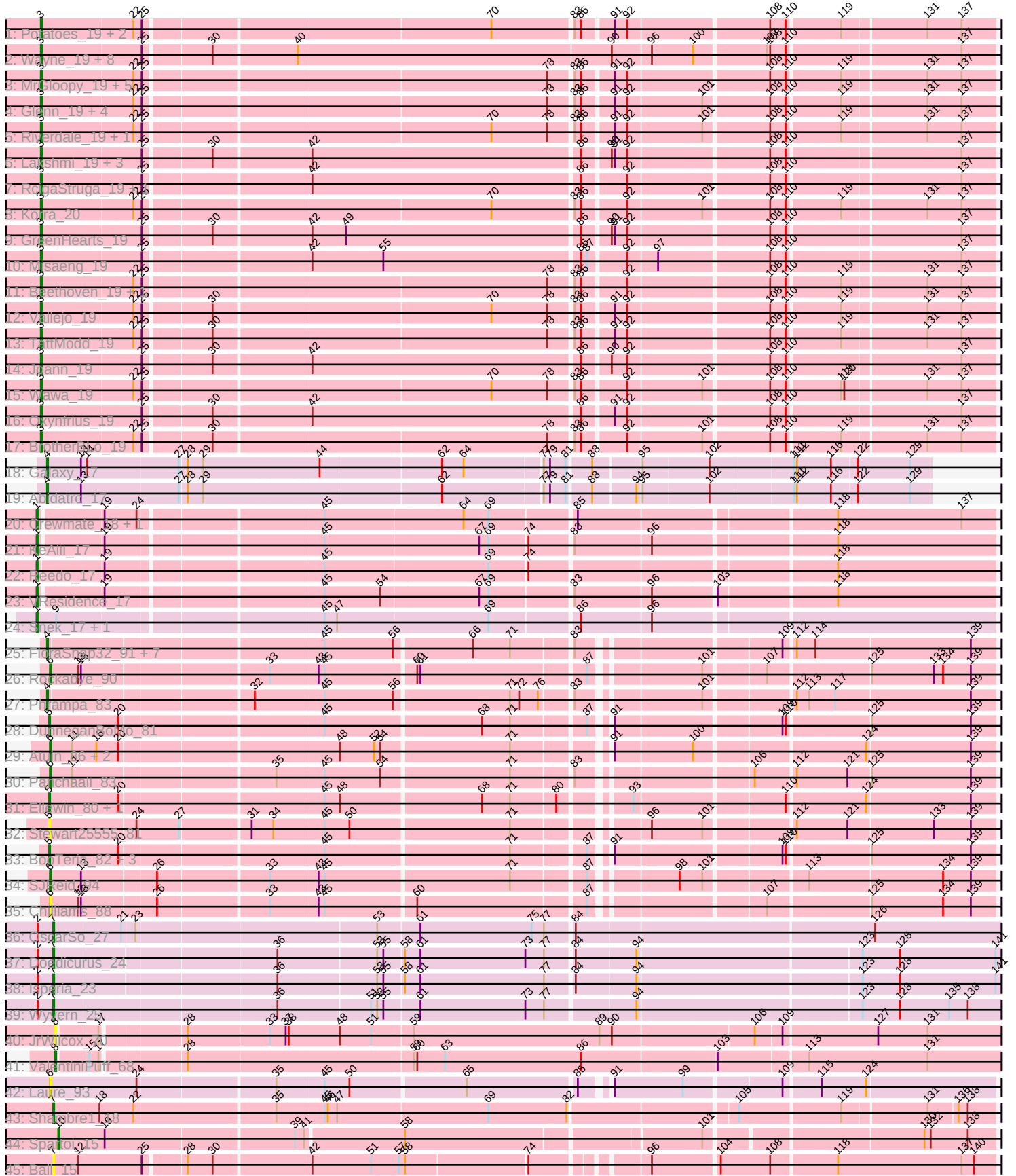




Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. If this default region is judged to be packed too tightly 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 330735 Report

This analysis was run 09/05/26 on database version 662.

Pham number 330735 has 85 members, 15 are drafts.

Phages represented in each track:

- Track 1 : Potatoes_19, Cholula_19, Immaculata_19
- Track 2 : Wayne_19, Litotes_19, Suppi_19, CallieOMalley_19, Graynor_19, Canowicakte_19, AppleCider_19, PartyCup_19, MrBoss_19
- Track 3 : MrGloopy_19, MeganNoll_19, Fluke_19, Jumboset_19, RAP15_19, Savage2526_19
- Track 4 : Glenn_19, Carpal_19, Dino_19, Kalizoi_19, Zorro_19
- Track 5 : Riverdale_19, Rozby_19
- Track 6 : Lakshmi_19, Albanese_19, Nubia_19, Greenhouse_19
- Track 7 : RcigaStruga_19, Huntingdon_19
- Track 8 : Korra_20
- Track 9 : GreenHearts_19
- Track 10 : Misaeng_19
- Track 11 : Beethoven_19, Scuttle_19
- Track 12 : Vallejo_19
- Track 13 : TattModd_19
- Track 14 : Joann_19
- Track 15 : Wawa_19
- Track 16 : Oxynfrius_19
- Track 17 : BrotherBLo_19
- Track 18 : Galaxy_17
- Track 19 : Abidatro_17
- Track 20 : Crewmate_18, ObiToo_17
- Track 21 : KeAlii_17
- Track 22 : Reedo_17
- Track 23 : VResidence_17
- Track 24 : Snek_17, Tweety19_17
- Track 25 : FloraSnap32_91, GoldenEssence_77, Talia1610_91, Mimi_91, FrostedClock_93, Racecar_92, Patbob_90, Bloom_95
- Track 26 : Rockabye_90
- Track 27 : Phrampa_83
- Track 28 : DunneganBoMo_81
- Track 29 : Atuin_86, ReginaGlobina_91, LeoJr_91
- Track 30 : Panchaali_83
- Track 31 : Ellewin_80, KSunshine22_86
- Track 32 : Stewart25555_81
- Track 33 : BooTeria_82, Artu_84, Emmetator_84, WaddleDee_79
- Track 34 : SJReid_94

- Track 35 : Chilliams_88
- Track 36 : OscarSo_27
- Track 37 : Doedicurus_24
- Track 38 : Isperia_23
- Track 39 : Wyvern_25
- Track 40 : JrWilcox_70
- Track 41 : ValentiniPuff_68
- Track 42 : Laure_93
- Track 43 : Shambre1_18
- Track 44 : Spartoi_15
- Track 45 : Ball_15

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

The start number called the most often in the published annotations is 3, it was called in 40 of the 70 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Albanese_19, AppleCider_19, Beethoven_19, BrotherBLo_19, CallieOMalley_19, Canowicakte_19, Carpal_19, Cholula_19, Dino_19, Fluke_19, Glenn_19, Graynor_19, GreenHearts_19, Greenhouse_19, Huntingdon_19, Immaculata_19, Joann_19, Jumboset_19, Kalizoi_19, Korra_20, Lakshmi_19, Litotes_19, MeganNoll_19, Misaeng_19, MrBoss_19, MrGloopy_19, Nubia_19, Oxynfrius_19, PartyCup_19, Potatoes_19, RAP15_19, RcigaStruga_19, Riverdale_19, Rozby_19, Savage2526_19, Scuttle_19, Suppi_19, TattModd_19, Vallejo_19, Wawa_19, Wayne_19, Zorro_19,

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

-

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

- Abidatro_17, Artu_84, Atuin_86, Ball_15, Bloom_95, BooTeria_82, Chilliams_88, Crewmate_18, Doedicurus_24, DunneganBoMo_81, Ellewin_80, Emmetator_84, FloraSnap32_91, FrostedClock_93, Galaxy_17, GoldenEssence_77, Isperia_23, JrWilcox_70, KSunshine22_86, KeAlii_17, Laure_93, LeoJr_91, Mimi_91, ObiToo_17, OscarSo_27, Panchaali_83, Patbob_90, Phrampa_83, Racecar_92, Reedo_17, ReginaGlobina_91, Rockabye_90, SJReid_94, Shambre1_18, Snek_17, Spartoi_15, Stewart25555_81, Talia1610_91, Tweety19_17, VResidence_17, ValentiniPuff_68, WaddleDee_79, Wyvern_25,

Summary by start number:

Start 1:

- Found in 7 of 85 (8.2%) of genes in pham
- Manual Annotations of this start: 7 of 70
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Crewmate_18 (AZ1), KeAlii_17 (AZ1), ObiToo_17 (AZ1), Reedo_17 (AZ1), Snek_17 (AZ3), Tweety19_17 (AZ3), VResidence_17 (AZ1),

Start 3:

- Found in 42 of 85 (49.4%) of genes in pham
- Manual Annotations of this start: 40 of 70
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Albanese_19 (AK), AppleCider_19 (AK), Beethoven_19 (AK), BrotherBLo_19 (AK), CallieOMalley_19 (AK), Canowicakte_19 (AK), Carpal_19 (AK), Cholula_19 (AK), Dino_19 (AK), Fluke_19 (AK), Glenn_19 (AK), Graynor_19 (AK), GreenHearts_19 (AK), Greenhouse_19 (AK), Huntingdon_19 (AK), Immaculata_19 (AK), Joann_19 (AK), Jumboset_19 (AK), Kalizoi_19 (AK), Korra_20 (AK), Lakshmi_19 (AK), Litotes_19 (AK), MeganNoll_19 (AK), Misaeng_19 (AK), MrBoss_19 (AK), MrGloopy_19 (AK), Nubia_19 (AK), Oxyntrius_19 (AK), PartyCup_19 (AK), Potatoes_19 (AK), RAP15_19 (AK), RcigaStruga_19 (AK), Riverdale_19 (AK), Rozby_19 (AK), Savage2526_19 (AK), Scuttle_19 (AK), Suppi_19 (AK), TattModd_19 (AK), Vallejo_19 (AK), Wawa_19 (AK), Wayne_19 (AK), Zorro_19 (AK),

Start 4:

- Found in 11 of 85 (12.9%) of genes in pham
- Manual Annotations of this start: 8 of 70
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abidatro_17 (AS1), Bloom_95 (FC), FloraSnap32_91 (FC), FrostedClock_93 (FC), Galaxy_17 (AS1), GoldenEssence_77 (FC), Mimi_91 (FC), Patbob_90 (FC), Phrampa_83 (FC), Racecar_92 (FC), Talia1610_91 (FC),

Start 5:

- Found in 8 of 85 (9.4%) of genes in pham
- Manual Annotations of this start: 4 of 70
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Artu_84 (FC), BooTeria_82 (FC), DunneganBoMo_81 (FC), Ellewin_80 (FC), Emmetator_84 (FC), KSunshine22_86 (FC), Stewart25555_81 (FC), WaddleDee_79 (FC),

Start 6:

- Found in 8 of 85 (9.4%) of genes in pham
- Manual Annotations of this start: 4 of 70
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Atuin_86 (FC), Chilliams_88 (FC), Laure_93 (UNK), LeoJr_91 (FC), Panchaali_83 (FC), ReginaGlobina_91 (FC), Rockabye_90 (FC), SJReid_94 (FC),

Start 7:

- Found in 6 of 85 (7.1%) of genes in pham
- Manual Annotations of this start: 5 of 70
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ball_15 (singleton), Doedicurus_24 (GJ), Isperia_23 (GJ), OscarSo_27 (GJ), Shambre1_18 (singleton), Wyvern_25 (GJ),

Start 8:

- Found in 2 of 85 (2.4%) of genes in pham
- Manual Annotations of this start: 1 of 70
- Called 100.0% of time when present
- Phage (with cluster) where this start called: JrWilcox_70 (GL), ValentiniPuff_68 (GL),

Start 10:

- Found in 1 of 85 (1.2%) of genes in pham
- Manual Annotations of this start: 1 of 70
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Spartoi_15 (singleton),

Summary by clusters:

There are 9 clusters represented in this pham: UNK, AS1, GL, AK, singleton, FC, AZ1, AZ3, GJ,

Info for manual annotations of cluster AK:

- Start number 3 was manually annotated 40 times for cluster AK.

Info for manual annotations of cluster AS1:

- Start number 4 was manually annotated 2 times for cluster AS1.

Info for manual annotations of cluster AZ1:

- Start number 1 was manually annotated 5 times for cluster AZ1.

Info for manual annotations of cluster AZ3:

- Start number 1 was manually annotated 2 times for cluster AZ3.

Info for manual annotations of cluster FC:

- Start number 4 was manually annotated 6 times for cluster FC.
- Start number 5 was manually annotated 4 times for cluster FC.
- Start number 6 was manually annotated 4 times for cluster FC.

Info for manual annotations of cluster GJ:

- Start number 7 was manually annotated 4 times for cluster GJ.

Info for manual annotations of cluster GL:

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

Gene Information:

Gene: Abidatro_17 Start: 12853, Stop: 13671, Start Num: 4

Candidate Starts for Abidatro_17:

(Start: 4 @12853 has 8 MA's), (13, 12886), (27, 12979), (28, 12985), (29, 13000), (62, 13222), (77, 13315), (79, 13321), (81, 13336), (88, 13357), (94, 13396), (95, 13399), (102, 13462), (111, 13540), (112, 13543), (116, 13576), (122, 13600), (129, 13651),

Gene: Albanese_19 Start: 15218, Stop: 16090, Start Num: 3

Candidate Starts for Albanese_19:

(Start: 3 @15218 has 40 MA's), (25, 15311), (30, 15371), (42, 15461), (86, 15716), (90, 15740), (91, 15743), (92, 15755), (108, 15884), (110, 15899), (137, 16058),

Gene: AppleCider_19 Start: 15167, Stop: 16048, Start Num: 3

Candidate Starts for AppleCider_19:

(Start: 3 @15167 has 40 MA's), (25, 15260), (30, 15320), (40, 15398), (90, 15698), (96, 15734), (100, 15773), (107, 15839), (108, 15842), (110, 15857), (137, 16016),

Gene: Artu_84 Start: 57307, Stop: 58158, Start Num: 5

Candidate Starts for Artu_84:

(Start: 5 @57307 has 4 MA's), (20, 57373), (45, 57559), (71, 57733), (87, 57799), (91, 57811), (109, 57961), (110, 57964), (125, 58039), (139, 58135),

Gene: Atuin_86 Start: 59949, Stop: 60800, Start Num: 6

Candidate Starts for Atuin_86:

(Start: 6 @59949 has 4 MA's), (11, 59970), (16, 59994), (20, 60015), (48, 60216), (52, 60249), (54, 60255), (71, 60375), (91, 60453), (100, 60525), (124, 60678), (139, 60777),

Gene: Ball_15 Start: 12363, Stop: 13217, Start Num: 7

Candidate Starts for Ball_15:

(Start: 7 @12363 has 5 MA's), (12, 12387), (25, 12447), (28, 12483), (30, 12507), (42, 12597), (51, 12654), (57, 12681), (58, 12687), (74, 12801), (96, 12897), (104, 12957), (108, 13005), (118, 13065), (137, 13185), (140, 13197),

Gene: Beethoven_19 Start: 15125, Stop: 15994, Start Num: 3

Candidate Starts for Beethoven_19:

(Start: 3 @15125 has 40 MA's), (22, 15212), (25, 15218), (78, 15593), (83, 15614), (86, 15620), (92, 15659), (108, 15788), (110, 15803), (119, 15851), (131, 15929), (137, 15962),

Gene: Bloom_95 Start: 60812, Stop: 61663, Start Num: 4

Candidate Starts for Bloom_95:

(Start: 4 @60812 has 8 MA's), (45, 61064), (56, 61130), (66, 61202), (71, 61238), (83, 61292), (109, 61466), (112, 61475), (114, 61493), (139, 61640),

Gene: BooTeria_82 Start: 57375, Stop: 58226, Start Num: 5

Candidate Starts for BooTeria_82:

(Start: 5 @57375 has 4 MA's), (20, 57441), (45, 57627), (71, 57801), (87, 57867), (91, 57879), (109, 58029), (110, 58032), (125, 58107), (139, 58203),

Gene: BrotherBLo_19 Start: 15131, Stop: 16000, Start Num: 3

Candidate Starts for BrotherBLo_19:

(Start: 3 @15131 has 40 MA's), (22, 15218), (25, 15224), (30, 15284), (78, 15599), (83, 15620), (86, 15626), (92, 15665), (101, 15734), (108, 15794), (110, 15809), (119, 15857), (131, 15935), (137, 15968),

Gene: CallieOMalley_19 Start: 15167, Stop: 16048, Start Num: 3

Candidate Starts for CallieOMalley_19:

(Start: 3 @15167 has 40 MA's), (25, 15260), (30, 15320), (40, 15398), (90, 15698), (96, 15734), (100, 15773), (107, 15839), (108, 15842), (110, 15857), (137, 16016),

Gene: Canowicakte_19 Start: 15202, Stop: 16083, Start Num: 3

Candidate Starts for Canowicakte_19:

(Start: 3 @15202 has 40 MA's), (25, 15295), (30, 15355), (40, 15433), (90, 15733), (96, 15769), (100, 15808), (107, 15874), (108, 15877), (110, 15892), (137, 16051),

Gene: Carpal_19 Start: 15132, Stop: 16001, Start Num: 3

Candidate Starts for Carpal_19:

(Start: 3 @15132 has 40 MA's), (22, 15219), (25, 15225), (78, 15600), (83, 15621), (86, 15627), (91, 15654), (92, 15666), (101, 15735), (108, 15795), (110, 15810), (119, 15858), (131, 15936), (137, 15969),

Gene: Chilliamps_88 Start: 61239, Stop: 62090, Start Num: 6

Candidate Starts for Chilliamps_88:

(Start: 6 @61239 has 4 MA's), (12, 61266), (13, 61269), (26, 61338), (33, 61440), (43, 61485), (45, 61491), (60, 61575), (87, 61731), (107, 61878), (125, 61971), (134, 62040), (139, 62067),

Gene: Cholula_19 Start: 15177, Stop: 16046, Start Num: 3

Candidate Starts for Cholula_19:

(Start: 3 @15177 has 40 MA's), (22, 15264), (25, 15270), (70, 15591), (83, 15666), (86, 15672), (91, 15699), (92, 15711), (108, 15840), (110, 15855), (119, 15903), (131, 15981), (137, 16014),

Gene: Crewmate_18 Start: 13486, Stop: 14358, Start Num: 1

Candidate Starts for Crewmate_18:

(Start: 1 @13486 has 7 MA's), (19, 13543), (24, 13573), (45, 13738), (64, 13870), (69, 13894), (85, 13972), (118, 14206), (137, 14326),

Gene: Dino_19 Start: 15130, Stop: 15999, Start Num: 3

Candidate Starts for Dino_19:

(Start: 3 @15130 has 40 MA's), (22, 15217), (25, 15223), (78, 15598), (83, 15619), (86, 15625), (91, 15652), (92, 15664), (101, 15733), (108, 15793), (110, 15808), (119, 15856), (131, 15934), (137, 15967),

Gene: Doedicurus_24 Start: 15959, Stop: 16837, Start Num: 7

Candidate Starts for Doedicurus_24:

(2, 15944), (Start: 7 @15959 has 5 MA's), (36, 16163), (53, 16256), (55, 16262), (58, 16280), (61, 16295), (73, 16397), (77, 16415), (84, 16439), (94, 16496), (123, 16703), (128, 16739), (141, 16832),

Gene: DunneganBoMo_81 Start: 56806, Stop: 57657, Start Num: 5

Candidate Starts for DunneganBoMo_81:

(Start: 5 @56806 has 4 MA's), (20, 56872), (45, 57058), (68, 57205), (71, 57232), (87, 57298), (91, 57310), (109, 57460), (110, 57463), (125, 57538), (139, 57634),

Gene: Ellewin_80 Start: 56395, Stop: 57246, Start Num: 5

Candidate Starts for Ellewin_80:

(Start: 5 @56395 has 4 MA's), (20, 56461), (45, 56647), (48, 56662), (68, 56794), (71, 56821), (80, 56863), (93, 56917), (110, 57052), (124, 57124), (139, 57223),

Gene: Emmetator_84 Start: 57640, Stop: 58491, Start Num: 5

Candidate Starts for Emmetator_84:

(Start: 5 @57640 has 4 MA's), (20, 57706), (45, 57892), (71, 58066), (87, 58132), (91, 58144), (109, 58294), (110, 58297), (125, 58372), (139, 58468),

Gene: FloraSnap32_91 Start: 59852, Stop: 60703, Start Num: 4

Candidate Starts for FloraSnap32_91:

(Start: 4 @59852 has 8 MA's), (45, 60104), (56, 60170), (66, 60242), (71, 60278), (83, 60332), (109, 60506), (112, 60515), (114, 60533), (139, 60680),

Gene: Fluke_19 Start: 15173, Stop: 16042, Start Num: 3

Candidate Starts for Fluke_19:

(Start: 3 @15173 has 40 MA's), (22, 15260), (25, 15266), (78, 15641), (83, 15662), (86, 15668), (91, 15695), (92, 15707), (108, 15836), (110, 15851), (119, 15899), (131, 15977), (137, 16010),

Gene: FrostedClock_93 Start: 60300, Stop: 61151, Start Num: 4

Candidate Starts for FrostedClock_93:

(Start: 4 @60300 has 8 MA's), (45, 60552), (56, 60618), (66, 60690), (71, 60726), (83, 60780), (109, 60954), (112, 60963), (114, 60981), (139, 61128),

Gene: Galaxy_17 Start: 12859, Stop: 13677, Start Num: 4

Candidate Starts for Galaxy_17:

(Start: 4 @12859 has 8 MA's), (13, 12892), (14, 12898), (27, 12985), (28, 12991), (29, 13006), (44, 13114), (62, 13228), (64, 13249), (77, 13321), (79, 13327), (81, 13342), (88, 13363), (95, 13405), (102, 13468), (111, 13546), (112, 13549), (116, 13582), (122, 13606), (129, 13657),

Gene: Glenn_19 Start: 15182, Stop: 16051, Start Num: 3

Candidate Starts for Glenn_19:

(Start: 3 @15182 has 40 MA's), (22, 15269), (25, 15275), (78, 15650), (83, 15671), (86, 15677), (91, 15704), (92, 15716), (101, 15785), (108, 15845), (110, 15860), (119, 15908), (131, 15986), (137, 16019),

Gene: GoldenEssence_77 Start: 54608, Stop: 55459, Start Num: 4

Candidate Starts for GoldenEssence_77:

(Start: 4 @54608 has 8 MA's), (45, 54860), (56, 54926), (66, 54998), (71, 55034), (83, 55088), (109, 55262), (112, 55271), (114, 55289), (139, 55436),

Gene: Graynor_19 Start: 15188, Stop: 16069, Start Num: 3

Candidate Starts for Graynor_19:

(Start: 3 @15188 has 40 MA's), (25, 15281), (30, 15341), (40, 15419), (90, 15719), (96, 15755), (100, 15794), (107, 15860), (108, 15863), (110, 15878), (137, 16037),

Gene: GreenHearts_19 Start: 15265, Stop: 16137, Start Num: 3

Candidate Starts for GreenHearts_19:

(Start: 3 @15265 has 40 MA's), (25, 15358), (30, 15418), (42, 15508), (49, 15541), (86, 15763), (90, 15787), (91, 15790), (92, 15802), (108, 15931), (110, 15946), (137, 16105),

Gene: Greenhouse_19 Start: 15189, Stop: 16061, Start Num: 3

Candidate Starts for Greenhouse_19:

(Start: 3 @15189 has 40 MA's), (25, 15282), (30, 15342), (42, 15432), (86, 15687), (90, 15711), (91, 15714), (92, 15726), (108, 15855), (110, 15870), (137, 16029),

Gene: Huntingdon_19 Start: 15175, Stop: 16047, Start Num: 3

Candidate Starts for Huntingdon_19:

(Start: 3 @15175 has 40 MA's), (25, 15268), (42, 15418), (86, 15673), (92, 15712), (108, 15841), (110, 15856), (137, 16015),

Gene: Immaculata_19 Start: 15176, Stop: 16045, Start Num: 3

Candidate Starts for Immaculata_19:

(Start: 3 @15176 has 40 MA's), (22, 15263), (25, 15269), (70, 15590), (83, 15665), (86, 15671), (91, 15698), (92, 15710), (108, 15839), (110, 15854), (119, 15902), (131, 15980), (137, 16013),

Gene: Isperia_23 Start: 15256, Stop: 16134, Start Num: 7

Candidate Starts for Isperia_23:

(2, 15241), (Start: 7 @15256 has 5 MA's), (36, 15460), (53, 15553), (55, 15559), (58, 15577), (61, 15592), (77, 15712), (84, 15736), (94, 15793), (123, 16000), (128, 16036), (141, 16129),

Gene: Joann_19 Start: 15169, Stop: 16041, Start Num: 3

Candidate Starts for Joann_19:

(Start: 3 @15169 has 40 MA's), (25, 15262), (30, 15322), (42, 15412), (86, 15667), (90, 15691), (92, 15706), (108, 15835), (110, 15850), (137, 16009),

Gene: JrWilcox_70 Start: 35777, Stop: 36652, Start Num: 8

Candidate Starts for JrWilcox_70:

(Start: 8 @35777 has 1 MA's), (17, 35813), (28, 35885), (33, 35963), (37, 35978), (38, 35981), (48, 36029), (51, 36059), (59, 36098), (89, 36278), (90, 36290), (106, 36422), (109, 36446), (127, 36533), (131, 36581),

Gene: Jumboset_19 Start: 15125, Stop: 15994, Start Num: 3

Candidate Starts for Jumboset_19:

(Start: 3 @15125 has 40 MA's), (22, 15212), (25, 15218), (78, 15593), (83, 15614), (86, 15620), (91, 15647), (92, 15659), (108, 15788), (110, 15803), (119, 15851), (131, 15929), (137, 15962),

Gene: KSunshine22_86 Start: 58028, Stop: 58879, Start Num: 5

Candidate Starts for KSunshine22_86:

(Start: 5 @58028 has 4 MA's), (20, 58094), (45, 58280), (48, 58295), (68, 58427), (71, 58454), (80, 58496), (93, 58550), (110, 58685), (124, 58757), (139, 58856),

Gene: Kalizoi_19 Start: 15124, Stop: 15993, Start Num: 3

Candidate Starts for Kalizoi_19:

(Start: 3 @15124 has 40 MA's), (22, 15211), (25, 15217), (78, 15592), (83, 15613), (86, 15619), (91, 15646), (92, 15658), (101, 15727), (108, 15787), (110, 15802), (119, 15850), (131, 15928), (137, 15961),

Gene: KeAlii_17 Start: 13071, Stop: 13943, Start Num: 1

Candidate Starts for KeAlii_17:

(Start: 1 @13071 has 7 MA's), (19, 13128), (45, 13323), (67, 13470), (69, 13479), (74, 13515), (83, 13554), (96, 13626), (118, 13791),

Gene: Korra_20 Start: 15130, Stop: 15999, Start Num: 3

Candidate Starts for Korra_20:

(Start: 3 @15130 has 40 MA's), (22, 15217), (25, 15223), (70, 15544), (83, 15619), (86, 15625), (92, 15664), (101, 15733), (108, 15793), (110, 15808), (119, 15856), (131, 15934), (137, 15967),

Gene: Lakshmi_19 Start: 15194, Stop: 16066, Start Num: 3

Candidate Starts for Lakshmi_19:

(Start: 3 @15194 has 40 MA's), (25, 15287), (30, 15347), (42, 15437), (86, 15692), (90, 15716), (91, 15719), (92, 15731), (108, 15860), (110, 15875), (137, 16034),

Gene: Laure_93 Start: 59200, Stop: 60060, Start Num: 6

Candidate Starts for Laure_93:

(Start: 6 @59200 has 4 MA's), (24, 59284), (35, 59410), (45, 59455), (50, 59479), (65, 59587), (85, 59689), (91, 59710), (99, 59776), (109, 59863), (115, 59896), (124, 59938),

Gene: LeoJr_91 Start: 60077, Stop: 60928, Start Num: 6

Candidate Starts for LeoJr_91:

(Start: 6 @60077 has 4 MA's), (11, 60098), (16, 60122), (20, 60143), (48, 60344), (52, 60377), (54, 60383), (71, 60503), (91, 60581), (100, 60653), (124, 60806), (139, 60905),

Gene: Litotes_19 Start: 15152, Stop: 16033, Start Num: 3

Candidate Starts for Litotes_19:

(Start: 3 @15152 has 40 MA's), (25, 15245), (30, 15305), (40, 15383), (90, 15683), (96, 15719), (100, 15758), (107, 15824), (108, 15827), (110, 15842), (137, 16001),

Gene: MeganNoll_19 Start: 15182, Stop: 16051, Start Num: 3

Candidate Starts for MeganNoll_19:

(Start: 3 @15182 has 40 MA's), (22, 15269), (25, 15275), (78, 15650), (83, 15671), (86, 15677), (91, 15704), (92, 15716), (108, 15845), (110, 15860), (119, 15908), (131, 15986), (137, 16019),

Gene: Mimi_91 Start: 60159, Stop: 61010, Start Num: 4

Candidate Starts for Mimi_91:

(Start: 4 @60159 has 8 MA's), (45, 60411), (56, 60477), (66, 60549), (71, 60585), (83, 60639), (109, 60813), (112, 60822), (114, 60840), (139, 60987),

Gene: Misaeng_19 Start: 15239, Stop: 16111, Start Num: 3

Candidate Starts for Misaeng_19:

(Start: 3 @15239 has 40 MA's), (25, 15332), (42, 15482), (55, 15551), (86, 15737), (87, 15743), (92, 15776), (97, 15803), (108, 15905), (110, 15920), (137, 16079),

Gene: MrBoss_19 Start: 15152, Stop: 16033, Start Num: 3

Candidate Starts for MrBoss_19:

(Start: 3 @15152 has 40 MA's), (25, 15245), (30, 15305), (40, 15383), (90, 15683), (96, 15719), (100, 15758), (107, 15824), (108, 15827), (110, 15842), (137, 16001),

Gene: MrGloopy_19 Start: 15116, Stop: 15985, Start Num: 3

Candidate Starts for MrGloopy_19:

(Start: 3 @15116 has 40 MA's), (22, 15203), (25, 15209), (78, 15584), (83, 15605), (86, 15611), (91, 15638), (92, 15650), (108, 15779), (110, 15794), (119, 15842), (131, 15920), (137, 15953),

Gene: Nubia_19 Start: 15154, Stop: 16026, Start Num: 3

Candidate Starts for Nubia_19:

(Start: 3 @15154 has 40 MA's), (25, 15247), (30, 15307), (42, 15397), (86, 15652), (90, 15676), (91, 15679), (92, 15691), (108, 15820), (110, 15835), (137, 15994),

Gene: ObiToo_17 Start: 13223, Stop: 14095, Start Num: 1

Candidate Starts for ObiToo_17:

(Start: 1 @13223 has 7 MA's), (19, 13280), (24, 13310), (45, 13475), (64, 13607), (69, 13631), (85, 13709), (118, 13943), (137, 14063),

Gene: OscarSo_27 Start: 17801, Stop: 18682, Start Num: 7

Candidate Starts for OscarSo_27:

(2, 17786), (Start: 7 @17801 has 5 MA's), (21, 17864), (23, 17876), (53, 18098), (61, 18137), (75, 18245), (77, 18257), (84, 18281), (126, 18560),

Gene: Oxynfrius_19 Start: 15167, Stop: 16039, Start Num: 3

Candidate Starts for Oxynfrius_19:

(Start: 3 @15167 has 40 MA's), (25, 15260), (30, 15320), (42, 15410), (86, 15665), (91, 15692), (92, 15704), (108, 15833), (110, 15848), (137, 16007),

Gene: Panchaali_83 Start: 57905, Stop: 58756, Start Num: 6

Candidate Starts for Panchaali_83:

(Start: 6 @57905 has 4 MA's), (11, 57926), (35, 58112), (45, 58157), (54, 58211), (71, 58331), (83, 58385), (106, 58532), (112, 58568), (121, 58616), (125, 58637), (139, 58733),

Gene: PartyCup_19 Start: 15199, Stop: 16080, Start Num: 3

Candidate Starts for PartyCup_19:

(Start: 3 @15199 has 40 MA's), (25, 15292), (30, 15352), (40, 15430), (90, 15730), (96, 15766), (100, 15805), (107, 15871), (108, 15874), (110, 15889), (137, 16048),

Gene: Patbob_90 Start: 61031, Stop: 61882, Start Num: 4

Candidate Starts for Patbob_90:

(Start: 4 @61031 has 8 MA's), (45, 61283), (56, 61349), (66, 61421), (71, 61457), (83, 61511), (109, 61685), (112, 61694), (114, 61712), (139, 61859),

Gene: Phrampa_83 Start: 58344, Stop: 59195, Start Num: 4

Candidate Starts for Phrampa_83:

(Start: 4 @58344 has 8 MA's), (32, 58530), (45, 58596), (56, 58662), (71, 58770), (72, 58779), (76, 58797), (83, 58824), (101, 58929), (112, 59007), (113, 59019), (117, 59043), (139, 59172),

Gene: Potatoes_19 Start: 15177, Stop: 16046, Start Num: 3

Candidate Starts for Potatoes_19:

(Start: 3 @15177 has 40 MA's), (22, 15264), (25, 15270), (70, 15591), (83, 15666), (86, 15672), (91, 15699), (92, 15711), (108, 15840), (110, 15855), (119, 15903), (131, 15981), (137, 16014),

Gene: RAP15_19 Start: 15182, Stop: 16051, Start Num: 3

Candidate Starts for RAP15_19:

(Start: 3 @15182 has 40 MA's), (22, 15269), (25, 15275), (78, 15650), (83, 15671), (86, 15677), (91, 15704), (92, 15716), (108, 15845), (110, 15860), (119, 15908), (131, 15986), (137, 16019),

Gene: Racecar_92 Start: 60812, Stop: 61663, Start Num: 4

Candidate Starts for Racecar_92:

(Start: 4 @60812 has 8 MA's), (45, 61064), (56, 61130), (66, 61202), (71, 61238), (83, 61292), (109, 61466), (112, 61475), (114, 61493), (139, 61640),

Gene: RcigaStruga_19 Start: 15175, Stop: 16047, Start Num: 3

Candidate Starts for RcigaStruga_19:

(Start: 3 @15175 has 40 MA's), (25, 15268), (42, 15418), (86, 15673), (92, 15712), (108, 15841), (110, 15856), (137, 16015),

Gene: Reedo_17 Start: 13087, Stop: 13962, Start Num: 1

Candidate Starts for Reedo_17:

(Start: 1 @13087 has 7 MA's), (19, 13147), (45, 13342), (69, 13498), (74, 13534), (118, 13810),

Gene: ReginaGlobina_91 Start: 60830, Stop: 61681, Start Num: 6

Candidate Starts for ReginaGlobina_91:

(Start: 6 @60830 has 4 MA's), (11, 60851), (16, 60875), (20, 60896), (48, 61097), (52, 61130), (54, 61136), (71, 61256), (91, 61334), (100, 61406), (124, 61559), (139, 61658),

Gene: Riverdale_19 Start: 15112, Stop: 15981, Start Num: 3

Candidate Starts for Riverdale_19:

(Start: 3 @15112 has 40 MA's), (22, 15199), (25, 15205), (70, 15526), (78, 15580), (83, 15601), (86, 15607), (91, 15634), (92, 15646), (101, 15715), (108, 15775), (110, 15790), (119, 15838), (131,

15916), (137, 15949),

Gene: Rockabye_90 Start: 61598, Stop: 62449, Start Num: 6

Candidate Starts for Rockabye_90:

(Start: 6 @61598 has 4 MA's), (12, 61625), (13, 61628), (33, 61799), (43, 61844), (45, 61850), (60, 61934), (61, 61937), (87, 62090), (101, 62183), (107, 62237), (125, 62330), (133, 62390), (134, 62399), (139, 62426),

Gene: Rozby_19 Start: 15113, Stop: 15982, Start Num: 3

Candidate Starts for Rozby_19:

(Start: 3 @15113 has 40 MA's), (22, 15200), (25, 15206), (70, 15527), (78, 15581), (83, 15602), (86, 15608), (91, 15635), (92, 15647), (101, 15716), (108, 15776), (110, 15791), (119, 15839), (131, 15917), (137, 15950),

Gene: SJReid_94 Start: 60651, Stop: 61502, Start Num: 6

Candidate Starts for SJReid_94:

(Start: 6 @60651 has 4 MA's), (13, 60681), (26, 60750), (33, 60852), (43, 60897), (45, 60903), (71, 61077), (87, 61143), (98, 61215), (101, 61236), (113, 61326), (134, 61452), (139, 61479),

Gene: Savage2526_19 Start: 15176, Stop: 16045, Start Num: 3

Candidate Starts for Savage2526_19:

(Start: 3 @15176 has 40 MA's), (22, 15263), (25, 15269), (78, 15644), (83, 15665), (86, 15671), (91, 15698), (92, 15710), (108, 15839), (110, 15854), (119, 15902), (131, 15980), (137, 16013),

Gene: Scuttle_19 Start: 15181, Stop: 16050, Start Num: 3

Candidate Starts for Scuttle_19:

(Start: 3 @15181 has 40 MA's), (22, 15268), (25, 15274), (78, 15649), (83, 15670), (86, 15676), (92, 15715), (108, 15844), (110, 15859), (119, 15907), (131, 15985), (137, 16018),

Gene: Shambre1_18 Start: 14673, Stop: 15542, Start Num: 7

Candidate Starts for Shambre1_18:

(Start: 7 @14673 has 5 MA's), (18, 14718), (22, 14751), (35, 14883), (45, 14928), (46, 14931), (47, 14940), (69, 15084), (82, 15159), (105, 15309), (119, 15402), (131, 15480), (136, 15507), (138, 15516),

Gene: Snek_17 Start: 12117, Stop: 12995, Start Num: 1

Candidate Starts for Snek_17:

(Start: 1 @12117 has 7 MA's), (9, 12135), (45, 12375), (47, 12387), (69, 12531), (86, 12612), (96, 12678),

Gene: Spartoi_15 Start: 11996, Stop: 12856, Start Num: 10

Candidate Starts for Spartoi_15:

(Start: 10 @11996 has 1 MA's), (19, 12041), (39, 12218), (41, 12227), (58, 12320), (101, 12593), (130, 12788), (132, 12794), (138, 12830),

Gene: Stewart25555_81 Start: 57329, Stop: 58180, Start Num: 5

Candidate Starts for Stewart25555_81:

(Start: 5 @57329 has 4 MA's), (24, 57410), (27, 57449), (31, 57512), (34, 57533), (45, 57581), (50, 57605), (71, 57755), (96, 57866), (101, 57914), (112, 57992), (121, 58040), (133, 58121), (139, 58157),

Gene: Suppi_19 Start: 15202, Stop: 16083, Start Num: 3

Candidate Starts for Suppi_19:

(Start: 3 @15202 has 40 MA's), (25, 15295), (30, 15355), (40, 15433), (90, 15733), (96, 15769), (100, 15808), (107, 15874), (108, 15877), (110, 15892), (137, 16051),

Gene: Talia1610_91 Start: 60177, Stop: 61028, Start Num: 4

Candidate Starts for Talia1610_91:

(Start: 4 @60177 has 8 MA's), (45, 60429), (56, 60495), (66, 60567), (71, 60603), (83, 60657), (109, 60831), (112, 60840), (114, 60858), (139, 61005),

Gene: TattModd_19 Start: 15175, Stop: 16044, Start Num: 3

Candidate Starts for TattModd_19:

(Start: 3 @15175 has 40 MA's), (22, 15262), (25, 15268), (30, 15328), (78, 15643), (83, 15664), (86, 15670), (91, 15697), (92, 15709), (108, 15838), (110, 15853), (119, 15901), (131, 15979), (137, 16012),

Gene: Tweety19_17 Start: 12116, Stop: 12994, Start Num: 1

Candidate Starts for Tweety19_17:

(Start: 1 @12116 has 7 MA's), (9, 12134), (45, 12374), (47, 12386), (69, 12530), (86, 12611), (96, 12677),

Gene: VResidence_17 Start: 13143, Stop: 14015, Start Num: 1

Candidate Starts for VResidence_17:

(Start: 1 @13143 has 7 MA's), (19, 13200), (45, 13395), (54, 13449), (67, 13542), (69, 13551), (83, 13626), (96, 13698), (103, 13755), (118, 13863),

Gene: ValentiniPuff_68 Start: 36653, Stop: 37528, Start Num: 8

Candidate Starts for ValentiniPuff_68:

(Start: 8 @36653 has 1 MA's), (15, 36680), (17, 36689), (28, 36761), (59, 36974), (60, 36977), (63, 37004), (86, 37136), (103, 37262), (113, 37343), (131, 37457),

Gene: Vallejo_19 Start: 15114, Stop: 15983, Start Num: 3

Candidate Starts for Vallejo_19:

(Start: 3 @15114 has 40 MA's), (22, 15201), (25, 15207), (30, 15267), (70, 15528), (78, 15582), (83, 15603), (86, 15609), (91, 15636), (92, 15648), (108, 15777), (110, 15792), (119, 15840), (131, 15918), (137, 15951),

Gene: WaddleDee_79 Start: 56661, Stop: 57512, Start Num: 5

Candidate Starts for WaddleDee_79:

(Start: 5 @56661 has 4 MA's), (20, 56727), (45, 56913), (71, 57087), (87, 57153), (91, 57165), (109, 57315), (110, 57318), (125, 57393), (139, 57489),

Gene: Wawa_19 Start: 15151, Stop: 16020, Start Num: 3

Candidate Starts for Wawa_19:

(Start: 3 @15151 has 40 MA's), (22, 15238), (25, 15244), (70, 15565), (78, 15619), (83, 15640), (86, 15646), (92, 15685), (101, 15754), (108, 15814), (110, 15829), (119, 15877), (120, 15880), (131, 15955), (137, 15988),

Gene: Wayne_19 Start: 15248, Stop: 16129, Start Num: 3

Candidate Starts for Wayne_19:

(Start: 3 @15248 has 40 MA's), (25, 15341), (30, 15401), (40, 15479), (90, 15779), (96, 15815), (100, 15854), (107, 15920), (108, 15923), (110, 15938), (137, 16097),

Gene: Wyvern_25 Start: 16066, Stop: 16947, Start Num: 7

Candidate Starts for Wyvern_25:

(2, 16051), (Start: 7 @16066 has 5 MA's), (36, 16273), (51, 16360), (53, 16366), (55, 16372), (61, 16405), (73, 16507), (77, 16525), (94, 16606), (123, 16813), (128, 16849), (135, 16897), (138, 16915),

Gene: Zorro_19 Start: 15130, Stop: 15999, Start Num: 3

Candidate Starts for Zorro_19:

(Start: 3 @15130 has 40 MA's), (22, 15217), (25, 15223), (78, 15598), (83, 15619), (86, 15625), (91, 15652), (92, 15664), (101, 15733), (108, 15793), (110, 15808), (119, 15856), (131, 15934), (137, 15967),