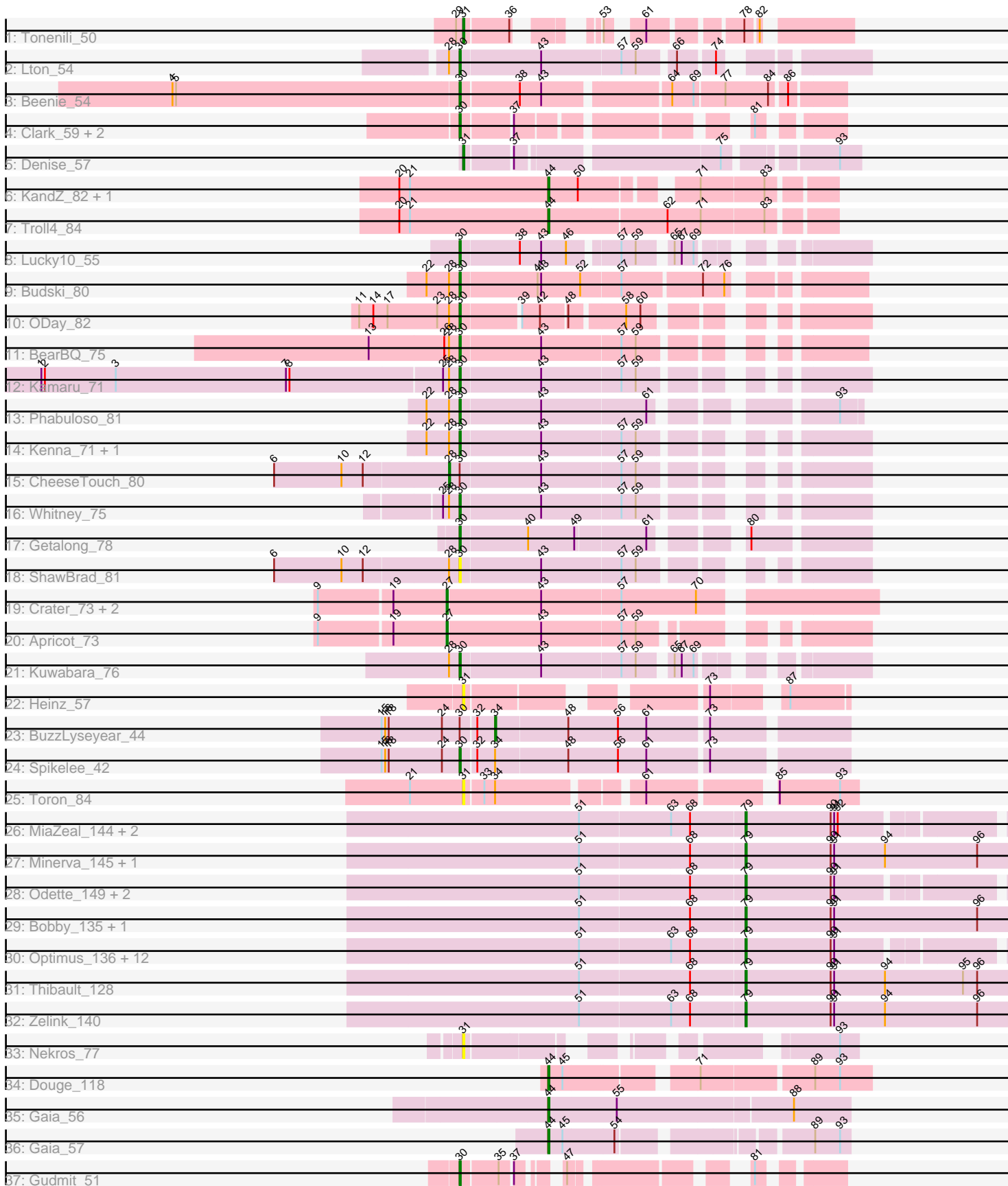


Pham 224595



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 224595 Report

This analysis was run 03/28/25 on database version 593.

Pham number 224595 has 61 members, 8 are drafts.

Phages represented in each track:

- Track 1 : Tonenili_50
- Track 2 : Lton_54
- Track 3 : Beenie_54
- Track 4 : Clark_59, Samman98_60, Invecetra_61
- Track 5 : Denise_57
- Track 6 : KandZ_82, Helpful_87
- Track 7 : Troll4_84
- Track 8 : Lucky10_55
- Track 9 : Budski_80
- Track 10 : ODay_82
- Track 11 : BearBQ_75
- Track 12 : Kamaru_71
- Track 13 : Phabuloso_81
- Track 14 : Kenna_71, Lutum_77
- Track 15 : CheeseTouch_80
- Track 16 : Whitney_75
- Track 17 : Getalong_78
- Track 18 : ShawBrad_81
- Track 19 : Crater_73, Phistory_72, Horus_75
- Track 20 : Apricot_73
- Track 21 : Kuwabara_76
- Track 22 : Heinz_57
- Track 23 : BuzzLyseyear_44
- Track 24 : Spikelee_42
- Track 25 : Toron_84
- Track 26 : MiaZeal_144, Lucky2013_137, Porcelain_141
- Track 27 : Minerva_145, Wanda_145
- Track 28 : Odette_149, Kalah2_136, Klein_143
- Track 29 : Bobby_135, Marleymoo_128
- Track 30 : Optimus_136, Halley_147, BAKA_145, Ejimix_138, Hughesyang_144, Schatzie_141, Pound_137, ThreeRngTarjay_140, DmpstrDiver_146, Bagrid_146, Dallas_146, Phoebus_145, Constella_139
- Track 31 : Thibault_128
- Track 32 : Zelink_140
- Track 33 : Nekros_77
- Track 34 : Douge_118
- Track 35 : Gaia_56

- Track 36 : Gaia_57
- Track 37 : Gudmit_51

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

The start number called the most often in the published annotations is 79, it was called in 22 of the 53 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- BAKA_145, Bagrid_146, Bobby_135, Constella_139, Dallas_146, DmpstrDiver_146, Ejimix_138, Halley_147, Hughesyang_144, Kalah2_136, Klein_143, Lucky2013_137, Marleymoo_128, MiaZeal_144, Minerva_145, Odette_149, Optimus_136, Phoebus_145, Porcelain_141, Pound_137, Schatzie_141, Thibault_128, ThreeRngTarjay_140, Wanda_145, Zelink_140,

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

-

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

- Apricot_73, BearBQ_75, Beenie_54, Budski_80, BuzzLyseyear_44, CheeseTouch_80, Clark_59, Crater_73, Denise_57, Douge_118, Gaia_56, Gaia_57, Getalong_78, Gudmit_51, Heinz_57, Helpful_87, Horus_75, Invecetra_61, Kamaru_71, KandZ_82, Kenna_71, Kuwabara_76, Lton_54, Lucky10_55, Lutum_77, Nekros_77, ODay_82, Phabuloso_81, Phistory_72, Samman98_60, ShawBrad_81, Spikelee_42, Tonenili_50, Toron_84, Troll4_84, Whitney_75,

Summary by start number:

Start 27:

- Found in 4 of 61 (6.6%) of genes in pham
- Manual Annotations of this start: 4 of 53
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Apricot_73 (DN3), Crater_73 (DN3), Horus_75 (DN1), Phistory_72 (DN1),

Start 28:

- Found in 12 of 61 (19.7%) of genes in pham
- Manual Annotations of this start: 1 of 53
- Called 8.3% of time when present
- Phage (with cluster) where this start called: CheeseTouch_80 (DN1),

Start 30:

- Found in 21 of 61 (34.4%) of genes in pham
- Manual Annotations of this start: 17 of 53
- Called 90.5% of time when present
- Phage (with cluster) where this start called: BearBQ_75 (DN), Beenie_54 (CZ4), Budski_80 (DN), Clark_59 (CZ4), Getalong_78 (DN1), Gudmit_51 (singleton), Invecetra_61 (CZ4), Kamaru_71 (DN1), Kenna_71 (DN1), Kuwabara_76 (DN4), Lton_54 (CZ), Lucky10_55 (DH), Lutum_77 (DN1), ODay_82 (DN), Phabuloso_81 (DN1), Samman98_60 (CZ4), ShawBrad_81 (DN1), Spikelee_42 (F1), Whitney_75

(DN1),

Start 31:

- Found in 5 of 61 (8.2%) of genes in pham
- Manual Annotations of this start: 2 of 53
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Denise_57 (CZ5), Heinz_57 (DY), Nekros_77 (J), Tonenili_50 (C1), Toron_84 (F6),

Start 34:

- Found in 3 of 61 (4.9%) of genes in pham
- Manual Annotations of this start: 1 of 53
- Called 33.3% of time when present
- Phage (with cluster) where this start called: BuzzLyseyear_44 (F1),

Start 44:

- Found in 6 of 61 (9.8%) of genes in pham
- Manual Annotations of this start: 6 of 53
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Douge_118 (L4), Gaia_56 (X), Gaia_57 (X), Helpful_87 (D1), KandZ_82 (D1), Troll4_84 (D1),

Start 79:

- Found in 25 of 61 (41.0%) of genes in pham
- Manual Annotations of this start: 22 of 53
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BAKA_145 (J), Bagrid_146 (J), Bobby_135 (J), Constella_139 (J), Dallas_146 (J), DmpstrDiver_146 (J), Ejimix_138 (J), Halley_147 (J), Hughesyang_144 (J), Kalah2_136 (J), Klein_143 (J), Lucky2013_137 (J), Marleymoo_128 (J), MiaZeal_144 (J), Minerva_145 (J), Odette_149 (J), Optimus_136 (J), Phoebus_145 (J), Porcelain_141 (J), Pound_137 (J), Schatzie_141 (J), Thibault_128 (J), ThreeRngTarjay_140 (J), Wanda_145 (J), Zelink_140 (J),

Summary by clusters:

There are 17 clusters represented in this pham: DN, F1, singleton, DH, F6, CZ, J, CZ4, CZ5, DN4, L4, DN1, DN3, DY, X, C1, D1,

Info for manual annotations of cluster C1:

- Start number 31 was manually annotated 1 time for cluster C1.

Info for manual annotations of cluster CZ:

- Start number 30 was manually annotated 1 time for cluster CZ.

Info for manual annotations of cluster CZ4:

- Start number 30 was manually annotated 3 times for cluster CZ4.

Info for manual annotations of cluster CZ5:

- Start number 31 was manually annotated 1 time for cluster CZ5.

Info for manual annotations of cluster D1:

- Start number 44 was manually annotated 3 times for cluster D1.

Info for manual annotations of cluster DH:

- Start number 30 was manually annotated 1 time for cluster DH.

Info for manual annotations of cluster DN:

- Start number 30 was manually annotated 3 times for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 27 was manually annotated 2 times for cluster DN1.
- Start number 28 was manually annotated 1 time for cluster DN1.
- Start number 30 was manually annotated 6 times for cluster DN1.

Info for manual annotations of cluster DN3:

- Start number 27 was manually annotated 2 times for cluster DN3.

Info for manual annotations of cluster DN4:

- Start number 30 was manually annotated 1 time for cluster DN4.

Info for manual annotations of cluster F1:

- Start number 30 was manually annotated 1 time for cluster F1.
- Start number 34 was manually annotated 1 time for cluster F1.

Info for manual annotations of cluster J:

- Start number 79 was manually annotated 22 times for cluster J.

Info for manual annotations of cluster L4:

- Start number 44 was manually annotated 1 time for cluster L4.

Info for manual annotations of cluster X:

- Start number 44 was manually annotated 2 times for cluster X.

Gene Information:

Gene: Apricot_73 Start: 42951, Stop: 43250, Start Num: 27

Candidate Starts for Apricot_73:

(9, 42846), (19, 42906), (Start: 27 @42951 has 4 MA's), (43, 43029), (57, 43095), (59, 43107),

Gene: BAKA_145 Start: 76447, Stop: 76692, Start Num: 79

Candidate Starts for BAKA_145:

(51, 76312), (63, 76387), (68, 76402), (Start: 79 @76447 has 22 MA's), (90, 76519), (91, 76522),

Gene: Bagrid_146 Start: 77142, Stop: 77387, Start Num: 79

Candidate Starts for Bagrid_146:

(51, 77007), (63, 77082), (68, 77097), (Start: 79 @77142 has 22 MA's), (90, 77214), (91, 77217),

Gene: BearBQ_75 Start: 45677, Stop: 45961, Start Num: 30

Candidate Starts for BearBQ_75:

(13, 45602), (26, 45665), (Start: 28 @45668 has 1 MA's), (Start: 30 @45677 has 17 MA's), (43, 45743), (57, 45809), (59, 45821),

Gene: Beenie_54 Start: 39845, Stop: 40141, Start Num: 30

Candidate Starts for Beenie_54:

(4, 39605), (5, 39608), (Start: 30 @39845 has 17 MA's), (38, 39893), (43, 39911), (64, 40007), (69, 40025), (77, 40049), (84, 40085), (86, 40097),

Gene: Bobby_135 Start: 77882, Stop: 78160, Start Num: 79

Candidate Starts for Bobby_135:

(51, 77747), (68, 77837), (Start: 79 @77882 has 22 MA's), (90, 77954), (91, 77957), (96, 78077),

Gene: Budski_80 Start: 45490, Stop: 45795, Start Num: 30

Candidate Starts for Budski_80:

(22, 45463), (Start: 28 @45481 has 1 MA's), (Start: 30 @45490 has 17 MA's), (41, 45553), (43, 45556), (52, 45589), (57, 45622), (72, 45685), (76, 45703),

Gene: BuzzLyseyear_44 Start: 32289, Stop: 32008, Start Num: 34

Candidate Starts for BuzzLyseyear_44:

(15, 32382), (16, 32379), (18, 32376), (24, 32331), (Start: 30 @32316 has 17 MA's), (32, 32304), (Start: 34 @32289 has 1 MA's), (48, 32229), (56, 32187), (61, 32163), (73, 32115),

Gene: CheeseTouch_80 Start: 40886, Stop: 41182, Start Num: 28

Candidate Starts for CheeseTouch_80:

(6, 40742), (10, 40799), (12, 40817), (Start: 28 @40886 has 1 MA's), (Start: 30 @40895 has 17 MA's), (43, 40961), (57, 41027), (59, 41039),

Gene: Clark_59 Start: 39693, Stop: 39938, Start Num: 30

Candidate Starts for Clark_59:

(Start: 30 @39693 has 17 MA's), (37, 39732), (81, 39882),

Gene: Constella_139 Start: 76698, Stop: 76943, Start Num: 79

Candidate Starts for Constella_139:

(51, 76563), (63, 76638), (68, 76653), (Start: 79 @76698 has 22 MA's), (90, 76770), (91, 76773),

Gene: Crater_73 Start: 43346, Stop: 43687, Start Num: 27

Candidate Starts for Crater_73:

(9, 43241), (19, 43301), (Start: 27 @43346 has 4 MA's), (43, 43424), (57, 43490), (70, 43553),

Gene: Dallas_146 Start: 77512, Stop: 77757, Start Num: 79

Candidate Starts for Dallas_146:

(51, 77377), (63, 77452), (68, 77467), (Start: 79 @77512 has 22 MA's), (90, 77584), (91, 77587),

Gene: Denise_57 Start: 36623, Stop: 36913, Start Num: 31

Candidate Starts for Denise_57:

(Start: 31 @36623 has 2 MA's), (37, 36659), (75, 36815), (93, 36896),

Gene: DmpstrDiver_146 Start: 77431, Stop: 77676, Start Num: 79

Candidate Starts for DmpstrDiver_146:

(51, 77296), (63, 77371), (68, 77386), (Start: 79 @77431 has 22 MA's), (90, 77503), (91, 77506),

Gene: Douge_118 Start: 64670, Stop: 64912, Start Num: 44

Candidate Starts for Douge_118:

(Start: 44 @64670 has 6 MA's), (45, 64682), (71, 64778), (89, 64865), (93, 64886),

Gene: Ejimix_138 Start: 77580, Stop: 77825, Start Num: 79
Candidate Starts for Ejimix_138:
(51, 77445), (63, 77520), (68, 77535), (Start: 79 @77580 has 22 MA's), (90, 77652), (91, 77655),

Gene: Gaia_56 Start: 40287, Stop: 40042, Start Num: 44
Candidate Starts for Gaia_56:
(Start: 44 @40287 has 6 MA's), (55, 40230), (88, 40089),

Gene: Gaia_57 Start: 40635, Stop: 40414, Start Num: 44
Candidate Starts for Gaia_57:
(Start: 44 @40635 has 6 MA's), (45, 40623), (54, 40581), (89, 40443), (93, 40422),

Gene: Getalong_78 Start: 45864, Stop: 46163, Start Num: 30
Candidate Starts for Getalong_78:
(Start: 30 @45864 has 17 MA's), (40, 45918), (49, 45957), (61, 46014), (80, 46071),

Gene: Gudmit_51 Start: 32451, Stop: 32681, Start Num: 30
Candidate Starts for Gudmit_51:
(Start: 30 @32451 has 17 MA's), (35, 32481), (37, 32490), (47, 32514), (81, 32625),

Gene: Halley_147 Start: 77896, Stop: 78141, Start Num: 79
Candidate Starts for Halley_147:
(51, 77761), (63, 77836), (68, 77851), (Start: 79 @77896 has 22 MA's), (90, 77968), (91, 77971),

Gene: Heinz_57 Start: 37331, Stop: 37591, Start Num: 31
Candidate Starts for Heinz_57:
(Start: 31 @37331 has 2 MA's), (73, 37496), (87, 37544),

Gene: Helpful_87 Start: 60143, Stop: 60346, Start Num: 44
Candidate Starts for Helpful_87:
(20, 60017), (21, 60026), (Start: 44 @60143 has 6 MA's), (50, 60167), (71, 60245), (83, 60296),

Gene: Horus_75 Start: 45413, Stop: 45754, Start Num: 27
Candidate Starts for Horus_75:
(9, 45308), (19, 45368), (Start: 27 @45413 has 4 MA's), (43, 45491), (57, 45557), (70, 45620),

Gene: Hughesyang_144 Start: 77666, Stop: 77911, Start Num: 79
Candidate Starts for Hughesyang_144:
(51, 77531), (63, 77606), (68, 77621), (Start: 79 @77666 has 22 MA's), (90, 77738), (91, 77741),

Gene: Invectra_61 Start: 41266, Stop: 41511, Start Num: 30
Candidate Starts for Invectra_61:
(Start: 30 @41266 has 17 MA's), (37, 41305), (81, 41455),

Gene: Kalah2_136 Start: 76787, Stop: 77032, Start Num: 79
Candidate Starts for Kalah2_136:
(51, 76652), (68, 76742), (Start: 79 @76787 has 22 MA's), (90, 76859), (91, 76862),

Gene: Kamaru_71 Start: 43317, Stop: 43604, Start Num: 30
Candidate Starts for Kamaru_71:
(1, 42969), (2, 42972), (3, 43032), (7, 43176), (8, 43179), (25, 43305), (Start: 28 @43308 has 1 MA's),
(Start: 30 @43317 has 17 MA's), (43, 43383), (57, 43449), (59, 43461),

Gene: KandZ_82 Start: 59971, Stop: 60174, Start Num: 44
Candidate Starts for KandZ_82:
(20, 59845), (21, 59854), (Start: 44 @59971 has 6 MA's), (50, 59995), (71, 60073), (83, 60124),

Gene: Kenna_71 Start: 43390, Stop: 43677, Start Num: 30
Candidate Starts for Kenna_71:
(22, 43363), (Start: 28 @43381 has 1 MA's), (Start: 30 @43390 has 17 MA's), (43, 43456), (57, 43522),
(59, 43534),

Gene: Klein_143 Start: 75389, Stop: 75634, Start Num: 79
Candidate Starts for Klein_143:
(51, 75254), (68, 75344), (Start: 79 @75389 has 22 MA's), (90, 75461), (91, 75464),

Gene: Kuwabara_76 Start: 45678, Stop: 45968, Start Num: 30
Candidate Starts for Kuwabara_76:
(Start: 28 @45669 has 1 MA's), (Start: 30 @45678 has 17 MA's), (43, 45744), (57, 45810), (59, 45822),
(65, 45843), (67, 45849), (69, 45858),

Gene: Lton_54 Start: 33162, Stop: 33458, Start Num: 30
Candidate Starts for Lton_54:
(Start: 28 @33153 has 1 MA's), (Start: 30 @33162 has 17 MA's), (43, 33228), (57, 33294), (59, 33306),
(66, 33333), (74, 33360),

Gene: Lucky10_55 Start: 35945, Stop: 36226, Start Num: 30
Candidate Starts for Lucky10_55:
(Start: 30 @35945 has 17 MA's), (38, 35993), (43, 36011), (46, 36032), (57, 36068), (59, 36080), (65,
36101), (67, 36107), (69, 36116),

Gene: Lucky2013_137 Start: 73141, Stop: 73386, Start Num: 79
Candidate Starts for Lucky2013_137:
(51, 73006), (63, 73081), (68, 73096), (Start: 79 @73141 has 22 MA's), (90, 73213), (91, 73216), (92,
73219),

Gene: Lutum_77 Start: 44553, Stop: 44840, Start Num: 30
Candidate Starts for Lutum_77:
(22, 44526), (Start: 28 @44544 has 1 MA's), (Start: 30 @44553 has 17 MA's), (43, 44619), (57, 44685),
(59, 44697),

Gene: Marleymoo_128 Start: 73628, Stop: 73906, Start Num: 79
Candidate Starts for Marleymoo_128:
(51, 73493), (68, 73583), (Start: 79 @73628 has 22 MA's), (90, 73700), (91, 73703), (96, 73823),

Gene: MiaZeal_144 Start: 74280, Stop: 74525, Start Num: 79
Candidate Starts for MiaZeal_144:
(51, 74145), (63, 74220), (68, 74235), (Start: 79 @74280 has 22 MA's), (90, 74352), (91, 74355), (92,
74358),

Gene: Minerva_145 Start: 76838, Stop: 77116, Start Num: 79
Candidate Starts for Minerva_145:
(51, 76703), (68, 76793), (Start: 79 @76838 has 22 MA's), (90, 76910), (91, 76913), (94, 76955), (96,
77033),

Gene: Nekros_77 Start: 50383, Stop: 50132, Start Num: 31

Candidate Starts for Nekros_77:
(Start: 31 @50383 has 2 MA's), (93, 50146),

Gene: ODay_82 Start: 46976, Stop: 47251, Start Num: 30
Candidate Starts for ODay_82:
(11, 46892), (14, 46904), (17, 46916), (23, 46958), (Start: 28 @46967 has 1 MA's), (Start: 30 @46976 has 17 MA's), (39, 47021), (42, 47036), (48, 47057), (58, 47099), (60, 47111),

Gene: Odette_149 Start: 79269, Stop: 79514, Start Num: 79
Candidate Starts for Odette_149:
(51, 79134), (68, 79224), (Start: 79 @79269 has 22 MA's), (90, 79341), (91, 79344),

Gene: Optimus_136 Start: 74406, Stop: 74651, Start Num: 79
Candidate Starts for Optimus_136:
(51, 74271), (63, 74346), (68, 74361), (Start: 79 @74406 has 22 MA's), (90, 74478), (91, 74481),

Gene: Phabuloso_81 Start: 45523, Stop: 45816, Start Num: 30
Candidate Starts for Phabuloso_81:
(22, 45496), (Start: 28 @45514 has 1 MA's), (Start: 30 @45523 has 17 MA's), (43, 45589), (61, 45676), (93, 45799),

Gene: Phistory_72 Start: 42511, Stop: 42852, Start Num: 27
Candidate Starts for Phistory_72:
(9, 42406), (19, 42466), (Start: 27 @42511 has 4 MA's), (43, 42589), (57, 42655), (70, 42718),

Gene: Phoebus_145 Start: 79020, Stop: 79265, Start Num: 79
Candidate Starts for Phoebus_145:
(51, 78885), (63, 78960), (68, 78975), (Start: 79 @79020 has 22 MA's), (90, 79092), (91, 79095),

Gene: Porcelain_141 Start: 74087, Stop: 74332, Start Num: 79
Candidate Starts for Porcelain_141:
(51, 73952), (63, 74027), (68, 74042), (Start: 79 @74087 has 22 MA's), (90, 74159), (91, 74162), (92, 74165),

Gene: Pound_137 Start: 76839, Stop: 77084, Start Num: 79
Candidate Starts for Pound_137:
(51, 76704), (63, 76779), (68, 76794), (Start: 79 @76839 has 22 MA's), (90, 76911), (91, 76914),

Gene: Samman98_60 Start: 39796, Stop: 40041, Start Num: 30
Candidate Starts for Samman98_60:
(Start: 30 @39796 has 17 MA's), (37, 39835), (81, 39985),

Gene: Schatzie_141 Start: 77688, Stop: 77933, Start Num: 79
Candidate Starts for Schatzie_141:
(51, 77553), (63, 77628), (68, 77643), (Start: 79 @77688 has 22 MA's), (90, 77760), (91, 77763),

Gene: ShawBrad_81 Start: 44287, Stop: 44574, Start Num: 30
Candidate Starts for ShawBrad_81:
(6, 44134), (10, 44191), (12, 44209), (Start: 28 @44278 has 1 MA's), (Start: 30 @44287 has 17 MA's), (43, 44353), (57, 44419), (59, 44431),

Gene: Spikelee_42 Start: 31774, Stop: 31466, Start Num: 30
Candidate Starts for Spikelee_42:

(15, 31840), (16, 31837), (18, 31834), (24, 31789), (Start: 30 @31774 has 17 MA's), (32, 31762), (Start: 34 @31747 has 1 MA's), (48, 31687), (56, 31645), (61, 31621), (73, 31573),

Gene: Thibault_128 Start: 74023, Stop: 74301, Start Num: 79

Candidate Starts for Thibault_128:

(51, 73888), (68, 73978), (Start: 79 @74023 has 22 MA's), (90, 74095), (91, 74098), (94, 74140), (95, 74206), (96, 74218),

Gene: ThreeRngTarjay_140 Start: 77611, Stop: 77856, Start Num: 79

Candidate Starts for ThreeRngTarjay_140:

(51, 77476), (63, 77551), (68, 77566), (Start: 79 @77611 has 22 MA's), (90, 77683), (91, 77686),

Gene: Tonenili_50 Start: 15803, Stop: 16036, Start Num: 31

Candidate Starts for Tonenili_50:

(29, 15797), (Start: 31 @15803 has 2 MA's), (36, 15839), (53, 15875), (61, 15896), (78, 15962), (82, 15971),

Gene: Toron_84 Start: 50886, Stop: 51176, Start Num: 31

Candidate Starts for Toron_84:

(21, 50841), (Start: 31 @50886 has 2 MA's), (33, 50901), (Start: 34 @50910 has 1 MA's), (61, 51018), (85, 51111), (93, 51162),

Gene: Troll4_84 Start: 59937, Stop: 60161, Start Num: 44

Candidate Starts for Troll4_84:

(20, 59811), (21, 59820), (Start: 44 @59937 has 6 MA's), (62, 60033), (71, 60060), (83, 60111),

Gene: Wanda_145 Start: 75318, Stop: 75596, Start Num: 79

Candidate Starts for Wanda_145:

(51, 75183), (68, 75273), (Start: 79 @75318 has 22 MA's), (90, 75390), (91, 75393), (94, 75435), (96, 75513),

Gene: Whitney_75 Start: 45513, Stop: 45800, Start Num: 30

Candidate Starts for Whitney_75:

(25, 45501), (Start: 28 @45504 has 1 MA's), (Start: 30 @45513 has 17 MA's), (43, 45579), (57, 45645), (59, 45657),

Gene: Zelink_140 Start: 78130, Stop: 78408, Start Num: 79

Candidate Starts for Zelink_140:

(51, 77995), (63, 78070), (68, 78085), (Start: 79 @78130 has 22 MA's), (90, 78202), (91, 78205), (94, 78247), (96, 78325),