (71, 40956), (107, 41028), (111, 41046), (116, 41058), (119, 41070),