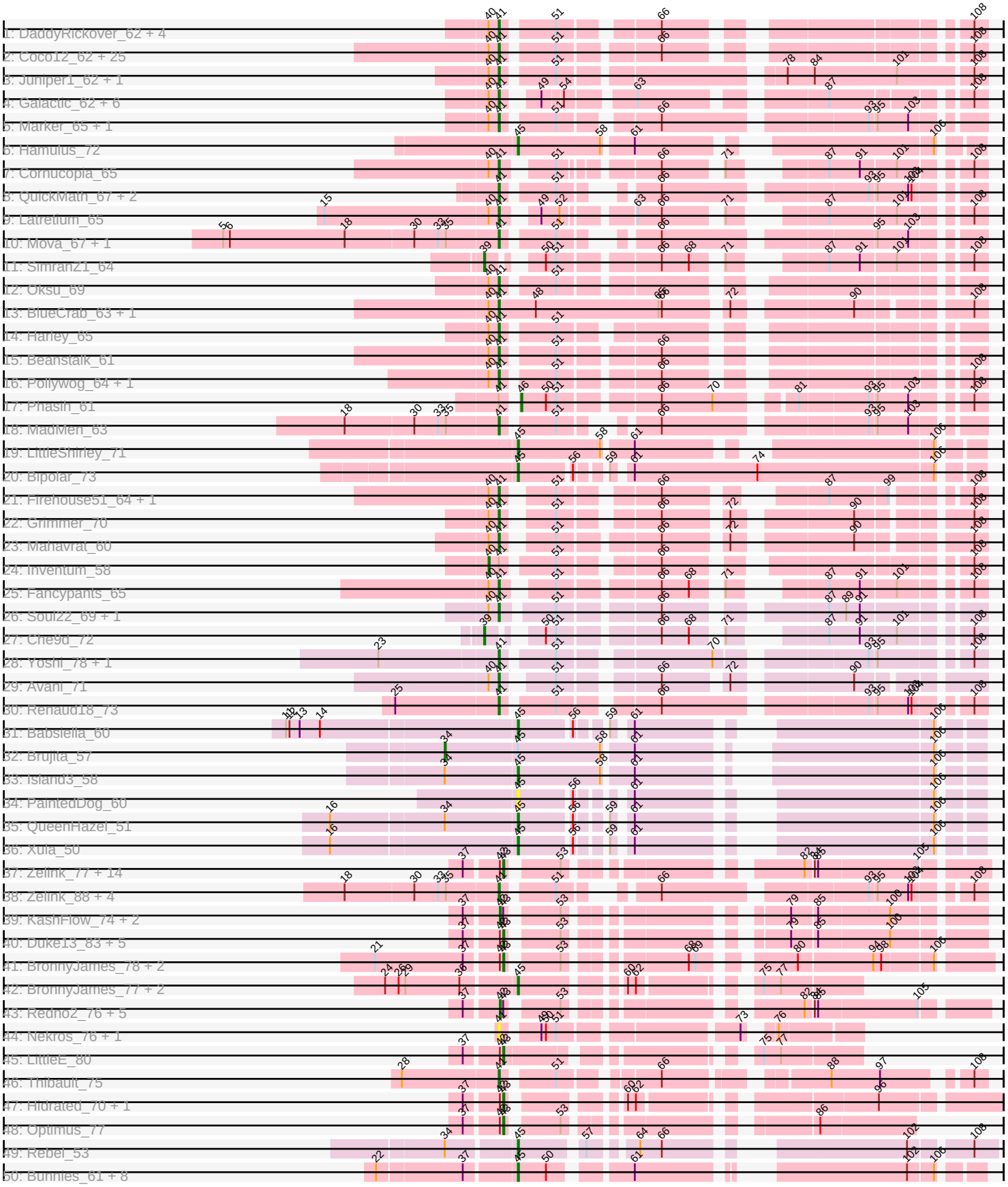
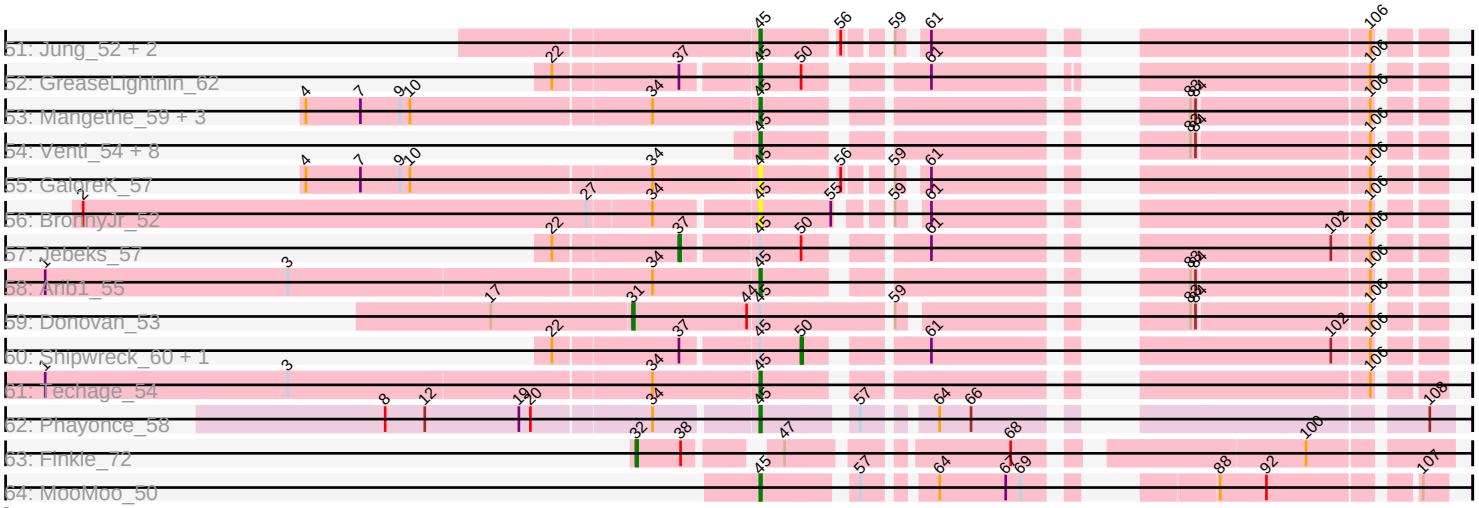
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1: DaddyRickover_62 + 4
2: Coco12_62 + 25
3: Juniper1_62 + 1
4: Galactic_62 + 6
5: Marker_65 + 1
6: Hamulus_72
7: Cornucopia_65
8: QuickMath_67 + 2
9: Latretium_65
10: Mova_67 + 1
11: Simran21_64
12: Oksu_69
13: BlueCrab_63 + 1
14: Haley_65
15: Beanstalk_61
16: Pollywog_64 + 1
17: Phasin_61
18: MadMen_63
19: LittleShirley_71
20: Bipolar_73
21: Firehouse51_64 + 1
22: Grimmer_70
23: Manavrat_60
24: Inventum_58
25: Fancypants_65
26: Soul22_69 + 1
27: Che9d_72
28: Yoshi_78 + 1
29: Avani_71
30: Renaud18_73
31: Babsiella_60
32: Brujita_57
33: Island3_58
34: PaintedDog_60
35: QueenHazel_51
36: Xula_50
37: Zellnk_77 + 14
38: Zellnk_88 + 4
39: KashFlow_74 + 2
40: Duke13_83 + 5
41: BronnyJames_78 + 2
42: BronnyJames_77 + 2
43: Redno2_76 + 5
44: Nekros_76 + 1
45: LittleE_80
46: Thibault_75
47: Hidrated_70 + 1
48: Optimus_77
49: Rebel_53
50: Bunnies_61 + 8

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51: Jung_52 + 2
52: GreaseLightnin_62
53: Mangethe_59 + 3
54: Venti_54 + 8
55: GaidreK_57
56: BronnyJr_52
57: Jebeks_57
58: Anb1_55
59: Donovan_53
60: Shipwreck_60 + 1
61: Techage_54
62: Phayonce_58
63: Finkle_72
64: MooMoo_50

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 347317 Report

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

Pham number 347317 has 167 members, 21 are drafts.

Phages represented in each track:
• Track 1 : DaddyRickover_62, Sassafras_61, RedBird_61, Aubs_63, Dorothy_61
• Track 2 : Coco12_62, Velveteen_58, Brookers_60, GUmbie_61, DRBy19_66, Philus_66, Eradicator_56, Yorick_62, BigPhil_59, Lizziana_69, LilMoolah_61, IbOuu_62, Sarma624_61, Che8_68, Saal_65, BuzzLyseyear_69, Guppsters_63, Gorge_67, OlympiaSaint_65, Job42_65, Cerasum_59, James_67, Mattes_67, Nivrat_59, Tchotchke_64, Kingsley_60
• Track 3 : Juniper1_62, Estave1_66
• Track 4 : Galactic_62, SeaLumen_68, NewHope4_64, LunaBlu_65, Ibhubesi_63, Polo2Bam_69, Enzomatic_70
• Track 5 : Marker_65, Topiatin_70
• Track 6 : Hamulus_72
• Track 7 : Cornucopia_65
• Track 8 : QuickMath_67, Kimberlium_68, MulchExplorer_67
• Track 9 : Latretium_65
• Track 10 : Mova_67, Madiba_64
• Track 11 : SimranZ1_64
• Track 12 : Oksu_69
• Track 13 : BlueCrab_63, ByChance_55
• Track 14 : Harley_65
• Track 15 : Beanstalk_61
• Track 16 : Pollywog_64, Royals2015_66
• Track 17 : Phasih_61
• Track 18 : MadMen_63
• Track 19 : LittleShirley_71
• Track 20 : Bipolar_73
• Track 21 : Firehouse51_64, Mutaforma13_67
• Track 22 : Grimmer_70
• Track 23 : Mahavrat_60
• Track 24 : Inventum_58
• Track 25 : Fancypants_65
• Track 26 : Soul22_69, GigiOuiOui_59
• Track 27 : Che9d_72
• Track 28 : Yoshi_78, ThetaBob_70
• Track 29 : Avani_71
• Track 30 : Renaud18_73
• Track 31 : Babsiella_60
• Track 32 : Brujita_57

• Track 33 : Island3_58
• Track 34 : PaintedDog_60
• Track 35 : QueenHazel_51
• Track 36 : Xula_50
• Track 37 : Zelink_77, Kalah2_74, NihilNomen_80, Ejimix_79, Beem_79, Phoebus_82, JuicyJay_77, DmpstrDiver_80, Bombitas_69, EricMillard_78, Dallas_78, ThreeRngTarjay_77, Bagrid_80, Odette_78, Hughesyang_79
• Track 38 : Zelink_88, Klein_91, Constella_76, Wanda_95, Xiaokay_80
• Track 39 : KashFlow_74, BAKA_84, Minerva_82
• Track 40 : Duke13_83, Xiaokay_70, Thibault_67, Pound_80, Marleymoo_69, Constella_66
• Track 41 : BronnyJames_78, Omega_83, Shaboozey_77
• Track 42 : BronnyJames_77, Omega_82, Shaboozey_76
• Track 43 : Redno2_76, Yeet_74, Dove_65, HokkenD_71, Halley_81, Schatzie_75
• Track 44 : Nekros_76, Nibley_70
• Track 45 : LittleE_80
• Track 46 : Thibault_75
• Track 47 : Hidrated_70, Bobby_77
• Track 48 : Optimus_77
• Track 49 : Rebel_53
• Track 50 : Bunnies_61, CactusJack_56, Thespis_58, Vidya_55, Phineas_58, Camster_58, Bhagsy_62, Pygmy_61, Ksquared_59
• Track 51 : Jung_52, Xeno_56, HC_52
• Track 52 : GreaseLightnin_62
• Track 53 : Mangethe_59, Phegasus_59, Zilizebeth_59, Majeke_59
• Track 54 : Venti_54, Etoile_53, Kari_53, FirstPlacePfu_55, Chubbello_53, Fishburne_53, Polkaroo_56, Langerak_54, Bartholomew_53
• Track 55 : GaloreK_57
• Track 56 : BronnyJr_52
• Track 57 : Jebeks_57
• Track 58 : Arib1_55
• Track 59 : Donovan_53
• Track 60 : Shipwreck_60, PeanutPie_62
• Track 61 : Techage_54
• Track 62 : Phayonce_58
• Track 63 : Finkle_72
• Track 64 : MooMoo_50

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

The start number called the most often in the published annotations is 41, it was called in 69 of the 146 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Aubs_63, Avani_71, Beanstalk_61, BigPhil_59, BlueCrab_63, Brookers_60, BuzzLyseyear_69, ByChance_55, Cerasum_59, Che8_68, Coco12_62, Constella_76, Cornucopia_65, DRBy19_66, DaddyRickover_62, Dorothy_61, Enzomatic_70, Eradicator_56, Estave1_66, Fancypants_65, Firehouse51_64, GUmbie_61, Galactic_62, GigiOuiOui_59, Gorge_67, Grimmer_70, Guppsters_63, Harley_65, IbOuu_62, Ibhubesi_63, James_67, Job42_65, Juniper1_62, Kimberlium_68,

Kingsley_60, Klein_91, Latretium_65, LilMoolah_61, Lizziana_69, LunaBlu_65, MadMen_63, Madiba_64, Mahavrat_60, Marker_65, Mattes_67, Mova_67, MulchExplorer_67, Mutaforma13_67, Nekros_76, NewHope4_64, Nibley_70, Nivrat_59, Oksu_69, OlympiaSaint_65, Philus_66, Pollywog_64, Polo2Bam_69, QuickMath_67, RedBird_61, Renaud18_73, Royals2015_66, Saal_65, Sarma624_61, Sassafras_61, SeaLumen_68, Soul22_69, Tchotchke_64, ThetaBob_70, Thibault_75, Topiatin_70, Velveteen_58, Wanda_95, Xiaokay_80, Yorick_62, Yoshi_78, Zelink_88,

Genes that have the "Most Annotated" start but do not call it:
• Inventum_58, Phasih_61,

Genes that do not have the "Most Annotated" start:
• Arib1_55, BAKA_84, Babsiella_60, Bagrid_80, Bartholomew_53, Beem_79, Bhagsy_62, Bipolar_73, Bobby_77, Bombitas_69, BronnyJames_77, BronnyJames_78, BronnyJr_52, Brujita_57, Bunnies_61, CactusJack_56, Camster_58, Che9d_72, Chubbello_53, Constella_66, Dallas_78, DmpstrDiver_80, Donovan_53, Dove_65, Duke13_83, Ejimix_79, EricMillard_78, Etoile_53, Finkle_72, FirstPlacePfu_55, Fishburne_53, GaloreK_57, GreaseLightnin_62, HC_52, Halley_81, Hamulus_72, Hidrated_70, HokkenD_71, Hughesyang_79, Island3_58, Jebeks_57, JuicyJay_77, Jung_52, Kalah2_74, Kari_53, KashFlow_74, Ksquared_59, Langerak_54, LittleE_80, LittleShirley_71, Majeke_59, Mangethe_59, Marleymoo_69, Minerva_82, MooMoo_50, NihilNomen_80, Odette_78, Omega_82, Omega_83, Optimus_77, PaintedDog_60, PeanutPie_62, Phayonce_58, Phegasus_59, Phineas_58, Phoebus_82, Polkaroo_56, Pound_80, Pygmy_61, QueenHazel_51, Rebel_53, Redno2_76, Schatzie_75, Shaboozey_76, Shaboozey_77, Shipwreck_60, SimranZ1_64, Techage_54, Thespis_58, Thibault_67, ThreeRngTarjay_77, Venti_54, Vidya_55, Xeno_56, Xiaokay_70, Xula_50, Yeet_74, Zelink_77, Zilizebeth_59,

Summary by start number:

Start 31:
• Found in 1 of 167 (0.6%) of genes in pham
• Manual Annotations of this start: 1 of 146
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Donovan_53 (P1),

Start 32:
• Found in 1 of 167 (0.6%) of genes in pham
• Manual Annotations of this start: 1 of 146
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Finkle_72 (singleton),

Start 34:
• Found in 13 of 167 (7.8%) of genes in pham
• Manual Annotations of this start: 1 of 146
• Called 7.7% of time when present
• Phage (with cluster) where this start called: Brujita_57 (I1),

Start 37:
• Found in 50 of 167 (29.9%) of genes in pham
• Manual Annotations of this start: 1 of 146
• Called 2.0% of time when present
• Phage (with cluster) where this start called: Jebeks_57 (P1),

Start 39:
• Found in 2 of 167 (1.2%) of genes in pham
• Manual Annotations of this start: 2 of 146
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Che9d_72 (F2), SimranZ1_64 (F1),

Start 40:
• Found in 60 of 167 (35.9%) of genes in pham
• Manual Annotations of this start: 1 of 146
• Called 1.7% of time when present
• Phage (with cluster) where this start called: Inventum_58 (F1),

Start 41:
• Found in 78 of 167 (46.7%) of genes in pham
• Manual Annotations of this start: 69 of 146
• Called 97.4% of time when present
• Phage (with cluster) where this start called: Aubs_63 (F1), Avani_71 (F2), Beanstalk_61 (F1), BigPhil_59 (F1), BlueCrab_63 (F1), Brookers_60 (F1), BuzzLyseyear_69 (F1), ByChance_55 (F1), Cerasum_59 (F1), Che8_68 (F1), Coco12_62 (F1), Constella_76 (J), Cornucopia_65 (F1), DRBy19_66 (F1), DaddyRickover_62 (F1), Dorothy_61 (F1), Enzomatic_70 (F1), Eradicator_56 (F1), Estave1_66 (F1), Fancypants_65 (F1), Firehouse51_64 (F1), GUmbie_61 (F1), Galactic_62 (F1), GigiOuiOui_59 (F1), Gorge_67 (F1), Grimmer_70 (F1), Guppsters_63 (F1), Harley_65 (F1), IbOuu_62 (F1), Ibhubesi_63 (F1), James_67 (F1), Job42_65 (F1), Juniper1_62 (F1), Kimberlium_68 (F1), Kingsley_60 (F1), Klein_91 (J), Latretium_65 (F1), LilMoolah_61 (F1), Lizziana_69 (F1), LunaBlu_65 (F1), MadMen_63 (F1), Madiba_64 (F1), Mahavrat_60 (F1), Marker_65 (F1), Mattes_67 (F1), Mova_67 (F1), MulchExplorer_67 (F1), Mutaforma13_67 (F1), Nekros_76 (J), NewHope4_64 (F1), Nibley_70 (J), Nivrat_59 (F1), Oksu_69 (F1), OlympiaSaint_65 (F1), Philus_66 (F1), Pollywog_64 (F1), Polo2Bam_69 (F1), QuickMath_67 (F1), RedBird_61 (F1), Renaud18_73 (F4), Royals2015_66 (F1), Saal_65 (F1), Sarma624_61 (F1), Sassafras_61 (F1), SeaLumen_68 (F1), Soul22_69 (F2), Tchotchke_64 (F1), ThetaBob_70 (F4), Thibault_75 (J), Topiatin_70 (F1), Velveteen_58 (F1), Wanda_95 (J), Xiaokay_80 (J), Yorick_62 (F1), Yoshi_78 (F2), Zelink_88 (J),

Start 42:
• Found in 37 of 167 (22.2%) of genes in pham
• Manual Annotations of this start: 9 of 146
• Called 24.3% of time when present
• Phage (with cluster) where this start called: BAKA_84 (J), Dove_65 (J), Halley_81 (J), HokkenD_71 (J), KashFlow_74 (J), Minerva_82 (J), Redno2_76 (J), Schatzie_75 (J), Yeet_74 (J),

Start 43:
• Found in 37 of 167 (22.2%) of genes in pham
• Manual Annotations of this start: 22 of 146
• Called 75.7% of time when present
• Phage (with cluster) where this start called: Bagrid_80 (J), Beem_79 (J), Bobby_77 (J), Bombitas_69 (J), BronnyJames_78 (J), Constella_66 (J), Dallas_78 (J), DmpstrDiver_80 (J), Duke13_83 (J), Ejimix_79 (J), EricMillard_78 (J), Hidrated_70 (J), Hughesyang_79 (J), JuicyJay_77 (J), Kalah2_74 (J), LittleE_80 (J),

Marleymoo_69 (J), NihilNomen_80 (J), Odette_78 (J), Omega_83 (J), Optimus_77 (J), Phoebus_82 (J), Pound_80 (J), Shaboozey_77 (J), Thibault_67 (J), ThreeRngTarjay_77 (J), Xiaokay_70 (J), Zelink_77 (J),

Start 45:
• Found in 49 of 167 (29.3%) of genes in pham
• Manual Annotations of this start: 37 of 146
• Called 89.8% of time when present
• Phage (with cluster) where this start called: Arib1_55 (P1), Babsiella_60 (I1), Bartholomew_53 (P1), Bhagsy_62 (P1), Bipolar_73 (F1), BronnyJames_77 (J), BronnyJr_52 (P1), Bunnies_61 (P1), CactusJack_56 (P1), Camster_58 (P1), Chubbello_53 (P1), Etoile_53 (P1), FirstPlacePfu_55 (P1), Fishburne_53 (P1), GaloreK_57 (P1), GreaseLightnin_62 (P1), HC_52 (I1), Hamulus_72 (F1), Island3_58 (I1), Jung_52 (P1), Kari_53 (P1), Ksquared_59 (P1), Langerak_54 (P1), LittleShirley_71 (F1), Majeke_59 (P1), Mangethe_59 (P1), MooMoo_50 (singleton), Omega_82 (J), PaintedDog_60 (I1), Phayonce_58 (P5), Phegasus_59 (P1), Phineas_58 (P1), Polkaroo_56 (P1), Pygmy_61 (P1), QueenHazel_51 (I1), Rebel_53 (N), Shaboozey_76 (J), Techage_54 (P1), Thespis_58 (P1), Venti_54 (P1), Vidya_55 (P1), Xeno_56 (N), Xula_50 (I1), Zilizebeth_59 (P1),

Start 46:
• Found in 1 of 167 (0.6%) of genes in pham
• Manual Annotations of this start: 1 of 146
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Phasih_61 (F1),

Start 50:
• Found in 18 of 167 (10.8%) of genes in pham
• Manual Annotations of this start: 1 of 146
• Called 11.1% of time when present
• Phage (with cluster) where this start called: PeanutPie_62 (P1), Shipwreck_60 (P1),

Summary by clusters:

There are 9 clusters represented in this pham: F1, singleton, P1, F4, P5, I1, J, F2, N,

Info for manual annotations of cluster F1:
•Start number 39 was manually annotated 1 time for cluster F1.
•Start number 40 was manually annotated 1 time for cluster F1.
•Start number 41 was manually annotated 59 times for cluster F1.
•Start number 45 was manually annotated 3 times for cluster F1.
•Start number 46 was manually annotated 1 time for cluster F1.

Info for manual annotations of cluster F2:
•Start number 39 was manually annotated 1 time for cluster F2.
•Start number 41 was manually annotated 3 times for cluster F2.

Info for manual annotations of cluster F4:
•Start number 41 was manually annotated 2 times for cluster F4.

Info for manual annotations of cluster I1:
•Start number 34 was manually annotated 1 time for cluster I1.
•Start number 45 was manually annotated 5 times for cluster I1.

Info for manual annotations of cluster J:
•Start number 41 was manually annotated 5 times for cluster J.
•Start number 42 was manually annotated 9 times for cluster J.
•Start number 43 was manually annotated 22 times for cluster J.
•Start number 45 was manually annotated 1 time for cluster J.

Info for manual annotations of cluster N:
•Start number 45 was manually annotated 2 times for cluster N.

Info for manual annotations of cluster P1:
•Start number 31 was manually annotated 1 time for cluster P1.
•Start number 37 was manually annotated 1 time for cluster P1.
•Start number 45 was manually annotated 24 times for cluster P1.
•Start number 50 was manually annotated 1 time for cluster P1.

Info for manual annotations of cluster P5:
•Start number 45 was manually annotated 1 time for cluster P5.

Gene Information:

Gene: Arib1_55 Start: 36318, Stop: 36641, Start Num: 45
Candidate Starts for Arib1_55:
(1, 35895), (3, 36042), (Start: 34 @36255 has 1 MA's), (Start: 45 @36318 has 37 MA's), (83, 36507), (84, 36510), (106, 36609),

Gene: Aubs_63 Start: 41384, Stop: 41719, Start Num: 41
Candidate Starts for Aubs_63:
(Start: 40 @41375 has 1 MA's), (Start: 41 @41384 has 69 MA's), (51, 41423), (66, 41495), (108, 41708),

Gene: Avani_71 Start: 41759, Stop: 42094, Start Num: 41
Candidate Starts for Avani_71:
(Start: 40 @41750 has 1 MA's), (Start: 41 @41759 has 69 MA's), (51, 41792), (66, 41864), (72, 41912), (90, 41999),

Gene: BAKA_84 Start: 53281, Stop: 52940, Start Num: 42
Candidate Starts for BAKA_84:
(Start: 37 @53308 has 1 MA's), (Start: 42 @53281 has 9 MA's), (Start: 43 @53278 has 22 MA's), (53, 53242), (79, 53095), (85, 53074), (100, 53014),

Gene: Babsiella_60 Start: 39552, Stop: 39869, Start Num: 45
Candidate Starts for Babsiella_60:
(11, 39354), (12, 39357), (13, 39366), (14, 39384), (Start: 45 @39552 has 37 MA's), (56, 39594), (59, 39612), (61, 39624), (106, 39837),

Gene: Bagrid_80 Start: 51928, Stop: 51584, Start Num: 43
Candidate Starts for Bagrid_80:
(Start: 37 @51958 has 1 MA's), (Start: 42 @51931 has 9 MA's), (Start: 43 @51928 has 22 MA's), (53, 51892), (82, 51730), (84, 51724), (85, 51721), (105, 51637),

Gene: Bartholomew_53 Start: 36260, Stop: 36583, Start Num: 45
Candidate Starts for Bartholomew_53:
(Start: 45 @36260 has 37 MA's), (83, 36449), (84, 36452), (106, 36551),

Gene: Beanstalk_61 Start: 39767, Stop: 40108, Start Num: 41
Candidate Starts for Beanstalk_61:
(Start: 40 @39758 has 1 MA's), (Start: 41 @39767 has 69 MA's), (51, 39806), (66, 39884),

Gene: Beem_79 Start: 52789, Stop: 52445, Start Num: 43
Candidate Starts for Beem_79:
(Start: 37 @52819 has 1 MA's), (Start: 42 @52792 has 9 MA's), (Start: 43 @52789 has 22 MA's), (53, 52753), (82, 52591), (84, 52585), (85, 52582), (105, 52498),

Gene: Bhagsy_62 Start: 40139, Stop: 40462, Start Num: 45
Candidate Starts for Bhagsy_62:
(22, 40025), (Start: 37 @40097 has 1 MA's), (Start: 45 @40139 has 37 MA's), (Start: 50 @40163 has 1 MA's), (61, 40220), (102, 40409), (106, 40430),

Gene: BigPhil_59 Start: 37375, Stop: 37716, Start Num: 41
Candidate Starts for BigPhil_59:
(Start: 40 @37366 has 1 MA's), (Start: 41 @37375 has 69 MA's), (51, 37414), (66, 37492), (108, 37705),

Gene: Bipolar_73 Start: 45463, Stop: 45828, Start Num: 45
Candidate Starts for Bipolar_73:
(Start: 45 @45463 has 37 MA's), (56, 45505), (59, 45523), (61, 45535), (74, 45643), (106, 45796),

Gene: BlueCrab_63 Start: 41722, Stop: 42096, Start Num: 41
Candidate Starts for BlueCrab_63:
(Start: 40 @41713 has 1 MA's), (Start: 41 @41722 has 69 MA's), (48, 41755), (65, 41863), (66, 41866), (72, 41914), (90, 42001), (108, 42085),

Gene: Bobby_77 Start: 51896, Stop: 51546, Start Num: 43
Candidate Starts for Bobby_77:
(Start: 37 @51926 has 1 MA's), (Start: 42 @51899 has 9 MA's), (Start: 43 @51896 has 22 MA's), (60, 51821), (62, 51815), (96, 51644),

Gene: Bombitas_69 Start: 49952, Stop: 49608, Start Num: 43
Candidate Starts for Bombitas_69:
(Start: 37 @49982 has 1 MA's), (Start: 42 @49955 has 9 MA's), (Start: 43 @49952 has 22 MA's), (53, 49916), (82, 49754), (84, 49748), (85, 49745), (105, 49661),

Gene: BronnyJames_78 Start: 48223, Stop: 47873, Start Num: 43
Candidate Starts for BronnyJames_78:
(21, 48331), (Start: 37 @48253 has 1 MA's), (Start: 42 @48226 has 9 MA's), (Start: 43 @48223 has 22 MA's), (53, 48187), (68, 48100), (69, 48094), (80, 48028), (94, 47965), (98, 47959), (106, 47917),

Gene: BronnyJames_77 Start: 47876, Stop: 47634, Start Num: 45
Candidate Starts for BronnyJames_77:
(24, 47987), (26, 47975), (29, 47969), (36, 47921), (Start: 45 @47876 has 37 MA's), (60, 47801), (62, 47795), (75, 47717), (77, 47702),

Gene: BronnyJr_52 Start: 37549, Stop: 37866, Start Num: 45

Candidate Starts for BronnyJr_52:
(2, 37153), (27, 37456), (Start: 34 @37492 has 1 MA's), (Start: 45 @37549 has 37 MA's), (55, 37591), (59, 37609), (61, 37621), (106, 37834),

Gene: Brookers_60 Start: 40326, Stop: 40667, Start Num: 41
Candidate Starts for Brookers_60:
(Start: 40 @40317 has 1 MA's), (Start: 41 @40326 has 69 MA's), (51, 40365), (66, 40443), (108, 40656),

Gene: Brujita_57 Start: 38345, Stop: 38749, Start Num: 34
Candidate Starts for Brujita_57:
(Start: 34 @38345 has 1 MA's), (Start: 45 @38408 has 37 MA's), (58, 38480), (61, 38504), (106, 38717),

Gene: Bunnies_61 Start: 40221, Stop: 40544, Start Num: 45
Candidate Starts for Bunnies_61:
(22, 40107), (Start: 37 @40179 has 1 MA's), (Start: 45 @40221 has 37 MA's), (Start: 50 @40245 has 1 MA's), (61, 40302), (102, 40491), (106, 40512),

Gene: BuzzLyseyear_69 Start: 42383, Stop: 42724, Start Num: 41
Candidate Starts for BuzzLyseyear_69:
(Start: 40 @42374 has 1 MA's), (Start: 41 @42383 has 69 MA's), (51, 42422), (66, 42500), (108, 42713),

Gene: ByChance_55 Start: 36650, Stop: 37024, Start Num: 41
Candidate Starts for ByChance_55:
(Start: 40 @36641 has 1 MA's), (Start: 41 @36650 has 69 MA's), (48, 36683), (65, 36791), (66, 36794), (72, 36842), (90, 36929), (108, 37013),

Gene: CactusJack_56 Start: 39089, Stop: 39412, Start Num: 45
Candidate Starts for CactusJack_56:
(22, 38975), (Start: 37 @39047 has 1 MA's), (Start: 45 @39089 has 37 MA's), (Start: 50 @39113 has 1 MA's), (61, 39170), (102, 39359), (106, 39380),

Gene: Camster_58 Start: 38552, Stop: 38878, Start Num: 45
Candidate Starts for Camster_58:
(22, 38438), (Start: 37 @38510 has 1 MA's), (Start: 45 @38552 has 37 MA's), (Start: 50 @38576 has 1 MA's), (61, 38633), (102, 38825), (106, 38846),

Gene: Cerasum_59 Start: 37393, Stop: 37734, Start Num: 41
Candidate Starts for Cerasum_59:
(Start: 40 @37384 has 1 MA's), (Start: 41 @37393 has 69 MA's), (51, 37432), (66, 37510), (108, 37723),

Gene: Che8_68 Start: 43879, Stop: 44220, Start Num: 41
Candidate Starts for Che8_68:
(Start: 40 @43870 has 1 MA's), (Start: 41 @43879 has 69 MA's), (51, 43918), (66, 43996), (108, 44209),

Gene: Che9d_72 Start: 41100, Stop: 41432, Start Num: 39
Candidate Starts for Che9d_72:
(Start: 39 @41100 has 2 MA's), (Start: 50 @41130 has 1 MA's), (51, 41139), (66, 41217), (68, 41241), (71, 41259), (87, 41313), (91, 41340), (101, 41370), (108, 41421),

Gene: Chubbello_53 Start: 36256, Stop: 36579, Start Num: 45
Candidate Starts for Chubbello_53:
(Start: 45 @36256 has 37 MA's), (83, 36445), (84, 36448), (106, 36547),

Gene: Coco12_62 Start: 41450, Stop: 41791, Start Num: 41
Candidate Starts for Coco12_62:
(Start: 40 @41441 has 1 MA's), (Start: 41 @41450 has 69 MA's), (51, 41489), (66, 41567), (108, 41780),

Gene: Constella_76 Start: 51061, Stop: 51402, Start Num: 41
Candidate Starts for Constella_76:
(18, 50929), (30, 50989), (33, 51010), (35, 51016), (Start: 41 @51061 has 69 MA's), (51, 51100), (66, 51154), (93, 51316), (95, 51322), (103, 51349), (104, 51352), (108, 51391),

Gene: Constella_66 Start: 46926, Stop: 46588, Start Num: 43
Candidate Starts for Constella_66:
(Start: 37 @46956 has 1 MA's), (Start: 42 @46929 has 9 MA's), (Start: 43 @46926 has 22 MA's), (53, 46890), (79, 46743), (85, 46722), (100, 46662),

Gene: Cornucopia_65 Start: 41687, Stop: 42007, Start Num: 41
Candidate Starts for Cornucopia_65:
(Start: 40 @41678 has 1 MA's), (Start: 41 @41687 has 69 MA's), (51, 41720), (66, 41792), (71, 41834), (87, 41888), (91, 41915), (101, 41945), (108, 41996),

Gene: DRBy19_66 Start: 42134, Stop: 42475, Start Num: 41
Candidate Starts for DRBy19_66:
(Start: 40 @42125 has 1 MA's), (Start: 41 @42134 has 69 MA's), (51, 42173), (66, 42251), (108, 42464),

Gene: DaddyRickover_62 Start: 41176, Stop: 41511, Start Num: 41
Candidate Starts for DaddyRickover_62:
(Start: 40 @41167 has 1 MA's), (Start: 41 @41176 has 69 MA's), (51, 41215), (66, 41287), (108, 41500),

Gene: Dallas_78 Start: 51710, Stop: 51366, Start Num: 43
Candidate Starts for Dallas_78:
(Start: 37 @51740 has 1 MA's), (Start: 42 @51713 has 9 MA's), (Start: 43 @51710 has 22 MA's), (53, 51674), (82, 51512), (84, 51506), (85, 51503), (105, 51419),

Gene: DmpstrDiver_80 Start: 52136, Stop: 51792, Start Num: 43
Candidate Starts for DmpstrDiver_80:
(Start: 37 @52166 has 1 MA's), (Start: 42 @52139 has 9 MA's), (Start: 43 @52136 has 22 MA's), (53, 52100), (82, 51938), (84, 51932), (85, 51929), (105, 51845),

Gene: Donovan_53 Start: 36400, Stop: 36801, Start Num: 31
Candidate Starts for Donovan_53:
(17, 36316), (Start: 31 @36400 has 1 MA's), (44, 36469), (Start: 45 @36475 has 37 MA's), (59, 36547), (83, 36667), (84, 36670), (106, 36769),

Gene: Dorothy_61 Start: 40350, Stop: 40685, Start Num: 41
Candidate Starts for Dorothy_61:

(Start: 40 @40341 has 1 MA's), (Start: 41 @40350 has 69 MA's), (51, 40389), (66, 40461), (108, 40674),

Gene: Dove_65 Start: 48221, Stop: 47874, Start Num: 42
Candidate Starts for Dove_65:
(Start: 37 @48248 has 1 MA's), (Start: 42 @48221 has 9 MA's), (Start: 43 @48218 has 22 MA's), (53, 48182), (82, 48020), (84, 48014), (85, 48011), (105, 47927),

Gene: Duke13_83 Start: 52490, Stop: 52152, Start Num: 43
Candidate Starts for Duke13_83:
(Start: 37 @52520 has 1 MA's), (Start: 42 @52493 has 9 MA's), (Start: 43 @52490 has 22 MA's), (53, 52454), (79, 52307), (85, 52286), (100, 52226),

Gene: Ejimix_79 Start: 53578, Stop: 53234, Start Num: 43
Candidate Starts for Ejimix_79:
(Start: 37 @53608 has 1 MA's), (Start: 42 @53581 has 9 MA's), (Start: 43 @53578 has 22 MA's), (53, 53542), (82, 53380), (84, 53374), (85, 53371), (105, 53287),

Gene: Enzomatic_70 Start: 40804, Stop: 41145, Start Num: 41
Candidate Starts for Enzomatic_70:
(Start: 40 @40795 has 1 MA's), (Start: 41 @40804 has 69 MA's), (49, 40825), (54, 40840), (63, 40891), (87, 41029), (108, 41134),

Gene: Eradicator_56 Start: 39233, Stop: 39574, Start Num: 41
Candidate Starts for Eradicator_56:
(Start: 40 @39224 has 1 MA's), (Start: 41 @39233 has 69 MA's), (51, 39272), (66, 39350), (108, 39563),

Gene: EricMillard_78 Start: 52781, Stop: 52437, Start Num: 43
Candidate Starts for EricMillard_78:
(Start: 37 @52811 has 1 MA's), (Start: 42 @52784 has 9 MA's), (Start: 43 @52781 has 22 MA's), (53, 52745), (82, 52583), (84, 52577), (85, 52574), (105, 52490),

Gene: Estave1_66 Start: 42262, Stop: 42642, Start Num: 41
Candidate Starts for Estave1_66:
(Start: 40 @42253 has 1 MA's), (Start: 41 @42262 has 69 MA's), (51, 42301), (78, 42472), (84, 42496), (101, 42568), (108, 42631),

Gene: Etoile_53 Start: 36260, Stop: 36583, Start Num: 45
Candidate Starts for Etoile_53:
(Start: 45 @36260 has 37 MA's), (83, 36449), (84, 36452), (106, 36551),

Gene: Fancypants_65 Start: 41674, Stop: 42000, Start Num: 41
Candidate Starts for Fancypants_65:
(Start: 40 @41665 has 1 MA's), (Start: 41 @41674 has 69 MA's), (51, 41707), (66, 41785), (68, 41809), (71, 41827), (87, 41881), (91, 41908), (101, 41938), (108, 41989),

Gene: Finkle_72 Start: 43792, Stop: 44199, Start Num: 32
Candidate Starts for Finkle_72:
(Start: 32 @43792 has 1 MA's), (38, 43819), (47, 43861), (68, 43975), (100, 44122),

Gene: Firehouse51_64 Start: 44558, Stop: 44872, Start Num: 41
Candidate Starts for Firehouse51_64:

(Start: 40 @44549 has 1 MA's), (Start: 41 @44558 has 69 MA's), (51, 44591), (66, 44663), (87, 44762), (99, 44810), (108, 44861),

Gene: FirstPlacePfu_55 Start: 36292, Stop: 36615, Start Num: 45
Candidate Starts for FirstPlacePfu_55:
(Start: 45 @36292 has 37 MA's), (83, 36481), (84, 36484), (106, 36583),

Gene: Fishburne_53 Start: 36260, Stop: 36583, Start Num: 45
Candidate Starts for Fishburne_53:
(Start: 45 @36260 has 37 MA's), (83, 36449), (84, 36452), (106, 36551),

Gene: GUmbie_61 Start: 40460, Stop: 40801, Start Num: 41
Candidate Starts for GUmbie_61:
(Start: 40 @40451 has 1 MA's), (Start: 41 @40460 has 69 MA's), (51, 40499), (66, 40577), (108, 40790),

Gene: Galactic_62 Start: 40920, Stop: 41261, Start Num: 41
Candidate Starts for Galactic_62:
(Start: 40 @40911 has 1 MA's), (Start: 41 @40920 has 69 MA's), (49, 40941), (54, 40956), (63, 41007), (87, 41145), (108, 41250),

Gene: GaloreK_57 Start: 37790, Stop: 38107, Start Num: 45
Candidate Starts for GaloreK_57:
(4, 37523), (7, 37556), (9, 37580), (10, 37586), (Start: 34 @37727 has 1 MA's), (Start: 45 @37790 has 37 MA's), (56, 37832), (59, 37850), (61, 37862), (106, 38075),

Gene: GigiOuiOui_59 Start: 39900, Stop: 40250, Start Num: 41
Candidate Starts for GigiOuiOui_59:
(Start: 40 @39891 has 1 MA's), (Start: 41 @39900 has 69 MA's), (51, 39939), (66, 40017), (87, 40131), (89, 40146), (91, 40158),

Gene: Gorge_67 Start: 42402, Stop: 42743, Start Num: 41
Candidate Starts for Gorge_67:
(Start: 40 @42393 has 1 MA's), (Start: 41 @42402 has 69 MA's), (51, 42441), (66, 42519), (108, 42732),

Gene: GreaseLightnin_62 Start: 40455, Stop: 40778, Start Num: 45
Candidate Starts for GreaseLightnin_62:
(22, 40341), (Start: 37 @40413 has 1 MA's), (Start: 45 @40455 has 37 MA's), (Start: 50 @40479 has 1 MA's), (61, 40536), (106, 40746),

Gene: Grimmer_70 Start: 42556, Stop: 42891, Start Num: 41
Candidate Starts for Grimmer_70:
(Start: 40 @42547 has 1 MA's), (Start: 41 @42556 has 69 MA's), (51, 42589), (66, 42661), (72, 42709), (90, 42796), (108, 42880),

Gene: Guppsters_63 Start: 40585, Stop: 40926, Start Num: 41
Candidate Starts for Guppsters_63:
(Start: 40 @40576 has 1 MA's), (Start: 41 @40585 has 69 MA's), (51, 40624), (66, 40702), (108, 40915),

Gene: HC_52 Start: 35682, Stop: 35999, Start Num: 45
Candidate Starts for HC_52:

(Start: 45 @35682 has 37 MA's), (56, 35724), (59, 35742), (61, 35754), (106, 35967),

Gene: Halley_81 Start: 52792, Stop: 52445, Start Num: 42
Candidate Starts for Halley_81:
(Start: 37 @52819 has 1 MA's), (Start: 42 @52792 has 9 MA's), (Start: 43 @52789 has 22 MA's), (53, 52753), (82, 52591), (84, 52585), (85, 52582), (105, 52498),

Gene: Hamulus_72 Start: 45640, Stop: 45987, Start Num: 45
Candidate Starts for Hamulus_72:
(Start: 45 @45640 has 37 MA's), (58, 45712), (61, 45736), (106, 45955),

Gene: Harley_65 Start: 42034, Stop: 42369, Start Num: 41
Candidate Starts for Harley_65:
(Start: 40 @42025 has 1 MA's), (Start: 41 @42034 has 69 MA's), (51, 42073),

Gene: Hidrated_70 Start: 51173, Stop: 50823, Start Num: 43
Candidate Starts for Hidrated_70:
(Start: 37 @51203 has 1 MA's), (Start: 42 @51176 has 9 MA's), (Start: 43 @51173 has 22 MA's), (60, 51098), (62, 51092), (96, 50921),

Gene: HokkenD_71 Start: 51061, Stop: 50714, Start Num: 42
Candidate Starts for HokkenD_71:
(Start: 37 @51088 has 1 MA's), (Start: 42 @51061 has 9 MA's), (Start: 43 @51058 has 22 MA's), (53, 51022), (82, 50860), (84, 50854), (85, 50851), (105, 50767),

Gene: Hughesyang_79 Start: 52747, Stop: 52403, Start Num: 43
Candidate Starts for Hughesyang_79:
(Start: 37 @52777 has 1 MA's), (Start: 42 @52750 has 9 MA's), (Start: 43 @52747 has 22 MA's), (53, 52711), (82, 52549), (84, 52543), (85, 52540), (105, 52456),

Gene: IbOuu_62 Start: 41437, Stop: 41772, Start Num: 41
Candidate Starts for IbOuu_62:
(Start: 40 @41428 has 1 MA's), (Start: 41 @41437 has 69 MA's), (51, 41476), (66, 41548), (108, 41761),

Gene: Ibhubesi_63 Start: 41044, Stop: 41385, Start Num: 41
Candidate Starts for Ibhubesi_63:
(Start: 40 @41035 has 1 MA's), (Start: 41 @41044 has 69 MA's), (49, 41065), (54, 41080), (63, 41131), (87, 41269), (108, 41374),

Gene: Inventum_58 Start: 40539, Stop: 40883, Start Num: 40
Candidate Starts for Inventum_58:
(Start: 40 @40539 has 1 MA's), (Start: 41 @40548 has 69 MA's), (51, 40587), (66, 40659), (108, 40872),

Gene: Island3_58 Start: 38408, Stop: 38749, Start Num: 45
Candidate Starts for Island3_58:
(Start: 34 @38345 has 1 MA's), (Start: 45 @38408 has 37 MA's), (58, 38480), (61, 38504), (106, 38717),

Gene: James_67 Start: 42527, Stop: 42868, Start Num: 41
Candidate Starts for James_67:

(Start: 40 @42518 has 1 MA's), (Start: 41 @42527 has 69 MA's), (51, 42566), (66, 42644), (108, 42857),

Gene: Jebeks_57 Start: 37603, Stop: 37971, Start Num: 37
Candidate Starts for Jebeks_57:
(22, 37531), (Start: 37 @37603 has 1 MA's), (Start: 45 @37645 has 37 MA's), (Start: 50 @37669 has 1 MA's), (61, 37726), (102, 37918), (106, 37939),

Gene: Job42_65 Start: 42942, Stop: 43283, Start Num: 41
Candidate Starts for Job42_65:
(Start: 40 @42933 has 1 MA's), (Start: 41 @42942 has 69 MA's), (51, 42981), (66, 43059), (108, 43272),

Gene: JuicyJay_77 Start: 53923, Stop: 53579, Start Num: 43
Candidate Starts for JuicyJay_77:
(Start: 37 @53953 has 1 MA's), (Start: 42 @53926 has 9 MA's), (Start: 43 @53923 has 22 MA's), (53, 53887), (82, 53725), (84, 53719), (85, 53716), (105, 53632),

Gene: Jung_52 Start: 35997, Stop: 36314, Start Num: 45
Candidate Starts for Jung_52:
(Start: 45 @35997 has 37 MA's), (56, 36039), (59, 36057), (61, 36069), (106, 36282),

Gene: Juniper1_62 Start: 41298, Stop: 41678, Start Num: 41
Candidate Starts for Juniper1_62:
(Start: 40 @41289 has 1 MA's), (Start: 41 @41298 has 69 MA's), (51, 41337), (78, 41508), (84, 41532), (101, 41604), (108, 41667),

Gene: Kalah2_74 Start: 52082, Stop: 51738, Start Num: 43
Candidate Starts for Kalah2_74:
(Start: 37 @52112 has 1 MA's), (Start: 42 @52085 has 9 MA's), (Start: 43 @52082 has 22 MA's), (53, 52046), (82, 51884), (84, 51878), (85, 51875), (105, 51791),

Gene: Kari_53 Start: 36257, Stop: 36580, Start Num: 45
Candidate Starts for Kari_53:
(Start: 45 @36257 has 37 MA's), (83, 36446), (84, 36449), (106, 36548),

Gene: KashFlow_74 Start: 47820, Stop: 47479, Start Num: 42
Candidate Starts for KashFlow_74:
(Start: 37 @47847 has 1 MA's), (Start: 42 @47820 has 9 MA's), (Start: 43 @47817 has 22 MA's), (53, 47781), (79, 47634), (85, 47613), (100, 47553),

Gene: Kimberlium_68 Start: 43340, Stop: 43681, Start Num: 41
Candidate Starts for Kimberlium_68:
(Start: 41 @43340 has 69 MA's), (51, 43379), (66, 43433), (93, 43595), (95, 43601), (103, 43628), (104, 43631),

Gene: Kingsley_60 Start: 40183, Stop: 40524, Start Num: 41
Candidate Starts for Kingsley_60:
(Start: 40 @40174 has 1 MA's), (Start: 41 @40183 has 69 MA's), (51, 40222), (66, 40300), (108, 40513),

Gene: Klein_91 Start: 55893, Stop: 56234, Start Num: 41
Candidate Starts for Klein_91:

(18, 55761), (30, 55821), (33, 55842), (35, 55848), (Start: 41 @55893 has 69 MA's), (51, 55932), (66, 55986), (93, 56148), (95, 56154), (103, 56181), (104, 56184), (108, 56223),

Gene: Ksquared_59 Start: 40221, Stop: 40544, Start Num: 45
Candidate Starts for Ksquared_59:
(22, 40107), (Start: 37 @40179 has 1 MA's), (Start: 45 @40221 has 37 MA's), (Start: 50 @40245 has 1 MA's), (61, 40302), (102, 40491), (106, 40512),

Gene: Langerak_54 Start: 36276, Stop: 36599, Start Num: 45
Candidate Starts for Langerak_54:
(Start: 45 @36276 has 37 MA's), (83, 36465), (84, 36468), (106, 36567),

Gene: Latretium_65 Start: 41581, Stop: 41904, Start Num: 41
Candidate Starts for Latretium_65:
(15, 41428), (Start: 40 @41572 has 1 MA's), (Start: 41 @41581 has 69 MA's), (49, 41602), (52, 41617), (63, 41668), (66, 41689), (71, 41731), (87, 41785), (101, 41842), (108, 41893),

Gene: LilMoolah_61 Start: 40447, Stop: 40788, Start Num: 41
Candidate Starts for LilMoolah_61:
(Start: 40 @40438 has 1 MA's), (Start: 41 @40447 has 69 MA's), (51, 40486), (66, 40564), (108, 40777),

Gene: LittleE_80 Start: 51274, Stop: 51020, Start Num: 43
Candidate Starts for LittleE_80:
(Start: 37 @51304 has 1 MA's), (Start: 42 @51277 has 9 MA's), (Start: 43 @51274 has 22 MA's), (75, 51103), (77, 51088),

Gene: LittleShirley_71 Start: 44686, Stop: 45033, Start Num: 45
Candidate Starts for LittleShirley_71:
(Start: 45 @44686 has 37 MA's), (58, 44758), (61, 44782), (106, 45001),

Gene: Lizziana_69 Start: 42008, Stop: 42349, Start Num: 41
Candidate Starts for Lizziana_69:
(Start: 40 @41999 has 1 MA's), (Start: 41 @42008 has 69 MA's), (51, 42047), (66, 42125), (108, 42338),

Gene: LunaBlu_65 Start: 41579, Stop: 41920, Start Num: 41
Candidate Starts for LunaBlu_65:
(Start: 40 @41570 has 1 MA's), (Start: 41 @41579 has 69 MA's), (49, 41600), (54, 41615), (63, 41666), (87, 41804), (108, 41909),

Gene: MadMen_63 Start: 41307, Stop: 41648, Start Num: 41
Candidate Starts for MadMen_63:
(18, 41175), (30, 41235), (33, 41256), (35, 41262), (Start: 41 @41307 has 69 MA's), (51, 41346), (66, 41400), (93, 41562), (95, 41568), (103, 41595),

Gene: Madiba_64 Start: 40812, Stop: 41153, Start Num: 41
Candidate Starts for Madiba_64:
(5, 40572), (6, 40578), (18, 40680), (30, 40740), (33, 40761), (35, 40767), (Start: 41 @40812 has 69 MA's), (51, 40851), (66, 40905), (95, 41073), (103, 41100),

Gene: Mahavrat_60 Start: 40518, Stop: 40859, Start Num: 41
Candidate Starts for Mahavrat_60:

(Start: 40 @40509 has 1 MA's), (Start: 41 @40518 has 69 MA's), (51, 40551), (66, 40629), (72, 40677), (90, 40764), (108, 40848),

Gene: Majeke_59 Start: 37835, Stop: 38158, Start Num: 45
Candidate Starts for Majeke_59:
(4, 37568), (7, 37601), (9, 37625), (10, 37631), (Start: 34 @37772 has 1 MA's), (Start: 45 @37835 has 37 MA's), (83, 38024), (84, 38027), (106, 38126),

Gene: Mangethe_59 Start: 37835, Stop: 38158, Start Num: 45
Candidate Starts for Mangethe_59:
(4, 37568), (7, 37601), (9, 37625), (10, 37631), (Start: 34 @37772 has 1 MA's), (Start: 45 @37835 has 37 MA's), (83, 38024), (84, 38027), (106, 38126),

Gene: Marker_65 Start: 41128, Stop: 41487, Start Num: 41
Candidate Starts for Marker_65:
(Start: 40 @41119 has 1 MA's), (Start: 41 @41128 has 69 MA's), (51, 41167), (66, 41239), (93, 41401), (95, 41407), (103, 41434),

Gene: Marleymoo_69 Start: 49698, Stop: 49360, Start Num: 43
Candidate Starts for Marleymoo_69:
(Start: 37 @49728 has 1 MA's), (Start: 42 @49701 has 9 MA's), (Start: 43 @49698 has 22 MA's), (53, 49662), (79, 49515), (85, 49494), (100, 49434),

Gene: Mattes_67 Start: 42527, Stop: 42868, Start Num: 41
Candidate Starts for Mattes_67:
(Start: 40 @42518 has 1 MA's), (Start: 41 @42527 has 69 MA's), (51, 42566), (66, 42644), (108, 42857),

Gene: Minerva_82 Start: 52925, Stop: 52584, Start Num: 42
Candidate Starts for Minerva_82:
(Start: 37 @52952 has 1 MA's), (Start: 42 @52925 has 9 MA's), (Start: 43 @52922 has 22 MA's), (53, 52886), (79, 52739), (85, 52718), (100, 52658),

Gene: MooMoo_50 Start: 36541, Stop: 36855, Start Num: 45
Candidate Starts for MooMoo_50:
(Start: 45 @36541 has 37 MA's), (57, 36589), (64, 36622), (67, 36661), (69, 36670), (88, 36736), (92, 36763), (107, 36841),

Gene: Mova_67 Start: 41316, Stop: 41657, Start Num: 41
Candidate Starts for Mova_67:
(5, 41076), (6, 41082), (18, 41184), (30, 41244), (33, 41265), (35, 41271), (Start: 41 @41316 has 69 MA's), (51, 41355), (66, 41409), (95, 41577), (103, 41604),

Gene: MulchExplorer_67 Start: 43339, Stop: 43680, Start Num: 41
Candidate Starts for MulchExplorer_67:
(Start: 41 @43339 has 69 MA's), (51, 43378), (66, 43432), (93, 43594), (95, 43600), (103, 43627), (104, 43630),

Gene: Mutaforma13_67 Start: 43868, Stop: 44182, Start Num: 41
Candidate Starts for Mutaforma13_67:
(Start: 40 @43859 has 1 MA's), (Start: 41 @43868 has 69 MA's), (51, 43901), (66, 43973), (87, 44072), (99, 44120), (108, 44171),

Gene: Nekros_76 Start: 50135, Stop: 49875, Start Num: 41
Candidate Starts for Nekros_76:
(Start: 41 @50135 has 69 MA's), (49, 50108), (Start: 50 @50105 has 1 MA's), (51, 50096), (73, 49958), (76, 49943),

Gene: NewHope4_64 Start: 40950, Stop: 41291, Start Num: 41
Candidate Starts for NewHope4_64:
(Start: 40 @40941 has 1 MA's), (Start: 41 @40950 has 69 MA's), (49, 40971), (54, 40986), (63, 41037), (87, 41175), (108, 41280),

Gene: Nibley_70 Start: 46983, Stop: 46723, Start Num: 41
Candidate Starts for Nibley_70:
(Start: 41 @46983 has 69 MA's), (49, 46956), (Start: 50 @46953 has 1 MA's), (51, 46944), (73, 46806), (76, 46791),

Gene: NihilNomen_80 Start: 52876, Stop: 52532, Start Num: 43
Candidate Starts for NihilNomen_80:
(Start: 37 @52906 has 1 MA's), (Start: 42 @52879 has 9 MA's), (Start: 43 @52876 has 22 MA's), (53, 52840), (82, 52678), (84, 52672), (85, 52669), (105, 52585),

Gene: Nivrat_59 Start: 40320, Stop: 40661, Start Num: 41
Candidate Starts for Nivrat_59:
(Start: 40 @40311 has 1 MA's), (Start: 41 @40320 has 69 MA's), (51, 40359), (66, 40437), (108, 40650),

Gene: Odette_78 Start: 51918, Stop: 51574, Start Num: 43
Candidate Starts for Odette_78:
(Start: 37 @51948 has 1 MA's), (Start: 42 @51921 has 9 MA's), (Start: 43 @51918 has 22 MA's), (53, 51882), (82, 51720), (84, 51714), (85, 51711), (105, 51627),

Gene: Oksu_69 Start: 43933, Stop: 44274, Start Num: 41
Candidate Starts for Oksu_69:
(Start: 40 @43924 has 1 MA's), (Start: 41 @43933 has 69 MA's), (51, 43972),

Gene: OlympiaSaint_65 Start: 41469, Stop: 41810, Start Num: 41
Candidate Starts for OlympiaSaint_65:
(Start: 40 @41460 has 1 MA's), (Start: 41 @41469 has 69 MA's), (51, 41508), (66, 41586), (108, 41799),

Gene: Omega_82 Start: 52706, Stop: 52464, Start Num: 45
Candidate Starts for Omega_82:
(24, 52817), (26, 52805), (29, 52799), (36, 52751), (Start: 45 @52706 has 37 MA's), (60, 52631), (62, 52625), (75, 52547), (77, 52532),

Gene: Omega_83 Start: 53053, Stop: 52703, Start Num: 43
Candidate Starts for Omega_83:
(21, 53161), (Start: 37 @53083 has 1 MA's), (Start: 42 @53056 has 9 MA's), (Start: 43 @53053 has 22 MA's), (53, 53017), (68, 52930), (69, 52924), (80, 52858), (94, 52795), (98, 52789), (106, 52747),

Gene: Optimus_77 Start: 51627, Stop: 51340, Start Num: 43
Candidate Starts for Optimus_77:
(Start: 37 @51657 has 1 MA's), (Start: 42 @51630 has 9 MA's), (Start: 43 @51627 has 22 MA's), (53, 51591), (86, 51420),

Gene: PaintedDog_60 Start: 40222, Stop: 40539, Start Num: 45
Candidate Starts for PaintedDog_60:
(Start: 45 @40222 has 37 MA's), (56, 40264), (61, 40294), (106, 40507),

Gene: PeanutPie_62 Start: 40166, Stop: 40465, Start Num: 50
Candidate Starts for PeanutPie_62:
(22, 40028), (Start: 37 @40100 has 1 MA's), (Start: 45 @40142 has 37 MA's), (Start: 50 @40166 has 1 MA's), (61, 40223), (102, 40412), (106, 40433),

Gene: Phasih_61 Start: 41374, Stop: 41724, Start Num: 46
Candidate Starts for Phasih_61:
(Start: 41 @41365 has 69 MA's), (Start: 46 @41374 has 1 MA's), (Start: 50 @41395 has 1 MA's), (51, 41404), (66, 41482), (70, 41527), (81, 41581), (93, 41638), (95, 41644), (103, 41671), (108, 41713),

Gene: Phayonce_58 Start: 40466, Stop: 40795, Start Num: 45
Candidate Starts for Phayonce_58:
(8, 40253), (12, 40277), (19, 40334), (20, 40340), (Start: 34 @40409 has 1 MA's), (Start: 45 @40466 has 37 MA's), (57, 40514), (64, 40547), (66, 40565), (108, 40781),

Gene: Phegasus_59 Start: 37802, Stop: 38125, Start Num: 45
Candidate Starts for Phegasus_59:
(4, 37535), (7, 37568), (9, 37592), (10, 37598), (Start: 34 @37739 has 1 MA's), (Start: 45 @37802 has 37 MA's), (83, 37991), (84, 37994), (106, 38093),

Gene: Philus_66 Start: 42110, Stop: 42451, Start Num: 41
Candidate Starts for Philus_66:
(Start: 40 @42101 has 1 MA's), (Start: 41 @42110 has 69 MA's), (51, 42149), (66, 42227), (108, 42440),

Gene: Phineas_58 Start: 38683, Stop: 39009, Start Num: 45
Candidate Starts for Phineas_58:
(22, 38569), (Start: 37 @38641 has 1 MA's), (Start: 45 @38683 has 37 MA's), (Start: 50 @38707 has 1 MA's), (61, 38764), (102, 38956), (106, 38977),

Gene: Phoebus_82 Start: 54058, Stop: 53714, Start Num: 43
Candidate Starts for Phoebus_82:
(Start: 37 @54088 has 1 MA's), (Start: 42 @54061 has 9 MA's), (Start: 43 @54058 has 22 MA's), (53, 54022), (82, 53860), (84, 53854), (85, 53851), (105, 53767),

Gene: Polkaroo_56 Start: 37599, Stop: 37922, Start Num: 45
Candidate Starts for Polkaroo_56:
(Start: 45 @37599 has 37 MA's), (83, 37788), (84, 37791), (106, 37890),

Gene: Pollywog_64 Start: 41787, Stop: 42128, Start Num: 41
Candidate Starts for Pollywog_64:
(Start: 40 @41778 has 1 MA's), (Start: 41 @41787 has 69 MA's), (51, 41826), (66, 41904), (108, 42117),

Gene: Polo2Bam_69 Start: 40804, Stop: 41145, Start Num: 41
Candidate Starts for Polo2Bam_69:
(Start: 40 @40795 has 1 MA's), (Start: 41 @40804 has 69 MA's), (49, 40825), (54, 40840), (63, 40891), (87, 41029), (108, 41134),

Gene: Pound_80 Start: 54194, Stop: 53856, Start Num: 43
Candidate Starts for Pound_80:
(Start: 37 @54224 has 1 MA's), (Start: 42 @54197 has 9 MA's), (Start: 43 @54194 has 22 MA's), (53, 54158), (79, 54011), (85, 53990), (100, 53930),

Gene: Pygmy_61 Start: 40147, Stop: 40473, Start Num: 45
Candidate Starts for Pygmy_61:
(22, 40033), (Start: 37 @40105 has 1 MA's), (Start: 45 @40147 has 37 MA's), (Start: 50 @40171 has 1 MA's), (61, 40228), (102, 40420), (106, 40441),

Gene: QueenHazel_51 Start: 36206, Stop: 36523, Start Num: 45
Candidate Starts for QueenHazel_51:
(16, 36047), (Start: 34 @36143 has 1 MA's), (Start: 45 @36206 has 37 MA's), (56, 36248), (59, 36266), (61, 36278), (106, 36491),

Gene: QuickMath_67 Start: 43563, Stop: 43904, Start Num: 41
Candidate Starts for QuickMath_67:
(Start: 41 @43563 has 69 MA's), (51, 43602), (66, 43656), (93, 43818), (95, 43824), (103, 43851), (104, 43854),

Gene: Rebel_53 Start: 34876, Stop: 35211, Start Num: 45
Candidate Starts for Rebel_53:
(Start: 34 @34819 has 1 MA's), (Start: 45 @34876 has 37 MA's), (57, 34924), (64, 34957), (66, 34975), (102, 35143), (108, 35191),

Gene: RedBird_61 Start: 40229, Stop: 40564, Start Num: 41
Candidate Starts for RedBird_61:
(Start: 40 @40220 has 1 MA's), (Start: 41 @40229 has 69 MA's), (51, 40268), (66, 40340), (108, 40553),

Gene: Redno2_76 Start: 49675, Stop: 49328, Start Num: 42
Candidate Starts for Redno2_76:
(Start: 37 @49702 has 1 MA's), (Start: 42 @49675 has 9 MA's), (Start: 43 @49672 has 22 MA's), (53, 49636), (82, 49474), (84, 49468), (85, 49465), (105, 49381),

Gene: Renaud18_73 Start: 42883, Stop: 43242, Start Num: 41
Candidate Starts for Renaud18_73:
(25, 42793), (Start: 41 @42883 has 69 MA's), (51, 42922), (66, 42994), (93, 43156), (95, 43162), (103, 43189), (104, 43192), (108, 43231),

Gene: Royals2015_66 Start: 41205, Stop: 41546, Start Num: 41
Candidate Starts for Royals2015_66:
(Start: 40 @41196 has 1 MA's), (Start: 41 @41205 has 69 MA's), (51, 41244), (66, 41322), (108, 41535),

Gene: Saal_65 Start: 42221, Stop: 42562, Start Num: 41
Candidate Starts for Saal_65:
(Start: 40 @42212 has 1 MA's), (Start: 41 @42221 has 69 MA's), (51, 42260), (66, 42338), (108, 42551),

Gene: Sarma624_61 Start: 37375, Stop: 37716, Start Num: 41
Candidate Starts for Sarma624_61:

(Start: 40 @37366 has 1 MA's), (Start: 41 @37375 has 69 MA's), (51, 37414), (66, 37492), (108, 37705),

Gene: Sassafras_61 Start: 40547, Stop: 40882, Start Num: 41
Candidate Starts for Sassafras_61:
(Start: 40 @40538 has 1 MA's), (Start: 41 @40547 has 69 MA's), (51, 40586), (66, 40658), (108, 40871),

Gene: Schatzie_75 Start: 51668, Stop: 51321, Start Num: 42
Candidate Starts for Schatzie_75:
(Start: 37 @51695 has 1 MA's), (Start: 42 @51668 has 9 MA's), (Start: 43 @51665 has 22 MA's), (53, 51629), (82, 51467), (84, 51461), (85, 51458), (105, 51374),

Gene: SeaLumen_68 Start: 40804, Stop: 41145, Start Num: 41
Candidate Starts for SeaLumen_68:
(Start: 40 @40795 has 1 MA's), (Start: 41 @40804 has 69 MA's), (49, 40825), (54, 40840), (63, 40891), (87, 41029), (108, 41134),

Gene: Shaboozey_76 Start: 47897, Stop: 47655, Start Num: 45
Candidate Starts for Shaboozey_76:
(24, 48008), (26, 47996), (29, 47990), (36, 47942), (Start: 45 @47897 has 37 MA's), (60, 47822), (62, 47816), (75, 47738), (77, 47723),

Gene: Shaboozey_77 Start: 48244, Stop: 47894, Start Num: 43
Candidate Starts for Shaboozey_77:
(21, 48352), (Start: 37 @48274 has 1 MA's), (Start: 42 @48247 has 9 MA's), (Start: 43 @48244 has 22 MA's), (53, 48208), (68, 48121), (69, 48115), (80, 48049), (94, 47986), (98, 47980), (106, 47938),

Gene: Shipwreck_60 Start: 40146, Stop: 40448, Start Num: 50
Candidate Starts for Shipwreck_60:
(22, 40008), (Start: 37 @40080 has 1 MA's), (Start: 45 @40122 has 37 MA's), (Start: 50 @40146 has 1 MA's), (61, 40203), (102, 40395), (106, 40416),

Gene: SimranZ1_64 Start: 41403, Stop: 41735, Start Num: 39
Candidate Starts for SimranZ1_64:
(Start: 39 @41403 has 2 MA's), (Start: 50 @41433 has 1 MA's), (51, 41442), (66, 41520), (68, 41544), (71, 41562), (87, 41616), (91, 41643), (101, 41673), (108, 41724),

Gene: Soul22_69 Start: 42555, Stop: 42905, Start Num: 41
Candidate Starts for Soul22_69:
(Start: 40 @42546 has 1 MA's), (Start: 41 @42555 has 69 MA's), (51, 42594), (66, 42672), (87, 42786), (89, 42801), (91, 42813),

Gene: Tchotchke_64 Start: 40712, Stop: 41053, Start Num: 41
Candidate Starts for Tchotchke_64:
(Start: 40 @40703 has 1 MA's), (Start: 41 @40712 has 69 MA's), (51, 40751), (66, 40829), (108, 41042),

Gene: Techage_54 Start: 36368, Stop: 36694, Start Num: 45
Candidate Starts for Techage_54:
(1, 35945), (3, 36092), (Start: 34 @36305 has 1 MA's), (Start: 45 @36368 has 37 MA's), (106, 36662),

Gene: Thespis_58 Start: 38874, Stop: 39197, Start Num: 45

Candidate Starts for Thespis_58:
(22, 38760), (Start: 37 @38832 has 1 MA's), (Start: 45 @38874 has 37 MA's), (Start: 50 @38898 has 1 MA's), (61, 38955), (102, 39144), (106, 39165),

Gene: ThetaBob_70 Start: 42862, Stop: 43218, Start Num: 41
Candidate Starts for ThetaBob_70:
(23, 42760), (Start: 41 @42862 has 69 MA's), (51, 42901), (70, 43018), (93, 43132), (95, 43138), (108, 43207),

Gene: Thibault_75 Start: 51674, Stop: 52018, Start Num: 41
Candidate Starts for Thibault_75:
(28, 51590), (Start: 41 @51674 has 69 MA's), (51, 51713), (66, 51785), (88, 51902), (97, 51944), (108, 52007),

Gene: Thibault_67 Start: 47871, Stop: 47533, Start Num: 43
Candidate Starts for Thibault_67:
(Start: 37 @47901 has 1 MA's), (Start: 42 @47874 has 9 MA's), (Start: 43 @47871 has 22 MA's), (53, 47835), (79, 47688), (85, 47667), (100, 47607),

Gene: ThreeRngTarjay_77 Start: 52950, Stop: 52606, Start Num: 43
Candidate Starts for ThreeRngTarjay_77:
(Start: 37 @52980 has 1 MA's), (Start: 42 @52953 has 9 MA's), (Start: 43 @52950 has 22 MA's), (53, 52914), (82, 52752), (84, 52746), (85, 52743), (105, 52659),

Gene: Topiatin_70 Start: 43622, Stop: 43981, Start Num: 41
Candidate Starts for Topiatin_70:
(Start: 40 @43613 has 1 MA's), (Start: 41 @43622 has 69 MA's), (51, 43661), (66, 43733), (93, 43895), (95, 43901), (103, 43928),

Gene: Velveteen_58 Start: 37375, Stop: 37716, Start Num: 41
Candidate Starts for Velveteen_58:
(Start: 40 @37366 has 1 MA's), (Start: 41 @37375 has 69 MA's), (51, 37414), (66, 37492), (108, 37705),

Gene: Venti_54 Start: 36260, Stop: 36583, Start Num: 45
Candidate Starts for Venti_54:
(Start: 45 @36260 has 37 MA's), (83, 36449), (84, 36452), (106, 36551),

Gene: Vidya_55 Start: 37618, Stop: 37944, Start Num: 45
Candidate Starts for Vidya_55:
(22, 37504), (Start: 37 @37576 has 1 MA's), (Start: 45 @37618 has 37 MA's), (Start: 50 @37642 has 1 MA's), (61, 37699), (102, 37891), (106, 37912),

Gene: Wanda_95 Start: 56202, Stop: 56543, Start Num: 41
Candidate Starts for Wanda_95:
(18, 56070), (30, 56130), (33, 56151), (35, 56157), (Start: 41 @56202 has 69 MA's), (51, 56241), (66, 56295), (93, 56457), (95, 56463), (103, 56490), (104, 56493), (108, 56532),

Gene: Xeno_56 Start: 35652, Stop: 35969, Start Num: 45
Candidate Starts for Xeno_56:
(Start: 45 @35652 has 37 MA's), (56, 35694), (59, 35712), (61, 35724), (106, 35937),

Gene: Xiaokay_70 Start: 48787, Stop: 48449, Start Num: 43

Candidate Starts for Xiaokay_70:
(Start: 37 @48817 has 1 MA's), (Start: 42 @48790 has 9 MA's), (Start: 43 @48787 has 22 MA's), (53, 48751), (79, 48604), (85, 48583), (100, 48523),

Gene: Xiaokay_80 Start: 52922, Stop: 53263, Start Num: 41
Candidate Starts for Xiaokay_80:
(18, 52790), (30, 52850), (33, 52871), (35, 52877), (Start: 41 @52922 has 69 MA's), (51, 52961), (66, 53015), (93, 53177), (95, 53183), (103, 53210), (104, 53213), (108, 53252),

Gene: Xula_50 Start: 35808, Stop: 36125, Start Num: 45
Candidate Starts for Xula_50:
(16, 35649), (Start: 45 @35808 has 37 MA's), (56, 35850), (59, 35868), (61, 35880), (106, 36093),

Gene: Yeet_74 Start: 51170, Stop: 50823, Start Num: 42
Candidate Starts for Yeet_74:
(Start: 37 @51197 has 1 MA's), (Start: 42 @51170 has 9 MA's), (Start: 43 @51167 has 22 MA's), (53, 51131), (82, 50969), (84, 50963), (85, 50960), (105, 50876),

Gene: Yorick_62 Start: 41335, Stop: 41676, Start Num: 41
Candidate Starts for Yorick_62:
(Start: 40 @41326 has 1 MA's), (Start: 41 @41335 has 69 MA's), (51, 41374), (66, 41452), (108, 41665),

Gene: Yoshi_78 Start: 43126, Stop: 43482, Start Num: 41
Candidate Starts for Yoshi_78:
(23, 43024), (Start: 41 @43126 has 69 MA's), (51, 43165), (70, 43282), (93, 43396), (95, 43402), (108, 43471),

Gene: Zelink_77 Start: 53262, Stop: 52918, Start Num: 43
Candidate Starts for Zelink_77:
(Start: 37 @53292 has 1 MA's), (Start: 42 @53265 has 9 MA's), (Start: 43 @53262 has 22 MA's), (53, 53226), (82, 53064), (84, 53058), (85, 53055), (105, 52971),

Gene: Zelink_88 Start: 57397, Stop: 57738, Start Num: 41
Candidate Starts for Zelink_88:
(18, 57265), (30, 57325), (33, 57346), (35, 57352), (Start: 41 @57397 has 69 MA's), (51, 57436), (66, 57490), (93, 57652), (95, 57658), (103, 57685), (104, 57688), (108, 57727),

Gene: Zilizebeth_59 Start: 37826, Stop: 38149, Start Num: 45
Candidate Starts for Zilizebeth_59:
(4, 37559), (7, 37592), (9, 37616), (10, 37622), (Start: 34 @37763 has 1 MA's), (Start: 45 @37826 has 37 MA's), (83, 38015), (84, 38018), (106, 38117),