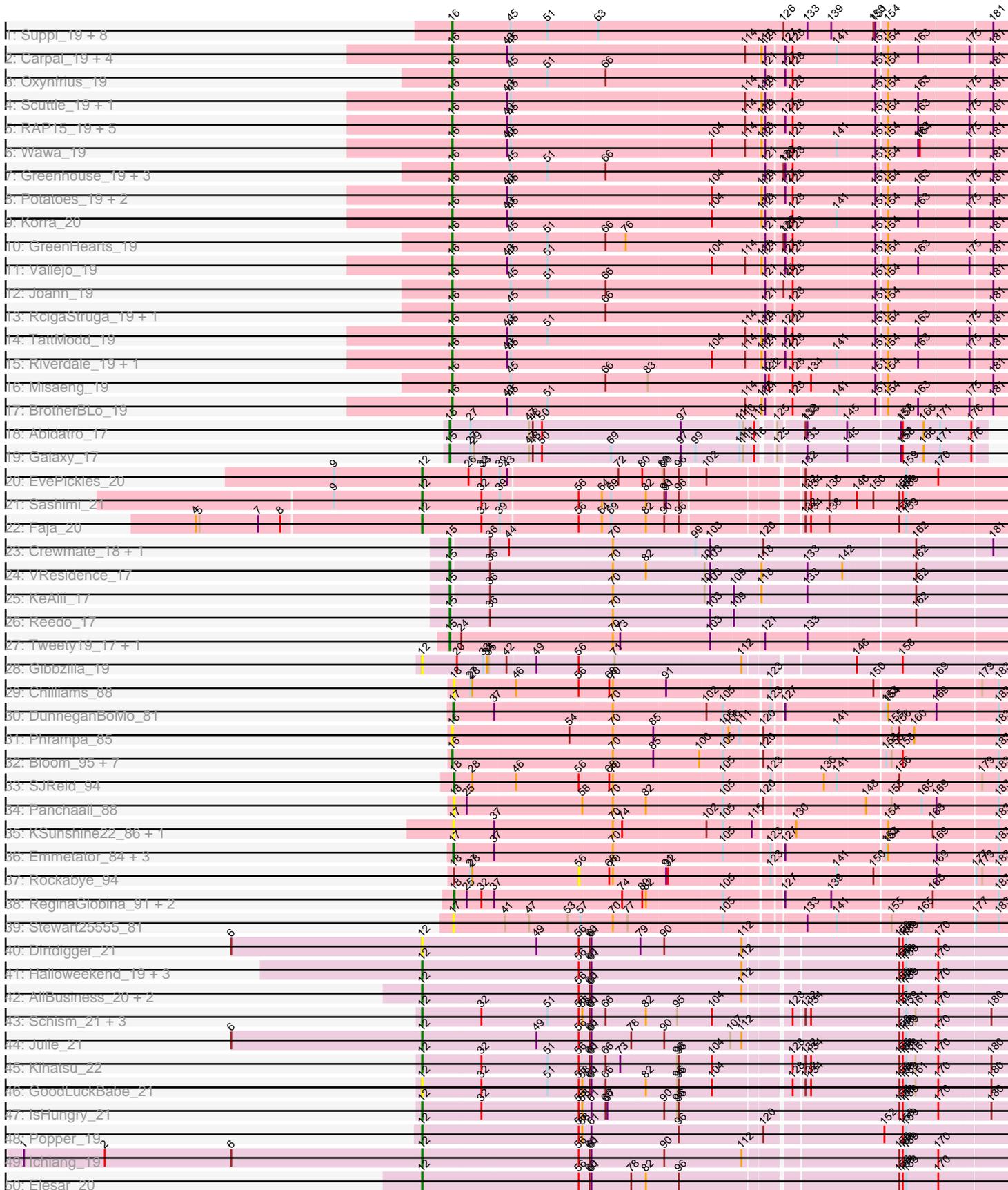
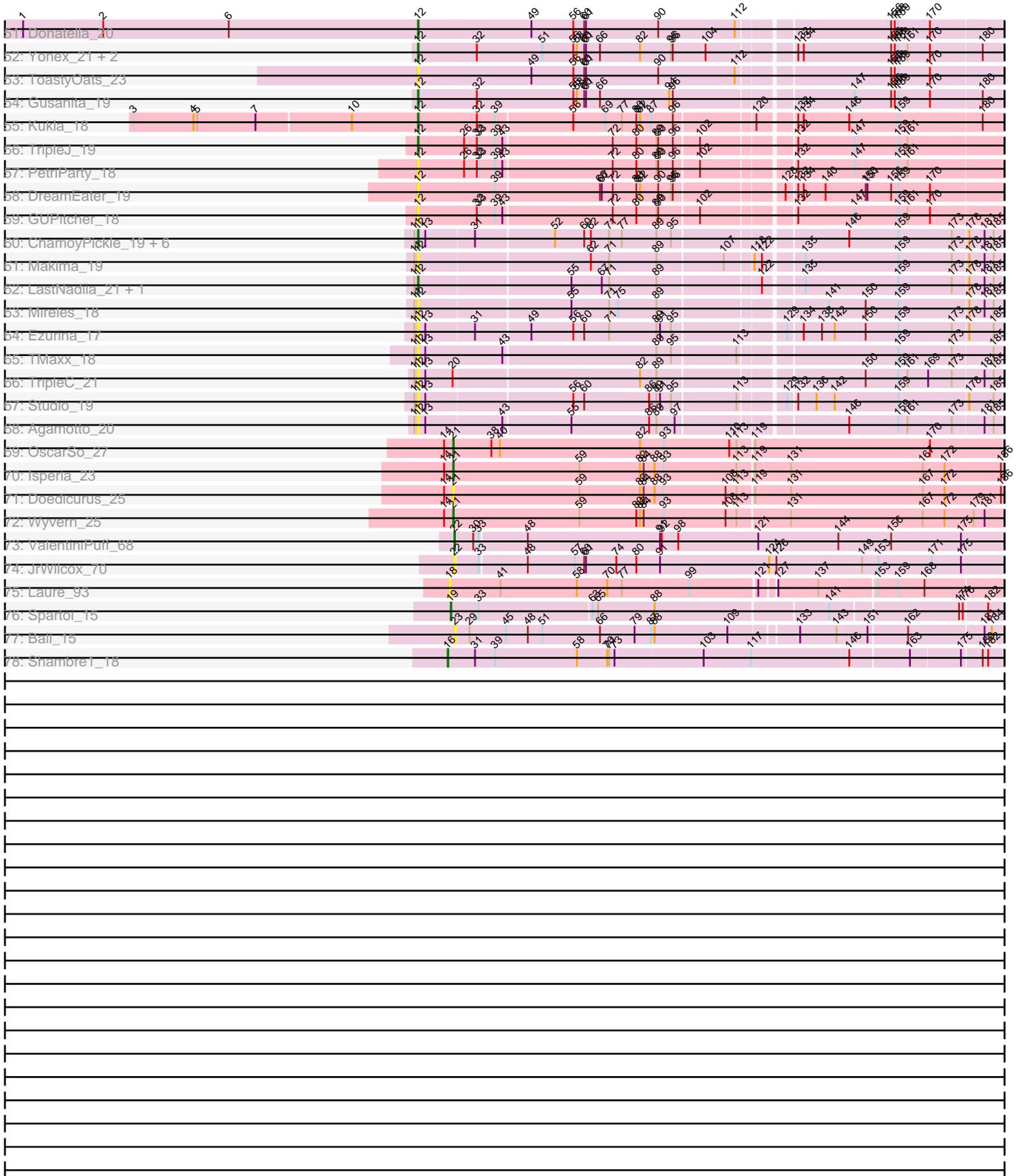


Pham 282059



Pham 282059



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 282059 Report

This analysis was run 02/23/26 on database version 636.

Pham number 282059 has 135 members, 48 are drafts.

Phages represented in each track:

- Track 1 : Suppi_19, Canowicakte_19, Litotes_19, Wayne_19, PartyCup_19, Graynor_19, MrBoss_19, CallieOMalley_19, AppleCider_19
- Track 2 : Carpal_19, Dino_19, Glenn_19, Kalizoi_19, Zorro_19
- Track 3 : Oxynfrius_19
- Track 4 : Scuttle_19, Beethoven_19
- Track 5 : RAP15_19, Fluke_19, Jumboset_19, Savage2526_19, MrGloopy_19, MeganNoll_19
- Track 6 : Wawa_19
- Track 7 : Greenhouse_19, Lakshmi_19, Albanese_19, Nubia_19
- Track 8 : Potatoes_19, Cholula_19, Immaculata_19
- Track 9 : Korra_20
- Track 10 : GreenHearts_19
- Track 11 : Vallejo_19
- Track 12 : Joann_19
- Track 13 : RcigaStruga_19, Huntingdon_19
- Track 14 : TattModd_19
- Track 15 : Riverdale_19, Rozby_19
- Track 16 : Misaeng_19
- Track 17 : BrotherBLo_19
- Track 18 : Abidatro_17
- Track 19 : Galaxy_17
- Track 20 : EvePickles_20
- Track 21 : Sashimi_21
- Track 22 : Faja_20
- Track 23 : Crewmate_18, ObiToo_17
- Track 24 : VResidence_17
- Track 25 : KeAlii_17
- Track 26 : Reedo_17
- Track 27 : Tweety19_17, Snek_17
- Track 28 : Gibbzilla_19
- Track 29 : Chilliams_88
- Track 30 : DunneganBoMo_81
- Track 31 : Phrampa_85
- Track 32 : Bloom_95, Patbob_92, Racecar_92, FloraSnap32_91, GoldenEssence_77, Talia1610_91, Mimi_91, FrostedClock_93
- Track 33 : SJReid_94
- Track 34 : Panchaali_88

- Track 35 : KSunshine22_86, Ellewin_83
- Track 36 : Emmetator_84, WaddleDee_79, BooTeria_88, Artu_84
- Track 37 : Rockabye_94
- Track 38 : ReginaGlobina_91, Atuin_86, LeoJr_91
- Track 39 : Stewart25555_81
- Track 40 : Dirdigger_21
- Track 41 : Halloweekend_19, QuinnAvery_21, Cole_19, BigSherm_20
- Track 42 : AllBusiness_20, Toodles_22, MillySue_21
- Track 43 : Schism_21, Guinevere_21, Nandita_21, Lenoxika_21
- Track 44 : Julie_21
- Track 45 : Kihatsu_22
- Track 46 : GoodLuckBabe_21
- Track 47 : IsHungry_21
- Track 48 : Popper_19
- Track 49 : Ichiang_19
- Track 50 : Elesar_20
- Track 51 : Donatella_20
- Track 52 : Yonex_21, Ryan_21, Zaheer_21
- Track 53 : ToastyOats_23
- Track 54 : Gusanita_19
- Track 55 : Kukla_18
- Track 56 : TripleJ_19
- Track 57 : PetriParty_18
- Track 58 : DreamEater_19
- Track 59 : GUPitcher_18
- Track 60 : ChamoyPickle_19, AnnabelLee_18, Gerri43_19, Neuville_18, CardboardBox_19, Roberts_18, ChipsNGuac_19
- Track 61 : Makima_19
- Track 62 : LastNadiia_21, Audell_21
- Track 63 : Mireles_18
- Track 64 : Ezurina_17
- Track 65 : TMaxx_18
- Track 66 : TripleC_21
- Track 67 : Studio_19
- Track 68 : Agamoto_20
- Track 69 : OscarSo_27
- Track 70 : Isperia_23
- Track 71 : Doedicurus_25
- Track 72 : Wyvern_25
- Track 73 : ValentiniPuff_68
- Track 74 : JrWilcox_70
- Track 75 : Laure_93
- Track 76 : Spatoi_15
- Track 77 : Ball_15
- Track 78 : Shambre1_18

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

The start number called the most often in the published annotations is 16, it was called in 45 of the 87 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Albanese_19, AppleCider_19, Beethoven_19, Bloom_95, BrotherBLo_19, CallieOMalley_19, Canowicakte_19, Carpal_19, Cholula_19, Dino_19, FloraSnap32_91, Fluke_19, FrostedClock_93, Glenn_19, GoldenEssence_77, Graynor_19, GreenHearts_19, Greenhouse_19, Huntingdon_19, Immaculata_19, Joann_19, Jumboset_19, Kalizoi_19, Korra_20, Lakshmi_19, Litotes_19, MeganNoll_19, Mimi_91, Misaeng_19, MrBoss_19, MrGloopy_19, Nubia_19, Oxynfrius_19, PartyCup_19, Patbob_92, Phrampa_85, Potatoes_19, RAP15_19, Racecar_92, RcigaStruga_19, Riverdale_19, Rozby_19, Savage2526_19, Scuttle_19, Shambre1_18, Suppi_19, Talia1610_91, 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, Agamoto_20, AllBusiness_20, AnnabelLee_18, Artu_84, Atuin_86, Audell_21, Ball_15, BigSherm_20, BooTeria_88, CardboardBox_19, ChamoyPickle_19, Chilliams_88, ChipsNGuac_19, Cole_19, Crewmate_18, Dirdigger_21, Doedicurus_25, Donatella_20, DreamEater_19, DunneganBoMo_81, Elesar_20, Ellewin_83, Emmetator_84, EvePickles_20, Ezurina_17, Faja_20, GUPitcher_18, Galaxy_17, Gerri43_19, Gibbzilla_19, GoodLuckBabe_21, Guinevere_21, Gusanita_19, Halloween_19, Ichiang_19, IsHungry_21, Isperia_23, JrWilcox_70, Julie_21, KSunshine22_86, KeAlii_17, Kihatsu_22, Kukla_18, LastNadiia_21, Laure_93, Lenoxika_21, LeoJr_91, Makima_19, MillySue_21, Mireles_18, Nandita_21, Neuville_18, ObiToo_17, OscarSo_27, Panchaali_88, PetriParty_18, Popper_19, QuinnAvery_21, Reedo_17, ReginaGlobina_91, Roberts_18, Rockabye_94, Ryan_21, SJReid_94, Sashimi_21, Schism_21, Snek_17, Spartoi_15, Stewart25555_81, Studio_19, TMaxx_18, ToastyOats_23, Toodles_22, TripleC_21, TripleJ_19, Tweety19_17, VResidence_17, ValentiniPuff_68, WaddleDee_79, Wyvern_25, Yonex_21, Zaheer_21,

Summary by start number:

Start 12:

- Found in 50 of 135 (37.0%) of genes in pham
- Manual Annotations of this start: 24 of 87
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Agamoto_20 (FR), AllBusiness_20 (FF), AnnabelLee_18 (FR), Audell_21 (FR), BigSherm_20 (FF), CardboardBox_19 (FR), ChamoyPickle_19 (FR), ChipsNGuac_19 (FR), Cole_19 (FF), Dirdigger_21 (FF), Donatella_20 (FF), DreamEater_19 (FJ), Elesar_20 (FF), EvePickles_20 (AY), Ezurina_17 (FR), Faja_20 (AY), GUPitcher_18 (FJ), Gerri43_19 (FR), Gibbzilla_19 (FB), GoodLuckBabe_21 (FF), Guinevere_21 (FF), Gusanita_19 (FF), Halloween_19 (FF), Ichiang_19 (FF), IsHungry_21 (FF), Julie_21 (FF), Kihatsu_22 (FF), Kukla_18 (FJ), LastNadiia_21 (FR), Lenoxika_21 (FF), Makima_19 (FR), MillySue_21 (FF), Mireles_18 (FR), Nandita_21 (FF), Neuville_18 (FR), PetriParty_18 (FJ), Popper_19 (FF), QuinnAvery_21 (FF), Roberts_18 (FR), Ryan_21 (FF), Sashimi_21 (AY), Schism_21 (FF), Studio_19 (FR), TMaxx_18 (FR), ToastyOats_23 (FF), Toodles_22 (FF), TripleC_21 (FR), TripleJ_19 (FJ), Yonex_21 (FF), Zaheer_21 (FF),

Start 15:

- Found in 9 of 135 (6.7%) of genes in pham
- Manual Annotations of this start: 9 of 87
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abidatro_17 (AS1), Crewmate_18 (AZ1), Galaxy_17 (AS1), KeAlii_17 (AZ1), ObiToo_17 (AZ1), Reedo_17 (AZ1), Snek_17 (AZ3), Tweety19_17 (AZ3), VResidence_17 (AZ1),

Start 16:

- Found in 52 of 135 (38.5%) of genes in pham
- Manual Annotations of this start: 45 of 87
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Albanese_19 (AK), AppleCider_19 (AK), Beethoven_19 (AK), Bloom_95 (FC), BrotherBlo_19 (AK), CallieOMalley_19 (AK), Canowicakte_19 (AK), Carpal_19 (AK), Cholula_19 (AK), Dino_19 (AK), FloraSnap32_91 (FC), Fluke_19 (AK), FrostedClock_93 (FC), Glenn_19 (AK), GoldenEssence_77 (FC), 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), Mimi_91 (FC), Misaeng_19 (AK), MrBoss_19 (AK), MrGloopy_19 (AK), Nubia_19 (AK), Oxynfrius_19 (AK), PartyCup_19 (AK), Patbob_92 (FC), Phrampa_85 (FC), Potatoes_19 (AK), RAP15_19 (AK), Racecar_92 (FC), RcigaStruga_19 (AK), Riverdale_19 (AK), Rozby_19 (AK), Savage2526_19 (AK), Scuttle_19 (AK), Shambre1_18 (singleton), Suppi_19 (AK), Talia1610_91 (FC), TattModd_19 (AK), Vallejo_19 (AK), Wawa_19 (AK), Wayne_19 (AK), Zorro_19 (AK),

Start 17:

- Found in 8 of 135 (5.9%) of genes in pham
- Manual Annotations of this start: 2 of 87
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Artu_84 (FC), BooTeria_88 (FC), DunneganBoMo_81 (FC), Ellewin_83 (FC), Emmetator_84 (FC), KSunshine22_86 (FC), Stewart25555_81 (FC), WaddleDee_79 (FC),

Start 18:

- Found in 8 of 135 (5.9%) of genes in pham
- Manual Annotations of this start: 2 of 87
- Called 87.5% of time when present
- Phage (with cluster) where this start called: Atuin_86 (FC), Chilliams_88 (FC), Laure_93 (UNK), LeoJr_91 (FC), Panchaali_88 (FC), ReginaGlobina_91 (FC), SJReid_94 (FC),

Start 19:

- Found in 1 of 135 (0.7%) of genes in pham
- Manual Annotations of this start: 1 of 87
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Spartoi_15 (singleton),

Start 21:

- Found in 4 of 135 (3.0%) of genes in pham
- Manual Annotations of this start: 3 of 87
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Doedicurus_25 (GJ), Isperia_23 (GJ), OscarSo_27 (GJ), Wyvern_25 (GJ),

Start 22:

- Found in 2 of 135 (1.5%) of genes in pham
- Manual Annotations of this start: 1 of 87
- Called 100.0% of time when present
- Phage (with cluster) where this start called: JrWilcox_70 (GL), ValentiniPuff_68 (GL),

Start 23:

- Found in 1 of 135 (0.7%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ball_15 (singleton),

Start 56:

- Found in 34 of 135 (25.2%) of genes in pham
- No Manual Annotations of this start.
- Called 2.9% of time when present
- Phage (with cluster) where this start called: Rockabye_94 (FC),

Summary by clusters:

There are 14 clusters represented in this pham: UNK, FR, GL, AK, singleton, FB, FC, FF, AY, AZ1, FJ, AZ3, AS1, GJ,

Info for manual annotations of cluster AK:

- Start number 16 was manually annotated 40 times for cluster AK.

Info for manual annotations of cluster AS1:

- Start number 15 was manually annotated 2 times for cluster AS1.

Info for manual annotations of cluster AY:

- Start number 12 was manually annotated 3 times for cluster AY.

Info for manual annotations of cluster AZ1:

- Start number 15 was manually annotated 5 times for cluster AZ1.

Info for manual annotations of cluster AZ3:

- Start number 15 was manually annotated 2 times for cluster AZ3.

Info for manual annotations of cluster FC:

- Start number 16 was manually annotated 4 times for cluster FC.
- Start number 17 was manually annotated 2 times for cluster FC.
- Start number 18 was manually annotated 2 times for cluster FC.

Info for manual annotations of cluster FF:

- Start number 12 was manually annotated 17 times for cluster FF.

Info for manual annotations of cluster FJ:

- Start number 12 was manually annotated 2 times for cluster FJ.

Info for manual annotations of cluster FR:

- Start number 12 was manually annotated 2 times for cluster FR.

Info for manual annotations of cluster GJ:

- Start number 21 was manually annotated 3 times for cluster GJ.

Info for manual annotations of cluster GL:

- Start number 22 was manually annotated 1 time for cluster GL.

Gene Information:

Gene: Abidatro_17 Start: 12853, Stop: 13671, Start Num: 15

Candidate Starts for Abidatro_17:

(Start: 15 @12853 has 9 MA's), (27, 12886), (47, 12979), (48, 12985), (50, 13000), (97, 13222), (111, 13315), (113, 13321), (116, 13336), (125, 13357), (132, 13396), (133, 13399), (145, 13462), (157, 13540), (158, 13543), (166, 13576), (171, 13600), (176, 13651),

Gene: Agamoto_20 Start: 14950, Stop: 15855, Start Num: 12

Candidate Starts for Agamoto_20:

(11, 14944), (Start: 12 @14950 has 24 MA's), (13, 14962), (43, 15082), (55, 15190), (86, 15310), (89, 15322), (97, 15352), (146, 15607), (159, 15688), (161, 15703), (173, 15775), (181, 15823), (185, 15838),

Gene: Albanese_19 Start: 15218, Stop: 16090, Start Num: 16

Candidate Starts for Albanese_19:

(Start: 16 @15218 has 45 MA's), (45, 15311), (51, 15371), (66, 15461), (121, 15716), (126, 15740), (127, 15743), (128, 15755), (151, 15884), (154, 15899), (181, 16058),

Gene: AllBusiness_20 Start: 15893, Stop: 16813, Start Num: 12

Candidate Starts for AllBusiness_20:

(Start: 12 @15893 has 24 MA's), (56, 16145), (60, 16160), (61, 16163), (112, 16403), (156, 16634), (158, 16640), (159, 16646), (170, 16697),

Gene: AnnabelLee_18 Start: 11910, Stop: 12815, Start Num: 12

Candidate Starts for AnnabelLee_18:

(11, 11904), (Start: 12 @11910 has 24 MA's), (13, 11922), (31, 12000), (52, 12123), (60, 12168), (62, 12177), (71, 12207), (77, 12228), (89, 12282), (95, 12306), (146, 12567), (159, 12648), (173, 12735), (178, 12759), (181, 12783), (185, 12798),

Gene: AppleCider_19 Start: 15167, Stop: 16048, Start Num: 16

Candidate Starts for AppleCider_19:

(Start: 16 @15167 has 45 MA's), (45, 15260), (51, 15320), (63, 15398), (126, 15698), (133, 15734), (139, 15773), (150, 15839), (151, 15842), (154, 15857), (181, 16016),

Gene: Artu_84 Start: 57307, Stop: 58158, Start Num: 17

Candidate Starts for Artu_84:

(Start: 17 @57307 has 2 MA's), (37, 57373), (70, 57559), (105, 57733), (123, 57799), (127, 57811), (153, 57961), (154, 57964), (169, 58039), (183, 58135),

Gene: Atuin_86 Start: 59949, Stop: 60800, Start Num: 18

Candidate Starts for Atuin_86:

(Start: 18 @59949 has 2 MA's), (25, 59970), (32, 59994), (37, 60015), (74, 60216), (80, 60249), (82, 60255), (105, 60375), (127, 60453), (139, 60525), (168, 60678), (183, 60777),

Gene: Audell_21 Start: 15231, Stop: 16136, Start Num: 12

Candidate Starts for Audell_21:

(11, 15225), (Start: 12 @15231 has 24 MA's), (55, 15471), (67, 15516), (71, 15528), (89, 15603), (122, 15762), (135, 15816), (159, 15969), (173, 16056), (178, 16080), (181, 16104), (185, 16119),

Gene: Ball_15 Start: 12363, Stop: 13217, Start Num: 23

Candidate Starts for Ball_15:

(23, 12363), (29, 12387), (45, 12447), (48, 12483), (51, 12507), (66, 12597), (79, 12654), (87, 12681), (88, 12687), (109, 12801), (133, 12897), (143, 12957), (151, 13005), (162, 13065), (181, 13185), (184, 13197),

Gene: Beethoven_19 Start: 15125, Stop: 15994, Start Num: 16

Candidate Starts for Beethoven_19:

(Start: 16 @15125 has 45 MA's), (43, 15212), (45, 15218), (114, 15593), (118, 15614), (121, 15620), (128, 15659), (151, 15788), (154, 15803), (163, 15851), (175, 15929), (181, 15962),

Gene: BigSherm_20 Start: 15821, Stop: 16741, Start Num: 12

Candidate Starts for BigSherm_20:

(Start: 12 @15821 has 24 MA's), (56, 16073), (60, 16088), (61, 16091), (112, 16331), (156, 16562), (158, 16568), (159, 16574), (170, 16625),

Gene: Bloom_95 Start: 60812, Stop: 61663, Start Num: 16

Candidate Starts for Bloom_95:

(Start: 16 @60812 has 45 MA's), (70, 61064), (85, 61130), (100, 61202), (105, 61238), (120, 61292), (153, 61466), (155, 61475), (158, 61493), (183, 61640),

Gene: BooTeria_88 Start: 57375, Stop: 58226, Start Num: 17

Candidate Starts for BooTeria_88:

(Start: 17 @57375 has 2 MA's), (37, 57441), (70, 57627), (105, 57801), (123, 57867), (127, 57879), (153, 58029), (154, 58032), (169, 58107), (183, 58203),

Gene: BrotherBLo_19 Start: 15131, Stop: 16000, Start Num: 16

Candidate Starts for BrotherBLo_19:

(Start: 16 @15131 has 45 MA's), (43, 15218), (45, 15224), (51, 15284), (114, 15599), (118, 15620), (121, 15626), (128, 15665), (141, 15734), (151, 15794), (154, 15809), (163, 15857), (175, 15935), (181, 15968),

Gene: CallieOMalley_19 Start: 15167, Stop: 16048, Start Num: 16

Candidate Starts for CallieOMalley_19:

(Start: 16 @15167 has 45 MA's), (45, 15260), (51, 15320), (63, 15398), (126, 15698), (133, 15734), (139, 15773), (150, 15839), (151, 15842), (154, 15857), (181, 16016),

Gene: Canowicakte_19 Start: 15202, Stop: 16083, Start Num: 16

Candidate Starts for Canowicakte_19:

(Start: 16 @15202 has 45 MA's), (45, 15295), (51, 15355), (63, 15433), (126, 15733), (133, 15769), (139, 15808), (150, 15874), (151, 15877), (154, 15892), (181, 16051),

Gene: CardboardBox_19 Start: 11910, Stop: 12815, Start Num: 12

Candidate Starts for CardboardBox_19:

(11, 11904), (Start: 12 @11910 has 24 MA's), (13, 11922), (31, 12000), (52, 12123), (60, 12168), (62, 12177), (71, 12207), (77, 12228), (89, 12282), (95, 12306), (146, 12567), (159, 12648), (173, 12735), (178, 12759), (181, 12783), (185, 12798),

Gene: Carpal_19 Start: 15132, Stop: 16001, Start Num: 16

Candidate Starts for Carpal_19:

(Start: 16 @15132 has 45 MA's), (43, 15219), (45, 15225), (114, 15600), (118, 15621), (121, 15627), (127, 15654), (128, 15666), (141, 15735), (151, 15795), (154, 15810), (163, 15858), (175, 15936), (181, 15969),

Gene: ChamoyPickle_19 Start: 11910, Stop: 12815, Start Num: 12

Candidate Starts for ChamoyPickle_19:

(11, 11904), (Start: 12 @11910 has 24 MA's), (13, 11922), (31, 12000), (52, 12123), (60, 12168), (62, 12177), (71, 12207), (77, 12228), (89, 12282), (95, 12306), (146, 12567), (159, 12648), (173, 12735), (178, 12759), (181, 12783), (185, 12798),

Gene: Chilliams_88 Start: 61239, Stop: 62090, Start Num: 18

Candidate Starts for Chilliams_88:

(Start: 18 @61239 has 2 MA's), (27, 61266), (28, 61269), (46, 61338), (56, 61440), (68, 61485), (70, 61491), (91, 61575), (123, 61731), (150, 61878), (169, 61971), (179, 62040), (183, 62067),

Gene: ChipsNGuac_19 Start: 11910, Stop: 12815, Start Num: 12

Candidate Starts for ChipsNGuac_19:

(11, 11904), (Start: 12 @11910 has 24 MA's), (13, 11922), (31, 12000), (52, 12123), (60, 12168), (62, 12177), (71, 12207), (77, 12228), (89, 12282), (95, 12306), (146, 12567), (159, 12648), (173, 12735), (178, 12759), (181, 12783), (185, 12798),

Gene: Cholula_19 Start: 15177, Stop: 16046, Start Num: 16

Candidate Starts for Cholula_19:

(Start: 16 @15177 has 45 MA's), (43, 15264), (45, 15270), (104, 15591), (118, 15666), (121, 15672), (127, 15699), (128, 15711), (151, 15840), (154, 15855), (163, 15903), (175, 15981), (181, 16014),

Gene: Cole_19 Start: 15483, Stop: 16403, Start Num: 12

Candidate Starts for Cole_19:

(Start: 12 @15483 has 24 MA's), (56, 15735), (60, 15750), (61, 15753), (112, 15993), (156, 16224), (158, 16230), (159, 16236), (170, 16287),

Gene: Crewmate_18 Start: 13486, Stop: 14358, Start Num: 15

Candidate Starts for Crewmate_18:

(Start: 15 @13486 has 9 MA's), (36, 13543), (44, 13573), (70, 13738), (99, 13870), (103, 13894), (120, 13972), (162, 14206), (181, 14326),

Gene: Dino_19 Start: 15130, Stop: 15999, Start Num: 16

Candidate Starts for Dino_19:

(Start: 16 @15130 has 45 MA's), (43, 15217), (45, 15223), (114, 15598), (118, 15619), (121, 15625), (127, 15652), (128, 15664), (141, 15733), (151, 15793), (154, 15808), (163, 15856), (175, 15934), (181, 15967),

Gene: Dirdigger_21 Start: 15801, Stop: 16721, Start Num: 12

Candidate Starts for Dirdigger_21:

(6, 15489), (Start: 12 @15801 has 24 MA's), (49, 15984), (56, 16053), (60, 16068), (61, 16071), (79, 16146), (90, 16185), (112, 16311), (156, 16542), (158, 16548), (159, 16554), (170, 16605),

Gene: Doedicurus_25 Start: 15959, Stop: 16837, Start Num: 21

Candidate Starts for Doedicurus_25:

(14, 15944), (Start: 21 @15959 has 3 MA's), (59, 16163), (82, 16256), (84, 16262), (88, 16280), (93, 16295), (108, 16397), (113, 16415), (119, 16439), (131, 16496), (167, 16703), (172, 16739), (186, 16832),

Gene: Donatella_20 Start: 15947, Stop: 16867, Start Num: 12

Candidate Starts for Donatella_20:

(1, 15296), (2, 15428), (6, 15635), (Start: 12 @15947 has 24 MA's), (49, 16130), (56, 16199), (60, 16214), (61, 16217), (90, 16331), (112, 16457), (156, 16688), (158, 16694), (159, 16700), (170, 16751),

Gene: DreamEater_19 Start: 15472, Stop: 16380, Start Num: 12

Candidate Starts for DreamEater_19:

(Start: 12 @15472 has 24 MA's), (39, 15595), (66, 15757), (67, 15760), (72, 15778), (80, 15814), (81, 15817), (82, 15820), (90, 15850), (95, 15871), (96, 15874), (128, 16033), (132, 16048), (134, 16057), (140, 16093), (150, 16159), (151, 16162), (156, 16201), (159, 16213), (170, 16264),

Gene: DunneganBoMo_81 Start: 56806, Stop: 57657, Start Num: 17

Candidate Starts for DunneganBoMo_81:

(Start: 17 @56806 has 2 MA's), (37, 56872), (70, 57058), (102, 57205), (105, 57232), (123, 57298), (127, 57310), (153, 57460), (154, 57463), (169, 57538), (183, 57634),

Gene: Elesar_20 Start: 15874, Stop: 16794, Start Num: 12

Candidate Starts for Elesar_20:

(Start: 12 @15874 has 24 MA's), (56, 16126), (60, 16141), (61, 16144), (78, 16207), (82, 16228), (96, 16282), (156, 16615), (158, 16621), (159, 16627), (170, 16678),

Gene: Ellewin_83 Start: 56395, Stop: 57246, Start Num: 17

Candidate Starts for Ellewin_83:

(Start: 17 @56395 has 2 MA's), (37, 56461), (70, 56647), (74, 56662), (102, 56794), (105, 56821), (115, 56863), (130, 56917), (154, 57052), (168, 57124), (183, 57223),

Gene: Emmetator_84 Start: 57640, Stop: 58491, Start Num: 17

Candidate Starts for Emmetator_84:

(Start: 17 @57640 has 2 MA's), (37, 57706), (70, 57892), (105, 58066), (123, 58132), (127, 58144), (153, 58294), (154, 58297), (169, 58372), (183, 58468),

Gene: EvePickles_20 Start: 15163, Stop: 16071, Start Num: 12

Candidate Starts for EvePickles_20:

(9, 15019), (Start: 12 @15163 has 24 MA's), (26, 15238), (32, 15259), (33, 15262), (39, 15286), (43, 15298), (72, 15469), (80, 15505), (89, 15538), (90, 15541), (96, 15565), (102, 15604), (132, 15739), (159, 15904), (170, 15955),

Gene: Ezurina_17 Start: 11479, Stop: 12387, Start Num: 12

Candidate Starts for Ezurina_17:

(11, 11473), (Start: 12 @11479 has 24 MA's), (13, 11491), (31, 11569), (49, 11656), (56, 11725), (60, 11740), (71, 11779), (89, 11854), (91, 11860), (95, 11878), (129, 12043), (134, 12064), (138, 12094), (142, 12115), (150, 12166), (159, 12220), (173, 12307), (178, 12331), (185, 12370),

Gene: Faja_20 Start: 15058, Stop: 15966, Start Num: 12

Candidate Starts for Faja_20:

(4, 14695), (5, 14701), (7, 14797), (8, 14833), (Start: 12 @15058 has 24 MA's), (32, 15154), (39, 15181), (56, 15304), (64, 15337), (69, 15352), (82, 15406), (90, 15436), (96, 15460), (132, 15634), (134, 15643), (138, 15673), (156, 15787), (159, 15799),

Gene: FloraSnap32_91 Start: 59852, Stop: 60703, Start Num: 16

Candidate Starts for FloraSnap32_91:

(Start: 16 @59852 has 45 MA's), (70, 60104), (85, 60170), (100, 60242), (105, 60278), (120, 60332), (153, 60506), (155, 60515), (158, 60533), (183, 60680),

Gene: Fluke_19 Start: 15173, Stop: 16042, Start Num: 16

Candidate Starts for Fluke_19:

(Start: 16 @15173 has 45 MA's), (43, 15260), (45, 15266), (114, 15641), (118, 15662), (121, 15668), (127, 15695), (128, 15707), (151, 15836), (154, 15851), (163, 15899), (175, 15977), (181, 16010),

Gene: FrostedClock_93 Start: 60300, Stop: 61151, Start Num: 16

Candidate Starts for FrostedClock_93:

(Start: 16 @60300 has 45 MA's), (70, 60552), (85, 60618), (100, 60690), (105, 60726), (120, 60780), (153, 60954), (155, 60963), (158, 60981), (183, 61128),

Gene: GUPitcher_18 Start: 14815, Stop: 15723, Start Num: 12

Candidate Starts for GUPitcher_18:

(Start: 12 @14815 has 24 MA's), (32, 14911), (33, 14914), (39, 14938), (43, 14950), (72, 15121), (80, 15157), (89, 15190), (90, 15193), (102, 15256), (132, 15391), (147, 15484), (159, 15556), (161, 15571), (170, 15607),

Gene: Galaxy_17 Start: 12859, Stop: 13677, Start Num: 15

Candidate Starts for Galaxy_17:

(Start: 15 @12859 has 9 MA's), (27, 12892), (29, 12898), (47, 12985), (48, 12991), (50, 13006), (69, 13114), (97, 13228), (99, 13249), (111, 13321), (113, 13327), (116, 13342), (125, 13363), (133, 13405), (145, 13468), (157, 13546), (158, 13549), (166, 13582), (171, 13606), (176, 13657),

Gene: Gerri43_19 Start: 11910, Stop: 12815, Start Num: 12

Candidate Starts for Gerri43_19:

(11, 11904), (Start: 12 @11910 has 24 MA's), (13, 11922), (31, 12000), (52, 12123), (60, 12168), (62, 12177), (71, 12207), (77, 12228), (89, 12282), (95, 12306), (146, 12567), (159, 12648), (173, 12735), (178, 12759), (181, 12783), (185, 12798),

Gene: Gibbzilla_19 Start: 12866, Stop: 13765, Start Num: 12

Candidate Starts for Gibbzilla_19:

(Start: 12 @12866 has 24 MA's), (20, 12923), (33, 12959), (34, 12965), (35, 12968), (42, 12992), (49, 13034), (56, 13103), (71, 13157), (112, 13355), (146, 13517), (158, 13592),

Gene: Glenn_19 Start: 15182, Stop: 16051, Start Num: 16

Candidate Starts for Glenn_19:

(Start: 16 @15182 has 45 MA's), (43, 15269), (45, 15275), (114, 15650), (118, 15671), (121, 15677), (127, 15704), (128, 15716), (141, 15785), (151, 15845), (154, 15860), (163, 15908), (175, 15986), (181, 16019),

Gene: GoldenEssence_77 Start: 54608, Stop: 55459, Start Num: 16

Candidate Starts for GoldenEssence_77:

(Start: 16 @54608 has 45 MA's), (70, 54860), (85, 54926), (100, 54998), (105, 55034), (120, 55088), (153, 55262), (155, 55271), (158, 55289), (183, 55436),

Gene: GoodLuckBabe_21 Start: 15778, Stop: 16698, Start Num: 12

Candidate Starts for GoodLuckBabe_21:

(Start: 12 @15778 has 24 MA's), (32, 15874), (51, 15979), (56, 16030), (58, 16036), (60, 16045), (61, 16048), (66, 16069), (82, 16132), (95, 16183), (96, 16186), (104, 16240), (128, 16351), (132, 16366), (134, 16375), (156, 16519), (158, 16525), (159, 16531), (161, 16546), (170, 16582), (180, 16663),

Gene: Graynor_19 Start: 15188, Stop: 16069, Start Num: 16

Candidate Starts for Graynor_19:

(Start: 16 @15188 has 45 MA's), (45, 15281), (51, 15341), (63, 15419), (126, 15719), (133, 15755), (139, 15794), (150, 15860), (151, 15863), (154, 15878), (181, 16037),

Gene: GreenHearts_19 Start: 15265, Stop: 16137, Start Num: 16

Candidate Starts for GreenHearts_19:

(Start: 16 @15265 has 45 MA's), (45, 15358), (51, 15418), (66, 15508), (76, 15541), (121, 15763), (126, 15787), (127, 15790), (128, 15802), (151, 15931), (154, 15946), (181, 16105),

Gene: Greenhouse_19 Start: 15189, Stop: 16061, Start Num: 16

Candidate Starts for Greenhouse_19:

(Start: 16 @15189 has 45 MA's), (45, 15282), (51, 15342), (66, 15432), (121, 15687), (126, 15711), (127, 15714), (128, 15726), (151, 15855), (154, 15870), (181, 16029),

Gene: Guinevere_21 Start: 15809, Stop: 16729, Start Num: 12

Candidate Starts for Guinevere_21:

(Start: 12 @15809 has 24 MA's), (32, 15905), (51, 16010), (56, 16061), (58, 16067), (60, 16076), (61, 16079), (66, 16100), (82, 16163), (95, 16214), (104, 16271), (128, 16382), (132, 16397), (134, 16406), (156, 16550), (159, 16562), (161, 16577), (170, 16613), (180, 16694),

Gene: Gusanita_19 Start: 15698, Stop: 16618, Start Num: 12

Candidate Starts for Gusanita_19:

(Start: 12 @15698 has 24 MA's), (32, 15794), (56, 15950), (58, 15956), (60, 15965), (61, 15968), (66, 15989), (94, 16100), (96, 16106), (147, 16379), (156, 16439), (158, 16445), (159, 16451), (170, 16502), (180, 16583),

Gene: Halloweekend_19 Start: 15447, Stop: 16367, Start Num: 12

Candidate Starts for Halloweekend_19:

(Start: 12 @15447 has 24 MA's), (56, 15699), (60, 15714), (61, 15717), (112, 15957), (156, 16188), (158, 16194), (159, 16200), (170, 16251),

Gene: Huntingdon_19 Start: 15175, Stop: 16047, Start Num: 16

Candidate Starts for Huntingdon_19:

(Start: 16 @15175 has 45 MA's), (45, 15268), (66, 15418), (121, 15673), (128, 15712), (151, 15841), (154, 15856), (181, 16015),

Gene: Ichiang_19 Start: 15464, Stop: 16384, Start Num: 12

Candidate Starts for Ichiang_19:

(1, 14813), (2, 14945), (6, 15152), (Start: 12 @15464 has 24 MA's), (56, 15716), (60, 15731), (61, 15734), (90, 15848), (112, 15974), (156, 16205), (158, 16211), (159, 16217), (170, 16268),

Gene: Immaculata_19 Start: 15176, Stop: 16045, Start Num: 16

Candidate Starts for Immaculata_19:

(Start: 16 @15176 has 45 MA's), (43, 15263), (45, 15269), (104, 15590), (118, 15665), (121, 15671), (127, 15698), (128, 15710), (151, 15839), (154, 15854), (163, 15902), (175, 15980), (181, 16013),

Gene: IsHungry_21 Start: 15775, Stop: 16695, Start Num: 12

Candidate Starts for IsHungry_21:

(Start: 12 @15775 has 24 MA's), (32, 15871), (56, 16027), (58, 16033), (61, 16045), (66, 16066), (67, 16069), (90, 16159), (95, 16180), (96, 16183), (156, 16516), (158, 16522), (159, 16528), (170, 16579), (180, 16660),

Gene: Isperia_23 Start: 15256, Stop: 16134, Start Num: 21

Candidate Starts for Isperia_23:

(14, 15241), (Start: 21 @15256 has 3 MA's), (59, 15460), (82, 15553), (84, 15559), (88, 15577), (93, 15592), (113, 15712), (119, 15736), (131, 15793), (167, 16000), (172, 16036), (186, 16129),

Gene: Joann_19 Start: 15169, Stop: 16041, Start Num: 16

Candidate Starts for Joann_19:

(Start: 16 @15169 has 45 MA's), (45, 15262), (51, 15322), (66, 15412), (121, 15667), (126, 15691), (128, 15706), (151, 15835), (154, 15850), (181, 16009),

Gene: JrWilcox_70 Start: 35777, Stop: 36652, Start Num: 22

Candidate Starts for JrWilcox_70:

(Start: 22 @35777 has 1 MA's), (33, 35813), (48, 35885), (57, 35963), (60, 35978), (61, 35981), (74, 36029), (80, 36059), (91, 36098), (124, 36278), (126, 36290), (149, 36422), (153, 36446), (171, 36533), (175, 36581),

Gene: Julie_21 Start: 16037, Stop: 16957, Start Num: 12

Candidate Starts for Julie_21:

(6, 15725), (Start: 12 @16037 has 24 MA's), (49, 16220), (56, 16289), (60, 16304), (61, 16307), (78, 16370), (90, 16421), (107, 16529), (112, 16547), (156, 16778), (158, 16784), (159, 16790), (170, 16841),

Gene: Jumboset_19 Start: 15125, Stop: 15994, Start Num: 16

Candidate Starts for Jumboset_19:

(Start: 16 @15125 has 45 MA's), (43, 15212), (45, 15218), (114, 15593), (118, 15614), (121, 15620), (127, 15647), (128, 15659), (151, 15788), (154, 15803), (163, 15851), (175, 15929), (181, 15962),

Gene: KSunshine22_86 Start: 58028, Stop: 58879, Start Num: 17

Candidate Starts for KSunshine22_86:

(Start: 17 @58028 has 2 MA's), (37, 58094), (70, 58280), (74, 58295), (102, 58427), (105, 58454), (115, 58496), (130, 58550), (154, 58685), (168, 58757), (183, 58856),

Gene: Kalizoi_19 Start: 15124, Stop: 15993, Start Num: 16

Candidate Starts for Kalizoi_19:

(Start: 16 @15124 has 45 MA's), (43, 15211), (45, 15217), (114, 15592), (118, 15613), (121, 15619), (127, 15646), (128, 15658), (141, 15727), (151, 15787), (154, 15802), (163, 15850), (175, 15928), (181, 15961),

Gene: KeAlii_17 Start: 13071, Stop: 13943, Start Num: 15

Candidate Starts for KeAlii_17:

(Start: 15 @13071 has 9 MA's), (36, 13128), (70, 13323), (101, 13470), (103, 13479), (109, 13515), (118, 13554), (133, 13626), (162, 13791),

Gene: Kihatsu_22 Start: 16131, Stop: 17051, Start Num: 12

Candidate Starts for Kihatsu_22:

(Start: 12 @16131 has 24 MA's), (32, 16227), (51, 16332), (56, 16383), (60, 16398), (61, 16401), (66, 16422), (73, 16446), (95, 16536), (96, 16539), (104, 16593), (128, 16704), (132, 16719), (134, 16728),

(156, 16872), (158, 16878), (159, 16884), (161, 16899), (170, 16935), (180, 17016),

Gene: Korra_20 Start: 15130, Stop: 15999, Start Num: 16

Candidate Starts for Korra_20:

(Start: 16 @15130 has 45 MA's), (43, 15217), (45, 15223), (104, 15544), (118, 15619), (121, 15625), (128, 15664), (141, 15733), (151, 15793), (154, 15808), (163, 15856), (175, 15934), (181, 15967),

Gene: Kukla_18 Start: 14545, Stop: 15453, Start Num: 12

Candidate Starts for Kukla_18:

(3, 14086), (4, 14185), (5, 14191), (7, 14287), (10, 14437), (Start: 12 @14545 has 24 MA's), (32, 14641), (39, 14668), (56, 14791), (69, 14839), (77, 14866), (80, 14887), (81, 14890), (82, 14893), (87, 14911), (96, 14947), (120, 15070), (132, 15121), (134, 15130), (146, 15205), (159, 15286), (180, 15418),

Gene: Lakshmi_19 Start: 15194, Stop: 16066, Start Num: 16

Candidate Starts for Lakshmi_19:

(Start: 16 @15194 has 45 MA's), (45, 15287), (51, 15347), (66, 15437), (121, 15692), (126, 15716), (127, 15719), (128, 15731), (151, 15860), (154, 15875), (181, 16034),

Gene: LastNadiia_21 Start: 14183, Stop: 15088, Start Num: 12

Candidate Starts for LastNadiia_21:

(11, 14177), (Start: 12 @14183 has 24 MA's), (55, 14423), (67, 14468), (71, 14480), (89, 14555), (122, 14714), (135, 14768), (159, 14921), (173, 15008), (178, 15032), (181, 15056), (185, 15071),

Gene: Laure_93 Start: 59200, Stop: 60060, Start Num: 18

Candidate Starts for Laure_93:

(Start: 18 @59200 has 2 MA's), (41, 59284), (58, 59410), (70, 59455), (77, 59479), (99, 59587), (121, 59689), (127, 59710), (137, 59776), (153, 59863), (159, 59896), (168, 59938),

Gene: Lenoxika_21 Start: 15805, Stop: 16725, Start Num: 12

Candidate Starts for Lenoxika_21:

(Start: 12 @15805 has 24 MA's), (32, 15901), (51, 16006), (56, 16057), (58, 16063), (60, 16072), (61, 16075), (66, 16096), (82, 16159), (95, 16210), (104, 16267), (128, 16378), (132, 16393), (134, 16402), (156, 16546), (159, 16558), (161, 16573), (170, 16609), (180, 16690),

Gene: LeoJr_91 Start: 60077, Stop: 60928, Start Num: 18

Candidate Starts for LeoJr_91:

(Start: 18 @60077 has 2 MA's), (25, 60098), (32, 60122), (37, 60143), (74, 60344), (80, 60377), (82, 60383), (105, 60503), (127, 60581), (139, 60653), (168, 60806), (183, 60905),

Gene: Litotes_19 Start: 15152, Stop: 16033, Start Num: 16

Candidate Starts for Litotes_19:

(Start: 16 @15152 has 45 MA's), (45, 15245), (51, 15305), (63, 15383), (126, 15683), (133, 15719), (139, 15758), (150, 15824), (151, 15827), (154, 15842), (181, 16001),

Gene: Makima_19 Start: 13266, Stop: 14171, Start Num: 12

Candidate Starts for Makima_19:

(11, 13260), (Start: 12 @13266 has 24 MA's), (62, 13533), (71, 13563), (89, 13638), (107, 13743), (118, 13785), (122, 13797), (135, 13851), (159, 14004), (173, 14091), (178, 14115), (181, 14139), (185, 14154),

Gene: MeganNoll_19 Start: 15182, Stop: 16051, Start Num: 16

Candidate Starts for MeganNoll_19:

(Start: 16 @15182 has 45 MA's), (43, 15269), (45, 15275), (114, 15650), (118, 15671), (121, 15677), (127, 15704), (128, 15716), (151, 15845), (154, 15860), (163, 15908), (175, 15986), (181, 16019),

Gene: MillySue_21 Start: 15823, Stop: 16743, Start Num: 12

Candidate Starts for MillySue_21:

(Start: 12 @15823 has 24 MA's), (56, 16075), (60, 16090), (61, 16093), (112, 16333), (156, 16564), (158, 16570), (159, 16576), (170, 16627),

Gene: Mimi_91 Start: 60159, Stop: 61010, Start Num: 16

Candidate Starts for Mimi_91:

(Start: 16 @60159 has 45 MA's), (70, 60411), (85, 60477), (100, 60549), (105, 60585), (120, 60639), (153, 60813), (155, 60822), (158, 60840), (183, 60987),

Gene: Mireles_18 Start: 11674, Stop: 12579, Start Num: 12

Candidate Starts for Mireles_18:

(11, 11668), (Start: 12 @11674 has 24 MA's), (55, 11914), (71, 11971), (75, 11986), (89, 12046), (141, 12298), (150, 12358), (159, 12412), (178, 12523), (181, 12547), (185, 12562),

Gene: Misaeng_19 Start: 15239, Stop: 16111, Start Num: 16

Candidate Starts for Misaeng_19:

(Start: 16 @15239 has 45 MA's), (45, 15332), (66, 15482), (83, 15551), (121, 15737), (122, 15743), (128, 15776), (134, 15803), (151, 15905), (154, 15920), (181, 16079),

Gene: MrBoss_19 Start: 15152, Stop: 16033, Start Num: 16

Candidate Starts for MrBoss_19:

(Start: 16 @15152 has 45 MA's), (45, 15245), (51, 15305), (63, 15383), (126, 15683), (133, 15719), (139, 15758), (150, 15824), (151, 15827), (154, 15842), (181, 16001),

Gene: MrGloopy_19 Start: 15116, Stop: 15985, Start Num: 16

Candidate Starts for MrGloopy_19:

(Start: 16 @15116 has 45 MA's), (43, 15203), (45, 15209), (114, 15584), (118, 15605), (121, 15611), (127, 15638), (128, 15650), (151, 15779), (154, 15794), (163, 15842), (175, 15920), (181, 15953),

Gene: Nandita_21 Start: 15809, Stop: 16729, Start Num: 12

Candidate Starts for Nandita_21:

(Start: 12 @15809 has 24 MA's), (32, 15905), (51, 16010), (56, 16061), (58, 16067), (60, 16076), (61, 16079), (66, 16100), (82, 16163), (95, 16214), (104, 16271), (128, 16382), (132, 16397), (134, 16406), (156, 16550), (159, 16562), (161, 16577), (170, 16613), (180, 16694),

Gene: Neuville_18 Start: 11910, Stop: 12815, Start Num: 12

Candidate Starts for Neuville_18:

(11, 11904), (Start: 12 @11910 has 24 MA's), (13, 11922), (31, 12000), (52, 12123), (60, 12168), (62, 12177), (71, 12207), (77, 12228), (89, 12282), (95, 12306), (146, 12567), (159, 12648), (173, 12735), (178, 12759), (181, 12783), (185, 12798),

Gene: Nubia_19 Start: 15154, Stop: 16026, Start Num: 16

Candidate Starts for Nubia_19:

(Start: 16 @15154 has 45 MA's), (45, 15247), (51, 15307), (66, 15397), (121, 15652), (126, 15676), (127, 15679), (128, 15691), (151, 15820), (154, 15835), (181, 15994),

Gene: ObiToo_17 Start: 13223, Stop: 14095, Start Num: 15

Candidate Starts for ObiToo_17:

(Start: 15 @13223 has 9 MA's), (36, 13280), (44, 13310), (70, 13475), (99, 13607), (103, 13631), (120, 13709), (162, 13943), (181, 14063),

Gene: OscarSo_27 Start: 17801, Stop: 18682, Start Num: 21

Candidate Starts for OscarSo_27:

(14, 17786), (Start: 21 @17801 has 3 MA's), (38, 17864), (40, 17876), (82, 18098), (93, 18137), (110, 18245), (113, 18257), (119, 18281), (170, 18560),

Gene: Oxynfrius_19 Start: 15167, Stop: 16039, Start Num: 16

Candidate Starts for Oxynfrius_19:

(Start: 16 @15167 has 45 MA's), (45, 15260), (51, 15320), (66, 15410), (121, 15665), (127, 15692), (128, 15704), (151, 15833), (154, 15848), (181, 16007),

Gene: Panchaali_88 Start: 57905, Stop: 58756, Start Num: 18

Candidate Starts for Panchaali_88:

(Start: 18 @57905 has 2 MA's), (25, 57926), (58, 58112), (70, 58157), (82, 58211), (105, 58331), (120, 58385), (148, 58532), (155, 58568), (165, 58616), (169, 58637), (183, 58733),

Gene: PartyCup_19 Start: 15199, Stop: 16080, Start Num: 16

Candidate Starts for PartyCup_19:

(Start: 16 @15199 has 45 MA's), (45, 15292), (51, 15352), (63, 15430), (126, 15730), (133, 15766), (139, 15805), (150, 15871), (151, 15874), (154, 15889), (181, 16048),

Gene: Patbob_92 Start: 61031, Stop: 61882, Start Num: 16

Candidate Starts for Patbob_92:

(Start: 16 @61031 has 45 MA's), (70, 61283), (85, 61349), (100, 61421), (105, 61457), (120, 61511), (153, 61685), (155, 61694), (158, 61712), (183, 61859),

Gene: PetriParty_18 Start: 15448, Stop: 16356, Start Num: 12

Candidate Starts for PetriParty_18:

(Start: 12 @15448 has 24 MA's), (26, 15523), (32, 15544), (33, 15547), (39, 15571), (43, 15583), (72, 15754), (80, 15790), (89, 15823), (90, 15826), (96, 15850), (102, 15889), (132, 16024), (147, 16117), (159, 16189), (161, 16204),

Gene: Phrampa_85 Start: 58344, Stop: 59195, Start Num: 16

Candidate Starts for Phrampa_85:

(Start: 16 @58344 has 45 MA's), (54, 58530), (70, 58596), (85, 58662), (105, 58770), (106, 58779), (111, 58797), (120, 58824), (141, 58929), (155, 59007), (156, 59019), (160, 59043), (183, 59172),

Gene: Popper_19 Start: 15336, Stop: 16256, Start Num: 12

Candidate Starts for Popper_19:

(Start: 12 @15336 has 24 MA's), (56, 15588), (58, 15594), (61, 15606), (96, 15744), (120, 15873), (152, 16053), (158, 16083), (159, 16089),

Gene: Potatoes_19 Start: 15177, Stop: 16046, Start Num: 16

Candidate Starts for Potatoes_19:

(Start: 16 @15177 has 45 MA's), (43, 15264), (45, 15270), (104, 15591), (118, 15666), (121, 15672), (127, 15699), (128, 15711), (151, 15840), (154, 15855), (163, 15903), (175, 15981), (181, 16014),

Gene: QuinnAvery_21 Start: 15821, Stop: 16741, Start Num: 12

Candidate Starts for QuinnAvery_21:

(Start: 12 @15821 has 24 MA's), (56, 16073), (60, 16088), (61, 16091), (112, 16331), (156, 16562), (158, 16568), (159, 16574), (170, 16625),

Gene: RAP15_19 Start: 15182, Stop: 16051, Start Num: 16

Candidate Starts for RAP15_19:

(Start: 16 @15182 has 45 MA's), (43, 15269), (45, 15275), (114, 15650), (118, 15671), (121, 15677), (127, 15704), (128, 15716), (151, 15845), (154, 15860), (163, 15908), (175, 15986), (181, 16019),

Gene: Racecar_92 Start: 60812, Stop: 61663, Start Num: 16

Candidate Starts for Racecar_92:

(Start: 16 @60812 has 45 MA's), (70, 61064), (85, 61130), (100, 61202), (105, 61238), (120, 61292), (153, 61466), (155, 61475), (158, 61493), (183, 61640),

Gene: RcigaStruga_19 Start: 15175, Stop: 16047, Start Num: 16

Candidate Starts for RcigaStruga_19:

(Start: 16 @15175 has 45 MA's), (45, 15268), (66, 15418), (121, 15673), (128, 15712), (151, 15841), (154, 15856), (181, 16015),

Gene: Reedo_17 Start: 13087, Stop: 13962, Start Num: 15

Candidate Starts for Reedo_17:

(Start: 15 @13087 has 9 MA's), (36, 13147), (70, 13342), (103, 13498), (109, 13534), (162, 13810),

Gene: ReginaGlobina_91 Start: 60830, Stop: 61681, Start Num: 18

Candidate Starts for ReginaGlobina_91:

(Start: 18 @60830 has 2 MA's), (25, 60851), (32, 60875), (37, 60896), (74, 61097), (80, 61130), (82, 61136), (105, 61256), (127, 61334), (139, 61406), (168, 61559), (183, 61658),

Gene: Riverdale_19 Start: 15112, Stop: 15981, Start Num: 16

Candidate Starts for Riverdale_19:

(Start: 16 @15112 has 45 MA's), (43, 15199), (45, 15205), (104, 15526), (114, 15580), (118, 15601), (121, 15607), (127, 15634), (128, 15646), (141, 15715), (151, 15775), (154, 15790), (163, 15838), (175, 15916), (181, 15949),

Gene: Roberts_18 Start: 11910, Stop: 12815, Start Num: 12

Candidate Starts for Roberts_18:

(11, 11904), (Start: 12 @11910 has 24 MA's), (13, 11922), (31, 12000), (52, 12123), (60, 12168), (62, 12177), (71, 12207), (77, 12228), (89, 12282), (95, 12306), (146, 12567), (159, 12648), (173, 12735), (178, 12759), (181, 12783), (185, 12798),

Gene: Rockabye_94 Start: 61799, Stop: 62449, Start Num: 56

Candidate Starts for Rockabye_94:

(Start: 18 @61598 has 2 MA's), (27, 61625), (28, 61628), (56, 61799), (68, 61844), (70, 61850), (91, 61934), (92, 61937), (123, 62090), (141, 62183), (150, 62237), (169, 62330), (177, 62390), (179, 62399), (183, 62426),

Gene: Rozby_19 Start: 15113, Stop: 15982, Start Num: 16

Candidate Starts for Rozby_19:

(Start: 16 @15113 has 45 MA's), (43, 15200), (45, 15206), (104, 15527), (114, 15581), (118, 15602), (121, 15608), (127, 15635), (128, 15647), (141, 15716), (151, 15776), (154, 15791), (163, 15839), (175, 15917), (181, 15950),

Gene: Ryan_21 Start: 15955, Stop: 16875, Start Num: 12

Candidate Starts for Ryan_21:

(Start: 12 @15955 has 24 MA's), (32, 16051), (51, 16156), (56, 16207), (58, 16213), (60, 16222), (61, 16225), (66, 16246), (82, 16309), (95, 16360), (96, 16363), (104, 16417), (132, 16543), (134, 16552),

(156, 16696), (158, 16702), (159, 16708), (161, 16723), (170, 16759), (180, 16840),

Gene: SJReid_94 Start: 60651, Stop: 61502, Start Num: 18

Candidate Starts for SJReid_94:

(Start: 18 @60651 has 2 MA's), (28, 60681), (46, 60750), (56, 60852), (68, 60897), (70, 60903), (105, 61077), (123, 61143), (136, 61215), (141, 61236), (156, 61326), (179, 61452), (183, 61479),

Gene: Sashimi_21 Start: 15164, Stop: 16072, Start Num: 12

Candidate Starts for Sashimi_21:

(9, 15020), (Start: 12 @15164 has 24 MA's), (32, 15260), (39, 15287), (56, 15410), (64, 15443), (69, 15458), (82, 15512), (90, 15542), (91, 15545), (96, 15566), (132, 15740), (134, 15749), (138, 15779), (146, 15824), (150, 15851), (156, 15893), (158, 15899), (159, 15905),

Gene: Savage2526_19 Start: 15176, Stop: 16045, Start Num: 16

Candidate Starts for Savage2526_19:

(Start: 16 @15176 has 45 MA's), (43, 15263), (45, 15269), (114, 15644), (118, 15665), (121, 15671), (127, 15698), (128, 15710), (151, 15839), (154, 15854), (163, 15902), (175, 15980), (181, 16013),

Gene: Schism_21 Start: 15809, Stop: 16729, Start Num: 12

Candidate Starts for Schism_21:

(Start: 12 @15809 has 24 MA's), (32, 15905), (51, 16010), (56, 16061), (58, 16067), (60, 16076), (61, 16079), (66, 16100), (82, 16163), (95, 16214), (104, 16271), (128, 16382), (132, 16397), (134, 16406), (156, 16550), (159, 16562), (161, 16577), (170, 16613), (180, 16694),

Gene: Scuttle_19 Start: 15181, Stop: 16050, Start Num: 16

Candidate Starts for Scuttle_19:

(Start: 16 @15181 has 45 MA's), (43, 15268), (45, 15274), (114, 15649), (118, 15670), (121, 15676), (128, 15715), (151, 15844), (154, 15859), (163, 15907), (175, 15985), (181, 16018),

Gene: Shambre1_18 Start: 14673, Stop: 15542, Start Num: 16

Candidate Starts for Shambre1_18:

(Start: 16 @14673 has 45 MA's), (31, 14718), (39, 14751), (58, 14883), (70, 14928), (71, 14931), (73, 14940), (103, 15084), (117, 15159), (146, 15309), (163, 15402), (175, 15480), (180, 15507), (182, 15516),

Gene: Snek_17 Start: 12117, Stop: 12995, Start Num: 15

Candidate Starts for Snek_17:

(Start: 15 @12117 has 9 MA's), (24, 12135), (70, 12375), (73, 12387), (103, 12531), (121, 12612), (133, 12678),

Gene: Spartoi_15 Start: 11996, Stop: 12856, Start Num: 19

Candidate Starts for Spartoi_15:

(Start: 19 @11996 has 1 MA's), (33, 12041), (63, 12218), (65, 12227), (88, 12320), (141, 12593), (174, 12788), (176, 12794), (182, 12830),

Gene: Stewart25555_81 Start: 57329, Stop: 58180, Start Num: 17

Candidate Starts for Stewart25555_81:

(Start: 17 @57329 has 2 MA's), (41, 57410), (47, 57449), (53, 57512), (57, 57533), (70, 57581), (77, 57605), (105, 57755), (133, 57866), (141, 57914), (155, 57992), (165, 58040), (177, 58121), (183, 58157),

Gene: Studio_19 Start: 11670, Stop: 12578, Start Num: 12

Candidate Starts for Studio_19:

(11, 11664), (Start: 12 @11670 has 24 MA's), (13, 11682), (56, 11916), (60, 11931), (86, 12033), (89, 12045), (91, 12051), (95, 12069), (113, 12171), (129, 12234), (132, 12246), (136, 12276), (142, 12306), (159, 12411), (178, 12522), (185, 12561),

Gene: Suppi_19 Start: 15202, Stop: 16083, Start Num: 16

Candidate Starts for Suppi_19:

(Start: 16 @15202 has 45 MA's), (45, 15295), (51, 15355), (63, 15433), (126, 15733), (133, 15769), (139, 15808), (150, 15874), (151, 15877), (154, 15892), (181, 16051),

Gene: TMaxx_18 Start: 11767, Stop: 12675, Start Num: 12

Candidate Starts for TMaxx_18:

(11, 11761), (Start: 12 @11767 has 24 MA's), (13, 11779), (43, 11902), (89, 12142), (95, 12166), (113, 12268), (159, 12508), (173, 12595), (185, 12658),

Gene: Talia1610_91 Start: 60177, Stop: 61028, Start Num: 16

Candidate Starts for Talia1610_91:

(Start: 16 @60177 has 45 MA's), (70, 60429), (85, 60495), (100, 60567), (105, 60603), (120, 60657), (153, 60831), (155, 60840), (158, 60858), (183, 61005),

Gene: TattModd_19 Start: 15175, Stop: 16044, Start Num: 16

Candidate Starts for TattModd_19:

(Start: 16 @15175 has 45 MA's), (43, 15262), (45, 15268), (51, 15328), (114, 15643), (118, 15664), (121, 15670), (127, 15697), (128, 15709), (151, 15838), (154, 15853), (163, 15901), (175, 15979), (181, 16012),

Gene: ToastyOats_23 Start: 16286, Stop: 17206, Start Num: 12

Candidate Starts for ToastyOats_23:

(Start: 12 @16286 has 24 MA's), (49, 16469), (56, 16538), (60, 16553), (61, 16556), (90, 16670), (112, 16796), (156, 17027), (158, 17033), (159, 17039), (170, 17090),

Gene: Toodles_22 Start: 16032, Stop: 16952, Start Num: 12

Candidate Starts for Toodles_22:

(Start: 12 @16032 has 24 MA's), (56, 16284), (60, 16299), (61, 16302), (112, 16542), (156, 16773), (158, 16779), (159, 16785), (170, 16836),

Gene: TripleC_21 Start: 15266, Stop: 16171, Start Num: 12

Candidate Starts for TripleC_21:

(11, 15260), (Start: 12 @15266 has 24 MA's), (13, 15278), (20, 15323), (82, 15611), (89, 15638), (150, 15950), (159, 16004), (161, 16019), (169, 16052), (173, 16091), (181, 16139), (185, 16154),

Gene: TripleJ_19 Start: 15465, Stop: 16373, Start Num: 12

Candidate Starts for TripleJ_19:

(Start: 12 @15465 has 24 MA's), (26, 15540), (32, 15561), (33, 15564), (39, 15588), (43, 15600), (72, 15771), (80, 15807), (89, 15840), (90, 15843), (96, 15867), (102, 15906), (132, 16041), (147, 16134), (159, 16206), (161, 16221),

Gene: Tweety19_17 Start: 12116, Stop: 12994, Start Num: 15

Candidate Starts for Tweety19_17:

(Start: 15 @12116 has 9 MA's), (24, 12134), (70, 12374), (73, 12386), (103, 12530), (121, 12611), (133, 12677),

Gene: VResidence_17 Start: 13143, Stop: 14015, Start Num: 15

Candidate Starts for VResidence_17:

(Start: 15 @13143 has 9 MA's), (36, 13200), (70, 13395), (82, 13449), (101, 13542), (103, 13551), (118, 13626), (133, 13698), (142, 13755), (162, 13863),

Gene: ValentiniPuff_68 Start: 36653, Stop: 37528, Start Num: 22

Candidate Starts for ValentiniPuff_68:

(Start: 22 @36653 has 1 MA's), (30, 36680), (33, 36689), (48, 36761), (91, 36974), (92, 36977), (98, 37004), (121, 37136), (144, 37262), (156, 37343), (175, 37457),

Gene: Vallejo_19 Start: 15114, Stop: 15983, Start Num: 16

Candidate Starts for Vallejo_19:

(Start: 16 @15114 has 45 MA's), (43, 15201), (45, 15207), (51, 15267), (104, 15528), (114, 15582), (118, 15603), (121, 15609), (127, 15636), (128, 15648), (151, 15777), (154, 15792), (163, 15840), (175, 15918), (181, 15951),

Gene: WaddleDee_79 Start: 56661, Stop: 57512, Start Num: 17

Candidate Starts for WaddleDee_79:

(Start: 17 @56661 has 2 MA's), (37, 56727), (70, 56913), (105, 57087), (123, 57153), (127, 57165), (153, 57315), (154, 57318), (169, 57393), (183, 57489),

Gene: Wawa_19 Start: 15151, Stop: 16020, Start Num: 16

Candidate Starts for Wawa_19:

(Start: 16 @15151 has 45 MA's), (43, 15238), (45, 15244), (104, 15565), (114, 15619), (118, 15640), (121, 15646), (128, 15685), (141, 15754), (151, 15814), (154, 15829), (163, 15877), (164, 15880), (175, 15955), (181, 15988),

Gene: Wayne_19 Start: 15248, Stop: 16129, Start Num: 16

Candidate Starts for Wayne_19:

(Start: 16 @15248 has 45 MA's), (45, 15341), (51, 15401), (63, 15479), (126, 15779), (133, 15815), (139, 15854), (150, 15920), (151, 15923), (154, 15938), (181, 16097),

Gene: Wyvern_25 Start: 16066, Stop: 16947, Start Num: 21

Candidate Starts for Wyvern_25:

(14, 16051), (Start: 21 @16066 has 3 MA's), (59, 16273), (80, 16360), (82, 16366), (84, 16372), (93, 16405), (108, 16507), (113, 16525), (131, 16606), (167, 16813), (172, 16849), (179, 16897), (181, 16915),

Gene: Yonex_21 Start: 15955, Stop: 16875, Start Num: 12

Candidate Starts for Yonex_21:

(Start: 12 @15955 has 24 MA's), (32, 16051), (51, 16156), (56, 16207), (58, 16213), (60, 16222), (61, 16225), (66, 16246), (82, 16309), (95, 16360), (96, 16363), (104, 16417), (132, 16543), (134, 16552), (156, 16696), (158, 16702), (159, 16708), (161, 16723), (170, 16759), (180, 16840),

Gene: Zaheer_21 Start: 16044, Stop: 16964, Start Num: 12

Candidate Starts for Zaheer_21:

(Start: 12 @16044 has 24 MA's), (32, 16140), (51, 16245), (56, 16296), (58, 16302), (60, 16311), (61, 16314), (66, 16335), (82, 16398), (95, 16449), (96, 16452), (104, 16506), (132, 16632), (134, 16641), (156, 16785), (158, 16791), (159, 16797), (161, 16812), (170, 16848), (180, 16929),

Gene: Zorro_19 Start: 15130, Stop: 15999, Start Num: 16

Candidate Starts for Zorro_19:

(Start: 16 @15130 has 45 MA's), (43, 15217), (45, 15223), (114, 15598), (118, 15619), (121, 15625), (127, 15652), (128, 15664), (141, 15733), (151, 15793), (154, 15808), (163, 15856), (175, 15934), (181, 15967),

