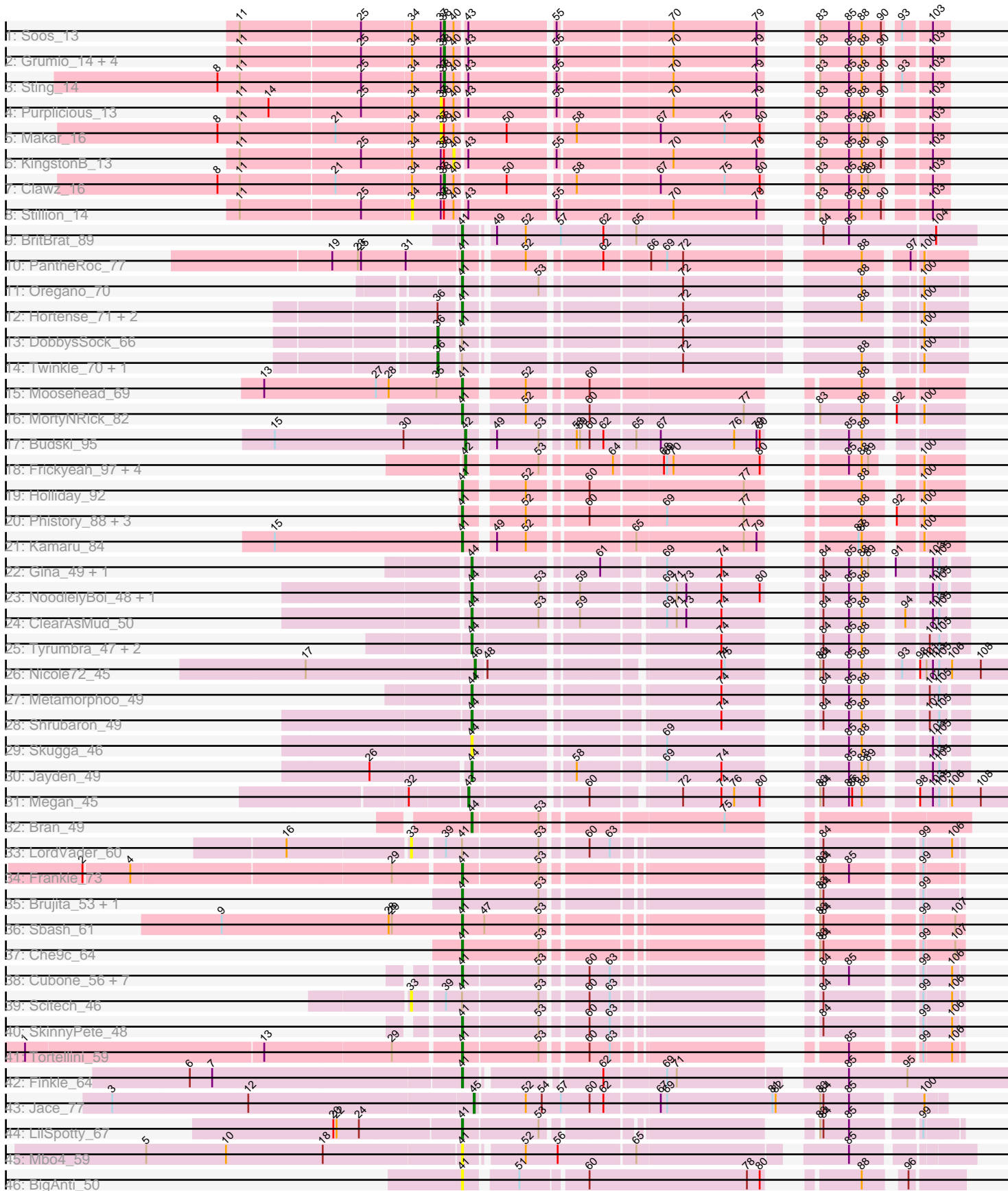


Pham 294689



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 294689 Report

This analysis was run 04/18/26 on database version 643.

Pham number 294689 has 72 members, 15 are drafts.

Phages represented in each track:

- Track 1 : Soos_13
- Track 2 : Grumio_14, Jollymon_14, Amo99_15, ColdSoup_15, DonTron_13
- Track 3 : Sting_14
- Track 4 : Purplicious_13
- Track 5 : Makar_16
- Track 6 : KingstonB_13
- Track 7 : Clawz_16
- Track 8 : Stillion_14
- Track 9 : BritBrat_89
- Track 10 : PantheRoc_77
- Track 11 : Oregano_70
- Track 12 : Hortense_71, Howe_71, Adora_68
- Track 13 : DobbysSock_66
- Track 14 : Twinkle_70, Shlim410_69
- Track 15 : Moosehead_69
- Track 16 : MortyNRick_82
- Track 17 : Budski_95
- Track 18 : Frickyeah_97, Periwinkle_99, Horus_91, Leroy_90, ShawBrad_95
- Track 19 : Holliday_92
- Track 20 : Phistory_88, Crater_90, Apricot_90, Ecliptus_97
- Track 21 : Kamaru_84
- Track 22 : Gina_49, Teamocil_49
- Track 23 : NoodlelyBoi_48, SirFrank_47
- Track 24 : ClearAsMud_50
- Track 25 : Tyumbra_47, RobsFeet_50, Fireman_49
- Track 26 : Nicole72_45
- Track 27 : Metamorphoo_49
- Track 28 : Shrubaron_49
- Track 29 : Skugga_46
- Track 30 : Jayden_49
- Track 31 : Megan_45
- Track 32 : Bran_49
- Track 33 : LordVader_60
- Track 34 : Frankie_73
- Track 35 : Brujita_53, Island3_53
- Track 36 : Sbash_61
- Track 37 : Che9c_64

- Track 38 : Cubone_56, DocMcStuffins_70, Aloeri_71, Piper2020_71, ChickenDinner_70, Awesomesauce_70, Misha28_68, TootsiePop_68
- Track 39 : Scitech_46
- Track 40 : SkinnyPete_48
- Track 41 : Tortellini_59
- Track 42 : Finkle_64
- Track 43 : Jace_77
- Track 44 : LilSpotty_67
- Track 45 : Mbo4_59
- Track 46 : BigAnti_50

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

The start number called the most often in the published annotations is 41, it was called in 30 of the 57 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Adora_68, Aloeri_71, Apricot_90, Awesomesauce_70, BigAnti_50, BritBrat_89, Brujita_53, Che9c_64, ChickenDinner_70, Crater_90, Cubone_56, DocMcStuffins_70, Ecliptus_97, Finkle_64, Frankie_73, Holliday_92, Hortense_71, Howe_71, Island3_53, Kamaru_84, LilSpotty_67, Mbo4_59, Misha28_68, Moosehead_69, MortyNRick_82, Oregano_70, PantheRoc_77, Phistory_88, Piper2020_71, Sbash_61, SkinnyPete_48, TootsiePop_68, Tortellini_59,

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

- DobbysSock_66, LordVader_60, Scitech_46, Shlim410_69, Twinkle_70,

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

- Amo99_15, Bran_49, Budski_95, Clawz_16, ClearAsMud_50, ColdSoup_15, DonTron_13, Fireman_49, Frickyeah_97, Gina_49, Grumio_14, Horus_91, Jace_77, Jayden_49, Jollymon_14, KingstonB_13, Leroy_90, Makar_16, Megan_45, Metamorphoo_49, Nicole72_45, NoodlelyBoi_48, Periwinkle_99, Purplicious_13, RobsFeet_50, ShawBrad_95, Shrubaron_49, SirFrank_47, Skugga_46, Soos_13, Stillion_14, Sting_14, Teamocil_49, Tyrumbra_47,

Summary by start number:

Start 33:

- Found in 2 of 72 (2.8%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LordVader_60 (F), Scitech_46 (N),

Start 34:

- Found in 12 of 72 (16.7%) of genes in pham
- No Manual Annotations of this start.
- Called 8.3% of time when present
- Phage (with cluster) where this start called: Stillion_14 (CP),

Start 36:

- Found in 6 of 72 (8.3%) of genes in pham
- Manual Annotations of this start: 3 of 57
- Called 50.0% of time when present
- Phage (with cluster) where this start called: DobbysSock_66 (CZ4), Shlim410_69 (CZ4), Twinkle_70 (CZ4),

Start 37:

- Found in 12 of 72 (16.7%) of genes in pham
- No Manual Annotations of this start.
- Called 16.7% of time when present
- Phage (with cluster) where this start called: Makar_16 (CP), Purplicious_13 (CP),

Start 38:

- Found in 12 of 72 (16.7%) of genes in pham
- Manual Annotations of this start: 5 of 57
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Amo99_15 (CP), Clawz_16 (CP), ColdSoup_15 (CP), DonTron_13 (CP), Grumio_14 (CP), Jollymon_14 (CP), Soos_13 (CP), Sting_14 (CP),

Start 40:

- Found in 12 of 72 (16.7%) of genes in pham
- No Manual Annotations of this start.
- Called 8.3% of time when present
- Phage (with cluster) where this start called: KingstonB_13 (CP),

Start 41:

- Found in 38 of 72 (52.8%) of genes in pham
- Manual Annotations of this start: 30 of 57
- Called 86.8% of time when present
- Phage (with cluster) where this start called: Adora_68 (CZ4), Aloeri_71 (F1), Apricot_90 (DN3), Awesomesauce_70 (F1), BigAnti_50 (singleton), BritBrat_89 (CY2), Brujita_53 (I1), Che9c_64 (I2), ChickenDinner_70 (F1), Crater_90 (DN3), Cubone_56 (N), DocMcStuffins_70 (F1), Ecliptus_97 (DN), Finkle_64 (singleton), Frankie_73 (F1), Holliday_92 (DN1), Hortense_71 (CZ4), Howe_71 (CZ4), Island3_53 (I1), Kamaru_84 (DN1), LilSpotty_67 (singleton), Mbo4_59 (singleton), Misha28_68 (F1), Moosehead_69 (CZ6), MortyNRick_82 (DN), Oregano_70 (CZ4), PantheRoc_77 (CZ3), Phistory_88 (DN1), Piper2020_71 (F1), Sbash_61 (I2), SkinnyPete_48 (N), TootsiePop_68 (F1), Tortellini_59 (P2),

Start 42:

- Found in 6 of 72 (8.3%) of genes in pham
- Manual Annotations of this start: 4 of 57
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Budski_95 (DN), Frickyeah_97 (DN1), Horus_91 (DN1), Leroy_90 (DN1), Periwinkle_99 (DN1), ShawBrad_95 (DN1),

Start 43:

- Found in 11 of 72 (15.3%) of genes in pham
- Manual Annotations of this start: 1 of 57
- Called 9.1% of time when present
- Phage (with cluster) where this start called: Megan_45 (EC),

Start 44:

- Found in 13 of 72 (18.1%) of genes in pham
- Manual Annotations of this start: 12 of 57
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bran_49 (EP), ClearAsMud_50 (EC), Fireman_49 (EC), Gina_49 (EC), Jayden_49 (EC), Metamorphoo_49 (EC), NoodlelyBoi_48 (EC), RobsFeet_50 (EC), Shrubaron_49 (EC), SirFrank_47 (EC), Skugga_46 (EC), Teamocil_49 (EC), Tyrumbra_47 (EC),

Start 45:

- Found in 1 of 72 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 57
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Jace_77 (singleton),

Start 46:

- Found in 1 of 72 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 57
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Nicole72_45 (EC),

Summary by clusters:

There are 17 clusters represented in this pham: P2, F1, singleton, DN, F, I1, CZ3, I2, CZ6, EC, N, DN1, CZ4, DN3, CP, CY2, EP,

Info for manual annotations of cluster CP:

- Start number 38 was manually annotated 5 times for cluster CP.

Info for manual annotations of cluster CY2:

- Start number 41 was manually annotated 1 time for cluster CY2.

Info for manual annotations of cluster CZ3:

- Start number 41 was manually annotated 1 time for cluster CZ3.

Info for manual annotations of cluster CZ4:

- Start number 36 was manually annotated 3 times for cluster CZ4.
- Start number 41 was manually annotated 4 times for cluster CZ4.

Info for manual annotations of cluster CZ6:

- Start number 41 was manually annotated 1 time for cluster CZ6.

Info for manual annotations of cluster DN:

- Start number 41 was manually annotated 2 times for cluster DN.
- Start number 42 was manually annotated 1 time for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 41 was manually annotated 3 times for cluster DN1.
- Start number 42 was manually annotated 3 times for cluster DN1.

Info for manual annotations of cluster DN3:

- Start number 41 was manually annotated 2 times for cluster DN3.

Info for manual annotations of cluster EC:

- Start number 43 was manually annotated 1 time for cluster EC.
- Start number 44 was manually annotated 11 times for cluster EC.
- Start number 46 was manually annotated 1 time for cluster EC.

Info for manual annotations of cluster EP:

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

Info for manual annotations of cluster F1:

- Start number 41 was manually annotated 8 times for cluster F1.

Info for manual annotations of cluster I1:

- Start number 41 was manually annotated 2 times for cluster I1.

Info for manual annotations of cluster I2:

- Start number 41 was manually annotated 2 times for cluster I2.

Info for manual annotations of cluster N:

- Start number 41 was manually annotated 1 time for cluster N.

Info for manual annotations of cluster P2:

- Start number 41 was manually annotated 1 time for cluster P2.

Gene Information:

Gene: Adora_68 Start: 47407, Stop: 47808, Start Num: 41

Candidate Starts for Adora_68:

(Start: 36 @47389 has 3 MA's), (Start: 41 @47407 has 30 MA's), (72, 47584), (88, 47728), (100, 47770),

Gene: Aloeri_71 Start: 43637, Stop: 44014, Start Num: 41

Candidate Starts for Aloeri_71:

(Start: 41 @43637 has 30 MA's), (53, 43706), (60, 43742), (63, 43760), (84, 43901), (85, 43925), (99, 43982), (106, 44006),

Gene: Amo99_15 Start: 7379, Stop: 7768, Start Num: 38

Candidate Starts for Amo99_15:

(11, 7193), (25, 7304), (34, 7349), (37, 7376), (Start: 38 @7379 has 5 MA's), (40, 7388), (Start: 43 @7397 has 1 MA's), (55, 7472), (70, 7571), (79, 7649), (83, 7664), (85, 7691), (88, 7703), (90, 7721), (103, 7754),

Gene: Apricot_90 Start: 48459, Stop: 48836, Start Num: 41

Candidate Starts for Apricot_90:

(Start: 41 @48459 has 30 MA's), (52, 48507), (60, 48555), (69, 48621), (77, 48693), (88, 48759), (92, 48780), (100, 48801),

Gene: Awesomesauce_70 Start: 42720, Stop: 43097, Start Num: 41

Candidate Starts for Awesomesauce_70:

(Start: 41 @42720 has 30 MA's), (53, 42789), (60, 42825), (63, 42843), (84, 42984), (85, 43008), (99, 43065), (106, 43089),

Gene: BigAnti_50 Start: 44697, Stop: 45083, Start Num: 41

Candidate Starts for BigAnti_50:

(Start: 41 @44697 has 30 MA's), (51, 44739), (60, 44796), (78, 44943), (80, 44955), (88, 45006), (96, 45036),

Gene: Bran_49 Start: 35390, Stop: 35785, Start Num: 44

Candidate Starts for Bran_49:

(Start: 44 @35390 has 12 MA's), (53, 35450), (75, 35606),

Gene: BritBrat_89 Start: 51800, Stop: 52234, Start Num: 41

Candidate Starts for BritBrat_89:

(Start: 41 @51800 has 30 MA's), (49, 51821), (52, 51848), (57, 51881), (62, 51920), (65, 51947), (84, 52097), (85, 52121), (104, 52199),

Gene: Brujita_53 Start: 36853, Stop: 37233, Start Num: 41

Candidate Starts for Brujita_53:

(Start: 41 @36853 has 30 MA's), (53, 36925), (83, 37117), (84, 37120), (99, 37201),

Gene: Budski_95 Start: 51613, Stop: 51987, Start Num: 42

Candidate Starts for Budski_95:

(15, 51436), (30, 51556), (Start: 42 @51613 has 4 MA's), (49, 51631), (53, 51670), (58, 51694), (59, 51697), (60, 51706), (62, 51718), (65, 51745), (67, 51766), (76, 51835), (79, 51856), (80, 51859), (85, 51898), (88, 51910),

Gene: Che9c_64 Start: 45395, Stop: 45778, Start Num: 41

Candidate Starts for Che9c_64:

(Start: 41 @45395 has 30 MA's), (53, 45467), (83, 45659), (84, 45662), (99, 45743), (107, 45770),

Gene: ChickenDinner_70 Start: 43637, Stop: 44014, Start Num: 41

Candidate Starts for ChickenDinner_70:

(Start: 41 @43637 has 30 MA's), (53, 43706), (60, 43742), (63, 43760), (84, 43901), (85, 43925), (99, 43982), (106, 44006),

Gene: Clawz_16 Start: 7752, Stop: 8141, Start Num: 38

Candidate Starts for Clawz_16:

(8, 7545), (11, 7566), (21, 7653), (34, 7722), (37, 7749), (Start: 38 @7752 has 5 MA's), (40, 7761), (50, 7806), (58, 7860), (67, 7932), (75, 7992), (80, 8025), (83, 8037), (85, 8064), (88, 8076), (89, 8082), (103, 8127),

Gene: ClearAsMud_50 Start: 32507, Stop: 32881, Start Num: 44

Candidate Starts for ClearAsMud_50:

(Start: 44 @32507 has 12 MA's), (53, 32567), (59, 32594), (69, 32663), (71, 32672), (73, 32681), (74, 32714), (84, 32765), (85, 32789), (88, 32801), (94, 32831), (103, 32852), (105, 32858),

Gene: ColdSoup_15 Start: 7379, Stop: 7768, Start Num: 38

Candidate Starts for ColdSoup_15:

(11, 7193), (25, 7304), (34, 7349), (37, 7376), (Start: 38 @7379 has 5 MA's), (40, 7388), (Start: 43 @7397 has 1 MA's), (55, 7472), (70, 7571), (79, 7649), (83, 7664), (85, 7691), (88, 7703), (90, 7721), (103, 7754),

Gene: Crater_90 Start: 48803, Stop: 49180, Start Num: 41

Candidate Starts for Crater_90:

(Start: 41 @48803 has 30 MA's), (52, 48851), (60, 48899), (69, 48965), (77, 49037), (88, 49103), (92, 49124), (100, 49145),

Gene: Cubone_56 Start: 34210, Stop: 34587, Start Num: 41

Candidate Starts for Cubone_56:

(Start: 41 @34210 has 30 MA's), (53, 34279), (60, 34315), (63, 34333), (84, 34474), (85, 34498), (99, 34555), (106, 34579),

Gene: DobbysSock_66 Start: 44836, Stop: 45252, Start Num: 36

Candidate Starts for DobbysSock_66:

(Start: 36 @44836 has 3 MA's), (Start: 41 @44854 has 30 MA's), (72, 45031), (100, 45217),

Gene: DocMcStuffins_70 Start: 43637, Stop: 44014, Start Num: 41

Candidate Starts for DocMcStuffins_70:

(Start: 41 @43637 has 30 MA's), (53, 43706), (60, 43742), (63, 43760), (84, 43901), (85, 43925), (99, 43982), (106, 44006),

Gene: DonTron_13 Start: 6968, Stop: 7357, Start Num: 38

Candidate Starts for DonTron_13:

(11, 6782), (25, 6893), (34, 6938), (37, 6965), (Start: 38 @6968 has 5 MA's), (40, 6977), (Start: 43 @6986 has 1 MA's), (55, 7061), (70, 7160), (79, 7238), (83, 7253), (85, 7280), (88, 7292), (90, 7310), (103, 7343),

Gene: Ecliptus_97 Start: 52002, Stop: 52379, Start Num: 41

Candidate Starts for Ecliptus_97:

(Start: 41 @52002 has 30 MA's), (52, 52050), (60, 52098), (69, 52164), (77, 52236), (88, 52302), (92, 52323), (100, 52344),

Gene: Finkle_64 Start: 40296, Stop: 40754, Start Num: 41

Candidate Starts for Finkle_64:

(6, 40047), (7, 40068), (Start: 41 @40296 has 30 MA's), (62, 40404), (69, 40458), (71, 40467), (85, 40605), (95, 40659),

Gene: Fireman_49 Start: 33919, Stop: 34293, Start Num: 44

Candidate Starts for Fireman_49:

(Start: 44 @33919 has 12 MA's), (74, 34126), (84, 34177), (85, 34201), (88, 34213), (102, 34261), (105, 34270),

Gene: Frankie_73 Start: 45043, Stop: 45420, Start Num: 41

Candidate Starts for Frankie_73:

(2, 44707), (4, 44749), (29, 44986), (Start: 41 @45043 has 30 MA's), (53, 45112), (83, 45304), (84, 45307), (85, 45331), (99, 45388),

Gene: Frickyeah_97 Start: 50758, Stop: 51126, Start Num: 42

Candidate Starts for Frickyeah_97:

(Start: 42 @50758 has 4 MA's), (53, 50815), (64, 50872), (68, 50914), (69, 50917), (70, 50923), (80, 51004), (85, 51043), (88, 51055), (89, 51061), (100, 51091),

Gene: Gina_49 Start: 32061, Stop: 32435, Start Num: 44

Candidate Starts for Gina_49:

(Start: 44 @32061 has 12 MA's), (61, 32166), (69, 32217), (74, 32268), (84, 32319), (85, 32343), (88, 32355), (89, 32361), (91, 32376), (103, 32406), (105, 32412),

Gene: Grumio_14 Start: 6968, Stop: 7357, Start Num: 38

Candidate Starts for Grumio_14:

(11, 6782), (25, 6893), (34, 6938), (37, 6965), (Start: 38 @6968 has 5 MA's), (40, 6977), (Start: 43 @6986 has 1 MA's), (55, 7061), (70, 7160), (79, 7238), (83, 7253), (85, 7280), (88, 7292), (90, 7310), (103, 7343),

Gene: Holliday_92 Start: 52368, Stop: 52745, Start Num: 41

Candidate Starts for Holliday_92:

(Start: 41 @52368 has 30 MA's), (52, 52416), (60, 52464), (77, 52602), (88, 52668), (100, 52710),

Gene: Hortense_71 Start: 48762, Stop: 49163, Start Num: 41

Candidate Starts for Hortense_71:

(Start: 36 @48744 has 3 MA's), (Start: 41 @48762 has 30 MA's), (72, 48939), (88, 49083), (100, 49125),

Gene: Horus_91 Start: 51033, Stop: 51401, Start Num: 42

Candidate Starts for Horus_91:

(Start: 42 @51033 has 4 MA's), (53, 51090), (64, 51147), (68, 51189), (69, 51192), (70, 51198), (80, 51279), (85, 51318), (88, 51330), (89, 51336), (100, 51366),

Gene: Howe_71 Start: 48762, Stop: 49163, Start Num: 41

Candidate Starts for Howe_71:

(Start: 36 @48744 has 3 MA's), (Start: 41 @48762 has 30 MA's), (72, 48939), (88, 49083), (100, 49125),

Gene: Island3_53 Start: 36853, Stop: 37233, Start Num: 41

Candidate Starts for Island3_53:

(Start: 41 @36853 has 30 MA's), (53, 36925), (83, 37117), (84, 37120), (99, 37201),

Gene: Jace_77 Start: 44043, Stop: 44462, Start Num: 45

Candidate Starts for Jace_77:

(3, 43710), (12, 43836), (Start: 45 @44043 has 1 MA's), (52, 44088), (54, 44103), (57, 44121), (60, 44148), (62, 44160), (67, 44208), (69, 44214), (81, 44313), (82, 44316), (83, 44358), (84, 44361), (85, 44385), (100, 44445),

Gene: Jayden_49 Start: 32758, Stop: 33132, Start Num: 44

Candidate Starts for Jayden_49:

(26, 32671), (Start: 44 @32758 has 12 MA's), (58, 32842), (69, 32914), (74, 32965), (85, 33040), (88, 33052), (89, 33058), (103, 33103), (105, 33109),

Gene: Jollymon_14 Start: 7379, Stop: 7768, Start Num: 38

Candidate Starts for Jollymon_14:

(11, 7193), (25, 7304), (34, 7349), (37, 7376), (Start: 38 @7379 has 5 MA's), (40, 7388), (Start: 43 @7397 has 1 MA's), (55, 7472), (70, 7571), (79, 7649), (83, 7664), (85, 7691), (88, 7703), (90, 7721), (103, 7754),

Gene: Kamaru_84 Start: 48067, Stop: 48444, Start Num: 41

Candidate Starts for Kamaru_84:

(15, 47893), (Start: 41 @48067 has 30 MA's), (49, 48088), (52, 48115), (65, 48202), (77, 48301), (79, 48313), (87, 48364), (88, 48367), (100, 48409),

Gene: KingstonB_13 Start: 6977, Stop: 7357, Start Num: 40

Candidate Starts for KingstonB_13:

(11, 6782), (25, 6893), (34, 6938), (37, 6965), (Start: 38 @6968 has 5 MA's), (40, 6977), (Start: 43 @6986 has 1 MA's), (55, 7061), (70, 7160), (79, 7238), (83, 7253), (85, 7280), (88, 7292), (90, 7310), (103, 7343),

Gene: Leroy_90 Start: 49228, Stop: 49596, Start Num: 42

Candidate Starts for Leroy_90:

(Start: 42 @49228 has 4 MA's), (53, 49285), (64, 49342), (68, 49384), (69, 49387), (70, 49393), (80, 49474), (85, 49513), (88, 49525), (89, 49531), (100, 49561),

Gene: LilSpotty_67 Start: 41443, Stop: 41820, Start Num: 41

Candidate Starts for LilSpotty_67:

(20, 41326), (22, 41329), (24, 41350), (Start: 41 @41443 has 30 MA's), (53, 41512), (83, 41704), (84, 41707), (85, 41731), (99, 41788),

Gene: LordVader_60 Start: 37776, Stop: 38195, Start Num: 33

Candidate Starts for LordVader_60:

(16, 37668), (33, 37776), (39, 37803), (Start: 41 @37818 has 30 MA's), (53, 37887), (60, 37923), (63, 37941), (84, 38082), (99, 38163), (106, 38187),

Gene: Makar_16 Start: 7749, Stop: 8141, Start Num: 37

Candidate Starts for Makar_16:

(8, 7545), (11, 7566), (21, 7653), (34, 7722), (37, 7749), (Start: 38 @7752 has 5 MA's), (40, 7761), (50, 7806), (58, 7860), (67, 7932), (75, 7992), (80, 8025), (83, 8037), (85, 8064), (88, 8076), (89, 8082), (103, 8127),

Gene: Mbo4_59 Start: 42474, Stop: 42896, Start Num: 41

Candidate Starts for Mbo4_59:

(5, 42183), (10, 42258), (18, 42348), (Start: 41 @42474 has 30 MA's), (52, 42522), (56, 42552), (65, 42621), (85, 42795),

Gene: Megan_45 Start: 35422, Stop: 35853, Start Num: 43

Candidate Starts for Megan_45:

(32, 35371), (Start: 43 @35422 has 1 MA's), (60, 35521), (72, 35593), (74, 35629), (76, 35641), (80, 35665), (83, 35677), (84, 35680), (85, 35704), (86, 35707), (88, 35716), (98, 35755), (103, 35767), (105, 35773), (106, 35782), (108, 35809),

Gene: Metamorphoo_49 Start: 33181, Stop: 33555, Start Num: 44

Candidate Starts for Metamorphoo_49:

(Start: 44 @33181 has 12 MA's), (74, 33388), (84, 33439), (85, 33463), (88, 33475), (102, 33523), (105, 33532),

Gene: Misha28_68 Start: 42725, Stop: 43102, Start Num: 41

Candidate Starts for Misha28_68:

(Start: 41 @42725 has 30 MA's), (53, 42794), (60, 42830), (63, 42848), (84, 42989), (85, 43013), (99, 43070), (106, 43094),

Gene: Moosehead_69 Start: 39233, Stop: 39610, Start Num: 41

Candidate Starts for Moosehead_69:

(13, 39047), (27, 39152), (28, 39164), (35, 39209), (Start: 41 @39233 has 30 MA's), (52, 39281), (60, 39329), (88, 39533),

Gene: MortyNRick_82 Start: 48781, Stop: 49158, Start Num: 41

Candidate Starts for MortyNRick_82:

(Start: 41 @48781 has 30 MA's), (52, 48829), (60, 48877), (77, 49015), (83, 49042), (88, 49081), (92, 49102), (100, 49123),

Gene: Nicole72_45 Start: 35846, Stop: 36274, Start Num: 46

Candidate Starts for Nicole72_45:

(17, 35690), (Start: 46 @35846 has 1 MA's), (48, 35855), (74, 36047), (75, 36050), (83, 36095), (84, 36098), (85, 36122), (88, 36134), (93, 36161), (98, 36173), (101, 36179), (103, 36185), (105, 36191), (106, 36203), (108, 36230),

Gene: NoodlelyBoi_48 Start: 32719, Stop: 33093, Start Num: 44

Candidate Starts for NoodlelyBoi_48:

(Start: 44 @32719 has 12 MA's), (53, 32779), (59, 32806), (69, 32875), (71, 32884), (73, 32893), (74, 32926), (80, 32962), (84, 32977), (85, 33001), (88, 33013), (103, 33064), (105, 33070),

Gene: Oregano_70 Start: 43852, Stop: 44250, Start Num: 41

Candidate Starts for Oregano_70:

(Start: 41 @43852 has 30 MA's), (53, 43912), (72, 44029), (88, 44173), (100, 44215),

Gene: PantheRoc_77 Start: 49218, Stop: 49622, Start Num: 41

Candidate Starts for PantheRoc_77:

(19, 49101), (23, 49125), (25, 49128), (31, 49170), (Start: 41 @49218 has 30 MA's), (52, 49266), (62, 49326), (66, 49365), (69, 49380), (72, 49395), (88, 49539), (97, 49575), (100, 49584),

Gene: Periwinkle_99 Start: 52035, Stop: 52403, Start Num: 42

Candidate Starts for Periwinkle_99:

(Start: 42 @52035 has 4 MA's), (53, 52092), (64, 52149), (68, 52191), (69, 52194), (70, 52200), (80, 52281), (85, 52320), (88, 52332), (89, 52338), (100, 52368),

Gene: Phistory_88 Start: 48067, Stop: 48444, Start Num: 41

Candidate Starts for Phistory_88:

(Start: 41 @48067 has 30 MA's), (52, 48115), (60, 48163), (69, 48229), (77, 48301), (88, 48367), (92, 48388), (100, 48409),

Gene: Piper2020_71 Start: 43620, Stop: 43997, Start Num: 41

Candidate Starts for Piper2020_71:

(Start: 41 @43620 has 30 MA's), (53, 43689), (60, 43725), (63, 43743), (84, 43884), (85, 43908), (99, 43965), (106, 43989),

Gene: Purplicious_13 Start: 6966, Stop: 7358, Start Num: 37

Candidate Starts for Purplicious_13:

(11, 6783), (14, 6810), (25, 6894), (34, 6939), (37, 6966), (Start: 38 @6969 has 5 MA's), (40, 6978), (Start: 43 @6987 has 1 MA's), (55, 7062), (70, 7161), (79, 7239), (83, 7254), (85, 7281), (88, 7293), (90, 7311), (103, 7344),

Gene: RobsFeet_50 Start: 33462, Stop: 33836, Start Num: 44

Candidate Starts for RobsFeet_50:

(Start: 44 @33462 has 12 MA's), (74, 33669), (84, 33720), (85, 33744), (88, 33756), (102, 33804), (105, 33813),

Gene: Sbash_61 Start: 42805, Stop: 43188, Start Num: 41

Candidate Starts for Sbash_61:

(9, 42580), (28, 42736), (29, 42739), (Start: 41 @42805 has 30 MA's), (47, 42826), (53, 42877), (83, 43069), (84, 43072), (99, 43153), (107, 43180),

Gene: Scitech_46 Start: 32555, Stop: 32974, Start Num: 33

Candidate Starts for Scitech_46:

(33, 32555), (39, 32582), (Start: 41 @32597 has 30 MA's), (53, 32666), (60, 32702), (63, 32720), (84, 32861), (99, 32942), (106, 32966),

Gene: ShawBrad_95 Start: 49284, Stop: 49652, Start Num: 42

Candidate Starts for ShawBrad_95:

(Start: 42 @49284 has 4 MA's), (53, 49341), (64, 49398), (68, 49440), (69, 49443), (70, 49449), (80, 49530), (85, 49569), (88, 49581), (89, 49587), (100, 49617),

Gene: Shlim410_69 Start: 48744, Stop: 49163, Start Num: 36

Candidate Starts for Shlim410_69:

(Start: 36 @48744 has 3 MA's), (Start: 41 @48762 has 30 MA's), (72, 48939), (88, 49083), (100, 49125),

Gene: Shrubaron_49 Start: 33096, Stop: 33470, Start Num: 44

Candidate Starts for Shrubaron_49:

(Start: 44 @33096 has 12 MA's), (74, 33303), (84, 33354), (85, 33378), (88, 33390), (102, 33438), (105, 33447),

Gene: SirFrank_47 Start: 32289, Stop: 32663, Start Num: 44

Candidate Starts for SirFrank_47:

(Start: 44 @32289 has 12 MA's), (53, 32349), (59, 32376), (69, 32445), (71, 32454), (73, 32463), (74, 32496), (80, 32532), (84, 32547), (85, 32571), (88, 32583), (103, 32634), (105, 32640),

Gene: SkinnyPete_48 Start: 33096, Stop: 33473, Start Num: 41

Candidate Starts for SkinnyPete_48:

(Start: 41 @33096 has 30 MA's), (53, 33165), (60, 33201), (63, 33219), (84, 33360), (99, 33441), (106, 33465),

Gene: Skugga_46 Start: 32083, Stop: 32457, Start Num: 44

Candidate Starts for Skugga_46:

(Start: 44 @32083 has 12 MA's), (69, 32239), (85, 32365), (88, 32377), (103, 32428), (105, 32434),

Gene: Soos_13 Start: 6967, Stop: 7356, Start Num: 38

Candidate Starts for Soos_13:

(11, 6781), (25, 6892), (34, 6937), (37, 6964), (Start: 38 @6967 has 5 MA's), (40, 6976), (Start: 43 @6985 has 1 MA's), (55, 7060), (70, 7159), (79, 7237), (83, 7252), (85, 7279), (88, 7291), (90, 7309), (93, 7318), (103, 7342),

Gene: Stillion_14 Start: 7417, Stop: 7836, Start Num: 34

Candidate Starts for Stillion_14:

(11, 7261), (25, 7372), (34, 7417), (37, 7444), (Start: 38 @7447 has 5 MA's), (40, 7456), (Start: 43 @7465 has 1 MA's), (55, 7540), (70, 7639), (79, 7717), (83, 7732), (85, 7759), (88, 7771), (90, 7789), (103, 7822),

Gene: Sting_14 Start: 7379, Stop: 7768, Start Num: 38

Candidate Starts for Sting_14:

(8, 7172), (11, 7193), (25, 7304), (34, 7349), (37, 7376), (Start: 38 @7379 has 5 MA's), (40, 7388), (Start: 43 @7397 has 1 MA's), (55, 7472), (70, 7571), (79, 7649), (83, 7664), (85, 7691), (88, 7703), (90, 7721), (93, 7730), (103, 7754),

Gene: Teamocil_49 Start: 32160, Stop: 32534, Start Num: 44

Candidate Starts for Teamocil_49:

(Start: 44 @32160 has 12 MA's), (61, 32265), (69, 32316), (74, 32367), (84, 32418), (85, 32442), (88, 32454), (89, 32460), (91, 32475), (103, 32505), (105, 32511),

Gene: TootsiePop_68 Start: 42725, Stop: 43102, Start Num: 41

Candidate Starts for TootsiePop_68:

(Start: 41 @42725 has 30 MA's), (53, 42794), (60, 42830), (63, 42848), (84, 42989), (85, 43013), (99, 43070), (106, 43094),

Gene: Tortellini_59 Start: 41926, Stop: 42303, Start Num: 41

Candidate Starts for Tortellini_59:

(1, 41533), (13, 41752), (29, 41869), (Start: 41 @41926 has 30 MA's), (53, 41995), (60, 42031), (63, 42049), (85, 42214), (99, 42271), (106, 42295),

Gene: Twinkle_70 Start: 49803, Stop: 50222, Start Num: 36

Candidate Starts for Twinkle_70:

(Start: 36 @49803 has 3 MA's), (Start: 41 @49821 has 30 MA's), (72, 49998), (88, 50142), (100, 50184),

Gene: Tyrumbra_47 Start: 33262, Stop: 33636, Start Num: 44

Candidate Starts for Tyrumbra_47:

(Start: 44 @33262 has 12 MA's), (74, 33469), (84, 33520), (85, 33544), (88, 33556), (102, 33604), (105, 33613),