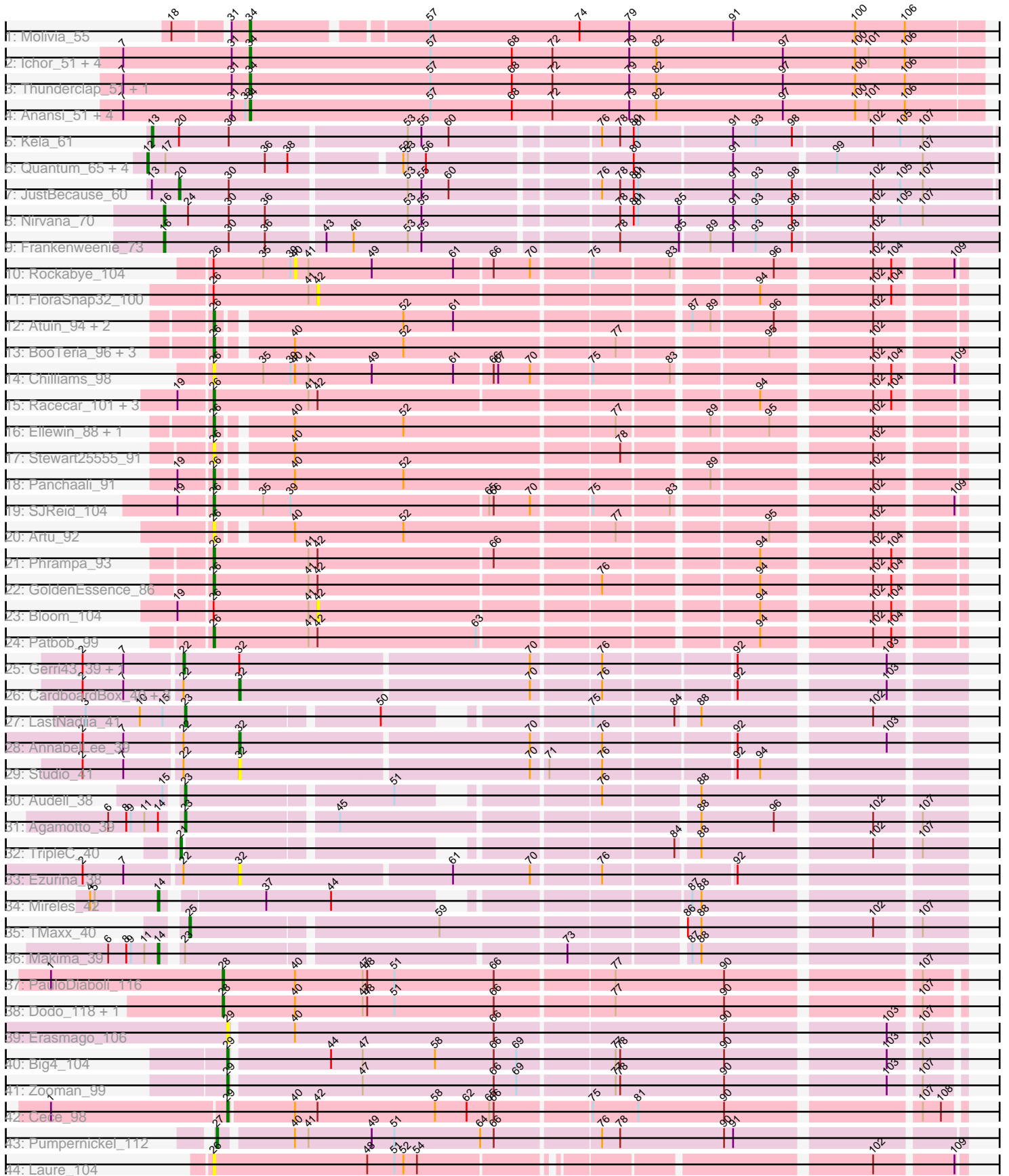


Pham 303336



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 303336 Report

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

Pham number 303336 has 71 members, 20 are drafts.

Phages represented in each track:

- Track 1 : Molivia_55
- Track 2 : Ichor_51, Jaek_51, Yeezus_51, Boersma_53, Amigo_51
- Track 3 : Thunderclap_51, Rings_50
- Track 4 : Anansi_51, Amavida_54, SorJuana_51, Heylee_54, Gorgeous_51
- Track 5 : Kela_61
- Track 6 : Quantum_65, EhyElimayoE_66, Kradal_66, Satis_66, Sarkar_69
- Track 7 : JustBecause_60
- Track 8 : Nirvana_70
- Track 9 : Frankenweenie_73
- Track 10 : Rockabye_104
- Track 11 : FloraSnap32_100
- Track 12 : Atuin_94, LeoJr_99, ReginaGlobina_99
- Track 13 : BooTeria_96, DunneganBoMo_89, Emmetator_92, WaddleDee_87
- Track 14 : Chilliams_98
- Track 15 : Racecar_101, FrostedClock_103, Mimi_100, Talia1610_100
- Track 16 : Ellewin_88, KSunshine22_94
- Track 17 : Stewart25555_91
- Track 18 : Panchaali_91
- Track 19 : SJReid_104
- Track 20 : Artu_92
- Track 21 : Phrampa_93
- Track 22 : GoldenEssence_86
- Track 23 : Bloom_104
- Track 24 : Patbob_99
- Track 25 : Gerri43_39, Roberts_39
- Track 26 : CardboardBox_40, Neuville_39, ChamoyPickle_41, ChipsNGuac_39
- Track 27 : LastNadiia_41
- Track 28 : AnnabelLee_39
- Track 29 : Studio_41
- Track 30 : Audell_38
- Track 31 : Agamoto_39
- Track 32 : TripleC_40
- Track 33 : Ezurina_38
- Track 34 : Mireles_42
- Track 35 : TMaxx_40
- Track 36 : Makima_39
- Track 37 : PauloDiaboli_116

- Track 38 : Dodo_118, A3Wally_116
- Track 39 : Erasmago_106
- Track 40 : Big4_104
- Track 41 : Zooman_99
- Track 42 : Cece_98
- Track 43 : Pumpernickel_112
- Track 44 : Laure_104

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

The start number called the most often in the published annotations is 34, it was called in 13 of the 51 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Amavida_54, Amigo_51, Anansi_51, Boersma_53, Gorgeous_51, Heylee_54, Ichor_51, Jaek_51, Molivia_55, Rings_50, SorJuana_51, Thunderclap_51, Yeezus_51,

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

-

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

- A3Wally_116, Agamotto_39, AnnabelLee_39, Artu_92, Atuin_94, Audell_38, Big4_104, Bloom_104, BooTeria_96, CardboardBox_40, Cece_98, ChamoyPickle_41, Chilliams_98, ChipsNGuac_39, Dodo_118, DunneganBoMo_89, EhyElimayoE_66, Ellewin_88, Emmetator_92, Erasmago_106, Ezurina_38, FloraSnap32_100, Frankenweenie_73, FrostedClock_103, Gerri43_39, GoldenEssence_86, JustBecause_60, KSunshine22_94, Kela_61, Kradal_66, LastNadiia_41, Laure_104, LeoJr_99, Makima_39, Mimi_100, Mireles_42, Neuville_39, Nirvana_70, Panchaali_91, Patbob_99, PauloDiaboli_116, Phrampa_93, Pumpernickel_112, Quantum_65, Racecar_101, ReginaGlobina_99, Roberts_39, Rockabye_104, SJReid_104, Sarkar_69, Satis_66, Stewart25555_91, Studio_41, TMaxx_40, Talia1610_100, TripleC_40, WaddleDee_87, Zooman_99,

Summary by start number:

Start 12:

- Found in 5 of 71 (7.0%) of genes in pham
- Manual Annotations of this start: 4 of 51
- Called 100.0% of time when present
- Phage (with cluster) where this start called: EhyElimayoE_66 (BM), Kradal_66 (BM), Quantum_65 (BM), Sarkar_69 (BM), Satis_66 (BM),

Start 13:

- Found in 2 of 71 (2.8%) of genes in pham
- Manual Annotations of this start: 1 of 51
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Kela_61 (BM),

Start 14:

- Found in 3 of 71 (4.2%) of genes in pham
- Manual Annotations of this start: 2 of 51
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Makima_39 (FR), Mireles_42 (FR),

Start 16:

- Found in 2 of 71 (2.8%) of genes in pham
- Manual Annotations of this start: 2 of 51
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Frankenweenie_73 (BM), Nirvana_70 (BM),

Start 20:

- Found in 2 of 71 (2.8%) of genes in pham
- Manual Annotations of this start: 1 of 51
- Called 50.0% of time when present
- Phage (with cluster) where this start called: JustBecause_60 (BM),

Start 21:

- Found in 1 of 71 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 51
- Called 100.0% of time when present
- Phage (with cluster) where this start called: TripleC_40 (FR),

Start 22:

- Found in 9 of 71 (12.7%) of genes in pham
- Manual Annotations of this start: 2 of 51
- Called 22.2% of time when present
- Phage (with cluster) where this start called: Gerri43_39 (FR), Roberts_39 (FR),

Start 23:

- Found in 4 of 71 (5.6%) of genes in pham
- Manual Annotations of this start: 3 of 51
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Agamoto_39 (FR), Audell_38 (FR), LastNadiia_41 (FR),

Start 25:

- Found in 1 of 71 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 51
- Called 100.0% of time when present
- Phage (with cluster) where this start called: TMaxx_40 (FR),

Start 26:

- Found in 25 of 71 (35.2%) of genes in pham
- Manual Annotations of this start: 12 of 51
- Called 88.0% of time when present
- Phage (with cluster) where this start called: Artu_92 (FC), Atuin_94 (FC), BooTeria_96 (FC), Chilliams_98 (FC), DunneganBoMo_89 (FC), Ellewin_88 (FC), Emmetator_92 (FC), FrostedClock_103 (FC), GoldenEssence_86 (FC), KSunshine22_94 (FC), Laure_104 (UNK), LeoJr_99 (FC), Mimi_100 (FC), Panchaali_91 (FC), Patbob_99 (FC), Phrampa_93 (FC), Racecar_101 (FC), ReginaGlobina_99 (FC), SJReid_104 (FC), Stewart25555_91 (FC), Talia1610_100

(FC), WaddleDee_87 (FC),

Start 27:

- Found in 1 of 71 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 51
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Pumpernickel_112 (GD4),

Start 28:

- Found in 3 of 71 (4.2%) of genes in pham
- Manual Annotations of this start: 3 of 51
- Called 100.0% of time when present
- Phage (with cluster) where this start called: A3Wally_116 (GD1), Dodo_118 (GD1), PauloDiaboli_116 (GD1),

Start 29:

- Found in 4 of 71 (5.6%) of genes in pham
- Manual Annotations of this start: 3 of 51
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Big4_104 (GD2), Cece_98 (GD3), Erasmago_106 (GD2), Zooman_99 (GD2),

Start 32:

- Found in 9 of 71 (12.7%) of genes in pham
- Manual Annotations of this start: 2 of 51
- Called 77.8% of time when present
- Phage (with cluster) where this start called: AnnabelLee_39 (FR), CardboardBox_40 (FR), ChamoyPickle_41 (FR), ChipsNGuac_39 (FR), Ezurina_38 (FR), Neuville_39 (FR), Studio_41 (FR),

Start 34:

- Found in 13 of 71 (18.3%) of genes in pham
- Manual Annotations of this start: 13 of 51
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Amavida_54 (AQ), Amigo_51 (AQ), Anansi_51 (AQ), Boersma_53 (AQ), Gorgeous_51 (AQ), Heylee_54 (AQ), Ichor_51 (AQ), Jaek_51 (AQ), Molivia_55 (AQ), Rings_50 (AQ), SorJuana_51 (AQ), Thunderclap_51 (AQ), Yeezus_51 (AQ),

Start 40:

- Found in 17 of 71 (23.9%) of genes in pham
- No Manual Annotations of this start.
- Called 5.9% of time when present
- Phage (with cluster) where this start called: Rockabye_104 (FC),

Start 42:

- Found in 10 of 71 (14.1%) of genes in pham
- No Manual Annotations of this start.
- Called 20.0% of time when present
- Phage (with cluster) where this start called: Bloom_104 (FC), FloraSnap32_100 (FC),

Summary by clusters:

There are 9 clusters represented in this pham: GD1, FR, GD3, GD4, BM, GD2, AQ, FC, UNK,

Info for manual annotations of cluster AQ:

- Start number 34 was manually annotated 13 times for cluster AQ.

Info for manual annotations of cluster BM:

- Start number 12 was manually annotated 4 times for cluster BM.
- Start number 13 was manually annotated 1 time for cluster BM.
- Start number 16 was manually annotated 2 times for cluster BM.
- Start number 20 was manually annotated 1 time for cluster BM.

Info for manual annotations of cluster FC:

- Start number 26 was manually annotated 12 times for cluster FC.

Info for manual annotations of cluster FR:

- Start number 14 was manually annotated 2 times for cluster FR.
- Start number 21 was manually annotated 1 time for cluster FR.
- Start number 22 was manually annotated 2 times for cluster FR.
- Start number 23 was manually annotated 3 times for cluster FR.
- Start number 25 was manually annotated 1 time for cluster FR.
- Start number 32 was manually annotated 2 times for cluster FR.

Info for manual annotations of cluster GD1:

- Start number 28 was manually annotated 3 times for cluster GD1.

Info for manual annotations of cluster GD2:

- Start number 29 was manually annotated 2 times for cluster GD2.

Info for manual annotations of cluster GD3:

- Start number 29 was manually annotated 1 time for cluster GD3.

Info for manual annotations of cluster GD4:

- Start number 27 was manually annotated 1 time for cluster GD4.

Gene Information:

Gene: A3Wally_116 Start: 79965, Stop: 79498, Start Num: 28

Candidate Starts for A3Wally_116:

(Start: 28 @79965 has 3 MA's), (40, 79917), (47, 79872), (48, 79869), (51, 79851), (66, 79785), (77, 79710), (90, 79638), (107, 79521),

Gene: Agamoto_39 Start: 29625, Stop: 29152, Start Num: 23

Candidate Starts for Agamoto_39:

(6, 29667), (8, 29655), (9, 29652), (11, 29643), (Start: 14 @29634 has 2 MA's), (Start: 23 @29625 has 3 MA's), (45, 29532), (88, 29313), (96, 29265), (102, 29208), (107, 29181),

Gene: Amavida_54 Start: 34114, Stop: 33629, Start Num: 34

Candidate Starts for Amavida_54:

(7, 34198), (31, 34126), (33, 34117), (Start: 34 @34114 has 13 MA's), (57, 33994), (68, 33940), (72, 33913), (79, 33862), (82, 33844), (97, 33760), (100, 33712), (101, 33703), (106, 33679),

Gene: Amigo_51 Start: 34001, Stop: 33516, Start Num: 34

Candidate Starts for Amigo_51:

(7, 34085), (31, 34013), (Start: 34 @34001 has 13 MA's), (57, 33881), (68, 33827), (72, 33800), (79, 33749), (82, 33731), (97, 33647), (100, 33599), (101, 33590), (106, 33566),

Gene: Anansi_51 Start: 33936, Stop: 33451, Start Num: 34

Candidate Starts for Anansi_51:

(7, 34020), (31, 33948), (33, 33939), (Start: 34 @33936 has 13 MA's), (57, 33816), (68, 33762), (72, 33735), (79, 33684), (82, 33666), (97, 33582), (100, 33534), (101, 33525), (106, 33501),

Gene: AnnabelLee_39 Start: 26816, Stop: 26370, Start Num: 32

Candidate Starts for AnnabelLee_39:

(2, 26915), (7, 26888), (Start: 22 @26852 has 2 MA's), (Start: 32 @26816 has 2 MA's), (70, 26630), (76, 26588), (92, 26507), (103, 26417),

Gene: Artu_92 Start: 76740, Stop: 77192, Start Num: 26

Candidate Starts for Artu_92:

(Start: 26 @76740 has 12 MA's), (40, 76782), (52, 76854), (77, 76989), (95, 77079), (102, 77139),

Gene: Atuin_94 Start: 80139, Stop: 80591, Start Num: 26

Candidate Starts for Atuin_94:

(Start: 26 @80139 has 12 MA's), (52, 80253), (61, 80286), (87, 80430), (89, 80442), (96, 80481), (102, 80538),

Gene: Audell_38 Start: 29191, Stop: 28739, Start Num: 23

Candidate Starts for Audell_38:

(15, 29197), (Start: 23 @29191 has 3 MA's), (51, 29062), (76, 28957), (88, 28900),

Gene: Big4_104 Start: 78878, Stop: 78420, Start Num: 29

Candidate Starts for Big4_104:

(Start: 29 @78878 has 3 MA's), (44, 78815), (47, 78794), (58, 78746), (66, 78707), (69, 78692), (77, 78632), (78, 78629), (90, 78560), (103, 78461), (107, 78443),

Gene: Bloom_104 Start: 80312, Stop: 80704, Start Num: 42

Candidate Starts for Bloom_104:

(19, 80222), (Start: 26 @80243 has 12 MA's), (41, 80306), (42, 80312), (94, 80585), (102, 80651), (104, 80663),

Gene: Boersma_53 Start: 34001, Stop: 33516, Start Num: 34

Candidate Starts for Boersma_53:

(7, 34085), (31, 34013), (Start: 34 @34001 has 13 MA's), (57, 33881), (68, 33827), (72, 33800), (79, 33749), (82, 33731), (97, 33647), (100, 33599), (101, 33590), (106, 33566),

Gene: BooTeria_96 Start: 76805, Stop: 77257, Start Num: 26

Candidate Starts for BooTeria_96:

(Start: 26 @76805 has 12 MA's), (40, 76847), (52, 76919), (77, 77054), (95, 77144), (102, 77204),

Gene: CardboardBox_40 Start: 26819, Stop: 26373, Start Num: 32

Candidate Starts for CardboardBox_40:

(2, 26918), (7, 26891), (Start: 22 @26855 has 2 MA's), (Start: 32 @26819 has 2 MA's), (70, 26633), (76, 26591), (92, 26510), (103, 26420),

Gene: Cece_98 Start: 81819, Stop: 81358, Start Num: 29

Candidate Starts for Cece_98:

(1, 81933), (Start: 29 @81819 has 3 MA's), (40, 81777), (42, 81762), (58, 81684), (62, 81663), (65, 81648), (66, 81645), (75, 81585), (81, 81555), (90, 81498), (107, 81381), (108, 81369),

Gene: ChamoyPickle_41 Start: 27359, Stop: 26913, Start Num: 32

Candidate Starts for ChamoyPickle_41:

(2, 27458), (7, 27431), (Start: 22 @27395 has 2 MA's), (Start: 32 @27359 has 2 MA's), (70, 27173), (76, 27131), (92, 27050), (103, 26960),

Gene: Chilliams_98 Start: 73042, Stop: 73503, Start Num: 26

Candidate Starts for Chilliams_98:

(Start: 26 @73042 has 12 MA's), (35, 73075), (39, 73093), (40, 73096), (41, 73105), (49, 73147), (61, 73201), (66, 73225), (67, 73228), (70, 73249), (75, 73285), (83, 73333), (102, 73450), (104, 73462), (109, 73498),

Gene: ChipsNGuac_39 Start: 26819, Stop: 26373, Start Num: 32

Candidate Starts for ChipsNGuac_39:

(2, 26918), (7, 26891), (Start: 22 @26855 has 2 MA's), (Start: 32 @26819 has 2 MA's), (70, 26633), (76, 26591), (92, 26510), (103, 26420),

Gene: Dodo_118 Start: 80275, Stop: 79808, Start Num: 28

Candidate Starts for Dodo_118:

(Start: 28 @80275 has 3 MA's), (40, 80227), (47, 80182), (48, 80179), (51, 80161), (66, 80095), (77, 80020), (90, 79948), (107, 79831),

Gene: DunneganBoMo_89 Start: 76074, Stop: 76526, Start Num: 26

Candidate Starts for DunneganBoMo_89:

(Start: 26 @76074 has 12 MA's), (40, 76116), (52, 76188), (77, 76323), (95, 76413), (102, 76473),

Gene: EhyElimayoE_66 Start: 44745, Stop: 44173, Start Num: 12

Candidate Starts for EhyElimayoE_66:

(Start: 12 @44745 has 4 MA's), (17, 44733), (36, 44667), (38, 44652), (52, 44586), (53, 44583), (56, 44571), (80, 44445), (91, 44382), (99, 44319), (107, 44262),

Gene: Ellewin_88 Start: 75485, Stop: 75937, Start Num: 26

Candidate Starts for Ellewin_88:

(Start: 26 @75485 has 12 MA's), (40, 75527), (52, 75599), (77, 75734), (89, 75788), (95, 75824), (102, 75884),

Gene: Emmetator_92 Start: 76077, Stop: 76529, Start Num: 26

Candidate Starts for Emmetator_92:

(Start: 26 @76077 has 12 MA's), (40, 76119), (52, 76191), (77, 76326), (95, 76416), (102, 76476),

Gene: Erasmago_106 Start: 76564, Stop: 76106, Start Num: 29

Candidate Starts for Erasmago_106:

(Start: 29 @76564 has 3 MA's), (40, 76525), (66, 76393), (90, 76246), (103, 76147), (107, 76129),

Gene: Ezurina_38 Start: 27906, Stop: 27460, Start Num: 32

Candidate Starts for Ezurina_38:

(2, 28005), (7, 27978), (Start: 22 @27942 has 2 MA's), (Start: 32 @27906 has 2 MA's), (61, 27771), (70, 27720), (76, 27678), (92, 27597),

Gene: FloraSnap32_100 Start: 79209, Stop: 79601, Start Num: 42

Candidate Starts for FloraSnap32_100:

(Start: 26 @79140 has 12 MA's), (41, 79203), (42, 79209), (94, 79482), (102, 79548), (104, 79560),

Gene: Frankenweenie_73 Start: 47336, Stop: 46788, Start Num: 16

Candidate Starts for Frankenweenie_73:

(Start: 16 @47336 has 2 MA's), (30, 47294), (36, 47270), (43, 47234), (46, 47216), (53, 47180), (55, 47171), (78, 47051), (85, 47012), (89, 46994), (91, 46979), (93, 46964), (98, 46940), (102, 46889),

Gene: FrostedClock_103 Start: 80440, Stop: 80901, Start Num: 26

Candidate Starts for FrostedClock_103:

(19, 80419), (Start: 26 @80440 has 12 MA's), (41, 80503), (42, 80509), (94, 80782), (102, 80848), (104, 80860),

Gene: Gerri43_39 Start: 26855, Stop: 26373, Start Num: 22

Candidate Starts for Gerri43_39:

(2, 26918), (7, 26891), (Start: 22 @26855 has 2 MA's), (Start: 32 @26819 has 2 MA's), (70, 26633), (76, 26591), (92, 26510), (103, 26420),

Gene: GoldenEssence_86 Start: 74035, Stop: 74496, Start Num: 26

Candidate Starts for GoldenEssence_86:

(Start: 26 @74035 has 12 MA's), (41, 74098), (42, 74104), (76, 74284), (94, 74377), (102, 74443), (104, 74455),

Gene: Gorgeous_51 Start: 33936, Stop: 33451, Start Num: 34

Candidate Starts for Gorgeous_51:

(7, 34020), (31, 33948), (33, 33939), (Start: 34 @33936 has 13 MA's), (57, 33816), (68, 33762), (72, 33735), (79, 33684), (82, 33666), (97, 33582), (100, 33534), (101, 33525), (106, 33501),

Gene: Heylee_54 Start: 34114, Stop: 33629, Start Num: 34

Candidate Starts for Heylee_54:

(7, 34198), (31, 34126), (33, 34117), (Start: 34 @34114 has 13 MA's), (57, 33994), (68, 33940), (72, 33913), (79, 33862), (82, 33844), (97, 33760), (100, 33712), (101, 33703), (106, 33679),

Gene: Ichor_51 Start: 34001, Stop: 33516, Start Num: 34

Candidate Starts for Ichor_51:

(7, 34085), (31, 34013), (Start: 34 @34001 has 13 MA's), (57, 33881), (68, 33827), (72, 33800), (79, 33749), (82, 33731), (97, 33647), (100, 33599), (101, 33590), (106, 33566),

Gene: Jaek_51 Start: 34001, Stop: 33516, Start Num: 34

Candidate Starts for Jaek_51:

(7, 34085), (31, 34013), (Start: 34 @34001 has 13 MA's), (57, 33881), (68, 33827), (72, 33800), (79, 33749), (82, 33731), (97, 33647), (100, 33599), (101, 33590), (106, 33566),

Gene: JustBecause_60 Start: 41941, Stop: 41381, Start Num: 20

Candidate Starts for JustBecause_60:

(Start: 13 @41959 has 1 MA's), (Start: 20 @41941 has 1 MA's), (30, 41908), (53, 41794), (55, 41785), (60, 41767), (76, 41677), (78, 41665), (80, 41656), (81, 41653), (91, 41593), (93, 41578), (98, 41554), (102, 41503), (105, 41485), (107, 41470),

Gene: KSunshine22_94 Start: 77134, Stop: 77586, Start Num: 26

Candidate Starts for KSunshine22_94:

(Start: 26 @77134 has 12 MA's), (40, 77176), (52, 77248), (77, 77383), (89, 77437), (95, 77473), (102, 77533),

Gene: Kela_61 Start: 41824, Stop: 41246, Start Num: 13

Candidate Starts for Kela_61:

(Start: 13 @41824 has 1 MA's), (Start: 20 @41806 has 1 MA's), (30, 41773), (53, 41659), (55, 41650), (60, 41632), (76, 41542), (78, 41530), (80, 41521), (81, 41518), (91, 41458), (93, 41443), (98, 41419), (102, 41368), (105, 41350), (107, 41335),

Gene: Kradal_66 Start: 44745, Stop: 44173, Start Num: 12

Candidate Starts for Kradal_66:

(Start: 12 @44745 has 4 MA's), (17, 44733), (36, 44667), (38, 44652), (52, 44586), (53, 44583), (56, 44571), (80, 44445), (91, 44382), (99, 44319), (107, 44262),

Gene: LastNadiia_41 Start: 29150, Stop: 28698, Start Num: 23

Candidate Starts for LastNadiia_41:

(3, 29216), (10, 29180), (15, 29165), (Start: 23 @29150 has 3 MA's), (50, 29030), (75, 28922), (84, 28871), (88, 28859), (102, 28754),

Gene: Laure_104 Start: 73076, Stop: 73531, Start Num: 26

Candidate Starts for Laure_104:

(Start: 26 @73076 has 12 MA's), (48, 73178), (51, 73196), (52, 73202), (54, 73211), (102, 73478), (109, 73526),

Gene: LeoJr_99 Start: 80375, Stop: 80827, Start Num: 26

Candidate Starts for LeoJr_99:

(Start: 26 @80375 has 12 MA's), (52, 80489), (61, 80522), (87, 80666), (89, 80678), (96, 80717), (102, 80774),

Gene: Makima_39 Start: 28292, Stop: 27810, Start Num: 14

Candidate Starts for Makima_39:

(6, 28325), (8, 28313), (9, 28310), (11, 28301), (Start: 14 @28292 has 2 MA's), (Start: 23 @28283 has 3 MA's), (73, 28049), (87, 27977), (88, 27971),

Gene: Mimi_100 Start: 79590, Stop: 80051, Start Num: 26

Candidate Starts for Mimi_100:

(19, 79569), (Start: 26 @79590 has 12 MA's), (41, 79653), (42, 79659), (94, 79932), (102, 79998), (104, 80010),

Gene: Mireles_42 Start: 27838, Stop: 27368, Start Num: 14

Candidate Starts for Mireles_42:

(4, 27880), (5, 27877), (Start: 14 @27838 has 2 MA's), (37, 27778), (44, 27736), (87, 27535), (88, 27529),

Gene: Molivia_55 Start: 33003, Stop: 32533, Start Num: 34

Candidate Starts for Molivia_55:

(18, 33045), (31, 33015), (Start: 34 @33003 has 13 MA's), (57, 32898), (74, 32799), (79, 32766), (91, 32697), (100, 32616), (106, 32583),

Gene: Neuville_39 Start: 26819, Stop: 26373, Start Num: 32

Candidate Starts for Neuville_39:

(2, 26918), (7, 26891), (Start: 22 @26855 has 2 MA's), (Start: 32 @26819 has 2 MA's), (70, 26633), (76, 26591), (92, 26510), (103, 26420),

Gene: Nirvana_70 Start: 46706, Stop: 46125, Start Num: 16

Candidate Starts for Nirvana_70:

(Start: 16 @46706 has 2 MA's), (24, 46691), (30, 46664), (36, 46640), (53, 46550), (55, 46541), (78, 46421), (80, 46412), (81, 46409), (85, 46382), (91, 46349), (93, 46334), (98, 46310), (102, 46259), (105, 46241), (107, 46226),

Gene: Panchaali_91 Start: 77087, Stop: 77539, Start Num: 26

Candidate Starts for Panchaali_91:

(19, 77066), (Start: 26 @77087 has 12 MA's), (40, 77129), (52, 77201), (89, 77390), (102, 77486),

Gene: Patbob_99 Start: 80325, Stop: 80786, Start Num: 26

Candidate Starts for Patbob_99:

(Start: 26 @80325 has 12 MA's), (41, 80388), (42, 80394), (63, 80499), (94, 80667), (102, 80733), (104, 80745),

Gene: PauloDiaboli_116 Start: 79310, Stop: 78843, Start Num: 28

Candidate Starts for PauloDiaboli_116:

(1, 79424), (Start: 28 @79310 has 3 MA's), (40, 79262), (47, 79217), (48, 79214), (51, 79196), (66, 79130), (77, 79055), (90, 78983), (107, 78866),

Gene: Phrampa_93 Start: 81823, Stop: 82284, Start Num: 26

Candidate Starts for Phrampa_93:

(Start: 26 @81823 has 12 MA's), (41, 81886), (42, 81892), (66, 82006), (94, 82165), (102, 82231), (104, 82243),

Gene: Pumpernickel_112 Start: 80618, Stop: 80151, Start Num: 27

Candidate Starts for Pumpernickel_112:

(Start: 27 @80618 has 1 MA's), (40, 80573), (41, 80564), (49, 80522), (51, 80507), (64, 80450), (66, 80441), (76, 80375), (78, 80363), (90, 80294), (91, 80288),

Gene: Quantum_65 Start: 44745, Stop: 44173, Start Num: 12

Candidate Starts for Quantum_65:

(Start: 12 @44745 has 4 MA's), (17, 44733), (36, 44667), (38, 44652), (52, 44586), (53, 44583), (56, 44571), (80, 44445), (91, 44382), (99, 44319), (107, 44262),

Gene: Racecar_101 Start: 80243, Stop: 80704, Start Num: 26

Candidate Starts for Racecar_101:

(19, 80222), (Start: 26 @80243 has 12 MA's), (41, 80306), (42, 80312), (94, 80585), (102, 80651), (104, 80663),

Gene: ReginaGlobina_99 Start: 79940, Stop: 80392, Start Num: 26

Candidate Starts for ReginaGlobina_99:

(Start: 26 @79940 has 12 MA's), (52, 80054), (61, 80087), (87, 80231), (89, 80243), (96, 80282), (102, 80339),

Gene: Rings_50 Start: 34076, Stop: 33588, Start Num: 34

Candidate Starts for Rings_50:

(7, 34160), (31, 34088), (Start: 34 @34076 has 13 MA's), (57, 33956), (68, 33902), (72, 33875), (79, 33824), (82, 33806), (97, 33722), (100, 33674), (106, 33641),

Gene: Roberts_39 Start: 26855, Stop: 26373, Start Num: 22

Candidate Starts for Roberts_39:

(2, 26918), (7, 26891), (Start: 22 @26855 has 2 MA's), (Start: 32 @26819 has 2 MA's), (70, 26633), (76, 26591), (92, 26510), (103, 26420),

Gene: Rockabye_104 Start: 73531, Stop: 73938, Start Num: 40

Candidate Starts for Rockabye_104:

(Start: 26 @73477 has 12 MA's), (35, 73510), (39, 73528), (40, 73531), (41, 73540), (49, 73582), (61, 73636), (66, 73660), (70, 73684), (75, 73720), (83, 73768), (96, 73828), (102, 73885), (104, 73897), (109, 73933),

Gene: SJReid_104 Start: 72591, Stop: 73052, Start Num: 26

Candidate Starts for SJReid_104:

(19, 72570), (Start: 26 @72591 has 12 MA's), (35, 72624), (39, 72642), (65, 72771), (66, 72774), (70, 72798), (75, 72834), (83, 72882), (102, 72999), (109, 73047),

Gene: Sarkar_69 Start: 44745, Stop: 44173, Start Num: 12

Candidate Starts for Sarkar_69:

(Start: 12 @44745 has 4 MA's), (17, 44733), (36, 44667), (38, 44652), (52, 44586), (53, 44583), (56, 44571), (80, 44445), (91, 44382), (99, 44319), (107, 44262),

Gene: Satis_66 Start: 44741, Stop: 44169, Start Num: 12

Candidate Starts for Satis_66:

(Start: 12 @44741 has 4 MA's), (17, 44729), (36, 44663), (38, 44648), (52, 44582), (53, 44579), (56, 44567), (80, 44441), (91, 44378), (99, 44315), (107, 44258),

Gene: SorJuana_51 Start: 33936, Stop: 33451, Start Num: 34

Candidate Starts for SorJuana_51:

(7, 34020), (31, 33948), (33, 33939), (Start: 34 @33936 has 13 MA's), (57, 33816), (68, 33762), (72, 33735), (79, 33684), (82, 33666), (97, 33582), (100, 33534), (101, 33525), (106, 33501),

Gene: Stewart25555_91 Start: 76846, Stop: 77298, Start Num: 26

Candidate Starts for Stewart25555_91:

(Start: 26 @76846 has 12 MA's), (40, 76888), (78, 77098), (102, 77245),

Gene: Studio_41 Start: 28182, Stop: 27736, Start Num: 32

Candidate Starts for Studio_41:

(2, 28281), (7, 28254), (Start: 22 @28218 has 2 MA's), (Start: 32 @28182 has 2 MA's), (70, 27996), (71, 27987), (76, 27954), (92, 27873), (94, 27858),

Gene: TMaxx_40 Start: 27472, Stop: 26996, Start Num: 25

Candidate Starts for TMaxx_40:

(Start: 25 @27472 has 1 MA's), (59, 27316), (86, 27166), (88, 27157), (102, 27052), (107, 27025),

Gene: Talia1610_100 Start: 79608, Stop: 80069, Start Num: 26

Candidate Starts for Talia1610_100:

(19, 79587), (Start: 26 @79608 has 12 MA's), (41, 79671), (42, 79677), (94, 79950), (102, 80016), (104, 80028),

Gene: Thunderclap_51 Start: 34030, Stop: 33545, Start Num: 34

Candidate Starts for Thunderclap_51:

(7, 34114), (31, 34042), (Start: 34 @34030 has 13 MA's), (57, 33910), (68, 33856), (72, 33829), (79, 33778), (82, 33760), (97, 33676), (100, 33628), (106, 33595),

Gene: TripleC_40 Start: 29799, Stop: 29347, Start Num: 21

Candidate Starts for TripleC_40:

(Start: 21 @29799 has 1 MA's), (84, 29520), (88, 29508), (102, 29403), (107, 29376),

Gene: WaddleDee_87 Start: 75260, Stop: 75712, Start Num: 26

Candidate Starts for WaddleDee_87:

(Start: 26 @75260 has 12 MA's), (40, 75302), (52, 75374), (77, 75509), (95, 75599), (102, 75659),

Gene: Yeezus_51 Start: 34000, Stop: 33515, Start Num: 34

Candidate Starts for Yeezus_51:

(7, 34084), (31, 34012), (Start: 34 @34000 has 13 MA's), (57, 33880), (68, 33826), (72, 33799), (79, 33748), (82, 33730), (97, 33646), (100, 33598), (101, 33589), (106, 33565),

Gene: Zooman_99 Start: 76723, Stop: 76265, Start Num: 29

Candidate Starts for Zooman_99:

(Start: 29 @76723 has 3 MA's), (47, 76639), (66, 76552), (69, 76537), (77, 76477), (78, 76474), (90, 76405), (103, 76306), (107, 76288),