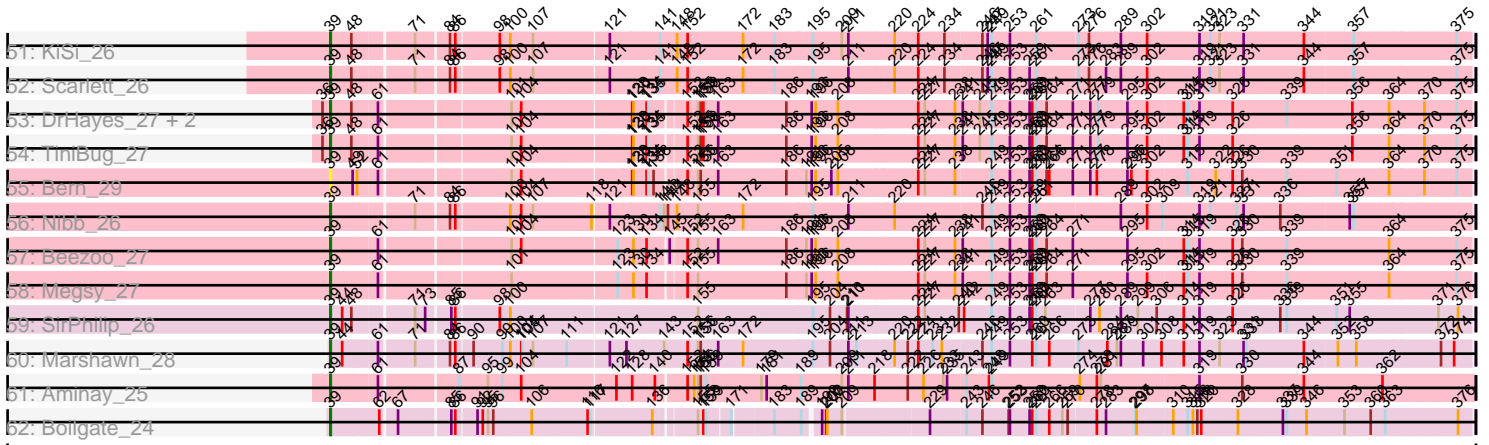




Pham 215971



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 215971 Report

This analysis was run 02/22/25 on database version 588.

Pham number 215971 has 122 members, 13 are drafts.

Phages represented in each track:

- Track 1 : NoShow\_21
- Track 2 : LilMcDreamy\_27
- Track 3 : BirdsNest\_33
- Track 4 : 39HC\_026, 40BC\_026
- Track 5 : KayaCho\_26
- Track 6 : ForDig\_27
- Track 7 : Jolie1\_026
- Track 8 : Hosp\_024
- Track 9 : Funsized\_34
- Track 10 : Rinkes\_33
- Track 11 : FlagStaff\_22, Pace1224\_22
- Track 12 : Cambiare\_23
- Track 13 : Avocado\_22
- Track 14 : MOOREtheMARYer\_23
- Track 15 : Pinnie\_23
- Track 16 : Mercurio\_24
- Track 17 : Lemuria\_23
- Track 18 : Jolie2\_22
- Track 19 : Antsirabe\_22
- Track 20 : Stargaze\_22
- Track 21 : DrLupo\_38
- Track 22 : Barnyard\_36
- Track 23 : BaghaKamala\_27, Durfee\_27, Piatt\_27, BarrelRoll\_27, Boiiii\_27, Belladonna\_27, Pokerus\_26, Peel\_27, Blizzard\_27, Padfoot\_27, Topper\_27, Dalmuri\_27, Inky\_27, Asayake\_27, JAWS\_27, AlishaPH\_27, Jeckyll\_27, Capricorn\_27, BGIlluviae\_27, CREW\_27, CallaLilly\_28, Hyperbowlee\_27, CaseJules\_27, ShiaSurprise\_27, Ramen\_27, Jarvi\_27, Homura\_27, BEEST\_27, Spock\_27, Rosmarinus\_27, Twitch\_27, Lunahalos\_27, Llorens\_27
- Track 24 : Apocalypse\_27
- Track 25 : MarkPhew\_27
- Track 26 : Sulley\_27, Angelica\_27, Deby\_27
- Track 27 : Slimphazie\_27, HedwigODU\_27, Jayhawk\_27, ActinUp\_27, Veliki\_27, Zabiza\_27, Rapunzel97\_27, Adephagia\_27
- Track 28 : Murucutumbu\_27
- Track 29 : Bella96\_27
- Track 30 : CrimD\_27
- Track 31 : Joy99\_27

- Track 32 : YoureAdopted\_26, Tachez\_27, Atiba\_27
- Track 33 : Dole\_27, Illumine\_27, Devera\_27
- Track 34 : LindNT\_27, Prithvi\_27, TreyKay\_27
- Track 35 : Tiri\_27
- Track 36 : CheetoDust\_27
- Track 37 : TaiwanKao\_28
- Track 38 : Adonis\_27
- Track 39 : Chris\_26
- Track 40 : Zavala\_27, Mynx\_27, Emerson\_27, Padpat\_27, TruffulaTree\_27
- Track 41 : Oscar\_26
- Track 42 : Anaya\_28
- Track 43 : LeMond\_26
- Track 44 : Guanica15\_27, Efra2\_27, Yunkel11\_27
- Track 45 : Geraldini\_27, MeaningOfLife\_27
- Track 46 : MacKat\_28, Clipper\_29
- Track 47 : Ganymede\_28, QuincyRose\_26
- Track 48 : Stinson\_28
- Track 49 : LaterM\_27
- Track 50 : Ageofdapage\_27
- Track 51 : KiSi\_26
- Track 52 : Scarlett\_26
- Track 53 : DrHayes\_27, Urkel\_27, SamuelLPlaqson\_27
- Track 54 : TiniBug\_27
- Track 55 : Bern\_29
- Track 56 : Nibb\_26
- Track 57 : Beezoo\_27
- Track 58 : Megsy\_27
- Track 59 : SirPhilip\_26
- Track 60 : Marshawn\_28
- Track 61 : Aminay\_25
- Track 62 : Boilgate\_24

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

The start number called the most often in the published annotations is 39, it was called in 93 of the 109 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ActinUp\_27, Adephegia\_27, Adonis\_27, Ageofdapage\_27, AlishaPH\_27, Aminay\_25, Anaya\_28, Angelica\_27, Apocalypse\_27, Asayake\_27, Atiba\_27, BEEST\_27, BGlluviae\_27, BaghaKamala\_27, BarrelRoll\_27, Beezoo\_27, Bella96\_27, Belladonna\_27, Bern\_29, Blizzard\_27, Boiiii\_27, Boilgate\_24, CREW\_27, CallaLilly\_28, Capricorn\_27, CaseJules\_27, CheetoDust\_27, Chris\_26, Clipper\_29, CrimD\_27, Dalmuri\_27, Deby\_27, Devera\_27, Dole\_27, DrHayes\_27, Durfee\_27, Efra2\_27, Emerson\_27, Ganymede\_28, Geraldini\_27, Guanica15\_27, HedwigODU\_27, Homura\_27, Hyperbowlee\_27, Illumine\_27, Inky\_27, JAWS\_27, Jarvi\_27, Jayhawk\_27, Jeckyll\_27, Joy99\_27, KiSi\_26, LaterM\_27, LeMond\_26, LindNT\_27, Llorens\_27, Lunahalos\_27, MacKat\_28, MarkPhew\_27, Marshawn\_28, MeaningOfLife\_27, Megsy\_27, Murucutumbu\_27, Mynx\_27, Nibb\_26, Oscar\_26, Padfoot\_27, Padpat\_27, Peel\_27, Piatt\_27, Pokerus\_26, Prithvi\_27, QuincyRose\_26,

Ramen\_27, Rapunzel97\_27, Rosmarinus\_27, SamuelLPlaqson\_27, Scarlett\_26, ShiaSurprise\_27, SirPhilip\_26, Slimphazie\_27, Spock\_27, Stinson\_28, Sulley\_27, Tachez\_27, TaiwanKao\_28, TiniBug\_27, Tiri\_27, Topper\_27, TreyKay\_27, TruffulaTree\_27, Twitch\_27, Urkel\_27, Veliki\_27, YoureAdopted\_26, Yunkel11\_27, Zabiza\_27, Zavala\_27,

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

- 

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

- 39HC\_026, 40BC\_026, Antsirabe\_22, Avocado\_22, Barnyard\_36, BirdsNest\_33, Cambiare\_23, DrLupo\_38, FlagStaff\_22, ForDig\_27, Funsized\_34, Hosp\_024, Jolie1\_026, Jolie2\_22, KayaCho\_26, Lemuria\_23, LilMcDreamy\_27, MOOREtheMARYer\_23, Mercurio\_24, NoShow\_21, Pace1224\_22, Pinnie\_23, Rinkes\_33, Stargaze\_22,

### Summary by start number:

Start 2:

- Found in 2 of 122 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 2 of 109
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Barnyard\_36 (H2), DrLupo\_38 (H2),

Start 25:

- Found in 11 of 122 ( 9.0% ) of genes in pham
- Manual Annotations of this start: 8 of 109
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Antsirabe\_22 (G5), Avocado\_22 (G2), Cambiare\_23 (G2), FlagStaff\_22 (G2), Jolie2\_22 (G4), Lemuria\_23 (G4), MOOREtheMARYer\_23 (G3), Mercurio\_24 (G4), Pace1224\_22 (G2), Pinnie\_23 (G3), Stargaze\_22 (G5),

Start 27:

- Found in 1 of 122 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 109
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BirdsNest\_33 (B13),

Start 28:

- Found in 9 of 122 ( 7.4% ) of genes in pham
- Manual Annotations of this start: 4 of 109
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 39HC\_026 (B6), 40BC\_026 (B6), ForDig\_27 (B6), Funsized\_34 (B9), Hosp\_024 (B6), Jolie1\_026 (B6), KayaCho\_26 (B6), LilMcDreamy\_27 (B12), Rinkes\_33 (B9),

Start 39:

- Found in 98 of 122 ( 80.3% ) of genes in pham
- Manual Annotations of this start: 93 of 109
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ActinUp\_27 (K1), Adephegia\_27 (K1), Adonis\_27 (K1), Ageofdapage\_27 (K1), AlishaPH\_27 (K1), Aminay\_25 (K7),

Anaya\_28 (K1), Angelica\_27 (K1), Apocalypse\_27 (K1), Asayake\_27 (K1), Atiba\_27 (K1), BEEEST\_27 (K1), BGlluviae\_27 (K1), BaghaKamala\_27 (K1), BarrelRoll\_27 (K1), Beezoo\_27 (K1), Bella96\_27 (K1), Belladonna\_27 (K1), Bern\_29 (K1), Blizzard\_27 (K1), Boiiii\_27 (K1), Boilgate\_24 (K8), CREW\_27 (K1), CallaLilly\_28 (K1), Capricorn\_27 (K1), CaseJules\_27 (K1), CheetoDust\_27 (K1), Chris\_26 (K1), Clipper\_29 (K1), CrimD\_27 (K1), Dalmuri\_27 (K1), Deby\_27 (K1), Devera\_27 (K1), Dole\_27 (K1), DrHayes\_27 (K1), Durfee\_27 (K1), Efra2\_27 (K1), Emerson\_27 (K1), Ganymede\_28 (K1), Geraldini\_27 (K1), Guanica15\_27 (K1), HedwigODU\_27 (K1), Homura\_27 (K1), Hyperbowlee\_27 (K1), Illumine\_27 (K1), Inky\_27 (K1), JAWS\_27 (K1), Jarvi\_27 (K1), Jayhawk\_27 (K1), Jeckyll\_27 (K1), Joy99\_27 (K1), KiSi\_26 (K1), LaterM\_27 (K1), LeMond\_26 (K1), LindNT\_27 (K1), Llorens\_27 (K1), Lunahalos\_27 (K1), MacKat\_28 (K1), MarkPhew\_27 (K1), Marshawn\_28 (K6), MeaningOfLife\_27 (K1), Megsy\_27 (K1), Murucutumbu\_27 (K1), Mynx\_27 (K1), Nibb\_26 (K1), Oscar\_26 (K1), Padfoot\_27 (K1), Padpat\_27 (K1), Peel\_27 (K1), Piatt\_27 (K1), Pokerus\_26 (K1), Prithvi\_27 (K1), QuincyRose\_26 (K1), Ramen\_27 (K1), Rapunzel97\_27 (K1), Rosmarinus\_27 (K1), SamuelLPlaqson\_27 (K1), Scarlett\_26 (K1), ShiaSurprise\_27 (K1), SirPhilip\_26 (K6), Slimphazie\_27 (K1), Spock\_27 (K1), Stinson\_28 (K1), Sulley\_27 (K1), Tachez\_27 (K1), TaiwanKao\_28 (K1), TiniBug\_27 (K1), Tiri\_27 (K1), Topper\_27 (K1), TreyKay\_27 (K1), TruffulaTree\_27 (K1), Twitch\_27 (K1), Urkel\_27 (K1), Veliki\_27 (K1), YoureAdopted\_26 (K1), Yunkel11\_27 (K1), Zabiza\_27 (K1), Zavala\_27 (K1),

Start 56:

- Found in 1 of 122 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 109
- Called 100.0% of time when present
- Phage (with cluster) where this start called: NoShow\_21 (AB),

### Summary by clusters:

There are 14 clusters represented in this pham: G5, G4, G3, G2, H2, K1, B6, AB, K7, B13, B12, K8, B9, K6,

Info for manual annotations of cluster AB:

- Start number 56 was manually annotated 1 time for cluster AB.

Info for manual annotations of cluster B12:

- Start number 28 was manually annotated 1 time for cluster B12.

Info for manual annotations of cluster B13:

- Start number 27 was manually annotated 1 time for cluster B13.

Info for manual annotations of cluster B6:

- Start number 28 was manually annotated 1 time for cluster B6.

Info for manual annotations of cluster B9:

- Start number 28 was manually annotated 2 times for cluster B9.

Info for manual annotations of cluster G2:

- Start number 25 was manually annotated 3 times for cluster G2.

Info for manual annotations of cluster G3:

- Start number 25 was manually annotated 2 times for cluster G3.

Info for manual annotations of cluster G4:

- Start number 25 was manually annotated 2 times for cluster G4.

Info for manual annotations of cluster G5:

- Start number 25 was manually annotated 1 time for cluster G5.

Info for manual annotations of cluster H2:

- Start number 2 was manually annotated 2 times for cluster H2.

Info for manual annotations of cluster K1:

- Start number 39 was manually annotated 89 times for cluster K1.

Info for manual annotations of cluster K6:

- Start number 39 was manually annotated 2 times for cluster K6.

Info for manual annotations of cluster K7:

- Start number 39 was manually annotated 1 time for cluster K7.

Info for manual annotations of cluster K8:

- Start number 39 was manually annotated 1 time for cluster K8.

### **Gene Information:**

Gene: 39HC\_026 Start: 27572, Stop: 30067, Start Num: 28

Candidate Starts for 39HC\_026:

(Start: 28 @27572 has 4 MA's), (34, 27629), (45, 27686), (66, 27806), (69, 27824), (79, 27896), (81, 27902), (88, 27956), (93, 27992), (113, 28175), (117, 28220), (120, 28259), (131, 28307), (132, 28313), (149, 28361), (154, 28391), (159, 28418), (165, 28454), (170, 28472), (172, 28496), (178, 28520), (188, 28604), (197, 28640), (206, 28670), (211, 28706), (213, 28724), (235, 28931), (236, 28943), (239, 28952), (248, 29021), (249, 29027), (250, 29030), (251, 29039), (253, 29069), (259, 29114), (261, 29129), (272, 29210), (274, 29222), (275, 29240), (277, 29246), (278, 29261), (280, 29267), (298, 29348), (312, 29420), (315, 29438), (317, 29453), (339, 29663), (341, 29684), (345, 29702), (373, 29999),

Gene: 40BC\_026 Start: 27572, Stop: 30067, Start Num: 28

Candidate Starts for 40BC\_026:

(Start: 28 @27572 has 4 MA's), (34, 27629), (45, 27686), (66, 27806), (69, 27824), (79, 27896), (81, 27902), (88, 27956), (93, 27992), (113, 28175), (117, 28220), (120, 28259), (131, 28307), (132, 28313), (149, 28361), (154, 28391), (159, 28418), (165, 28454), (170, 28472), (172, 28496), (178, 28520), (188, 28604), (197, 28640), (206, 28670), (211, 28706), (213, 28724), (235, 28931), (236, 28943), (239, 28952), (248, 29021), (249, 29027), (250, 29030), (251, 29039), (253, 29069), (259, 29114), (261, 29129), (272, 29210), (274, 29222), (275, 29240), (277, 29246), (278, 29261), (280, 29267), (298, 29348), (312, 29420), (315, 29438), (317, 29453), (339, 29663), (341, 29684), (345, 29702), (373, 29999),

Gene: ActinUp\_27 Start: 20881, Stop: 23313, Start Num: 39

Candidate Starts for ActinUp\_27:

(Start: 39 @20881 has 93 MA's), (61, 20980), (101, 21241), (104, 21262), (123, 21469), (130, 21502), (134, 21532), (152, 21604), (155, 21628), (163, 21673), (186, 21826), (191, 21871), (193, 21883), (196, 21892), (208, 21943), (224, 22123), (227, 22138), (238, 22207), (241, 22219), (253, 22324),

(259, 22363), (260, 22369), (261, 22378), (271, 22459), (278, 22507), (296, 22582), (302, 22618), (315, 22699), (319, 22720), (330, 22813), (339, 22909), (356, 23056), (360, 23098), (364, 23137), (370, 23212),

Gene: Adephagia\_27 Start: 20878, Stop: 23310, Start Num: 39

Candidate Starts for Adephagia\_27:

(Start: 39 @20878 has 93 MA's), (61, 20977), (101, 21238), (104, 21259), (123, 21466), (130, 21499), (134, 21529), (152, 21601), (155, 21625), (163, 21670), (186, 21823), (191, 21868), (193, 21880), (196, 21889), (208, 21940), (224, 22120), (227, 22135), (238, 22204), (241, 22216), (253, 22321), (259, 22360), (260, 22366), (261, 22375), (271, 22456), (278, 22504), (296, 22579), (302, 22615), (315, 22696), (319, 22717), (330, 22810), (339, 22906), (356, 23053), (360, 23095), (364, 23134), (370, 23209),

Gene: Adonis\_27 Start: 20884, Stop: 23316, Start Num: 39

Candidate Starts for Adonis\_27:

(Start: 39 @20884 has 93 MA's), (61, 20983), (101, 21244), (104, 21265), (123, 21472), (130, 21505), (134, 21535), (152, 21607), (155, 21631), (163, 21676), (186, 21829), (191, 21874), (193, 21886), (196, 21895), (208, 21946), (224, 22126), (227, 22141), (238, 22210), (249, 22285), (253, 22327), (259, 22366), (260, 22372), (261, 22381), (264, 22402), (271, 22462), (295, 22579), (302, 22621), (314, 22693), (315, 22702), (319, 22723), (326, 22795), (330, 22816), (339, 22912), (350, 22975), (360, 23101), (364, 23140), (375, 23287),

Gene: Ageofdapage\_27 Start: 20828, Stop: 23260, Start Num: 39

Candidate Starts for Ageofdapage\_27:

(Start: 39 @20828 has 93 MA's), (61, 20927), (62, 20930), (84, 21056), (101, 21188), (104, 21209), (114, 21341), (130, 21449), (152, 21551), (155, 21575), (159, 21593), (163, 21620), (174, 21686), (186, 21773), (193, 21830), (196, 21839), (205, 21875), (208, 21890), (224, 22070), (227, 22085), (241, 22166), (249, 22229), (253, 22271), (259, 22310), (260, 22316), (261, 22325), (271, 22406), (277, 22439), (278, 22454), (279, 22457), (290, 22511), (295, 22523), (314, 22637), (315, 22646), (339, 22856), (360, 23045), (364, 23084), (375, 23231),

Gene: AlishaPH\_27 Start: 20871, Stop: 23303, Start Num: 39

Candidate Starts for AlishaPH\_27:

(Start: 39 @20871 has 93 MA's), (61, 20970), (101, 21231), (104, 21252), (123, 21459), (130, 21492), (134, 21522), (152, 21594), (155, 21618), (186, 21816), (191, 21861), (193, 21873), (196, 21882), (208, 21933), (224, 22113), (227, 22128), (238, 22197), (241, 22209), (249, 22272), (253, 22314), (259, 22353), (260, 22359), (261, 22368), (264, 22389), (271, 22449), (295, 22566), (302, 22608), (314, 22680), (315, 22689), (319, 22710), (326, 22782), (330, 22803), (339, 22899), (356, 23046), (364, 23127), (375, 23274),

Gene: Aminay\_25 Start: 21018, Stop: 23477, Start Num: 39

Candidate Starts for Aminay\_25:

(Start: 39 @21018 has 93 MA's), (61, 21120), (87, 21264), (95, 21327), (99, 21360), (104, 21402), (122, 21609), (128, 21642), (140, 21693), (152, 21756), (154, 21771), (155, 21780), (156, 21786), (159, 21798), (179, 21921), (181, 21933), (189, 22011), (209, 22104), (211, 22119), (218, 22179), (222, 22251), (226, 22287), (233, 22332), (235, 22341), (243, 22380), (248, 22431), (249, 22437), (274, 22638), (278, 22677), (281, 22686), (319, 22878), (330, 22971), (344, 23109), (362, 23277),

Gene: Anaya\_28 Start: 20897, Stop: 23329, Start Num: 39

Candidate Starts for Anaya\_28:

(Start: 39 @20897 has 93 MA's), (40, 20906), (61, 20996), (101, 21257), (104, 21278), (130, 21518), (134, 21548), (155, 21644), (163, 21689), (186, 21842), (191, 21887), (193, 21899), (196, 21908), (208, 21959), (224, 22139), (227, 22154), (238, 22223), (253, 22340), (259, 22379), (260, 22385),



(261, 22394), (271, 22475), (278, 22523), (279, 22526), (314, 22706), (315, 22715), (319, 22736), (330, 22829), (339, 22925), (350, 22988), (364, 23153), (370, 23228),

Gene: Angelica\_27 Start: 20846, Stop: 23278, Start Num: 39

Candidate Starts for Angelica\_27:

(Start: 39 @20846 has 93 MA's), (61, 20945), (101, 21206), (104, 21227), (123, 21434), (130, 21467), (134, 21497), (152, 21569), (155, 21593), (186, 21791), (191, 21836), (193, 21848), (196, 21857), (208, 21908), (224, 22088), (227, 22103), (238, 22172), (241, 22184), (249, 22247), (253, 22289), (259, 22328), (260, 22334), (261, 22343), (264, 22364), (271, 22424), (277, 22457), (278, 22472), (279, 22475), (290, 22529), (295, 22541), (314, 22655), (315, 22664), (319, 22685), (326, 22757), (330, 22778), (339, 22874), (364, 23102), (375, 23249),

Gene: Antsirabe\_22 Start: 20760, Stop: 23216, Start Num: 25

Candidate Starts for Antsirabe\_22:

(Start: 25 @20760 has 8 MA's), (38, 20850), (40, 20865), (41, 20868), (65, 20988), (78, 21063), (102, 21222), (113, 21339), (156, 21561), (166, 21612), (184, 21720), (185, 21729), (188, 21759), (190, 21771), (197, 21795), (203, 21816), (235, 22083), (237, 22098), (239, 22104), (249, 22179), (257, 22251), (259, 22266), (274, 22374), (278, 22413), (309, 22548), (315, 22590), (317, 22605), (319, 22617), (331, 22716), (345, 22854), (361, 23010), (373, 23154), (378, 23196),

Gene: Apocalypse\_27 Start: 20849, Stop: 23281, Start Num: 39

Candidate Starts for Apocalypse\_27:

(Start: 39 @20849 has 93 MA's), (50, 20906), (61, 20948), (101, 21209), (104, 21230), (123, 21437), (130, 21470), (134, 21500), (152, 21572), (155, 21596), (163, 21641), (186, 21794), (191, 21839), (193, 21851), (196, 21860), (208, 21911), (224, 22091), (227, 22106), (238, 22175), (241, 22187), (249, 22250), (253, 22292), (259, 22331), (260, 22337), (261, 22346), (264, 22367), (271, 22427), (277, 22460), (278, 22475), (279, 22478), (296, 22550), (302, 22586), (314, 22658), (315, 22667), (319, 22688), (326, 22760), (330, 22781), (339, 22877), (364, 23105), (375, 23252),

Gene: Asayake\_27 Start: 20912, Stop: 23344, Start Num: 39

Candidate Starts for Asayake\_27:

(Start: 39 @20912 has 93 MA's), (61, 21011), (101, 21272), (104, 21293), (123, 21500), (130, 21533), (134, 21563), (152, 21635), (155, 21659), (186, 21857), (191, 21902), (193, 21914), (196, 21923), (208, 21974), (224, 22154), (227, 22169), (238, 22238), (241, 22250), (249, 22313), (253, 22355), (259, 22394), (260, 22400), (261, 22409), (264, 22430), (271, 22490), (295, 22607), (302, 22649), (314, 22721), (315, 22730), (319, 22751), (326, 22823), (330, 22844), (339, 22940), (356, 23087), (364, 23168), (375, 23315),

Gene: Atiba\_27 Start: 20841, Stop: 23273, Start Num: 39

Candidate Starts for Atiba\_27:

(Start: 39 @20841 has 93 MA's), (61, 20940), (101, 21201), (104, 21222), (123, 21429), (130, 21462), (134, 21492), (152, 21564), (155, 21588), (163, 21633), (186, 21786), (191, 21831), (193, 21843), (196, 21852), (208, 21903), (224, 22083), (227, 22098), (238, 22167), (241, 22179), (253, 22284), (259, 22323), (260, 22329), (261, 22338), (271, 22419), (278, 22467), (296, 22542), (302, 22578), (314, 22650), (315, 22659), (319, 22680), (330, 22773), (339, 22869), (356, 23016), (360, 23058), (364, 23097), (370, 23172),

Gene: Avocado\_22 Start: 20763, Stop: 23240, Start Num: 25

Candidate Starts for Avocado\_22:

(Start: 25 @20763 has 8 MA's), (41, 20871), (59, 20961), (74, 21051), (102, 21228), (113, 21345), (123, 21444), (149, 21525), (156, 21567), (161, 21591), (166, 21618), (167, 21621), (170, 21633), (182, 21714), (188, 21765), (214, 21894), (216, 21906), (225, 22032), (235, 22092), (237, 22107), (239, 22113), (248, 22182), (274, 22383), (315, 22614), (331, 22740), (361, 23034), (367, 23085),

(373, 23178),

Gene: BEEST\_27 Start: 20912, Stop: 23344, Start Num: 39

Candidate Starts for BEEST\_27:

(Start: 39 @20912 has 93 MA's), (61, 21011), (101, 21272), (104, 21293), (123, 21500), (130, 21533), (134, 21563), (152, 21635), (155, 21659), (186, 21857), (191, 21902), (193, 21914), (196, 21923), (208, 21974), (224, 22154), (227, 22169), (238, 22238), (241, 22250), (249, 22313), (253, 22355), (259, 22394), (260, 22400), (261, 22409), (264, 22430), (271, 22490), (295, 22607), (302, 22649), (314, 22721), (315, 22730), (319, 22751), (326, 22823), (330, 22844), (339, 22940), (356, 23087), (364, 23168), (375, 23315),

Gene: BGlluviae\_27 Start: 20912, Stop: 23344, Start Num: 39

Candidate Starts for BGlluviae\_27:

(Start: 39 @20912 has 93 MA's), (61, 21011), (101, 21272), (104, 21293), (123, 21500), (130, 21533), (134, 21563), (152, 21635), (155, 21659), (186, 21857), (191, 21902), (193, 21914), (196, 21923), (208, 21974), (224, 22154), (227, 22169), (238, 22238), (241, 22250), (249, 22313), (253, 22355), (259, 22394), (260, 22400), (261, 22409), (264, 22430), (271, 22490), (295, 22607), (302, 22649), (314, 22721), (315, 22730), (319, 22751), (326, 22823), (330, 22844), (339, 22940), (356, 23087), (364, 23168), (375, 23315),

Gene: BaghaKamala\_27 Start: 20841, Stop: 23273, Start Num: 39

Candidate Starts for BaghaKamala\_27:

(Start: 39 @20841 has 93 MA's), (61, 20940), (101, 21201), (104, 21222), (123, 21429), (130, 21462), (134, 21492), (152, 21564), (155, 21588), (186, 21786), (191, 21831), (193, 21843), (196, 21852), (208, 21903), (224, 22083), (227, 22098), (238, 22167), (241, 22179), (249, 22242), (253, 22284), (259, 22323), (260, 22329), (261, 22338), (264, 22359), (271, 22419), (295, 22536), (302, 22578), (314, 22650), (315, 22659), (319, 22680), (326, 22752), (330, 22773), (339, 22869), (356, 23016), (364, 23097), (375, 23244),

Gene: Barnyard\_36 Start: 26772, Stop: 29858, Start Num: 2

Candidate Starts for Barnyard\_36:

(1, 26745), (Start: 2 @26772 has 2 MA's), (3, 26775), (4, 26895), (5, 26907), (6, 26925), (7, 26928), (8, 26982), (9, 26991), (11, 27012), (13, 27084), (14, 27120), (15, 27195), (18, 27273), (19, 27282), (20, 27288), (22, 27315), (35, 27432), (45, 27483), (46, 27486), (53, 27516), (57, 27540), (60, 27558), (80, 27690), (82, 27702), (92, 27783), (109, 27933), (117, 28017), (121, 28053), (132, 28107), (133, 28110), (137, 28128), (146, 28146), (153, 28182), (167, 28263), (177, 28323), (180, 28341), (185, 28377), (190, 28419), (194, 28431), (201, 28461), (206, 28473), (207, 28482), (217, 28557), (223, 28644), (239, 28752), (245, 28797), (248, 28818), (253, 28866), (258, 28905), (260, 28917), (262, 28941), (263, 28947), (268, 28977), (274, 29019), (275, 29037), (278, 29058), (283, 29079), (286, 29100), (291, 29118), (294, 29127), (303, 29181), (307, 29190), (315, 29232), (325, 29325), (332, 29358), (341, 29478), (348, 29505), (356, 29598), (361, 29652), (373, 29796),

Gene: BarrelRoll\_27 Start: 20864, Stop: 23296, Start Num: 39

Candidate Starts for BarrelRoll\_27:

(Start: 39 @20864 has 93 MA's), (61, 20963), (101, 21224), (104, 21245), (123, 21452), (130, 21485), (134, 21515), (152, 21587), (155, 21611), (186, 21809), (191, 21854), (193, 21866), (196, 21875), (208, 21926), (224, 22106), (227, 22121), (238, 22190), (241, 22202), (249, 22265), (253, 22307), (259, 22346), (260, 22352), (261, 22361), (264, 22382), (271, 22442), (295, 22559), (302, 22601), (314, 22673), (315, 22682), (319, 22703), (326, 22775), (330, 22796), (339, 22892), (356, 23039), (364, 23120), (375, 23267),

Gene: Beezoo\_27 Start: 20888, Stop: 23320, Start Num: 39

Candidate Starts for Beezoo\_27:

(Start: 39 @20888 has 93 MA's), (61, 20987), (101, 21248), (104, 21269), (123, 21476), (130, 21509), (134, 21539), (145, 21578), (152, 21611), (155, 21635), (163, 21680), (186, 21833), (191, 21878), (193, 21890), (196, 21899), (208, 21950), (224, 22130), (227, 22145), (238, 22214), (241, 22226), (249, 22289), (253, 22331), (259, 22370), (260, 22376), (261, 22385), (264, 22406), (271, 22466), (295, 22583), (314, 22697), (315, 22706), (319, 22727), (326, 22799), (330, 22820), (339, 22916), (364, 23144), (375, 23291),

Gene: Bella96\_27 Start: 20822, Stop: 23254, Start Num: 39

Candidate Starts for Bella96\_27:

(36, 20804), (Start: 39 @20822 has 93 MA's), (48, 20870), (61, 20921), (101, 21182), (104, 21203), (130, 21443), (134, 21473), (135, 21476), (155, 21569), (158, 21581), (163, 21614), (186, 21767), (193, 21824), (196, 21833), (208, 21884), (224, 22064), (227, 22079), (238, 22148), (241, 22160), (245, 22196), (249, 22223), (253, 22265), (259, 22304), (260, 22310), (261, 22319), (264, 22340), (271, 22400), (277, 22433), (278, 22448), (295, 22517), (302, 22559), (314, 22631), (315, 22640), (319, 22661), (326, 22733), (339, 22850), (356, 22997), (364, 23078), (370, 23153), (375, 23225),

Gene: Belladonna\_27 Start: 20912, Stop: 23344, Start Num: 39

Candidate Starts for Belladonna\_27:

(Start: 39 @20912 has 93 MA's), (61, 21011), (101, 21272), (104, 21293), (123, 21500), (130, 21533), (134, 21563), (152, 21635), (155, 21659), (186, 21857), (191, 21902), (193, 21914), (196, 21923), (208, 21974), (224, 22154), (227, 22169), (238, 22238), (241, 22250), (249, 22313), (253, 22355), (259, 22394), (260, 22400), (261, 22409), (264, 22430), (271, 22490), (295, 22607), (302, 22649), (314, 22721), (315, 22730), (319, 22751), (326, 22823), (330, 22844), (339, 22940), (356, 23087), (364, 23168), (375, 23315),

Gene: Bern\_29 Start: 20832, Stop: 23264, Start Num: 39

Candidate Starts for Bern\_29:

(Start: 39 @20832 has 93 MA's), (49, 20883), (52, 20892), (61, 20931), (101, 21192), (104, 21213), (128, 21450), (130, 21453), (134, 21483), (135, 21486), (138, 21498), (152, 21555), (155, 21579), (156, 21585), (163, 21624), (186, 21777), (191, 21822), (193, 21834), (196, 21843), (205, 21879), (208, 21894), (224, 22074), (227, 22089), (238, 22158), (249, 22233), (253, 22275), (259, 22314), (260, 22320), (261, 22329), (264, 22350), (266, 22356), (271, 22410), (277, 22443), (278, 22458), (295, 22527), (296, 22533), (302, 22569), (315, 22650), (322, 22707), (326, 22743), (330, 22764), (339, 22860), (351, 22971), (364, 23088), (370, 23163), (375, 23235),

Gene: BirdsNest\_33 Start: 28321, Stop: 30801, Start Num: 27

Candidate Starts for BirdsNest\_33:

(Start: 27 @28321 has 1 MA's), (43, 28435), (51, 28468), (115, 28945), (124, 29011), (126, 29023), (132, 29041), (149, 29107), (156, 29149), (173, 29242), (177, 29263), (214, 29476), (229, 29632), (234, 29665), (239, 29692), (246, 29746), (265, 29896), (268, 29920), (274, 29962), (317, 30193), (329, 30292), (366, 30634), (373, 30739), (379, 30784),

Gene: Blizzard\_27 Start: 20912, Stop: 23344, Start Num: 39

Candidate Starts for Blizzard\_27:

(Start: 39 @20912 has 93 MA's), (61, 21011), (101, 21272), (104, 21293), (123, 21500), (130, 21533), (134, 21563), (152, 21635), (155, 21659), (186, 21857), (191, 21902), (193, 21914), (196, 21923), (208, 21974), (224, 22154), (227, 22169), (238, 22238), (241, 22250), (249, 22313), (253, 22355), (259, 22394), (260, 22400), (261, 22409), (264, 22430), (271, 22490), (295, 22607), (302, 22649), (314, 22721), (315, 22730), (319, 22751), (326, 22823), (330, 22844), (339, 22940), (356, 23087), (364, 23168), (375, 23315),

Gene: Boiiii\_27 Start: 20914, Stop: 23346, Start Num: 39

Candidate Starts for Boiiii\_27:

(Start: 39 @20914 has 93 MA's), (61, 21013), (101, 21274), (104, 21295), (123, 21502), (130, 21535), (134, 21565), (152, 21637), (155, 21661), (186, 21859), (191, 21904), (193, 21916), (196, 21925), (208, 21976), (224, 22156), (227, 22171), (238, 22240), (241, 22252), (249, 22315), (253, 22357), (259, 22396), (260, 22402), (261, 22411), (264, 22432), (271, 22492), (295, 22609), (302, 22651), (314, 22723), (315, 22732), (319, 22753), (326, 22825), (330, 22846), (339, 22942), (356, 23089), (364, 23170), (375, 23317),

Gene: Boilgate\_24 Start: 21197, Stop: 23551, Start Num: 39

Candidate Starts for Boilgate\_24:

(Start: 39 @21197 has 93 MA's), (62, 21308), (67, 21338), (85, 21431), (86, 21440), (91, 21482), (92, 21494), (95, 21506), (96, 21518), (106, 21605), (116, 21728), (117, 21734), (136, 21866), (155, 21938), (158, 21950), (159, 21956), (171, 22004), (183, 22088), (189, 22142), (199, 22172), (200, 22181), (202, 22184), (209, 22214), (229, 22391), (243, 22469), (246, 22502), (252, 22562), (253, 22565), (259, 22610), (260, 22616), (261, 22625), (266, 22655), (269, 22685), (270, 22697), (278, 22754), (283, 22775), (297, 22832), (298, 22835), (310, 22910), (315, 22937), (316, 22949), (318, 22955), (320, 22964), (328, 23048), (337, 23144), (339, 23153), (346, 23192), (353, 23276), (360, 23336), (363, 23363), (376, 23522),

Gene: CREW\_27 Start: 20912, Stop: 23344, Start Num: 39

Candidate Starts for CREW\_27:

(Start: 39 @20912 has 93 MA's), (61, 21011), (101, 21272), (104, 21293), (123, 21500), (130, 21533), (134, 21563), (152, 21635), (155, 21659), (186, 21857), (191, 21902), (193, 21914), (196, 21923), (208, 21974), (224, 22154), (227, 22169), (238, 22238), (241, 22250), (249, 22313), (253, 22355), (259, 22394), (260, 22400), (261, 22409), (264, 22430), (271, 22490), (295, 22607), (302, 22649), (314, 22721), (315, 22730), (319, 22751), (326, 22823), (330, 22844), (339, 22940), (356, 23087), (364, 23168), (375, 23315),

Gene: CallaLilly\_28 Start: 20835, Stop: 23267, Start Num: 39

Candidate Starts for CallaLilly\_28:

(Start: 39 @20835 has 93 MA's), (61, 20934), (101, 21195), (104, 21216), (123, 21423), (130, 21456), (134, 21486), (152, 21558), (155, 21582), (186, 21780), (191, 21825), (193, 21837), (196, 21846), (208, 21897), (224, 22077), (227, 22092), (238, 22161), (241, 22173), (249, 22236), (253, 22278), (259, 22317), (260, 22323), (261, 22332), (264, 22353), (271, 22413), (295, 22530), (302, 22572), (314, 22644), (315, 22653), (319, 22674), (326, 22746), (330, 22767), (339, 22863), (356, 23010), (364, 23091), (375, 23238),

Gene: Cambiare\_23 Start: 21228, Stop: 23705, Start Num: 25

Candidate Starts for Cambiare\_23:

(Start: 25 @21228 has 8 MA's), (41, 21336), (59, 21426), (69, 21474), (74, 21516), (102, 21693), (113, 21810), (123, 21909), (149, 21990), (156, 22032), (161, 22056), (166, 22083), (167, 22086), (170, 22098), (182, 22179), (188, 22230), (214, 22359), (216, 22371), (225, 22497), (235, 22557), (237, 22572), (239, 22578), (248, 22647), (266, 22785), (274, 22848), (278, 22887), (307, 23022), (309, 23031), (315, 23079), (317, 23094), (331, 23205), (361, 23499), (367, 23550), (373, 23643),

Gene: Capricorn\_27 Start: 20912, Stop: 23344, Start Num: 39

Candidate Starts for Capricorn\_27:

(Start: 39 @20912 has 93 MA's), (61, 21011), (101, 21272), (104, 21293), (123, 21500), (130, 21533), (134, 21563), (152, 21635), (155, 21659), (186, 21857), (191, 21902), (193, 21914), (196, 21923), (208, 21974), (224, 22154), (227, 22169), (238, 22238), (241, 22250), (249, 22313), (253, 22355), (259, 22394), (260, 22400), (261, 22409), (264, 22430), (271, 22490), (295, 22607), (302, 22649), (314, 22721), (315, 22730), (319, 22751), (326, 22823), (330, 22844), (339, 22940), (356, 23087), (364, 23168), (375, 23315),

Gene: CaseJules\_27 Start: 20912, Stop: 23344, Start Num: 39

Candidate Starts for CaseJules\_27:

(Start: 39 @20912 has 93 MA's), (61, 21011), (101, 21272), (104, 21293), (123, 21500), (130, 21533), (134, 21563), (152, 21635), (155, 21659), (186, 21857), (191, 21902), (193, 21914), (196, 21923), (208, 21974), (224, 22154), (227, 22169), (238, 22238), (241, 22250), (249, 22313), (253, 22355), (259, 22394), (260, 22400), (261, 22409), (264, 22430), (271, 22490), (295, 22607), (302, 22649), (314, 22721), (315, 22730), (319, 22751), (326, 22823), (330, 22844), (339, 22940), (356, 23087), (364, 23168), (375, 23315),

Gene: CheetoDust\_27 Start: 20889, Stop: 23321, Start Num: 39

Candidate Starts for CheetoDust\_27:

(Start: 39 @20889 has 93 MA's), (61, 20988), (101, 21249), (123, 21477), (128, 21507), (130, 21510), (134, 21540), (152, 21612), (155, 21636), (163, 21681), (186, 21834), (191, 21879), (193, 21891), (196, 21900), (208, 21951), (224, 22131), (227, 22146), (235, 22197), (238, 22215), (241, 22227), (246, 22269), (249, 22290), (253, 22332), (259, 22371), (260, 22377), (261, 22386), (264, 22407), (270, 22455), (271, 22467), (278, 22515), (295, 22584), (302, 22626), (313, 22695), (314, 22698), (315, 22707), (319, 22728), (330, 22821), (339, 22917), (350, 22980), (356, 23064), (364, 23145), (370, 23220),

Gene: Chris\_26 Start: 20139, Stop: 22598, Start Num: 39

Candidate Starts for Chris\_26:

(Start: 39 @20139 has 93 MA's), (40, 20148), (48, 20187), (71, 20310), (84, 20367), (98, 20472), (104, 20520), (107, 20547), (121, 20709), (141, 20820), (143, 20829), (144, 20838), (148, 20859), (155, 20907), (172, 21009), (195, 21168), (211, 21249), (220, 21351), (224, 21405), (234, 21465), (244, 21528), (246, 21543), (247, 21555), (249, 21564), (253, 21606), (259, 21651), (261, 21666), (273, 21753), (276, 21777), (319, 22014), (331, 22110), (347, 22248), (354, 22332), (374, 22563), (375, 22569),

Gene: Clipper\_29 Start: 20889, Stop: 23321, Start Num: 39

Candidate Starts for Clipper\_29:

(Start: 39 @20889 has 93 MA's), (61, 20988), (101, 21249), (104, 21270), (123, 21477), (130, 21510), (134, 21540), (152, 21612), (155, 21636), (163, 21681), (186, 21834), (191, 21879), (193, 21891), (196, 21900), (208, 21951), (224, 22131), (227, 22146), (238, 22215), (241, 22227), (249, 22290), (253, 22332), (259, 22371), (260, 22377), (261, 22386), (264, 22407), (271, 22467), (295, 22584), (302, 22626), (314, 22698), (315, 22707), (319, 22728), (326, 22800), (330, 22821), (339, 22917), (364, 23145), (375, 23292),

Gene: CrimD\_27 Start: 20850, Stop: 23282, Start Num: 39

Candidate Starts for CrimD\_27:

(Start: 39 @20850 has 93 MA's), (61, 20949), (101, 21210), (123, 21438), (130, 21471), (134, 21501), (152, 21573), (155, 21597), (163, 21642), (186, 21795), (191, 21840), (193, 21852), (196, 21861), (205, 21897), (208, 21912), (224, 22092), (227, 22107), (238, 22176), (241, 22188), (249, 22251), (253, 22293), (259, 22332), (260, 22338), (261, 22347), (264, 22368), (271, 22428), (295, 22545), (302, 22587), (315, 22668), (319, 22689), (330, 22782), (339, 22878), (364, 23106),

Gene: Dalmuri\_27 Start: 20912, Stop: 23344, Start Num: 39

Candidate Starts for Dalmuri\_27:

(Start: 39 @20912 has 93 MA's), (61, 21011), (101, 21272), (104, 21293), (123, 21500), (130, 21533), (134, 21563), (152, 21635), (155, 21659), (186, 21857), (191, 21902), (193, 21914), (196, 21923), (208, 21974), (224, 22154), (227, 22169), (238, 22238), (241, 22250), (249, 22313), (253, 22355), (259, 22394), (260, 22400), (261, 22409), (264, 22430), (271, 22490), (295, 22607), (302, 22649), (314, 22721), (315, 22730), (319, 22751), (326, 22823), (330, 22844), (339, 22940), (356, 23087), (364, 23168), (375, 23315),

Gene: Deby\_27 Start: 20846, Stop: 23278, Start Num: 39

Candidate Starts for Deby\_27:

(Start: 39 @20846 has 93 MA's), (61, 20945), (101, 21206), (104, 21227), (123, 21434), (130, 21467), (134, 21497), (152, 21569), (155, 21593), (186, 21791), (191, 21836), (193, 21848), (196, 21857), (208, 21908), (224, 22088), (227, 22103), (238, 22172), (241, 22184), (249, 22247), (253, 22289), (259, 22328), (260, 22334), (261, 22343), (264, 22364), (271, 22424), (277, 22457), (278, 22472), (279, 22475), (290, 22529), (295, 22541), (314, 22655), (315, 22664), (319, 22685), (326, 22757), (330, 22778), (339, 22874), (364, 23102), (375, 23249),

Gene: Devera\_27 Start: 20893, Stop: 23325, Start Num: 39

Candidate Starts for Devera\_27:

(Start: 39 @20893 has 93 MA's), (48, 20941), (61, 20992), (101, 21253), (104, 21274), (123, 21481), (130, 21514), (134, 21544), (152, 21616), (155, 21640), (163, 21685), (186, 21838), (193, 21895), (196, 21904), (205, 21940), (208, 21955), (224, 22135), (227, 22150), (238, 22219), (241, 22231), (249, 22294), (253, 22336), (259, 22375), (260, 22381), (261, 22390), (264, 22411), (271, 22471), (278, 22519), (290, 22576), (295, 22588), (302, 22630), (314, 22702), (315, 22711), (326, 22804), (330, 22825), (339, 22921), (349, 22975), (356, 23068), (364, 23149), (375, 23296),

Gene: Dole\_27 Start: 20895, Stop: 23327, Start Num: 39

Candidate Starts for Dole\_27:

(Start: 39 @20895 has 93 MA's), (48, 20943), (61, 20994), (101, 21255), (104, 21276), (123, 21483), (130, 21516), (134, 21546), (152, 21618), (155, 21642), (163, 21687), (186, 21840), (193, 21897), (196, 21906), (205, 21942), (208, 21957), (224, 22137), (227, 22152), (238, 22221), (241, 22233), (249, 22296), (253, 22338), (259, 22377), (260, 22383), (261, 22392), (264, 22413), (271, 22473), (278, 22521), (290, 22578), (295, 22590), (302, 22632), (314, 22704), (315, 22713), (326, 22806), (330, 22827), (339, 22923), (349, 22977), (356, 23070), (364, 23151), (375, 23298),

Gene: DrHayes\_27 Start: 20840, Stop: 23272, Start Num: 39

Candidate Starts for DrHayes\_27:

(36, 20822), (Start: 39 @20840 has 93 MA's), (48, 20888), (61, 20939), (101, 21200), (104, 21221), (128, 21458), (130, 21461), (134, 21491), (135, 21494), (152, 21563), (155, 21587), (156, 21593), (158, 21599), (163, 21632), (186, 21785), (193, 21842), (196, 21851), (208, 21902), (224, 22082), (227, 22097), (238, 22166), (241, 22178), (245, 22214), (249, 22241), (253, 22283), (259, 22322), (260, 22328), (261, 22337), (264, 22358), (271, 22418), (277, 22451), (279, 22469), (295, 22535), (302, 22577), (314, 22649), (315, 22658), (319, 22679), (326, 22751), (339, 22868), (356, 23015), (364, 23096), (370, 23171), (375, 23243),

Gene: DrLupo\_38 Start: 27172, Stop: 30258, Start Num: 2

Candidate Starts for DrLupo\_38:

(1, 27145), (Start: 2 @27172 has 2 MA's), (3, 27175), (6, 27325), (7, 27328), (10, 27403), (11, 27412), (12, 27415), (13, 27484), (14, 27520), (15, 27595), (19, 27682), (23, 27718), (24, 27727), (26, 27748), (32, 27817), (37, 27841), (45, 27883), (46, 27886), (53, 27916), (60, 27958), (68, 28009), (80, 28090), (82, 28102), (90, 28162), (92, 28183), (98, 28222), (108, 28303), (110, 28336), (122, 28468), (132, 28507), (139, 28531), (146, 28546), (163, 28648), (166, 28660), (169, 28672), (170, 28675), (198, 28852), (208, 28885), (211, 28909), (218, 28966), (239, 29152), (248, 29218), (253, 29266), (260, 29317), (262, 29341), (263, 29347), (274, 29419), (277, 29443), (278, 29458), (294, 29527), (356, 29998), (361, 30052), (373, 30196),

Gene: Durfee\_27 Start: 20912, Stop: 23344, Start Num: 39

Candidate Starts for Durfee\_27:

(Start: 39 @20912 has 93 MA's), (61, 21011), (101, 21272), (104, 21293), (123, 21500), (130, 21533), (134, 21563), (152, 21635), (155, 21659), (186, 21857), (191, 21902), (193, 21914), (196, 21923),

(208, 21974), (224, 22154), (227, 22169), (238, 22238), (241, 22250), (249, 22313), (253, 22355), (259, 22394), (260, 22400), (261, 22409), (264, 22430), (271, 22490), (295, 22607), (302, 22649), (314, 22721), (315, 22730), (319, 22751), (326, 22823), (330, 22844), (339, 22940), (356, 23087), (364, 23168), (375, 23315),

Gene: Efra2\_27 Start: 20082, Stop: 22514, Start Num: 39

Candidate Starts for Efra2\_27:

(Start: 39 @20082 has 93 MA's), (48, 20130), (49, 20133), (52, 20142), (101, 20442), (104, 20463), (130, 20703), (152, 20805), (155, 20829), (156, 20835), (163, 20874), (186, 21027), (193, 21084), (196, 21093), (208, 21144), (225, 21330), (227, 21339), (228, 21345), (235, 21390), (238, 21408), (249, 21483), (253, 21525), (259, 21564), (260, 21570), (261, 21579), (264, 21600), (270, 21648), (277, 21693), (278, 21708), (295, 21777), (302, 21819), (315, 21900), (326, 21993), (330, 22014), (339, 22110), (364, 22338), (369, 22392), (370, 22413), (375, 22485), (380, 22503),

Gene: Emerson\_27 Start: 20872, Stop: 23304, Start Num: 39

Candidate Starts for Emerson\_27:

(Start: 39 @20872 has 93 MA's), (61, 20971), (101, 21232), (104, 21253), (123, 21460), (130, 21493), (134, 21523), (152, 21595), (155, 21619), (163, 21664), (186, 21817), (191, 21862), (193, 21874), (196, 21883), (208, 21934), (224, 22114), (227, 22129), (238, 22198), (241, 22210), (249, 22273), (253, 22315), (259, 22354), (260, 22360), (261, 22369), (264, 22390), (271, 22450), (295, 22567), (302, 22609), (314, 22681), (315, 22690), (319, 22711), (326, 22783), (330, 22804), (339, 22900), (350, 22963), (364, 23128), (375, 23275),

Gene: FlagStaff\_22 Start: 20643, Stop: 23102, Start Num: 25

Candidate Starts for FlagStaff\_22:

(Start: 25 @20643 has 8 MA's), (31, 20703), (41, 20751), (77, 20946), (113, 21234), (124, 21336), (131, 21360), (166, 21504), (170, 21519), (182, 21600), (192, 21675), (208, 21732), (211, 21756), (216, 21792), (235, 21978), (239, 21999), (246, 22047), (248, 22062), (256, 22128), (261, 22170), (274, 22263), (275, 22281), (287, 22347), (303, 22428), (317, 22494), (334, 22647), (343, 22737), (351, 22806), (356, 22842), (366, 22935), (373, 23040), (377, 23076),

Gene: ForDig\_27 Start: 27555, Stop: 30056, Start Num: 28

Candidate Starts for ForDig\_27:

(Start: 28 @27555 has 4 MA's), (30, 27576), (34, 27612), (45, 27669), (66, 27789), (69, 27807), (79, 27879), (81, 27885), (88, 27939), (93, 27975), (113, 28158), (117, 28203), (120, 28242), (132, 28296), (149, 28344), (159, 28401), (165, 28437), (170, 28455), (178, 28503), (188, 28587), (197, 28623), (206, 28653), (211, 28689), (213, 28707), (235, 28914), (236, 28926), (239, 28935), (248, 29004), (249, 29010), (250, 29013), (251, 29022), (254, 29055), (259, 29097), (261, 29112), (272, 29193), (274, 29205), (275, 29223), (277, 29229), (278, 29244), (280, 29250), (298, 29331), (317, 29436), (324, 29508), (341, 29667), (373, 29988),

Gene: Funsized\_34 Start: 32646, Stop: 35123, Start Num: 28

Candidate Starts for Funsized\_34:

(Start: 28 @32646 has 4 MA's), (29, 32655), (41, 32742), (42, 32748), (48, 32778), (57, 32817), (58, 32820), (63, 32847), (64, 32850), (66, 32865), (69, 32883), (83, 32958), (91, 33021), (99, 33078), (102, 33105), (104, 33120), (105, 33123), (113, 33222), (131, 33354), (132, 33360), (137, 33384), (151, 33420), (158, 33459), (166, 33504), (170, 33519), (176, 33564), (182, 33600), (185, 33621), (203, 33708), (218, 33810), (224, 33909), (230, 33939), (235, 33975), (237, 33990), (239, 33996), (248, 34065), (249, 34071), (255, 34122), (274, 34263), (277, 34287), (283, 34323), (299, 34389), (307, 34434), (315, 34491), (317, 34506), (319, 34518), (330, 34611), (332, 34617), (333, 34620), (338, 34710), (340, 34722), (355, 34848), (366, 34953), (379, 35106),

Gene: Ganymede\_28 Start: 20892, Stop: 23324, Start Num: 39

Candidate Starts for Ganymede\_28:

(Start: 39 @20892 has 93 MA's), (61, 20991), (101, 21252), (104, 21273), (123, 21480), (130, 21513), (134, 21543), (152, 21615), (155, 21639), (163, 21684), (186, 21837), (191, 21882), (193, 21894), (196, 21903), (208, 21954), (224, 22134), (227, 22149), (238, 22218), (241, 22230), (249, 22293), (253, 22335), (259, 22374), (260, 22380), (261, 22389), (264, 22410), (271, 22470), (295, 22587), (302, 22629), (314, 22701), (315, 22710), (319, 22731), (326, 22803), (330, 22824), (339, 22920), (350, 22983), (356, 23067), (360, 23109), (364, 23148),

Gene: Geraldini\_27 Start: 20888, Stop: 23320, Start Num: 39

Candidate Starts for Geraldini\_27:

(Start: 39 @20888 has 93 MA's), (61, 20987), (86, 21128), (101, 21248), (104, 21269), (123, 21476), (130, 21509), (134, 21539), (152, 21611), (155, 21635), (186, 21833), (191, 21878), (193, 21890), (196, 21899), (208, 21950), (224, 22130), (227, 22145), (238, 22214), (241, 22226), (249, 22289), (253, 22331), (259, 22370), (260, 22376), (261, 22385), (264, 22406), (271, 22466), (295, 22583), (302, 22625), (314, 22697), (315, 22706), (319, 22727), (326, 22799), (330, 22820), (339, 22916), (350, 22979), (356, 23063), (360, 23105), (364, 23144),

Gene: Guanica15\_27 Start: 20098, Stop: 22530, Start Num: 39

Candidate Starts for Guanica15\_27:

(Start: 39 @20098 has 93 MA's), (48, 20146), (49, 20149), (52, 20158), (101, 20458), (104, 20479), (130, 20719), (152, 20821), (155, 20845), (156, 20851), (163, 20890), (186, 21043), (193, 21100), (196, 21109), (208, 21160), (225, 21346), (227, 21355), (228, 21361), (235, 21406), (238, 21424), (249, 21499), (253, 21541), (259, 21580), (260, 21586), (261, 21595), (264, 21616), (270, 21664), (277, 21709), (278, 21724), (295, 21793), (302, 21835), (315, 21916), (326, 22009), (330, 22030), (339, 22126), (364, 22354), (369, 22408), (370, 22429), (375, 22501), (380, 22519),

Gene: HedwigODU\_27 Start: 20881, Stop: 23313, Start Num: 39

Candidate Starts for HedwigODU\_27:

(Start: 39 @20881 has 93 MA's), (61, 20980), (101, 21241), (104, 21262), (123, 21469), (130, 21502), (134, 21532), (152, 21604), (155, 21628), (163, 21673), (186, 21826), (191, 21871), (193, 21883), (196, 21892), (208, 21943), (224, 22123), (227, 22138), (238, 22207), (241, 22219), (253, 22324), (259, 22363), (260, 22369), (261, 22378), (271, 22459), (278, 22507), (296, 22582), (302, 22618), (315, 22699), (319, 22720), (330, 22813), (339, 22909), (356, 23056), (360, 23098), (364, 23137), (370, 23212),

Gene: Homura\_27 Start: 20912, Stop: 23344, Start Num: 39

Candidate Starts for Homura\_27:

(Start: 39 @20912 has 93 MA's), (61, 21011), (101, 21272), (104, 21293), (123, 21500), (130, 21533), (134, 21563), (152, 21635), (155, 21659), (186, 21857), (191, 21902), (193, 21914), (196, 21923), (208, 21974), (224, 22154), (227, 22169), (238, 22238), (241, 22250), (249, 22313), (253, 22355), (259, 22394), (260, 22400), (261, 22409), (264, 22430), (271, 22490), (295, 22607), (302, 22649), (314, 22721), (315, 22730), (319, 22751), (326, 22823), (330, 22844), (339, 22940), (356, 23087), (364, 23168), (375, 23315),

Gene: Hosp\_024 Start: 25768, Stop: 28263, Start Num: 28

Candidate Starts for Hosp\_024:

(Start: 28 @25768 has 4 MA's), (34, 25825), (45, 25882), (66, 26002), (69, 26020), (79, 26092), (81, 26098), (88, 26152), (93, 26188), (113, 26371), (117, 26416), (120, 26455), (132, 26509), (149, 26557), (154, 26587), (159, 26614), (165, 26650), (170, 26668), (172, 26692), (178, 26716), (188, 26800), (197, 26836), (206, 26866), (211, 26902), (213, 26920), (235, 27127), (236, 27139), (239, 27148), (249, 27223), (250, 27226), (251, 27235), (253, 27265), (254, 27268), (259, 27310), (261, 27325), (272, 27406), (274, 27418), (277, 27442), (278, 27457), (280, 27463), (298, 27544), (315, 27634), (317, 27649), (339, 27859), (341, 27880), (345, 27898), (373, 28195),



Gene: Hyperbowlee\_27 Start: 20912, Stop: 23344, Start Num: 39

Candidate Starts for Hyperbowlee\_27:

(Start: 39 @20912 has 93 MA's), (61, 21011), (101, 21272), (104, 21293), (123, 21500), (130, 21533), (134, 21563), (152, 21635), (155, 21659), (186, 21857), (191, 21902), (193, 21914), (196, 21923), (208, 21974), (224, 22154), (227, 22169), (238, 22238), (241, 22250), (249, 22313), (253, 22355), (259, 22394), (260, 22400), (261, 22409), (264, 22430), (271, 22490), (295, 22607), (302, 22649), (314, 22721), (315, 22730), (319, 22751), (326, 22823), (330, 22844), (339, 22940), (356, 23087), (364, 23168), (375, 23315),

Gene: Illumine\_27 Start: 20895, Stop: 23327, Start Num: 39

Candidate Starts for Illumine\_27:

(Start: 39 @20895 has 93 MA's), (48, 20943), (61, 20994), (101, 21255), (104, 21276), (123, 21483), (130, 21516), (134, 21546), (152, 21618), (155, 21642), (163, 21687), (186, 21840), (193, 21897), (196, 21906), (205, 21942), (208, 21957), (224, 22137), (227, 22152), (238, 22221), (241, 22233), (249, 22296), (253, 22338), (259, 22377), (260, 22383), (261, 22392), (264, 22413), (271, 22473), (278, 22521), (290, 22578), (295, 22590), (302, 22632), (314, 22704), (315, 22713), (326, 22806), (330, 22827), (339, 22923), (349, 22977), (356, 23070), (364, 23151), (375, 23298),

Gene: Inky\_27 Start: 20912, Stop: 23344, Start Num: 39

Candidate Starts for Inky\_27:

(Start: 39 @20912 has 93 MA's), (61, 21011), (101, 21272), (104, 21293), (123, 21500), (130, 21533), (134, 21563), (152, 21635), (155, 21659), (186, 21857), (191, 21902), (193, 21914), (196, 21923), (208, 21974), (224, 22154), (227, 22169), (238, 22238), (241, 22250), (249, 22313), (253, 22355), (259, 22394), (260, 22400), (261, 22409), (264, 22430), (271, 22490), (295, 22607), (302, 22649), (314, 22721), (315, 22730), (319, 22751), (326, 22823), (330, 22844), (339, 22940), (356, 23087), (364, 23168), (375, 23315),

Gene: JAWS\_27 Start: 20866, Stop: 23298, Start Num: 39

Candidate Starts for JAWS\_27:

(Start: 39 @20866 has 93 MA's), (61, 20965), (101, 21226), (104, 21247), (123, 21454), (130, 21487), (134, 21517), (152, 21589), (155, 21613), (186, 21811), (191, 21856), (193, 21868), (196, 21877), (208, 21928), (224, 22108), (227, 22123), (238, 22192), (241, 22204), (249, 22267), (253, 22309), (259, 22348), (260, 22354), (261, 22363), (264, 22384), (271, 22444), (295, 22561), (302, 22603), (314, 22675), (315, 22684), (319, 22705), (326, 22777), (330, 22798), (339, 22894), (356, 23041), (364, 23122), (375, 23269),

Gene: Jarvi\_27 Start: 20912, Stop: 23344, Start Num: 39

Candidate Starts for Jarvi\_27:

(Start: 39 @20912 has 93 MA's), (61, 21011), (101, 21272), (104, 21293), (123, 21500), (130, 21533), (134, 21563), (152, 21635), (155, 21659), (186, 21857), (191, 21902), (193, 21914), (196, 21923), (208, 21974), (224, 22154), (227, 22169), (238, 22238), (241, 22250), (249, 22313), (253, 22355), (259, 22394), (260, 22400), (261, 22409), (264, 22430), (271, 22490), (295, 22607), (302, 22649), (314, 22721), (315, 22730), (319, 22751), (326, 22823), (330, 22844), (339, 22940), (356, 23087), (364, 23168), (375, 23315),

Gene: Jayhawk\_27 Start: 20879, Stop: 23311, Start Num: 39

Candidate Starts for Jayhawk\_27:

(Start: 39 @20879 has 93 MA's), (61, 20978), (101, 21239), (104, 21260), (123, 21467), (130, 21500), (134, 21530), (152, 21602), (155, 21626), (163, 21671), (186, 21824), (191, 21869), (193, 21881), (196, 21890), (208, 21941), (224, 22121), (227, 22136), (238, 22205), (241, 22217), (253, 22322), (259, 22361), (260, 22367), (261, 22376), (271, 22457), (278, 22505), (296, 22580), (302, 22616), (315, 22697), (319, 22718), (330, 22811), (339, 22907), (356, 23054), (360, 23096), (364, 23135),

(370, 23210),

Gene: Jeckyll\_27 Start: 20912, Stop: 23344, Start Num: 39

Candidate Starts for Jeckyll\_27:

(Start: 39 @20912 has 93 MA's), (61, 21011), (101, 21272), (104, 21293), (123, 21500), (130, 21533), (134, 21563), (152, 21635), (155, 21659), (186, 21857), (191, 21902), (193, 21914), (196, 21923), (208, 21974), (224, 22154), (227, 22169), (238, 22238), (241, 22250), (249, 22313), (253, 22355), (259, 22394), (260, 22400), (261, 22409), (264, 22430), (271, 22490), (295, 22607), (302, 22649), (314, 22721), (315, 22730), (319, 22751), (326, 22823), (330, 22844), (339, 22940), (356, 23087), (364, 23168), (375, 23315),

Gene: Jolie1\_026 Start: 27564, Stop: 30065, Start Num: 28

Candidate Starts for Jolie1\_026:

(Start: 28 @27564 has 4 MA's), (30, 27585), (34, 27621), (45, 27678), (66, 27798), (69, 27816), (79, 27888), (81, 27894), (88, 27948), (93, 27984), (113, 28167), (117, 28212), (120, 28251), (132, 28305), (159, 28410), (165, 28446), (170, 28464), (178, 28512), (188, 28596), (197, 28632), (206, 28662), (211, 28698), (213, 28716), (235, 28923), (236, 28935), (239, 28944), (249, 29019), (250, 29022), (253, 29061), (259, 29106), (261, 29121), (272, 29202), (274, 29214), (275, 29232), (277, 29238), (278, 29253), (280, 29259), (298, 29340), (315, 29430), (317, 29445), (324, 29517), (331, 29556), (339, 29655), (373, 29997),

Gene: Jolie2\_22 Start: 19776, Stop: 22241, Start Num: 25

Candidate Starts for Jolie2\_22:

(16, 19692), (17, 19707), (21, 19728), (Start: 25 @19776 has 8 MA's), (41, 19884), (46, 19905), (54, 19938), (102, 20241), (120, 20433), (131, 20484), (147, 20529), (165, 20628), (168, 20640), (170, 20646), (180, 20712), (182, 20727), (188, 20778), (213, 20898), (214, 20907), (235, 21105), (241, 21141), (245, 21180), (261, 21309), (267, 21354), (274, 21405), (283, 21465), (293, 21510), (315, 21621), (319, 21648), (331, 21747), (332, 21750), (338, 21843), (345, 21885), (357, 21990), (373, 22179), (378, 22221),

Gene: Joy99\_27 Start: 20841, Stop: 23273, Start Num: 39

Candidate Starts for Joy99\_27:

(Start: 39 @20841 has 93 MA's), (61, 20940), (101, 21201), (104, 21222), (123, 21429), (130, 21462), (134, 21492), (152, 21564), (155, 21588), (186, 21786), (191, 21831), (193, 21843), (196, 21852), (208, 21903), (224, 22083), (227, 22098), (238, 22167), (241, 22179), (249, 22242), (253, 22284), (259, 22323), (260, 22329), (261, 22338), (264, 22359), (271, 22419), (295, 22536), (302, 22578), (314, 22650), (319, 22680), (326, 22752), (330, 22773), (339, 22869), (356, 23016), (364, 23097), (375, 23244),

Gene: KayaCho\_26 Start: 27566, Stop: 30061, Start Num: 28

Candidate Starts for KayaCho\_26:

(Start: 28 @27566 has 4 MA's), (34, 27623), (41, 27662), (57, 27737), (69, 27818), (79, 27890), (88, 27950), (93, 27986), (113, 28169), (117, 28214), (132, 28307), (149, 28355), (159, 28412), (165, 28448), (170, 28466), (173, 28493), (178, 28514), (188, 28598), (197, 28634), (206, 28664), (211, 28700), (213, 28718), (235, 28925), (236, 28937), (239, 28946), (248, 29015), (249, 29021), (250, 29024), (253, 29063), (259, 29108), (264, 29147), (272, 29204), (274, 29216), (277, 29240), (278, 29255), (280, 29261), (298, 29342), (317, 29447), (339, 29657), (341, 29678), (364, 29870), (373, 29993), (379, 30038),

Gene: KiSi\_26 Start: 20041, Stop: 22500, Start Num: 39

Candidate Starts for KiSi\_26:

(Start: 39 @20041 has 93 MA's), (48, 20089), (71, 20212), (84, 20269), (86, 20281), (98, 20374), (100, 20398), (107, 20449), (121, 20611), (141, 20722), (148, 20761), (152, 20785), (172, 20908), (183,

20980), (195, 21067), (209, 21133), (211, 21148), (220, 21250), (224, 21304), (234, 21364), (246, 21442), (247, 21454), (249, 21463), (253, 21505), (261, 21565), (273, 21652), (276, 21676), (289, 21748), (302, 21805), (319, 21916), (321, 21940), (323, 21961), (331, 22012), (344, 22141), (357, 22246), (375, 22471),

Gene: LaterM\_27 Start: 20812, Stop: 23244, Start Num: 39

Candidate Starts for LaterM\_27:

(Start: 39 @20812 has 93 MA's), (50, 20869), (61, 20911), (101, 21172), (104, 21193), (123, 21400), (130, 21433), (134, 21463), (152, 21535), (155, 21559), (163, 21604), (186, 21757), (193, 21814), (196, 21823), (205, 21859), (208, 21874), (224, 22054), (227, 22069), (238, 22138), (241, 22150), (249, 22213), (253, 22255), (259, 22294), (260, 22300), (261, 22309), (264, 22330), (271, 22390), (278, 22438), (279, 22441), (282, 22456), (292, 22498), (295, 22507), (304, 22564), (314, 22621), (315, 22630), (319, 22651), (323, 22696), (330, 22744), (339, 22840), (364, 23068), (375, 23215),

Gene: LeMond\_26 Start: 20112, Stop: 22571, Start Num: 39

Candidate Starts for LeMond\_26:

(Start: 39 @20112 has 93 MA's), (48, 20160), (71, 20283), (84, 20340), (86, 20352), (98, 20445), (100, 20469), (107, 20520), (121, 20682), (141, 20793), (148, 20832), (152, 20856), (172, 20979), (183, 21051), (195, 21138), (211, 21219), (220, 21321), (224, 21375), (234, 21435), (246, 21513), (247, 21525), (249, 21534), (253, 21576), (259, 21621), (261, 21636), (273, 21723), (276, 21747), (289, 21819), (302, 21876), (319, 21987), (321, 22011), (323, 22032), (331, 22083), (344, 22212), (357, 22317), (375, 22542),

Gene: Lemuria\_23 Start: 20578, Stop: 23055, Start Num: 25

Candidate Starts for Lemuria\_23:

(Start: 25 @20578 has 8 MA's), (41, 20686), (48, 20722), (54, 20740), (102, 21052), (131, 21295), (147, 21340), (166, 21442), (170, 21457), (180, 21523), (182, 21538), (188, 21589), (197, 21625), (211, 21691), (214, 21718), (235, 21916), (245, 21991), (274, 22216), (283, 22276), (293, 22321), (319, 22459), (331, 22555), (345, 22693), (373, 22993),

Gene: LilMcDreamy\_27 Start: 29183, Stop: 31675, Start Num: 28

Candidate Starts for LilMcDreamy\_27:

(Start: 28 @29183 has 4 MA's), (38, 29261), (55, 29336), (132, 29906), (137, 29930), (162, 30029), (166, 30053), (168, 30062), (173, 30095), (176, 30113), (184, 30161), (207, 30275), (211, 30302), (216, 30341), (222, 30437), (224, 30461), (235, 30527), (249, 30623), (252, 30662), (272, 30806), (278, 30857), (285, 30896), (288, 30905), (300, 30950), (317, 31061), (331, 31172), (339, 31271), (359, 31430), (368, 31532), (373, 31613),

Gene: LindNT\_27 Start: 20846, Stop: 23278, Start Num: 39

Candidate Starts for LindNT\_27:

(Start: 39 @20846 has 93 MA's), (61, 20945), (101, 21206), (123, 21434), (130, 21467), (134, 21497), (152, 21569), (155, 21593), (163, 21638), (186, 21791), (191, 21836), (193, 21848), (196, 21857), (205, 21893), (208, 21908), (224, 22088), (227, 22103), (238, 22172), (241, 22184), (249, 22247), (253, 22289), (259, 22328), (260, 22334), (261, 22343), (264, 22364), (271, 22424), (295, 22541), (302, 22583), (314, 22655), (315, 22664), (319, 22685), (326, 22757), (330, 22778), (339, 22874), (364, 23102), (375, 23249),

Gene: Llorens\_27 Start: 20912, Stop: 23344, Start Num: 39

Candidate Starts for Llorens\_27:

(Start: 39 @20912 has 93 MA's), (61, 21011), (101, 21272), (104, 21293), (123, 21500), (130, 21533), (134, 21563), (152, 21635), (155, 21659), (186, 21857), (191, 21902), (193, 21914), (196, 21923), (208, 21974), (224, 22154), (227, 22169), (238, 22238), (241, 22250), (249, 22313), (253, 22355), (259, 22394), (260, 22400), (261, 22409), (264, 22430), (271, 22490), (295, 22607), (302, 22649),

(314, 22721), (315, 22730), (319, 22751), (326, 22823), (330, 22844), (339, 22940), (356, 23087), (364, 23168), (375, 23315),

Gene: Lunahalos\_27 Start: 20912, Stop: 23344, Start Num: 39

Candidate Starts for Lunahalos\_27:

(Start: 39 @20912 has 93 MA's), (61, 21011), (101, 21272), (104, 21293), (123, 21500), (130, 21533), (134, 21563), (152, 21635), (155, 21659), (186, 21857), (191, 21902), (193, 21914), (196, 21923), (208, 21974), (224, 22154), (227, 22169), (238, 22238), (241, 22250), (249, 22313), (253, 22355), (259, 22394), (260, 22400), (261, 22409), (264, 22430), (271, 22490), (295, 22607), (302, 22649), (314, 22721), (315, 22730), (319, 22751), (326, 22823), (330, 22844), (339, 22940), (356, 23087), (364, 23168), (375, 23315),

Gene: MOOREtheMARYer\_23 Start: 20802, Stop: 23264, Start Num: 25

Candidate Starts for MOOREtheMARYer\_23:

(Start: 25 @20802 has 8 MA's), (65, 21030), (72, 21072), (77, 21105), (93, 21210), (113, 21393), (119, 21453), (150, 21576), (156, 21615), (165, 21663), (166, 21666), (182, 21762), (185, 21783), (192, 21837), (211, 21918), (212, 21927), (216, 21954), (224, 22074), (229, 22101), (239, 22161), (246, 22209), (248, 22224), (256, 22290), (261, 22332), (274, 22425), (333, 22770), (334, 22809), (342, 22896), (351, 22968), (366, 23097), (373, 23202), (379, 23247),

Gene: MacKat\_28 Start: 20889, Stop: 23321, Start Num: 39

Candidate Starts for MacKat\_28:

(Start: 39 @20889 has 93 MA's), (61, 20988), (101, 21249), (104, 21270), (123, 21477), (130, 21510), (134, 21540), (152, 21612), (155, 21636), (163, 21681), (186, 21834), (191, 21879), (193, 21891), (196, 21900), (208, 21951), (224, 22131), (227, 22146), (238, 22215), (241, 22227), (249, 22290), (253, 22332), (259, 22371), (260, 22377), (261, 22386), (264, 22407), (271, 22467), (295, 22584), (302, 22626), (314, 22698), (315, 22707), (319, 22728), (326, 22800), (330, 22821), (339, 22917), (364, 23145), (375, 23292),

Gene: MarkPhew\_27 Start: 19997, Stop: 22450, Start Num: 39

Candidate Starts for MarkPhew\_27:

(Start: 39 @19997 has 93 MA's), (48, 20045), (71, 20168), (84, 20225), (86, 20237), (100, 20354), (107, 20405), (118, 20534), (121, 20567), (141, 20678), (143, 20687), (144, 20696), (148, 20717), (155, 20765), (172, 20867), (195, 21026), (211, 21107), (220, 21209), (247, 21413), (249, 21422), (253, 21464), (259, 21509), (261, 21524), (289, 21707), (302, 21764), (319, 21866), (321, 21890), (327, 21947), (331, 21962), (344, 22091), (357, 22196), (374, 22415),

Gene: Marshawn\_28 Start: 20676, Stop: 23132, Start Num: 39

Candidate Starts for Marshawn\_28:

(Start: 39 @20676 has 93 MA's), (44, 20703), (61, 20775), (71, 20847), (84, 20904), (86, 20916), (90, 20949), (99, 21015), (100, 21033), (104, 21057), (105, 21060), (107, 21084), (111, 21156), (121, 21246), (127, 21282), (143, 21366), (152, 21420), (155, 21441), (156, 21447), (163, 21486), (172, 21543), (195, 21702), (204, 21741), (211, 21783), (213, 21801), (220, 21885), (222, 21915), (224, 21939), (231, 21972), (232, 21993), (246, 22077), (249, 22098), (253, 22140), (260, 22191), (261, 22200), (266, 22227), (273, 22287), (284, 22353), (287, 22374), (289, 22383), (301, 22431), (308, 22470), (314, 22515), (319, 22545), (323, 22590), (331, 22641), (333, 22647), (344, 22770), (352, 22839), (358, 22881), (372, 23067), (374, 23097),

Gene: MeaningOfLife\_27 Start: 20848, Stop: 23280, Start Num: 39

Candidate Starts for MeaningOfLife\_27:

(Start: 39 @20848 has 93 MA's), (61, 20947), (86, 21088), (101, 21208), (104, 21229), (123, 21436), (130, 21469), (134, 21499), (152, 21571), (155, 21595), (186, 21793), (191, 21838), (193, 21850), (196, 21859), (208, 21910), (224, 22090), (227, 22105), (238, 22174), (241, 22186), (249, 22249),

(253, 22291), (259, 22330), (260, 22336), (261, 22345), (264, 22366), (271, 22426), (295, 22543), (302, 22585), (314, 22657), (315, 22666), (319, 22687), (326, 22759), (330, 22780), (339, 22876), (350, 22939), (356, 23023), (360, 23065), (364, 23104),

Gene: Megsy\_27 Start: 20849, Stop: 23281, Start Num: 39

Candidate Starts for Megsy\_27:

(Start: 39 @20849 has 93 MA's), (61, 20948), (101, 21209), (123, 21437), (130, 21470), (134, 21500), (152, 21572), (155, 21596), (186, 21794), (191, 21839), (193, 21851), (196, 21860), (208, 21911), (224, 22091), (227, 22106), (238, 22175), (241, 22187), (249, 22250), (253, 22292), (259, 22331), (260, 22337), (261, 22346), (264, 22367), (271, 22427), (295, 22544), (302, 22586), (314, 22658), (315, 22667), (319, 22688), (326, 22760), (330, 22781), (339, 22877), (364, 23105), (375, 23252),

Gene: Mercurio\_24 Start: 21194, Stop: 23665, Start Num: 25

Candidate Starts for Mercurio\_24:

(Start: 25 @21194 has 8 MA's), (33, 21260), (41, 21302), (64, 21410), (86, 21533), (93, 21596), (103, 21674), (131, 21905), (142, 21938), (147, 21950), (166, 22052), (173, 22094), (180, 22133), (182, 22148), (188, 22199), (197, 22235), (211, 22301), (214, 22328), (235, 22526), (245, 22601), (248, 22622), (261, 22730), (267, 22775), (274, 22826), (277, 22850), (283, 22886), (287, 22910), (293, 22931), (319, 23069), (331, 23165), (345, 23303),

Gene: Murucutumbu\_27 Start: 20831, Stop: 23263, Start Num: 39

Candidate Starts for Murucutumbu\_27:

(Start: 39 @20831 has 93 MA's), (61, 20930), (101, 21191), (104, 21212), (130, 21452), (134, 21482), (135, 21485), (152, 21554), (155, 21578), (163, 21623), (186, 21776), (193, 21833), (196, 21842), (205, 21878), (208, 21893), (224, 22073), (227, 22088), (238, 22157), (249, 22232), (253, 22274), (259, 22313), (260, 22319), (261, 22328), (271, 22409), (295, 22526), (302, 22568), (314, 22640), (315, 22649), (319, 22670), (330, 22763), (339, 22859), (364, 23087), (375, 23234),

Gene: Mynx\_27 Start: 20895, Stop: 23327, Start Num: 39

Candidate Starts for Mynx\_27:

(Start: 39 @20895 has 93 MA's), (61, 20994), (101, 21255), (104, 21276), (123, 21483), (130, 21516), (134, 21546), (152, 21618), (155, 21642), (163, 21687), (186, 21840), (191, 21885), (193, 21897), (196, 21906), (208, 21957), (224, 22137), (227, 22152), (238, 22221), (241, 22233), (249, 22296), (253, 22338), (259, 22377), (260, 22383), (261, 22392), (264, 22413), (271, 22473), (295, 22590), (302, 22632), (314, 22704), (315, 22713), (319, 22734), (326, 22806), (330, 22827), (339, 22923), (350, 22986), (364, 23151), (375, 23298),

Gene: Nibb\_26 Start: 20138, Stop: 22591, Start Num: 39

Candidate Starts for Nibb\_26:

(Start: 39 @20138 has 93 MA's), (71, 20309), (84, 20366), (86, 20378), (100, 20495), (104, 20519), (107, 20546), (118, 20675), (121, 20708), (141, 20819), (143, 20828), (144, 20837), (148, 20858), (155, 20906), (172, 21008), (195, 21167), (211, 21248), (220, 21350), (246, 21542), (249, 21563), (253, 21605), (259, 21650), (261, 21665), (289, 21848), (302, 21905), (309, 21938), (319, 22007), (321, 22031), (327, 22088), (331, 22103), (336, 22181), (355, 22328), (357, 22337),

Gene: NoShow\_21 Start: 18882, Stop: 21146, Start Num: 56

Candidate Starts for NoShow\_21:

(Start: 56 @18882 has 1 MA's), (75, 19005), (76, 19014), (89, 19098), (92, 19122), (94, 19131), (104, 19209), (112, 19311), (121, 19398), (147, 19488), (157, 19545), (160, 19563), (162, 19569), (164, 19584), (168, 19599), (171, 19608), (211, 19800), (221, 19908), (245, 20088), (248, 20109), (250, 20118), (256, 20175), (257, 20187), (261, 20217), (269, 20271), (274, 20304), (279, 20346), (283, 20364), (305, 20469), (311, 20499), (329, 20640), (332, 20652), (361, 20943), (378, 21126),

Gene: Oscar\_26 Start: 20113, Stop: 22572, Start Num: 39

Candidate Starts for Oscar\_26:

(Start: 39 @20113 has 93 MA's), (48, 20161), (71, 20284), (84, 20341), (86, 20353), (98, 20446), (100, 20470), (107, 20521), (121, 20683), (141, 20794), (148, 20833), (152, 20857), (172, 20980), (183, 21052), (195, 21139), (209, 21205), (211, 21220), (220, 21322), (224, 21376), (234, 21436), (246, 21514), (247, 21526), (249, 21535), (253, 21577), (259, 21622), (261, 21637), (273, 21724), (276, 21748), (289, 21820), (302, 21877), (319, 21988), (321, 22012), (323, 22033), (331, 22084), (344, 22213), (357, 22318), (375, 22543),

Gene: Pace1224\_22 Start: 20643, Stop: 23102, Start Num: 25

Candidate Starts for Pace1224\_22:

(Start: 25 @20643 has 8 MA's), (31, 20703), (41, 20751), (77, 20946), (113, 21234), (124, 21336), (131, 21360), (166, 21504), (170, 21519), (182, 21600), (192, 21675), (208, 21732), (211, 21756), (216, 21792), (235, 21978), (239, 21999), (246, 22047), (248, 22062), (256, 22128), (261, 22170), (274, 22263), (275, 22281), (287, 22347), (303, 22428), (317, 22494), (334, 22647), (343, 22737), (351, 22806), (356, 22842), (366, 22935), (373, 23040), (377, 23076),

Gene: Padfoot\_27 Start: 20912, Stop: 23344, Start Num: 39

Candidate Starts for Padfoot\_27:

(Start: 39 @20912 has 93 MA's), (61, 21011), (101, 21272), (104, 21293), (123, 21500), (130, 21533), (134, 21563), (152, 21635), (155, 21659), (186, 21857), (191, 21902), (193, 21914), (196, 21923), (208, 21974), (224, 22154), (227, 22169), (238, 22238), (241, 22250), (249, 22313), (253, 22355), (259, 22394), (260, 22400), (261, 22409), (264, 22430), (271, 22490), (295, 22607), (302, 22649), (314, 22721), (315, 22730), (319, 22751), (326, 22823), (330, 22844), (339, 22940), (356, 23087), (364, 23168), (375, 23315),

Gene: Padpat\_27 Start: 20872, Stop: 23304, Start Num: 39

Candidate Starts for Padpat\_27:

(Start: 39 @20872 has 93 MA's), (61, 20971), (101, 21232), (104, 21253), (123, 21460), (130, 21493), (134, 21523), (152, 21595), (155, 21619), (163, 21664), (186, 21817), (191, 21862), (193, 21874), (196, 21883), (208, 21934), (224, 22114), (227, 22129), (238, 22198), (241, 22210), (249, 22273), (253, 22315), (259, 22354), (260, 22360), (261, 22369), (264, 22390), (271, 22450), (295, 22567), (302, 22609), (314, 22681), (315, 22690), (319, 22711), (326, 22783), (330, 22804), (339, 22900), (350, 22963), (364, 23128), (375, 23275),

Gene: Peel\_27 Start: 20912, Stop: 23344, Start Num: 39

Candidate Starts for Peel\_27:

(Start: 39 @20912 has 93 MA's), (61, 21011), (101, 21272), (104, 21293), (123, 21500), (130, 21533), (134, 21563), (152, 21635), (155, 21659), (186, 21857), (191, 21902), (193, 21914), (196, 21923), (208, 21974), (224, 22154), (227, 22169), (238, 22238), (241, 22250), (249, 22313), (253, 22355), (259, 22394), (260, 22400), (261, 22409), (264, 22430), (271, 22490), (295, 22607), (302, 22649), (314, 22721), (315, 22730), (319, 22751), (326, 22823), (330, 22844), (339, 22940), (356, 23087), (364, 23168), (375, 23315),

Gene: Piatt\_27 Start: 20912, Stop: 23344, Start Num: 39

Candidate Starts for Piatt\_27:

(Start: 39 @20912 has 93 MA's), (61, 21011), (101, 21272), (104, 21293), (123, 21500), (130, 21533), (134, 21563), (152, 21635), (155, 21659), (186, 21857), (191, 21902), (193, 21914), (196, 21923), (208, 21974), (224, 22154), (227, 22169), (238, 22238), (241, 22250), (249, 22313), (253, 22355), (259, 22394), (260, 22400), (261, 22409), (264, 22430), (271, 22490), (295, 22607), (302, 22649), (314, 22721), (315, 22730), (319, 22751), (326, 22823), (330, 22844), (339, 22940), (356, 23087), (364, 23168), (375, 23315),

Gene: Pinnie\_23 Start: 21181, Stop: 23643, Start Num: 25

Candidate Starts for Pinnie\_23:

(Start: 25 @21181 has 8 MA's), (40, 21286), (41, 21289), (65, 21409), (72, 21451), (77, 21484), (93, 21589), (113, 21772), (119, 21832), (150, 21955), (156, 21994), (165, 22042), (166, 22045), (182, 22141), (185, 22162), (188, 22192), (192, 22216), (211, 22297), (212, 22306), (216, 22333), (224, 22453), (239, 22540), (246, 22588), (256, 22669), (261, 22711), (274, 22804), (287, 22888), (333, 23149), (334, 23188), (342, 23275), (351, 23347), (365, 23464), (366, 23476), (373, 23581), (379, 23626),

Gene: Pokerus\_26 Start: 20829, Stop: 23261, Start Num: 39

Candidate Starts for Pokerus\_26:

(Start: 39 @20829 has 93 MA's), (61, 20928), (101, 21189), (104, 21210), (123, 21417), (130, 21450), (134, 21480), (152, 21552), (155, 21576), (186, 21774), (191, 21819), (193, 21831), (196, 21840), (208, 21891), (224, 22071), (227, 22086), (238, 22155), (241, 22167), (249, 22230), (253, 22272), (259, 22311), (260, 22317), (261, 22326), (264, 22347), (271, 22407), (295, 22524), (302, 22566), (314, 22638), (315, 22647), (319, 22668), (326, 22740), (330, 22761), (339, 22857), (356, 23004), (364, 23085), (375, 23232),

Gene: Prithvi\_27 Start: 20846, Stop: 23278, Start Num: 39

Candidate Starts for Prithvi\_27:

(Start: 39 @20846 has 93 MA's), (61, 20945), (101, 21206), (123, 21434), (130, 21467), (134, 21497), (152, 21569), (155, 21593), (163, 21638), (186, 21791), (191, 21836), (193, 21848), (196, 21857), (205, 21893), (208, 21908), (224, 22088), (227, 22103), (238, 22172), (241, 22184), (249, 22247), (253, 22289), (259, 22328), (260, 22334), (261, 22343), (264, 22364), (271, 22424), (295, 22541), (302, 22583), (314, 22655), (315, 22664), (319, 22685), (326, 22757), (330, 22778), (339, 22874), (364, 23102), (375, 23249),

Gene: QuincyRose\_26 Start: 20892, Stop: 23324, Start Num: 39

Candidate Starts for QuincyRose\_26:

(Start: 39 @20892 has 93 MA's), (61, 20991), (101, 21252), (104, 21273), (123, 21480), (130, 21513), (134, 21543), (152, 21615), (155, 21639), (163, 21684), (186, 21837), (191, 21882), (193, 21894), (196, 21903), (208, 21954), (224, 22134), (227, 22149), (238, 22218), (241, 22230), (249, 22293), (253, 22335), (259, 22374), (260, 22380), (261, 22389), (264, 22410), (271, 22470), (295, 22587), (302, 22629), (314, 22701), (315, 22710), (319, 22731), (326, 22803), (330, 22824), (339, 22920), (350, 22983), (356, 23067), (360, 23109), (364, 23148),

Gene: Ramen\_27 Start: 20878, Stop: 23310, Start Num: 39

Candidate Starts for Ramen\_27:

(Start: 39 @20878 has 93 MA's), (61, 20977), (101, 21238), (104, 21259), (123, 21466), (130, 21499), (134, 21529), (152, 21601), (155, 21625), (186, 21823), (191, 21868), (193, 21880), (196, 21889), (208, 21940), (224, 22120), (227, 22135), (238, 22204), (241, 22216), (249, 22279), (253, 22321), (259, 22360), (260, 22366), (261, 22375), (264, 22396), (271, 22456), (295, 22573), (302, 22615), (314, 22687), (315, 22696), (319, 22717), (326, 22789), (330, 22810), (339, 22906), (356, 23053), (364, 23134), (375, 23281),

Gene: Rapunzel97\_27 Start: 20879, Stop: 23311, Start Num: 39

Candidate Starts for Rapunzel97\_27:

(Start: 39 @20879 has 93 MA's), (61, 20978), (101, 21239), (104, 21260), (123, 21467), (130, 21500), (134, 21530), (152, 21602), (155, 21626), (163, 21671), (186, 21824), (191, 21869), (193, 21881), (196, 21890), (208, 21941), (224, 22121), (227, 22136), (238, 22205), (241, 22217), (253, 22322), (259, 22361), (260, 22367), (261, 22376), (271, 22457), (278, 22505), (296, 22580), (302, 22616), (315, 22697), (319, 22718), (330, 22811), (339, 22907), (356, 23054), (360, 23096), (364, 23135), (370, 23210),

Gene: Rinkes\_33 Start: 31333, Stop: 33816, Start Num: 28

Candidate Starts for Rinkes\_33:

(Start: 28 @31333 has 4 MA's), (29, 31342), (41, 31429), (42, 31435), (45, 31447), (47, 31462), (57, 31504), (58, 31507), (69, 31570), (91, 31708), (97, 31747), (99, 31765), (104, 31807), (105, 31810), (113, 31909), (120, 31984), (124, 32011), (125, 32014), (129, 32035), (132, 32047), (166, 32209), (168, 32218), (170, 32224), (175, 32266), (176, 32269), (187, 32347), (193, 32380), (203, 32413), (207, 32431), (215, 32488), (219, 32557), (222, 32593), (246, 32758), (248, 32773), (256, 32839), (260, 32872), (261, 32881), (274, 32968), (283, 33028), (287, 33052), (299, 33097), (300, 33100), (302, 33118), (315, 33199), (339, 33421), (340, 33430), (373, 33754),

Gene: Rosmarinus\_27 Start: 20900, Stop: 23332, Start Num: 39

Candidate Starts for Rosmarinus\_27:

(Start: 39 @20900 has 93 MA's), (61, 20999), (101, 21260), (104, 21281), (123, 21488), (130, 21521), (134, 21551), (152, 21623), (155, 21647), (186, 21845), (191, 21890), (193, 21902), (196, 21911), (208, 21962), (224, 22142), (227, 22157), (238, 22226), (241, 22238), (249, 22301), (253, 22343), (259, 22382), (260, 22388), (261, 22397), (264, 22418), (271, 22478), (295, 22595), (302, 22637), (314, 22709), (315, 22718), (319, 22739), (326, 22811), (330, 22832), (339, 22928), (356, 23075), (364, 23156), (375, 23303),

Gene: SamuelLPlaqson\_27 Start: 20840, Stop: 23272, Start Num: 39

Candidate Starts for SamuelLPlaqson\_27:

(36, 20822), (Start: 39 @20840 has 93 MA's), (48, 20888), (61, 20939), (101, 21200), (104, 21221), (128, 21458), (130, 21461), (134, 21491), (135, 21494), (152, 21563), (155, 21587), (156, 21593), (158, 21599), (163, 21632), (186, 21785), (193, 21842), (196, 21851), (208, 21902), (224, 22082), (227, 22097), (238, 22166), (241, 22178), (245, 22214), (249, 22241), (253, 22283), (259, 22322), (260, 22328), (261, 22337), (264, 22358), (271, 22418), (277, 22451), (279, 22469), (295, 22535), (302, 22577), (314, 22649), (315, 22658), (319, 22679), (326, 22751), (339, 22868), (356, 23015), (364, 23096), (370, 23171), (375, 23243),

Gene: Scarlett\_26 Start: 20115, Stop: 22574, Start Num: 39

Candidate Starts for Scarlett\_26:

(Start: 39 @20115 has 93 MA's), (48, 20163), (71, 20286), (84, 20343), (86, 20355), (98, 20448), (100, 20472), (107, 20523), (121, 20685), (141, 20796), (148, 20835), (152, 20859), (172, 20982), (183, 21054), (195, 21141), (211, 21222), (220, 21324), (224, 21378), (234, 21438), (246, 21516), (247, 21528), (249, 21537), (253, 21579), (259, 21624), (261, 21639), (273, 21726), (276, 21750), (283, 21789), (289, 21822), (302, 21879), (319, 21990), (321, 22014), (323, 22035), (331, 22086), (344, 22215), (357, 22320), (375, 22545),

Gene: ShiaSurprise\_27 Start: 20912, Stop: 23344, Start Num: 39

Candidate Starts for ShiaSurprise\_27:

(Start: 39 @20912 has 93 MA's), (61, 21011), (101, 21272), (104, 21293), (123, 21500), (130, 21533), (134, 21563), (152, 21635), (155, 21659), (186, 21857), (191, 21902), (193, 21914), (196, 21923), (208, 21974), (224, 22154), (227, 22169), (238, 22238), (241, 22250), (249, 22313), (253, 22355), (259, 22394), (260, 22400), (261, 22409), (264, 22430), (271, 22490), (295, 22607), (302, 22649), (314, 22721), (315, 22730), (319, 22751), (326, 22823), (330, 22844), (339, 22940), (356, 23087), (364, 23168), (375, 23315),

Gene: SirPhilip\_26 Start: 19755, Stop: 22217, Start Num: 39

Candidate Starts for SirPhilip\_26:

(Start: 39 @19755 has 93 MA's), (44, 19782), (48, 19803), (71, 19926), (73, 19944), (85, 19986), (86, 19995), (98, 20088), (100, 20112), (155, 20523), (195, 20784), (204, 20823), (210, 20862), (211, 20865), (224, 21024), (227, 21039), (240, 21117), (242, 21123), (249, 21183), (253, 21225), (259,



21270), (260, 21276), (261, 21285), (263, 21306), (277, 21402), (280, 21423), (289, 21471), (299, 21507), (306, 21546), (314, 21597), (319, 21627), (326, 21699), (336, 21801), (339, 21816), (351, 21924), (355, 21954), (371, 22146), (376, 22191),

Gene: Slimphazie\_27 Start: 20879, Stop: 23311, Start Num: 39

Candidate Starts for Slimphazie\_27:

(Start: 39 @20879 has 93 MA's), (61, 20978), (101, 21239), (104, 21260), (123, 21467), (130, 21500), (134, 21530), (152, 21602), (155, 21626), (163, 21671), (186, 21824), (191, 21869), (193, 21881), (196, 21890), (208, 21941), (224, 22121), (227, 22136), (238, 22205), (241, 22217), (253, 22322), (259, 22361), (260, 22367), (261, 22376), (271, 22457), (278, 22505), (296, 22580), (302, 22616), (315, 22697), (319, 22718), (330, 22811), (339, 22907), (356, 23054), (360, 23096), (364, 23135), (370, 23210),

Gene: Spock\_27 Start: 20912, Stop: 23344, Start Num: 39

Candidate Starts for Spock\_27:

(Start: 39 @20912 has 93 MA's), (61, 21011), (101, 21272), (104, 21293), (123, 21500), (130, 21533), (134, 21563), (152, 21635), (155, 21659), (186, 21857), (191, 21902), (193, 21914), (196, 21923), (208, 21974), (224, 22154), (227, 22169), (238, 22238), (241, 22250), (249, 22313), (253, 22355), (259, 22394), (260, 22400), (261, 22409), (264, 22430), (271, 22490), (295, 22607), (302, 22649), (314, 22721), (315, 22730), (319, 22751), (326, 22823), (330, 22844), (339, 22940), (356, 23087), (364, 23168), (375, 23315),

Gene: Stargaze\_22 Start: 20828, Stop: 23284, Start Num: 25

Candidate Starts for Stargaze\_22:

(Start: 25 @20828 has 8 MA's), (48, 20972), (65, 21056), (70, 21086), (78, 21131), (102, 21290), (113, 21407), (156, 21629), (166, 21680), (170, 21695), (185, 21797), (197, 21863), (213, 21947), (222, 22061), (235, 22151), (237, 22166), (239, 22172), (241, 22181), (245, 22220), (249, 22247), (251, 22259), (259, 22334), (272, 22430), (274, 22442), (278, 22481), (309, 22616), (314, 22649), (315, 22658), (319, 22685), (331, 22784), (335, 22862), (345, 22922), (361, 23078), (373, 23222), (378, 23264),

Gene: Stinson\_28 Start: 21121, Stop: 23553, Start Num: 39

Candidate Starts for Stinson\_28:

(Start: 39 @21121 has 93 MA's), (40, 21130), (61, 21220), (101, 21481), (104, 21502), (123, 21709), (130, 21742), (134, 21772), (152, 21844), (155, 21868), (163, 21913), (186, 22066), (193, 22123), (196, 22132), (205, 22168), (208, 22183), (224, 22363), (227, 22378), (238, 22447), (241, 22459), (249, 22522), (253, 22564), (259, 22603), (260, 22609), (261, 22618), (264, 22639), (271, 22699), (278, 22747), (292, 22807), (295, 22816), (304, 22873), (314, 22930), (315, 22939), (319, 22960), (323, 23005), (330, 23053), (339, 23149), (364, 23377), (375, 23524),

Gene: Sulley\_27 Start: 20845, Stop: 23277, Start Num: 39

Candidate Starts for Sulley\_27:

(Start: 39 @20845 has 93 MA's), (61, 20944), (101, 21205), (104, 21226), (123, 21433), (130, 21466), (134, 21496), (152, 21568), (155, 21592), (186, 21790), (191, 21835), (193, 21847), (196, 21856), (208, 21907), (224, 22087), (227, 22102), (238, 22171), (241, 22183), (249, 22246), (253, 22288), (259, 22327), (260, 22333), (261, 22342), (264, 22363), (271, 22423), (277, 22456), (278, 22471), (279, 22474), (290, 22528), (295, 22540), (314, 22654), (315, 22663), (319, 22684), (326, 22756), (330, 22777), (339, 22873), (364, 23101), (375, 23248),

Gene: Tachez\_27 Start: 20841, Stop: 23273, Start Num: 39

Candidate Starts for Tachez\_27:

(Start: 39 @20841 has 93 MA's), (61, 20940), (101, 21201), (104, 21222), (123, 21429), (130, 21462), (134, 21492), (152, 21564), (155, 21588), (163, 21633), (186, 21786), (191, 21831), (193, 21843),

(196, 21852), (208, 21903), (224, 22083), (227, 22098), (238, 22167), (241, 22179), (253, 22284), (259, 22323), (260, 22329), (261, 22338), (271, 22419), (278, 22467), (296, 22542), (302, 22578), (314, 22650), (315, 22659), (319, 22680), (330, 22773), (339, 22869), (356, 23016), (360, 23058), (364, 23097), (370, 23172),

Gene: TaiwanKao\_28 Start: 20852, Stop: 23284, Start Num: 39

Candidate Starts for TaiwanKao\_28:

(Start: 39 @20852 has 93 MA's), (61, 20951), (101, 21212), (123, 21440), (130, 21473), (134, 21503), (155, 21599), (163, 21644), (186, 21797), (191, 21842), (193, 21854), (196, 21863), (208, 21914), (224, 22094), (227, 22109), (238, 22178), (241, 22190), (249, 22253), (253, 22295), (259, 22334), (260, 22340), (261, 22349), (264, 22370), (271, 22430), (295, 22547), (302, 22589), (314, 22661), (315, 22670), (319, 22691), (326, 22763), (330, 22784), (339, 22880), (364, 23108), (375, 23255),

Gene: TiniBug\_27 Start: 20837, Stop: 23269, Start Num: 39

Candidate Starts for TiniBug\_27:

(36, 20819), (Start: 39 @20837 has 93 MA's), (48, 20885), (61, 20936), (101, 21197), (104, 21218), (128, 21455), (130, 21458), (134, 21488), (135, 21491), (152, 21560), (155, 21584), (156, 21590), (158, 21596), (163, 21629), (186, 21782), (193, 21839), (196, 21848), (208, 21899), (224, 22079), (227, 22094), (238, 22163), (241, 22175), (245, 22211), (249, 22238), (253, 22280), (259, 22319), (260, 22325), (261, 22334), (264, 22355), (271, 22415), (277, 22448), (279, 22466), (295, 22532), (302, 22574), (314, 22646), (315, 22655), (319, 22676), (326, 22748), (356, 23012), (364, 23093), (370, 23168), (375, 23240),

Gene: Tiri\_27 Start: 20884, Stop: 23316, Start Num: 39

Candidate Starts for Tiri\_27:

(Start: 39 @20884 has 93 MA's), (61, 20983), (101, 21244), (104, 21265), (123, 21472), (130, 21505), (134, 21535), (152, 21607), (155, 21631), (186, 21829), (191, 21874), (193, 21886), (196, 21895), (208, 21946), (224, 22126), (227, 22141), (238, 22210), (241, 22222), (249, 22285), (253, 22327), (259, 22366), (260, 22372), (261, 22381), (264, 22402), (271, 22462), (295, 22579), (302, 22621), (314, 22693), (315, 22702), (319, 22723), (326, 22795), (330, 22816), (339, 22912), (350, 22975), (360, 23101), (364, 23140), (375, 23287),

Gene: Topper\_27 Start: 20912, Stop: 23344, Start Num: 39

Candidate Starts for Topper\_27:

(Start: 39 @20912 has 93 MA's), (61, 21011), (101, 21272), (104, 21293), (123, 21500), (130, 21533), (134, 21563), (152, 21635), (155, 21659), (186, 21857), (191, 21902), (193, 21914), (196, 21923), (208, 21974), (224, 22154), (227, 22169), (238, 22238), (241, 22250), (249, 22313), (253, 22355), (259, 22394), (260, 22400), (261, 22409), (264, 22430), (271, 22490), (295, 22607), (302, 22649), (314, 22721), (315, 22730), (319, 22751), (326, 22823), (330, 22844), (339, 22940), (356, 23087), (364, 23168), (375, 23315),

Gene: TreyKay\_27 Start: 20846, Stop: 23278, Start Num: 39

Candidate Starts for TreyKay\_27:

(Start: 39 @20846 has 93 MA's), (61, 20945), (101, 21206), (123, 21434), (130, 21467), (134, 21497), (152, 21569), (155, 21593), (163, 21638), (186, 21791), (191, 21836), (193, 21848), (196, 21857), (205, 21893), (208, 21908), (224, 22088), (227, 22103), (238, 22172), (241, 22184), (249, 22247), (253, 22289), (259, 22328), (260, 22334), (261, 22343), (264, 22364), (271, 22424), (295, 22541), (302, 22583), (314, 22655), (315, 22664), (319, 22685), (326, 22757), (330, 22778), (339, 22874), (364, 23102), (375, 23249),

Gene: TruffulaTree\_27 Start: 20875, Stop: 23307, Start Num: 39

Candidate Starts for TruffulaTree\_27:

(Start: 39 @20875 has 93 MA's), (61, 20974), (101, 21235), (104, 21256), (123, 21463), (130, 21496), (134, 21526), (152, 21598), (155, 21622), (163, 21667), (186, 21820), (191, 21865), (193, 21877), (196, 21886), (208, 21937), (224, 22117), (227, 22132), (238, 22201), (241, 22213), (249, 22276), (253, 22318), (259, 22357), (260, 22363), (261, 22372), (264, 22393), (271, 22453), (295, 22570), (302, 22612), (314, 22684), (315, 22693), (319, 22714), (326, 22786), (330, 22807), (339, 22903), (350, 22966), (364, 23131), (375, 23278),

Gene: Twitch\_27 Start: 20912, Stop: 23344, Start Num: 39

Candidate Starts for Twitch\_27:

(Start: 39 @20912 has 93 MA's), (61, 21011), (101, 21272), (104, 21293), (123, 21500), (130, 21533), (134, 21563), (152, 21635), (155, 21659), (186, 21857), (191, 21902), (193, 21914), (196, 21923), (208, 21974), (224, 22154), (227, 22169), (238, 22238), (241, 22250), (249, 22313), (253, 22355), (259, 22394), (260, 22400), (261, 22409), (264, 22430), (271, 22490), (295, 22607), (302, 22649), (314, 22721), (315, 22730), (319, 22751), (326, 22823), (330, 22844), (339, 22940), (356, 23087), (364, 23168), (375, 23315),

Gene: Urkel\_27 Start: 20840, Stop: 23272, Start Num: 39

Candidate Starts for Urkel\_27:

(36, 20822), (Start: 39 @20840 has 93 MA's), (48, 20888), (61, 20939), (101, 21200), (104, 21221), (128, 21458), (130, 21461), (134, 21491), (135, 21494), (152, 21563), (155, 21587), (156, 21593), (158, 21599), (163, 21632), (186, 21785), (193, 21842), (196, 21851), (208, 21902), (224, 22082), (227, 22097), (238, 22166), (241, 22178), (245, 22214), (249, 22241), (253, 22283), (259, 22322), (260, 22328), (261, 22337), (264, 22358), (271, 22418), (277, 22451), (279, 22469), (295, 22535), (302, 22577), (314, 22649), (315, 22658), (319, 22679), (326, 22751), (339, 22868), (356, 23015), (364, 23096), (370, 23171), (375, 23243),

Gene: Veliki\_27 Start: 20915, Stop: 23347, Start Num: 39

Candidate Starts for Veliki\_27:

(Start: 39 @20915 has 93 MA's), (61, 21014), (101, 21275), (104, 21296), (123, 21503), (130, 21536), (134, 21566), (152, 21638), (155, 21662), (163, 21707), (186, 21860), (191, 21905), (193, 21917), (196, 21926), (208, 21977), (224, 22157), (227, 22172), (238, 22241), (241, 22253), (253, 22358), (259, 22397), (260, 22403), (261, 22412), (271, 22493), (278, 22541), (296, 22616), (302, 22652), (315, 22733), (319, 22754), (330, 22847), (339, 22943), (356, 23090), (360, 23132), (364, 23171), (370, 23246),

Gene: YoureAdopted\_26 Start: 20848, Stop: 23280, Start Num: 39

Candidate Starts for YoureAdopted\_26:

(Start: 39 @20848 has 93 MA's), (61, 20947), (101, 21208), (104, 21229), (123, 21436), (130, 21469), (134, 21499), (152, 21571), (155, 21595), (163, 21640), (186, 21793), (191, 21838), (193, 21850), (196, 21859), (208, 21910), (224, 22090), (227, 22105), (238, 22174), (241, 22186), (253, 22291), (259, 22330), (260, 22336), (261, 22345), (271, 22426), (278, 22474), (296, 22549), (302, 22585), (314, 22657), (315, 22666), (319, 22687), (330, 22780), (339, 22876), (356, 23023), (360, 23065), (364, 23104), (370, 23179),

Gene: Yunkel11\_27 Start: 20098, Stop: 22530, Start Num: 39

Candidate Starts for Yunkel11\_27:

(Start: 39 @20098 has 93 MA's), (48, 20146), (49, 20149), (52, 20158), (101, 20458), (104, 20479), (130, 20719), (152, 20821), (155, 20845), (156, 20851), (163, 20890), (186, 21043), (193, 21100), (196, 21109), (208, 21160), (225, 21346), (227, 21355), (228, 21361), (235, 21406), (238, 21424), (249, 21499), (253, 21541), (259, 21580), (260, 21586), (261, 21595), (264, 21616), (270, 21664), (277, 21709), (278, 21724), (295, 21793), (302, 21835), (315, 21916), (326, 22009), (330, 22030), (339, 22126), (364, 22354), (369, 22408), (370, 22429), (375, 22501), (380, 22519),

Gene: Zabiza\_27 Start: 20879, Stop: 23311, Start Num: 39

Candidate Starts for Zabiza\_27:

(Start: 39 @20879 has 93 MA's), (61, 20978), (101, 21239), (104, 21260), (123, 21467), (130, 21500), (134, 21530), (152, 21602), (155, 21626), (163, 21671), (186, 21824), (191, 21869), (193, 21881), (196, 21890), (208, 21941), (224, 22121), (227, 22136), (238, 22205), (241, 22217), (253, 22322), (259, 22361), (260, 22367), (261, 22376), (271, 22457), (278, 22505), (296, 22580), (302, 22616), (315, 22697), (319, 22718), (330, 22811), (339, 22907), (356, 23054), (360, 23096), (364, 23135), (370, 23210),

Gene: Zavala\_27 Start: 20854, Stop: 23286, Start Num: 39

Candidate Starts for Zavala\_27:

(Start: 39 @20854 has 93 MA's), (61, 20953), (101, 21214), (104, 21235), (123, 21442), (130, 21475), (134, 21505), (152, 21577), (155, 21601), (163, 21646), (186, 21799), (191, 21844), (193, 21856), (196, 21865), (208, 21916), (224, 22096), (227, 22111), (238, 22180), (241, 22192), (249, 22255), (253, 22297), (259, 22336), (260, 22342), (261, 22351), (264, 22372), (271, 22432), (295, 22549), (302, 22591), (314, 22663), (315, 22672), (319, 22693), (326, 22765), (330, 22786), (339, 22882), (350, 22945), (364, 23110), (375, 23257),