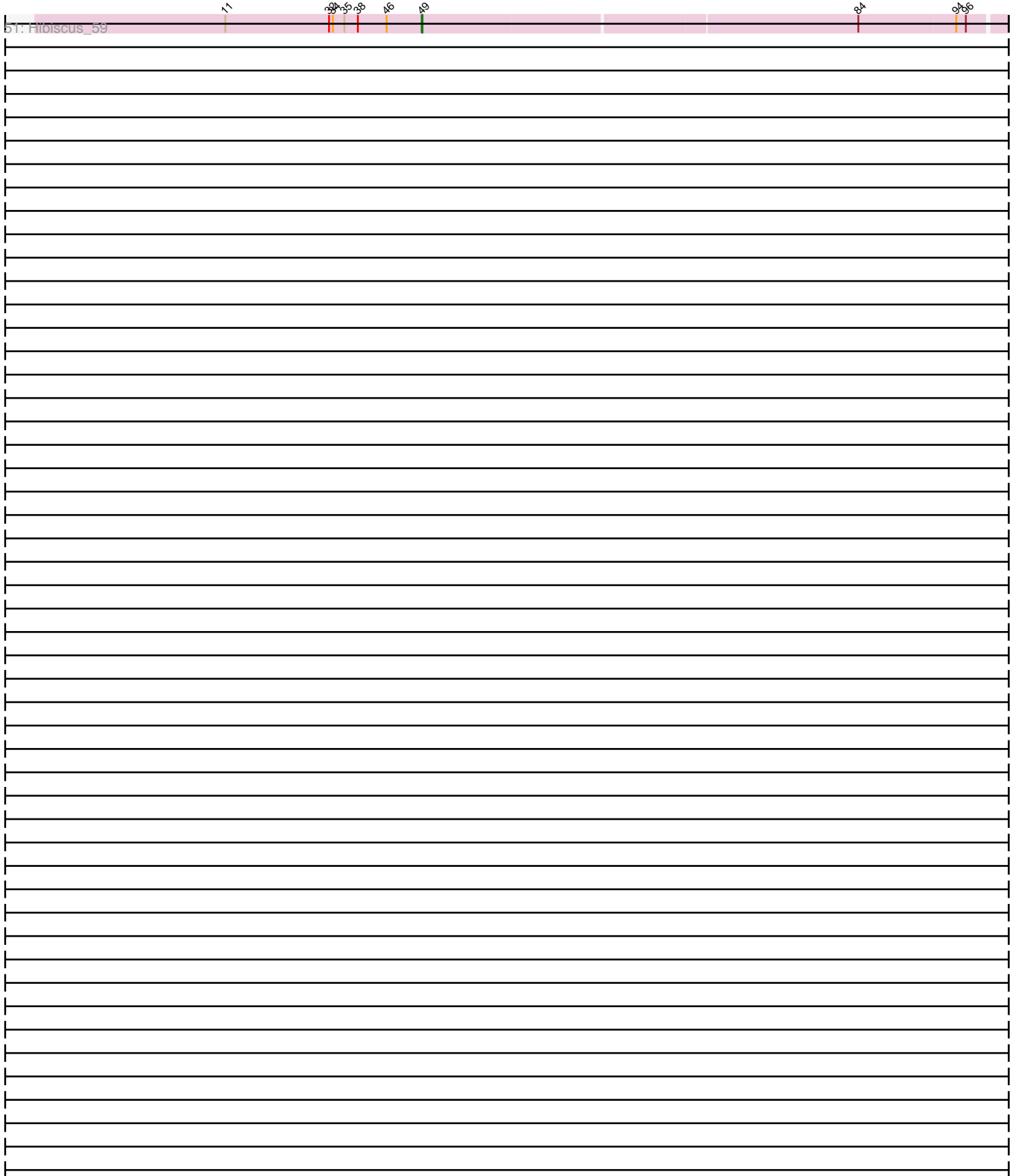


Pham 296511



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 296511 Report

This analysis was run 04/25/26 on database version 644.

Pham number 296511 has 76 members, 5 are drafts.

Phages represented in each track:

- Track 1 : Mellie_74
- Track 2 : Malachai_75, Begonia_75
- Track 3 : Wocket_77
- Track 4 : Hitter_75, Archis_79, ZiggyZoo_78
- Track 5 : UmaThurman_80
- Track 6 : Oblivate_77
- Track 7 : Petra_84
- Track 8 : KappaFarmDelta_77
- Track 9 : Toast_77, PrincePatrick_79, Fairfaxidum_80, PCoral7_76
- Track 10 : BlingBling_72
- Track 11 : Blueberry_82, Gambino_85, Azula_83, MissRona_83
- Track 12 : Wisp_74
- Track 13 : Blino_79, Soilmate_81, CarolAnn_78
- Track 14 : Guacamole_75, Barco_74, JasperJr_75, CaptainKirk2_77, Delian_80, MintFen_77
- Track 15 : Walrus_77
- Track 16 : William_79
- Track 17 : Frokostdame_82
- Track 18 : JuJu_85
- Track 19 : Melba_77
- Track 20 : CheeseSpider_88
- Track 21 : Zilla_74
- Track 22 : Lysidious_79
- Track 23 : Fenry_76
- Track 24 : Zarbodnamra_81
- Track 25 : Pipp_82
- Track 26 : Utz_68
- Track 27 : PhrostedPhlake_83
- Track 28 : Jalammah_80
- Track 29 : Murp_75
- Track 30 : Samba_77
- Track 31 : Denise_71
- Track 32 : Chop_74, Hamood_74, GrandSlam_74
- Track 33 : Brylie_72, Parada_72, WheatThin_72, Mulch_72, Ayotoya_73, Nadeem_72
- Track 34 : Francois_73
- Track 35 : Bock_74

- Track 36 : DelRio_73
- Track 37 : NancyRae_71
- Track 38 : Pimento_75
- Track 39 : BetterKatz_73
- Track 40 : Malisha_92
- Track 41 : ArchiDore_73
- Track 42 : Ruthy_71
- Track 43 : Malibo_74
- Track 44 : DumpsterDude_69
- Track 45 : Heinz_58
- Track 46 : Jojo24_58
- Track 47 : Tarzan_59, DonkeyMan_59
- Track 48 : DearBasketball_62
- Track 49 : Santhid_55
- Track 50 : DinoNuggs_60, Reyja_61
- Track 51 : Hibiscus_59

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

The start number called the most often in the published annotations is 57, it was called in 44 of the 71 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Archis_79, Azula_83, Barco_74, Begonia_75, BlingBling_72, Blino_79, Blueberry_82, CaptainKirk2_77, CarolAnn_78, CheeseSpider_88, Delian_80, Denise_71, Fairfaxidum_80, Fenry_76, Frokostdame_82, Gambino_85, Guacamole_75, Hitter_75, Jalamah_80, JasperJr_75, JuJu_85, KappaFarmDelta_77, Lysidious_79, Malachai_75, Malisha_92, Melba_77, Mellie_74, MintFen_77, MissRona_83, Murp_75, Obliviate_77, PCoral7_76, Petra_84, PhrostedPhlake_83, PrincePatrick_79, Samba_77, Soilmate_81, Toast_77, UmaThurman_80, Utz_68, Walrus_77, William_79, Wisp_74, Wocket_77, Zarbodnamra_81, ZiggyZoo_78, Zilla_74,

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

- Pipp_82,

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

- ArchiDore_73, Ayotoya_73, BetterKatz_73, Bock_74, Brylie_72, Chop_74, DearBasketball_62, DelRio_73, DinoNuggs_60, DonkeyMan_59, DumpsterDude_69, Francois_73, GrandSlam_74, Hamood_74, Heinz_58, Hibiscus_59, Jojo24_58, Malibo_74, Mulch_72, Nadeem_72, NancyRae_71, Parada_72, Pimento_75, Reyja_61, Ruthy_71, Santhid_55, Tarzan_59, WheatThin_72,

Summary by start number:

Start 49:

- Found in 9 of 76 (11.8%) of genes in pham
- Manual Annotations of this start: 7 of 71
- Called 100.0% of time when present

- Phage (with cluster) where this start called: DearBasketball_62 (DY), DinoNuggs_60 (DY), DonkeyMan_59 (DY), Heinz_58 (DY), Hibiscus_59 (DY), Jojo24_58 (DY), Reyja_61 (DY), Santhid_55 (DY), Tarzan_59 (DY),

Start 53:

- Found in 4 of 76 (5.3%) of genes in pham
- Manual Annotations of this start: 4 of 71
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ArchiDore_73 (DW), DumpsterDude_69 (DW), Malibo_74 (DW), Ruthy_71 (DW),

Start 54:

- Found in 1 of 76 (1.3%) of genes in pham
- Manual Annotations of this start: 1 of 71
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Francois_73 (DI),

Start 55:

- Found in 14 of 76 (18.4%) of genes in pham
- Manual Annotations of this start: 14 of 71
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ayotoya_73 (DI), BetterKatz_73 (DI), Bock_74 (DI), Brylie_72 (DI), Chop_74 (DI), DelRio_73 (DI), GrandSlam_74 (DI), Hamood_74 (DI), Mulch_72 (DI), Nadeem_72 (DI), NancyRae_71 (DI), Parada_72 (DI), Pimento_75 (DI), WheatThin_72 (DI),

Start 56:

- Found in 1 of 76 (1.3%) of genes in pham
- Manual Annotations of this start: 1 of 71
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Pipp_82 (CV),

Start 57:

- Found in 48 of 76 (63.2%) of genes in pham
- Manual Annotations of this start: 44 of 71
- Called 97.9% of time when present
- Phage (with cluster) where this start called: Archis_79 (CV), Azula_83 (CV), Barco_74 (CV), Begonia_75 (CV), BlingBling_72 (CV), Blino_79 (CV), Blueberry_82 (CV), CaptainKirk2_77 (CV), CarolAnn_78 (CV), CheeseSpider_88 (CV), Delian_80 (CV), Denise_71 (CZ5), Fairfaxidum_80 (CV), Fenry_76 (CV), Frokostdame_82 (CV), Gambino_85 (CV), Guacamole_75 (CV), Hitter_75 (CV), Jalammah_80 (CV), JasperJr_75 (CV), JuJu_85 (CV), KappaFarmDelta_77 (CV), Lysidious_79 (CV), Malachai_75 (CV), Malisha_92 (DN), Melba_77 (CV), Mellie_74 (CV), MintFen_77 (CV), MissRona_83 (CV), Murp_75 (CV), Obliviate_77 (CV), PCoral7_76 (CV), Petra_84 (CV), PhrostedPhlake_83 (CV), PrincePatrick_79 (CV), Samba_77 (CV), Soilmate_81 (CV), Toast_77 (CV), UmaThurman_80 (CV), Utz_68 (CV), Walrus_77 (CV), William_79 (CV), Wisp_74 (CV), Wocket_77 (CV), Zarbodnamra_81 (CV), ZiggyZoo_78 (CV), Zilla_74 (CV),

Summary by clusters:

There are 6 clusters represented in this pham: DN, DI, CZ5, DY, DW, CV,

Info for manual annotations of cluster CV:

- Start number 56 was manually annotated 1 time for cluster CV.
- Start number 57 was manually annotated 42 times for cluster CV.

Info for manual annotations of cluster CZ5:

- Start number 57 was manually annotated 1 time for cluster CZ5.

Info for manual annotations of cluster DI:

- Start number 54 was manually annotated 1 time for cluster DI.
- Start number 55 was manually annotated 14 times for cluster DI.

Info for manual annotations of cluster DN:

- Start number 57 was manually annotated 1 time for cluster DN.

Info for manual annotations of cluster DW:

- Start number 53 was manually annotated 4 times for cluster DW.

Info for manual annotations of cluster DY:

- Start number 49 was manually annotated 7 times for cluster DY.

Gene Information:

Gene: ArchiDore_73 Start: 49910, Stop: 50791, Start Num: 53

Candidate Starts for ArchiDore_73:

(18, 49658), (43, 49826), (Start: 53 @49910 has 4 MA's), (69, 50222),

Gene: Archis_79 Start: 46629, Stop: 47405, Start Num: 57

Candidate Starts for Archis_79:

(27, 46410), (Start: 57 @46629 has 44 MA's), (64, 46806), (70, 46878), (74, 46956), (76, 46968), (77, 47076), (89, 47262), (90, 47271), (91, 47295),

Gene: Ayotoya_73 Start: 49136, Stop: 50011, Start Num: 55

Candidate Starts for Ayotoya_73:

(29, 48965), (48, 49097), (50, 49130), (Start: 55 @49136 has 14 MA's), (58, 49229), (63, 49376), (69, 49445), (71, 49460), (79, 49700), (86, 49799), (93, 49886), (97, 49994),

Gene: Azula_83 Start: 51089, Stop: 51874, Start Num: 57

Candidate Starts for Azula_83:

(40, 50924), (Start: 57 @51089 has 44 MA's), (64, 51272), (76, 51434), (77, 51542), (89, 51728), (90, 51737),

Gene: Barco_74 Start: 46443, Stop: 47219, Start Num: 57

Candidate Starts for Barco_74:

(Start: 57 @46443 has 44 MA's), (64, 46620), (70, 46692), (72, 46749), (73, 46755), (74, 46770), (76, 46782), (77, 46890), (89, 47076), (90, 47085),

Gene: Begonia_75 Start: 49240, Stop: 50016, Start Num: 57

Candidate Starts for Begonia_75:

(17, 48943), (27, 49021), (Start: 57 @49240 has 44 MA's), (64, 49417), (74, 49567), (76, 49579), (77, 49687), (89, 49873), (90, 49882),

Gene: BetterKatz_73 Start: 48918, Stop: 49793, Start Num: 55

Candidate Starts for BetterKatz_73:

(22, 48711), (Start: 55 @48918 has 14 MA's), (58, 49011), (63, 49158), (69, 49227), (71, 49242), (79, 49482), (86, 49581), (89, 49629), (93, 49668), (97, 49776),

Gene: BlingBling_72 Start: 46215, Stop: 46991, Start Num: 57

Candidate Starts for BlingBling_72:

(Start: 57 @46215 has 44 MA's), (64, 46392), (70, 46464), (76, 46554), (77, 46662), (89, 46848), (90, 46857),

Gene: Blino_79 Start: 52044, Stop: 52805, Start Num: 57

Candidate Starts for Blino_79:

(Start: 57 @52044 has 44 MA's), (64, 52221), (66, 52260), (68, 52284), (70, 52293), (76, 52383), (77, 52491), (89, 52677), (90, 52686),

Gene: Blueberry_82 Start: 51089, Stop: 51874, Start Num: 57

Candidate Starts for Blueberry_82:

(40, 50924), (Start: 57 @51089 has 44 MA's), (64, 51272), (76, 51434), (77, 51542), (89, 51728), (90, 51737),

Gene: Bock_74 Start: 48502, Stop: 49377, Start Num: 55

Candidate Starts for Bock_74:

(19, 48271), (20, 48274), (30, 48349), (39, 48400), (42, 48421), (Start: 55 @48502 has 14 MA's), (58, 48595), (63, 48742), (69, 48811), (71, 48826), (79, 49066), (83, 49144), (86, 49165), (89, 49213), (93, 49252), (97, 49360),

Gene: Brylie_72 Start: 48152, Stop: 49027, Start Num: 55

Candidate Starts for Brylie_72:

(29, 47981), (48, 48113), (50, 48146), (Start: 55 @48152 has 14 MA's), (58, 48245), (63, 48392), (69, 48461), (71, 48476), (79, 48716), (86, 48815), (93, 48902), (97, 49010),

Gene: CaptainKirk2_77 Start: 46000, Stop: 46776, Start Num: 57

Candidate Starts for CaptainKirk2_77:

(Start: 57 @46000 has 44 MA's), (64, 46177), (70, 46249), (72, 46306), (73, 46312), (74, 46327), (76, 46339), (77, 46447), (89, 46633), (90, 46642),

Gene: CarolAnn_78 Start: 52043, Stop: 52804, Start Num: 57

Candidate Starts for CarolAnn_78:

(Start: 57 @52043 has 44 MA's), (64, 52220), (66, 52259), (68, 52283), (70, 52292), (76, 52382), (77, 52490), (89, 52676), (90, 52685),

Gene: CheeseSpider_88 Start: 50655, Stop: 51434, Start Num: 57

Candidate Starts for CheeseSpider_88:

(8, 50226), (37, 50490), (44, 50523), (Start: 57 @50655 has 44 MA's), (64, 50832), (76, 50994), (77, 51102), (89, 51288), (90, 51297),

Gene: Chop_74 Start: 49201, Stop: 50076, Start Num: 55

Candidate Starts for Chop_74:

(29, 49030), (48, 49162), (50, 49195), (Start: 55 @49201 has 14 MA's), (58, 49294), (63, 49441), (69, 49510), (71, 49525), (79, 49765), (86, 49864), (89, 49912), (93, 49951), (97, 50059),

Gene: DearBasketball_62 Start: 39454, Stop: 40326, Start Num: 49

Candidate Starts for DearBasketball_62:

(46, 39400), (Start: 49 @39454 has 7 MA's), (61, 39679), (84, 40108), (96, 40273),

Gene: DelRio_73 Start: 49243, Stop: 50118, Start Num: 55

Candidate Starts for DelRio_73:

(29, 49072), (41, 49147), (48, 49204), (50, 49237), (Start: 55 @49243 has 14 MA's), (58, 49336), (63, 49483), (69, 49552), (71, 49567), (79, 49807), (81, 49846), (86, 49906), (89, 49954), (93, 49993), (97, 50101),

Gene: Delian_80 Start: 45998, Stop: 46774, Start Num: 57

Candidate Starts for Delian_80:

(Start: 57 @45998 has 44 MA's), (64, 46175), (70, 46247), (72, 46304), (73, 46310), (74, 46325), (76, 46337), (77, 46445), (89, 46631), (90, 46640),

Gene: Denise_71 Start: 41520, Stop: 42272, Start Num: 57

Candidate Starts for Denise_71:

(Start: 57 @41520 has 44 MA's), (62, 41658), (65, 41715), (78, 41973), (85, 42087), (87, 42126), (88, 42132), (90, 42156), (92, 42183), (94, 42234),

Gene: DinoNuggs_60 Start: 39095, Stop: 39976, Start Num: 49

Candidate Starts for DinoNuggs_60:

(46, 39041), (Start: 49 @39095 has 7 MA's), (84, 39758), (94, 39908), (96, 39923),

Gene: DonkeyMan_59 Start: 38622, Stop: 39494, Start Num: 49

Candidate Starts for DonkeyMan_59:

(Start: 49 @38622 has 7 MA's), (51, 38634), (61, 38847), (84, 39276), (94, 39426), (96, 39441),

Gene: DumpsterDude_69 Start: 50376, Stop: 51257, Start Num: 53

Candidate Starts for DumpsterDude_69:

(3, 49788), (5, 49821), (13, 50073), (18, 50124), (Start: 53 @50376 has 4 MA's),

Gene: Fairfaxidum_80 Start: 48694, Stop: 49470, Start Num: 57

Candidate Starts for Fairfaxidum_80:

(Start: 57 @48694 has 44 MA's), (64, 48874), (68, 48937), (70, 48946), (76, 49036), (87, 49309), (89, 49330), (90, 49339), (94, 49417),

Gene: Fenry_76 Start: 48068, Stop: 48844, Start Num: 57

Candidate Starts for Fenry_76:

(27, 47849), (44, 47936), (Start: 57 @48068 has 44 MA's), (62, 48212), (64, 48245), (70, 48317), (72, 48374), (74, 48395), (76, 48407), (77, 48515), (89, 48701), (90, 48710),

Gene: Francois_73 Start: 48813, Stop: 49691, Start Num: 54

Candidate Starts for Francois_73:

(Start: 54 @48813 has 1 MA's), (69, 49125), (71, 49140), (79, 49380), (89, 49527), (93, 49566), (97, 49674),

Gene: Frokostdame_82 Start: 50554, Stop: 51336, Start Num: 57

Candidate Starts for Frokostdame_82:

(40, 50389), (Start: 57 @50554 has 44 MA's), (64, 50737), (76, 50899), (77, 51007), (89, 51193), (90, 51202), (94, 51280),

Gene: Gambino_85 Start: 51089, Stop: 51874, Start Num: 57

Candidate Starts for Gambino_85:

(40, 50924), (Start: 57 @51089 has 44 MA's), (64, 51272), (76, 51434), (77, 51542), (89, 51728), (90, 51737),

Gene: GrandSlam_74 Start: 49201, Stop: 50076, Start Num: 55

Candidate Starts for GrandSlam_74:

(29, 49030), (48, 49162), (50, 49195), (Start: 55 @49201 has 14 MA's), (58, 49294), (63, 49441), (69, 49510), (71, 49525), (79, 49765), (86, 49864), (89, 49912), (93, 49951), (97, 50059),

Gene: Guacamole_75 Start: 47418, Stop: 48194, Start Num: 57

Candidate Starts for Guacamole_75:

(Start: 57 @47418 has 44 MA's), (64, 47595), (70, 47667), (72, 47724), (73, 47730), (74, 47745), (76, 47757), (77, 47865), (89, 48051), (90, 48060),

Gene: Hamood_74 Start: 49201, Stop: 50076, Start Num: 55

Candidate Starts for Hamood_74:

(29, 49030), (48, 49162), (50, 49195), (Start: 55 @49201 has 14 MA's), (58, 49294), (63, 49441), (69, 49510), (71, 49525), (79, 49765), (86, 49864), (89, 49912), (93, 49951), (97, 50059),

Gene: Heinz_58 Start: 37588, Stop: 38469, Start Num: 49

Candidate Starts for Heinz_58:

(Start: 49 @37588 has 7 MA's), (84, 38251), (94, 38401), (95, 38413),

Gene: Hibiscus_59 Start: 37479, Stop: 38351, Start Num: 49

Candidate Starts for Hibiscus_59:

(11, 37173), (32, 37335), (34, 37341), (35, 37359), (38, 37380), (46, 37425), (Start: 49 @37479 has 7 MA's), (84, 38133), (94, 38283), (96, 38298),

Gene: Hitter_75 Start: 45674, Stop: 46450, Start Num: 57

Candidate Starts for Hitter_75:

(27, 45455), (Start: 57 @45674 has 44 MA's), (64, 45851), (70, 45923), (74, 46001), (76, 46013), (77, 46121), (89, 46307), (90, 46316), (91, 46340),

Gene: Jalammah_80 Start: 49580, Stop: 50356, Start Num: 57

Candidate Starts for Jalammah_80:

(37, 49415), (44, 49448), (Start: 57 @49580 has 44 MA's), (64, 49757), (70, 49829), (72, 49886), (74, 49907), (76, 49919), (77, 50027), (89, 50213), (90, 50222),

Gene: JasperJr_75 Start: 47418, Stop: 48194, Start Num: 57

Candidate Starts for JasperJr_75:

(Start: 57 @47418 has 44 MA's), (64, 47595), (70, 47667), (72, 47724), (73, 47730), (74, 47745), (76, 47757), (77, 47865), (89, 48051), (90, 48060),

Gene: Jojo24_58 Start: 37912, Stop: 38784, Start Num: 49

Candidate Starts for Jojo24_58:

(38, 37819), (46, 37858), (Start: 49 @37912 has 7 MA's), (61, 38137), (84, 38566), (94, 38716), (96, 38731),

Gene: JuJu_85 Start: 51321, Stop: 52103, Start Num: 57

Candidate Starts for JuJu_85:

(Start: 57 @51321 has 44 MA's), (64, 51504), (76, 51666), (77, 51774), (89, 51960), (90, 51969),

Gene: KappaFarmDelta_77 Start: 47260, Stop: 48036, Start Num: 57

Candidate Starts for KappaFarmDelta_77:

(12, 46912), (14, 46924), (36, 47086), (37, 47095), (Start: 57 @47260 has 44 MA's), (64, 47437), (70, 47509), (72, 47566), (74, 47587), (76, 47599), (77, 47707), (89, 47893), (90, 47902), (91, 47926),

Gene: Lysidious_79 Start: 48328, Stop: 49104, Start Num: 57

Candidate Starts for Lysidious_79:

(16, 48028), (24, 48079), (37, 48163), (44, 48196), (Start: 57 @48328 has 44 MA's), (64, 48505), (70, 48577), (72, 48634), (74, 48655), (76, 48667), (77, 48775), (89, 48961), (90, 48970), (91, 48994),

Gene: Malachai_75 Start: 49240, Stop: 50016, Start Num: 57

Candidate Starts for Malachai_75:

(17, 48943), (27, 49021), (Start: 57 @49240 has 44 MA's), (64, 49417), (74, 49567), (76, 49579), (77, 49687), (89, 49873), (90, 49882),

Gene: Malibo_74 Start: 48036, Stop: 48914, Start Num: 53

Candidate Starts for Malibo_74:

(6, 47619), (Start: 53 @48036 has 4 MA's), (69, 48348),

Gene: Malisha_92 Start: 53316, Stop: 54062, Start Num: 57

Candidate Starts for Malisha_92:

(50, 53265), (52, 53268), (Start: 57 @53316 has 44 MA's), (60, 53430), (75, 53634), (78, 53763), (82, 53829), (85, 53877), (86, 53889), (90, 53946), (94, 54024),

Gene: Melba_77 Start: 46375, Stop: 47151, Start Num: 57

Candidate Starts for Melba_77:

(36, 46201), (Start: 57 @46375 has 44 MA's), (64, 46552), (70, 46624), (74, 46702), (76, 46714), (77, 46822), (89, 47008), (90, 47017), (91, 47041),

Gene: Mellie_74 Start: 46392, Stop: 47168, Start Num: 57

Candidate Starts for Mellie_74:

(Start: 57 @46392 has 44 MA's), (59, 46497), (64, 46569), (76, 46731), (89, 47025), (90, 47034),

Gene: MintFen_77 Start: 46614, Stop: 47390, Start Num: 57

Candidate Starts for MintFen_77:

(Start: 57 @46614 has 44 MA's), (64, 46791), (70, 46863), (72, 46920), (73, 46926), (74, 46941), (76, 46953), (77, 47061), (89, 47247), (90, 47256),

Gene: MissRona_83 Start: 51090, Stop: 51875, Start Num: 57

Candidate Starts for MissRona_83:

(40, 50925), (Start: 57 @51090 has 44 MA's), (64, 51273), (76, 51435), (77, 51543), (89, 51729), (90, 51738),

Gene: Mulch_72 Start: 48191, Stop: 49066, Start Num: 55

Candidate Starts for Mulch_72:

(29, 48020), (48, 48152), (50, 48185), (Start: 55 @48191 has 14 MA's), (58, 48284), (63, 48431), (69, 48500), (71, 48515), (79, 48755), (86, 48854), (93, 48941), (97, 49049),

Gene: Murp_75 Start: 49491, Stop: 50267, Start Num: 57

Candidate Starts for Murp_75:

(37, 49326), (Start: 57 @49491 has 44 MA's), (59, 49596), (64, 49668), (70, 49740), (72, 49797), (74, 49818), (76, 49830), (77, 49938), (89, 50124), (90, 50133),

Gene: Nadeem_72 Start: 48179, Stop: 49054, Start Num: 55

Candidate Starts for Nadeem_72:

(29, 48008), (48, 48140), (50, 48173), (Start: 55 @48179 has 14 MA's), (58, 48272), (63, 48419), (69, 48488), (71, 48503), (79, 48743), (86, 48842), (93, 48929), (97, 49037),

Gene: NancyRae_71 Start: 48057, Stop: 48932, Start Num: 55

Candidate Starts for NancyRae_71:

(46, 47997), (50, 48051), (Start: 55 @48057 has 14 MA's), (58, 48150), (63, 48297), (69, 48366), (71, 48381), (79, 48621), (86, 48720), (89, 48768), (93, 48807), (97, 48915),

Gene: Obliviate_77 Start: 46932, Stop: 47708, Start Num: 57

Candidate Starts for Obliviate_77:

(36, 46752), (Start: 57 @46932 has 44 MA's), (62, 47076), (64, 47109), (70, 47181), (74, 47259), (76, 47271), (77, 47379), (89, 47565), (90, 47574),

Gene: PCoral7_76 Start: 47524, Stop: 48300, Start Num: 57

Candidate Starts for PCoral7_76:

(Start: 57 @47524 has 44 MA's), (64, 47704), (68, 47767), (70, 47776), (76, 47866), (87, 48139), (89, 48160), (90, 48169), (94, 48247),

Gene: Parada_72 Start: 48191, Stop: 49066, Start Num: 55

Candidate Starts for Parada_72:

(29, 48020), (48, 48152), (50, 48185), (Start: 55 @48191 has 14 MA's), (58, 48284), (63, 48431), (69, 48500), (71, 48515), (79, 48755), (86, 48854), (93, 48941), (97, 49049),

Gene: Petra_84 Start: 49488, Stop: 50267, Start Num: 57

Candidate Starts for Petra_84:

(15, 49173), (23, 49230), (31, 49281), (44, 49356), (Start: 57 @49488 has 44 MA's), (64, 49665), (76, 49827), (77, 49935), (89, 50121), (90, 50130), (91, 50154),

Gene: PhrostedPhlake_83 Start: 49071, Stop: 49847, Start Num: 57

Candidate Starts for PhrostedPhlake_83:

(37, 48906), (Start: 57 @49071 has 44 MA's), (64, 49248), (76, 49410), (77, 49518), (89, 49704), (90, 49713),

Gene: Pimento_75 Start: 48276, Stop: 49151, Start Num: 55

Candidate Starts for Pimento_75:

(24, 48075), (25, 48078), (Start: 55 @48276 has 14 MA's), (58, 48369), (67, 48570), (69, 48585), (71, 48600), (79, 48840), (86, 48939), (89, 48987), (93, 49026), (97, 49134),

Gene: Pipp_82 Start: 48884, Stop: 49675, Start Num: 56

Candidate Starts for Pipp_82:

(26, 48650), (27, 48665), (28, 48671), (37, 48728), (Start: 56 @48884 has 1 MA's), (Start: 57 @48893 has 44 MA's), (64, 49076), (74, 49226), (89, 49532), (90, 49541), (91, 49565),

Gene: PrincePatrick_79 Start: 47344, Stop: 48120, Start Num: 57

Candidate Starts for PrincePatrick_79:

(Start: 57 @47344 has 44 MA's), (64, 47524), (68, 47587), (70, 47596), (76, 47686), (87, 47959), (89, 47980), (90, 47989), (94, 48067),

Gene: Reyja_61 Start: 39095, Stop: 39976, Start Num: 49

Candidate Starts for Reyja_61:

(46, 39041), (Start: 49 @39095 has 7 MA's), (84, 39758), (94, 39908), (96, 39923),

Gene: Ruthy_71 Start: 49474, Stop: 50355, Start Num: 53

Candidate Starts for Ruthy_71:

(2, 48862), (4, 48916), (18, 49222), (Start: 53 @49474 has 4 MA's), (69, 49786),

Gene: Samba_77 Start: 49525, Stop: 50301, Start Num: 57

Candidate Starts for Samba_77:

(27, 49306), (Start: 57 @49525 has 44 MA's), (64, 49702), (70, 49774), (72, 49831), (74, 49852), (76, 49864), (77, 49972), (89, 50158), (90, 50167), (91, 50191), (94, 50245),

Gene: Santhid_55 Start: 36515, Stop: 37387, Start Num: 49

Candidate Starts for Santhid_55:

(1, 35897), (9, 36176), (10, 36209), (21, 36305), (47, 36476), (Start: 49 @36515 has 7 MA's), (61, 36740), (73, 36911), (84, 37169), (94, 37319), (96, 37334),

Gene: Soilmate_81 Start: 52043, Stop: 52804, Start Num: 57

Candidate Starts for Soilmate_81:

(Start: 57 @52043 has 44 MA's), (64, 52220), (66, 52259), (68, 52283), (70, 52292), (76, 52382), (77, 52490), (89, 52676), (90, 52685),

Gene: Tarzan_59 Start: 37877, Stop: 38749, Start Num: 49

Candidate Starts for Tarzan_59:

(Start: 49 @37877 has 7 MA's), (51, 37889), (61, 38102), (84, 38531), (94, 38681), (96, 38696),

Gene: Toast_77 Start: 47524, Stop: 48300, Start Num: 57

Candidate Starts for Toast_77:

(Start: 57 @47524 has 44 MA's), (64, 47704), (68, 47767), (70, 47776), (76, 47866), (87, 48139), (89, 48160), (90, 48169), (94, 48247),

Gene: UmaThurman_80 Start: 47661, Stop: 48437, Start Num: 57

Candidate Starts for UmaThurman_80:

(Start: 57 @47661 has 44 MA's), (64, 47838), (70, 47910), (72, 47967), (73, 47973), (74, 47988), (76, 48000), (77, 48108), (89, 48294), (90, 48303),

Gene: Utz_68 Start: 47303, Stop: 48079, Start Num: 57

Candidate Starts for Utz_68:

(24, 47054), (Start: 57 @47303 has 44 MA's), (64, 47480), (70, 47552), (72, 47609), (73, 47615), (74, 47630), (76, 47642), (77, 47750), (89, 47936), (90, 47945),

Gene: Walrus_77 Start: 48349, Stop: 49125, Start Num: 57

Candidate Starts for Walrus_77:

(15, 48034), (31, 48142), (33, 48151), (44, 48217), (45, 48223), (Start: 57 @48349 has 44 MA's), (64, 48526), (76, 48688), (77, 48796), (89, 48982), (90, 48991),

Gene: WheatThin_72 Start: 48179, Stop: 49054, Start Num: 55

Candidate Starts for WheatThin_72:

(29, 48008), (48, 48140), (50, 48173), (Start: 55 @48179 has 14 MA's), (58, 48272), (63, 48419), (69, 48488), (71, 48503), (79, 48743), (86, 48842), (93, 48929), (97, 49037),

Gene: William_79 Start: 48596, Stop: 49372, Start Num: 57

Candidate Starts for William_79:

(7, 48164), (Start: 57 @48596 has 44 MA's), (64, 48776), (87, 49211), (89, 49232), (90, 49241), (94, 49319),

Gene: Wisp_74 Start: 47248, Stop: 48024, Start Num: 57

Candidate Starts for Wisp_74:

(44, 47116), (Start: 57 @47248 has 44 MA's), (64, 47425), (70, 47497), (74, 47575), (76, 47587), (77, 47695), (80, 47761), (89, 47881), (90, 47890),

Gene: Wocket_77 Start: 47897, Stop: 48673, Start Num: 57

Candidate Starts for Wocket_77:

(Start: 57 @47897 has 44 MA's), (64, 48074), (70, 48146), (72, 48203), (74, 48224), (76, 48236), (77, 48344), (89, 48530), (90, 48539),

Gene: Zarbodnamra_81 Start: 47607, Stop: 48383, Start Num: 57

Candidate Starts for Zarbodnamra_81:

(Start: 57 @47607 has 44 MA's), (64, 47784), (70, 47856), (72, 47913), (74, 47934), (76, 47946), (77, 48054), (86, 48192), (89, 48240), (90, 48249),

Gene: ZiggyZoo_78 Start: 49093, Stop: 49869, Start Num: 57

Candidate Starts for ZiggyZoo_78:

(27, 48874), (Start: 57 @49093 has 44 MA's), (64, 49270), (70, 49342), (74, 49420), (76, 49432), (77, 49540), (89, 49726), (90, 49735), (91, 49759),

Gene: Zilla_74 Start: 46460, Stop: 47236, Start Num: 57

Candidate Starts for Zilla_74:

(Start: 57 @46460 has 44 MA's), (64, 46637), (70, 46709), (74, 46787), (76, 46799), (77, 46907), (89, 47093), (90, 47102),