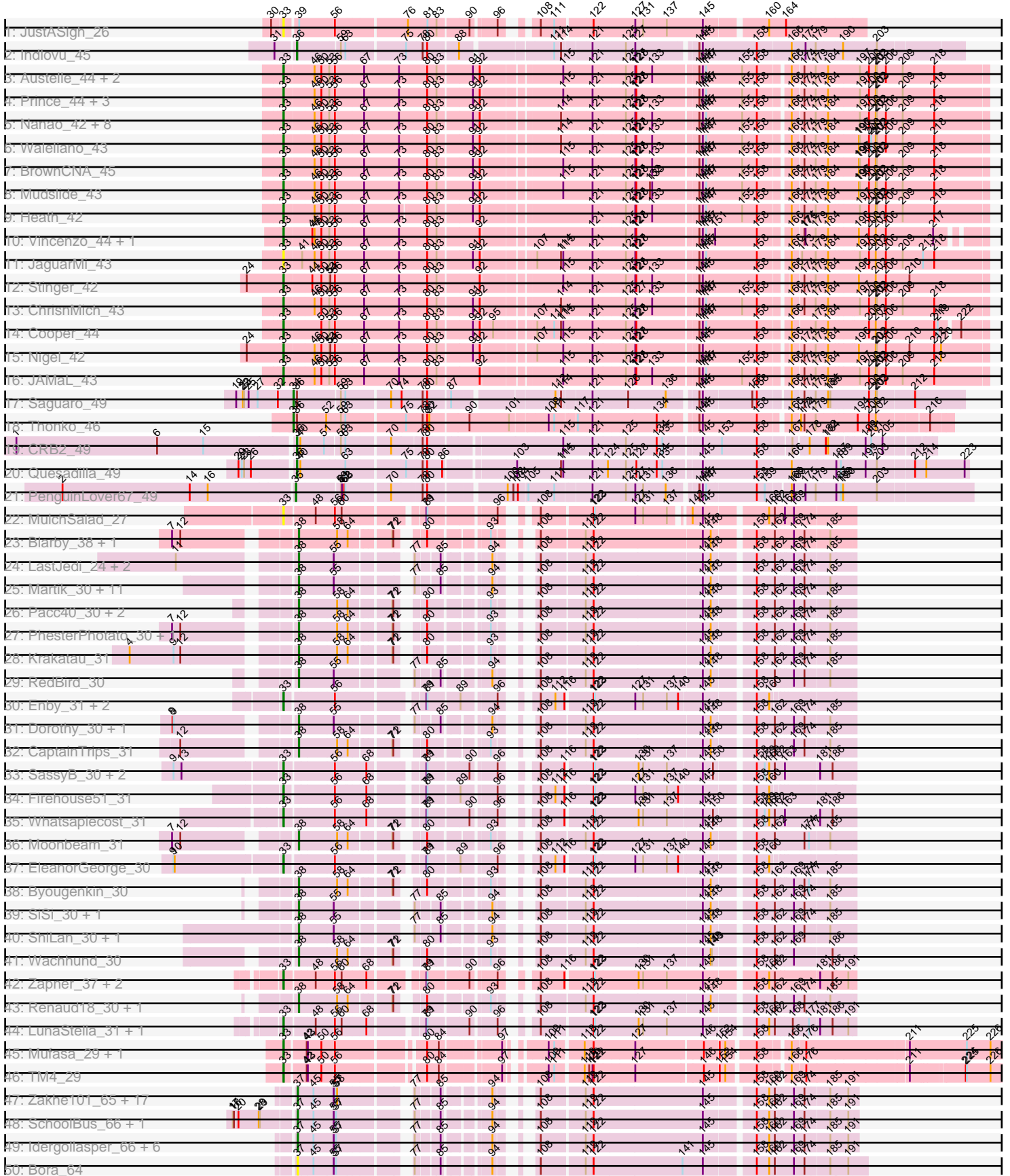
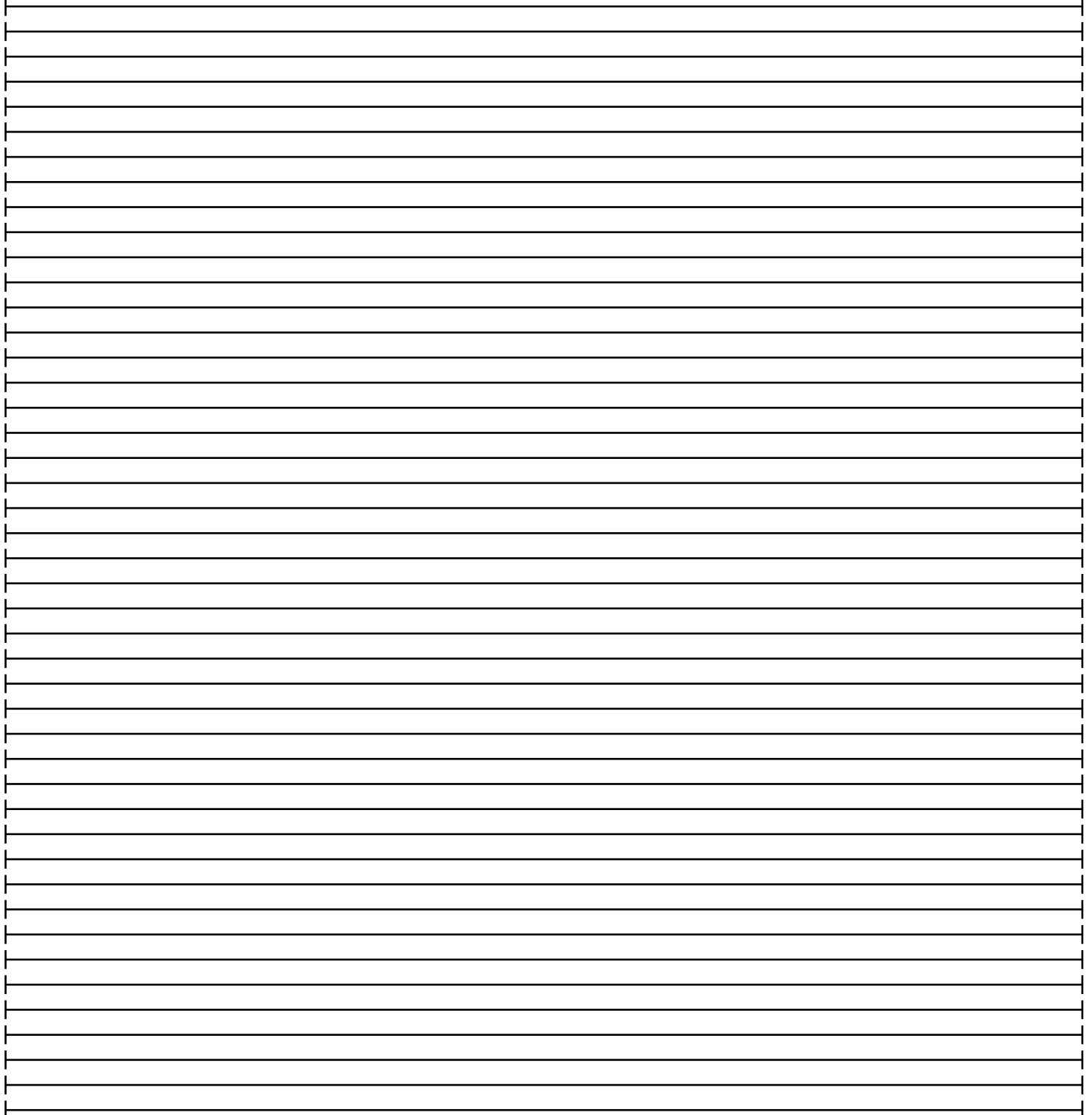
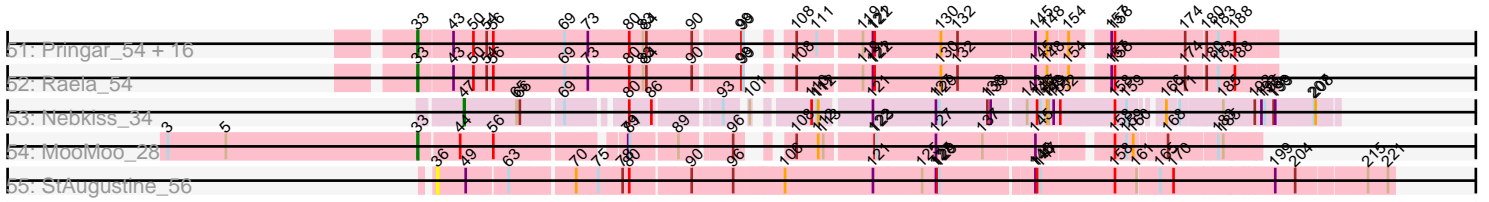


Pham 157672



Pham 157672



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 157672 Report

This analysis was run 04/13/24 on database version 558.

Pham number 157672 has 138 members, 22 are drafts.

Phages represented in each track:

- Track 1 : JustASigh\_26
- Track 2 : Indlovu\_45
- Track 3 : Austelle\_44, Hangman\_43, Mithril\_43
- Track 4 : Prince\_44, VioletZ\_45, Apex\_44, Hydro\_43
- Track 5 : Nanao\_42, Zemanar\_44, Lolalove\_44, Frederick\_43, BobbyK\_43, Fortunato\_44, Poster\_42, RawrgerThat\_44, Magpie\_42
- Track 6 : Waleliano\_43
- Track 7 : BrownCNA\_45
- Track 8 : Mudslide\_43
- Track 9 : Heath\_42
- Track 10 : Vincenzo\_44, AlanGrant\_45
- Track 11 : JaguarMi\_43
- Track 12 : Stinger\_42
- Track 13 : ChrisnMich\_43
- Track 14 : Cooper\_44
- Track 15 : Nigel\_42
- Track 16 : JAMaL\_43
- Track 17 : Saguaro\_49
- Track 18 : Thonko\_46
- Track 19 : CRB2\_49
- Track 20 : Quesadilla\_49
- Track 21 : PenguinLover67\_49
- Track 22 : MulchSalad\_27
- Track 23 : Blarby\_38, XFactor\_30
- Track 24 : LastJedi\_24, Koella\_24, Clifton\_24
- Track 25 : Martik\_30, SwagPigglett\_30, Maravista\_30, NormanBulbieJr\_30, ByChance\_30, Nivrat\_30, ShowerHandel\_31, Zizzle\_30, Yorick\_30, LilMoolah\_30, Burwell21\_30, Lizziana\_30
- Track 26 : Pacc40\_30, Blexus\_30, Leperchaun\_30
- Track 27 : PhesterPhotato\_30, Phalconet\_30
- Track 28 : Krakatau\_31
- Track 29 : RedBird\_30
- Track 30 : Enby\_31, Lorde\_31, SG4\_30
- Track 31 : Dorothy\_30, DaddyRickover\_30
- Track 32 : CaptainTrips\_31
- Track 33 : SassyB\_30, Seagreen\_31, PopTart\_30
- Track 34 : Firehouse51\_31

- Track 35 : Whatsapiecost\_31
- Track 36 : Moonbeam\_31
- Track 37 : EleanorGeorge\_30
- Track 38 : Byougenkin\_30
- Track 39 : SiSi\_30, DillTech15\_30
- Track 40 : ShiLan\_30, Jarcob\_30
- Track 41 : Wachhund\_30
- Track 42 : Zapner\_37, Jabbawokkie\_38, Demsculpinboyz\_35
- Track 43 : Renaud18\_30, Chuckly\_30
- Track 44 : LunaStella\_31, TChen\_30
- Track 45 : Mufasa\_29, BoostSeason\_29
- Track 46 : TM4\_29
- Track 47 : Zakhe101\_65, FoulBall\_63, Winget\_67, Firecracker\_67, Dylan\_66, Smooch\_69, Alkhayr\_64, Shida\_66, YungJamal\_71, Ryadel\_70, Corndog\_69, Krili\_65, Vorrrps\_66, Ashwin\_67, Wildflower\_64, Murai\_67, Mori\_66, NiebruSaylor\_65
- Track 48 : SchoolBus\_66, Familton\_67
- Track 49 : Idergollasper\_66, TelAviv\_63, Schuy\_64, Blessica\_67, JangDynasty\_66, Catdawg\_66, MadKillah\_67
- Track 50 : Bora\_64
- Track 51 : Pringar\_54, Blackbeetle\_54, JoieB\_55, Marvin\_51, Gattaca\_53, MosMoris\_52, Caprice\_51, Tesla\_52, Poise\_54, Beelzebub\_58, LittleLaf\_54, Lilbit\_55, Huphlepuuff\_56, VasuNzinga\_54, Clarkson\_55, RedRaider77\_53, Corazon\_52
- Track 52 : Raela\_54
- Track 53 : Nebkiss\_34
- Track 54 : MooMoo\_28
- Track 55 : StAugustine\_56

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

The start number called the most often in the published annotations is 33, it was called in 55 of the 116 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AlanGrant\_45, Apex\_44, Austelle\_44, Beelzebub\_58, Blackbeetle\_54, BobbyK\_43, BoostSeason\_29, BrownCNA\_45, Caprice\_51, ChrisnMich\_43, Clarkson\_55, Cooper\_44, Corazon\_52, Demsculpinboyz\_35, EleanorGeorge\_30, Enby\_31, Firehouse51\_31, Fortunato\_44, Frederick\_43, Gattaca\_53, Hangman\_43, Heath\_42, Huphlepuuff\_56, Hydro\_43, JAMaL\_43, Jabbawokkie\_38, JaguarMi\_43, JoieB\_55, JustASigh\_26, Lilbit\_55, LittleLaf\_54, Lolalove\_44, Lorde\_31, LunaStella\_31, Magpie\_42, Marvin\_51, Mithril\_43, MooMoo\_28, MosMoris\_52, Mudslide\_43, Mufasa\_29, MulchSalad\_27, Nanao\_42, Nigel\_42, Poise\_54, PopTart\_30, Poster\_42, Prince\_44, Pringar\_54, Raela\_54, RawrgerThat\_44, RedRaider77\_53, SG4\_30, SassyB\_30, Seagreen\_31, Stinger\_42, TChen\_30, TM4\_29, Tesla\_52, VasuNzinga\_54, Vincenzo\_44, VioletZ\_45, Waleliano\_43, Whatsapiecost\_31, Zapner\_37, Zemanar\_44,

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

-

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

- Alkhayr\_64, Ashwin\_67, Blarby\_38, Blessica\_67, Blexus\_30, Bora\_64, Burwell21\_30, ByChance\_30, Byougenkin\_30, CRB2\_49, CaptainTrips\_31, Catdawg\_66, Chuckly\_30, Clifton\_24, Corndog\_69, DaddyRickover\_30, DillTech15\_30, Dorothy\_30, Dylan\_66, Familton\_67, Firecracker\_67, FoulBall\_63, Idergollasper\_66, Indlovu\_45, JangDynasty\_66, Jarcob\_30, Koella\_24, Krakatau\_31, Kriili\_65, LastJedi\_24, Leperchaun\_30, LilMoolah\_30, Lizziana\_30, MadKillah\_67, Maravista\_30, Martik\_30, Moonbeam\_31, Mori\_66, Murai\_67, Nebkiss\_34, NiebruSaylor\_65, Nivrat\_30, NormanBulbieJr\_30, Pacc40\_30, PenguinLover67\_49, Phalconet\_30, PhesterPhotato\_30, Quesadilla\_49, RedBird\_30, Renaud18\_30, Ryadel\_70, Saguaro\_49, SchoolBus\_66, Schuy\_64, ShiLan\_30, Shida\_66, ShowerHandel\_31, SiSi\_30, Smooch\_69, StAugustine\_56, SwagPigglett\_30, TelAviv\_63, Thonko\_46, Vorrps\_66, Wachhund\_30, Wildflower\_64, Winget\_67, XFactor\_30, Yorick\_30, YungJamal\_71, Zakhe101\_65, Zizzle\_30,

### Summary by start number:

Start 33:

- Found in 66 of 138 ( 47.8% ) of genes in pham
- Manual Annotations of this start: 55 of 116
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AlanGrant\_45 (B4), Apex\_44 (B4), Austelle\_44 (B4), Beelzebub\_58 (S), Blackbeetle\_54 (S), BobbyK\_43 (B4), BoostSeason\_29 (K2), BrownCNA\_45 (B4), Caprice\_51 (S), ChrisnMich\_43 (B4), Clarkson\_55 (S), Cooper\_44 (B4), Corazon\_52 (S), Demsculpinboyz\_35 (F2), EleanorGeorge\_30 (F1), Enby\_31 (F1), Firehouse51\_31 (F1), Fortunato\_44 (B4), Frederick\_43 (B4), Gattaca\_53 (S), Hangman\_43 (B4), Heath\_42 (B4), Huphlepuuff\_56 (S), Hydro\_43 (B4), JAMaL\_43 (B4), Jabbawokkie\_38 (F2), JaguarMi\_43 (B4), JoieB\_55 (S), JustASigh\_26 (AH), Lilbit\_55 (S), LittleLaf\_54 (S), Lolalove\_44 (B4), Lorde\_31 (F1), LunaStella\_31 (F4), Magpie\_42 (B4), Marvin\_51 (S), Mithril\_43 (B4), MooMoo\_28 (singleton), MosMoris\_52 (S), Mudslide\_43 (B4), Mufasa\_29 (K2), MulchSalad\_27 (F), Nanao\_42 (B4), Nigel\_42 (B4), Poise\_54 (S), PopTart\_30 (F1), Poster\_42 (B4), Prince\_44 (B4), Pringar\_54 (S), Raela\_54 (S), RawrgerThat\_44 (B4), RedRaider77\_53 (S), SG4\_30 (F1), SassyB\_30 (F1), Seagreen\_31 (F1), Stinger\_42 (B4), TChen\_30 (F4), TM4\_29 (K2), Tesla\_52 (S), VasuNzinga\_54 (S), Vincenzo\_44 (B4), VioletZ\_45 (B4), Waleliano\_43 (B4), Whatsapiecost\_31 (F1), Zapner\_37 (F2), Zemanar\_44 (B4),

Start 34:

- Found in 2 of 138 ( 1.4% ) of genes in pham
- Manual Annotations of this start: 2 of 116
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Saguaro\_49 (B7), Thonko\_46 (B8),

Start 35:

- Found in 1 of 138 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 1 of 116
- Called 100.0% of time when present
- Phage (with cluster) where this start called: PenguinLover67\_49 (B9),

Start 36:

- Found in 6 of 138 ( 4.3% ) of genes in pham
- Manual Annotations of this start: 3 of 116

- Called 66.7% of time when present
- Phage (with cluster) where this start called: CRB2\_49 (B9), Indlovu\_45 (B11), Quesadilla\_49 (B9), StAugustine\_56 (singleton),

#### Start 37:

- Found in 28 of 138 ( 20.3% ) of genes in pham
- Manual Annotations of this start: 22 of 116
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Alkhayr\_64 (O), Ashwin\_67 (O), Blessica\_67 (O), Bora\_64 (O), Catdawg\_66 (O), Corndog\_69 (O), Dylan\_66 (O), Familton\_67 (O), Firecracker\_67 (O), FoulBall\_63 (O), Idergollasper\_66 (O), JangDynasty\_66 (O), Krili\_65 (O), MadKillah\_67 (O), Mori\_66 (O), Murai\_67 (O), NiebruSaylor\_65 (O), Ryadel\_70 (O), SchoolBus\_66 (O), Schuy\_64 (O), Shida\_66 (O), Smooch\_69 (O), TelAviv\_63 (O), Vorrrps\_66 (O), Wildflower\_64 (O), Winget\_67 (O), YungJamal\_71 (O), Zakhe101\_65 (O),

#### Start 38:

- Found in 36 of 138 ( 26.1% ) of genes in pham
- Manual Annotations of this start: 32 of 116
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Blarby\_38 (F), Blexus\_30 (F1), Burwell21\_30 (F1), ByChance\_30 (F1), Byougenkin\_30 (F1), CaptainTrips\_31 (F1), Chuckly\_30 (F1), Clifton\_24 (F1), DaddyRickover\_30 (F1), DillTech15\_30 (F1), Dorothy\_30 (F1), Jarcob\_30 (F1), Koella\_24 (F1), Krakatau\_31 (F1), LastJedi\_24 (F1), Leperchaun\_30 (F1), LilMoolah\_30 (F1), Lizziana\_30 (F1), Maravista\_30 (F1), Martik\_30 (F1), Moonbeam\_31 (F1), Nivrat\_30 (F1), NormanBulbieJr\_30 (F1), Pacc40\_30 (F1), Phalconet\_30 (F1), PhesterPhotato\_30 (F1), RedBird\_30 (F1), Renaud18\_30 (F4), ShiLan\_30 (F1), ShowerHandel\_31 (F1), SiSi\_30 (F1), SwagPiggett\_30 (F1), Wachhund\_30 (F1), XFactor\_30 (F1), Yorick\_30 (F1), Zizzle\_30 (F1),

#### Start 47:

- Found in 1 of 138 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 1 of 116
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Nebkiss\_34 (X),

### Summary by clusters:

There are 15 clusters represented in this pham: F1, F2, F4, F, AH, singleton, O, B4, K2, S, B7, B11, X, B8, B9,

#### Info for manual annotations of cluster B11:

- Start number 36 was manually annotated 1 time for cluster B11.

#### Info for manual annotations of cluster B4:

- Start number 33 was manually annotated 22 times for cluster B4.

#### Info for manual annotations of cluster B7:

- Start number 34 was manually annotated 1 time for cluster B7.

#### Info for manual annotations of cluster B8:

- Start number 34 was manually annotated 1 time for cluster B8.

Info for manual annotations of cluster B9:

- Start number 35 was manually annotated 1 time for cluster B9.
- Start number 36 was manually annotated 2 times for cluster B9.

Info for manual annotations of cluster F1:

- Start number 33 was manually annotated 9 times for cluster F1.
- Start number 38 was manually annotated 31 times for cluster F1.

Info for manual annotations of cluster F2:

- Start number 33 was manually annotated 3 times for cluster F2.

Info for manual annotations of cluster F4:

- Start number 33 was manually annotated 1 time for cluster F4.
- Start number 38 was manually annotated 1 time for cluster F4.

Info for manual annotations of cluster K2:

- Start number 33 was manually annotated 3 times for cluster K2.

Info for manual annotations of cluster O:

- Start number 37 was manually annotated 22 times for cluster O.

Info for manual annotations of cluster S:

- Start number 33 was manually annotated 16 times for cluster S.

Info for manual annotations of cluster X:

- Start number 47 was manually annotated 1 time for cluster X.

### ***Gene Information:***

Gene: AlanGrant\_45 Start: 41174, Stop: 42871, Start Num: 33

Candidate Starts for AlanGrant\_45:

(Start: 33 @41174 has 55 MA's), (44, 41243), (46, 41249), (50, 41267), (53, 41288), (56, 41303), (67, 41375), (73, 41468), (80, 41540), (83, 41564), (92, 41666), (121, 41927), (125, 42008), (127, 42032), (128, 42035), (144, 42188), (145, 42197), (147, 42206), (151, 42230), (158, 42341), (166, 42410), (174, 42434), (175, 42437), (179, 42461), (184, 42491), (196, 42566), (200, 42593), (202, 42611), (206, 42638), (217, 42764),

Gene: Alkhayr\_64 Start: 41911, Stop: 43131, Start Num: 37

Candidate Starts for Alkhayr\_64:

(Start: 37 @41911 has 22 MA's), (45, 41947), (55, 41998), (57, 42004), (58, 42007), (77, 42154), (85, 42208), (94, 42301), (108, 42349), (119, 42457), (122, 42478), (145, 42766), (158, 42883), (160, 42916), (162, 42928), (169, 42979), (174, 43003), (185, 43063), (191, 43108),

Gene: Apex\_44 Start: 40765, Stop: 42501, Start Num: 33

Candidate Starts for Apex\_44:

(Start: 33 @40765 has 55 MA's), (46, 40840), (50, 40858), (53, 40879), (56, 40894), (67, 40966), (73, 41059), (80, 41131), (83, 41155), (91, 41242), (92, 41257), (115, 41446), (121, 41521), (125, 41602), (127, 41626), (128, 41629), (144, 41782), (145, 41791), (147, 41800), (155, 41896), (158, 41935),

(166, 42004), (174, 42028), (179, 42055), (184, 42085), (197, 42163), (200, 42187), (202, 42205), (203, 42208), (209, 42277), (218, 42361),

Gene: Ashwin\_67 Start: 42681, Stop: 43901, Start Num: 37

Candidate Starts for Ashwin\_67:

(Start: 37 @42681 has 22 MA's), (45, 42717), (55, 42768), (57, 42774), (58, 42777), (77, 42924), (85, 42978), (94, 43071), (108, 43119), (119, 43227), (122, 43248), (145, 43536), (158, 43653), (160, 43686), (162, 43698), (169, 43749), (174, 43773), (185, 43833), (191, 43878),

Gene: Austelle\_44 Start: 41215, Stop: 42951, Start Num: 33

Candidate Starts for Austelle\_44:

(Start: 33 @41215 has 55 MA's), (46, 41290), (50, 41308), (53, 41329), (56, 41344), (67, 41416), (73, 41509), (80, 41581), (83, 41605), (91, 41692), (92, 41707), (115, 41896), (121, 41971), (125, 42052), (127, 42076), (128, 42079), (133, 42121), (144, 42232), (145, 42241), (147, 42250), (155, 42346), (158, 42385), (166, 42454), (174, 42478), (179, 42505), (184, 42535), (197, 42613), (200, 42637), (202, 42655), (203, 42658), (206, 42682), (209, 42727), (218, 42811),

Gene: Beelzebub\_58 Start: 30975, Stop: 32354, Start Num: 33

Candidate Starts for Beelzebub\_58:

(Start: 33 @30975 has 55 MA's), (43, 31032), (50, 31068), (54, 31092), (56, 31104), (69, 31227), (73, 31269), (80, 31341), (83, 31365), (84, 31371), (90, 31452), (98, 31521), (99, 31524), (108, 31560), (111, 31596), (119, 31668), (121, 31686), (122, 31689), (130, 31806), (132, 31836), (145, 31968), (148, 31989), (154, 32022), (157, 32076), (158, 32082), (174, 32202), (180, 32232), (183, 32253), (188, 32283),

Gene: Blackbeetle\_54 Start: 30021, Stop: 31400, Start Num: 33

Candidate Starts for Blackbeetle\_54:

(Start: 33 @30021 has 55 MA's), (43, 30078), (50, 30114), (54, 30138), (56, 30150), (69, 30273), (73, 30315), (80, 30387), (83, 30411), (84, 30417), (90, 30498), (98, 30567), (99, 30570), (108, 30606), (111, 30642), (119, 30714), (121, 30732), (122, 30735), (130, 30852), (132, 30882), (145, 31014), (148, 31035), (154, 31068), (157, 31122), (158, 31128), (174, 31248), (180, 31278), (183, 31299), (188, 31329),

Gene: Blarby\_38 Start: 26777, Stop: 27985, Start Num: 38

Candidate Starts for Blarby\_38:

(7, 26501), (12, 26522), (Start: 38 @26777 has 32 MA's), (58, 26873), (64, 26897), (71, 26990), (72, 26993), (80, 27038), (93, 27167), (108, 27218), (119, 27329), (122, 27350), (145, 27632), (148, 27653), (158, 27749), (162, 27794), (169, 27839), (174, 27863), (185, 27923),

Gene: Blessica\_67 Start: 42510, Stop: 43730, Start Num: 37

Candidate Starts for Blessica\_67:

(Start: 37 @42510 has 22 MA's), (45, 42546), (55, 42597), (57, 42603), (77, 42753), (85, 42807), (94, 42900), (108, 42948), (119, 43056), (122, 43077), (145, 43365), (158, 43482), (160, 43515), (162, 43527), (169, 43578), (174, 43602), (185, 43662), (191, 43707),

Gene: Blexus\_30 Start: 26628, Stop: 27836, Start Num: 38

Candidate Starts for Blexus\_30:

(Start: 38 @26628 has 32 MA's), (58, 26724), (64, 26748), (71, 26841), (72, 26844), (80, 26889), (93, 27018), (108, 27069), (119, 27180), (122, 27201), (145, 27483), (148, 27504), (158, 27600), (162, 27645), (169, 27690), (174, 27714), (185, 27774),

Gene: BobbyK\_43 Start: 40560, Stop: 42296, Start Num: 33

Candidate Starts for BobbyK\_43:



(Start: 33 @40560 has 55 MA's), (46, 40635), (50, 40653), (53, 40674), (56, 40689), (67, 40761), (73, 40854), (80, 40926), (83, 40950), (91, 41037), (92, 41052), (114, 41235), (121, 41316), (125, 41397), (127, 41421), (128, 41424), (133, 41466), (144, 41577), (145, 41586), (147, 41595), (155, 41691), (158, 41730), (166, 41799), (174, 41823), (179, 41850), (184, 41880), (197, 41958), (200, 41982), (202, 42000), (203, 42003), (206, 42027), (209, 42072), (218, 42156),

Gene: BoostSeason\_29 Start: 23227, Stop: 24885, Start Num: 33

Candidate Starts for BoostSeason\_29:

(Start: 33 @23227 has 55 MA's), (42, 23278), (43, 23281), (50, 23317), (56, 23353), (80, 23554), (84, 23584), (97, 23722), (109, 23794), (111, 23809), (118, 23875), (122, 23896), (127, 23998), (146, 24169), (152, 24205), (154, 24220), (158, 24283), (166, 24352), (176, 24385), (211, 24640), (225, 24790), (226, 24853),

Gene: Bora\_64 Start: 41867, Stop: 43111, Start Num: 37

Candidate Starts for Bora\_64:

(Start: 37 @41867 has 22 MA's), (45, 41903), (55, 41954), (57, 41960), (77, 42110), (85, 42164), (94, 42257), (108, 42305), (119, 42413), (122, 42434), (141, 42668), (145, 42722), (158, 42839), (160, 42872), (162, 42884), (169, 42935), (174, 42959), (185, 43019), (191, 43064),

Gene: BrownCNA\_45 Start: 40845, Stop: 42581, Start Num: 33

Candidate Starts for BrownCNA\_45:

(Start: 33 @40845 has 55 MA's), (46, 40920), (50, 40938), (53, 40959), (56, 40974), (67, 41046), (73, 41139), (80, 41211), (83, 41235), (91, 41322), (92, 41337), (115, 41526), (121, 41601), (125, 41682), (127, 41706), (128, 41709), (133, 41751), (144, 41862), (145, 41871), (147, 41880), (155, 41976), (158, 42015), (166, 42084), (174, 42108), (179, 42135), (184, 42165), (196, 42240), (197, 42243), (200, 42267), (202, 42285), (203, 42288), (209, 42357), (218, 42441),

Gene: Burwell21\_30 Start: 26501, Stop: 27697, Start Num: 38

Candidate Starts for Burwell21\_30:

(Start: 38 @26501 has 32 MA's), (55, 26585), (77, 26735), (85, 26789), (94, 26882), (108, 26930), (119, 27041), (122, 27062), (145, 27344), (148, 27365), (158, 27461), (162, 27506), (169, 27551), (174, 27575), (185, 27635),

Gene: ByChance\_30 Start: 26478, Stop: 27674, Start Num: 38

Candidate Starts for ByChance\_30:

(Start: 38 @26478 has 32 MA's), (55, 26562), (77, 26712), (85, 26766), (94, 26859), (108, 26907), (119, 27018), (122, 27039), (145, 27321), (148, 27342), (158, 27438), (162, 27483), (169, 27528), (174, 27552), (185, 27612),

Gene: Byougenkin\_30 Start: 26387, Stop: 27595, Start Num: 38

Candidate Starts for Byougenkin\_30:

(Start: 38 @26387 has 32 MA's), (58, 26483), (64, 26507), (71, 26600), (72, 26603), (80, 26648), (93, 26777), (108, 26828), (119, 26939), (122, 26960), (145, 27242), (148, 27263), (158, 27359), (162, 27404), (169, 27449), (174, 27473), (177, 27485), (185, 27533),

Gene: CRB2\_49 Start: 43040, Stop: 44572, Start Num: 36

Candidate Starts for CRB2\_49:

(1, 42311), (6, 42686), (15, 42809), (Start: 36 @43040 has 3 MA's), (40, 43049), (51, 43112), (59, 43148), (63, 43160), (70, 43262), (78, 43334), (80, 43346), (115, 43676), (121, 43751), (125, 43832), (134, 43913), (135, 43928), (145, 44021), (153, 44072), (158, 44165), (167, 44246), (178, 44282), (182, 44321), (184, 44327), (199, 44414), (201, 44429), (205, 44456),

Gene: Caprice\_51 Start: 30334, Stop: 31713, Start Num: 33

Candidate Starts for Caprice\_51:

(Start: 33 @30334 has 55 MA's), (43, 30391), (50, 30427), (54, 30451), (56, 30463), (69, 30586), (73, 30628), (80, 30700), (83, 30724), (84, 30730), (90, 30811), (98, 30880), (99, 30883), (108, 30919), (111, 30955), (119, 31027), (121, 31045), (122, 31048), (130, 31165), (132, 31195), (145, 31327), (148, 31348), (154, 31381), (157, 31435), (158, 31441), (174, 31561), (180, 31591), (183, 31612), (188, 31642),

Gene: CaptainTrips\_31 Start: 26707, Stop: 27915, Start Num: 38

Candidate Starts for CaptainTrips\_31:

(12, 26455), (Start: 38 @26707 has 32 MA's), (58, 26803), (64, 26827), (71, 26920), (72, 26923), (80, 26968), (93, 27097), (108, 27148), (119, 27259), (122, 27280), (145, 27562), (148, 27583), (158, 27679), (162, 27724), (169, 27769), (174, 27793), (185, 27853),

Gene: Catdawg\_66 Start: 42246, Stop: 43466, Start Num: 37

Candidate Starts for Catdawg\_66:

(Start: 37 @42246 has 22 MA's), (45, 42282), (55, 42333), (57, 42339), (77, 42489), (85, 42543), (94, 42636), (108, 42684), (119, 42792), (122, 42813), (145, 43101), (158, 43218), (160, 43251), (162, 43263), (169, 43314), (174, 43338), (185, 43398), (191, 43443),

Gene: ChrisnMich\_43 Start: 39525, Stop: 41261, Start Num: 33

Candidate Starts for ChrisnMich\_43:

(Start: 33 @39525 has 55 MA's), (46, 39600), (50, 39618), (53, 39639), (56, 39654), (67, 39726), (73, 39819), (80, 39891), (83, 39915), (91, 40002), (92, 40017), (114, 40200), (121, 40281), (125, 40362), (127, 40386), (133, 40431), (144, 40542), (145, 40551), (147, 40560), (155, 40656), (158, 40695), (166, 40764), (174, 40788), (179, 40815), (184, 40845), (197, 40923), (200, 40947), (202, 40965), (203, 40968), (206, 40992), (209, 41037), (218, 41121),

Gene: Chuckly\_30 Start: 26483, Stop: 27691, Start Num: 38

Candidate Starts for Chuckly\_30:

(Start: 38 @26483 has 32 MA's), (58, 26579), (64, 26603), (71, 26696), (72, 26699), (80, 26744), (93, 26873), (108, 26924), (119, 27035), (122, 27056), (145, 27338), (148, 27359), (158, 27455), (162, 27500), (169, 27545), (174, 27569), (185, 27629),

Gene: Clarkson\_55 Start: 30703, Stop: 32082, Start Num: 33

Candidate Starts for Clarkson\_55:

(Start: 33 @30703 has 55 MA's), (43, 30760), (50, 30796), (54, 30820), (56, 30832), (69, 30955), (73, 30997), (80, 31069), (83, 31093), (84, 31099), (90, 31180), (98, 31249), (99, 31252), (108, 31288), (111, 31324), (119, 31396), (121, 31414), (122, 31417), (130, 31534), (132, 31564), (145, 31696), (148, 31717), (154, 31750), (157, 31804), (158, 31810), (174, 31930), (180, 31960), (183, 31981), (188, 32011),

Gene: Clifton\_24 Start: 22465, Stop: 23661, Start Num: 38

Candidate Starts for Clifton\_24:

(11, 22195), (Start: 38 @22465 has 32 MA's), (55, 22549), (77, 22699), (85, 22753), (94, 22846), (108, 22894), (119, 23005), (122, 23026), (145, 23308), (148, 23329), (158, 23425), (162, 23470), (169, 23515), (174, 23539), (185, 23599),

Gene: Cooper\_44 Start: 39744, Stop: 41456, Start Num: 33

Candidate Starts for Cooper\_44:

(Start: 33 @39744 has 55 MA's), (50, 39837), (53, 39858), (56, 39873), (67, 39945), (73, 40038), (80, 40110), (83, 40134), (91, 40221), (92, 40236), (95, 40266), (107, 40356), (111, 40401), (114, 40419), (115, 40425), (121, 40500), (125, 40581), (127, 40605), (128, 40608), (144, 40761), (145, 40770), (147, 40779), (158, 40914), (166, 40983), (179, 41034), (184, 41064), (200, 41166), (202, 41184),

(206, 41211), (218, 41340), (219, 41349), (222, 41394),

Gene: Corazon\_52 Start: 30897, Stop: 32276, Start Num: 33

Candidate Starts for Corazon\_52:

(Start: 33 @30897 has 55 MA's), (43, 30954), (50, 30990), (54, 31014), (56, 31026), (69, 31149), (73, 31191), (80, 31263), (83, 31287), (84, 31293), (90, 31374), (98, 31443), (99, 31446), (108, 31482), (111, 31518), (119, 31590), (121, 31608), (122, 31611), (130, 31728), (132, 31758), (145, 31890), (148, 31911), (154, 31944), (157, 31998), (158, 32004), (174, 32124), (180, 32154), (183, 32175), (188, 32205),

Gene: Corndog\_69 Start: 43240, Stop: 44460, Start Num: 37

Candidate Starts for Corndog\_69:

(Start: 37 @43240 has 22 MA's), (45, 43276), (55, 43327), (57, 43333), (58, 43336), (77, 43483), (85, 43537), (94, 43630), (108, 43678), (119, 43786), (122, 43807), (145, 44095), (158, 44212), (160, 44245), (162, 44257), (169, 44308), (174, 44332), (185, 44392), (191, 44437),

Gene: DaddyRickover\_30 Start: 26502, Stop: 27698, Start Num: 38

Candidate Starts for DaddyRickover\_30:

(8, 26229), (9, 26232), (Start: 38 @26502 has 32 MA's), (55, 26586), (77, 26736), (85, 26790), (94, 26883), (108, 26931), (119, 27042), (122, 27063), (145, 27345), (148, 27366), (158, 27462), (162, 27507), (169, 27552), (174, 27576), (185, 27636),

Gene: Demsculpinboyz\_35 Start: 25454, Stop: 26752, Start Num: 33

Candidate Starts for Demsculpinboyz\_35:

(Start: 33 @25454 has 55 MA's), (48, 25526), (56, 25574), (60, 25592), (68, 25646), (79, 25763), (81, 25766), (90, 25868), (96, 25925), (108, 25979), (116, 26042), (122, 26105), (123, 26108), (130, 26222), (131, 26234), (137, 26297), (145, 26393), (158, 26510), (160, 26543), (162, 26555), (181, 26660), (186, 26693), (191, 26732),

Gene: DillTech15\_30 Start: 26411, Stop: 27607, Start Num: 38

Candidate Starts for DillTech15\_30:

(Start: 38 @26411 has 32 MA's), (55, 26495), (77, 26645), (85, 26699), (94, 26792), (108, 26840), (119, 26951), (122, 26972), (145, 27254), (148, 27275), (158, 27371), (162, 27416), (169, 27461), (174, 27485), (185, 27545),

Gene: Dorothy\_30 Start: 26287, Stop: 27483, Start Num: 38

Candidate Starts for Dorothy\_30:

(8, 26014), (9, 26017), (Start: 38 @26287 has 32 MA's), (55, 26371), (77, 26521), (85, 26575), (94, 26668), (108, 26716), (119, 26827), (122, 26848), (145, 27130), (148, 27151), (158, 27247), (162, 27292), (169, 27337), (174, 27361), (185, 27421),

Gene: Dylan\_66 Start: 42293, Stop: 43513, Start Num: 37

Candidate Starts for Dylan\_66:

(Start: 37 @42293 has 22 MA's), (45, 42329), (55, 42380), (57, 42386), (58, 42389), (77, 42536), (85, 42590), (94, 42683), (108, 42731), (119, 42839), (122, 42860), (145, 43148), (158, 43265), (160, 43298), (162, 43310), (169, 43361), (174, 43385), (185, 43445), (191, 43490),

Gene: EleanorGeorge\_30 Start: 26637, Stop: 27908, Start Num: 33

Candidate Starts for EleanorGeorge\_30:

(9, 26364), (10, 26367), (Start: 33 @26637 has 55 MA's), (56, 26754), (79, 26943), (81, 26946), (89, 27024), (96, 27105), (108, 27156), (112, 27195), (116, 27219), (122, 27282), (123, 27285), (127, 27390), (131, 27411), (137, 27474), (140, 27504), (145, 27561), (158, 27678), (160, 27711),

Gene: Enby\_31 Start: 26166, Stop: 27437, Start Num: 33

Candidate Starts for Enby\_31:

(Start: 33 @26166 has 55 MA's), (56, 26283), (79, 26472), (81, 26475), (89, 26553), (96, 26634), (108, 26685), (112, 26724), (116, 26748), (122, 26811), (123, 26814), (127, 26919), (131, 26940), (137, 27003), (140, 27033), (145, 27090), (158, 27207), (160, 27240),

Gene: Familton\_67 Start: 42203, Stop: 43423, Start Num: 37

Candidate Starts for Familton\_67:

(17, 42050), (18, 42053), (20, 42065), (28, 42119), (29, 42122), (Start: 37 @42203 has 22 MA's), (45, 42239), (55, 42290), (57, 42296), (77, 42446), (85, 42500), (94, 42593), (108, 42641), (119, 42749), (122, 42770), (145, 43058), (158, 43175), (160, 43208), (162, 43220), (169, 43271), (174, 43295), (185, 43355), (191, 43400),

Gene: Firecracker\_67 Start: 42393, Stop: 43643, Start Num: 37

Candidate Starts for Firecracker\_67:

(Start: 37 @42393 has 22 MA's), (45, 42429), (55, 42480), (57, 42486), (58, 42489), (77, 42636), (85, 42690), (94, 42783), (108, 42831), (119, 42939), (122, 42960), (145, 43248), (158, 43365), (160, 43398), (162, 43410), (169, 43461), (174, 43485), (185, 43545), (191, 43590),

Gene: Firehouse51\_31 Start: 27046, Stop: 28314, Start Num: 33

Candidate Starts for Firehouse51\_31:

(Start: 33 @27046 has 55 MA's), (56, 27163), (68, 27235), (79, 27352), (81, 27355), (89, 27433), (96, 27514), (108, 27565), (112, 27604), (116, 27628), (122, 27691), (123, 27694), (127, 27799), (131, 27820), (137, 27883), (140, 27913), (145, 27970), (158, 28087), (160, 28120),

Gene: Fortunato\_44 Start: 40578, Stop: 42314, Start Num: 33

Candidate Starts for Fortunato\_44:

(Start: 33 @40578 has 55 MA's), (46, 40653), (50, 40671), (53, 40692), (56, 40707), (67, 40779), (73, 40872), (80, 40944), (83, 40968), (91, 41055), (92, 41070), (114, 41253), (121, 41334), (125, 41415), (127, 41439), (128, 41442), (133, 41484), (144, 41595), (145, 41604), (147, 41613), (155, 41709), (158, 41748), (166, 41817), (174, 41841), (179, 41868), (184, 41898), (197, 41976), (200, 42000), (202, 42018), (203, 42021), (206, 42045), (209, 42090), (218, 42174),

Gene: FoulBall\_63 Start: 42197, Stop: 43417, Start Num: 37

Candidate Starts for FoulBall\_63:

(Start: 37 @42197 has 22 MA's), (45, 42233), (55, 42284), (57, 42290), (58, 42293), (77, 42440), (85, 42494), (94, 42587), (108, 42635), (119, 42743), (122, 42764), (145, 43052), (158, 43169), (160, 43202), (162, 43214), (169, 43265), (174, 43289), (185, 43349), (191, 43394),

Gene: Frederick\_43 Start: 40560, Stop: 42290, Start Num: 33

Candidate Starts for Frederick\_43:

(Start: 33 @40560 has 55 MA's), (46, 40635), (50, 40653), (53, 40674), (56, 40689), (67, 40761), (73, 40854), (80, 40914), (83, 40938), (91, 41025), (92, 41040), (114, 41223), (121, 41304), (125, 41385), (127, 41409), (128, 41412), (133, 41454), (144, 41565), (145, 41574), (147, 41583), (155, 41679), (158, 41718), (166, 41787), (174, 41811), (179, 41838), (184, 41868), (197, 41946), (200, 41970), (202, 41988), (203, 41991), (206, 42015), (209, 42060), (218, 42144),

Gene: Gattaca\_53 Start: 30124, Stop: 31503, Start Num: 33

Candidate Starts for Gattaca\_53:

(Start: 33 @30124 has 55 MA's), (43, 30181), (50, 30217), (54, 30241), (56, 30253), (69, 30376), (73, 30418), (80, 30490), (83, 30514), (84, 30520), (90, 30601), (98, 30670), (99, 30673), (108, 30709), (111, 30745), (119, 30817), (121, 30835), (122, 30838), (130, 30955), (132, 30985), (145, 31117), (148, 31138), (154, 31171), (157, 31225), (158, 31231), (174, 31351), (180, 31381), (183, 31402),

(188, 31432),

Gene: Hangman\_43 Start: 40576, Stop: 42312, Start Num: 33

Candidate Starts for Hangman\_43:

(Start: 33 @40576 has 55 MA's), (46, 40651), (50, 40669), (53, 40690), (56, 40705), (67, 40777), (73, 40870), (80, 40942), (83, 40966), (91, 41053), (92, 41068), (115, 41257), (121, 41332), (125, 41413), (127, 41437), (128, 41440), (133, 41482), (144, 41593), (145, 41602), (147, 41611), (155, 41707), (158, 41746), (166, 41815), (174, 41839), (179, 41866), (184, 41896), (197, 41974), (200, 41998), (202, 42016), (203, 42019), (206, 42043), (209, 42088), (218, 42172),

Gene: Heath\_42 Start: 40183, Stop: 41907, Start Num: 33

Candidate Starts for Heath\_42:

(Start: 33 @40183 has 55 MA's), (46, 40258), (50, 40276), (53, 40297), (56, 40312), (67, 40384), (73, 40477), (80, 40537), (83, 40561), (91, 40648), (92, 40663), (121, 40927), (125, 41008), (127, 41032), (128, 41035), (133, 41077), (144, 41188), (145, 41197), (147, 41206), (155, 41302), (158, 41341), (166, 41410), (174, 41434), (179, 41461), (184, 41491), (197, 41569), (200, 41593), (202, 41611), (203, 41614), (206, 41638), (209, 41683), (218, 41767),

Gene: Huphlepuuff\_56 Start: 30508, Stop: 31887, Start Num: 33

Candidate Starts for Huphlepuuff\_56:

(Start: 33 @30508 has 55 MA's), (43, 30565), (50, 30601), (54, 30625), (56, 30637), (69, 30760), (73, 30802), (80, 30874), (83, 30898), (84, 30904), (90, 30985), (98, 31054), (99, 31057), (108, 31093), (111, 31129), (119, 31201), (121, 31219), (122, 31222), (130, 31339), (132, 31369), (145, 31501), (148, 31522), (154, 31555), (157, 31609), (158, 31615), (174, 31735), (180, 31765), (183, 31786), (188, 31816),

Gene: Hydro\_43 Start: 40593, Stop: 42329, Start Num: 33

Candidate Starts for Hydro\_43:

(Start: 33 @40593 has 55 MA's), (46, 40668), (50, 40686), (53, 40707), (56, 40722), (67, 40794), (73, 40887), (80, 40959), (83, 40983), (91, 41070), (92, 41085), (115, 41274), (121, 41349), (125, 41430), (127, 41454), (128, 41457), (144, 41610), (145, 41619), (147, 41628), (155, 41724), (158, 41763), (166, 41832), (174, 41856), (179, 41883), (184, 41913), (197, 41991), (200, 42015), (202, 42033), (203, 42036), (209, 42105), (218, 42189),

Gene: Idergollasper\_66 Start: 42197, Stop: 43417, Start Num: 37

Candidate Starts for Idergollasper\_66:

(Start: 37 @42197 has 22 MA's), (45, 42233), (55, 42284), (57, 42290), (77, 42440), (85, 42494), (94, 42587), (108, 42635), (119, 42743), (122, 42764), (145, 43052), (158, 43169), (160, 43202), (162, 43214), (169, 43265), (174, 43289), (185, 43349), (191, 43394),

Gene: Indlovu\_45 Start: 39904, Stop: 41499, Start Num: 36

Candidate Starts for Indlovu\_45:

(31, 39856), (Start: 36 @39904 has 3 MA's), (59, 40009), (63, 40021), (75, 40162), (78, 40201), (80, 40213), (88, 40288), (111, 40504), (114, 40522), (121, 40588), (125, 40669), (127, 40693), (144, 40837), (145, 40846), (158, 40987), (166, 41074), (175, 41107), (179, 41134), (190, 41200), (203, 41284),

Gene: JAMaL\_43 Start: 40735, Stop: 42471, Start Num: 33

Candidate Starts for JAMaL\_43:

(Start: 33 @40735 has 55 MA's), (46, 40810), (50, 40828), (53, 40849), (56, 40864), (67, 40936), (73, 41029), (80, 41101), (83, 41125), (92, 41227), (115, 41416), (121, 41491), (125, 41572), (127, 41596), (128, 41599), (133, 41641), (144, 41752), (145, 41761), (147, 41770), (155, 41866), (158, 41905), (166, 41974), (174, 41998), (179, 42025), (184, 42055), (197, 42133), (200, 42157), (202, 42175),

(203, 42178), (206, 42202), (209, 42247), (218, 42331),

Gene: Jabbawokkie\_38 Start: 26902, Stop: 28200, Start Num: 33

Candidate Starts for Jabbawokkie\_38:

(Start: 33 @26902 has 55 MA's), (48, 26974), (56, 27022), (60, 27040), (68, 27094), (79, 27211), (81, 27214), (90, 27316), (96, 27373), (108, 27427), (116, 27490), (122, 27553), (123, 27556), (130, 27670), (131, 27682), (137, 27745), (145, 27841), (158, 27958), (160, 27991), (162, 28003), (181, 28108), (186, 28141), (191, 28180),

Gene: JaguarMi\_43 Start: 40036, Stop: 41772, Start Num: 33

Candidate Starts for JaguarMi\_43:

(Start: 33 @40036 has 55 MA's), (41, 40081), (46, 40111), (50, 40129), (53, 40150), (56, 40165), (67, 40237), (73, 40330), (80, 40402), (83, 40426), (91, 40513), (92, 40528), (107, 40648), (114, 40711), (115, 40717), (121, 40792), (125, 40873), (127, 40897), (128, 40900), (144, 41053), (145, 41062), (147, 41071), (158, 41206), (166, 41275), (173, 41293), (179, 41326), (184, 41356), (197, 41434), (200, 41458), (202, 41476), (206, 41503), (209, 41548), (213, 41602), (218, 41632),

Gene: JangDynasty\_66 Start: 42283, Stop: 43503, Start Num: 37

Candidate Starts for JangDynasty\_66:

(Start: 37 @42283 has 22 MA's), (45, 42319), (55, 42370), (57, 42376), (77, 42526), (85, 42580), (94, 42673), (108, 42721), (119, 42829), (122, 42850), (145, 43138), (158, 43255), (160, 43288), (162, 43300), (169, 43351), (174, 43375), (185, 43435), (191, 43480),

Gene: Jarcob\_30 Start: 26553, Stop: 27749, Start Num: 38

Candidate Starts for Jarcob\_30:

(Start: 38 @26553 has 32 MA's), (55, 26637), (77, 26787), (85, 26841), (94, 26934), (108, 26982), (119, 27093), (122, 27114), (145, 27396), (148, 27417), (158, 27513), (162, 27558), (169, 27603), (174, 27627), (185, 27687),

Gene: JoieB\_55 Start: 30941, Stop: 32320, Start Num: 33

Candidate Starts for JoieB\_55:

(Start: 33 @30941 has 55 MA's), (43, 30998), (50, 31034), (54, 31058), (56, 31070), (69, 31193), (73, 31235), (80, 31307), (83, 31331), (84, 31337), (90, 31418), (98, 31487), (99, 31490), (108, 31526), (111, 31562), (119, 31634), (121, 31652), (122, 31655), (130, 31772), (132, 31802), (145, 31934), (148, 31955), (154, 31988), (157, 32042), (158, 32048), (174, 32168), (180, 32198), (183, 32219), (188, 32249),

Gene: JustASigh\_26 Start: 24704, Stop: 26068, Start Num: 33

Candidate Starts for JustASigh\_26:

(30, 24677), (Start: 33 @24704 has 55 MA's), (39, 24734), (56, 24821), (76, 24995), (81, 25046), (83, 25070), (90, 25148), (96, 25205), (108, 25259), (111, 25295), (122, 25385), (127, 25493), (131, 25514), (137, 25577), (145, 25673), (160, 25823), (164, 25865),

Gene: Koella\_24 Start: 22477, Stop: 23673, Start Num: 38

Candidate Starts for Koella\_24:

(11, 22207), (Start: 38 @22477 has 32 MA's), (55, 22561), (77, 22711), (85, 22765), (94, 22858), (108, 22906), (119, 23017), (122, 23038), (145, 23320), (148, 23341), (158, 23437), (162, 23482), (169, 23527), (174, 23551), (185, 23611),

Gene: Krakatau\_31 Start: 27006, Stop: 28214, Start Num: 38

Candidate Starts for Krakatau\_31:

(4, 26619), (9, 26733), (12, 26751), (Start: 38 @27006 has 32 MA's), (58, 27102), (64, 27126), (71, 27219), (72, 27222), (80, 27267), (93, 27396), (108, 27447), (119, 27558), (122, 27579), (145, 27861),

(148, 27882), (158, 27978), (162, 28023), (169, 28068), (174, 28092), (185, 28152),

Gene: Krili\_65 Start: 41707, Stop: 42927, Start Num: 37

Candidate Starts for Krili\_65:

(Start: 37 @41707 has 22 MA's), (45, 41743), (55, 41794), (57, 41800), (58, 41803), (77, 41950), (85, 42004), (94, 42097), (108, 42145), (119, 42253), (122, 42274), (145, 42562), (158, 42679), (160, 42712), (162, 42724), (169, 42775), (174, 42799), (185, 42859), (191, 42904),

Gene: LastJedi\_24 Start: 22508, Stop: 23704, Start Num: 38

Candidate Starts for LastJedi\_24:

(11, 22238), (Start: 38 @22508 has 32 MA's), (55, 22592), (77, 22742), (85, 22796), (94, 22889), (108, 22937), (119, 23048), (122, 23069), (145, 23351), (148, 23372), (158, 23468), (162, 23513), (169, 23558), (174, 23582), (185, 23642),

Gene: Leperchaun\_30 Start: 26385, Stop: 27593, Start Num: 38

Candidate Starts for Leperchaun\_30:

(Start: 38 @26385 has 32 MA's), (58, 26481), (64, 26505), (71, 26598), (72, 26601), (80, 26646), (93, 26775), (108, 26826), (119, 26937), (122, 26958), (145, 27240), (148, 27261), (158, 27357), (162, 27402), (169, 27447), (174, 27471), (185, 27531),

Gene: LilMoolah\_30 Start: 26601, Stop: 27797, Start Num: 38

Candidate Starts for LilMoolah\_30:

(Start: 38 @26601 has 32 MA's), (55, 26685), (77, 26835), (85, 26889), (94, 26982), (108, 27030), (119, 27141), (122, 27162), (145, 27444), (148, 27465), (158, 27561), (162, 27606), (169, 27651), (174, 27675), (185, 27735),

Gene: Lilbit\_55 Start: 30704, Stop: 32083, Start Num: 33

Candidate Starts for Lilbit\_55:

(Start: 33 @30704 has 55 MA's), (43, 30761), (50, 30797), (54, 30821), (56, 30833), (69, 30956), (73, 30998), (80, 31070), (83, 31094), (84, 31100), (90, 31181), (98, 31250), (99, 31253), (108, 31289), (111, 31325), (119, 31397), (121, 31415), (122, 31418), (130, 31535), (132, 31565), (145, 31697), (148, 31718), (154, 31751), (157, 31805), (158, 31811), (174, 31931), (180, 31961), (183, 31982), (188, 32012),

Gene: LittleLaf\_54 Start: 30433, Stop: 31812, Start Num: 33

Candidate Starts for LittleLaf\_54:

(Start: 33 @30433 has 55 MA's), (43, 30490), (50, 30526), (54, 30550), (56, 30562), (69, 30685), (73, 30727), (80, 30799), (83, 30823), (84, 30829), (90, 30910), (98, 30979), (99, 30982), (108, 31018), (111, 31054), (119, 31126), (121, 31144), (122, 31147), (130, 31264), (132, 31294), (145, 31426), (148, 31447), (154, 31480), (157, 31534), (158, 31540), (174, 31660), (180, 31690), (183, 31711), (188, 31741),

Gene: Lizziana\_30 Start: 26476, Stop: 27672, Start Num: 38

Candidate Starts for Lizziana\_30:

(Start: 38 @26476 has 32 MA's), (55, 26560), (77, 26710), (85, 26764), (94, 26857), (108, 26905), (119, 27016), (122, 27037), (145, 27319), (148, 27340), (158, 27436), (162, 27481), (169, 27526), (174, 27550), (185, 27610),

Gene: Lolalove\_44 Start: 40560, Stop: 42296, Start Num: 33

Candidate Starts for Lolalove\_44:

(Start: 33 @40560 has 55 MA's), (46, 40635), (50, 40653), (53, 40674), (56, 40689), (67, 40761), (73, 40854), (80, 40926), (83, 40950), (91, 41037), (92, 41052), (114, 41235), (121, 41316), (125, 41397), (127, 41421), (128, 41424), (133, 41466), (144, 41577), (145, 41586), (147, 41595), (155, 41691),

(158, 41730), (166, 41799), (174, 41823), (179, 41850), (184, 41880), (197, 41958), (200, 41982), (202, 42000), (203, 42003), (206, 42027), (209, 42072), (218, 42156),

Gene: Lorde\_31 Start: 26141, Stop: 27412, Start Num: 33

Candidate Starts for Lorde\_31:

(Start: 33 @26141 has 55 MA's), (56, 26258), (79, 26447), (81, 26450), (89, 26528), (96, 26609), (108, 26660), (112, 26699), (116, 26723), (122, 26786), (123, 26789), (127, 26894), (131, 26915), (137, 26978), (140, 27008), (145, 27065), (158, 27182), (160, 27215),

Gene: LunaStella\_31 Start: 26826, Stop: 28124, Start Num: 33

Candidate Starts for LunaStella\_31:

(Start: 33 @26826 has 55 MA's), (48, 26898), (56, 26946), (60, 26964), (68, 27018), (79, 27135), (81, 27138), (90, 27240), (96, 27297), (108, 27351), (122, 27477), (123, 27480), (130, 27594), (131, 27606), (137, 27669), (145, 27765), (158, 27882), (160, 27915), (162, 27927), (168, 27972), (177, 28011), (181, 28032), (186, 28065), (191, 28104),

Gene: MadKillah\_67 Start: 41976, Stop: 43196, Start Num: 37

Candidate Starts for MadKillah\_67:

(Start: 37 @41976 has 22 MA's), (45, 42012), (55, 42063), (57, 42069), (77, 42219), (85, 42273), (94, 42366), (108, 42414), (119, 42522), (122, 42543), (145, 42831), (158, 42948), (160, 42981), (162, 42993), (169, 43044), (174, 43068), (185, 43128), (191, 43173),

Gene: Magpie\_42 Start: 40402, Stop: 42138, Start Num: 33

Candidate Starts for Magpie\_42:

(Start: 33 @40402 has 55 MA's), (46, 40477), (50, 40495), (53, 40516), (56, 40531), (67, 40603), (73, 40696), (80, 40768), (83, 40792), (91, 40879), (92, 40894), (114, 41077), (121, 41158), (125, 41239), (127, 41263), (128, 41266), (133, 41308), (144, 41419), (145, 41428), (147, 41437), (155, 41533), (158, 41572), (166, 41641), (174, 41665), (179, 41692), (184, 41722), (197, 41800), (200, 41824), (202, 41842), (203, 41845), (206, 41869), (209, 41914), (218, 41998),

Gene: Maravista\_30 Start: 26258, Stop: 27454, Start Num: 38

Candidate Starts for Maravista\_30:

(Start: 38 @26258 has 32 MA's), (55, 26342), (77, 26492), (85, 26546), (94, 26639), (108, 26687), (119, 26798), (122, 26819), (145, 27101), (148, 27122), (158, 27218), (162, 27263), (169, 27308), (174, 27332), (185, 27392),

Gene: Martik\_30 Start: 26503, Stop: 27699, Start Num: 38

Candidate Starts for Martik\_30:

(Start: 38 @26503 has 32 MA's), (55, 26587), (77, 26737), (85, 26791), (94, 26884), (108, 26932), (119, 27043), (122, 27064), (145, 27346), (148, 27367), (158, 27463), (162, 27508), (169, 27553), (174, 27577), (185, 27637),

Gene: Marvin\_51 Start: 30191, Stop: 31570, Start Num: 33

Candidate Starts for Marvin\_51:

(Start: 33 @30191 has 55 MA's), (43, 30248), (50, 30284), (54, 30308), (56, 30320), (69, 30443), (73, 30485), (80, 30557), (83, 30581), (84, 30587), (90, 30668), (98, 30737), (99, 30740), (108, 30776), (111, 30812), (119, 30884), (121, 30902), (122, 30905), (130, 31022), (132, 31052), (145, 31184), (148, 31205), (154, 31238), (157, 31292), (158, 31298), (174, 31418), (180, 31448), (183, 31469), (188, 31499),

Gene: Mithril\_43 Start: 40570, Stop: 42306, Start Num: 33

Candidate Starts for Mithril\_43:



(Start: 33 @40570 has 55 MA's), (46, 40645), (50, 40663), (53, 40684), (56, 40699), (67, 40771), (73, 40864), (80, 40936), (83, 40960), (91, 41047), (92, 41062), (115, 41251), (121, 41326), (125, 41407), (127, 41431), (128, 41434), (133, 41476), (144, 41587), (145, 41596), (147, 41605), (155, 41701), (158, 41740), (166, 41809), (174, 41833), (179, 41860), (184, 41890), (197, 41968), (200, 41992), (202, 42010), (203, 42013), (206, 42037), (209, 42082), (218, 42166),

Gene: MooMoo\_28 Start: 25459, Stop: 26733, Start Num: 33

Candidate Starts for MooMoo\_28:

(3, 25009), (5, 25114), (Start: 33 @25459 has 55 MA's), (44, 25522), (56, 25579), (79, 25768), (81, 25771), (89, 25849), (96, 25930), (108, 25981), (112, 26020), (113, 26029), (122, 26107), (123, 26110), (127, 26215), (137, 26299), (145, 26386), (158, 26503), (159, 26524), (160, 26536), (168, 26581), (183, 26659), (185, 26668),

Gene: Moonbeam\_31 Start: 26999, Stop: 28207, Start Num: 38

Candidate Starts for Moonbeam\_31:

(7, 26726), (12, 26747), (Start: 38 @26999 has 32 MA's), (58, 27095), (64, 27119), (71, 27212), (72, 27215), (80, 27260), (93, 27389), (108, 27440), (119, 27551), (122, 27572), (145, 27854), (148, 27875), (158, 27971), (162, 28016), (174, 28085), (177, 28097), (185, 28145),

Gene: Mori\_66 Start: 42238, Stop: 43458, Start Num: 37

Candidate Starts for Mori\_66:

(Start: 37 @42238 has 22 MA's), (45, 42274), (55, 42325), (57, 42331), (58, 42334), (77, 42481), (85, 42535), (94, 42628), (108, 42676), (119, 42784), (122, 42805), (145, 43093), (158, 43210), (160, 43243), (162, 43255), (169, 43306), (174, 43330), (185, 43390), (191, 43435),

Gene: MosMoris\_52 Start: 30124, Stop: 31503, Start Num: 33

Candidate Starts for MosMoris\_52:

(Start: 33 @30124 has 55 MA's), (43, 30181), (50, 30217), (54, 30241), (56, 30253), (69, 30376), (73, 30418), (80, 30490), (83, 30514), (84, 30520), (90, 30601), (98, 30670), (99, 30673), (108, 30709), (111, 30745), (119, 30817), (121, 30835), (122, 30838), (130, 30955), (132, 30985), (145, 31117), (148, 31138), (154, 31171), (157, 31225), (158, 31231), (174, 31351), (180, 31381), (183, 31402), (188, 31432),

Gene: Mudslide\_43 Start: 40826, Stop: 42562, Start Num: 33

Candidate Starts for Mudslide\_43:

(Start: 33 @40826 has 55 MA's), (46, 40901), (50, 40919), (53, 40940), (56, 40955), (67, 41027), (73, 41120), (80, 41192), (83, 41216), (91, 41303), (92, 41318), (115, 41507), (121, 41582), (125, 41663), (127, 41687), (128, 41690), (132, 41726), (133, 41732), (144, 41843), (145, 41852), (147, 41861), (155, 41957), (158, 41996), (166, 42065), (174, 42089), (179, 42116), (184, 42146), (196, 42221), (197, 42224), (200, 42248), (202, 42266), (203, 42269), (206, 42293), (209, 42338), (218, 42422),

Gene: Mufasa\_29 Start: 23220, Stop: 24878, Start Num: 33

Candidate Starts for Mufasa\_29:

(Start: 33 @23220 has 55 MA's), (42, 23271), (43, 23274), (50, 23310), (56, 23346), (80, 23547), (84, 23577), (97, 23715), (109, 23787), (111, 23802), (118, 23868), (122, 23889), (127, 23991), (146, 24162), (152, 24198), (154, 24213), (158, 24276), (166, 24345), (176, 24378), (211, 24633), (225, 24783), (226, 24846),

Gene: MulchSalad\_27 Start: 22629, Stop: 23891, Start Num: 33

Candidate Starts for MulchSalad\_27:

(Start: 33 @22629 has 55 MA's), (48, 22701), (56, 22749), (60, 22767), (79, 22938), (81, 22941), (96, 23100), (108, 23154), (122, 23280), (123, 23283), (127, 23388), (131, 23409), (137, 23472), (142, 23508), (145, 23535), (160, 23685), (162, 23697), (163, 23721), (169, 23745),

Gene: Murai\_67 Start: 42419, Stop: 43639, Start Num: 37

Candidate Starts for Murai\_67:

(Start: 37 @42419 has 22 MA's), (45, 42455), (55, 42506), (57, 42512), (58, 42515), (77, 42662), (85, 42716), (94, 42809), (108, 42857), (119, 42965), (122, 42986), (145, 43274), (158, 43391), (160, 43424), (162, 43436), (169, 43487), (174, 43511), (185, 43571), (191, 43616),

Gene: Nanao\_42 Start: 39522, Stop: 41258, Start Num: 33

Candidate Starts for Nanao\_42:

(Start: 33 @39522 has 55 MA's), (46, 39597), (50, 39615), (53, 39636), (56, 39651), (67, 39723), (73, 39816), (80, 39888), (83, 39912), (91, 39999), (92, 40014), (114, 40197), (121, 40278), (125, 40359), (127, 40383), (128, 40386), (133, 40428), (144, 40539), (145, 40548), (147, 40557), (155, 40653), (158, 40692), (166, 40761), (174, 40785), (179, 40812), (184, 40842), (197, 40920), (200, 40944), (202, 40962), (203, 40965), (206, 40989), (209, 41034), (218, 41118),

Gene: Nebkiss\_34 Start: 28982, Stop: 30292, Start Num: 47

Candidate Starts for Nebkiss\_34:

(Start: 47 @28982 has 1 MA's), (65, 29072), (66, 29078), (69, 29147), (80, 29234), (86, 29273), (93, 29369), (101, 29399), (110, 29459), (111, 29468), (112, 29471), (121, 29552), (127, 29657), (129, 29663), (138, 29750), (139, 29756), (143, 29807), (146, 29825), (147, 29831), (148, 29843), (149, 29846), (151, 29855), (152, 29861), (158, 29954), (159, 29975), (166, 30014), (171, 30032), (185, 30101), (192, 30155), (193, 30167), (195, 30173), (198, 30188), (199, 30191), (207, 30257), (208, 30260),

Gene: NiebruSaylor\_65 Start: 41626, Stop: 42846, Start Num: 37

Candidate Starts for NiebruSaylor\_65:

(Start: 37 @41626 has 22 MA's), (45, 41662), (55, 41713), (57, 41719), (58, 41722), (77, 41869), (85, 41923), (94, 42016), (108, 42064), (119, 42172), (122, 42193), (145, 42481), (158, 42598), (160, 42631), (162, 42643), (169, 42694), (174, 42718), (185, 42778), (191, 42823),

Gene: Nigel\_42 Start: 39419, Stop: 41152, Start Num: 33

Candidate Starts for Nigel\_42:

(24, 39323), (Start: 33 @39419 has 55 MA's), (46, 39494), (50, 39512), (53, 39533), (54, 39536), (56, 39548), (67, 39620), (73, 39713), (80, 39785), (83, 39809), (91, 39896), (92, 39911), (107, 40031), (115, 40100), (121, 40175), (125, 40256), (127, 40280), (128, 40283), (144, 40436), (145, 40445), (158, 40589), (166, 40655), (174, 40679), (179, 40706), (184, 40736), (196, 40811), (202, 40856), (203, 40859), (206, 40883), (210, 40946), (218, 41012), (220, 41030),

Gene: Nivrat\_30 Start: 26475, Stop: 27671, Start Num: 38

Candidate Starts for Nivrat\_30:

(Start: 38 @26475 has 32 MA's), (55, 26559), (77, 26709), (85, 26763), (94, 26856), (108, 26904), (119, 27015), (122, 27036), (145, 27318), (148, 27339), (158, 27435), (162, 27480), (169, 27525), (174, 27549), (185, 27609),

Gene: NormanBulbieJr\_30 Start: 26490, Stop: 27686, Start Num: 38

Candidate Starts for NormanBulbieJr\_30:

(Start: 38 @26490 has 32 MA's), (55, 26574), (77, 26724), (85, 26778), (94, 26871), (108, 26919), (119, 27030), (122, 27051), (145, 27333), (148, 27354), (158, 27450), (162, 27495), (169, 27540), (174, 27564), (185, 27624),

Gene: Pacc40\_30 Start: 26481, Stop: 27689, Start Num: 38

Candidate Starts for Pacc40\_30:

(Start: 38 @26481 has 32 MA's), (58, 26577), (64, 26601), (71, 26694), (72, 26697), (80, 26742), (93, 26871), (108, 26922), (119, 27033), (122, 27054), (145, 27336), (148, 27357), (158, 27453), (162, 27498), (169, 27543), (174, 27567), (185, 27627),

Gene: PenguinLover67\_49 Start: 42209, Stop: 43822, Start Num: 35

Candidate Starts for PenguinLover67\_49:

(2, 41603), (14, 41942), (16, 41990), (Start: 35 @42209 has 1 MA's), (59, 42314), (61, 42317), (62, 42323), (63, 42326), (70, 42428), (78, 42500), (80, 42512), (100, 42695), (102, 42710), (104, 42722), (105, 42743), (111, 42812), (121, 42896), (125, 42977), (127, 43001), (131, 43022), (136, 43082), (144, 43145), (145, 43154), (147, 43163), (158, 43292), (159, 43313), (166, 43364), (169, 43370), (175, 43397), (179, 43424), (187, 43475), (189, 43487), (190, 43493), (203, 43577),

Gene: Phalconet\_30 Start: 26423, Stop: 27631, Start Num: 38

Candidate Starts for Phalconet\_30:

(7, 26147), (12, 26168), (Start: 38 @26423 has 32 MA's), (58, 26519), (64, 26543), (71, 26636), (72, 26639), (80, 26684), (93, 26813), (108, 26864), (119, 26975), (122, 26996), (145, 27278), (148, 27299), (158, 27395), (162, 27440), (169, 27485), (174, 27509), (185, 27569),

Gene: PhesterPhotato\_30 Start: 26343, Stop: 27551, Start Num: 38

Candidate Starts for PhesterPhotato\_30:

(7, 26067), (12, 26088), (Start: 38 @26343 has 32 MA's), (58, 26439), (64, 26463), (71, 26556), (72, 26559), (80, 26604), (93, 26733), (108, 26784), (119, 26895), (122, 26916), (145, 27198), (148, 27219), (158, 27315), (162, 27360), (169, 27405), (174, 27429), (185, 27489),

Gene: Poise\_54 Start: 30021, Stop: 31400, Start Num: 33

Candidate Starts for Poise\_54:

(Start: 33 @30021 has 55 MA's), (43, 30078), (50, 30114), (54, 30138), (56, 30150), (69, 30273), (73, 30315), (80, 30387), (83, 30411), (84, 30417), (90, 30498), (98, 30567), (99, 30570), (108, 30606), (111, 30642), (119, 30714), (121, 30732), (122, 30735), (130, 30852), (132, 30882), (145, 31014), (148, 31035), (154, 31068), (157, 31122), (158, 31128), (174, 31248), (180, 31278), (183, 31299), (188, 31329),

Gene: PopTart\_30 Start: 26544, Stop: 27830, Start Num: 33

Candidate Starts for PopTart\_30:

(9, 26271), (13, 26292), (Start: 33 @26544 has 55 MA's), (56, 26664), (68, 26736), (79, 26853), (81, 26856), (90, 26958), (96, 27015), (108, 27069), (116, 27132), (122, 27195), (123, 27198), (130, 27312), (131, 27324), (137, 27387), (145, 27474), (150, 27501), (158, 27591), (159, 27612), (160, 27624), (162, 27636), (163, 27660), (181, 27741), (186, 27774),

Gene: Poster\_42 Start: 39523, Stop: 41259, Start Num: 33

Candidate Starts for Poster\_42:

(Start: 33 @39523 has 55 MA's), (46, 39598), (50, 39616), (53, 39637), (56, 39652), (67, 39724), (73, 39817), (80, 39889), (83, 39913), (91, 40000), (92, 40015), (114, 40198), (121, 40279), (125, 40360), (127, 40384), (128, 40387), (133, 40429), (144, 40540), (145, 40549), (147, 40558), (155, 40654), (158, 40693), (166, 40762), (174, 40786), (179, 40813), (184, 40843), (197, 40921), (200, 40945), (202, 40963), (203, 40966), (206, 40990), (209, 41035), (218, 41119),

Gene: Prince\_44 Start: 40736, Stop: 42472, Start Num: 33

Candidate Starts for Prince\_44:

(Start: 33 @40736 has 55 MA's), (46, 40811), (50, 40829), (53, 40850), (56, 40865), (67, 40937), (73, 41030), (80, 41102), (83, 41126), (91, 41213), (92, 41228), (115, 41417), (121, 41492), (125, 41573), (127, 41597), (128, 41600), (144, 41753), (145, 41762), (147, 41771), (155, 41867), (158, 41906), (166, 41975), (174, 41999), (179, 42026), (184, 42056), (197, 42134), (200, 42158), (202, 42176),

(203, 42179), (209, 42248), (218, 42332),

Gene: Pringar\_54 Start: 30309, Stop: 31688, Start Num: 33

Candidate Starts for Pringar\_54:

(Start: 33 @30309 has 55 MA's), (43, 30366), (50, 30402), (54, 30426), (56, 30438), (69, 30561), (73, 30603), (80, 30675), (83, 30699), (84, 30705), (90, 30786), (98, 30855), (99, 30858), (108, 30894), (111, 30930), (119, 31002), (121, 31020), (122, 31023), (130, 31140), (132, 31170), (145, 31302), (148, 31323), (154, 31356), (157, 31410), (158, 31416), (174, 31536), (180, 31566), (183, 31587), (188, 31617),

Gene: Quesadilla\_49 Start: 42178, Stop: 43833, Start Num: 36

Candidate Starts for Quesadilla\_49:

(20, 42043), (21, 42052), (23, 42058), (26, 42076), (Start: 36 @42178 has 3 MA's), (40, 42187), (63, 42301), (75, 42442), (78, 42481), (80, 42493), (86, 42532), (103, 42697), (114, 42811), (115, 42817), (121, 42892), (124, 42931), (125, 42973), (128, 43000), (134, 43054), (135, 43069), (145, 43159), (158, 43303), (166, 43387), (187, 43498), (189, 43510), (199, 43570), (203, 43600), (212, 43690), (214, 43720), (223, 43822),

Gene: Raela\_54 Start: 30576, Stop: 31955, Start Num: 33

Candidate Starts for Raela\_54:

(Start: 33 @30576 has 55 MA's), (43, 30633), (50, 30669), (54, 30693), (56, 30705), (69, 30828), (73, 30870), (80, 30942), (83, 30966), (84, 30972), (90, 31053), (98, 31122), (99, 31125), (108, 31161), (119, 31269), (121, 31287), (122, 31290), (130, 31407), (132, 31437), (145, 31569), (148, 31590), (154, 31623), (157, 31677), (158, 31683), (174, 31803), (180, 31833), (183, 31854), (188, 31884),

Gene: RawrgerThat\_44 Start: 40581, Stop: 42323, Start Num: 33

Candidate Starts for RawrgerThat\_44:

(Start: 33 @40581 has 55 MA's), (46, 40656), (50, 40674), (53, 40695), (56, 40710), (67, 40782), (73, 40875), (80, 40947), (83, 40971), (91, 41058), (92, 41073), (114, 41256), (121, 41337), (125, 41418), (127, 41442), (128, 41445), (133, 41487), (144, 41598), (145, 41607), (147, 41616), (155, 41712), (158, 41751), (166, 41820), (174, 41844), (179, 41871), (184, 41901), (197, 41979), (200, 42003), (202, 42021), (203, 42024), (206, 42048), (209, 42093), (218, 42177),

Gene: RedBird\_30 Start: 26299, Stop: 27495, Start Num: 38

Candidate Starts for RedBird\_30:

(Start: 38 @26299 has 32 MA's), (55, 26383), (77, 26533), (85, 26587), (94, 26680), (108, 26728), (119, 26839), (122, 26860), (145, 27142), (148, 27163), (158, 27259), (162, 27304), (169, 27349), (174, 27373), (185, 27433),

Gene: RedRaider77\_53 Start: 29965, Stop: 31344, Start Num: 33

Candidate Starts for RedRaider77\_53:

(Start: 33 @29965 has 55 MA's), (43, 30022), (50, 30058), (54, 30082), (56, 30094), (69, 30217), (73, 30259), (80, 30331), (83, 30355), (84, 30361), (90, 30442), (98, 30511), (99, 30514), (108, 30550), (111, 30586), (119, 30658), (121, 30676), (122, 30679), (130, 30796), (132, 30826), (145, 30958), (148, 30979), (154, 31012), (157, 31066), (158, 31072), (174, 31192), (180, 31222), (183, 31243), (188, 31273),

Gene: Renaud18\_30 Start: 26514, Stop: 27722, Start Num: 38

Candidate Starts for Renaud18\_30:

(Start: 38 @26514 has 32 MA's), (58, 26610), (64, 26634), (71, 26727), (72, 26730), (80, 26775), (93, 26904), (108, 26955), (119, 27066), (122, 27087), (145, 27369), (148, 27390), (158, 27486), (162, 27531), (169, 27576), (174, 27600), (185, 27660),

Gene: Ryadel\_70 Start: 43007, Stop: 44251, Start Num: 37

Candidate Starts for Ryadel\_70:

(Start: 37 @43007 has 22 MA's), (45, 43043), (55, 43094), (57, 43100), (58, 43103), (77, 43250), (85, 43304), (94, 43397), (108, 43445), (119, 43553), (122, 43574), (145, 43862), (158, 43979), (160, 44012), (162, 44024), (169, 44075), (174, 44099), (185, 44159), (191, 44204),

Gene: SG4\_30 Start: 26651, Stop: 27922, Start Num: 33

Candidate Starts for SG4\_30:

(Start: 33 @26651 has 55 MA's), (56, 26768), (79, 26957), (81, 26960), (89, 27038), (96, 27119), (108, 27170), (112, 27209), (116, 27233), (122, 27296), (123, 27299), (127, 27404), (131, 27425), (137, 27488), (140, 27518), (145, 27575), (158, 27692), (160, 27725),

Gene: Saguaro\_49 Start: 41855, Stop: 43441, Start Num: 34

Candidate Starts for Saguaro\_49:

(19, 41702), (22, 41720), (23, 41723), (25, 41735), (27, 41759), (32, 41813), (Start: 34 @41855 has 2 MA's), (Start: 36 @41864 has 3 MA's), (59, 41969), (63, 41981), (70, 42083), (74, 42110), (78, 42155), (80, 42167), (87, 42221), (112, 42464), (114, 42479), (121, 42545), (126, 42632), (136, 42731), (144, 42794), (145, 42803), (156, 42929), (158, 42941), (166, 43013), (174, 43037), (179, 43064), (184, 43094), (185, 43100), (200, 43196), (202, 43214), (203, 43217), (212, 43313),

Gene: SassyB\_30 Start: 26544, Stop: 27830, Start Num: 33

Candidate Starts for SassyB\_30:

(9, 26271), (13, 26292), (Start: 33 @26544 has 55 MA's), (56, 26664), (68, 26736), (79, 26853), (81, 26856), (90, 26958), (96, 27015), (108, 27069), (116, 27132), (122, 27195), (123, 27198), (130, 27312), (131, 27324), (137, 27387), (145, 27474), (150, 27501), (158, 27591), (159, 27612), (160, 27624), (162, 27636), (163, 27660), (181, 27741), (186, 27774),

Gene: SchoolBus\_66 Start: 42191, Stop: 43411, Start Num: 37

Candidate Starts for SchoolBus\_66:

(17, 42038), (18, 42041), (20, 42053), (28, 42107), (29, 42110), (Start: 37 @42191 has 22 MA's), (45, 42227), (55, 42278), (57, 42284), (77, 42434), (85, 42488), (94, 42581), (108, 42629), (119, 42737), (122, 42758), (145, 43046), (158, 43163), (160, 43196), (162, 43208), (169, 43259), (174, 43283), (185, 43343), (191, 43388),

Gene: Schuy\_64 Start: 41982, Stop: 43202, Start Num: 37

Candidate Starts for Schuy\_64:

(Start: 37 @41982 has 22 MA's), (45, 42018), (55, 42069), (57, 42075), (77, 42225), (85, 42279), (94, 42372), (108, 42420), (119, 42528), (122, 42549), (145, 42837), (158, 42954), (160, 42987), (162, 42999), (169, 43050), (174, 43074), (185, 43134), (191, 43179),

Gene: Seagreen\_31 Start: 26351, Stop: 27637, Start Num: 33

Candidate Starts for Seagreen\_31:

(9, 26078), (13, 26099), (Start: 33 @26351 has 55 MA's), (56, 26471), (68, 26543), (79, 26660), (81, 26663), (90, 26765), (96, 26822), (108, 26876), (116, 26939), (122, 27002), (123, 27005), (130, 27119), (131, 27131), (137, 27194), (145, 27281), (150, 27308), (158, 27398), (159, 27419), (160, 27431), (162, 27443), (163, 27467), (181, 27548), (186, 27581),

Gene: ShiLan\_30 Start: 26544, Stop: 27740, Start Num: 38

Candidate Starts for ShiLan\_30:

(Start: 38 @26544 has 32 MA's), (55, 26628), (77, 26778), (85, 26832), (94, 26925), (108, 26973), (119, 27084), (122, 27105), (145, 27387), (148, 27408), (158, 27504), (162, 27549), (169, 27594), (174, 27618), (185, 27678),

Gene: Shida\_66 Start: 41889, Stop: 43109, Start Num: 37

Candidate Starts for Shida\_66:

(Start: 37 @41889 has 22 MA's), (45, 41925), (55, 41976), (57, 41982), (58, 41985), (77, 42132), (85, 42186), (94, 42279), (108, 42327), (119, 42435), (122, 42456), (145, 42744), (158, 42861), (160, 42894), (162, 42906), (169, 42957), (174, 42981), (185, 43041), (191, 43086),

Gene: ShowerHandel\_31 Start: 26503, Stop: 27699, Start Num: 38

Candidate Starts for ShowerHandel\_31:

(Start: 38 @26503 has 32 MA's), (55, 26587), (77, 26737), (85, 26791), (94, 26884), (108, 26932), (119, 27043), (122, 27064), (145, 27346), (148, 27367), (158, 27463), (162, 27508), (169, 27553), (174, 27577), (185, 27637),

Gene: SiSi\_30 Start: 26302, Stop: 27498, Start Num: 38

Candidate Starts for SiSi\_30:

(Start: 38 @26302 has 32 MA's), (55, 26386), (77, 26536), (85, 26590), (94, 26683), (108, 26731), (119, 26842), (122, 26863), (145, 27145), (148, 27166), (158, 27262), (162, 27307), (169, 27352), (174, 27376), (185, 27436),

Gene: Smooch\_69 Start: 43911, Stop: 45155, Start Num: 37

Candidate Starts for Smooch\_69:

(Start: 37 @43911 has 22 MA's), (45, 43947), (55, 43998), (57, 44004), (58, 44007), (77, 44154), (85, 44208), (94, 44301), (108, 44349), (119, 44457), (122, 44478), (145, 44766), (158, 44883), (160, 44916), (162, 44928), (169, 44979), (174, 45003), (185, 45063), (191, 45108),

Gene: StAugustine\_56 Start: 44382, Stop: 45980, Start Num: 36

Candidate Starts for StAugustine\_56:

(Start: 36 @44382 has 3 MA's), (49, 44430), (63, 44499), (70, 44601), (75, 44640), (78, 44679), (80, 44691), (90, 44793), (96, 44868), (106, 44946), (121, 45102), (125, 45183), (127, 45207), (128, 45210), (129, 45213), (145, 45372), (146, 45375), (147, 45381), (158, 45516), (161, 45555), (165, 45591), (170, 45615), (199, 45789), (204, 45822), (215, 45936), (221, 45969),

Gene: Stinger\_42 Start: 39109, Stop: 40842, Start Num: 33

Candidate Starts for Stinger\_42:

(24, 39013), (Start: 33 @39109 has 55 MA's), (44, 39178), (50, 39202), (53, 39223), (54, 39226), (56, 39238), (67, 39310), (73, 39403), (80, 39475), (83, 39499), (92, 39601), (115, 39790), (121, 39865), (125, 39946), (127, 39970), (128, 39973), (133, 40015), (144, 40126), (145, 40135), (158, 40279), (166, 40345), (174, 40369), (179, 40396), (184, 40426), (196, 40501), (202, 40546), (206, 40573), (210, 40636),

Gene: SwagPiggett\_30 Start: 26314, Stop: 27510, Start Num: 38

Candidate Starts for SwagPiggett\_30:

(Start: 38 @26314 has 32 MA's), (55, 26398), (77, 26548), (85, 26602), (94, 26695), (108, 26743), (119, 26854), (122, 26875), (145, 27157), (148, 27178), (158, 27274), (162, 27319), (169, 27364), (174, 27388), (185, 27448),

Gene: TChen\_30 Start: 26827, Stop: 28125, Start Num: 33

Candidate Starts for TChen\_30:

(Start: 33 @26827 has 55 MA's), (48, 26899), (56, 26947), (60, 26965), (68, 27019), (79, 27136), (81, 27139), (90, 27241), (96, 27298), (108, 27352), (122, 27478), (123, 27481), (130, 27595), (131, 27607), (137, 27670), (145, 27766), (158, 27883), (160, 27916), (162, 27928), (168, 27973), (177, 28012), (181, 28033), (186, 28066), (191, 28105),

Gene: TM4\_29 Start: 23341, Stop: 24984, Start Num: 33

Candidate Starts for TM4\_29:

(Start: 33 @23341 has 55 MA's), (42, 23392), (43, 23395), (50, 23431), (56, 23467), (80, 23668), (84, 23698), (97, 23836), (109, 23908), (111, 23923), (118, 23989), (120, 23998), (121, 24007), (122, 24010), (127, 24112), (146, 24283), (152, 24319), (154, 24334), (158, 24397), (166, 24466), (176, 24499), (211, 24754), (224, 24886), (225, 24889), (226, 24952),

Gene: TelAviv\_63 Start: 42164, Stop: 43384, Start Num: 37

Candidate Starts for TelAviv\_63:

(Start: 37 @42164 has 22 MA's), (45, 42200), (55, 42251), (57, 42257), (77, 42407), (85, 42461), (94, 42554), (108, 42602), (119, 42710), (122, 42731), (145, 43019), (158, 43136), (160, 43169), (162, 43181), (169, 43232), (174, 43256), (185, 43316), (191, 43361),

Gene: Tesla\_52 Start: 29814, Stop: 31193, Start Num: 33

Candidate Starts for Tesla\_52:

(Start: 33 @29814 has 55 MA's), (43, 29871), (50, 29907), (54, 29931), (56, 29943), (69, 30066), (73, 30108), (80, 30180), (83, 30204), (84, 30210), (90, 30291), (98, 30360), (99, 30363), (108, 30399), (111, 30435), (119, 30507), (121, 30525), (122, 30528), (130, 30645), (132, 30675), (145, 30807), (148, 30828), (154, 30861), (157, 30915), (158, 30921), (174, 31041), (180, 31071), (183, 31092), (188, 31122),

Gene: Thonko\_46 Start: 38334, Stop: 39899, Start Num: 34

Candidate Starts for Thonko\_46:

(Start: 34 @38334 has 2 MA's), (Start: 36 @38343 has 3 MA's), (52, 38418), (59, 38454), (63, 38466), (75, 38607), (78, 38646), (80, 38658), (82, 38664), (90, 38760), (101, 38865), (109, 38952), (111, 38967), (117, 39015), (121, 39051), (134, 39213), (144, 39300), (145, 39309), (158, 39453), (166, 39519), (172, 39534), (174, 39543), (179, 39570), (194, 39672), (200, 39702), (202, 39720), (216, 39846),

Gene: VasuNzinga\_54 Start: 29883, Stop: 31262, Start Num: 33

Candidate Starts for VasuNzinga\_54:

(Start: 33 @29883 has 55 MA's), (43, 29940), (50, 29976), (54, 30000), (56, 30012), (69, 30135), (73, 30177), (80, 30249), (83, 30273), (84, 30279), (90, 30360), (98, 30429), (99, 30432), (108, 30468), (111, 30504), (119, 30576), (121, 30594), (122, 30597), (130, 30714), (132, 30744), (145, 30876), (148, 30897), (154, 30930), (157, 30984), (158, 30990), (174, 31110), (180, 31140), (183, 31161), (188, 31191),

Gene: Vincenzo\_44 Start: 41174, Stop: 42871, Start Num: 33

Candidate Starts for Vincenzo\_44:

(Start: 33 @41174 has 55 MA's), (44, 41243), (46, 41249), (50, 41267), (53, 41288), (56, 41303), (67, 41375), (73, 41468), (80, 41540), (83, 41564), (92, 41666), (121, 41927), (125, 42008), (127, 42032), (128, 42035), (144, 42188), (145, 42197), (147, 42206), (151, 42230), (158, 42341), (166, 42410), (174, 42434), (175, 42437), (179, 42461), (184, 42491), (196, 42566), (200, 42593), (202, 42611), (206, 42638), (217, 42764),

Gene: VioletZ\_45 Start: 40652, Stop: 42388, Start Num: 33

Candidate Starts for VioletZ\_45:

(Start: 33 @40652 has 55 MA's), (46, 40727), (50, 40745), (53, 40766), (56, 40781), (67, 40853), (73, 40946), (80, 41018), (83, 41042), (91, 41129), (92, 41144), (115, 41333), (121, 41408), (125, 41489), (127, 41513), (128, 41516), (144, 41669), (145, 41678), (147, 41687), (155, 41783), (158, 41822), (166, 41891), (174, 41915), (179, 41942), (184, 41972), (197, 42050), (200, 42074), (202, 42092), (203, 42095), (209, 42164), (218, 42248),

Gene: Vorrps\_66 Start: 42239, Stop: 43459, Start Num: 37

Candidate Starts for Vorrrps\_66:

(Start: 37 @42239 has 22 MA's), (45, 42275), (55, 42326), (57, 42332), (58, 42335), (77, 42482), (85, 42536), (94, 42629), (108, 42677), (119, 42785), (122, 42806), (145, 43094), (158, 43211), (160, 43244), (162, 43256), (169, 43307), (174, 43331), (185, 43391), (191, 43436),

Gene: Wachhund\_30 Start: 26486, Stop: 27697, Start Num: 38

Candidate Starts for Wachhund\_30:

(Start: 38 @26486 has 32 MA's), (58, 26582), (64, 26606), (71, 26699), (72, 26702), (80, 26747), (93, 26876), (108, 26927), (119, 27038), (122, 27059), (145, 27341), (148, 27362), (149, 27365), (158, 27458), (162, 27503), (169, 27551), (186, 27641),

Gene: Waleliano\_43 Start: 40576, Stop: 42312, Start Num: 33

Candidate Starts for Waleliano\_43:

(Start: 33 @40576 has 55 MA's), (46, 40651), (50, 40669), (53, 40690), (56, 40705), (67, 40777), (73, 40870), (80, 40942), (83, 40966), (91, 41053), (92, 41068), (114, 41251), (121, 41332), (125, 41413), (127, 41437), (128, 41440), (133, 41482), (144, 41593), (145, 41602), (147, 41611), (155, 41707), (158, 41746), (166, 41815), (174, 41839), (179, 41866), (184, 41896), (196, 41971), (197, 41974), (200, 41998), (201, 42004), (202, 42016), (203, 42019), (206, 42043), (209, 42088), (218, 42172),

Gene: Whatsapiecost\_31 Start: 26670, Stop: 27956, Start Num: 33

Candidate Starts for Whatsapiecost\_31:

(Start: 33 @26670 has 55 MA's), (56, 26790), (68, 26862), (79, 26979), (81, 26982), (90, 27084), (96, 27141), (108, 27195), (116, 27258), (122, 27321), (123, 27324), (130, 27438), (131, 27450), (137, 27513), (145, 27600), (150, 27627), (158, 27717), (159, 27738), (160, 27750), (162, 27762), (163, 27786), (181, 27867), (186, 27900),

Gene: Wildflower\_64 Start: 41751, Stop: 42971, Start Num: 37

Candidate Starts for Wildflower\_64:

(Start: 37 @41751 has 22 MA's), (45, 41787), (55, 41838), (57, 41844), (58, 41847), (77, 41994), (85, 42048), (94, 42141), (108, 42189), (119, 42297), (122, 42318), (145, 42606), (158, 42723), (160, 42756), (162, 42768), (169, 42819), (174, 42843), (185, 42903), (191, 42948),

Gene: Winget\_67 Start: 42457, Stop: 43677, Start Num: 37

Candidate Starts for Winget\_67:

(Start: 37 @42457 has 22 MA's), (45, 42493), (55, 42544), (57, 42550), (58, 42553), (77, 42700), (85, 42754), (94, 42847), (108, 42895), (119, 43003), (122, 43024), (145, 43312), (158, 43429), (160, 43462), (162, 43474), (169, 43525), (174, 43549), (185, 43609), (191, 43654),

Gene: XFactor\_30 Start: 26489, Stop: 27697, Start Num: 38

Candidate Starts for XFactor\_30:

(7, 26213), (12, 26234), (Start: 38 @26489 has 32 MA's), (58, 26585), (64, 26609), (71, 26702), (72, 26705), (80, 26750), (93, 26879), (108, 26930), (119, 27041), (122, 27062), (145, 27344), (148, 27365), (158, 27461), (162, 27506), (169, 27551), (174, 27575), (185, 27635),

Gene: Yorick\_30 Start: 26501, Stop: 27697, Start Num: 38

Candidate Starts for Yorick\_30:

(Start: 38 @26501 has 32 MA's), (55, 26585), (77, 26735), (85, 26789), (94, 26882), (108, 26930), (119, 27041), (122, 27062), (145, 27344), (148, 27365), (158, 27461), (162, 27506), (169, 27551), (174, 27575), (185, 27635),

Gene: YungJamal\_71 Start: 43649, Stop: 44869, Start Num: 37

Candidate Starts for YungJamal\_71:



(Start: 37 @43649 has 22 MA's), (45, 43685), (55, 43736), (57, 43742), (58, 43745), (77, 43892), (85, 43946), (94, 44039), (108, 44087), (119, 44195), (122, 44216), (145, 44504), (158, 44621), (160, 44654), (162, 44666), (169, 44717), (174, 44741), (185, 44801), (191, 44846),

Gene: Zakhe101\_65 Start: 42297, Stop: 43517, Start Num: 37

Candidate Starts for Zakhe101\_65:

(Start: 37 @42297 has 22 MA's), (45, 42333), (55, 42384), (57, 42390), (58, 42393), (77, 42540), (85, 42594), (94, 42687), (108, 42735), (119, 42843), (122, 42864), (145, 43152), (158, 43269), (160, 43302), (162, 43314), (169, 43365), (174, 43389), (185, 43449), (191, 43494),

Gene: Zapner\_37 Start: 26903, Stop: 28201, Start Num: 33

Candidate Starts for Zapner\_37:

(Start: 33 @26903 has 55 MA's), (48, 26975), (56, 27023), (60, 27041), (68, 27095), (79, 27212), (81, 27215), (90, 27317), (96, 27374), (108, 27428), (116, 27491), (122, 27554), (123, 27557), (130, 27671), (131, 27683), (137, 27746), (145, 27842), (158, 27959), (160, 27992), (162, 28004), (181, 28109), (186, 28142), (191, 28181),

Gene: Zemanar\_44 Start: 40552, Stop: 42288, Start Num: 33

Candidate Starts for Zemanar\_44:

(Start: 33 @40552 has 55 MA's), (46, 40627), (50, 40645), (53, 40666), (56, 40681), (67, 40753), (73, 40846), (80, 40918), (83, 40942), (91, 41029), (92, 41044), (114, 41227), (121, 41308), (125, 41389), (127, 41413), (128, 41416), (133, 41458), (144, 41569), (145, 41578), (147, 41587), (155, 41683), (158, 41722), (166, 41791), (174, 41815), (179, 41842), (184, 41872), (197, 41950), (200, 41974), (202, 41992), (203, 41995), (206, 42019), (209, 42064), (218, 42148),

Gene: Zizzle\_30 Start: 26445, Stop: 27641, Start Num: 38

Candidate Starts for Zizzle\_30:

(Start: 38 @26445 has 32 MA's), (55, 26529), (77, 26679), (85, 26733), (94, 26826), (108, 26874), (119, 26985), (122, 27006), (145, 27288), (148, 27309), (158, 27405), (162, 27450), (169, 27495), (174, 27519), (185, 27579),