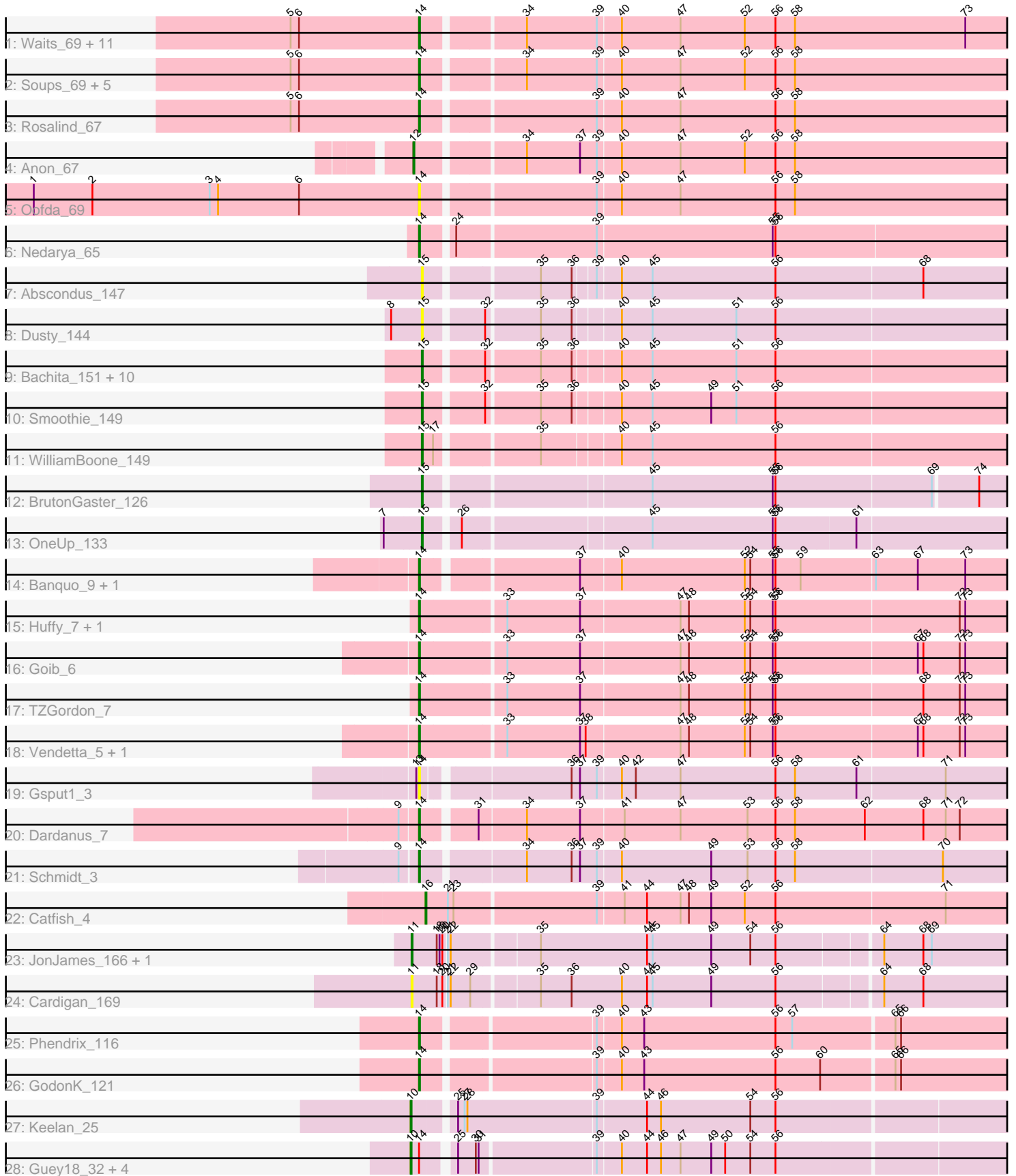


Pham 161865



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 161865 Report

This analysis was run 04/28/24 on database version 559.

Pham number 161865 has 62 members, 6 are drafts.

Phages represented in each track:

- Track 1 : Waits_69, Boohoo_69, Battleship_71, Anaysia_69, Remus_69, LastResort_67, Epsocamisio_66, Strosahl_69, MinecraftSteve_69, Nebulosus_67, Looper_68, ReMo_67
- Track 2 : Soups_69, DekHockey33_70, ShayRa_69, KatherineG_69, Switzerland_68, JSwag_68
- Track 3 : Rosalind_67
- Track 4 : Anon_67
- Track 5 : Oofda_69
- Track 6 : Nedarya_65
- Track 7 : Abscondus_147
- Track 8 : Dusty_144
- Track 9 : Bachita_151, Aphelion_147, Norvs_146, ClubL_148, Culver_148, Engineer_150, PhinkBoden_146, Miskis_146, Lozinak_148, Toniann_148, Cucurbita_147
- Track 10 : Smoothie_149
- Track 11 : WilliamBoone_149
- Track 12 : BrutonGaster_126
- Track 13 : OneUp_133
- Track 14 : Banquo_9, TinaLin_8
- Track 15 : Huffy_7, DinoDaryn_7
- Track 16 : Goib_6
- Track 17 : TZGordon_7
- Track 18 : Vendetta_5, Splinter_5
- Track 19 : Gspu1_3
- Track 20 : Dardanus_7
- Track 21 : Schmidt_3
- Track 22 : Catfish_4
- Track 23 : JonJames_166, Yvonnetastic_161
- Track 24 : Cardigan_169
- Track 25 : Phendrix_116
- Track 26 : GodonK_121
- Track 27 : Keelan_25
- Track 28 : Guey18_32, Ronaldo_31, Ziko_31, Fryberger_28, Volt_30

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

The start number called the most often in the published annotations is 14, it was called in 32 of the 56 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Anaysia_69, Banquo_9, Battleship_71, Boohoo_69, Dardanus_7, DekHockey33_70, DinoDaryn_7, Epsocamisio_66, GodonK_121, Goib_6, Gsput1_3, Huff_7, JSwag_68, KatherineG_69, LastResort_67, Looper_68, MinecraftSteve_69, Nebulosus_67, Nedarya_65, Oofda_69, Phendrix_116, ReMo_67, Remus_69, Rosalind_67, Schmidt_3, ShayRa_69, Soups_69, Splinter_5, Strosahl_69, Switzerland_68, TZGordon_7, TinaLin_8, Vendetta_5, Waits_69,

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

- Fryberger_28, Guey18_32, Ronaldo_31, Volt_30, Ziko_31,

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

- Abscondus_147, Anon_67, Aphelion_147, Bachita_151, BrutonGaster_126, Cardigan_169, Catfish_4, ClubL_148, Cucurbita_147, Culver_148, Dusty_144, Engineer_150, JonJames_166, Keelan_25, Lozinak_148, Miskis_146, Norvs_146, OneUp_133, PhinkBoden_146, Smoothie_149, Toniann_148, WilliamBoone_149, Yvonnestic_161,

Summary by start number:

Start 10:

- Found in 6 of 62 (9.7%) of genes in pham
- Manual Annotations of this start: 6 of 56
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Fryberger_28 (DP), Guey18_32 (DP), Keelan_25 (DP), Ronaldo_31 (DP), Volt_30 (DP), Ziko_31 (DP),

Start 11:

- Found in 3 of 62 (4.8%) of genes in pham
- Manual Annotations of this start: 2 of 56
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cardigan_169 (DD), JonJames_166 (DD), Yvonnestic_161 (DD),

Start 12:

- Found in 1 of 62 (1.6%) of genes in pham
- Manual Annotations of this start: 1 of 56
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Anon_67 (A15),

Start 14:

- Found in 39 of 62 (62.9%) of genes in pham
- Manual Annotations of this start: 32 of 56
- Called 87.2% of time when present
- Phage (with cluster) where this start called: Anaysia_69 (A15), Banquo_9 (CU1), Battleship_71 (A15), Boohoo_69 (A15), Dardanus_7 (CU3), DekHockey33_70 (A15), DinoDaryn_7 (CU1), Epsocamisio_66 (A15), GodonK_121 (DK), Goib_6 (CU1), Gsput1_3 (CU2), Huff_7 (CU1), JSwag_68 (A15), KatherineG_69 (A15), LastResort_67 (A15), Looper_68 (A15), MinecraftSteve_69 (A15), Nebulosus_67

(A15), Nedarya_65 (A15), Oofda_69 (A15), Phendrix_116 (DK), ReMo_67 (A15), Remus_69 (A15), Rosalind_67 (A15), Schmidt_3 (CU4), ShayRa_69 (A15), Soups_69 (A15), Splinter_5 (CU1), Strosahl_69 (A15), Switzerland_68 (A15), TZGordon_7 (CU1), TinaLin_8 (CU1), Vendetta_5 (CU1), Waits_69 (A15),

Start 15:

- Found in 17 of 62 (27.4%) of genes in pham
- Manual Annotations of this start: 14 of 56
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abscondus_147 (CQ), Aphelion_147 (CQ1), Bachita_151 (CQ1), BrutonGaster_126 (CQ2), ClubL_148 (CQ1), Cucurbita_147 (CQ1), Culver_148 (CQ1), Dusty_144 (CQ), Engineer_150 (CQ1), Lozinak_148 (CQ1), Miskis_146 (CQ), Norvs_146 (CQ), OneUp_133 (CQ2), PhinkBoden_146 (CQ1), Smoothie_149 (CQ1), Toniann_148 (CQ1), WilliamBoone_149 (CQ1),

Start 16:

- Found in 1 of 62 (1.6%) of genes in pham
- Manual Annotations of this start: 1 of 56
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Catfish_4 (CU5),

Summary by clusters:

There are 12 clusters represented in this pham: A15, CU5, CU4, CU3, DK, CU1, DD, CQ2, CQ1, CQ, DP, CU2,

Info for manual annotations of cluster A15:

- Start number 12 was manually annotated 1 time for cluster A15.
- Start number 14 was manually annotated 20 times for cluster A15.

Info for manual annotations of cluster CQ:

- Start number 15 was manually annotated 1 time for cluster CQ.

Info for manual annotations of cluster CQ1:

- Start number 15 was manually annotated 11 times for cluster CQ1.

Info for manual annotations of cluster CQ2:

- Start number 15 was manually annotated 2 times for cluster CQ2.

Info for manual annotations of cluster CU1:

- Start number 14 was manually annotated 8 times for cluster CU1.

Info for manual annotations of cluster CU3:

- Start number 14 was manually annotated 1 time for cluster CU3.

Info for manual annotations of cluster CU4:

- Start number 14 was manually annotated 1 time for cluster CU4.

Info for manual annotations of cluster CU5:

- Start number 16 was manually annotated 1 time for cluster CU5.

Info for manual annotations of cluster DD:

•Start number 11 was manually annotated 2 times for cluster DD.

Info for manual annotations of cluster DK:

•Start number 14 was manually annotated 2 times for cluster DK.

Info for manual annotations of cluster DP:

•Start number 10 was manually annotated 6 times for cluster DP.

Gene Information:

Gene: Abscondus_147 Start: 79758, Stop: 80381, Start Num: 15

Candidate Starts for Abscondus_147:

(Start: 15 @79758 has 14 MA's), (35, 79869), (36, 79902), (39, 79923), (40, 79947), (45, 79980), (56, 80112), (68, 80268),

Gene: Anaysia_69 Start: 39556, Stop: 38921, Start Num: 14

Candidate Starts for Anaysia_69:

(5, 39694), (6, 39685), (Start: 14 @39556 has 32 MA's), (34, 39457), (39, 39382), (40, 39358), (47, 39295), (52, 39226), (56, 39193), (58, 39172), (73, 38989),

Gene: Anon_67 Start: 39337, Stop: 38696, Start Num: 12

Candidate Starts for Anon_67:

(Start: 12 @39337 has 1 MA's), (34, 39232), (37, 39175), (39, 39157), (40, 39133), (47, 39070), (52, 39001), (56, 38968), (58, 38947),

Gene: Aphelion_147 Start: 80651, Stop: 81274, Start Num: 15

Candidate Starts for Aphelion_147:

(Start: 15 @80651 has 14 MA's), (32, 80708), (35, 80762), (36, 80795), (40, 80840), (45, 80873), (51, 80963), (56, 81005),

Gene: Bachita_151 Start: 80798, Stop: 81421, Start Num: 15

Candidate Starts for Bachita_151:

(Start: 15 @80798 has 14 MA's), (32, 80855), (35, 80909), (36, 80942), (40, 80987), (45, 81020), (51, 81110), (56, 81152),

Gene: Banquo_9 Start: 3541, Stop: 4170, Start Num: 14

Candidate Starts for Banquo_9:

(Start: 14 @3541 has 32 MA's), (37, 3694), (40, 3736), (52, 3868), (54, 3874), (55, 3898), (56, 3901), (59, 3928), (63, 4006), (67, 4051), (73, 4102),

Gene: Battleship_71 Start: 39762, Stop: 39127, Start Num: 14

Candidate Starts for Battleship_71:

(5, 39900), (6, 39891), (Start: 14 @39762 has 32 MA's), (34, 39663), (39, 39588), (40, 39564), (47, 39501), (52, 39432), (56, 39399), (58, 39378), (73, 39195),

Gene: Boohoo_69 Start: 39556, Stop: 38921, Start Num: 14

Candidate Starts for Boohoo_69:

(5, 39694), (6, 39685), (Start: 14 @39556 has 32 MA's), (34, 39457), (39, 39382), (40, 39358), (47, 39295), (52, 39226), (56, 39193), (58, 39172), (73, 38989),

Gene: BrutonGaster_126 Start: 75301, Stop: 75921, Start Num: 15

Candidate Starts for BrutonGaster_126:

(Start: 15 @75301 has 14 MA's), (45, 75526), (55, 75655), (56, 75658), (69, 75823), (74, 75868),

Gene: Cardigan_169 Start: 87456, Stop: 88094, Start Num: 11

Candidate Starts for Cardigan_169:

(Start: 11 @87456 has 2 MA's), (18, 87483), (20, 87489), (21, 87492), (22, 87495), (29, 87516), (35, 87582), (36, 87615), (40, 87669), (44, 87696), (45, 87702), (49, 87765), (56, 87834), (64, 87939), (68, 87981),

Gene: Catfish_4 Start: 1565, Stop: 2200, Start Num: 16

Candidate Starts for Catfish_4:

(Start: 16 @1565 has 1 MA's), (21, 1589), (23, 1595), (39, 1742), (41, 1769), (44, 1793), (47, 1829), (48, 1838), (49, 1862), (52, 1898), (56, 1931), (71, 2111),

Gene: ClubL_148 Start: 79372, Stop: 79995, Start Num: 15

Candidate Starts for ClubL_148:

(Start: 15 @79372 has 14 MA's), (32, 79429), (35, 79483), (36, 79516), (40, 79561), (45, 79594), (51, 79684), (56, 79726),

Gene: Cucurbita_147 Start: 81111, Stop: 81734, Start Num: 15

Candidate Starts for Cucurbita_147:

(Start: 15 @81111 has 14 MA's), (32, 81168), (35, 81222), (36, 81255), (40, 81300), (45, 81333), (51, 81423), (56, 81465),

Gene: Culver_148 Start: 79375, Stop: 79998, Start Num: 15

Candidate Starts for Culver_148:

(Start: 15 @79375 has 14 MA's), (32, 79432), (35, 79486), (36, 79519), (40, 79564), (45, 79597), (51, 79687), (56, 79729),

Gene: Dardanus_7 Start: 2557, Stop: 3192, Start Num: 14

Candidate Starts for Dardanus_7:

(9, 2539), (Start: 14 @2557 has 32 MA's), (31, 2608), (34, 2656), (37, 2713), (41, 2758), (47, 2818), (53, 2890), (56, 2920), (58, 2941), (62, 3016), (68, 3079), (71, 3103), (72, 3118),

Gene: DekHockey33_70 Start: 39848, Stop: 39213, Start Num: 14

Candidate Starts for DekHockey33_70:

(5, 39986), (6, 39977), (Start: 14 @39848 has 32 MA's), (34, 39749), (39, 39674), (40, 39650), (47, 39587), (52, 39518), (56, 39485), (58, 39464),

Gene: DinoDaryn_7 Start: 2618, Stop: 3259, Start Num: 14

Candidate Starts for DinoDaryn_7:

(Start: 14 @2618 has 32 MA's), (33, 2705), (37, 2783), (47, 2888), (48, 2897), (52, 2957), (54, 2963), (55, 2987), (56, 2990), (72, 3185), (73, 3191),

Gene: Dusty_144 Start: 79586, Stop: 80209, Start Num: 15

Candidate Starts for Dusty_144:

(8, 79553), (Start: 15 @79586 has 14 MA's), (32, 79643), (35, 79697), (36, 79730), (40, 79775), (45, 79808), (51, 79898), (56, 79940),

Gene: Engineer_150 Start: 80634, Stop: 81257, Start Num: 15

Candidate Starts for Engineer_150:

(Start: 15 @80634 has 14 MA's), (32, 80691), (35, 80745), (36, 80778), (40, 80823), (45, 80856), (51, 80946), (56, 80988),

Gene: Epsocamisio_66 Start: 39091, Stop: 38456, Start Num: 14

Candidate Starts for Epsocamisio_66:

(5, 39229), (6, 39220), (Start: 14 @39091 has 32 MA's), (34, 38992), (39, 38917), (40, 38893), (47, 38830), (52, 38761), (56, 38728), (58, 38707), (73, 38524),

Gene: Fryberger_28 Start: 8416, Stop: 7793, Start Num: 10

Candidate Starts for Fryberger_28:

(Start: 10 @8416 has 6 MA's), (Start: 14 @8407 has 32 MA's), (25, 8380), (30, 8362), (31, 8359), (39, 8242), (40, 8218), (44, 8191), (46, 8176), (47, 8155), (49, 8122), (50, 8107), (54, 8080), (56, 8053),

Gene: GodonK_121 Start: 75403, Stop: 74777, Start Num: 14

Candidate Starts for GodonK_121:

(Start: 14 @75403 has 32 MA's), (39, 75232), (40, 75208), (43, 75184), (56, 75043), (60, 74995), (65, 74920), (66, 74914),

Gene: Goib_6 Start: 2388, Stop: 3029, Start Num: 14

Candidate Starts for Goib_6:

(Start: 14 @2388 has 32 MA's), (33, 2475), (37, 2553), (47, 2658), (48, 2667), (52, 2727), (54, 2733), (55, 2757), (56, 2760), (67, 2910), (68, 2916), (72, 2955), (73, 2961),

Gene: Gspu1_3 Start: 1005, Stop: 1634, Start Num: 14

Candidate Starts for Gspu1_3:

(13, 1002), (Start: 14 @1005 has 32 MA's), (36, 1149), (37, 1158), (39, 1176), (40, 1200), (42, 1215), (47, 1263), (56, 1365), (58, 1386), (61, 1452), (71, 1545),

Gene: Guey18_32 Start: 9277, Stop: 8654, Start Num: 10

Candidate Starts for Guey18_32:

(Start: 10 @9277 has 6 MA's), (Start: 14 @9268 has 32 MA's), (25, 9241), (30, 9223), (31, 9220), (39, 9103), (40, 9079), (44, 9052), (46, 9037), (47, 9016), (49, 8983), (50, 8968), (54, 8941), (56, 8914),

Gene: Huff_7 Start: 2618, Stop: 3259, Start Num: 14

Candidate Starts for Huff_7:

(Start: 14 @2618 has 32 MA's), (33, 2705), (37, 2783), (47, 2888), (48, 2897), (52, 2957), (54, 2963), (55, 2987), (56, 2990), (72, 3185), (73, 3191),

Gene: JSwag_68 Start: 39280, Stop: 38645, Start Num: 14

Candidate Starts for JSwag_68:

(5, 39418), (6, 39409), (Start: 14 @39280 has 32 MA's), (34, 39181), (39, 39106), (40, 39082), (47, 39019), (52, 38950), (56, 38917), (58, 38896),

Gene: JonJames_166 Start: 88507, Stop: 89145, Start Num: 11

Candidate Starts for JonJames_166:

(Start: 11 @88507 has 2 MA's), (18, 88534), (19, 88537), (20, 88540), (21, 88543), (22, 88546), (35, 88633), (44, 88747), (45, 88753), (49, 88816), (54, 88858), (56, 88885), (64, 88990), (68, 89032), (69, 89041),

Gene: KatherineG_69 Start: 39753, Stop: 39118, Start Num: 14

Candidate Starts for KatherineG_69:

(5, 39891), (6, 39882), (Start: 14 @39753 has 32 MA's), (34, 39654), (39, 39579), (40, 39555), (47, 39492), (52, 39423), (56, 39390), (58, 39369),

Gene: Keelan_25 Start: 7836, Stop: 7204, Start Num: 10

Candidate Starts for Keelan_25:

(Start: 10 @7836 has 6 MA's), (25, 7797), (27, 7791), (28, 7788), (39, 7653), (44, 7602), (46, 7587), (54, 7491), (56, 7464),

Gene: LastResort_67 Start: 39332, Stop: 38697, Start Num: 14

Candidate Starts for LastResort_67:

(5, 39470), (6, 39461), (Start: 14 @39332 has 32 MA's), (34, 39233), (39, 39158), (40, 39134), (47, 39071), (52, 39002), (56, 38969), (58, 38948), (73, 38765),

Gene: Looper_68 Start: 39244, Stop: 38609, Start Num: 14

Candidate Starts for Looper_68:

(5, 39382), (6, 39373), (Start: 14 @39244 has 32 MA's), (34, 39145), (39, 39070), (40, 39046), (47, 38983), (52, 38914), (56, 38881), (58, 38860), (73, 38677),

Gene: Lozinak_148 Start: 80639, Stop: 81262, Start Num: 15

Candidate Starts for Lozinak_148:

(Start: 15 @80639 has 14 MA's), (32, 80696), (35, 80750), (36, 80783), (40, 80828), (45, 80861), (51, 80951), (56, 80993),

Gene: MinecraftSteve_69 Start: 39568, Stop: 38933, Start Num: 14

Candidate Starts for MinecraftSteve_69:

(5, 39706), (6, 39697), (Start: 14 @39568 has 32 MA's), (34, 39469), (39, 39394), (40, 39370), (47, 39307), (52, 39238), (56, 39205), (58, 39184), (73, 39001),

Gene: Miskis_146 Start: 79400, Stop: 80023, Start Num: 15

Candidate Starts for Miskis_146:

(Start: 15 @79400 has 14 MA's), (32, 79457), (35, 79511), (36, 79544), (40, 79589), (45, 79622), (51, 79712), (56, 79754),

Gene: Nebulosus_67 Start: 39328, Stop: 38693, Start Num: 14

Candidate Starts for Nebulosus_67:

(5, 39466), (6, 39457), (Start: 14 @39328 has 32 MA's), (34, 39229), (39, 39154), (40, 39130), (47, 39067), (52, 38998), (56, 38965), (58, 38944), (73, 38761),

Gene: Nedarya_65 Start: 39287, Stop: 38655, Start Num: 14

Candidate Starts for Nedarya_65:

(Start: 14 @39287 has 32 MA's), (24, 39257), (39, 39113), (55, 38927), (56, 38924),

Gene: Norvs_146 Start: 79830, Stop: 80453, Start Num: 15

Candidate Starts for Norvs_146:

(Start: 15 @79830 has 14 MA's), (32, 79887), (35, 79941), (36, 79974), (40, 80019), (45, 80052), (51, 80142), (56, 80184),

Gene: OneUp_133 Start: 79435, Stop: 80058, Start Num: 15

Candidate Starts for OneUp_133:

(7, 79396), (Start: 15 @79435 has 14 MA's), (26, 79468), (45, 79660), (55, 79789), (56, 79792), (61, 79876),

Gene: Oofda_69 Start: 39531, Stop: 38896, Start Num: 14

Candidate Starts for Oofda_69:

(1, 39945), (2, 39882), (3, 39756), (4, 39747), (6, 39660), (Start: 14 @39531 has 32 MA's), (39, 39357), (40, 39333), (47, 39270), (56, 39168), (58, 39147),

Gene: Phendrix_116 Start: 75661, Stop: 75035, Start Num: 14

Candidate Starts for Phendrix_116:

(Start: 14 @75661 has 32 MA's), (39, 75490), (40, 75466), (43, 75442), (56, 75301), (57, 75283), (65, 75178), (66, 75172),

Gene: PhinkBoden_146 Start: 80228, Stop: 80851, Start Num: 15

Candidate Starts for PhinkBoden_146:

(Start: 15 @80228 has 14 MA's), (32, 80285), (35, 80339), (36, 80372), (40, 80417), (45, 80450), (51, 80540), (56, 80582),

Gene: ReMo_67 Start: 39329, Stop: 38694, Start Num: 14

Candidate Starts for ReMo_67:

(5, 39467), (6, 39458), (Start: 14 @39329 has 32 MA's), (34, 39230), (39, 39155), (40, 39131), (47, 39068), (52, 38999), (56, 38966), (58, 38945), (73, 38762),

Gene: Remus_69 Start: 39320, Stop: 38685, Start Num: 14

Candidate Starts for Remus_69:

(5, 39458), (6, 39449), (Start: 14 @39320 has 32 MA's), (34, 39221), (39, 39146), (40, 39122), (47, 39059), (52, 38990), (56, 38957), (58, 38936), (73, 38753),

Gene: Ronaldo_31 Start: 9345, Stop: 8722, Start Num: 10

Candidate Starts for Ronaldo_31:

(Start: 10 @9345 has 6 MA's), (Start: 14 @9336 has 32 MA's), (25, 9309), (30, 9291), (31, 9288), (39, 9171), (40, 9147), (44, 9120), (46, 9105), (47, 9084), (49, 9051), (50, 9036), (54, 9009), (56, 8982),

Gene: Rosalind_67 Start: 39487, Stop: 38852, Start Num: 14

Candidate Starts for Rosalind_67:

(5, 39625), (6, 39616), (Start: 14 @39487 has 32 MA's), (39, 39313), (40, 39289), (47, 39226), (56, 39124), (58, 39103),

Gene: Schmidt_3 Start: 949, Stop: 1584, Start Num: 14

Candidate Starts for Schmidt_3:

(9, 931), (Start: 14 @949 has 32 MA's), (34, 1051), (36, 1099), (37, 1108), (39, 1126), (40, 1150), (49, 1246), (53, 1285), (56, 1315), (58, 1336), (70, 1492),

Gene: ShayRa_69 Start: 39516, Stop: 38881, Start Num: 14

Candidate Starts for ShayRa_69:

(5, 39654), (6, 39645), (Start: 14 @39516 has 32 MA's), (34, 39417), (39, 39342), (40, 39318), (47, 39255), (52, 39186), (56, 39153), (58, 39132),

Gene: Smoothie_149 Start: 80215, Stop: 80838, Start Num: 15

Candidate Starts for Smoothie_149:

(Start: 15 @80215 has 14 MA's), (32, 80272), (35, 80326), (36, 80359), (40, 80404), (45, 80437), (49, 80500), (51, 80527), (56, 80569),

Gene: Soups_69 Start: 39779, Stop: 39144, Start Num: 14

Candidate Starts for Soups_69:

(5, 39917), (6, 39908), (Start: 14 @39779 has 32 MA's), (34, 39680), (39, 39605), (40, 39581), (47, 39518), (52, 39449), (56, 39416), (58, 39395),

Gene: Splinter_5 Start: 2388, Stop: 3029, Start Num: 14

Candidate Starts for Splinter_5:

(Start: 14 @2388 has 32 MA's), (33, 2475), (37, 2553), (38, 2559), (47, 2658), (48, 2667), (52, 2727), (54, 2733), (55, 2757), (56, 2760), (67, 2910), (68, 2916), (72, 2955), (73, 2961),

Gene: Strosahl_69 Start: 39320, Stop: 38685, Start Num: 14

Candidate Starts for Strosahl_69:

(5, 39458), (6, 39449), (Start: 14 @39320 has 32 MA's), (34, 39221), (39, 39146), (40, 39122), (47, 39059), (52, 38990), (56, 38957), (58, 38936), (73, 38753),

Gene: Switzerland_68 Start: 39655, Stop: 39020, Start Num: 14

Candidate Starts for Switzerland_68:

(5, 39793), (6, 39784), (Start: 14 @39655 has 32 MA's), (34, 39556), (39, 39481), (40, 39457), (47, 39394), (52, 39325), (56, 39292), (58, 39271),

Gene: TZGordon_7 Start: 2533, Stop: 3174, Start Num: 14

Candidate Starts for TZGordon_7:

(Start: 14 @2533 has 32 MA's), (33, 2620), (37, 2698), (47, 2803), (48, 2812), (52, 2872), (54, 2878), (55, 2902), (56, 2905), (68, 3061), (72, 3100), (73, 3106),

Gene: TinaLin_8 Start: 3164, Stop: 3793, Start Num: 14

Candidate Starts for TinaLin_8:

(Start: 14 @3164 has 32 MA's), (37, 3317), (40, 3359), (52, 3491), (54, 3497), (55, 3521), (56, 3524), (59, 3551), (63, 3629), (67, 3674), (73, 3725),

Gene: Toniann_148 Start: 79971, Stop: 80594, Start Num: 15

Candidate Starts for Toniann_148:

(Start: 15 @79971 has 14 MA's), (32, 80028), (35, 80082), (36, 80115), (40, 80160), (45, 80193), (51, 80283), (56, 80325),

Gene: Vendetta_5 Start: 2388, Stop: 3029, Start Num: 14

Candidate Starts for Vendetta_5:

(Start: 14 @2388 has 32 MA's), (33, 2475), (37, 2553), (38, 2559), (47, 2658), (48, 2667), (52, 2727), (54, 2733), (55, 2757), (56, 2760), (67, 2910), (68, 2916), (72, 2955), (73, 2961),

Gene: Volt_30 Start: 9345, Stop: 8722, Start Num: 10

Candidate Starts for Volt_30:

(Start: 10 @9345 has 6 MA's), (Start: 14 @9336 has 32 MA's), (25, 9309), (30, 9291), (31, 9288), (39, 9171), (40, 9147), (44, 9120), (46, 9105), (47, 9084), (49, 9051), (50, 9036), (54, 9009), (56, 8982),

Gene: Waits_69 Start: 39552, Stop: 38917, Start Num: 14

Candidate Starts for Waits_69:

(5, 39690), (6, 39681), (Start: 14 @39552 has 32 MA's), (34, 39453), (39, 39378), (40, 39354), (47, 39291), (52, 39222), (56, 39189), (58, 39168), (73, 38985),

Gene: WilliamBoone_149 Start: 78226, Stop: 78849, Start Num: 15

Candidate Starts for WilliamBoone_149:

(Start: 15 @78226 has 14 MA's), (17, 78238), (35, 78337), (40, 78415), (45, 78448), (56, 78580),

Gene: Yvonnetastic_161 Start: 84594, Stop: 85232, Start Num: 11

Candidate Starts for Yvonnetastic_161:

(Start: 11 @84594 has 2 MA's), (18, 84621), (19, 84624), (20, 84627), (21, 84630), (22, 84633), (35, 84720), (44, 84834), (45, 84840), (49, 84903), (54, 84945), (56, 84972), (64, 85077), (68, 85119), (69,

85128),

Gene: Ziko_31 Start: 9285, Stop: 8662, Start Num: 10

Candidate Starts for Ziko_31:

(Start: 10 @9285 has 6 MA's), (Start: 14 @9276 has 32 MA's), (25, 9249), (30, 9231), (31, 9228), (39, 9111), (40, 9087), (44, 9060), (46, 9045), (47, 9024), (49, 8991), (50, 8976), (54, 8949), (56, 8922),