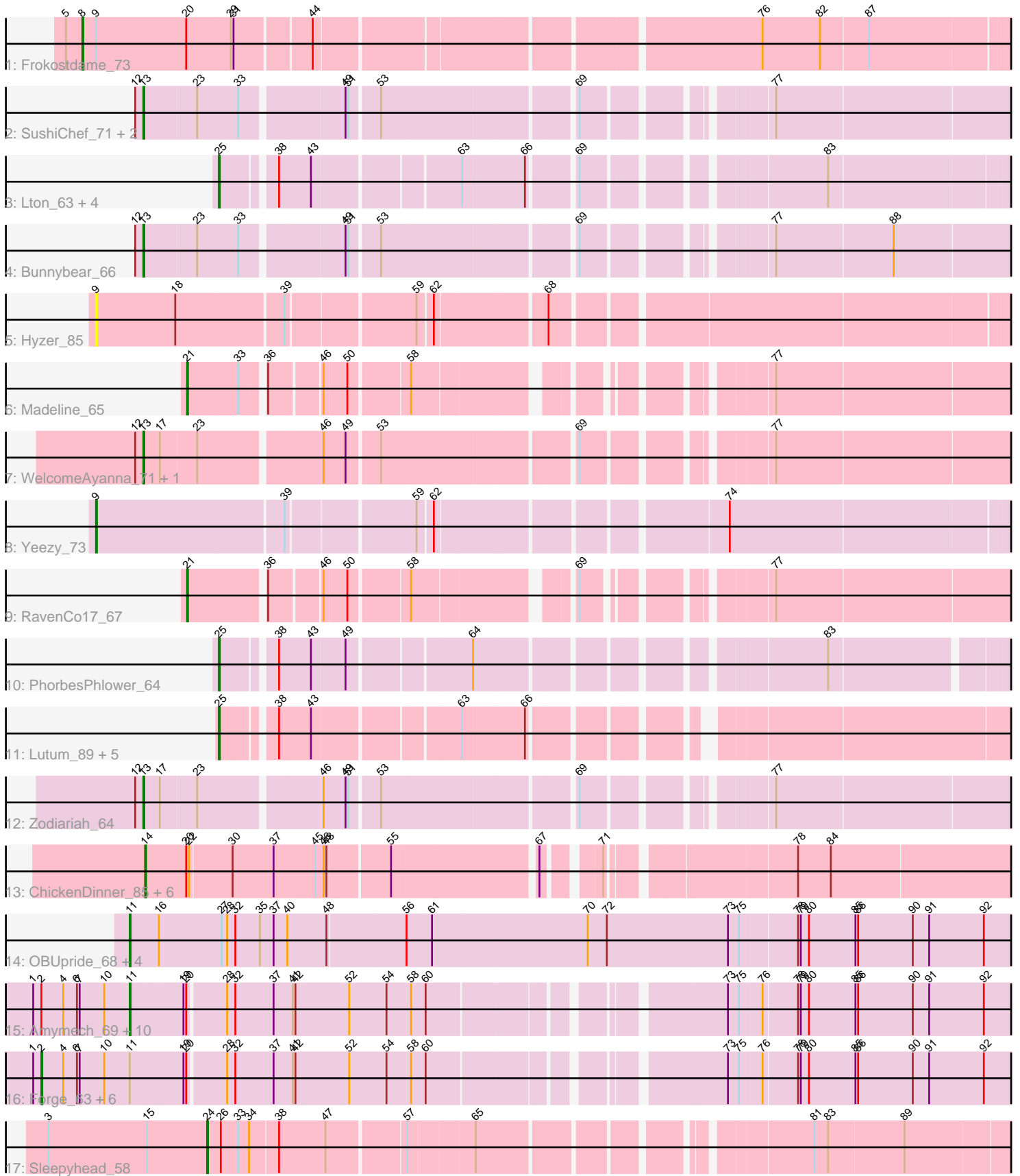


Pham 305057



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 305057 Report

This analysis was run 06/08/26 on database version 649.

Pham number 305057 has 55 members, 5 are drafts.

Phages represented in each track:

- Track 1 : Frokostdame_73
- Track 2 : SushiChef_71, Madavieve_67, Maridalia_71
- Track 3 : Lton_63, Morkie_66, Kuwabara_84, InLimbo_63, OneDirection_60
- Track 4 : Bunnybear_66
- Track 5 : Hyzer_85
- Track 6 : Madeline_65
- Track 7 : WelcomeAyanna_71, ThankyouJordi_71
- Track 8 : Yeezy_73
- Track 9 : RavenCo17_67
- Track 10 : PhorbesPhlower_64
- Track 11 : Lutum_89, Kenna_83, Phabuloso_95, BENtherdunthat_88, BotCity_90, Getalong_91
- Track 12 : Zodiariah_64
- Track 13 : ChickenDinner_85, LilSpotty_80, TootsiePop_84, Awesomesauce_85, Misha28_84, Aloeri_86, DocMcStuffins_82
- Track 14 : OBUpride_68, Gravaiilia_64, Amochick_70, Gancho_68, Daegal_72
- Track 15 : Amymech_69, Ein37_69, HH92_68, Ubuntu_69, Kinbote_67, Luna22_63, BloominB_69, LilHazelnut_69, Evanesce_68, Webster2_69, DeepSoil15_69
- Track 16 : Forge_63, Luke_67, Wishmaker_63, Dewey_63, Hail_63, Hadrien_67, Giles_63
- Track 17 : Sleepyhead_58

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

The start number called the most often in the published annotations is 11, it was called in 15 of the 50 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Amochick_70, Amymech_69, BloominB_69, Daegal_72, DeepSoil15_69, Ein37_69, Evanesce_68, Gancho_68, Gravaiilia_64, HH92_68, Kinbote_67, LilHazelnut_69, Luna22_63, OBUpride_68, Ubuntu_69, Webster2_69,

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

- Dewey_63, Forge_63, Giles_63, Hadrien_67, Hail_63, Luke_67, Wishmaker_63,

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

- Aleri_86, Awesomesauce_85, BENtherdunthat_88, BotCity_90, Bunnybear_66, ChickenDinner_85, DocMcStuffins_82, Frokostdame_73, Getalong_91, Hyzer_85, InLimbo_63, Kenna_83, Kuwabara_84, LilSpotty_80, Lton_63, Lutum_89, Madavieve_67, Madeline_65, Maridalia_71, Misha28_84, Morkie_66, OneDirection_60, Phabuloso_95, PhorbesPhlower_64, RavenCo17_67, Sleepyhead_58, SushiChef_71, ThankyouJordi_71, TootsiePop_84, WelcomeAyanna_71, Yeezy_73, Zodiariah_64,

Summary by start number:

Start 2:

- Found in 18 of 55 (32.7%) of genes in pham
- Manual Annotations of this start: 7 of 50
- Called 38.9% of time when present
- Phage (with cluster) where this start called: Dewey_63 (Q), Forge_63 (Q), Giles_63 (Q), Hadrien_67 (Q), Hail_63 (Q), Luke_67 (Q), Wishmaker_63 (Q),

Start 8:

- Found in 1 of 55 (1.8%) of genes in pham
- Manual Annotations of this start: 1 of 50
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Frokostdame_73 (CV),

Start 9:

- Found in 3 of 55 (5.5%) of genes in pham
- Manual Annotations of this start: 1 of 50
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Hyzer_85 (CZ1), Yeezy_73 (CZ3),

Start 11:

- Found in 23 of 55 (41.8%) of genes in pham
- Manual Annotations of this start: 15 of 50
- Called 69.6% of time when present
- Phage (with cluster) where this start called: Amochick_70 (Q), Amymech_69 (Q), BloominB_69 (Q), Daegal_72 (Q), DeepSoil15_69 (Q), Ein37_69 (Q), Evanesce_68 (Q), Gancho_68 (Q), Gravaillia_64 (Q), HH92_68 (Q), Kinbote_67 (Q), LilHazelNut_69 (Q), Luna22_63 (Q), OBUpride_68 (Q), Ubuntu_69 (Q), Webster2_69 (Q),

Start 13:

- Found in 7 of 55 (12.7%) of genes in pham
- Manual Annotations of this start: 5 of 50
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bunnybear_66 (CZ), Madavieve_67 (CZ1), Maridalia_71 (CZ1), SushiChef_71 (CZ), ThankyouJordi_71 (CZ1), WelcomeAyanna_71 (CZ1), Zodiariah_64 (DW),

Start 14:

- Found in 7 of 55 (12.7%) of genes in pham
- Manual Annotations of this start: 7 of 50
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Aloeri_86 (F1), Awesomesauce_85 (F1), ChickenDinner_85 (F1), DocMcStuffins_82 (F1), LilSpotty_80 (singleton), Misha28_84 (F1), TootsiePop_84 (F1),

Start 21:

- Found in 2 of 55 (3.6%) of genes in pham
- Manual Annotations of this start: 2 of 50
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Madeline_65 (CZ1), RavenCo17_67 (CZ8),

Start 24:

- Found in 1 of 55 (1.8%) of genes in pham
- Manual Annotations of this start: 1 of 50
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Sleepyhead_58 (singleton),

Start 25:

- Found in 12 of 55 (21.8%) of genes in pham
- Manual Annotations of this start: 11 of 50
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BENtherdunthat_88 (DN1), BotCity_90 (DN), Getalong_91 (DN1), InLimbo_63 (DH), Kenna_83 (DN1), Kuwabara_84 (DN4), Lton_63 (CZ), Lutum_89 (DN1), Morkie_66 (DH), OneDirection_60 (CZ6), Phabuloso_95 (DN1), PhorbesPhlower_64 (DH),

Summary by clusters:

There are 14 clusters represented in this pham: DN, F1, singleton, DH, DN4, CZ3, CZ1, CZ6, CZ8, Q, CZ, DN1, DW, CV,

Info for manual annotations of cluster CV:

- Start number 8 was manually annotated 1 time for cluster CV.

Info for manual annotations of cluster CZ:

- Start number 13 was manually annotated 1 time for cluster CZ.
- Start number 25 was manually annotated 1 time for cluster CZ.

Info for manual annotations of cluster CZ1:

- Start number 13 was manually annotated 3 times for cluster CZ1.
- Start number 21 was manually annotated 1 time for cluster CZ1.

Info for manual annotations of cluster CZ3:

- Start number 9 was manually annotated 1 time for cluster CZ3.

Info for manual annotations of cluster CZ6:

- Start number 25 was manually annotated 1 time for cluster CZ6.

Info for manual annotations of cluster CZ8:

- Start number 21 was manually annotated 1 time for cluster CZ8.

Info for manual annotations of cluster DH:

- Start number 25 was manually annotated 2 times for cluster DH.

Info for manual annotations of cluster DN:

- Start number 25 was manually annotated 1 time for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 25 was manually annotated 5 times for cluster DN1.

Info for manual annotations of cluster DN4:

- Start number 25 was manually annotated 1 time for cluster DN4.

Info for manual annotations of cluster DW:

- Start number 13 was manually annotated 1 time for cluster DW.

Info for manual annotations of cluster F1:

- Start number 14 was manually annotated 6 times for cluster F1.

Info for manual annotations of cluster Q:

- Start number 2 was manually annotated 7 times for cluster Q.
- Start number 11 was manually annotated 15 times for cluster Q.

Gene Information:

Gene: Aloeri_86 Start: 50555, Stop: 51472, Start Num: 14

Candidate Starts for Aloeri_86:

(Start: 14 @50555 has 7 MA's), (20, 50600), (22, 50603), (30, 50648), (37, 50693), (45, 50738), (46, 50747), (48, 50750), (55, 50813), (67, 50963), (71, 51011), (78, 51194), (84, 51230),

Gene: Amochick_70 Start: 46259, Stop: 47293, Start Num: 11

Candidate Starts for Amochick_70:

(Start: 11 @46259 has 15 MA's), (16, 46289), (27, 46355), (28, 46361), (32, 46370), (35, 46397), (37, 46412), (40, 46427), (48, 46469), (56, 46550), (61, 46577), (70, 46745), (72, 46766), (73, 46898), (75, 46910), (78, 46970), (79, 46973), (80, 46982), (85, 47033), (86, 47036), (90, 47096), (91, 47114), (92, 47174),

Gene: Amymech_69 Start: 45763, Stop: 46746, Start Num: 11

Candidate Starts for Amymech_69:

(1, 45658), (Start: 2 @45667 has 7 MA's), (4, 45691), (6, 45706), (7, 45709), (10, 45736), (Start: 11 @45763 has 15 MA's), (19, 45817), (20, 45820), (28, 45859), (32, 45868), (37, 45910), (41, 45931), (42, 45934), (52, 45991), (54, 46030), (58, 46057), (60, 46072), (73, 46354), (75, 46366), (76, 46390), (78, 46426), (79, 46429), (80, 46438), (85, 46489), (86, 46492), (90, 46552), (91, 46570), (92, 46630),

Gene: Awesomesauce_85 Start: 50791, Stop: 51708, Start Num: 14

Candidate Starts for Awesomesauce_85:

(Start: 14 @50791 has 7 MA's), (20, 50836), (22, 50839), (30, 50884), (37, 50929), (45, 50974), (46, 50983), (48, 50986), (55, 51049), (67, 51199), (71, 51247), (78, 51430), (84, 51466),

Gene: BENtherdunthat_88 Start: 48114, Stop: 48911, Start Num: 25

Candidate Starts for BENtherdunthat_88:

(Start: 25 @48114 has 11 MA's), (38, 48165), (43, 48198), (63, 48345), (66, 48411),

Gene: BloominB_69 Start: 45763, Stop: 46746, Start Num: 11

Candidate Starts for BloominB_69:

(1, 45658), (Start: 2 @45667 has 7 MA's), (4, 45691), (6, 45706), (7, 45709), (10, 45736), (Start: 11 @45763 has 15 MA's), (19, 45817), (20, 45820), (28, 45859), (32, 45868), (37, 45910), (41, 45931), (42, 45934), (52, 45991), (54, 46030), (58, 46057), (60, 46072), (73, 46354), (75, 46366), (76, 46390), (78, 46426), (79, 46429), (80, 46438), (85, 46489), (86, 46492), (90, 46552), (91, 46570), (92, 46630),

Gene: BotCity_90 Start: 49643, Stop: 50440, Start Num: 25

Candidate Starts for BotCity_90:

(Start: 25 @49643 has 11 MA's), (38, 49694), (43, 49727), (63, 49874), (66, 49940),

Gene: Bunnybear_66 Start: 46245, Stop: 47213, Start Num: 13

Candidate Starts for Bunnybear_66:

(12, 46236), (Start: 13 @46245 has 5 MA's), (23, 46302), (33, 46347), (49, 46452), (51, 46455), (53, 46485), (69, 46683), (77, 46848), (88, 46974),

Gene: ChickenDinner_85 Start: 50555, Stop: 51472, Start Num: 14

Candidate Starts for ChickenDinner_85:

(Start: 14 @50555 has 7 MA's), (20, 50600), (22, 50603), (30, 50648), (37, 50693), (45, 50738), (46, 50747), (48, 50750), (55, 50813), (67, 50963), (71, 51011), (78, 51194), (84, 51230),

Gene: Daegal_72 Start: 46821, Stop: 47852, Start Num: 11

Candidate Starts for Daegal_72:

(Start: 11 @46821 has 15 MA's), (16, 46851), (27, 46917), (28, 46923), (32, 46932), (35, 46959), (37, 46974), (40, 46989), (48, 47031), (56, 47112), (61, 47139), (70, 47307), (72, 47328), (73, 47460), (75, 47472), (78, 47532), (79, 47535), (80, 47544), (85, 47595), (86, 47598), (90, 47658), (91, 47676), (92, 47736),

Gene: DeepSoil15_69 Start: 45763, Stop: 46746, Start Num: 11

Candidate Starts for DeepSoil15_69:

(1, 45658), (Start: 2 @45667 has 7 MA's), (4, 45691), (6, 45706), (7, 45709), (10, 45736), (Start: 11 @45763 has 15 MA's), (19, 45817), (20, 45820), (28, 45859), (32, 45868), (37, 45910), (41, 45931), (42, 45934), (52, 45991), (54, 46030), (58, 46057), (60, 46072), (73, 46354), (75, 46366), (76, 46390), (78, 46426), (79, 46429), (80, 46438), (85, 46489), (86, 46492), (90, 46552), (91, 46570), (92, 46630),

Gene: Dewey_63 Start: 45667, Stop: 46746, Start Num: 2

Candidate Starts for Dewey_63:

(1, 45658), (Start: 2 @45667 has 7 MA's), (4, 45691), (6, 45706), (7, 45709), (10, 45736), (Start: 11 @45763 has 15 MA's), (19, 45817), (20, 45820), (28, 45859), (32, 45868), (37, 45910), (41, 45931), (42, 45934), (52, 45991), (54, 46030), (58, 46057), (60, 46072), (73, 46354), (75, 46366), (76, 46390), (78, 46426), (79, 46429), (80, 46438), (85, 46489), (86, 46492), (90, 46552), (91, 46570), (92, 46630),

Gene: DocMcStuffins_82 Start: 52185, Stop: 53102, Start Num: 14

Candidate Starts for DocMcStuffins_82:

(Start: 14 @52185 has 7 MA's), (20, 52230), (22, 52233), (30, 52278), (37, 52323), (45, 52368), (46, 52377), (48, 52380), (55, 52443), (67, 52593), (71, 52641), (78, 52824), (84, 52860),

Gene: Ein37_69 Start: 45763, Stop: 46746, Start Num: 11

Candidate Starts for Ein37_69:

(1, 45658), (Start: 2 @45667 has 7 MA's), (4, 45691), (6, 45706), (7, 45709), (10, 45736), (Start: 11 @45763 has 15 MA's), (19, 45817), (20, 45820), (28, 45859), (32, 45868), (37, 45910), (41, 45931), (42, 45934), (52, 45991), (54, 46030), (58, 46057), (60, 46072), (73, 46354), (75, 46366), (76, 46390), (78, 46426), (79, 46429), (80, 46438), (85, 46489), (86, 46492), (90, 46552), (91, 46570), (92, 46630),

Gene: Evanesce_68 Start: 45763, Stop: 46746, Start Num: 11

Candidate Starts for Evanesce_68:

(1, 45658), (Start: 2 @45667 has 7 MA's), (4, 45691), (6, 45706), (7, 45709), (10, 45736), (Start: 11 @45763 has 15 MA's), (19, 45817), (20, 45820), (28, 45859), (32, 45868), (37, 45910), (41, 45931), (42, 45934), (52, 45991), (54, 46030), (58, 46057), (60, 46072), (73, 46354), (75, 46366), (76, 46390), (78, 46426), (79, 46429), (80, 46438), (85, 46489), (86, 46492), (90, 46552), (91, 46570), (92, 46630),

Gene: Forge_63 Start: 45667, Stop: 46746, Start Num: 2

Candidate Starts for Forge_63:

(1, 45658), (Start: 2 @45667 has 7 MA's), (4, 45691), (6, 45706), (7, 45709), (10, 45736), (Start: 11 @45763 has 15 MA's), (19, 45817), (20, 45820), (28, 45859), (32, 45868), (37, 45910), (41, 45931), (42, 45934), (52, 45991), (54, 46030), (58, 46057), (60, 46072), (73, 46354), (75, 46366), (76, 46390), (78, 46426), (79, 46429), (80, 46438), (85, 46489), (86, 46492), (90, 46552), (91, 46570), (92, 46630),

Gene: Frokostdame_73 Start: 46067, Stop: 47071, Start Num: 8

Candidate Starts for Frokostdame_73:

(5, 46049), (Start: 8 @46067 has 1 MA's), (Start: 9 @46082 has 1 MA's), (20, 46181), (29, 46229), (31, 46232), (44, 46310), (76, 46760), (82, 46823), (87, 46874),

Gene: Gancho_68 Start: 45490, Stop: 46521, Start Num: 11

Candidate Starts for Gancho_68:

(Start: 11 @45490 has 15 MA's), (16, 45520), (27, 45586), (28, 45592), (32, 45601), (35, 45628), (37, 45643), (40, 45658), (48, 45700), (56, 45781), (61, 45808), (70, 45976), (72, 45997), (73, 46129), (75, 46141), (78, 46201), (79, 46204), (80, 46213), (85, 46264), (86, 46267), (90, 46327), (91, 46345), (92, 46405),

Gene: Getalong_91 Start: 50569, Stop: 51366, Start Num: 25

Candidate Starts for Getalong_91:

(Start: 25 @50569 has 11 MA's), (38, 50620), (43, 50653), (63, 50800), (66, 50866),

Gene: Giles_63 Start: 45667, Stop: 46746, Start Num: 2

Candidate Starts for Giles_63:

(1, 45658), (Start: 2 @45667 has 7 MA's), (4, 45691), (6, 45706), (7, 45709), (10, 45736), (Start: 11 @45763 has 15 MA's), (19, 45817), (20, 45820), (28, 45859), (32, 45868), (37, 45910), (41, 45931), (42, 45934), (52, 45991), (54, 46030), (58, 46057), (60, 46072), (73, 46354), (75, 46366), (76, 46390), (78, 46426), (79, 46429), (80, 46438), (85, 46489), (86, 46492), (90, 46552), (91, 46570), (92, 46630),

Gene: Gravaillia_64 Start: 45771, Stop: 46802, Start Num: 11

Candidate Starts for Gravaillia_64:

(Start: 11 @45771 has 15 MA's), (16, 45801), (27, 45867), (28, 45873), (32, 45882), (35, 45909), (37, 45924), (40, 45939), (48, 45981), (56, 46062), (61, 46089), (70, 46257), (72, 46278), (73, 46410), (75, 46422), (78, 46482), (79, 46485), (80, 46494), (85, 46545), (86, 46548), (90, 46608), (91, 46626), (92, 46686),

Gene: HH92_68 Start: 45763, Stop: 46746, Start Num: 11

Candidate Starts for HH92_68:

(1, 45658), (Start: 2 @45667 has 7 MA's), (4, 45691), (6, 45706), (7, 45709), (10, 45736), (Start: 11 @45763 has 15 MA's), (19, 45817), (20, 45820), (28, 45859), (32, 45868), (37, 45910), (41, 45931), (42, 45934), (52, 45991), (54, 46030), (58, 46057), (60, 46072), (73, 46354), (75, 46366), (76, 46390), (78, 46426), (79, 46429), (80, 46438), (85, 46489), (86, 46492), (90, 46552), (91, 46570), (92, 46630),

Gene: Hadrien_67 Start: 45667, Stop: 46746, Start Num: 2

Candidate Starts for Hadrien_67:

(1, 45658), (Start: 2 @45667 has 7 MA's), (4, 45691), (6, 45706), (7, 45709), (10, 45736), (Start: 11 @45763 has 15 MA's), (19, 45817), (20, 45820), (28, 45859), (32, 45868), (37, 45910), (41, 45931), (42, 45934), (52, 45991), (54, 46030), (58, 46057), (60, 46072), (73, 46354), (75, 46366), (76, 46390), (78, 46426), (79, 46429), (80, 46438), (85, 46489), (86, 46492), (90, 46552), (91, 46570), (92, 46630),

Gene: Hail_63 Start: 45667, Stop: 46746, Start Num: 2

Candidate Starts for Hail_63:

(1, 45658), (Start: 2 @45667 has 7 MA's), (4, 45691), (6, 45706), (7, 45709), (10, 45736), (Start: 11 @45763 has 15 MA's), (19, 45817), (20, 45820), (28, 45859), (32, 45868), (37, 45910), (41, 45931), (42, 45934), (52, 45991), (54, 46030), (58, 46057), (60, 46072), (73, 46354), (75, 46366), (76, 46390), (78, 46426), (79, 46429), (80, 46438), (85, 46489), (86, 46492), (90, 46552), (91, 46570), (92, 46630),

Gene: Hyzer_85 Start: 54475, Stop: 55455, Start Num: 9

Candidate Starts for Hyzer_85:

(Start: 9 @54475 has 1 MA's), (18, 54562), (39, 54676), (59, 54808), (62, 54823), (68, 54937),

Gene: InLimbo_63 Start: 37783, Stop: 38589, Start Num: 25

Candidate Starts for InLimbo_63:

(Start: 25 @37783 has 11 MA's), (38, 37834), (43, 37867), (63, 38014), (66, 38080), (69, 38125), (83, 38350),

Gene: Kenna_83 Start: 47387, Stop: 48184, Start Num: 25

Candidate Starts for Kenna_83:

(Start: 25 @47387 has 11 MA's), (38, 47438), (43, 47471), (63, 47618), (66, 47684),

Gene: Kinbote_67 Start: 45763, Stop: 46746, Start Num: 11

Candidate Starts for Kinbote_67:

(1, 45658), (Start: 2 @45667 has 7 MA's), (4, 45691), (6, 45706), (7, 45709), (10, 45736), (Start: 11 @45763 has 15 MA's), (19, 45817), (20, 45820), (28, 45859), (32, 45868), (37, 45910), (41, 45931), (42, 45934), (52, 45991), (54, 46030), (58, 46057), (60, 46072), (73, 46354), (75, 46366), (76, 46390), (78, 46426), (79, 46429), (80, 46438), (85, 46489), (86, 46492), (90, 46552), (91, 46570), (92, 46630),

Gene: Kuwabara_84 Start: 49956, Stop: 50762, Start Num: 25

Candidate Starts for Kuwabara_84:

(Start: 25 @49956 has 11 MA's), (38, 50007), (43, 50040), (63, 50187), (66, 50253), (69, 50298), (83, 50523),

Gene: LilHazelnut_69 Start: 45763, Stop: 46746, Start Num: 11

Candidate Starts for LilHazelnut_69:

(1, 45658), (Start: 2 @45667 has 7 MA's), (4, 45691), (6, 45706), (7, 45709), (10, 45736), (Start: 11 @45763 has 15 MA's), (19, 45817), (20, 45820), (28, 45859), (32, 45868), (37, 45910), (41, 45931), (42, 45934), (52, 45991), (54, 46030), (58, 46057), (60, 46072), (73, 46354), (75, 46366), (76, 46390), (78, 46426), (79, 46429), (80, 46438), (85, 46489), (86, 46492), (90, 46552), (91, 46570), (92, 46630),

Gene: LilSpotty_80 Start: 46231, Stop: 47148, Start Num: 14

Candidate Starts for LilSpotty_80:

(Start: 14 @46231 has 7 MA's), (20, 46276), (22, 46279), (30, 46324), (37, 46369), (45, 46414), (46, 46423), (48, 46426), (55, 46489), (67, 46639), (71, 46687), (78, 46870), (84, 46906),

Gene: Lton_63 Start: 37109, Stop: 37915, Start Num: 25

Candidate Starts for Lton_63:

(Start: 25 @37109 has 11 MA's), (38, 37160), (43, 37193), (63, 37340), (66, 37406), (69, 37451), (83, 37676),

Gene: Luke_67 Start: 45622, Stop: 46701, Start Num: 2

Candidate Starts for Luke_67:

(1, 45613), (Start: 2 @45622 has 7 MA's), (4, 45646), (6, 45661), (7, 45664), (10, 45691), (Start: 11 @45718 has 15 MA's), (19, 45772), (20, 45775), (28, 45814), (32, 45823), (37, 45865), (41, 45886), (42, 45889), (52, 45946), (54, 45985), (58, 46012), (60, 46027), (73, 46309), (75, 46321), (76, 46345), (78, 46381), (79, 46384), (80, 46393), (85, 46444), (86, 46447), (90, 46507), (91, 46525), (92, 46585),

Gene: Luna22_63 Start: 45747, Stop: 46730, Start Num: 11

Candidate Starts for Luna22_63:

(1, 45642), (Start: 2 @45651 has 7 MA's), (4, 45675), (6, 45690), (7, 45693), (10, 45720), (Start: 11 @45747 has 15 MA's), (19, 45801), (20, 45804), (28, 45843), (32, 45852), (37, 45894), (41, 45915), (42, 45918), (52, 45975), (54, 46014), (58, 46041), (60, 46056), (73, 46338), (75, 46350), (76, 46374), (78, 46410), (79, 46413), (80, 46422), (85, 46473), (86, 46476), (90, 46536), (91, 46554), (92, 46614),

Gene: Lutum_89 Start: 48549, Stop: 49346, Start Num: 25

Candidate Starts for Lutum_89:

(Start: 25 @48549 has 11 MA's), (38, 48600), (43, 48633), (63, 48780), (66, 48846),

Gene: Madavieve_67 Start: 46377, Stop: 47345, Start Num: 13

Candidate Starts for Madavieve_67:

(12, 46368), (Start: 13 @46377 has 5 MA's), (23, 46434), (33, 46479), (49, 46584), (51, 46587), (53, 46617), (69, 46815), (77, 46980),

Gene: Madeline_65 Start: 47024, Stop: 47905, Start Num: 21

Candidate Starts for Madeline_65:

(Start: 21 @47024 has 2 MA's), (33, 47078), (36, 47099), (46, 47150), (50, 47174), (58, 47234), (77, 47540),

Gene: Maridalia_71 Start: 46257, Stop: 47225, Start Num: 13

Candidate Starts for Maridalia_71:

(12, 46248), (Start: 13 @46257 has 5 MA's), (23, 46314), (33, 46359), (49, 46464), (51, 46467), (53, 46497), (69, 46695), (77, 46860),

Gene: Misha28_84 Start: 51490, Stop: 52407, Start Num: 14

Candidate Starts for Misha28_84:

(Start: 14 @51490 has 7 MA's), (20, 51535), (22, 51538), (30, 51583), (37, 51628), (45, 51673), (46, 51682), (48, 51685), (55, 51748), (67, 51898), (71, 51946), (78, 52129), (84, 52165),

Gene: Morkie_66 Start: 38257, Stop: 39063, Start Num: 25

Candidate Starts for Morkie_66:

(Start: 25 @38257 has 11 MA's), (38, 38308), (43, 38341), (63, 38488), (66, 38554), (69, 38599), (83, 38824),

Gene: OBUpride_68 Start: 45759, Stop: 46790, Start Num: 11

Candidate Starts for OBUpride_68:

(Start: 11 @45759 has 15 MA's), (16, 45789), (27, 45855), (28, 45861), (32, 45870), (35, 45897), (37, 45912), (40, 45927), (48, 45969), (56, 46050), (61, 46077), (70, 46245), (72, 46266), (73, 46398), (75, 46410), (78, 46470), (79, 46473), (80, 46482), (85, 46533), (86, 46536), (90, 46596), (91, 46614), (92, 46674),

Gene: OneDirection_60 Start: 35671, Stop: 36477, Start Num: 25

Candidate Starts for OneDirection_60:

(Start: 25 @35671 has 11 MA's), (38, 35722), (43, 35755), (63, 35902), (66, 35968), (69, 36013), (83, 36238),

Gene: Phabuloso_95 Start: 50041, Stop: 50838, Start Num: 25

Candidate Starts for Phabuloso_95:

(Start: 25 @50041 has 11 MA's), (38, 50092), (43, 50125), (63, 50272), (66, 50338),

Gene: PhorbesPhlower_64 Start: 37661, Stop: 38458, Start Num: 25

Candidate Starts for PhorbesPhlower_64:

(Start: 25 @37661 has 11 MA's), (38, 37712), (43, 37745), (49, 37781), (64, 37904), (83, 38228),

Gene: RavenCo17_67 Start: 46154, Stop: 47035, Start Num: 21

Candidate Starts for RavenCo17_67:

(Start: 21 @46154 has 2 MA's), (36, 46229), (46, 46280), (50, 46304), (58, 46364), (69, 46514), (77, 46670),

Gene: Sleepyhead_58 Start: 38152, Stop: 39009, Start Num: 24

Candidate Starts for Sleepyhead_58:

(3, 37978), (15, 38086), (Start: 24 @38152 has 1 MA's), (26, 38167), (33, 38185), (34, 38197), (38, 38227), (47, 38278), (57, 38359), (65, 38428), (81, 38734), (83, 38749), (89, 38830),

Gene: SushiChef_71 Start: 48144, Stop: 49112, Start Num: 13

Candidate Starts for SushiChef_71:

(12, 48135), (Start: 13 @48144 has 5 MA's), (23, 48201), (33, 48246), (49, 48351), (51, 48354), (53, 48384), (69, 48582), (77, 48747),

Gene: ThankyouJordi_71 Start: 48385, Stop: 49353, Start Num: 13

Candidate Starts for ThankyouJordi_71:

(12, 48376), (Start: 13 @48385 has 5 MA's), (17, 48403), (23, 48442), (46, 48568), (49, 48592), (53, 48625), (69, 48823), (77, 48988),

Gene: TootsiePop_84 Start: 51490, Stop: 52407, Start Num: 14

Candidate Starts for TootsiePop_84:

(Start: 14 @51490 has 7 MA's), (20, 51535), (22, 51538), (30, 51583), (37, 51628), (45, 51673), (46, 51682), (48, 51685), (55, 51748), (67, 51898), (71, 51946), (78, 52129), (84, 52165),

Gene: Ubuntu_69 Start: 45763, Stop: 46746, Start Num: 11

Candidate Starts for Ubuntu_69:

(1, 45658), (Start: 2 @45667 has 7 MA's), (4, 45691), (6, 45706), (7, 45709), (10, 45736), (Start: 11 @45763 has 15 MA's), (19, 45817), (20, 45820), (28, 45859), (32, 45868), (37, 45910), (41, 45931), (42, 45934), (52, 45991), (54, 46030), (58, 46057), (60, 46072), (73, 46354), (75, 46366), (76, 46390), (78, 46426), (79, 46429), (80, 46438), (85, 46489), (86, 46492), (90, 46552), (91, 46570), (92, 46630),

Gene: Webster2_69 Start: 45763, Stop: 46746, Start Num: 11

Candidate Starts for Webster2_69:

(1, 45658), (Start: 2 @45667 has 7 MA's), (4, 45691), (6, 45706), (7, 45709), (10, 45736), (Start: 11 @45763 has 15 MA's), (19, 45817), (20, 45820), (28, 45859), (32, 45868), (37, 45910), (41, 45931), (42, 45934), (52, 45991), (54, 46030), (58, 46057), (60, 46072), (73, 46354), (75, 46366), (76, 46390), (78, 46426), (79, 46429), (80, 46438), (85, 46489), (86, 46492), (90, 46552), (91, 46570), (92, 46630),

Gene: WelcomeAyanna_71 Start: 48532, Stop: 49500, Start Num: 13

Candidate Starts for WelcomeAyanna_71:

(12, 48523), (Start: 13 @48532 has 5 MA's), (17, 48550), (23, 48589), (46, 48715), (49, 48739), (53, 48772), (69, 48970), (77, 49135),

Gene: Wishmaker_63 Start: 45667, Stop: 46746, Start Num: 2

Candidate Starts for Wishmaker_63:

(1, 45658), (Start: 2 @45667 has 7 MA's), (4, 45691), (6, 45706), (7, 45709), (10, 45736), (Start: 11 @45763 has 15 MA's), (19, 45817), (20, 45820), (28, 45859), (32, 45868), (37, 45910), (41, 45931), (42, 45934), (52, 45991), (54, 46030), (58, 46057), (60, 46072), (73, 46354), (75, 46366), (76, 46390), (78, 46426), (79, 46429), (80, 46438), (85, 46489), (86, 46492), (90, 46552), (91, 46570), (92, 46630),

Gene: Yeezy_73 Start: 45740, Stop: 46720, Start Num: 9

Candidate Starts for Yeezy_73:

(Start: 9 @45740 has 1 MA's), (39, 45941), (59, 46073), (62, 46088), (74, 46373),

Gene: Zodiariah_64 Start: 47543, Stop: 48511, Start Num: 13

Candidate Starts for Zodiariah_64:

(12, 47534), (Start: 13 @47543 has 5 MA's), (17, 47561), (23, 47600), (46, 47726), (49, 47750), (51, 47753), (53, 47783), (69, 47981), (77, 48146),