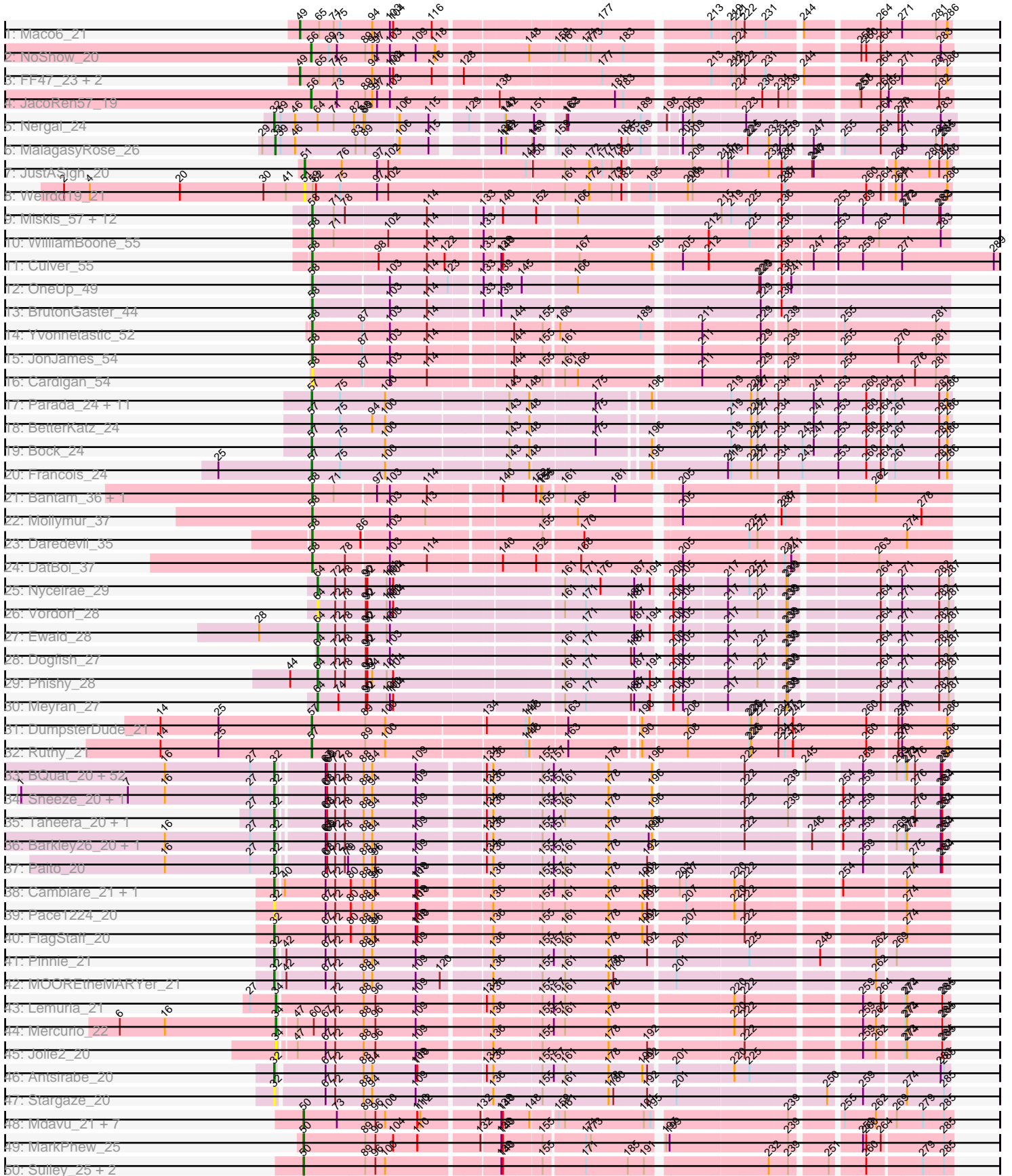
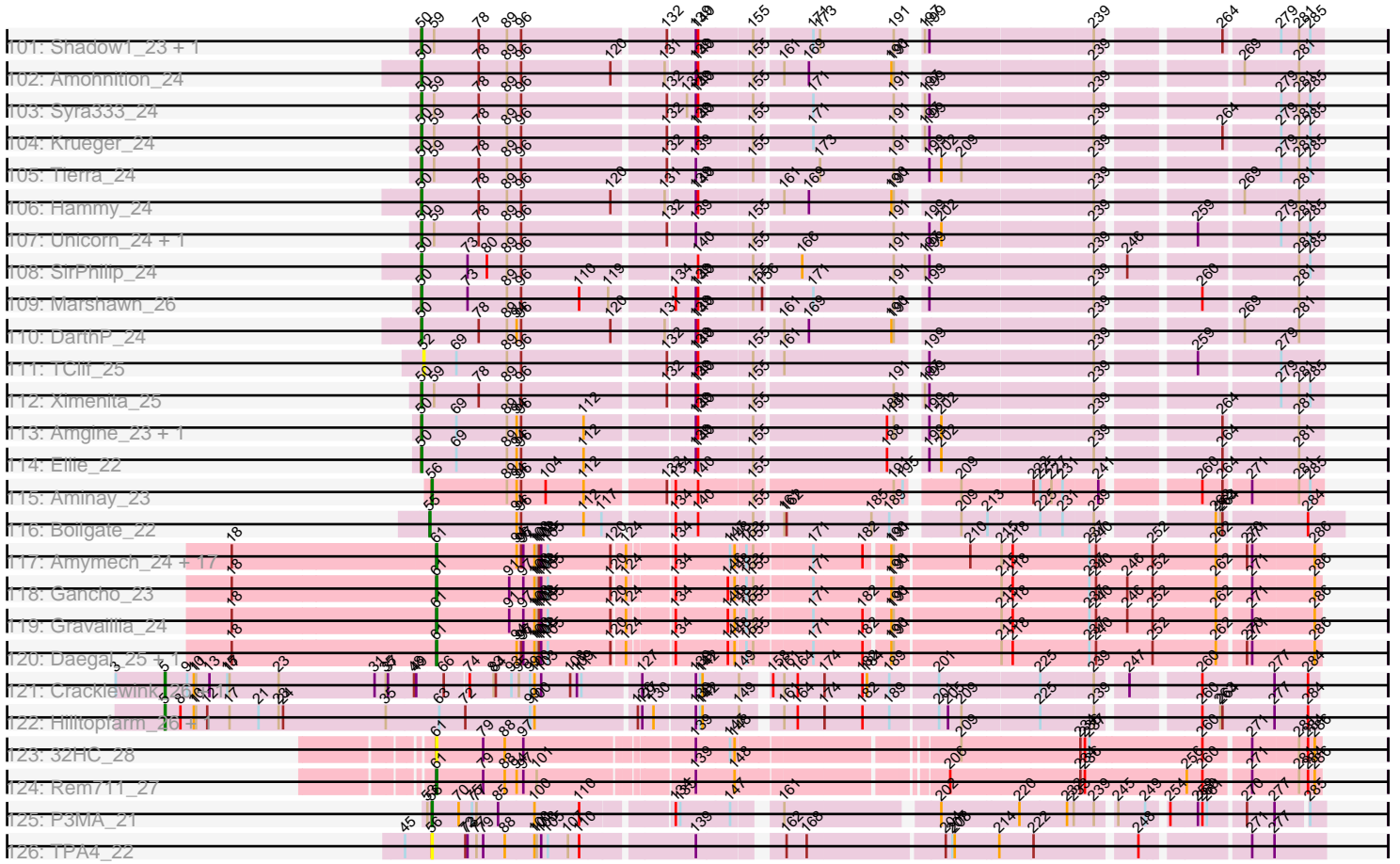


Pham 171138





Pham 171138



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 171138 Report

This analysis was run 07/10/24 on database version 566.

Pham number 171138 has 346 members, 23 are drafts.

Phages represented in each track:

- Track 1 : Maco6\_21
- Track 2 : NoShow\_20
- Track 3 : FF47\_23, Muddy\_23, 8UZL\_23
- Track 4 : JacoRen57\_19
- Track 5 : Nergal\_24
- Track 6 : MalagasyRose\_26
- Track 7 : JustASigh\_20
- Track 8 : Weirdo19\_21
- Track 9 : Miskis\_57, ClubL\_55, Aphelion\_55, Bachita\_57, Norvs\_56, Abscondus\_54, Smoothie\_57, Toniann\_55, Lozinak\_56, Engineer\_57, Dusty\_53, PhinkBoden\_55, Cucurbita\_57
- Track 10 : WilliamBoone\_55
- Track 11 : Culver\_55
- Track 12 : OneUp\_49
- Track 13 : BrutonGaster\_44
- Track 14 : Yvonnetastic\_52
- Track 15 : JonJames\_54
- Track 16 : Cardigan\_54
- Track 17 : Parada\_24, DelRio\_25, Ayotoya\_24, Hamood\_24, Chop\_24, Brylie\_24, Mulch\_24, NancyRae\_24, WheatThin\_24, Pimento\_24, Nadeem\_24, GrandSlam\_24
- Track 18 : BetterKatz\_24
- Track 19 : Bock\_24
- Track 20 : Francois\_24
- Track 21 : Bantam\_36, SpeedDemon\_380
- Track 22 : Mollymur\_37
- Track 23 : Daredevil\_35
- Track 24 : DatBoi\_37
- Track 25 : Nyceirae\_29
- Track 26 : Vordorf\_28
- Track 27 : Ewald\_28
- Track 28 : Dogfish\_27
- Track 29 : Phishy\_28
- Track 30 : Meyran\_27
- Track 31 : DumpsterDude\_21
- Track 32 : Ruthy\_21
- Track 33 : BQuat\_20, Kareem\_20, Jonghyun\_20, Crespo\_20, Jane\_20, BPs\_20, LouisV14\_20, Aroostook\_20, Mowgli\_20, PinkYoshi\_20, Phish\_20, CassieYates\_20,

BruceB\_20, Sweets\_20, Remy19\_20, Hope\_20, Frosty24\_20, TomBrady\_20, OctaviousRex\_20, Renaissance\_20, Gideon\_20, Kasen3\_20, Sizemore\_20, Hotshotbaby7\_20, JorRay\_20, Phreak\_20, CLED96\_20, Coleslaw\_20, Olga\_20, DNAIII\_0020, Cedasite\_20, Halo\_20, Plagueis\_20, Annihilator\_20, Peeb\_20, Cherrybomb426\_20, Chance64\_20, DMoney\_20, ShaboiShabazz\_20, Liefie\_20, Gomashi\_20, Jolene\_20, Angel\_20, Zombie\_20, Darionha\_20, GoldenAsh\_20, Camri\_20, ECartman\_20, Marmie\_20, Periodt\_20, Avrafan\_20, ZoMa\_20, Schiebel\_20

- Track 34 : Sneeze\_20, Rabbs\_20
- Track 35 : Taheera\_20, Terror\_20
- Track 36 : Barkley26\_20, Grizzly\_20
- Track 37 : Paito\_20
- Track 38 : Cambiare\_21, Avocado\_20
- Track 39 : Pace1224\_20
- Track 40 : FlagStaff\_20
- Track 41 : Pinnie\_21
- Track 42 : MOOREtheMARYer\_21
- Track 43 : Lemuria\_21
- Track 44 : Mercurio\_22
- Track 45 : Jolie2\_20
- Track 46 : Antsirabe\_20
- Track 47 : Stargaze\_20
- Track 48 : Mdavu\_21, Amelie\_21, Nikao\_21, SgtBeansprout\_21, LilPharaoh\_21, Enkosi\_21, Biglebops\_21, Nutello\_21
- Track 49 : MarkPhew\_25
- Track 50 : Sulley\_25, Angelica\_25, Deby\_25
- Track 51 : Durfee\_25, Joy99\_25, Dalmuri\_25, Inky\_25, Capricorn\_25, Jeckyll\_25, BGIlluviae\_25, Ramen\_25, Boiiii\_25, Belladonna\_25, Peel\_25, Padfoot\_25, Mynx\_25, Asayake\_25, AlishaPH\_25, Twitch\_25, Emerson\_25, CaseJules\_25, BarrelRoll\_25, Llorens\_25, BaghaKamala\_25, Piatt\_25, Apocalypse\_25, JAWS\_25, BEEST\_25, Hyperbowlee\_25, Jarvi\_25, TruffulaTree\_25, Spock\_25, Topper\_25, CREW\_25, Padpat\_25, Blizzard\_25, Homura\_25, Rosmarinus\_25, ShiaSurprise\_25, Lunahalos\_25
- Track 52 : TiniBug\_25
- Track 53 : Adonis\_25, HedwigODU\_25, TreyKay\_25, Geraldini\_25, MeaningOfLife\_25, Veliki\_25, Tachez\_25, Prithvi\_25, Zabiza\_26, Rapunzel97\_25, Pokerus\_24, YoureAdopted\_24, CheetoDust\_25, Jayhawk\_26, Ganymede\_26, Adephagia\_25, Beezoo\_25, QuincyRose\_24, Slimphazie\_25, CrimD\_25, LindNT\_25, ActinUp\_25, Atiba\_25
- Track 54 : Anaya\_26
- Track 55 : Illumine\_25, Devera\_25, Dole\_25
- Track 56 : Guanica15\_25, Yunkel11\_25, TaiwanKao\_26, Efra2\_25
- Track 57 : Curiosium\_26
- Track 58 : LaterM\_25
- Track 59 : DrHayes\_25, Bella96\_25, Urkel\_25, SamuelLPlaqson\_25
- Track 60 : Shaobing\_25, Peanam\_25, Niklas\_25
- Track 61 : Megsy\_25
- Track 62 : LastHope\_25
- Track 63 : Zavala\_25
- Track 64 : Murucutumbu\_25
- Track 65 : LeMond\_24, KiSi\_24, Oscar\_24
- Track 66 : Stinson\_25
- Track 67 : Tiri\_25

- Track 68 : Chris\_24
- Track 69 : Validus\_25
- Track 70 : Ageofdapage\_25
- Track 71 : Scarlett\_24
- Track 72 : Nibb\_24
- Track 73 : Findley\_21, Strobilo\_21
- Track 74 : Marcoliusprime\_21, Milly\_21, DismalStressor\_21, DismalFunk\_21
- Track 75 : TM4\_21
- Track 76 : ZoeJ\_21
- Track 77 : Mufasa\_21, BoostSeason\_21
- Track 78 : MacnCheese\_25
- Track 79 : TBond007\_24, Pixie\_24
- Track 80 : ShedlockHolmes\_24
- Track 81 : Pharb\_24
- Track 82 : TribbleTrouble\_23
- Track 83 : Hurricane\_24
- Track 84 : Keshu\_24
- Track 85 : Fionnbharth\_26, Y10\_26, Juliette\_26, JF1\_26, Ruthiejr\_25, Wintermute\_26, Y2\_26, Eponine\_26, Malthus\_27
- Track 86 : SamScheppers\_24, Taquito\_24
- Track 87 : Reptar3000\_26
- Track 88 : MissDaisy\_26, Patt\_26
- Track 89 : Slarp\_26, Mitti\_26, OmniCritical\_26, Cheetobro\_26, Chancellor\_26
- Track 90 : Larva\_24
- Track 91 : Rando14\_24
- Track 92 : Miryou\_23
- Track 93 : Leston\_23, SoSeph\_23, Heftyboy\_23, Paola\_23, Guillsminger\_23, OkiRoe\_23
- Track 94 : Gengar\_23
- Track 95 : Agent47\_23, Collard\_23, Feyre\_23, Waterfoul\_23, Kratio\_22, Thyatira\_23, InvictusManeo\_23
- Track 96 : Dadosky\_24, Psycho\_24, Edugator\_23, AlleyCat\_24
- Track 97 : Omnicron\_24
- Track 98 : Ekdilam\_22
- Track 99 : Phrank\_24, Bryler\_24, Cain\_24
- Track 100 : Yuna\_26
- Track 101 : Shadow1\_23, Sunflower1121\_23
- Track 102 : Amohnition\_24
- Track 103 : Syra333\_24
- Track 104 : Krueger\_24
- Track 105 : Tierra\_24
- Track 106 : Hammy\_24
- Track 107 : Unicorn\_24, PhelpsODU\_24
- Track 108 : SirPhilip\_24
- Track 109 : Marshawn\_26
- Track 110 : DarthP\_24
- Track 111 : TClif\_25
- Track 112 : Ximenita\_25
- Track 113 : Amgine\_23, Fefferhead\_24
- Track 114 : Ellie\_22
- Track 115 : Aminay\_23
- Track 116 : Boilgate\_22

- Track 117 : Amymech\_24, Webster2\_24, Giles\_24, LilHazelNut\_24, Forge\_24, Kinbote\_24, Hadrien\_24, Evanesce\_24, HH92\_24, Wishmaker\_24, Ein37\_24, Dewey\_24, Luke\_24, Hail\_24, Ubuntu\_24, DeepSoil15\_24, OBUpride\_24, Luna22\_24
- Track 118 : Gancho\_23
- Track 119 : Gravaillia\_24
- Track 120 : Daegal\_25, Amochick\_24
- Track 121 : Cracklewink\_26, Bipper\_26
- Track 122 : Hilltopfarm\_26, Typha\_26
- Track 123 : 32HC\_28
- Track 124 : Rem711\_27
- Track 125 : P3MA\_21
- Track 126 : TPA4\_22

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

The start number called the most often in the published annotations is 50, it was called in 121 of the 323 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ActinUp\_25, Adephagia\_25, Adonis\_25, Ageofdapage\_25, AlishaPH\_25, Amelie\_21, Amgine\_23, Amohnition\_24, Anaya\_26, Angelica\_25, Apocalypse\_25, Asayake\_25, Atiba\_25, BEEST\_25, BGlluviae\_25, BaghaKamala\_25, BarrelRoll\_25, Beezoo\_25, Bella96\_25, Belladonna\_25, Biglebops\_21, Blizzard\_25, Boiii\_25, Bryler\_24, CREW\_25, Cain\_24, Capricorn\_25, CaseJules\_25, CheetoDust\_25, Chris\_24, CrimD\_25, Curiosium\_26, Dalmuri\_25, DarthP\_24, Deby\_25, Devera\_25, Dole\_25, DrHayes\_25, Durfee\_25, Efra2\_25, Ekdilam\_22, Ellie\_22, Emerson\_25, Enkosi\_21, Fefferhead\_24, Ganymede\_26, Geraldini\_25, Guanica15\_25, Hammy\_24, HedwigODU\_25, Homura\_25, Hyperbowlee\_25, Illumine\_25, Inky\_25, JAWS\_25, Jarvi\_25, Jayhawk\_26, Jeckyll\_25, Joy99\_25, KiSi\_24, Krueger\_24, LastHope\_25, LaterM\_25, LeMond\_24, LilPharaoh\_21, LindNT\_25, Llorens\_25, Lunahalos\_25, MarkPhew\_25, Marshawn\_26, Mdavu\_21, MeaningOfLife\_25, Megsy\_25, Murucutumbu\_25, Mynx\_25, Nibb\_24, Nikao\_21, Niklas\_25, Nutello\_21, Oscar\_24, Padfoot\_25, Padpat\_25, Peanam\_25, Peel\_25, PhelpsODU\_24, Phrank\_24, Piatt\_25, Pokerus\_24, Prithvi\_25, QuincyRose\_24, Ramen\_25, Rapunzel97\_25, Rosmarinus\_25, SamuelLPlaqson\_25, Scarlett\_24, SgtBeansprout\_21, Shadow1\_23, Shaobing\_25, ShiaSurprise\_25, SirPhilip\_24, Slimphazie\_25, Spock\_25, Stinson\_25, Sulley\_25, Sunflower1121\_23, Syra333\_24, Tachez\_25, TaiwanKao\_26, Tierra\_24, TiniBug\_25, Tiri\_25, Topper\_25, TreyKay\_25, TruffulaTree\_25, Twitch\_25, Unicorn\_24, Urkel\_25, Validus\_25, Veliki\_25, Ximenita\_25, YoureAdopted\_24, Yuna\_26, Yunkel11\_25, Zabiza\_26, Zavala\_25,

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

- 

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

- 32HC\_28, 8UZZL\_23, Abscondus\_54, Agent47\_23, AlleyCat\_24, Aminay\_23, Amochick\_24, Amymech\_24, Angel\_20, Annihilator\_20, Antsirabe\_20, Aphelion\_55, Aroostook\_20, Avocado\_20, Avrafan\_20, Ayotoya\_24, BPs\_20, BQuat\_20, Bachita\_57, Bantam\_36, Barkley26\_20, BetterKatz\_24, Bipper\_26, Bock\_24,

Boilgate\_22, BoostSeason\_21, BruceB\_20, BrutonGaster\_44, Brylie\_24, CLED96\_20, Cambiare\_21, Camri\_20, Cardigan\_54, CassieYates\_20, Cedasite\_20, Chance64\_20, Chancellor\_26, Cheetobro\_26, Cherrybomb426\_20, Chop\_24, ClubL\_55, Coleslaw\_20, Collard\_23, Cracklewink\_26, Crespo\_20, Cucurbita\_57, Culver\_55, DMoney\_20, DNAIII\_0020, Dadosky\_24, Daegal\_25, Daredevil\_35, Darionha\_20, DatBoi\_37, DeepSoil15\_24, DelRio\_25, Dewey\_24, DismalFunk\_21, DismalStressor\_21, Dogfish\_27, DumpsterDude\_21, Dusty\_53, ECartman\_20, Edugator\_23, Ein37\_24, Engineer\_57, Eponine\_26, Evanesce\_24, Ewald\_28, FF47\_23, Feyre\_23, Findley\_21, Fionnbharth\_26, FlagStaff\_20, Forge\_24, Francois\_24, Frosty24\_20, Gancho\_23, Gengar\_23, Gideon\_20, Giles\_24, GoldenAsh\_20, Gomashi\_20, GrandSlam\_24, Gravaillia\_24, Grizzly\_20, Guillsminger\_23, HH92\_24, Hadrien\_24, Hail\_24, Halo\_20, Hamood\_24, Heftyboy\_23, Hilltopfarm\_26, Hope\_20, Hotshotbaby7\_20, Hurricane\_24, InvictusManeo\_23, JF1\_26, JacoRen57\_19, Jane\_20, Jolene\_20, Jolie2\_20, JonJames\_54, Jonghyun\_20, JorRay\_20, Juliette\_26, JustASigh\_20, Kareem\_20, Kasen3\_20, Keshu\_24, Kinbote\_24, Kratio\_22, Larva\_24, Lemuria\_21, Leston\_23, Liefie\_20, LilHazelnut\_24, LouisV14\_20, Lozinak\_56, Luke\_24, Luna22\_24, MOOREtheMARYer\_21, MacnCheese\_25, Maco6\_21, MalagasyRose\_26, Malthus\_27, Marcoliusprime\_21, Marmie\_20, Mercurio\_22, Meyran\_27, Milly\_21, Miryou\_23, Miskis\_57, MissDaisy\_26, Mitti\_26, Mollymur\_37, Mowgli\_20, Muddy\_23, Mufasa\_21, Mulch\_24, Nadeem\_24, NancyRae\_24, Nergal\_24, NoShow\_20, Norvs\_56, Nyceirae\_29, OBUpride\_24, OctaviousRex\_20, OkiRoe\_23, Olga\_20, OmniCritical\_26, Omnicron\_24, OneUp\_49, P3MA\_21, Pace1224\_20, Paito\_20, Paola\_23, Parada\_24, Patt\_26, Peeb\_20, Periodt\_20, Pharb\_24, PhinkBoden\_55, Phish\_20, Phishy\_28, Phreak\_20, Pimento\_24, PinkYoshi\_20, Pinnie\_21, Pixie\_24, Plagueis\_20, Psycho\_24, Rabbs\_20, Rando14\_24, Rem711\_27, Remy19\_20, Renaissance\_20, Reptar3000\_26, Ruthiejr\_25, Ruthy\_21, SamScheppers\_24, Schiebel\_20, ShaboiShabazz\_20, ShedlockHolmes\_24, Sizemore\_20, Slarp\_26, Smoothie\_57, Sneeze\_20, SoSeph\_23, SpeedDemon\_380, Stargaze\_20, Strobilo\_21, Sweets\_20, TBond007\_24, TClif\_25, TM4\_21, TPA4\_22, Taheera\_20, Taquito\_24, Terror\_20, Thyatira\_23, TomBrady\_20, Toniann\_55, TripleTrouble\_23, Typha\_26, Ubuntu\_24, Vordorf\_28, Waterfoul\_23, Webster2\_24, Weirdo19\_21, WheatThin\_24, WilliamBoone\_55, Wintermute\_26, Wishmaker\_24, Y10\_26, Y2\_26, Yvonnestic\_52, ZoMa\_20, ZoeJ\_21, Zombie\_20,

### Summary by start number:

#### Start 5:

- Found in 4 of 346 ( 1.2% ) of genes in pham
- Manual Annotations of this start: 4 of 323
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bipper\_26 (Y), Cracklewink\_26 (Y), Hilltopfarm\_26 (Y), Typha\_26 (Y),

#### Start 32:

- Found in 69 of 346 ( 19.9% ) of genes in pham
- Manual Annotations of this start: 65 of 323
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Angel\_20 (G1), Annihilator\_20 (G1), Antsirabe\_20 (G5), Aroostook\_20 (G1), Avocado\_20 (G2), Avrafan\_20 (G1), BPs\_20 (G1), BQuat\_20 (G1), Barkley26\_20 (G1), BruceB\_20 (G1), CLED96\_20 (G1), Cambiare\_21 (G2), Camri\_20 (G1), CassieYates\_20 (G1), Cedasite\_20 (G1), Chance64\_20 (G1), Cherrybomb426\_20 (G1), Coleslaw\_20 (G1), Crespo\_20 (G1),



DMoney\_20 (G1), DNAIII\_0020 (G1), Darionha\_20 (G1), ECartman\_20 (G1), FlagStaff\_20 (G2), Frosty24\_20 (G1), Gideon\_20 (G1), GoldenAsh\_20 (G1), Gomashi\_20 (G1), Grizzly\_20 (G1), Halo\_20 (G1), Hope\_20 (G1), Hotshotbaby7\_20 (G1), Jane\_20 (G1), Jolene\_20 (G1), Jonghyun\_20 (G1), JorRay\_20 (G1), Kareem\_20 (G1), Kasen3\_20 (G1), Liefie\_20 (G1), LouisV14\_20 (G1), MOOREtheMARYer\_21 (G3), Marmie\_20 (G1), Mowgli\_20 (G1), Nergal\_24 (AG), OctaviousRex\_20 (G1), Olga\_20 (G1), Pace1224\_20 (G2), Paito\_20 (G1), Peeb\_20 (G1), Periodt\_20 (G1), Phish\_20 (G1), Phreak\_20 (G1), PinkYoshi\_20 (G1), Pinnie\_21 (G3), Plagueis\_20 (G1), Rabbs\_20 (G1), Remy19\_20 (G1), Renaissance\_20 (G1), Schiebel\_20 (G1), ShaboiShabazz\_20 (G1), Sizemore\_20 (G1), Sneeze\_20 (G1), Stargaze\_20 (G5), Sweets\_20 (G1), Taheera\_20 (G1), Terror\_20 (G1), TomBrady\_20 (G1), ZoMa\_20 (G1), Zombie\_20 (G1),

#### Start 33:

- Found in 1 of 346 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 323
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MalagasyRose\_26 (AG),

#### Start 34:

- Found in 3 of 346 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 2 of 323
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Jolie2\_20 (G4), Lemuria\_21 (G4), Mercurio\_22 (G4),

#### Start 49:

- Found in 6 of 346 ( 1.7% ) of genes in pham
- Manual Annotations of this start: 2 of 323
- Called 66.7% of time when present
- Phage (with cluster) where this start called: 8UZL\_23 (AB), FF47\_23 (AB), Maco6\_21 (AB), Muddy\_23 (AB),

#### Start 50:

- Found in 125 of 346 ( 36.1% ) of genes in pham
- Manual Annotations of this start: 121 of 323
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ActinUp\_25 (K1), Adephegia\_25 (K1), Adonis\_25 (K1), Ageofdapage\_25 (K1), AlishaPH\_25 (K1), Amelie\_21 (K1), Amgine\_23 (K6), Amohnition\_24 (K6), Anaya\_26 (K1), Angelica\_25 (K1), Apocalypse\_25 (K1), Asayake\_25 (K1), Atiba\_25 (K1), BEEST\_25 (K1), BGlluviae\_25 (K1), BaghaKamala\_25 (K1), BarrelRoll\_25 (K1), Beezoo\_25 (K1), Bella96\_25 (K1), Belladonna\_25 (K1), Binglebops\_21 (K1), Blizzard\_25 (K1), Boiii\_25 (K1), Bryler\_24 (K6), CREW\_25 (K1), Cain\_24 (K6), Capricorn\_25 (K1), CaseJules\_25 (K1), CheetoDust\_25 (K1), Chris\_24 (K1), CrimD\_25 (K1), Curiosium\_26 (K1), Dalmuri\_25 (K1), DarthP\_24 (K6), Deby\_25 (K1), Devera\_25 (K1), Dole\_25 (K1), DrHayes\_25 (K1), Durfee\_25 (K1), Efra2\_25 (K1), Ekdilam\_22 (K6), Ellie\_22 (K6), Emerson\_25 (K1), Enkosi\_21 (K1), Fefferhead\_24 (K6), Ganymede\_26 (K1), Geraldini\_25 (K1), Guanica15\_25 (K1), Hammy\_24 (K6), HedwigODU\_25 (K1), Homura\_25 (K1), Hyperbowlee\_25 (K1), Illumine\_25 (K1), Inky\_25 (K1), JAWS\_25 (K1), Jarvi\_25 (K1), Jayhawk\_26 (K1), Jeckyll\_25 (K1), Joy99\_25 (K1), KiSi\_24 (K1), Krueger\_24 (K6), LastHope\_25 (K1), LaterM\_25 (K1), LeMond\_24 (K1), LilPharaoh\_21 (K1), LindNT\_25 (K1), Llorens\_25 (K1),

Lunahalos\_25 (K1), MarkPhew\_25 (K1), Marshawn\_26 (K6), Mdavu\_21 (K1), MeaningOfLife\_25 (K1), Megsy\_25 (K1), Murucutumbu\_25 (K1), Mynx\_25 (K1), Nibb\_24 (K1), Nikao\_21 (K1), Niklas\_25 (K1), Nutello\_21 (K1), Oscar\_24 (K1), Padfoot\_25 (K1), Padpat\_25 (K1), Peanam\_25 (K1), Peel\_25 (K1), PhelpsODU\_24 (K6), Phrank\_24 (K6), Piatt\_25 (K1), Pokerus\_24 (K1), Prithvi\_25 (K1), QuincyRose\_24 (K1), Ramen\_25 (K1), Rapunzel97\_25 (K1), Rosmarinus\_25 (K1), SamuelLPlaqson\_25 (K1), Scarlett\_24 (K1), SgtBeansprout\_21 (K1), Shadow1\_23 (K6), Shaobing\_25 (K1), ShiaSurprise\_25 (K1), SirPhilip\_24 (K6), Slimphazie\_25 (K1), Spock\_25 (K1), Stinson\_25 (K1), Sulley\_25 (K1), Sunflower1121\_23 (K6), Syra333\_24 (K6), Tachez\_25 (K1), TaiwanKao\_26 (K1), Tierra\_24 (K6), TiniBug\_25 (K1), Tiri\_25 (K1), Topper\_25 (K1), TreyKay\_25 (K1), TruffulaTree\_25 (K1), Twitch\_25 (K1), Unicorn\_24 (K6), Urkel\_25 (K1), Validus\_25 (K1), Veliki\_25 (K1), Ximenita\_25 (K6), YoureAdopted\_24 (K1), Yuna\_26 (K6), Yunkel11\_25 (K1), Zabiza\_26 (K1), Zavala\_25 (K1),

#### Start 51:

- Found in 2 of 346 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 1 of 323
- Called 100.0% of time when present
- Phage (with cluster) where this start called: JustASigh\_20 (AH), Weirido19\_21 (AH),

#### Start 52:

- Found in 1 of 346 ( 0.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: TClif\_25 (K6),

#### Start 54:

- Found in 22 of 346 ( 6.4% ) of genes in pham
- Manual Annotations of this start: 21 of 323
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Agent47\_23 (K5), AlleyCat\_24 (K5), Collard\_23 (K5), Dadosky\_24 (K5), Edugator\_23 (K5), Feyre\_23 (K5), Gengar\_23 (K5), Guillsminger\_23 (K5), Heftyboy\_23 (K5), InvictusManeo\_23 (K5), Kratio\_22 (K5), Larva\_24 (K5), Leston\_23 (K5), Miryou\_23 (K5), OkiRoe\_23 (K5), Omnicron\_24 (K5), Paola\_23 (K5), Psycho\_24 (K5), Rando14\_24 (K5), SoSeph\_23 (K5), Thyatira\_23 (K5), Waterfoul\_23 (K5),

#### Start 55:

- Found in 38 of 346 ( 11.0% ) of genes in pham
- Manual Annotations of this start: 38 of 323
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Boilgate\_22 (K8), BoostSeason\_21 (K2), Chancellor\_26 (K4), Cheetobro\_26 (K4), DismalFunk\_21 (K2), DismalStressor\_21 (K2), Eponine\_26 (K4), Findley\_21 (K2), Fionnbharth\_26 (K4), Hurricane\_24 (K3), JF1\_26 (K4), Juliette\_26 (K4), Keshu\_24 (K3), MacnCheese\_25 (K3), Malthus\_27 (K4), Marcoliusprime\_21 (K2), Milly\_21 (K2), MissDaisy\_26 (K4), Mitti\_26 (K4), Mufasa\_21 (K2), OmniCritical\_26 (K4), Patt\_26 (K4), Pharb\_24 (K3), Pixie\_24 (K3), Reptar3000\_26 (K4), Ruthiejr\_25 (K4), SamScheppers\_24 (K4), ShedlockHolmes\_24 (K3), Slarp\_26 (K4), Strobilo\_21 (K2), TBond007\_24 (K3), TM4\_21 (K2), Taquito\_24 (K4), TribbleTrouble\_23 (K3), Wintermute\_26 (K4), Y10\_26 (K4), Y2\_26 (K4), ZoeJ\_21 (K2),

Start 56:

- Found in 6 of 346 ( 1.7% ) of genes in pham
- Manual Annotations of this start: 4 of 323
- Called 83.3% of time when present
- Phage (with cluster) where this start called: Aminay\_23 (K7), JacoRen57\_19 (AB), NoShow\_20 (AB), P3MA\_21 (singleton), TPA4\_22 (singleton),

Start 57:

- Found in 17 of 346 ( 4.9% ) of genes in pham
- Manual Annotations of this start: 15 of 323
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ayotoya\_24 (DI), BetterKatz\_24 (DI), Bock\_24 (DI), Brylie\_24 (DI), Chop\_24 (DI), DelRio\_25 (DI), DumpsterDude\_21 (DW), Francois\_24 (DI), GrandSlam\_24 (DI), Hamood\_24 (DI), Mulch\_24 (DI), Nadeem\_24 (DI), NancyRae\_24 (DI), Parada\_24 (DI), Pimento\_24 (DI), Ruthy\_21 (DW), WheatThin\_24 (DI),

Start 58:

- Found in 25 of 346 ( 7.2% ) of genes in pham
- Manual Annotations of this start: 21 of 323
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abscondus\_54 (CQ), Aphelion\_55 (CQ1), Bachita\_57 (CQ1), Bantam\_36 (DL), BrutonGaster\_44 (CQ2), Cardigan\_54 (DD), ClubL\_55 (CQ1), Cucurbita\_57 (CQ1), Culver\_55 (CQ1), Daredevil\_35 (DL), DatBoi\_37 (DL), Dusty\_53 (CQ), Engineer\_57 (CQ1), JonJames\_54 (DD), Lozinak\_56 (CQ1), Miskis\_57 (CQ), Mollymur\_37 (DL), Norvs\_56 (CQ), OneUp\_49 (CQ2), PhinkBoden\_55 (CQ1), Smoothie\_57 (CQ1), SpeedDemon\_380 (DL), Toniann\_55 (CQ1), WilliamBoone\_55 (CQ1), Yvonnetastic\_52 (DD),

Start 61:

- Found in 24 of 346 ( 6.9% ) of genes in pham
- Manual Annotations of this start: 23 of 323
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 32HC\_28 (Z), Amochick\_24 (Q), Amymech\_24 (Q), Daegal\_25 (Q), DeepSoil15\_24 (Q), Dewey\_24 (Q), Ein37\_24 (Q), Evanesce\_24 (Q), Forge\_24 (Q), Gancho\_23 (Q), Giles\_24 (Q), Gravaillia\_24 (Q), HH92\_24 (Q), Hadrien\_24 (Q), Hail\_24 (Q), Kinbote\_24 (Q), LilHazelnut\_24 (Q), Luke\_24 (Q), Luna22\_24 (Q), OBUpride\_24 (Q), Rem711\_27 (Z), Ubuntu\_24 (Q), Webster2\_24 (Q), Wishmaker\_24 (Q),

Start 64:

- Found in 18 of 346 ( 5.2% ) of genes in pham
- Manual Annotations of this start: 5 of 323
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Dogfish\_27 (DT), Ewald\_28 (DT), Meyran\_27 (DT), Nyceirae\_29 (DT), Phishy\_28 (DT), Vordorf\_28 (DT),

**Summary by clusters:**

There are 28 clusters represented in this pham: DL, DI, DD, singleton, K3, K2, K1, K7, K6, K5, K4, DW, DT, K8, G5, G4, G3, G2, G1, CQ2, CQ1, AB, AG, AH, Q, Y, CQ, Z,

Info for manual annotations of cluster AB:

- Start number 49 was manually annotated 2 times for cluster AB.
- Start number 56 was manually annotated 2 times for cluster AB.

Info for manual annotations of cluster AG:

- Start number 32 was manually annotated 1 time for cluster AG.
- Start number 33 was manually annotated 1 time for cluster AG.

Info for manual annotations of cluster AH:

- Start number 51 was manually annotated 1 time for cluster AH.

Info for manual annotations of cluster CQ:

- Start number 58 was manually annotated 1 time for cluster CQ.

Info for manual annotations of cluster CQ1:

- Start number 58 was manually annotated 11 times for cluster CQ1.

Info for manual annotations of cluster CQ2:

- Start number 58 was manually annotated 2 times for cluster CQ2.

Info for manual annotations of cluster DD:

- Start number 58 was manually annotated 2 times for cluster DD.

Info for manual annotations of cluster DI:

- Start number 57 was manually annotated 13 times for cluster DI.

Info for manual annotations of cluster DL:

- Start number 58 was manually annotated 5 times for cluster DL.

Info for manual annotations of cluster DT:

- Start number 64 was manually annotated 5 times for cluster DT.

Info for manual annotations of cluster DW:

- Start number 57 was manually annotated 2 times for cluster DW.

Info for manual annotations of cluster G1:

- Start number 32 was manually annotated 58 times for cluster G1.

Info for manual annotations of cluster G2:

- Start number 32 was manually annotated 3 times for cluster G2.

Info for manual annotations of cluster G3:

- Start number 32 was manually annotated 2 times for cluster G3.

Info for manual annotations of cluster G4:

- Start number 34 was manually annotated 2 times for cluster G4.

Info for manual annotations of cluster G5:

- Start number 32 was manually annotated 1 time for cluster G5.

Info for manual annotations of cluster K1:

- Start number 50 was manually annotated 100 times for cluster K1.

Info for manual annotations of cluster K2:

- Start number 55 was manually annotated 10 times for cluster K2.

Info for manual annotations of cluster K3:

- Start number 55 was manually annotated 8 times for cluster K3.

Info for manual annotations of cluster K4:

- Start number 55 was manually annotated 19 times for cluster K4.

Info for manual annotations of cluster K5:

- Start number 54 was manually annotated 21 times for cluster K5.

Info for manual annotations of cluster K6:

- Start number 50 was manually annotated 21 times for cluster K6.

Info for manual annotations of cluster K7:

- Start number 56 was manually annotated 1 time for cluster K7.

Info for manual annotations of cluster K8:

- Start number 55 was manually annotated 1 time for cluster K8.

Info for manual annotations of cluster Q:

- Start number 61 was manually annotated 22 times for cluster Q.

Info for manual annotations of cluster Y:

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

Info for manual annotations of cluster Z:

- Start number 61 was manually annotated 1 time for cluster Z.

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

Gene: 32HC\_28 Start: 21299, Stop: 22384, Start Num: 61

Candidate Starts for 32HC\_28:

(Start: 61 @21299 has 23 MA's), (79, 21362), (88, 21389), (97, 21413), (139, 21617), (147, 21662), (148, 21668), (209, 21926), (234, 22079), (236, 22085), (237, 22091), (260, 22238), (271, 22295), (281, 22355), (284, 22367), (286, 22376),

Gene: 8UZL\_23 Start: 18295, Stop: 19395, Start Num: 49

Candidate Starts for 8UZL\_23:

(Start: 49 @18295 has 2 MA's), (65, 18331), (71, 18358), (75, 18370), (94, 18427), (103, 18460), (104, 18466), (116, 18538), (128, 18586), (177, 18817), (213, 18994), (219, 19027), (221, 19036), (222, 19051), (231, 19087), (244, 19141), (264, 19267), (271, 19306), (281, 19366), (286, 19387),

Gene: Abscondus\_54 Start: 34012, Stop: 35094, Start Num: 58

Candidate Starts for Abscondus\_54:

(Start: 58 @34012 has 21 MA's), (71, 34051), (78, 34072), (114, 34219), (133, 34309), (140, 34339), (152, 34399), (166, 34468), (215, 34705), (219, 34723), (225, 34756), (236, 34798), (253, 34891), (259, 34936), (272, 35011), (273, 35014), (282, 35074), (283, 35077),

Gene: ActinUp\_25 Start: 19483, Stop: 20565, Start Num: 50

Candidate Starts for ActinUp\_25:

(Start: 50 @19483 has 121 MA's), (89, 19591), (96, 19609), (100, 19627), (139, 19822), (140, 19825), (155, 19894), (171, 19966), (191, 20068), (239, 20302), (251, 20362), (260, 20416), (279, 20509), (285, 20548),

Gene: Adephagia\_25 Start: 19480, Stop: 20562, Start Num: 50

Candidate Starts for Adephagia\_25:

(Start: 50 @19480 has 121 MA's), (89, 19588), (96, 19606), (100, 19624), (139, 19819), (140, 19822), (155, 19891), (171, 19963), (191, 20065), (239, 20299), (251, 20359), (260, 20413), (279, 20506), (285, 20545),

Gene: Adonis\_25 Start: 19486, Stop: 20568, Start Num: 50

Candidate Starts for Adonis\_25:

(Start: 50 @19486 has 121 MA's), (89, 19594), (96, 19612), (100, 19630), (139, 19825), (140, 19828), (155, 19897), (171, 19969), (191, 20071), (239, 20305), (251, 20365), (260, 20419), (279, 20512), (285, 20551),

Gene: Agent47\_23 Start: 19870, Stop: 20955, Start Num: 54

Candidate Starts for Agent47\_23:

(36, 19819), (Start: 54 @19870 has 21 MA's), (69, 19906), (73, 19921), (80, 19945), (94, 19984), (110, 20068), (134, 20179), (139, 20203), (140, 20206), (171, 20353), (191, 20458), (239, 20692), (245, 20710), (260, 20806), (264, 20833), (279, 20899), (281, 20923),

Gene: Ageofdapage\_25 Start: 19416, Stop: 20498, Start Num: 50

Candidate Starts for Ageofdapage\_25:

(Start: 50 @19416 has 121 MA's), (89, 19524), (96, 19542), (100, 19560), (139, 19755), (140, 19758), (155, 19827), (161, 19860), (171, 19899), (190, 19998), (191, 20001), (209, 20070), (225, 20169), (239, 20235), (241, 20241), (245, 20253), (246, 20265), (281, 20469), (285, 20484),

Gene: AlishaPH\_25 Start: 19473, Stop: 20555, Start Num: 50

Candidate Starts for AlishaPH\_25:

(Start: 50 @19473 has 121 MA's), (89, 19581), (96, 19599), (100, 19617), (139, 19812), (140, 19815), (155, 19884), (171, 19956), (185, 20031), (191, 20058), (239, 20292), (251, 20352), (260, 20406), (279, 20499), (285, 20538),

Gene: AlleyCat\_24 Start: 19807, Stop: 20892, Start Num: 54

Candidate Starts for AlleyCat\_24:

(36, 19756), (Start: 54 @19807 has 21 MA's), (69, 19843), (73, 19858), (80, 19882), (94, 19921), (110, 20005), (134, 20116), (139, 20140), (140, 20143), (171, 20290), (191, 20395), (225, 20563), (245, 20647), (246, 20659), (264, 20770), (279, 20836),

Gene: Amelie\_21 Start: 19023, Stop: 20105, Start Num: 50

Candidate Starts for Amelie\_21:

(Start: 50 @19023 has 121 MA's), (73, 19080), (89, 19131), (96, 19149), (100, 19167), (110, 19227), (112, 19233), (132, 19332), (139, 19362), (140, 19365), (148, 19413), (159, 19455), (161, 19467), (191, 19608), (195, 19620), (239, 19842), (255, 19917), (262, 19974), (269, 20004), (279, 20049), (285, 20088),

Gene: Amgine\_23 Start: 19572, Stop: 20654, Start Num: 50

Candidate Starts for Amgine\_23:

(Start: 50 @19572 has 121 MA's), (69, 19614), (89, 19680), (94, 19692), (96, 19698), (112, 19782), (139, 19911), (140, 19914), (155, 19983), (188, 20148), (191, 20157), (199, 20184), (202, 20199), (239, 20391), (264, 20532), (281, 20622),

Gene: Aminay\_23 Start: 19702, Stop: 20775, Start Num: 56

Candidate Starts for Aminay\_23:

(Start: 56 @19702 has 4 MA's), (89, 19801), (94, 19813), (96, 19819), (104, 19852), (112, 19903), (132, 20002), (134, 20008), (140, 20035), (155, 20104), (191, 20278), (195, 20290), (209, 20347), (222, 20437), (225, 20446), (227, 20458), (231, 20473), (241, 20518), (260, 20626), (264, 20653), (271, 20683), (281, 20743), (285, 20758),

Gene: Amochick\_24 Start: 19756, Stop: 20859, Start Num: 61

Candidate Starts for Amochick\_24:

(18, 19486), (Start: 61 @19756 has 23 MA's), (94, 19861), (96, 19867), (97, 19870), (100, 19885), (101, 19888), (102, 19891), (103, 19894), (105, 19903), (120, 19987), (124, 20002), (134, 20053), (146, 20119), (148, 20128), (153, 20140), (155, 20149), (171, 20221), (182, 20284), (190, 20314), (191, 20317), (215, 20452), (218, 20467), (237, 20566), (240, 20575), (252, 20647), (262, 20731), (270, 20764), (271, 20770), (286, 20851),

Gene: Amohnition\_24 Start: 19971, Stop: 21053, Start Num: 50

Candidate Starts for Amohnition\_24:

(Start: 50 @19971 has 121 MA's), (78, 20043), (89, 20079), (96, 20097), (120, 20217), (131, 20277), (139, 20310), (140, 20313), (155, 20382), (161, 20415), (169, 20448), (190, 20553), (191, 20556), (239, 20790), (269, 20952), (281, 21021),

Gene: Amymech\_24 Start: 19750, Stop: 20853, Start Num: 61

Candidate Starts for Amymech\_24:

(18, 19483), (Start: 61 @19750 has 23 MA's), (94, 19855), (96, 19861), (97, 19864), (100, 19879), (101, 19882), (102, 19885), (103, 19888), (105, 19897), (120, 19981), (124, 19996), (134, 20047), (147, 20116), (148, 20122), (153, 20134), (155, 20143), (171, 20215), (182, 20278), (190, 20308), (191, 20311), (210, 20407), (215, 20446), (218, 20461), (237, 20560), (240, 20569), (252, 20641), (262, 20725), (270, 20758), (271, 20764), (286, 20845),

Gene: Anaya\_26 Start: 19499, Stop: 20581, Start Num: 50

Candidate Starts for Anaya\_26:

(36, 19457), (Start: 50 @19499 has 121 MA's), (89, 19607), (96, 19625), (100, 19643), (139, 19838), (140, 19841), (155, 19910), (161, 19943), (171, 19982), (191, 20084), (239, 20318), (251, 20378), (260, 20432), (279, 20525), (285, 20564),

Gene: Angel\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for Angel\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),

Gene: Angelica\_25 Start: 19448, Stop: 20530, Start Num: 50

Candidate Starts for Angelica\_25:

(Start: 50 @19448 has 121 MA's), (89, 19556), (96, 19574), (100, 19592), (139, 19787), (140, 19790), (155, 19859), (171, 19931), (185, 20006), (191, 20033), (232, 20234), (239, 20267), (251, 20327), (260, 20381), (279, 20474), (285, 20513),

Gene: Annihilator\_20 Start: 18852, Stop: 19988, Start Num: 32

Candidate Starts for Annihilator\_20:

(16, 18648), (27, 18807), (Start: 32 @18852 has 65 MA's), (67, 18930), (68, 18933), (69, 18936), (72, 18948), (78, 18966), (88, 18999), (94, 19014), (109, 19095), (134, 19209), (136, 19221), (155, 19308),

(157, 19329), (178, 19425), (196, 19503), (222, 19656), (245, 19749), (259, 19839), (269, 19893), (273, 19908), (274, 19911), (276, 19926), (283, 19971), (284, 19974),

Gene: Antsirabe\_20 Start: 19236, Stop: 20375, Start Num: 32

Candidate Starts for Antsirabe\_20:

(Start: 32 @19236 has 65 MA's), (67, 19317), (72, 19335), (88, 19386), (94, 19401), (109, 19482), (110, 19485), (134, 19596), (136, 19608), (155, 19695), (157, 19716), (161, 19737), (178, 19812), (190, 19872), (192, 19881), (201, 19923), (220, 20025), (225, 20052), (283, 20358), (285, 20364),

Gene: Aphelion\_55 Start: 34281, Stop: 35363, Start Num: 58

Candidate Starts for Aphelion\_55:

(Start: 58 @34281 has 21 MA's), (71, 34320), (78, 34341), (114, 34488), (133, 34578), (140, 34608), (152, 34668), (166, 34737), (215, 34974), (219, 34992), (225, 35025), (236, 35067), (253, 35160), (259, 35205), (272, 35280), (273, 35283), (282, 35343), (283, 35346),

Gene: Apocalypse\_25 Start: 19451, Stop: 20533, Start Num: 50

Candidate Starts for Apocalypse\_25:

(Start: 50 @19451 has 121 MA's), (89, 19559), (96, 19577), (100, 19595), (139, 19790), (140, 19793), (155, 19862), (171, 19934), (185, 20009), (191, 20036), (239, 20270), (251, 20330), (260, 20384), (279, 20477), (285, 20516),

Gene: Aroostook\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for Aroostook\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),

Gene: Asayake\_25 Start: 19514, Stop: 20596, Start Num: 50

Candidate Starts for Asayake\_25:

(Start: 50 @19514 has 121 MA's), (89, 19622), (96, 19640), (100, 19658), (139, 19853), (140, 19856), (155, 19925), (171, 19997), (185, 20072), (191, 20099), (239, 20333), (251, 20393), (260, 20447), (279, 20540), (285, 20579),

Gene: Atiba\_25 Start: 19443, Stop: 20525, Start Num: 50

Candidate Starts for Atiba\_25:

(Start: 50 @19443 has 121 MA's), (89, 19551), (96, 19569), (100, 19587), (139, 19782), (140, 19785), (155, 19854), (171, 19926), (191, 20028), (239, 20262), (251, 20322), (260, 20376), (279, 20469), (285, 20508),

Gene: Avocado\_20 Start: 19180, Stop: 20325, Start Num: 32

Candidate Starts for Avocado\_20:

(Start: 32 @19180 has 65 MA's), (40, 19192), (67, 19267), (72, 19285), (80, 19312), (88, 19336), (94, 19351), (96, 19357), (109, 19432), (110, 19435), (136, 19558), (155, 19645), (157, 19666), (161, 19687), (178, 19762), (190, 19822), (192, 19831), (203, 19879), (207, 19891), (220, 19975), (222, 19993), (254, 20140), (274, 20248),

Gene: Avrafan\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for Avrafan\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),



Gene: Ayotoya\_24 Start: 20291, Stop: 21391, Start Num: 57

Candidate Starts for Ayotoya\_24:

(Start: 57 @20291 has 15 MA's), (75, 20342), (100, 20423), (143, 20636), (148, 20672), (175, 20780), (196, 20867), (219, 21002), (226, 21038), (227, 21047), (234, 21083), (247, 21149), (253, 21194), (260, 21245), (264, 21272), (267, 21290), (282, 21368), (286, 21383),

Gene: BEEST\_25 Start: 19514, Stop: 20596, Start Num: 50

Candidate Starts for BEEST\_25:

(Start: 50 @19514 has 121 MA's), (89, 19622), (96, 19640), (100, 19658), (139, 19853), (140, 19856), (155, 19925), (171, 19997), (185, 20072), (191, 20099), (239, 20333), (251, 20393), (260, 20447), (279, 20540), (285, 20579),

Gene: BGlluviae\_25 Start: 19514, Stop: 20596, Start Num: 50

Candidate Starts for BGlluviae\_25:

(Start: 50 @19514 has 121 MA's), (89, 19622), (96, 19640), (100, 19658), (139, 19853), (140, 19856), (155, 19925), (171, 19997), (185, 20072), (191, 20099), (239, 20333), (251, 20393), (260, 20447), (279, 20540), (285, 20579),

Gene: BPs\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for BPs\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),

Gene: BQuat\_20 Start: 18852, Stop: 19988, Start Num: 32

Candidate Starts for BQuat\_20:

(16, 18648), (27, 18807), (Start: 32 @18852 has 65 MA's), (67, 18930), (68, 18933), (69, 18936), (72, 18948), (78, 18966), (88, 18999), (94, 19014), (109, 19095), (134, 19209), (136, 19221), (155, 19308), (157, 19329), (178, 19425), (196, 19503), (222, 19656), (245, 19749), (259, 19839), (269, 19893), (273, 19908), (274, 19911), (276, 19926), (283, 19971), (284, 19974),

Gene: Bachita\_57 Start: 34714, Stop: 35796, Start Num: 58

Candidate Starts for Bachita\_57:

(Start: 58 @34714 has 21 MA's), (71, 34753), (78, 34774), (114, 34921), (133, 35011), (140, 35041), (152, 35101), (166, 35170), (215, 35407), (219, 35425), (225, 35458), (236, 35500), (253, 35593), (259, 35638), (272, 35713), (273, 35716), (282, 35776), (283, 35779),

Gene: BaghaKamala\_25 Start: 19443, Stop: 20525, Start Num: 50

Candidate Starts for BaghaKamala\_25:

(Start: 50 @19443 has 121 MA's), (89, 19551), (96, 19569), (100, 19587), (139, 19782), (140, 19785), (155, 19854), (171, 19926), (185, 20001), (191, 20028), (239, 20262), (251, 20322), (260, 20376), (279, 20469), (285, 20508),

Gene: Bantam\_36 Start: 31839, Stop: 32912, Start Num: 58

Candidate Starts for Bantam\_36:

(Start: 58 @31839 has 21 MA's), (71, 31878), (97, 31950), (103, 31974), (114, 32043), (140, 32163), (152, 32223), (154, 32232), (155, 32235), (161, 32268), (181, 32361), (205, 32457), (262, 32775),

Gene: Barkley26\_20 Start: 18864, Stop: 20000, Start Num: 32

Candidate Starts for Barkley26\_20:

(16, 18660), (27, 18819), (Start: 32 @18864 has 65 MA's), (67, 18942), (68, 18945), (69, 18948), (72, 18960), (78, 18978), (88, 19011), (94, 19026), (109, 19107), (134, 19221), (136, 19233), (155, 19320), (157, 19341), (178, 19437), (193, 19509), (196, 19515), (222, 19668), (246, 19773), (254, 19815), (259, 19851), (269, 19905), (273, 19920), (274, 19923), (283, 19983), (284, 19986),

Gene: BarrelRoll\_25 Start: 19466, Stop: 20548, Start Num: 50

Candidate Starts for BarrelRoll\_25:

(Start: 50 @19466 has 121 MA's), (89, 19574), (96, 19592), (100, 19610), (139, 19805), (140, 19808), (155, 19877), (171, 19949), (185, 20024), (191, 20051), (239, 20285), (251, 20345), (260, 20399), (279, 20492), (285, 20531),

Gene: Beezoo\_25 Start: 19490, Stop: 20572, Start Num: 50

Candidate Starts for Beezoo\_25:

(Start: 50 @19490 has 121 MA's), (89, 19598), (96, 19616), (100, 19634), (139, 19829), (140, 19832), (155, 19901), (171, 19973), (191, 20075), (239, 20309), (251, 20369), (260, 20423), (279, 20516), (285, 20555),

Gene: Bella96\_25 Start: 19410, Stop: 20492, Start Num: 50

Candidate Starts for Bella96\_25:

(Start: 50 @19410 has 121 MA's), (89, 19518), (96, 19536), (100, 19554), (139, 19749), (140, 19752), (155, 19821), (161, 19854), (171, 19893), (190, 19992), (191, 19995), (209, 20064), (225, 20163), (239, 20229), (241, 20235), (245, 20247), (246, 20259), (281, 20463), (285, 20478),

Gene: Belladonna\_25 Start: 19514, Stop: 20596, Start Num: 50

Candidate Starts for Belladonna\_25:

(Start: 50 @19514 has 121 MA's), (89, 19622), (96, 19640), (100, 19658), (139, 19853), (140, 19856), (155, 19925), (171, 19997), (185, 20072), (191, 20099), (239, 20333), (251, 20393), (260, 20447), (279, 20540), (285, 20579),

Gene: BetterKatz\_24 Start: 19764, Stop: 20864, Start Num: 57

Candidate Starts for BetterKatz\_24:

(Start: 57 @19764 has 15 MA's), (75, 19815), (94, 19872), (100, 19896), (143, 20109), (148, 20145), (175, 20253), (219, 20475), (226, 20511), (227, 20520), (234, 20556), (247, 20622), (253, 20667), (260, 20718), (264, 20745), (267, 20763), (282, 20841), (286, 20856),

Gene: Biglebops\_21 Start: 19023, Stop: 20105, Start Num: 50

Candidate Starts for Biglebops\_21:

(Start: 50 @19023 has 121 MA's), (73, 19080), (89, 19131), (96, 19149), (100, 19167), (110, 19227), (112, 19233), (132, 19332), (139, 19362), (140, 19365), (148, 19413), (159, 19455), (161, 19467), (191, 19608), (195, 19620), (239, 19842), (255, 19917), (262, 19974), (269, 20004), (279, 20049), (285, 20088),

Gene: Bipper\_26 Start: 22137, Stop: 23567, Start Num: 5

Candidate Starts for Bipper\_26:

(3, 22071), (Start: 5 @22137 has 4 MA's), (9, 22164), (10, 22173), (11, 22176), (13, 22194), (15, 22218), (17, 22221), (23, 22287), (31, 22416), (35, 22431), (37, 22434), (48, 22467), (Start: 49 @22470 has 2 MA's), (66, 22506), (74, 22533), (83, 22563), (84, 22566), (93, 22587), (95, 22596), (99, 22611), (100, 22617), (103, 22626), (108, 22665), (109, 22674), (111, 22680), (127, 22752), (139, 22815), (141, 22821), (142, 22824), (149, 22872), (158, 22899), (161, 22911), (164, 22929), (174, 22962), (182, 23013), (184, 23019), (189, 23046), (201, 23106), (225, 23235), (239, 23301), (247, 23334), (260, 23415), (277, 23511), (284, 23553),

Gene: Blizzard\_25 Start: 19514, Stop: 20596, Start Num: 50

Candidate Starts for Blizzard\_25:

(Start: 50 @19514 has 121 MA's), (89, 19622), (96, 19640), (100, 19658), (139, 19853), (140, 19856), (155, 19925), (171, 19997), (185, 20072), (191, 20099), (239, 20333), (251, 20393), (260, 20447), (279, 20540), (285, 20579),

Gene: Bock\_24 Start: 19514, Stop: 20614, Start Num: 57

Candidate Starts for Bock\_24:

(Start: 57 @19514 has 15 MA's), (75, 19565), (100, 19646), (143, 19859), (148, 19895), (175, 20003), (196, 20090), (219, 20225), (226, 20261), (227, 20270), (234, 20306), (243, 20351), (247, 20372), (253, 20417), (260, 20468), (264, 20495), (267, 20513), (282, 20591), (286, 20606),

Gene: Boiiii\_25 Start: 19516, Stop: 20598, Start Num: 50

Candidate Starts for Boiiii\_25:

(Start: 50 @19516 has 121 MA's), (89, 19624), (96, 19642), (100, 19660), (139, 19855), (140, 19858), (155, 19927), (171, 19999), (185, 20074), (191, 20101), (239, 20335), (251, 20395), (260, 20449), (279, 20542), (285, 20581),

Gene: Boilgate\_22 Start: 19853, Stop: 20956, Start Num: 55

Candidate Starts for Boilgate\_22:

(Start: 55 @19853 has 38 MA's), (94, 19967), (96, 19973), (112, 20057), (117, 20081), (134, 20162), (140, 20189), (155, 20258), (161, 20291), (162, 20294), (185, 20405), (189, 20426), (209, 20501), (213, 20534), (225, 20600), (231, 20627), (239, 20666), (262, 20798), (263, 20804), (264, 20807), (284, 20909),

Gene: BoostSeason\_21 Start: 17365, Stop: 18444, Start Num: 55

Candidate Starts for BoostSeason\_21:

(26, 17224), (Start: 55 @17365 has 38 MA's), (80, 17440), (89, 17467), (96, 17485), (104, 17518), (140, 17701), (155, 17770), (161, 17803), (191, 17944), (199, 17971), (209, 18013), (213, 18046), (239, 18178), (255, 18253), (260, 18292), (264, 18319),

Gene: BruceB\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for BruceB\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),

Gene: BrutonGaster\_44 Start: 31359, Stop: 32438, Start Num: 58

Candidate Starts for BrutonGaster\_44:

(Start: 58 @31359 has 21 MA's), (103, 31494), (114, 31563), (133, 31653), (139, 31680), (229, 32118), (236, 32142),

Gene: Bryler\_24 Start: 18649, Stop: 19752, Start Num: 50

Candidate Starts for Bryler\_24:

(Start: 50 @18649 has 121 MA's), (59, 18664), (78, 18721), (89, 18757), (96, 18775), (132, 18958), (139, 18988), (155, 19060), (191, 19234), (199, 19282), (202, 19297), (209, 19324), (239, 19489), (279, 19696), (281, 19720), (285, 19735),

Gene: Brylie\_24 Start: 19505, Stop: 20605, Start Num: 57

Candidate Starts for Brylie\_24:

(Start: 57 @19505 has 15 MA's), (75, 19556), (100, 19637), (143, 19850), (148, 19886), (175, 19994), (196, 20081), (219, 20216), (226, 20252), (227, 20261), (234, 20297), (247, 20363), (253, 20408), (260, 20459), (264, 20486), (267, 20504), (282, 20582), (286, 20597),

Gene: CLED96\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for CLED96\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),

Gene: CREW\_25 Start: 19514, Stop: 20596, Start Num: 50

Candidate Starts for CREW\_25:

(Start: 50 @19514 has 121 MA's), (89, 19622), (96, 19640), (100, 19658), (139, 19853), (140, 19856), (155, 19925), (171, 19997), (185, 20072), (191, 20099), (239, 20333), (251, 20393), (260, 20447), (279, 20540), (285, 20579),

Gene: Cain\_24 Start: 18637, Stop: 19740, Start Num: 50

Candidate Starts for Cain\_24:

(Start: 50 @18637 has 121 MA's), (59, 18652), (78, 18709), (89, 18745), (96, 18763), (132, 18946), (139, 18976), (155, 19048), (191, 19222), (199, 19270), (202, 19285), (209, 19312), (239, 19477), (279, 19684), (281, 19708), (285, 19723),

Gene: Cambiare\_21 Start: 19645, Stop: 20790, Start Num: 32

Candidate Starts for Cambiare\_21:

(Start: 32 @19645 has 65 MA's), (40, 19657), (67, 19732), (72, 19750), (80, 19777), (88, 19801), (94, 19816), (96, 19822), (109, 19897), (110, 19900), (136, 20023), (155, 20110), (157, 20131), (161, 20152), (178, 20227), (190, 20287), (192, 20296), (203, 20344), (207, 20356), (220, 20440), (222, 20458), (254, 20605), (274, 20713),

Gene: Camri\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for Camri\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),

Gene: Capricorn\_25 Start: 19514, Stop: 20596, Start Num: 50

Candidate Starts for Capricorn\_25:

(Start: 50 @19514 has 121 MA's), (89, 19622), (96, 19640), (100, 19658), (139, 19853), (140, 19856), (155, 19925), (171, 19997), (185, 20072), (191, 20099), (239, 20333), (251, 20393), (260, 20447), (279, 20540), (285, 20579),

Gene: Cardigan\_54 Start: 37401, Stop: 38477, Start Num: 58

Candidate Starts for Cardigan\_54:

(Start: 58 @37401 has 21 MA's), (87, 37491), (103, 37539), (114, 37608), (144, 37749), (155, 37800), (161, 37833), (166, 37857), (211, 38058), (229, 38163), (239, 38199), (255, 38289), (276, 38418), (281, 38454),

Gene: CaseJules\_25 Start: 19514, Stop: 20596, Start Num: 50

Candidate Starts for CaseJules\_25:

(Start: 50 @19514 has 121 MA's), (89, 19622), (96, 19640), (100, 19658), (139, 19853), (140, 19856), (155, 19925), (171, 19997), (185, 20072), (191, 20099), (239, 20333), (251, 20393), (260, 20447), (279, 20540), (285, 20579),

Gene: CassieYates\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for CassieYates\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),

Gene: Cedasite\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for Cedasite\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),

Gene: Chance64\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for Chance64\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),

Gene: Chancellor\_26 Start: 20936, Stop: 22033, Start Num: 55

Candidate Starts for Chancellor\_26:

(19, 20687), (22, 20714), (38, 20885), (Start: 55 @20936 has 38 MA's), (62, 20948), (96, 21056), (104, 21089), (134, 21245), (140, 21272), (155, 21341), (161, 21374), (171, 21413), (186, 21491), (191, 21515), (202, 21557), (209, 21584), (245, 21767), (262, 21881), (264, 21890), (285, 21995),

Gene: CheetoDust\_25 Start: 19491, Stop: 20573, Start Num: 50

Candidate Starts for CheetoDust\_25:

(Start: 50 @19491 has 121 MA's), (89, 19599), (96, 19617), (100, 19635), (139, 19830), (140, 19833), (155, 19902), (171, 19974), (191, 20076), (239, 20310), (251, 20370), (260, 20424), (279, 20517), (285, 20556),

Gene: Cheetobro\_26 Start: 20933, Stop: 22030, Start Num: 55

Candidate Starts for Cheetobro\_26:

(19, 20684), (22, 20711), (38, 20882), (Start: 55 @20933 has 38 MA's), (62, 20945), (96, 21053), (104, 21086), (134, 21242), (140, 21269), (155, 21338), (161, 21371), (171, 21410), (186, 21488), (191, 21512), (202, 21554), (209, 21581), (245, 21764), (262, 21878), (264, 21887), (285, 21992),

Gene: Cherrybomb426\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for Cherrybomb426\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),

Gene: Chop\_24 Start: 20039, Stop: 21139, Start Num: 57

Candidate Starts for Chop\_24:

(Start: 57 @20039 has 15 MA's), (75, 20090), (100, 20171), (143, 20384), (148, 20420), (175, 20528), (196, 20615), (219, 20750), (226, 20786), (227, 20795), (234, 20831), (247, 20897), (253, 20942), (260, 20993), (264, 21020), (267, 21038), (282, 21116), (286, 21131),

Gene: Chris\_24 Start: 18745, Stop: 19827, Start Num: 50

Candidate Starts for Chris\_24:

(Start: 50 @18745 has 121 MA's), (73, 18802), (89, 18853), (96, 18871), (104, 18904), (139, 19084), (140, 19087), (155, 19156), (161, 19189), (171, 19228), (197, 19351), (199, 19357), (225, 19498), (239, 19564), (259, 19672), (260, 19678), (264, 19705), (285, 19810),

Gene: ClubL\_55 Start: 34203, Stop: 35285, Start Num: 58

Candidate Starts for ClubL\_55:

(Start: 58 @34203 has 21 MA's), (71, 34242), (78, 34263), (114, 34410), (133, 34500), (140, 34530), (152, 34590), (166, 34659), (215, 34896), (219, 34914), (225, 34947), (236, 34989), (253, 35082), (259, 35127), (272, 35202), (273, 35205), (282, 35265), (283, 35268),

Gene: Coleslaw\_20 Start: 18852, Stop: 19988, Start Num: 32

Candidate Starts for Coleslaw\_20:

(16, 18648), (27, 18807), (Start: 32 @18852 has 65 MA's), (67, 18930), (68, 18933), (69, 18936), (72, 18948), (78, 18966), (88, 18999), (94, 19014), (109, 19095), (134, 19209), (136, 19221), (155, 19308), (157, 19329), (178, 19425), (196, 19503), (222, 19656), (245, 19749), (259, 19839), (269, 19893), (273, 19908), (274, 19911), (276, 19926), (283, 19971), (284, 19974),

Gene: Collard\_23 Start: 19831, Stop: 20916, Start Num: 54

Candidate Starts for Collard\_23:

(36, 19780), (Start: 54 @19831 has 21 MA's), (69, 19867), (73, 19882), (80, 19906), (94, 19945), (110, 20029), (134, 20140), (139, 20164), (140, 20167), (171, 20314), (191, 20419), (239, 20653), (245, 20671), (260, 20767), (264, 20794), (279, 20860), (281, 20884),

Gene: Cracklewink\_26 Start: 22137, Stop: 23567, Start Num: 5

Candidate Starts for Cracklewink\_26:

(3, 22071), (Start: 5 @22137 has 4 MA's), (9, 22164), (10, 22173), (11, 22176), (13, 22194), (15, 22218), (17, 22221), (23, 22287), (31, 22416), (35, 22431), (37, 22434), (48, 22467), (Start: 49 @22470 has 2 MA's), (66, 22506), (74, 22533), (83, 22563), (84, 22566), (93, 22587), (95, 22596), (99, 22611), (100, 22617), (103, 22626), (108, 22665), (109, 22674), (111, 22680), (127, 22752), (139, 22815), (141, 22821), (142, 22824), (149, 22872), (158, 22899), (161, 22911), (164, 22929), (174, 22962), (182, 23013), (184, 23019), (189, 23046), (201, 23106), (225, 23235), (239, 23301), (247, 23334), (260, 23415), (277, 23511), (284, 23553),

Gene: Crespo\_20 Start: 18862, Stop: 19998, Start Num: 32

Candidate Starts for Crespo\_20:

(16, 18658), (27, 18817), (Start: 32 @18862 has 65 MA's), (67, 18940), (68, 18943), (69, 18946), (72, 18958), (78, 18976), (88, 19009), (94, 19024), (109, 19105), (134, 19219), (136, 19231), (155, 19318), (157, 19339), (178, 19435), (196, 19513), (222, 19666), (245, 19759), (259, 19849), (269, 19903), (273, 19918), (274, 19921), (276, 19936), (283, 19981), (284, 19984),

Gene: CrimD\_25 Start: 19452, Stop: 20534, Start Num: 50

Candidate Starts for CrimD\_25:

(Start: 50 @19452 has 121 MA's), (89, 19560), (96, 19578), (100, 19596), (139, 19791), (140, 19794), (155, 19863), (171, 19935), (191, 20037), (239, 20271), (251, 20331), (260, 20385), (279, 20478), (285, 20517),

Gene: Cucurbita\_57 Start: 35573, Stop: 36655, Start Num: 58

Candidate Starts for Cucurbita\_57:

(Start: 58 @35573 has 21 MA's), (71, 35612), (78, 35633), (114, 35780), (133, 35870), (140, 35900), (152, 35960), (166, 36029), (215, 36266), (219, 36284), (225, 36317), (236, 36359), (253, 36452), (259, 36497), (272, 36572), (273, 36575), (282, 36635), (283, 36638),

Gene: Culver\_55 Start: 34012, Stop: 35187, Start Num: 58

Candidate Starts for Culver\_55:

(Start: 58 @34012 has 21 MA's), (98, 34129), (114, 34219), (122, 34252), (133, 34309), (139, 34336), (140, 34339), (167, 34471), (196, 34603), (205, 34636), (212, 34681), (236, 34798), (247, 34852), (253, 34891), (259, 34936), (271, 35008), (289, 35176),

Gene: Curiosium\_26 Start: 19185, Stop: 20267, Start Num: 50

Candidate Starts for Curiosium\_26:

(Start: 50 @19185 has 121 MA's), (89, 19293), (96, 19311), (139, 19524), (140, 19527), (155, 19596), (171, 19668), (191, 19770), (239, 20004), (251, 20064), (260, 20118), (285, 20250),

Gene: DMoney\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for DMoney\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),

Gene: DNAIII\_0020 Start: 18870, Stop: 20006, Start Num: 32

Candidate Starts for DNAIII\_0020:

(16, 18666), (27, 18825), (Start: 32 @18870 has 65 MA's), (67, 18948), (68, 18951), (69, 18954), (72, 18966), (78, 18984), (88, 19017), (94, 19032), (109, 19113), (134, 19227), (136, 19239), (155, 19326), (157, 19347), (178, 19443), (196, 19521), (222, 19674), (245, 19767), (259, 19857), (269, 19911), (273, 19926), (274, 19929), (276, 19944), (283, 19989), (284, 19992),

Gene: Dadosky\_24 Start: 19808, Stop: 20893, Start Num: 54

Candidate Starts for Dadosky\_24:

(36, 19757), (Start: 54 @19808 has 21 MA's), (69, 19844), (73, 19859), (80, 19883), (94, 19922), (110, 20006), (134, 20117), (139, 20141), (140, 20144), (171, 20291), (191, 20396), (225, 20564), (245, 20648), (246, 20660), (264, 20771), (279, 20837),

Gene: Daegal\_25 Start: 20044, Stop: 21147, Start Num: 61

Candidate Starts for Daegal\_25:

(18, 19774), (Start: 61 @20044 has 23 MA's), (94, 20149), (96, 20155), (97, 20158), (100, 20173), (101, 20176), (102, 20179), (103, 20182), (105, 20191), (120, 20275), (124, 20290), (134, 20341), (146, 20407), (148, 20416), (153, 20428), (155, 20437), (171, 20509), (182, 20572), (190, 20602), (191, 20605), (215, 20740), (218, 20755), (237, 20854), (240, 20863), (252, 20935), (262, 21019), (270, 21052), (271, 21058), (286, 21139),

Gene: Dalmuri\_25 Start: 19514, Stop: 20596, Start Num: 50

Candidate Starts for Dalmuri\_25:

(Start: 50 @19514 has 121 MA's), (89, 19622), (96, 19640), (100, 19658), (139, 19853), (140, 19856), (155, 19925), (171, 19997), (185, 20072), (191, 20099), (239, 20333), (251, 20393), (260, 20447), (279, 20540), (285, 20579),

Gene: Daredevil\_35 Start: 30347, Stop: 31420, Start Num: 58

Candidate Starts for Daredevil\_35:

(Start: 58 @30347 has 21 MA's), (86, 30434), (103, 30482), (155, 30743), (170, 30812), (225, 31085), (227, 31097), (274, 31340),

Gene: Darionha\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for Darionha\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317),

(157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),

Gene: DarthP\_24 Start: 19917, Stop: 20999, Start Num: 50

Candidate Starts for DarthP\_24:

(Start: 50 @19917 has 121 MA's), (78, 19989), (89, 20025), (94, 20037), (96, 20043), (120, 20163), (131, 20223), (139, 20256), (140, 20259), (161, 20361), (169, 20394), (190, 20499), (191, 20502), (239, 20736), (269, 20898), (281, 20967),

Gene: DatBoi\_37 Start: 32569, Stop: 33642, Start Num: 58

Candidate Starts for DatBoi\_37:

(Start: 58 @32569 has 21 MA's), (78, 32629), (103, 32704), (114, 32773), (140, 32893), (152, 32953), (168, 33028), (205, 33187), (237, 33358), (241, 33370), (263, 33511),

Gene: Deby\_25 Start: 19448, Stop: 20530, Start Num: 50

Candidate Starts for Deby\_25:

(Start: 50 @19448 has 121 MA's), (89, 19556), (96, 19574), (100, 19592), (139, 19787), (140, 19790), (155, 19859), (171, 19931), (185, 20006), (191, 20033), (232, 20234), (239, 20267), (251, 20327), (260, 20381), (279, 20474), (285, 20513),

Gene: DeepSoil15\_24 Start: 19750, Stop: 20853, Start Num: 61

Candidate Starts for DeepSoil15\_24:

(18, 19483), (Start: 61 @19750 has 23 MA's), (94, 19855), (96, 19861), (97, 19864), (100, 19879), (101, 19882), (102, 19885), (103, 19888), (105, 19897), (120, 19981), (124, 19996), (134, 20047), (147, 20116), (148, 20122), (153, 20134), (155, 20143), (171, 20215), (182, 20278), (190, 20308), (191, 20311), (210, 20407), (215, 20446), (218, 20461), (237, 20560), (240, 20569), (252, 20641), (262, 20725), (270, 20758), (271, 20764), (286, 20845),

Gene: DelRio\_25 Start: 20513, Stop: 21613, Start Num: 57

Candidate Starts for DelRio\_25:

(Start: 57 @20513 has 15 MA's), (75, 20564), (100, 20645), (143, 20858), (148, 20894), (175, 21002), (196, 21089), (219, 21224), (226, 21260), (227, 21269), (234, 21305), (247, 21371), (253, 21416), (260, 21467), (264, 21494), (267, 21512), (282, 21590), (286, 21605),

Gene: Devera\_25 Start: 19496, Stop: 20578, Start Num: 50

Candidate Starts for Devera\_25:

(Start: 50 @19496 has 121 MA's), (69, 19538), (89, 19604), (96, 19622), (100, 19640), (139, 19835), (140, 19838), (155, 19907), (161, 19940), (171, 19979), (191, 20081), (239, 20315), (245, 20333), (251, 20375), (260, 20429), (273, 20492), (279, 20522), (285, 20561),

Gene: Dewey\_24 Start: 19750, Stop: 20853, Start Num: 61

Candidate Starts for Dewey\_24:

(18, 19483), (Start: 61 @19750 has 23 MA's), (94, 19855), (96, 19861), (97, 19864), (100, 19879), (101, 19882), (102, 19885), (103, 19888), (105, 19897), (120, 19981), (124, 19996), (134, 20047), (147, 20116), (148, 20122), (153, 20134), (155, 20143), (171, 20215), (182, 20278), (190, 20308), (191, 20311), (210, 20407), (215, 20446), (218, 20461), (237, 20560), (240, 20569), (252, 20641), (262, 20725), (270, 20758), (271, 20764), (286, 20845),

Gene: DismalFunk\_21 Start: 17339, Stop: 18418, Start Num: 55

Candidate Starts for DismalFunk\_21:

(26, 17198), (Start: 55 @17339 has 38 MA's), (80, 17414), (89, 17441), (94, 17453), (96, 17459), (104, 17492), (140, 17675), (148, 17723), (155, 17744), (173, 17825), (191, 17918), (199, 17945), (209, 17987), (213, 18020), (239, 18152), (255, 18227), (260, 18266), (264, 18293),



Gene: DismalStressor\_21 Start: 17339, Stop: 18418, Start Num: 55

Candidate Starts for DismalStressor\_21:

(26, 17198), (Start: 55 @17339 has 38 MA's), (80, 17414), (89, 17441), (94, 17453), (96, 17459), (104, 17492), (140, 17675), (148, 17723), (155, 17744), (173, 17825), (191, 17918), (199, 17945), (209, 17987), (213, 18020), (239, 18152), (255, 18227), (260, 18266), (264, 18293),

Gene: Dogfish\_27 Start: 22608, Stop: 23672, Start Num: 64

Candidate Starts for Dogfish\_27:

(Start: 64 @22608 has 5 MA's), (72, 22641), (78, 22659), (90, 22698), (92, 22701), (103, 22743), (161, 23037), (171, 23076), (186, 23157), (187, 23163), (200, 23211), (205, 23229), (217, 23304), (227, 23355), (238, 23400), (239, 23403), (264, 23550), (271, 23580), (282, 23646), (287, 23664),

Gene: Dole\_25 Start: 19498, Stop: 20580, Start Num: 50

Candidate Starts for Dole\_25:

(Start: 50 @19498 has 121 MA's), (69, 19540), (89, 19606), (96, 19624), (100, 19642), (139, 19837), (140, 19840), (155, 19909), (161, 19942), (171, 19981), (191, 20083), (239, 20317), (245, 20335), (251, 20377), (260, 20431), (273, 20494), (279, 20524), (285, 20563),

Gene: DrHayes\_25 Start: 19428, Stop: 20510, Start Num: 50

Candidate Starts for DrHayes\_25:

(Start: 50 @19428 has 121 MA's), (89, 19536), (96, 19554), (100, 19572), (139, 19767), (140, 19770), (155, 19839), (161, 19872), (171, 19911), (190, 20010), (191, 20013), (209, 20082), (225, 20181), (239, 20247), (241, 20253), (245, 20265), (246, 20277), (281, 20481), (285, 20496),

Gene: DumpsterDude\_21 Start: 18369, Stop: 19469, Start Num: 57

Candidate Starts for DumpsterDude\_21:

(14, 18087), (25, 18195), (Start: 57 @18369 has 15 MA's), (89, 18465), (100, 18501), (134, 18675), (147, 18744), (148, 18750), (163, 18810), (190, 18927), (208, 19005), (225, 19113), (226, 19116), (227, 19125), (234, 19161), (237, 19173), (242, 19188), (260, 19323), (270, 19374), (271, 19380), (286, 19461),

Gene: Durfee\_25 Start: 19514, Stop: 20596, Start Num: 50

Candidate Starts for Durfee\_25:

(Start: 50 @19514 has 121 MA's), (89, 19622), (96, 19640), (100, 19658), (139, 19853), (140, 19856), (155, 19925), (171, 19997), (185, 20072), (191, 20099), (239, 20333), (251, 20393), (260, 20447), (279, 20540), (285, 20579),

Gene: Dusty\_53 Start: 34012, Stop: 35094, Start Num: 58

Candidate Starts for Dusty\_53:

(Start: 58 @34012 has 21 MA's), (71, 34051), (78, 34072), (114, 34219), (133, 34309), (140, 34339), (152, 34399), (166, 34468), (215, 34705), (219, 34723), (225, 34756), (236, 34798), (253, 34891), (259, 34936), (272, 35011), (273, 35014), (282, 35074), (283, 35077),

Gene: ECartman\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for ECartman\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),

Gene: Edugator\_23 Start: 19807, Stop: 20892, Start Num: 54

Candidate Starts for Edugator\_23:

(36, 19756), (Start: 54 @19807 has 21 MA's), (69, 19843), (73, 19858), (80, 19882), (94, 19921), (110, 20005), (134, 20116), (139, 20140), (140, 20143), (171, 20290), (191, 20395), (225, 20563), (245, 20647), (246, 20659), (264, 20770), (279, 20836),

Gene: Efra2\_25 Start: 18684, Stop: 19766, Start Num: 50

Candidate Starts for Efra2\_25:

(Start: 50 @18684 has 121 MA's), (89, 18792), (96, 18810), (139, 19023), (140, 19026), (155, 19095), (171, 19167), (191, 19269), (239, 19503), (251, 19563), (260, 19617), (279, 19710), (285, 19749),

Gene: Ein37\_24 Start: 19750, Stop: 20853, Start Num: 61

Candidate Starts for Ein37\_24:

(18, 19483), (Start: 61 @19750 has 23 MA's), (94, 19855), (96, 19861), (97, 19864), (100, 19879), (101, 19882), (102, 19885), (103, 19888), (105, 19897), (120, 19981), (124, 19996), (134, 20047), (147, 20116), (148, 20122), (153, 20134), (155, 20143), (171, 20215), (182, 20278), (190, 20308), (191, 20311), (210, 20407), (215, 20446), (218, 20461), (237, 20560), (240, 20569), (252, 20641), (262, 20725), (270, 20758), (271, 20764), (286, 20845),

Gene: Ekdilam\_22 Start: 19682, Stop: 20764, Start Num: 50

Candidate Starts for Ekdilam\_22:

(Start: 50 @19682 has 121 MA's), (78, 19754), (89, 19790), (96, 19808), (100, 19826), (131, 19988), (139, 20021), (140, 20024), (155, 20093), (161, 20126), (169, 20159), (190, 20264), (191, 20267), (239, 20501), (269, 20663), (281, 20732),

Gene: Ellie\_22 Start: 19656, Stop: 20738, Start Num: 50

Candidate Starts for Ellie\_22:

(Start: 50 @19656 has 121 MA's), (69, 19698), (89, 19764), (94, 19776), (96, 19782), (112, 19866), (139, 19995), (140, 19998), (155, 20067), (188, 20232), (199, 20268), (202, 20283), (239, 20475), (264, 20616), (281, 20706),

Gene: Emerson\_25 Start: 19474, Stop: 20556, Start Num: 50

Candidate Starts for Emerson\_25:

(Start: 50 @19474 has 121 MA's), (89, 19582), (96, 19600), (100, 19618), (139, 19813), (140, 19816), (155, 19885), (171, 19957), (185, 20032), (191, 20059), (239, 20293), (251, 20353), (260, 20407), (279, 20500), (285, 20539),

Gene: Engineer\_57 Start: 34687, Stop: 35769, Start Num: 58

Candidate Starts for Engineer\_57:

(Start: 58 @34687 has 21 MA's), (71, 34726), (78, 34747), (114, 34894), (133, 34984), (140, 35014), (152, 35074), (166, 35143), (215, 35380), (219, 35398), (225, 35431), (236, 35473), (253, 35566), (259, 35611), (272, 35686), (273, 35689), (282, 35749), (283, 35752),

Gene: Enkosi\_21 Start: 19023, Stop: 20105, Start Num: 50

Candidate Starts for Enkosi\_21:

(Start: 50 @19023 has 121 MA's), (73, 19080), (89, 19131), (96, 19149), (100, 19167), (110, 19227), (112, 19233), (132, 19332), (139, 19362), (140, 19365), (148, 19413), (159, 19455), (161, 19467), (191, 19608), (195, 19620), (239, 19842), (255, 19917), (262, 19974), (269, 20004), (279, 20049), (285, 20088),

Gene: Eponine\_26 Start: 20826, Stop: 21923, Start Num: 55

Candidate Starts for Eponine\_26:

(19, 20577), (22, 20604), (38, 20775), (Start: 55 @20826 has 38 MA's), (62, 20838), (96, 20946), (104, 20979), (134, 21135), (140, 21162), (155, 21231), (161, 21264), (186, 21381), (191, 21405), (202, 21447), (209, 21474), (245, 21657), (262, 21771), (264, 21780), (285, 21885),

Gene: Evanesce\_24 Start: 19750, Stop: 20853, Start Num: 61

Candidate Starts for Evanesce\_24:

(18, 19483), (Start: 61 @19750 has 23 MA's), (94, 19855), (96, 19861), (97, 19864), (100, 19879), (101, 19882), (102, 19885), (103, 19888), (105, 19897), (120, 19981), (124, 19996), (134, 20047), (147, 20116), (148, 20122), (153, 20134), (155, 20143), (171, 20215), (182, 20278), (190, 20308), (191, 20311), (210, 20407), (215, 20446), (218, 20461), (237, 20560), (240, 20569), (252, 20641), (262, 20725), (270, 20758), (271, 20764), (286, 20845),

Gene: Ewald\_28 Start: 22994, Stop: 24058, Start Num: 64

Candidate Starts for Ewald\_28:

(28, 22886), (Start: 64 @22994 has 5 MA's), (72, 23027), (78, 23045), (90, 23084), (92, 23087), (101, 23123), (103, 23129), (171, 23462), (187, 23549), (194, 23576), (200, 23597), (205, 23615), (217, 23690), (238, 23786), (239, 23789), (264, 23936), (271, 23966), (282, 24032), (287, 24050),

Gene: FF47\_23 Start: 18222, Stop: 19322, Start Num: 49

Candidate Starts for FF47\_23:

(Start: 49 @18222 has 2 MA's), (65, 18258), (71, 18285), (75, 18297), (94, 18354), (103, 18387), (104, 18393), (116, 18465), (128, 18513), (177, 18744), (213, 18921), (219, 18954), (221, 18963), (222, 18978), (231, 19014), (244, 19068), (264, 19194), (271, 19233), (281, 19293), (286, 19314),

Gene: Fefferhead\_24 Start: 19823, Stop: 20905, Start Num: 50

Candidate Starts for Fefferhead\_24:

(Start: 50 @19823 has 121 MA's), (69, 19865), (89, 19931), (94, 19943), (96, 19949), (112, 20033), (139, 20162), (140, 20165), (155, 20234), (188, 20399), (191, 20408), (199, 20435), (202, 20450), (239, 20642), (264, 20783), (281, 20873),

Gene: Feyre\_23 Start: 19692, Stop: 20777, Start Num: 54

Candidate Starts for Feyre\_23:

(36, 19641), (Start: 54 @19692 has 21 MA's), (69, 19728), (73, 19743), (80, 19767), (94, 19806), (110, 19890), (134, 20001), (139, 20025), (140, 20028), (171, 20175), (191, 20280), (239, 20514), (245, 20532), (260, 20628), (264, 20655), (279, 20721), (281, 20745),

Gene: Findley\_21 Start: 17342, Stop: 18418, Start Num: 55

Candidate Starts for Findley\_21:

(26, 17201), (Start: 55 @17342 has 38 MA's), (80, 17417), (89, 17444), (94, 17456), (96, 17462), (104, 17495), (140, 17678), (148, 17726), (155, 17747), (191, 17921), (199, 17948), (209, 17990), (213, 18023), (255, 18230), (260, 18269),

Gene: Fionnbharth\_26 Start: 20926, Stop: 22023, Start Num: 55

Candidate Starts for Fionnbharth\_26:

(19, 20677), (22, 20704), (38, 20875), (Start: 55 @20926 has 38 MA's), (62, 20938), (96, 21046), (104, 21079), (134, 21235), (140, 21262), (155, 21331), (161, 21364), (186, 21481), (191, 21505), (202, 21547), (209, 21574), (245, 21757), (262, 21871), (264, 21880), (285, 21985),

Gene: FlagStaff\_20 Start: 19051, Stop: 20202, Start Num: 32

Candidate Starts for FlagStaff\_20:

(Start: 32 @19051 has 65 MA's), (67, 19144), (72, 19162), (80, 19189), (88, 19213), (94, 19228), (96, 19234), (109, 19309), (110, 19312), (136, 19435), (155, 19522), (161, 19564), (178, 19639), (190, 19699), (192, 19708), (207, 19768), (222, 19870), (274, 20125),

Gene: Forge\_24 Start: 19750, Stop: 20853, Start Num: 61

Candidate Starts for Forge\_24:

(18, 19483), (Start: 61 @19750 has 23 MA's), (94, 19855), (96, 19861), (97, 19864), (100, 19879), (101, 19882), (102, 19885), (103, 19888), (105, 19897), (120, 19981), (124, 19996), (134, 20047), (147, 20116), (148, 20122), (153, 20134), (155, 20143), (171, 20215), (182, 20278), (190, 20308), (191, 20311), (210, 20407), (215, 20446), (218, 20461), (237, 20560), (240, 20569), (252, 20641), (262, 20725), (270, 20758), (271, 20764), (286, 20845),

Gene: Francois\_24 Start: 19528, Stop: 20628, Start Num: 57

Candidate Starts for Francois\_24:

(25, 19357), (Start: 57 @19528 has 15 MA's), (75, 19579), (100, 19660), (143, 19873), (148, 19909), (196, 20104), (217, 20233), (219, 20239), (226, 20275), (227, 20284), (234, 20320), (243, 20365), (253, 20431), (260, 20482), (264, 20509), (267, 20527), (282, 20605), (286, 20620),

Gene: Frosty24\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for Frosty24\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),

Gene: Gancho\_23 Start: 19474, Stop: 20577, Start Num: 61

Candidate Starts for Gancho\_23:

(18, 19204), (Start: 61 @19474 has 23 MA's), (91, 19570), (97, 19588), (100, 19603), (101, 19606), (102, 19609), (103, 19612), (105, 19621), (120, 19705), (124, 19720), (134, 19771), (146, 19837), (148, 19846), (153, 19858), (155, 19867), (171, 19939), (190, 20032), (191, 20035), (215, 20170), (218, 20185), (237, 20284), (240, 20293), (246, 20332), (252, 20365), (262, 20449), (271, 20488), (286, 20569),

Gene: Ganymede\_26 Start: 19494, Stop: 20576, Start Num: 50

Candidate Starts for Ganymede\_26:

(Start: 50 @19494 has 121 MA's), (89, 19602), (96, 19620), (100, 19638), (139, 19833), (140, 19836), (155, 19905), (171, 19977), (191, 20079), (239, 20313), (251, 20373), (260, 20427), (279, 20520), (285, 20559),

Gene: Gengar\_23 Start: 19799, Stop: 20884, Start Num: 54

Candidate Starts for Gengar\_23:

(36, 19748), (Start: 54 @19799 has 21 MA's), (69, 19835), (73, 19850), (80, 19874), (94, 19913), (110, 19997), (134, 20108), (139, 20132), (140, 20135), (171, 20282), (190, 20384), (191, 20387), (239, 20621), (245, 20639), (260, 20735), (279, 20828), (281, 20852),

Gene: Geraldini\_25 Start: 19490, Stop: 20572, Start Num: 50

Candidate Starts for Geraldini\_25:

(Start: 50 @19490 has 121 MA's), (89, 19598), (96, 19616), (100, 19634), (139, 19829), (140, 19832), (155, 19901), (171, 19973), (191, 20075), (239, 20309), (251, 20369), (260, 20423), (279, 20516), (285, 20555),

Gene: Gideon\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for Gideon\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),

Gene: Giles\_24 Start: 19750, Stop: 20853, Start Num: 61

Candidate Starts for Giles\_24:

(18, 19483), (Start: 61 @19750 has 23 MA's), (94, 19855), (96, 19861), (97, 19864), (100, 19879), (101, 19882), (102, 19885), (103, 19888), (105, 19897), (120, 19981), (124, 19996), (134, 20047), (147, 20116), (148, 20122), (153, 20134), (155, 20143), (171, 20215), (182, 20278), (190, 20308), (191, 20311), (210, 20407), (215, 20446), (218, 20461), (237, 20560), (240, 20569), (252, 20641), (262, 20725), (270, 20758), (271, 20764), (286, 20845),

Gene: GoldenAsh\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for GoldenAsh\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),

Gene: Gomashi\_20 Start: 18862, Stop: 19998, Start Num: 32

Candidate Starts for Gomashi\_20:

(16, 18658), (27, 18817), (Start: 32 @18862 has 65 MA's), (67, 18940), (68, 18943), (69, 18946), (72, 18958), (78, 18976), (88, 19009), (94, 19024), (109, 19105), (134, 19219), (136, 19231), (155, 19318), (157, 19339), (178, 19435), (196, 19513), (222, 19666), (245, 19759), (259, 19849), (269, 19903), (273, 19918), (274, 19921), (276, 19936), (283, 19981), (284, 19984),

Gene: GrandSlam\_24 Start: 20039, Stop: 21139, Start Num: 57

Candidate Starts for GrandSlam\_24:

(Start: 57 @20039 has 15 MA's), (75, 20090), (100, 20171), (143, 20384), (148, 20420), (175, 20528), (196, 20615), (219, 20750), (226, 20786), (227, 20795), (234, 20831), (247, 20897), (253, 20942), (260, 20993), (264, 21020), (267, 21038), (282, 21116), (286, 21131),

Gene: Gravaillia\_24 Start: 19480, Stop: 20583, Start Num: 61

Candidate Starts for Gravaillia\_24:

(18, 19210), (Start: 61 @19480 has 23 MA's), (91, 19576), (97, 19594), (100, 19609), (101, 19612), (102, 19615), (103, 19618), (105, 19627), (120, 19711), (124, 19726), (134, 19777), (146, 19843), (148, 19852), (153, 19864), (155, 19873), (171, 19945), (182, 20008), (190, 20038), (191, 20041), (215, 20176), (218, 20191), (237, 20290), (240, 20299), (246, 20338), (252, 20371), (262, 20455), (271, 20494), (286, 20575),

Gene: Grizzly\_20 Start: 18864, Stop: 20000, Start Num: 32

Candidate Starts for Grizzly\_20:

(16, 18660), (27, 18819), (Start: 32 @18864 has 65 MA's), (67, 18942), (68, 18945), (69, 18948), (72, 18960), (78, 18978), (88, 19011), (94, 19026), (109, 19107), (134, 19221), (136, 19233), (155, 19320), (157, 19341), (178, 19437), (193, 19509), (196, 19515), (222, 19668), (246, 19773), (254, 19815), (259, 19851), (269, 19905), (273, 19920), (274, 19923), (283, 19983), (284, 19986),

Gene: Guanica15\_25 Start: 18700, Stop: 19782, Start Num: 50

Candidate Starts for Guanica15\_25:

(Start: 50 @18700 has 121 MA's), (89, 18808), (96, 18826), (139, 19039), (140, 19042), (155, 19111), (171, 19183), (191, 19285), (239, 19519), (251, 19579), (260, 19633), (279, 19726), (285, 19765),

Gene: Guillsminger\_23 Start: 19774, Stop: 20859, Start Num: 54

Candidate Starts for Guillsminger\_23:

(36, 19723), (Start: 54 @19774 has 21 MA's), (69, 19810), (73, 19825), (80, 19849), (94, 19888), (110, 19972), (134, 20083), (139, 20107), (140, 20110), (171, 20257), (191, 20362), (239, 20596), (245, 20614), (260, 20710), (264, 20737), (279, 20803),

Gene: HH92\_24 Start: 19750, Stop: 20853, Start Num: 61

Candidate Starts for HH92\_24:

(18, 19483), (Start: 61 @19750 has 23 MA's), (94, 19855), (96, 19861), (97, 19864), (100, 19879), (101, 19882), (102, 19885), (103, 19888), (105, 19897), (120, 19981), (124, 19996), (134, 20047), (147, 20116), (148, 20122), (153, 20134), (155, 20143), (171, 20215), (182, 20278), (190, 20308), (191, 20311), (210, 20407), (215, 20446), (218, 20461), (237, 20560), (240, 20569), (252, 20641), (262, 20725), (270, 20758), (271, 20764), (286, 20845),

Gene: Hadrien\_24 Start: 19750, Stop: 20853, Start Num: 61

Candidate Starts for Hadrien\_24:

(18, 19483), (Start: 61 @19750 has 23 MA's), (94, 19855), (96, 19861), (97, 19864), (100, 19879), (101, 19882), (102, 19885), (103, 19888), (105, 19897), (120, 19981), (124, 19996), (134, 20047), (147, 20116), (148, 20122), (153, 20134), (155, 20143), (171, 20215), (182, 20278), (190, 20308), (191, 20311), (210, 20407), (215, 20446), (218, 20461), (237, 20560), (240, 20569), (252, 20641), (262, 20725), (270, 20758), (271, 20764), (286, 20845),

Gene: Hail\_24 Start: 19750, Stop: 20853, Start Num: 61

Candidate Starts for Hail\_24:

(18, 19483), (Start: 61 @19750 has 23 MA's), (94, 19855), (96, 19861), (97, 19864), (100, 19879), (101, 19882), (102, 19885), (103, 19888), (105, 19897), (120, 19981), (124, 19996), (134, 20047), (147, 20116), (148, 20122), (153, 20134), (155, 20143), (171, 20215), (182, 20278), (190, 20308), (191, 20311), (210, 20407), (215, 20446), (218, 20461), (237, 20560), (240, 20569), (252, 20641), (262, 20725), (270, 20758), (271, 20764), (286, 20845),

Gene: Halo\_20 Start: 18856, Stop: 19992, Start Num: 32

Candidate Starts for Halo\_20:

(16, 18652), (27, 18811), (Start: 32 @18856 has 65 MA's), (67, 18934), (68, 18937), (69, 18940), (72, 18952), (78, 18970), (88, 19003), (94, 19018), (109, 19099), (134, 19213), (136, 19225), (155, 19312), (157, 19333), (178, 19429), (196, 19507), (222, 19660), (245, 19753), (259, 19843), (269, 19897), (273, 19912), (274, 19915), (276, 19930), (283, 19975), (284, 19978),

Gene: Hammy\_24 Start: 19914, Stop: 20996, Start Num: 50

Candidate Starts for Hammy\_24:

(Start: 50 @19914 has 121 MA's), (78, 19986), (89, 20022), (96, 20040), (120, 20160), (131, 20220), (139, 20253), (140, 20256), (161, 20358), (169, 20391), (190, 20496), (191, 20499), (239, 20733), (269, 20895), (281, 20964),

Gene: Hamood\_24 Start: 20039, Stop: 21139, Start Num: 57

Candidate Starts for Hamood\_24:

(Start: 57 @20039 has 15 MA's), (75, 20090), (100, 20171), (143, 20384), (148, 20420), (175, 20528), (196, 20615), (219, 20750), (226, 20786), (227, 20795), (234, 20831), (247, 20897), (253, 20942), (260, 20993), (264, 21020), (267, 21038), (282, 21116), (286, 21131),

Gene: HedwigODU\_25 Start: 19483, Stop: 20565, Start Num: 50

Candidate Starts for HedwigODU\_25:

(Start: 50 @19483 has 121 MA's), (89, 19591), (96, 19609), (100, 19627), (139, 19822), (140, 19825), (155, 19894), (171, 19966), (191, 20068), (239, 20302), (251, 20362), (260, 20416), (279, 20509), (285, 20548),

Gene: Heftyboy\_23 Start: 19922, Stop: 21007, Start Num: 54

Candidate Starts for Heftyboy\_23:

(36, 19871), (Start: 54 @19922 has 21 MA's), (69, 19958), (73, 19973), (80, 19997), (94, 20036), (110, 20120), (134, 20231), (139, 20255), (140, 20258), (171, 20405), (191, 20510), (239, 20744), (245,

20762), (260, 20858), (264, 20885), (279, 20951),

Gene: Hilltopfarm\_26 Start: 22020, Stop: 23459, Start Num: 5

Candidate Starts for Hilltopfarm\_26:

(Start: 5 @22020 has 4 MA's), (8, 22041), (10, 22059), (11, 22062), (12, 22077), (17, 22107), (21, 22146), (23, 22173), (24, 22179), (35, 22317), (63, 22386), (72, 22419), (99, 22503), (100, 22509), (126, 22638), (127, 22644), (130, 22659), (139, 22707), (141, 22713), (142, 22716), (149, 22764), (161, 22803), (164, 22821), (174, 22854), (182, 22905), (189, 22938), (201, 22998), (205, 23010), (209, 23028), (225, 23127), (239, 23193), (260, 23307), (263, 23331), (264, 23334), (277, 23403), (284, 23445),

Gene: Homura\_25 Start: 19514, Stop: 20596, Start Num: 50

Candidate Starts for Homura\_25:

(Start: 50 @19514 has 121 MA's), (89, 19622), (96, 19640), (100, 19658), (139, 19853), (140, 19856), (155, 19925), (171, 19997), (185, 20072), (191, 20099), (239, 20333), (251, 20393), (260, 20447), (279, 20540), (285, 20579),

Gene: Hope\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for Hope\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),

Gene: Hotshotbaby7\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for Hotshotbaby7\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),

Gene: Hurricane\_24 Start: 19911, Stop: 20999, Start Num: 55

Candidate Starts for Hurricane\_24:

(Start: 55 @19911 has 38 MA's), (62, 19923), (Start: 64 @19926 has 5 MA's), (78, 19977), (89, 20013), (96, 20031), (100, 20049), (104, 20064), (122, 20160), (132, 20226), (140, 20259), (155, 20328), (161, 20361), (177, 20427), (190, 20499), (191, 20502), (239, 20736), (262, 20868), (279, 20943), (281, 20967), (285, 20982),

Gene: Hyperbowlee\_25 Start: 19514, Stop: 20596, Start Num: 50

Candidate Starts for Hyperbowlee\_25:

(Start: 50 @19514 has 121 MA's), (89, 19622), (96, 19640), (100, 19658), (139, 19853), (140, 19856), (155, 19925), (171, 19997), (185, 20072), (191, 20099), (239, 20333), (251, 20393), (260, 20447), (279, 20540), (285, 20579),

Gene: Illumine\_25 Start: 19498, Stop: 20580, Start Num: 50

Candidate Starts for Illumine\_25:

(Start: 50 @19498 has 121 MA's), (69, 19540), (89, 19606), (96, 19624), (100, 19642), (139, 19837), (140, 19840), (155, 19909), (161, 19942), (171, 19981), (191, 20083), (239, 20317), (245, 20335), (251, 20377), (260, 20431), (273, 20494), (279, 20524), (285, 20563),

Gene: Inky\_25 Start: 19514, Stop: 20596, Start Num: 50

Candidate Starts for Inky\_25:

(Start: 50 @19514 has 121 MA's), (89, 19622), (96, 19640), (100, 19658), (139, 19853), (140, 19856), (155, 19925), (171, 19997), (185, 20072), (191, 20099), (239, 20333), (251, 20393), (260, 20447), (279, 20540), (285, 20579),

Gene: InvictusManeo\_23 Start: 19874, Stop: 20959, Start Num: 54

Candidate Starts for InvictusManeo\_23:

(36, 19823), (Start: 54 @19874 has 21 MA's), (69, 19910), (73, 19925), (80, 19949), (94, 19988), (110, 20072), (134, 20183), (139, 20207), (140, 20210), (171, 20357), (191, 20462), (239, 20696), (245, 20714), (260, 20810), (264, 20837), (279, 20903), (281, 20927),

Gene: JAWS\_25 Start: 19468, Stop: 20550, Start Num: 50

Candidate Starts for JAWS\_25:

(Start: 50 @19468 has 121 MA's), (89, 19576), (96, 19594), (100, 19612), (139, 19807), (140, 19810), (155, 19879), (171, 19951), (185, 20026), (191, 20053), (239, 20287), (251, 20347), (260, 20401), (279, 20494), (285, 20533),

Gene: JF1\_26 Start: 20925, Stop: 22022, Start Num: 55

Candidate Starts for JF1\_26:

(19, 20676), (22, 20703), (38, 20874), (Start: 55 @20925 has 38 MA's), (62, 20937), (96, 21045), (104, 21078), (134, 21234), (140, 21261), (155, 21330), (161, 21363), (186, 21480), (191, 21504), (202, 21546), (209, 21573), (245, 21756), (262, 21870), (264, 21879), (285, 21984),

Gene: JacoRen57\_19 Start: 17743, Stop: 18843, Start Num: 56

Candidate Starts for JacoRen57\_19:

(Start: 56 @17743 has 4 MA's), (73, 17791), (89, 17842), (94, 17854), (97, 17863), (103, 17887), (138, 18073), (181, 18283), (183, 18298), (221, 18481), (230, 18526), (234, 18553), (239, 18571), (257, 18673), (258, 18676), (264, 18712), (265, 18727), (282, 18817),

Gene: Jane\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for Jane\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),

Gene: Jarvi\_25 Start: 19514, Stop: 20596, Start Num: 50

Candidate Starts for Jarvi\_25:

(Start: 50 @19514 has 121 MA's), (89, 19622), (96, 19640), (100, 19658), (139, 19853), (140, 19856), (155, 19925), (171, 19997), (185, 20072), (191, 20099), (239, 20333), (251, 20393), (260, 20447), (279, 20540), (285, 20579),

Gene: Jayhawk\_26 Start: 19481, Stop: 20563, Start Num: 50

Candidate Starts for Jayhawk\_26:

(Start: 50 @19481 has 121 MA's), (89, 19589), (96, 19607), (100, 19625), (139, 19820), (140, 19823), (155, 19892), (171, 19964), (191, 20066), (239, 20300), (251, 20360), (260, 20414), (279, 20507), (285, 20546),

Gene: Jeckyll\_25 Start: 19514, Stop: 20596, Start Num: 50

Candidate Starts for Jeckyll\_25:

(Start: 50 @19514 has 121 MA's), (89, 19622), (96, 19640), (100, 19658), (139, 19853), (140, 19856), (155, 19925), (171, 19997), (185, 20072), (191, 20099), (239, 20333), (251, 20393), (260, 20447), (279, 20540), (285, 20579),



Gene: Jolene\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for Jolene\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),

Gene: Jolie2\_20 Start: 18194, Stop: 19330, Start Num: 34

Candidate Starts for Jolie2\_20:

(Start: 34 @18194 has 2 MA's), (47, 18221), (67, 18272), (72, 18290), (88, 18341), (96, 18362), (109, 18437), (136, 18563), (155, 18650), (178, 18767), (192, 18836), (222, 18998), (259, 19181), (262, 19205), (273, 19250), (274, 19253), (284, 19316), (285, 19319),

Gene: JonJames\_54 Start: 38302, Stop: 39378, Start Num: 58

Candidate Starts for JonJames\_54:

(Start: 58 @38302 has 21 MA's), (87, 38392), (103, 38440), (114, 38509), (144, 38650), (155, 38701), (161, 38734), (211, 38959), (229, 39064), (239, 39100), (255, 39190), (270, 39289), (281, 39355),

Gene: Jonghyun\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for Jonghyun\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),

Gene: JorRay\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for JorRay\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),

Gene: Joy99\_25 Start: 19443, Stop: 20525, Start Num: 50

Candidate Starts for Joy99\_25:

(Start: 50 @19443 has 121 MA's), (89, 19551), (96, 19569), (100, 19587), (139, 19782), (140, 19785), (155, 19854), (171, 19926), (185, 20001), (191, 20028), (239, 20262), (251, 20322), (260, 20376), (279, 20469), (285, 20508),

Gene: Juliette\_26 Start: 20826, Stop: 21923, Start Num: 55

Candidate Starts for Juliette\_26:

(19, 20577), (22, 20604), (38, 20775), (Start: 55 @20826 has 38 MA's), (62, 20838), (96, 20946), (104, 20979), (134, 21135), (140, 21162), (155, 21231), (161, 21264), (186, 21381), (191, 21405), (202, 21447), (209, 21474), (245, 21657), (262, 21771), (264, 21780), (285, 21885),

Gene: JustASigh\_20 Start: 18675, Stop: 19814, Start Num: 51

Candidate Starts for JustASigh\_20:

(Start: 51 @18675 has 1 MA's), (76, 18744), (97, 18807), (102, 18828), (147, 19071), (150, 19080), (161, 19137), (172, 19182), (177, 19203), (179, 19221), (182, 19239), (209, 19356), (215, 19407), (217, 19419), (219, 19425), (232, 19491), (236, 19515), (237, 19521), (246, 19569), (247, 19572), (268, 19713), (280, 19773), (282, 19791), (286, 19806),

Gene: Kareem\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for Kareem\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),

Gene: Kasen3\_20 Start: 18862, Stop: 19998, Start Num: 32

Candidate Starts for Kasen3\_20:

(16, 18658), (27, 18817), (Start: 32 @18862 has 65 MA's), (67, 18940), (68, 18943), (69, 18946), (72, 18958), (78, 18976), (88, 19009), (94, 19024), (109, 19105), (134, 19219), (136, 19231), (155, 19318), (157, 19339), (178, 19435), (196, 19513), (222, 19666), (245, 19759), (259, 19849), (269, 19903), (273, 19918), (274, 19921), (276, 19936), (283, 19981), (284, 19984),

Gene: Keshu\_24 Start: 19903, Stop: 20991, Start Num: 55

Candidate Starts for Keshu\_24:

(Start: 55 @19903 has 38 MA's), (62, 19915), (Start: 64 @19918 has 5 MA's), (78, 19969), (89, 20005), (96, 20023), (100, 20041), (104, 20056), (122, 20152), (132, 20218), (134, 20224), (140, 20251), (155, 20320), (161, 20353), (177, 20419), (190, 20491), (191, 20494), (239, 20728), (247, 20761), (262, 20860), (279, 20935), (281, 20959), (285, 20974),

Gene: KiSi\_24 Start: 18646, Stop: 19728, Start Num: 50

Candidate Starts for KiSi\_24:

(Start: 50 @18646 has 121 MA's), (Start: 64 @18667 has 5 MA's), (73, 18703), (80, 18727), (89, 18754), (96, 18772), (104, 18805), (105, 18808), (139, 18985), (140, 18988), (155, 19057), (171, 19129), (191, 19231), (225, 19399), (239, 19465), (260, 19579), (264, 19606), (266, 19618), (285, 19711),

Gene: Kinbote\_24 Start: 19750, Stop: 20853, Start Num: 61

Candidate Starts for Kinbote\_24:

(18, 19483), (Start: 61 @19750 has 23 MA's), (94, 19855), (96, 19861), (97, 19864), (100, 19879), (101, 19882), (102, 19885), (103, 19888), (105, 19897), (120, 19981), (124, 19996), (134, 20047), (147, 20116), (148, 20122), (153, 20134), (155, 20143), (171, 20215), (182, 20278), (190, 20308), (191, 20311), (210, 20407), (215, 20446), (218, 20461), (237, 20560), (240, 20569), (252, 20641), (262, 20725), (270, 20758), (271, 20764), (286, 20845),

Gene: Kratio\_22 Start: 19505, Stop: 20590, Start Num: 54

Candidate Starts for Kratio\_22:

(36, 19454), (Start: 54 @19505 has 21 MA's), (69, 19541), (73, 19556), (80, 19580), (94, 19619), (110, 19703), (134, 19814), (139, 19838), (140, 19841), (171, 19988), (191, 20093), (239, 20327), (245, 20345), (260, 20441), (264, 20468), (279, 20534), (281, 20558),

Gene: Krueger\_24 Start: 18615, Stop: 19697, Start Num: 50

Candidate Starts for Krueger\_24:

(Start: 50 @18615 has 121 MA's), (59, 18630), (78, 18687), (89, 18723), (96, 18741), (132, 18924), (139, 18954), (140, 18957), (155, 19026), (171, 19098), (191, 19200), (197, 19221), (199, 19227), (239, 19434), (264, 19575), (279, 19641), (281, 19665), (285, 19680),

Gene: Larva\_24 Start: 19675, Stop: 20760, Start Num: 54

Candidate Starts for Larva\_24:

(36, 19624), (Start: 54 @19675 has 21 MA's), (69, 19711), (73, 19726), (80, 19750), (94, 19789), (110, 19873), (134, 19984), (139, 20008), (140, 20011), (171, 20158), (191, 20263), (225, 20431), (239, 20497), (245, 20515), (246, 20527), (264, 20638), (279, 20704),

Gene: LastHope\_25 Start: 18777, Stop: 19859, Start Num: 50

Candidate Starts for LastHope\_25:

(Start: 50 @18777 has 121 MA's), (89, 18885), (96, 18903), (100, 18921), (139, 19116), (140, 19119), (155, 19188), (171, 19260), (185, 19335), (191, 19362), (209, 19431), (216, 19482), (239, 19596), (251, 19656), (260, 19710), (279, 19803), (285, 19842),

Gene: LaterM\_25 Start: 19444, Stop: 20529, Start Num: 50

Candidate Starts for LaterM\_25:

(Start: 50 @19444 has 121 MA's), (89, 19552), (96, 19570), (100, 19588), (139, 19783), (140, 19786), (155, 19855), (161, 19888), (171, 19927), (191, 20029), (209, 20098), (239, 20263), (246, 20293), (247, 20296), (255, 20338), (260, 20377), (264, 20404), (283, 20503),

Gene: LeMond\_24 Start: 18717, Stop: 19799, Start Num: 50

Candidate Starts for LeMond\_24:

(Start: 50 @18717 has 121 MA's), (Start: 64 @18738 has 5 MA's), (73, 18774), (80, 18798), (89, 18825), (96, 18843), (104, 18876), (105, 18879), (139, 19056), (140, 19059), (155, 19128), (171, 19200), (191, 19302), (225, 19470), (239, 19536), (260, 19650), (264, 19677), (266, 19689), (285, 19782),

Gene: Lemuria\_21 Start: 19002, Stop: 20144, Start Num: 34

Candidate Starts for Lemuria\_21:

(27, 18954), (Start: 34 @19002 has 2 MA's), (72, 19104), (88, 19155), (96, 19176), (109, 19251), (134, 19365), (136, 19377), (155, 19464), (157, 19485), (161, 19506), (178, 19581), (220, 19794), (222, 19812), (259, 19995), (264, 20028), (273, 20064), (274, 20067), (284, 20130), (285, 20133),

Gene: Leston\_23 Start: 19904, Stop: 20989, Start Num: 54

Candidate Starts for Leston\_23:

(36, 19853), (Start: 54 @19904 has 21 MA's), (69, 19940), (73, 19955), (80, 19979), (94, 20018), (110, 20102), (134, 20213), (139, 20237), (140, 20240), (171, 20387), (191, 20492), (239, 20726), (245, 20744), (260, 20840), (264, 20867), (279, 20933),

Gene: Liefie\_20 Start: 18860, Stop: 19996, Start Num: 32

Candidate Starts for Liefie\_20:

(16, 18656), (27, 18815), (Start: 32 @18860 has 65 MA's), (67, 18938), (68, 18941), (69, 18944), (72, 18956), (78, 18974), (88, 19007), (94, 19022), (109, 19103), (134, 19217), (136, 19229), (155, 19316), (157, 19337), (178, 19433), (196, 19511), (222, 19664), (245, 19757), (259, 19847), (269, 19901), (273, 19916), (274, 19919), (276, 19934), (283, 19979), (284, 19982),

Gene: LilHazelnut\_24 Start: 19750, Stop: 20853, Start Num: 61

Candidate Starts for LilHazelnut\_24:

(18, 19483), (Start: 61 @19750 has 23 MA's), (94, 19855), (96, 19861), (97, 19864), (100, 19879), (101, 19882), (102, 19885), (103, 19888), (105, 19897), (120, 19981), (124, 19996), (134, 20047), (147, 20116), (148, 20122), (153, 20134), (155, 20143), (171, 20215), (182, 20278), (190, 20308), (191, 20311), (210, 20407), (215, 20446), (218, 20461), (237, 20560), (240, 20569), (252, 20641), (262, 20725), (270, 20758), (271, 20764), (286, 20845),

Gene: LilPharaoh\_21 Start: 19023, Stop: 20105, Start Num: 50

Candidate Starts for LilPharaoh\_21:

(Start: 50 @19023 has 121 MA's), (73, 19080), (89, 19131), (96, 19149), (100, 19167), (110, 19227), (112, 19233), (132, 19332), (139, 19362), (140, 19365), (148, 19413), (159, 19455), (161, 19467), (191, 19608), (195, 19620), (239, 19842), (255, 19917), (262, 19974), (269, 20004), (279, 20049), (285, 20088),

Gene: LindNT\_25 Start: 19448, Stop: 20530, Start Num: 50

Candidate Starts for LindNT\_25:

(Start: 50 @19448 has 121 MA's), (89, 19556), (96, 19574), (100, 19592), (139, 19787), (140, 19790), (155, 19859), (171, 19931), (191, 20033), (239, 20267), (251, 20327), (260, 20381), (279, 20474), (285, 20513),

Gene: Llorens\_25 Start: 19514, Stop: 20596, Start Num: 50

Candidate Starts for Llorens\_25:

(Start: 50 @19514 has 121 MA's), (89, 19622), (96, 19640), (100, 19658), (139, 19853), (140, 19856), (155, 19925), (171, 19997), (185, 20072), (191, 20099), (239, 20333), (251, 20393), (260, 20447), (279, 20540), (285, 20579),

Gene: LouisV14\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for LouisV14\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),

Gene: Lozinak\_56 Start: 34742, Stop: 35824, Start Num: 58

Candidate Starts for Lozinak\_56:

(Start: 58 @34742 has 21 MA's), (71, 34781), (78, 34802), (114, 34949), (133, 35039), (140, 35069), (152, 35129), (166, 35198), (215, 35435), (219, 35453), (225, 35486), (236, 35528), (253, 35621), (259, 35666), (272, 35741), (273, 35744), (282, 35804), (283, 35807),

Gene: Luke\_24 Start: 19750, Stop: 20853, Start Num: 61

Candidate Starts for Luke\_24:

(18, 19483), (Start: 61 @19750 has 23 MA's), (94, 19855), (96, 19861), (97, 19864), (100, 19879), (101, 19882), (102, 19885), (103, 19888), (105, 19897), (120, 19981), (124, 19996), (134, 20047), (147, 20116), (148, 20122), (153, 20134), (155, 20143), (171, 20215), (182, 20278), (190, 20308), (191, 20311), (210, 20407), (215, 20446), (218, 20461), (237, 20560), (240, 20569), (252, 20641), (262, 20725), (270, 20758), (271, 20764), (286, 20845),

Gene: Luna22\_24 Start: 19750, Stop: 20853, Start Num: 61

Candidate Starts for Luna22\_24:

(18, 19483), (Start: 61 @19750 has 23 MA's), (94, 19855), (96, 19861), (97, 19864), (100, 19879), (101, 19882), (102, 19885), (103, 19888), (105, 19897), (120, 19981), (124, 19996), (134, 20047), (147, 20116), (148, 20122), (153, 20134), (155, 20143), (171, 20215), (182, 20278), (190, 20308), (191, 20311), (210, 20407), (215, 20446), (218, 20461), (237, 20560), (240, 20569), (252, 20641), (262, 20725), (270, 20758), (271, 20764), (286, 20845),

Gene: Lunahalos\_25 Start: 19514, Stop: 20596, Start Num: 50

Candidate Starts for Lunahalos\_25:

(Start: 50 @19514 has 121 MA's), (89, 19622), (96, 19640), (100, 19658), (139, 19853), (140, 19856), (155, 19925), (171, 19997), (185, 20072), (191, 20099), (239, 20333), (251, 20393), (260, 20447), (279, 20540), (285, 20579),

Gene: MOOREtheMARYer\_21 Start: 19205, Stop: 20350, Start Num: 32

Candidate Starts for MOOREtheMARYer\_21:

(Start: 32 @19205 has 65 MA's), (42, 19220), (67, 19292), (72, 19310), (88, 19361), (94, 19376), (109, 19457), (120, 19502), (136, 19583), (155, 19670), (161, 19712), (178, 19787), (180, 19796), (201, 19898), (262, 20225),

Gene: MacnCheese\_25 Start: 20145, Stop: 21233, Start Num: 55

Candidate Starts for MacnCheese\_25:

(Start: 55 @20145 has 38 MA's), (62, 20157), (Start: 64 @20160 has 5 MA's), (78, 20211), (81, 20223), (89, 20247), (96, 20265), (100, 20283), (104, 20298), (115, 20364), (122, 20394), (132, 20460), (140, 20493), (155, 20562), (161, 20595), (177, 20661), (190, 20733), (191, 20736), (239, 20970), (247, 21003), (262, 21102), (269, 21132), (279, 21177), (281, 21201), (285, 21216),

Gene: Maco6\_21 Start: 17553, Stop: 18653, Start Num: 49

Candidate Starts for Maco6\_21:

(Start: 49 @17553 has 2 MA's), (65, 17589), (71, 17616), (75, 17628), (94, 17685), (103, 17718), (104, 17724), (116, 17796), (177, 18075), (213, 18252), (219, 18285), (221, 18294), (222, 18309), (231, 18345), (244, 18399), (264, 18525), (271, 18564), (281, 18624), (286, 18645),

Gene: MalagasyRose\_26 Start: 19070, Stop: 20185, Start Num: 33

Candidate Starts for MalagasyRose\_26:

(29, 19046), (Start: 33 @19070 has 1 MA's), (39, 19079), (46, 19106), (83, 19217), (89, 19235), (106, 19292), (115, 19346), (139, 19436), (141, 19442), (142, 19445), (149, 19493), (151, 19496), (159, 19523), (182, 19637), (185, 19649), (189, 19670), (205, 19721), (209, 19739), (224, 19835), (225, 19838), (232, 19871), (235, 19889), (239, 19904), (247, 19937), (255, 19979), (264, 20045), (271, 20084), (281, 20144), (284, 20156), (285, 20159),

Gene: Malthus\_27 Start: 20849, Stop: 21946, Start Num: 55

Candidate Starts for Malthus\_27:

(19, 20600), (22, 20627), (38, 20798), (Start: 55 @20849 has 38 MA's), (62, 20861), (96, 20969), (104, 21002), (134, 21158), (140, 21185), (155, 21254), (161, 21287), (186, 21404), (191, 21428), (202, 21470), (209, 21497), (245, 21680), (262, 21794), (264, 21803), (285, 21908),

Gene: Marcoliusprime\_21 Start: 17339, Stop: 18418, Start Num: 55

Candidate Starts for Marcoliusprime\_21:

(26, 17198), (Start: 55 @17339 has 38 MA's), (80, 17414), (89, 17441), (94, 17453), (96, 17459), (104, 17492), (140, 17675), (148, 17723), (155, 17744), (173, 17825), (191, 17918), (199, 17945), (209, 17987), (213, 18020), (239, 18152), (255, 18227), (260, 18266), (264, 18293),

Gene: MarkPhew\_25 Start: 18605, Stop: 19687, Start Num: 50

Candidate Starts for MarkPhew\_25:

(Start: 50 @18605 has 121 MA's), (89, 18713), (96, 18731), (104, 18764), (110, 18809), (132, 18914), (139, 18944), (140, 18947), (155, 19016), (171, 19088), (173, 19097), (197, 19211), (199, 19217), (239, 19424), (259, 19532), (260, 19538), (264, 19565), (285, 19670),

Gene: Marmie\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for Marmie\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),

Gene: Marshawn\_26 Start: 19229, Stop: 20311, Start Num: 50

Candidate Starts for Marshawn\_26:

(Start: 50 @19229 has 121 MA's), (73, 19286), (89, 19337), (96, 19355), (110, 19433), (119, 19472), (134, 19544), (139, 19568), (140, 19571), (155, 19640), (156, 19652), (171, 19712), (191, 19814), (199, 19841), (239, 20048), (260, 20162), (281, 20279),

Gene: Mdavu\_21 Start: 19011, Stop: 20093, Start Num: 50

Candidate Starts for Mdavu\_21:

(Start: 50 @19011 has 121 MA's), (73, 19068), (89, 19119), (96, 19137), (100, 19155), (110, 19215), (112, 19221), (132, 19320), (139, 19350), (140, 19353), (148, 19401), (159, 19443), (161, 19455), (191, 19596), (195, 19608), (239, 19830), (255, 19905), (262, 19962), (269, 19992), (279, 20037), (285, 20076),

Gene: MeaningOfLife\_25 Start: 19450, Stop: 20532, Start Num: 50

Candidate Starts for MeaningOfLife\_25:

(Start: 50 @19450 has 121 MA's), (89, 19558), (96, 19576), (100, 19594), (139, 19789), (140, 19792), (155, 19861), (171, 19933), (191, 20035), (239, 20269), (251, 20329), (260, 20383), (279, 20476), (285, 20515),

Gene: Megsy\_25 Start: 19451, Stop: 20533, Start Num: 50

Candidate Starts for Megsy\_25:

(Start: 50 @19451 has 121 MA's), (89, 19559), (96, 19577), (139, 19790), (140, 19793), (155, 19862), (171, 19934), (191, 20036), (239, 20270), (251, 20330), (260, 20384), (279, 20477), (285, 20516),

Gene: Mercurio\_22 Start: 19624, Stop: 20760, Start Num: 34

Candidate Starts for Mercurio\_22:

(6, 19333), (16, 19417), (Start: 34 @19624 has 2 MA's), (47, 19651), (60, 19681), (67, 19702), (72, 19720), (88, 19771), (96, 19792), (109, 19867), (136, 19993), (155, 20080), (157, 20101), (161, 20122), (178, 20197), (220, 20410), (222, 20428), (259, 20611), (262, 20635), (273, 20680), (274, 20683), (284, 20746), (285, 20749),

Gene: Meyran\_27 Start: 23460, Stop: 24524, Start Num: 64

Candidate Starts for Meyran\_27:

(Start: 64 @23460 has 5 MA's), (74, 23499), (90, 23550), (92, 23553), (101, 23589), (103, 23595), (104, 23601), (161, 23889), (171, 23928), (186, 24009), (187, 24015), (194, 24042), (200, 24063), (205, 24081), (217, 24156), (238, 24252), (239, 24255), (264, 24402), (271, 24432), (282, 24498), (287, 24516),

Gene: Milly\_21 Start: 17339, Stop: 18418, Start Num: 55

Candidate Starts for Milly\_21:

(26, 17198), (Start: 55 @17339 has 38 MA's), (80, 17414), (89, 17441), (94, 17453), (96, 17459), (104, 17492), (140, 17675), (148, 17723), (155, 17744), (173, 17825), (191, 17918), (199, 17945), (209, 17987), (213, 18020), (239, 18152), (255, 18227), (260, 18266), (264, 18293),

Gene: Miryou\_23 Start: 19759, Stop: 20844, Start Num: 54

Candidate Starts for Miryou\_23:

(36, 19708), (Start: 54 @19759 has 21 MA's), (69, 19795), (73, 19810), (80, 19834), (94, 19873), (110, 19957), (132, 20062), (134, 20068), (139, 20092), (140, 20095), (171, 20242), (190, 20344), (191, 20347), (239, 20581), (245, 20599), (260, 20695), (264, 20722), (279, 20788), (281, 20812),

Gene: Miskis\_57 Start: 34047, Stop: 35129, Start Num: 58

Candidate Starts for Miskis\_57:

(Start: 58 @34047 has 21 MA's), (71, 34086), (78, 34107), (114, 34254), (133, 34344), (140, 34374), (152, 34434), (166, 34503), (215, 34740), (219, 34758), (225, 34791), (236, 34833), (253, 34926), (259, 34971), (272, 35046), (273, 35049), (282, 35109), (283, 35112),

Gene: MissDaisy\_26 Start: 20688, Stop: 21785, Start Num: 55

Candidate Starts for MissDaisy\_26:

(19, 20439), (22, 20466), (38, 20637), (Start: 55 @20688 has 38 MA's), (62, 20700), (96, 20808), (104, 20841), (125, 20943), (132, 20991), (134, 20997), (155, 21093), (161, 21126), (165, 21147), (186, 21243), (191, 21267), (202, 21309), (209, 21336), (245, 21519), (262, 21633), (264, 21642), (285,

21747),

Gene: Mitti\_26 Start: 20849, Stop: 21946, Start Num: 55

Candidate Starts for Mitti\_26:

(19, 20600), (22, 20627), (38, 20798), (Start: 55 @20849 has 38 MA's), (62, 20861), (96, 20969), (104, 21002), (134, 21158), (140, 21185), (155, 21254), (161, 21287), (171, 21326), (186, 21404), (191, 21428), (202, 21470), (209, 21497), (245, 21680), (262, 21794), (264, 21803), (285, 21908),

Gene: Mollymur\_37 Start: 33053, Stop: 34123, Start Num: 58

Candidate Starts for Mollymur\_37:

(Start: 58 @33053 has 21 MA's), (103, 33188), (113, 33254), (155, 33449), (166, 33506), (205, 33671), (236, 33833), (237, 33839), (278, 34067),

Gene: Mowgli\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for Mowgli\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),

Gene: Muddy\_23 Start: 18503, Stop: 19603, Start Num: 49

Candidate Starts for Muddy\_23:

(Start: 49 @18503 has 2 MA's), (65, 18539), (71, 18566), (75, 18578), (94, 18635), (103, 18668), (104, 18674), (116, 18746), (128, 18794), (177, 19025), (213, 19202), (219, 19235), (221, 19244), (222, 19259), (231, 19295), (244, 19349), (264, 19475), (271, 19514), (281, 19574), (286, 19595),

Gene: Mufasa\_21 Start: 17359, Stop: 18438, Start Num: 55

Candidate Starts for Mufasa\_21:

(26, 17218), (Start: 55 @17359 has 38 MA's), (80, 17434), (89, 17461), (96, 17479), (104, 17512), (140, 17695), (155, 17764), (161, 17797), (191, 17938), (199, 17965), (209, 18007), (213, 18040), (239, 18172), (255, 18247), (260, 18286), (264, 18313),

Gene: Mulch\_24 Start: 19505, Stop: 20605, Start Num: 57

Candidate Starts for Mulch\_24:

(Start: 57 @19505 has 15 MA's), (75, 19556), (100, 19637), (143, 19850), (148, 19886), (175, 19994), (196, 20081), (219, 20216), (226, 20252), (227, 20261), (234, 20297), (247, 20363), (253, 20408), (260, 20459), (264, 20486), (267, 20504), (282, 20582), (286, 20597),

Gene: Murucutumbu\_25 Start: 19434, Stop: 20516, Start Num: 50

Candidate Starts for Murucutumbu\_25:

(Start: 50 @19434 has 121 MA's), (89, 19542), (96, 19560), (100, 19578), (132, 19743), (139, 19773), (140, 19776), (155, 19845), (161, 19878), (171, 19917), (191, 20019), (245, 20271), (251, 20313), (260, 20367), (279, 20460), (285, 20499),

Gene: Mynx\_25 Start: 19497, Stop: 20579, Start Num: 50

Candidate Starts for Mynx\_25:

(Start: 50 @19497 has 121 MA's), (89, 19605), (96, 19623), (100, 19641), (139, 19836), (140, 19839), (155, 19908), (171, 19980), (185, 20055), (191, 20082), (239, 20316), (251, 20376), (260, 20430), (279, 20523), (285, 20562),

Gene: Nadeem\_24 Start: 19505, Stop: 20605, Start Num: 57

Candidate Starts for Nadeem\_24:

(Start: 57 @19505 has 15 MA's), (75, 19556), (100, 19637), (143, 19850), (148, 19886), (175, 19994), (196, 20081), (219, 20216), (226, 20252), (227, 20261), (234, 20297), (247, 20363), (253, 20408), (260, 20459), (264, 20486), (267, 20504), (282, 20582), (286, 20597),

Gene: NancyRae\_24 Start: 19511, Stop: 20611, Start Num: 57

Candidate Starts for NancyRae\_24:

(Start: 57 @19511 has 15 MA's), (75, 19562), (100, 19643), (143, 19856), (148, 19892), (175, 20000), (196, 20087), (219, 20222), (226, 20258), (227, 20267), (234, 20303), (247, 20369), (253, 20414), (260, 20465), (264, 20492), (267, 20510), (282, 20588), (286, 20603),

Gene: Nergal\_24 Start: 19590, Stop: 20708, Start Num: 32

Candidate Starts for Nergal\_24:

(Start: 32 @19590 has 65 MA's), (39, 19602), (46, 19629), (Start: 64 @19671 has 5 MA's), (71, 19701), (82, 19737), (88, 19755), (89, 19758), (106, 19815), (115, 19869), (129, 19914), (141, 19965), (142, 19968), (151, 20019), (162, 20061), (163, 20064), (189, 20193), (198, 20226), (205, 20244), (209, 20262), (223, 20355), (264, 20571), (270, 20604), (271, 20610), (283, 20679),

Gene: Nibb\_24 Start: 18746, Stop: 19828, Start Num: 50

Candidate Starts for Nibb\_24:

(Start: 50 @18746 has 121 MA's), (73, 18803), (80, 18827), (89, 18854), (96, 18872), (104, 18905), (105, 18908), (110, 18950), (132, 19055), (139, 19085), (140, 19088), (155, 19157), (171, 19229), (191, 19331), (197, 19352), (199, 19358), (239, 19565), (259, 19673), (260, 19679), (264, 19706), (285, 19811),

Gene: Nikao\_21 Start: 19023, Stop: 20105, Start Num: 50

Candidate Starts for Nikao\_21:

(Start: 50 @19023 has 121 MA's), (73, 19080), (89, 19131), (96, 19149), (100, 19167), (110, 19227), (112, 19233), (132, 19332), (139, 19362), (140, 19365), (148, 19413), (159, 19455), (161, 19467), (191, 19608), (195, 19620), (239, 19842), (255, 19917), (262, 19974), (269, 20004), (279, 20049), (285, 20088),

Gene: Niklas\_25 Start: 18841, Stop: 19923, Start Num: 50

Candidate Starts for Niklas\_25:

(Start: 50 @18841 has 121 MA's), (89, 18949), (96, 18967), (100, 18985), (132, 19150), (139, 19180), (140, 19183), (148, 19231), (161, 19285), (195, 19438), (222, 19585), (239, 19660), (255, 19735), (279, 19867), (281, 19891), (285, 19906),

Gene: NoShow\_20 Start: 17782, Stop: 18882, Start Num: 56

Candidate Starts for NoShow\_20:

(Start: 56 @17782 has 4 MA's), (69, 17815), (73, 17830), (89, 17881), (94, 17893), (97, 17902), (103, 17926), (109, 17974), (118, 18010), (148, 18166), (159, 18217), (161, 18229), (171, 18268), (173, 18277), (183, 18337), (221, 18520), (258, 18715), (260, 18724), (264, 18751), (283, 18859),

Gene: Norvs\_56 Start: 34286, Stop: 35368, Start Num: 58

Candidate Starts for Norvs\_56:

(Start: 58 @34286 has 21 MA's), (71, 34325), (78, 34346), (114, 34493), (133, 34583), (140, 34613), (152, 34673), (166, 34742), (215, 34979), (219, 34997), (225, 35030), (236, 35072), (253, 35165), (259, 35210), (272, 35285), (273, 35288), (282, 35348), (283, 35351),

Gene: Nutello\_21 Start: 19023, Stop: 20105, Start Num: 50

Candidate Starts for Nutello\_21:

(Start: 50 @19023 has 121 MA's), (73, 19080), (89, 19131), (96, 19149), (100, 19167), (110, 19227), (112, 19233), (132, 19332), (139, 19362), (140, 19365), (148, 19413), (159, 19455), (161, 19467),



(191, 19608), (195, 19620), (239, 19842), (255, 19917), (262, 19974), (269, 20004), (279, 20049), (285, 20088),

Gene: Nyceirae\_29 Start: 23200, Stop: 24264, Start Num: 64

Candidate Starts for Nyceirae\_29:

(Start: 64 @23200 has 5 MA's), (72, 23233), (78, 23251), (90, 23290), (92, 23293), (101, 23329), (103, 23335), (104, 23341), (161, 23629), (171, 23668), (176, 23695), (187, 23755), (194, 23782), (200, 23803), (205, 23821), (217, 23896), (225, 23935), (227, 23947), (238, 23992), (239, 23995), (264, 24142), (271, 24172), (282, 24238), (287, 24256),

Gene: OBUpride\_24 Start: 19744, Stop: 20847, Start Num: 61

Candidate Starts for OBUpride\_24:

(18, 19477), (Start: 61 @19744 has 23 MA's), (94, 19849), (96, 19855), (97, 19858), (100, 19873), (101, 19876), (102, 19879), (103, 19882), (105, 19891), (120, 19975), (124, 19990), (134, 20041), (147, 20110), (148, 20116), (153, 20128), (155, 20137), (171, 20209), (182, 20272), (190, 20302), (191, 20305), (210, 20401), (215, 20440), (218, 20455), (237, 20554), (240, 20563), (252, 20635), (262, 20719), (270, 20752), (271, 20758), (286, 20839),

Gene: OctaviousRex\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for OctaviousRex\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),

Gene: OkiRoe\_23 Start: 19775, Stop: 20860, Start Num: 54

Candidate Starts for OkiRoe\_23:

(36, 19724), (Start: 54 @19775 has 21 MA's), (69, 19811), (73, 19826), (80, 19850), (94, 19889), (110, 19973), (134, 20084), (139, 20108), (140, 20111), (171, 20258), (191, 20363), (239, 20597), (245, 20615), (260, 20711), (264, 20738), (279, 20804),

Gene: Olga\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for Olga\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),

Gene: OmniCritical\_26 Start: 20834, Stop: 21931, Start Num: 55

Candidate Starts for OmniCritical\_26:

(19, 20585), (22, 20612), (38, 20783), (Start: 55 @20834 has 38 MA's), (62, 20846), (96, 20954), (104, 20987), (134, 21143), (140, 21170), (155, 21239), (161, 21272), (171, 21311), (186, 21389), (191, 21413), (202, 21455), (209, 21482), (245, 21665), (262, 21779), (264, 21788), (285, 21893),

Gene: Omnicron\_24 Start: 18594, Stop: 19679, Start Num: 54

Candidate Starts for Omnicron\_24:

(36, 18543), (Start: 54 @18594 has 21 MA's), (69, 18630), (73, 18645), (80, 18669), (94, 18708), (110, 18792), (134, 18903), (139, 18927), (140, 18930), (147, 18972), (171, 19077), (191, 19182), (239, 19416), (245, 19434), (246, 19446), (260, 19530), (264, 19557), (276, 19611), (279, 19623), (281, 19647),

Gene: OneUp\_49 Start: 31683, Stop: 32762, Start Num: 58

Candidate Starts for OneUp\_49:

(Start: 58 @31683 has 21 MA's), (103, 31818), (114, 31887), (123, 31926), (133, 31977), (139, 32004), (145, 32040), (166, 32136), (228, 32439), (229, 32442), (236, 32466), (241, 32484),

Gene: Oscar\_24 Start: 18718, Stop: 19800, Start Num: 50

Candidate Starts for Oscar\_24:

(Start: 50 @18718 has 121 MA's), (Start: 64 @18739 has 5 MA's), (73, 18775), (80, 18799), (89, 18826), (96, 18844), (104, 18877), (105, 18880), (139, 19057), (140, 19060), (155, 19129), (171, 19201), (191, 19303), (225, 19471), (239, 19537), (260, 19651), (264, 19678), (266, 19690), (285, 19783),

Gene: P3MA\_21 Start: 16724, Stop: 17776, Start Num: 56

Candidate Starts for P3MA\_21:

(53, 16718), (Start: 56 @16724 has 4 MA's), (70, 16760), (75, 16778), (77, 16784), (85, 16811), (100, 16859), (110, 16919), (134, 17024), (135, 17030), (147, 17093), (161, 17138), (202, 17321), (220, 17423), (232, 17483), (233, 17492), (239, 17519), (245, 17537), (249, 17573), (254, 17591), (259, 17627), (260, 17633), (261, 17639), (270, 17684), (277, 17720), (285, 17756),

Gene: Pace1224\_20 Start: 19051, Stop: 20202, Start Num: 32

Candidate Starts for Pace1224\_20:

(Start: 32 @19051 has 65 MA's), (67, 19144), (72, 19162), (80, 19189), (88, 19213), (94, 19228), (109, 19309), (110, 19312), (136, 19435), (155, 19522), (161, 19564), (178, 19639), (190, 19699), (192, 19708), (207, 19768), (220, 19852), (222, 19870), (274, 20125),

Gene: Padfoot\_25 Start: 19514, Stop: 20596, Start Num: 50

Candidate Starts for Padfoot\_25:

(Start: 50 @19514 has 121 MA's), (89, 19622), (96, 19640), (100, 19658), (139, 19853), (140, 19856), (155, 19925), (171, 19997), (185, 20072), (191, 20099), (239, 20333), (251, 20393), (260, 20447), (279, 20540), (285, 20579),

Gene: Padpat\_25 Start: 19474, Stop: 20556, Start Num: 50

Candidate Starts for Padpat\_25:

(Start: 50 @19474 has 121 MA's), (89, 19582), (96, 19600), (100, 19618), (139, 19813), (140, 19816), (155, 19885), (171, 19957), (185, 20032), (191, 20059), (239, 20293), (251, 20353), (260, 20407), (279, 20500), (285, 20539),

Gene: Paito\_20 Start: 19063, Stop: 20199, Start Num: 32

Candidate Starts for Paito\_20:

(16, 18859), (27, 19018), (Start: 32 @19063 has 65 MA's), (67, 19141), (68, 19144), (72, 19159), (78, 19177), (79, 19183), (88, 19210), (94, 19225), (96, 19231), (109, 19306), (134, 19420), (136, 19432), (155, 19519), (157, 19540), (161, 19561), (178, 19636), (192, 19705), (259, 20050), (275, 20134), (283, 20182), (284, 20185),

Gene: Paola\_23 Start: 19774, Stop: 20859, Start Num: 54

Candidate Starts for Paola\_23:

(36, 19723), (Start: 54 @19774 has 21 MA's), (69, 19810), (73, 19825), (80, 19849), (94, 19888), (110, 19972), (134, 20083), (139, 20107), (140, 20110), (171, 20257), (191, 20362), (239, 20596), (245, 20614), (260, 20710), (264, 20737), (279, 20803),

Gene: Parada\_24 Start: 19505, Stop: 20605, Start Num: 57

Candidate Starts for Parada\_24:

(Start: 57 @19505 has 15 MA's), (75, 19556), (100, 19637), (143, 19850), (148, 19886), (175, 19994), (196, 20081), (219, 20216), (226, 20252), (227, 20261), (234, 20297), (247, 20363), (253, 20408), (260, 20459), (264, 20486), (267, 20504), (282, 20582), (286, 20597),

Gene: Patt\_26 Start: 20667, Stop: 21764, Start Num: 55

Candidate Starts for Patt\_26:

(19, 20418), (22, 20445), (38, 20616), (Start: 55 @20667 has 38 MA's), (62, 20679), (96, 20787), (104, 20820), (125, 20922), (132, 20970), (134, 20976), (155, 21072), (161, 21105), (165, 21126), (186, 21222), (191, 21246), (202, 21288), (209, 21315), (245, 21498), (262, 21612), (264, 21621), (285, 21726),

Gene: Peanam\_25 Start: 18838, Stop: 19920, Start Num: 50

Candidate Starts for Peanam\_25:

(Start: 50 @18838 has 121 MA's), (89, 18946), (96, 18964), (100, 18982), (132, 19147), (139, 19177), (140, 19180), (148, 19228), (161, 19282), (195, 19435), (222, 19582), (239, 19657), (255, 19732), (279, 19864), (281, 19888), (285, 19903),

Gene: Peeb\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for Peeb\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),

Gene: Peel\_25 Start: 19514, Stop: 20596, Start Num: 50

Candidate Starts for Peel\_25:

(Start: 50 @19514 has 121 MA's), (89, 19622), (96, 19640), (100, 19658), (139, 19853), (140, 19856), (155, 19925), (171, 19997), (185, 20072), (191, 20099), (239, 20333), (251, 20393), (260, 20447), (279, 20540), (285, 20579),

Gene: Periodt\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for Periodt\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),

Gene: Pharb\_24 Start: 19749, Stop: 20837, Start Num: 55

Candidate Starts for Pharb\_24:

(Start: 55 @19749 has 38 MA's), (62, 19761), (78, 19815), (89, 19851), (96, 19869), (115, 19968), (122, 19998), (132, 20064), (140, 20097), (155, 20166), (161, 20199), (177, 20265), (190, 20337), (191, 20340), (199, 20367), (239, 20574), (271, 20745), (272, 20748), (279, 20781), (281, 20805), (285, 20820),

Gene: PhelpsODU\_24 Start: 18672, Stop: 19775, Start Num: 50

Candidate Starts for PhelpsODU\_24:

(Start: 50 @18672 has 121 MA's), (59, 18687), (78, 18744), (89, 18780), (96, 18798), (132, 18981), (139, 19011), (155, 19083), (191, 19257), (199, 19305), (202, 19320), (239, 19512), (259, 19620), (279, 19719), (281, 19743), (285, 19758),

Gene: PhinkBoden\_55 Start: 34667, Stop: 35749, Start Num: 58

Candidate Starts for PhinkBoden\_55:

(Start: 58 @34667 has 21 MA's), (71, 34706), (78, 34727), (114, 34874), (133, 34964), (140, 34994), (152, 35054), (166, 35123), (215, 35360), (219, 35378), (225, 35411), (236, 35453), (253, 35546), (259, 35591), (272, 35666), (273, 35669), (282, 35729), (283, 35732),

Gene: Phish\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for Phish\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),

Gene: Phishy\_28 Start: 23118, Stop: 24182, Start Num: 64

Candidate Starts for Phishy\_28:

(44, 23067), (Start: 64 @23118 has 5 MA's), (72, 23151), (78, 23169), (90, 23208), (92, 23211), (94, 23220), (101, 23247), (104, 23259), (161, 23547), (171, 23586), (187, 23673), (194, 23700), (200, 23721), (205, 23739), (217, 23814), (227, 23865), (238, 23910), (239, 23913), (264, 24060), (271, 24090), (282, 24156), (287, 24174),

Gene: Phrank\_24 Start: 18625, Stop: 19728, Start Num: 50

Candidate Starts for Phrank\_24:

(Start: 50 @18625 has 121 MA's), (59, 18640), (78, 18697), (89, 18733), (96, 18751), (132, 18934), (139, 18964), (155, 19036), (191, 19210), (199, 19258), (202, 19273), (209, 19300), (239, 19465), (279, 19672), (281, 19696), (285, 19711),

Gene: Phreak\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for Phreak\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),

Gene: Piatt\_25 Start: 19514, Stop: 20596, Start Num: 50

Candidate Starts for Piatt\_25:

(Start: 50 @19514 has 121 MA's), (89, 19622), (96, 19640), (100, 19658), (139, 19853), (140, 19856), (155, 19925), (171, 19997), (185, 20072), (191, 20099), (239, 20333), (251, 20393), (260, 20447), (279, 20540), (285, 20579),

Gene: Pimento\_24 Start: 19202, Stop: 20302, Start Num: 57

Candidate Starts for Pimento\_24:

(Start: 57 @19202 has 15 MA's), (75, 19253), (100, 19334), (143, 19547), (148, 19583), (175, 19691), (196, 19778), (219, 19913), (226, 19949), (227, 19958), (234, 19994), (247, 20060), (253, 20105), (260, 20156), (264, 20183), (267, 20201), (282, 20279), (286, 20294),

Gene: PinkYoshi\_20 Start: 18852, Stop: 19988, Start Num: 32

Candidate Starts for PinkYoshi\_20:

(16, 18648), (27, 18807), (Start: 32 @18852 has 65 MA's), (67, 18930), (68, 18933), (69, 18936), (72, 18948), (78, 18966), (88, 18999), (94, 19014), (109, 19095), (134, 19209), (136, 19221), (155, 19308), (157, 19329), (178, 19425), (196, 19503), (222, 19656), (245, 19749), (259, 19839), (269, 19893), (273, 19908), (274, 19911), (276, 19926), (283, 19971), (284, 19974),

Gene: Pinnie\_21 Start: 19612, Stop: 20757, Start Num: 32

Candidate Starts for Pinnie\_21:

(Start: 32 @19612 has 65 MA's), (42, 19627), (67, 19699), (72, 19717), (88, 19768), (94, 19783), (109, 19864), (136, 19990), (155, 20077), (157, 20098), (161, 20119), (178, 20194), (192, 20263), (201, 20305), (225, 20434), (248, 20545), (262, 20632), (269, 20662),

Gene: Pixie\_24 Start: 19682, Stop: 20770, Start Num: 55

Candidate Starts for Pixie\_24:

(Start: 55 @19682 has 38 MA's), (62, 19694), (Start: 64 @19697 has 5 MA's), (78, 19748), (89, 19784), (96, 19802), (100, 19820), (104, 19835), (122, 19931), (132, 19997), (140, 20030), (155, 20099), (161, 20132), (177, 20198), (190, 20270), (191, 20273), (239, 20507), (247, 20540), (262, 20639), (279, 20714), (281, 20738), (285, 20753),

Gene: Plagueis\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for Plagueis\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),

Gene: Pokerus\_24 Start: 19431, Stop: 20513, Start Num: 50

Candidate Starts for Pokerus\_24:

(Start: 50 @19431 has 121 MA's), (89, 19539), (96, 19557), (100, 19575), (139, 19770), (140, 19773), (155, 19842), (171, 19914), (191, 20016), (239, 20250), (251, 20310), (260, 20364), (279, 20457), (285, 20496),

Gene: Prithvi\_25 Start: 19448, Stop: 20530, Start Num: 50

Candidate Starts for Prithvi\_25:

(Start: 50 @19448 has 121 MA's), (89, 19556), (96, 19574), (100, 19592), (139, 19787), (140, 19790), (155, 19859), (171, 19931), (191, 20033), (239, 20267), (251, 20327), (260, 20381), (279, 20474), (285, 20513),

Gene: Psycho\_24 Start: 19805, Stop: 20890, Start Num: 54

Candidate Starts for Psycho\_24:

(36, 19754), (Start: 54 @19805 has 21 MA's), (69, 19841), (73, 19856), (80, 19880), (94, 19919), (110, 20003), (134, 20114), (139, 20138), (140, 20141), (171, 20288), (191, 20393), (225, 20561), (245, 20645), (246, 20657), (264, 20768), (279, 20834),

Gene: QuincyRose\_24 Start: 19494, Stop: 20576, Start Num: 50

Candidate Starts for QuincyRose\_24:

(Start: 50 @19494 has 121 MA's), (89, 19602), (96, 19620), (100, 19638), (139, 19833), (140, 19836), (155, 19905), (171, 19977), (191, 20079), (239, 20313), (251, 20373), (260, 20427), (279, 20520), (285, 20559),

Gene: Rabbs\_20 Start: 18947, Stop: 20083, Start Num: 32

Candidate Starts for Rabbs\_20:

(1, 18476), (7, 18674), (16, 18743), (27, 18902), (Start: 32 @18947 has 65 MA's), (67, 19025), (68, 19028), (72, 19043), (78, 19061), (88, 19094), (94, 19109), (109, 19190), (134, 19304), (136, 19316), (155, 19403), (157, 19424), (161, 19445), (178, 19520), (196, 19598), (222, 19751), (239, 19826), (254, 19898), (259, 19934), (276, 20021), (283, 20066), (284, 20069),

Gene: Ramen\_25 Start: 19480, Stop: 20562, Start Num: 50

Candidate Starts for Ramen\_25:

(Start: 50 @19480 has 121 MA's), (89, 19588), (96, 19606), (100, 19624), (139, 19819), (140, 19822), (155, 19891), (171, 19963), (185, 20038), (191, 20065), (239, 20299), (251, 20359), (260, 20413), (279, 20506), (285, 20545),

Gene: Rando14\_24 Start: 18493, Stop: 19578, Start Num: 54

Candidate Starts for Rando14\_24:

(36, 18442), (Start: 54 @18493 has 21 MA's), (73, 18544), (80, 18568), (94, 18607), (134, 18802), (139, 18826), (140, 18829), (147, 18871), (171, 18976), (191, 19081), (234, 19297), (239, 19315), (245, 19333), (260, 19429), (264, 19456), (279, 19522), (281, 19546),

Gene: Rapunzel97\_25 Start: 19481, Stop: 20563, Start Num: 50

Candidate Starts for Rapunzel97\_25:

(Start: 50 @19481 has 121 MA's), (89, 19589), (96, 19607), (100, 19625), (139, 19820), (140, 19823), (155, 19892), (171, 19964), (191, 20066), (239, 20300), (251, 20360), (260, 20414), (279, 20507), (285, 20546),

Gene: Rem711\_27 Start: 21349, Stop: 22434, Start Num: 61

Candidate Starts for Rem711\_27:

(Start: 61 @21349 has 23 MA's), (79, 21412), (88, 21439), (94, 21454), (97, 21463), (101, 21481), (139, 21667), (148, 21718), (206, 21961), (234, 22129), (236, 22135), (256, 22267), (260, 22288), (271, 22345), (281, 22405), (284, 22417), (286, 22426),

Gene: Remy19\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for Remy19\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),

Gene: Renaissance\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for Renaissance\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),

Gene: Reptar3000\_26 Start: 20663, Stop: 21763, Start Num: 55

Candidate Starts for Reptar3000\_26:

(19, 20417), (22, 20444), (38, 20615), (Start: 55 @20663 has 38 MA's), (96, 20783), (104, 20816), (112, 20867), (132, 20966), (134, 20972), (155, 21068), (161, 21101), (165, 21122), (191, 21242), (195, 21254), (209, 21311), (213, 21344), (239, 21476), (245, 21494), (262, 21608), (264, 21617), (281, 21707), (288, 21743),

Gene: Rosmarinus\_25 Start: 19502, Stop: 20584, Start Num: 50

Candidate Starts for Rosmarinus\_25:

(Start: 50 @19502 has 121 MA's), (89, 19610), (96, 19628), (100, 19646), (139, 19841), (140, 19844), (155, 19913), (171, 19985), (185, 20060), (191, 20087), (239, 20321), (251, 20381), (260, 20435), (279, 20528), (285, 20567),

Gene: Ruthiejr\_25 Start: 20557, Stop: 21654, Start Num: 55

Candidate Starts for Ruthiejr\_25:

(19, 20308), (22, 20335), (38, 20506), (Start: 55 @20557 has 38 MA's), (62, 20569), (96, 20677), (104, 20710), (134, 20866), (140, 20893), (155, 20962), (161, 20995), (186, 21112), (191, 21136), (202, 21178), (209, 21205), (245, 21388), (262, 21502), (264, 21511), (285, 21616),

Gene: Ruthy\_21 Start: 18482, Stop: 19582, Start Num: 57

Candidate Starts for Ruthy\_21:

(14, 18200), (25, 18308), (Start: 57 @18482 has 15 MA's), (89, 18578), (100, 18614), (147, 18857), (148, 18863), (163, 18923), (190, 19040), (208, 19118), (225, 19226), (226, 19229), (234, 19274),

(237, 19286), (242, 19301), (260, 19436), (270, 19487), (271, 19493), (286, 19574),

Gene: SamScheppers\_24 Start: 20464, Stop: 21561, Start Num: 55

Candidate Starts for SamScheppers\_24:

(19, 20215), (22, 20242), (38, 20413), (Start: 55 @20464 has 38 MA's), (62, 20476), (96, 20584), (104, 20617), (112, 20668), (134, 20773), (140, 20800), (155, 20869), (161, 20902), (171, 20941), (186, 21019), (191, 21043), (202, 21085), (209, 21112), (245, 21295), (262, 21409), (264, 21418), (285, 21523),

Gene: SamuelLPlaqson\_25 Start: 19428, Stop: 20510, Start Num: 50

Candidate Starts for SamuelLPlaqson\_25:

(Start: 50 @19428 has 121 MA's), (89, 19536), (96, 19554), (100, 19572), (139, 19767), (140, 19770), (155, 19839), (161, 19872), (171, 19911), (190, 20010), (191, 20013), (209, 20082), (225, 20181), (239, 20247), (241, 20253), (245, 20265), (246, 20277), (281, 20481), (285, 20496),

Gene: Scarlett\_24 Start: 18720, Stop: 19802, Start Num: 50

Candidate Starts for Scarlett\_24:

(Start: 50 @18720 has 121 MA's), (Start: 64 @18741 has 5 MA's), (73, 18777), (80, 18801), (89, 18828), (96, 18846), (104, 18879), (139, 19059), (140, 19062), (155, 19131), (171, 19203), (191, 19305), (225, 19473), (239, 19539), (260, 19653), (264, 19680), (266, 19692), (285, 19785),

Gene: Schiebel\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for Schiebel\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),

Gene: SgtBeansprout\_21 Start: 19023, Stop: 20105, Start Num: 50

Candidate Starts for SgtBeansprout\_21:

(Start: 50 @19023 has 121 MA's), (73, 19080), (89, 19131), (96, 19149), (100, 19167), (110, 19227), (112, 19233), (132, 19332), (139, 19362), (140, 19365), (148, 19413), (159, 19455), (161, 19467), (191, 19608), (195, 19620), (239, 19842), (255, 19917), (262, 19974), (269, 20004), (279, 20049), (285, 20088),

Gene: ShaboiShabazz\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for ShaboiShabazz\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),

Gene: Shadow1\_23 Start: 18520, Stop: 19602, Start Num: 50

Candidate Starts for Shadow1\_23:

(Start: 50 @18520 has 121 MA's), (59, 18535), (78, 18592), (89, 18628), (96, 18646), (132, 18829), (139, 18859), (140, 18862), (155, 18931), (171, 19003), (173, 19012), (191, 19105), (197, 19126), (199, 19132), (239, 19339), (264, 19480), (279, 19546), (281, 19570), (285, 19585),

Gene: Shaobing\_25 Start: 18838, Stop: 19920, Start Num: 50

Candidate Starts for Shaobing\_25:

(Start: 50 @18838 has 121 MA's), (89, 18946), (96, 18964), (100, 18982), (132, 19147), (139, 19177), (140, 19180), (148, 19228), (161, 19282), (195, 19435), (222, 19582), (239, 19657), (255, 19732), (279, 19864), (281, 19888), (285, 19903),

Gene: ShedlockHolmes\_24 Start: 19891, Stop: 20979, Start Num: 55

Candidate Starts for ShedlockHolmes\_24:

(Start: 55 @19891 has 38 MA's), (62, 19903), (Start: 64 @19906 has 5 MA's), (78, 19957), (89, 19993), (96, 20011), (100, 20029), (104, 20044), (122, 20140), (132, 20206), (134, 20212), (140, 20239), (155, 20308), (161, 20341), (173, 20389), (177, 20407), (190, 20479), (191, 20482), (239, 20716), (247, 20749), (262, 20848), (279, 20923), (281, 20947), (285, 20962),

Gene: ShiaSurprise\_25 Start: 19514, Stop: 20596, Start Num: 50

Candidate Starts for ShiaSurprise\_25:

(Start: 50 @19514 has 121 MA's), (89, 19622), (96, 19640), (100, 19658), (139, 19853), (140, 19856), (155, 19925), (171, 19997), (185, 20072), (191, 20099), (239, 20333), (251, 20393), (260, 20447), (279, 20540), (285, 20579),

Gene: SirPhilip\_24 Start: 18337, Stop: 19440, Start Num: 50

Candidate Starts for SirPhilip\_24:

(Start: 50 @18337 has 121 MA's), (73, 18394), (80, 18418), (89, 18445), (96, 18463), (140, 18679), (155, 18748), (166, 18805), (191, 18922), (197, 18964), (199, 18970), (239, 19177), (246, 19207), (281, 19408), (285, 19423),

Gene: Sizemore\_20 Start: 18862, Stop: 19998, Start Num: 32

Candidate Starts for Sizemore\_20:

(16, 18658), (27, 18817), (Start: 32 @18862 has 65 MA's), (67, 18940), (68, 18943), (69, 18946), (72, 18958), (78, 18976), (88, 19009), (94, 19024), (109, 19105), (134, 19219), (136, 19231), (155, 19318), (157, 19339), (178, 19435), (196, 19513), (222, 19666), (245, 19759), (259, 19849), (269, 19903), (273, 19918), (274, 19921), (276, 19936), (283, 19981), (284, 19984),

Gene: Slarp\_26 Start: 20936, Stop: 22033, Start Num: 55

Candidate Starts for Slarp\_26:

(19, 20687), (22, 20714), (38, 20885), (Start: 55 @20936 has 38 MA's), (62, 20948), (96, 21056), (104, 21089), (134, 21245), (140, 21272), (155, 21341), (161, 21374), (171, 21413), (186, 21491), (191, 21515), (202, 21557), (209, 21584), (245, 21767), (262, 21881), (264, 21890), (285, 21995),

Gene: Slimphazie\_25 Start: 19481, Stop: 20563, Start Num: 50

Candidate Starts for Slimphazie\_25:

(Start: 50 @19481 has 121 MA's), (89, 19589), (96, 19607), (100, 19625), (139, 19820), (140, 19823), (155, 19892), (171, 19964), (191, 20066), (239, 20300), (251, 20360), (260, 20414), (279, 20507), (285, 20546),

Gene: Smoothie\_57 Start: 34742, Stop: 35824, Start Num: 58

Candidate Starts for Smoothie\_57:

(Start: 58 @34742 has 21 MA's), (71, 34781), (78, 34802), (114, 34949), (133, 35039), (140, 35069), (152, 35129), (166, 35198), (215, 35435), (219, 35453), (225, 35486), (236, 35528), (253, 35621), (259, 35666), (272, 35741), (273, 35744), (282, 35804), (283, 35807),

Gene: Sneeze\_20 Start: 18946, Stop: 20082, Start Num: 32

Candidate Starts for Sneeze\_20:

(1, 18475), (7, 18673), (16, 18742), (27, 18901), (Start: 32 @18946 has 65 MA's), (67, 19024), (68, 19027), (72, 19042), (78, 19060), (88, 19093), (94, 19108), (109, 19189), (134, 19303), (136, 19315), (155, 19402), (157, 19423), (161, 19444), (178, 19519), (196, 19597), (222, 19750), (239, 19825), (254, 19897), (259, 19933), (276, 20020), (283, 20065), (284, 20068),

Gene: SoSeph\_23 Start: 19922, Stop: 21007, Start Num: 54



Candidate Starts for SoSeph\_23:

(36, 19871), (Start: 54 @19922 has 21 MA's), (69, 19958), (73, 19973), (80, 19997), (94, 20036), (110, 20120), (134, 20231), (139, 20255), (140, 20258), (171, 20405), (191, 20510), (239, 20744), (245, 20762), (260, 20858), (264, 20885), (279, 20951),

Gene: SpeedDemon\_380 Start: 33688, Stop: 34761, Start Num: 58

Candidate Starts for SpeedDemon\_380:

(Start: 58 @33688 has 21 MA's), (71, 33727), (97, 33799), (103, 33823), (114, 33892), (140, 34012), (152, 34072), (154, 34081), (155, 34084), (161, 34117), (181, 34210), (205, 34306), (262, 34624),

Gene: Spock\_25 Start: 19514, Stop: 20596, Start Num: 50

Candidate Starts for Spock\_25:

(Start: 50 @19514 has 121 MA's), (89, 19622), (96, 19640), (100, 19658), (139, 19853), (140, 19856), (155, 19925), (171, 19997), (185, 20072), (191, 20099), (239, 20333), (251, 20393), (260, 20447), (279, 20540), (285, 20579),

Gene: Stargaze\_20 Start: 19298, Stop: 20440, Start Num: 32

Candidate Starts for Stargaze\_20:

(Start: 32 @19298 has 65 MA's), (67, 19382), (72, 19400), (88, 19451), (94, 19466), (109, 19547), (136, 19673), (155, 19760), (161, 19802), (178, 19877), (180, 19886), (192, 19946), (201, 19988), (250, 20240), (259, 20291), (274, 20363), (285, 20429),

Gene: Stinson\_25 Start: 19449, Stop: 20531, Start Num: 50

Candidate Starts for Stinson\_25:

(Start: 50 @19449 has 121 MA's), (89, 19557), (96, 19575), (100, 19593), (139, 19788), (140, 19791), (155, 19860), (161, 19893), (171, 19932), (191, 20034), (219, 20169), (239, 20268), (245, 20286), (251, 20328), (260, 20382),

Gene: Strobilo\_21 Start: 17342, Stop: 18418, Start Num: 55

Candidate Starts for Strobilo\_21:

(26, 17201), (Start: 55 @17342 has 38 MA's), (80, 17417), (89, 17444), (94, 17456), (96, 17462), (104, 17495), (140, 17678), (148, 17726), (155, 17747), (191, 17921), (199, 17948), (209, 17990), (213, 18023), (255, 18230), (260, 18269),

Gene: Sulley\_25 Start: 19447, Stop: 20529, Start Num: 50

Candidate Starts for Sulley\_25:

(Start: 50 @19447 has 121 MA's), (89, 19555), (96, 19573), (100, 19591), (139, 19786), (140, 19789), (155, 19858), (171, 19930), (185, 20005), (191, 20032), (232, 20233), (239, 20266), (251, 20326), (260, 20380), (279, 20473), (285, 20512),

Gene: Sunflower1121\_23 Start: 18532, Stop: 19614, Start Num: 50

Candidate Starts for Sunflower1121\_23:

(Start: 50 @18532 has 121 MA's), (59, 18547), (78, 18604), (89, 18640), (96, 18658), (132, 18841), (139, 18871), (140, 18874), (155, 18943), (171, 19015), (173, 19024), (191, 19117), (197, 19138), (199, 19144), (239, 19351), (264, 19492), (279, 19558), (281, 19582), (285, 19597),

Gene: Sweets\_20 Start: 18856, Stop: 19992, Start Num: 32

Candidate Starts for Sweets\_20:

(16, 18652), (27, 18811), (Start: 32 @18856 has 65 MA's), (67, 18934), (68, 18937), (69, 18940), (72, 18952), (78, 18970), (88, 19003), (94, 19018), (109, 19099), (134, 19213), (136, 19225), (155, 19312), (157, 19333), (178, 19429), (196, 19507), (222, 19660), (245, 19753), (259, 19843), (269, 19897), (273, 19912), (274, 19915), (276, 19930), (283, 19975), (284, 19978),

Gene: Syra333\_24 Start: 18627, Stop: 19709, Start Num: 50

Candidate Starts for Syra333\_24:

(Start: 50 @18627 has 121 MA's), (59, 18642), (78, 18699), (89, 18735), (96, 18753), (132, 18936), (137, 18954), (139, 18966), (140, 18969), (155, 19038), (171, 19110), (191, 19212), (197, 19233), (199, 19239), (239, 19446), (279, 19653), (281, 19677), (285, 19692),

Gene: TBond007\_24 Start: 19681, Stop: 20769, Start Num: 55

Candidate Starts for TBond007\_24:

(Start: 55 @19681 has 38 MA's), (62, 19693), (Start: 64 @19696 has 5 MA's), (78, 19747), (89, 19783), (96, 19801), (100, 19819), (104, 19834), (122, 19930), (132, 19996), (140, 20029), (155, 20098), (161, 20131), (177, 20197), (190, 20269), (191, 20272), (239, 20506), (247, 20539), (262, 20638), (279, 20713), (281, 20737), (285, 20752),

Gene: TClif\_25 Start: 18685, Stop: 19767, Start Num: 52

Candidate Starts for TClif\_25:

(52, 18685), (69, 18727), (89, 18793), (96, 18811), (132, 18994), (139, 19024), (140, 19027), (155, 19096), (161, 19129), (199, 19297), (239, 19504), (259, 19612), (279, 19711),

Gene: TM4\_21 Start: 17408, Stop: 18484, Start Num: 55

Candidate Starts for TM4\_21:

(26, 17267), (43, 17366), (Start: 55 @17408 has 38 MA's), (80, 17483), (89, 17510), (94, 17522), (96, 17528), (104, 17561), (121, 17654), (140, 17744), (155, 17813), (161, 17846), (191, 17987), (199, 18014), (209, 18056), (239, 18221), (260, 18335), (262, 18353), (264, 18362),

Gene: TPA4\_22 Start: 20165, Stop: 21250, Start Num: 56

Candidate Starts for TPA4\_22:

(45, 20129), (Start: 56 @20165 has 4 MA's), (72, 20210), (73, 20213), (77, 20225), (79, 20234), (88, 20261), (100, 20300), (101, 20303), (103, 20309), (105, 20318), (107, 20345), (110, 20360), (139, 20498), (162, 20591), (168, 20618), (204, 20792), (207, 20801), (208, 20804), (214, 20861), (222, 20906), (248, 21029), (271, 21155), (277, 21185),

Gene: Tachez\_25 Start: 19443, Stop: 20525, Start Num: 50

Candidate Starts for Tachez\_25:

(Start: 50 @19443 has 121 MA's), (89, 19551), (96, 19569), (100, 19587), (139, 19782), (140, 19785), (155, 19854), (171, 19926), (191, 20028), (239, 20262), (251, 20322), (260, 20376), (279, 20469), (285, 20508),

Gene: Taheera\_20 Start: 18956, Stop: 20092, Start Num: 32

Candidate Starts for Taheera\_20:

(27, 18911), (Start: 32 @18956 has 65 MA's), (67, 19034), (68, 19037), (72, 19052), (78, 19070), (88, 19103), (94, 19118), (109, 19199), (134, 19313), (136, 19325), (155, 19412), (157, 19433), (161, 19454), (178, 19529), (196, 19607), (222, 19760), (239, 19835), (254, 19907), (259, 19943), (276, 20030), (283, 20075), (284, 20078),

Gene: TaiwanKao\_26 Start: 19454, Stop: 20536, Start Num: 50

Candidate Starts for TaiwanKao\_26:

(Start: 50 @19454 has 121 MA's), (89, 19562), (96, 19580), (139, 19793), (140, 19796), (155, 19865), (171, 19937), (191, 20039), (239, 20273), (251, 20333), (260, 20387), (279, 20480), (285, 20519),

Gene: Taquito\_24 Start: 20545, Stop: 21642, Start Num: 55

Candidate Starts for Taquito\_24:

(19, 20296), (22, 20323), (38, 20494), (Start: 55 @20545 has 38 MA's), (62, 20557), (96, 20665), (104, 20698), (112, 20749), (134, 20854), (140, 20881), (155, 20950), (161, 20983), (171, 21022), (186,

21100), (191, 21124), (202, 21166), (209, 21193), (245, 21376), (262, 21490), (264, 21499), (285, 21604),

Gene: Terror\_20 Start: 18956, Stop: 20092, Start Num: 32

Candidate Starts for Terror\_20:

(27, 18911), (Start: 32 @18956 has 65 MA's), (67, 19034), (68, 19037), (72, 19052), (78, 19070), (88, 19103), (94, 19118), (109, 19199), (134, 19313), (136, 19325), (155, 19412), (157, 19433), (161, 19454), (178, 19529), (196, 19607), (222, 19760), (239, 19835), (254, 19907), (259, 19943), (276, 20030), (283, 20075), (284, 20078),

Gene: Thyatira\_23 Start: 19774, Stop: 20859, Start Num: 54

Candidate Starts for Thyatira\_23:

(36, 19723), (Start: 54 @19774 has 21 MA's), (69, 19810), (73, 19825), (80, 19849), (94, 19888), (110, 19972), (134, 20083), (139, 20107), (140, 20110), (171, 20257), (191, 20362), (239, 20596), (245, 20614), (260, 20710), (264, 20737), (279, 20803), (281, 20827),

Gene: Tierra\_24 Start: 19346, Stop: 20449, Start Num: 50

Candidate Starts for Tierra\_24:

(Start: 50 @19346 has 121 MA's), (59, 19361), (78, 19418), (89, 19454), (96, 19472), (132, 19655), (139, 19685), (155, 19757), (173, 19838), (191, 19931), (199, 19979), (202, 19994), (209, 20021), (239, 20186), (279, 20393), (281, 20417), (285, 20432),

Gene: TiniBug\_25 Start: 19425, Stop: 20507, Start Num: 50

Candidate Starts for TiniBug\_25:

(Start: 50 @19425 has 121 MA's), (89, 19533), (96, 19551), (100, 19569), (131, 19731), (139, 19764), (140, 19767), (155, 19836), (161, 19869), (171, 19908), (190, 20007), (191, 20010), (209, 20079), (225, 20178), (239, 20244), (241, 20250), (245, 20262), (246, 20274), (281, 20478), (285, 20493),

Gene: Tiri\_25 Start: 19486, Stop: 20568, Start Num: 50

Candidate Starts for Tiri\_25:

(Start: 50 @19486 has 121 MA's), (89, 19594), (96, 19612), (100, 19630), (139, 19825), (140, 19828), (155, 19897), (191, 20071), (239, 20305), (251, 20365), (260, 20419), (279, 20512), (285, 20551),

Gene: TomBrady\_20 Start: 18862, Stop: 19998, Start Num: 32

Candidate Starts for TomBrady\_20:

(16, 18658), (27, 18817), (Start: 32 @18862 has 65 MA's), (67, 18940), (68, 18943), (69, 18946), (72, 18958), (78, 18976), (88, 19009), (94, 19024), (109, 19105), (134, 19219), (136, 19231), (155, 19318), (157, 19339), (178, 19435), (196, 19513), (222, 19666), (245, 19759), (259, 19849), (269, 19903), (273, 19918), (274, 19921), (276, 19936), (283, 19981), (284, 19984),

Gene: Toniann\_55 Start: 34229, Stop: 35311, Start Num: 58

Candidate Starts for Toniann\_55:

(Start: 58 @34229 has 21 MA's), (71, 34268), (78, 34289), (114, 34436), (133, 34526), (140, 34556), (152, 34616), (166, 34685), (215, 34922), (219, 34940), (225, 34973), (236, 35015), (253, 35108), (259, 35153), (272, 35228), (273, 35231), (282, 35291), (283, 35294),

Gene: Topper\_25 Start: 19514, Stop: 20596, Start Num: 50

Candidate Starts for Topper\_25:

(Start: 50 @19514 has 121 MA's), (89, 19622), (96, 19640), (100, 19658), (139, 19853), (140, 19856), (155, 19925), (171, 19997), (185, 20072), (191, 20099), (239, 20333), (251, 20393), (260, 20447), (279, 20540), (285, 20579),

Gene: TreyKay\_25 Start: 19448, Stop: 20530, Start Num: 50

Candidate Starts for TreyKay\_25:

(Start: 50 @19448 has 121 MA's), (89, 19556), (96, 19574), (100, 19592), (139, 19787), (140, 19790), (155, 19859), (171, 19931), (191, 20033), (239, 20267), (251, 20327), (260, 20381), (279, 20474), (285, 20513),

Gene: TribelTrouble\_23 Start: 19718, Stop: 20806, Start Num: 55

Candidate Starts for TribelTrouble\_23:

(Start: 55 @19718 has 38 MA's), (62, 19730), (Start: 64 @19733 has 5 MA's), (78, 19784), (81, 19796), (89, 19820), (96, 19838), (100, 19856), (104, 19871), (110, 19916), (122, 19967), (132, 20033), (140, 20066), (155, 20135), (177, 20234), (190, 20306), (191, 20309), (239, 20543), (262, 20675), (279, 20750), (281, 20774), (285, 20789),

Gene: TruffulaTree\_25 Start: 19477, Stop: 20559, Start Num: 50

Candidate Starts for TruffulaTree\_25:

(Start: 50 @19477 has 121 MA's), (89, 19585), (96, 19603), (100, 19621), (139, 19816), (140, 19819), (155, 19888), (171, 19960), (185, 20035), (191, 20062), (239, 20296), (251, 20356), (260, 20410), (279, 20503), (285, 20542),

Gene: Twitch\_25 Start: 19514, Stop: 20596, Start Num: 50

Candidate Starts for Twitch\_25:

(Start: 50 @19514 has 121 MA's), (89, 19622), (96, 19640), (100, 19658), (139, 19853), (140, 19856), (155, 19925), (171, 19997), (185, 20072), (191, 20099), (239, 20333), (251, 20393), (260, 20447), (279, 20540), (285, 20579),

Gene: Typha\_26 Start: 21990, Stop: 23429, Start Num: 5

Candidate Starts for Typha\_26:

(Start: 5 @21990 has 4 MA's), (8, 22011), (10, 22029), (11, 22032), (12, 22047), (17, 22077), (21, 22116), (23, 22143), (24, 22149), (35, 22287), (63, 22356), (72, 22389), (99, 22473), (100, 22479), (126, 22608), (127, 22614), (130, 22629), (139, 22677), (141, 22683), (142, 22686), (149, 22734), (161, 22773), (164, 22791), (174, 22824), (182, 22875), (189, 22908), (201, 22968), (205, 22980), (209, 22998), (225, 23097), (239, 23163), (260, 23277), (263, 23301), (264, 23304), (277, 23373), (284, 23415),

Gene: Ubuntu\_24 Start: 19750, Stop: 20853, Start Num: 61

Candidate Starts for Ubuntu\_24:

(18, 19483), (Start: 61 @19750 has 23 MA's), (94, 19855), (96, 19861), (97, 19864), (100, 19879), (101, 19882), (102, 19885), (103, 19888), (105, 19897), (120, 19981), (124, 19996), (134, 20047), (147, 20116), (148, 20122), (153, 20134), (155, 20143), (171, 20215), (182, 20278), (190, 20308), (191, 20311), (210, 20407), (215, 20446), (218, 20461), (237, 20560), (240, 20569), (252, 20641), (262, 20725), (270, 20758), (271, 20764), (286, 20845),

Gene: Unicorn\_24 Start: 18672, Stop: 19775, Start Num: 50

Candidate Starts for Unicorn\_24:

(Start: 50 @18672 has 121 MA's), (59, 18687), (78, 18744), (89, 18780), (96, 18798), (132, 18981), (139, 19011), (155, 19083), (191, 19257), (199, 19305), (202, 19320), (239, 19512), (259, 19620), (279, 19719), (281, 19743), (285, 19758),

Gene: Urkel\_25 Start: 19428, Stop: 20510, Start Num: 50

Candidate Starts for Urkel\_25:

(Start: 50 @19428 has 121 MA's), (89, 19536), (96, 19554), (100, 19572), (139, 19767), (140, 19770), (155, 19839), (161, 19872), (171, 19911), (190, 20010), (191, 20013), (209, 20082), (225, 20181), (239, 20247), (241, 20253), (245, 20265), (246, 20277), (281, 20481), (285, 20496),

Gene: Validus\_25 Start: 18769, Stop: 19851, Start Num: 50

Candidate Starts for Validus\_25:

(Start: 50 @18769 has 121 MA's), (89, 18877), (96, 18895), (132, 19078), (139, 19108), (140, 19111), (148, 19159), (162, 19216), (191, 19354), (195, 19366), (226, 19525), (239, 19588), (255, 19663), (269, 19750), (279, 19795), (285, 19834),

Gene: Veliki\_25 Start: 19517, Stop: 20599, Start Num: 50

Candidate Starts for Veliki\_25:

(Start: 50 @19517 has 121 MA's), (89, 19625), (96, 19643), (100, 19661), (139, 19856), (140, 19859), (155, 19928), (171, 20000), (191, 20102), (239, 20336), (251, 20396), (260, 20450), (279, 20543), (285, 20582),

Gene: Vordorf\_28 Start: 22926, Stop: 23990, Start Num: 64

Candidate Starts for Vordorf\_28:

(Start: 64 @22926 has 5 MA's), (72, 22959), (78, 22977), (90, 23016), (92, 23019), (101, 23055), (103, 23061), (104, 23067), (161, 23355), (171, 23394), (186, 23475), (187, 23481), (200, 23529), (205, 23547), (217, 23622), (227, 23673), (238, 23718), (239, 23721), (264, 23868), (271, 23898), (282, 23964), (287, 23982),

Gene: Waterfoul\_23 Start: 19795, Stop: 20880, Start Num: 54

Candidate Starts for Waterfoul\_23:

(36, 19744), (Start: 54 @19795 has 21 MA's), (69, 19831), (73, 19846), (80, 19870), (94, 19909), (110, 19993), (134, 20104), (139, 20128), (140, 20131), (171, 20278), (191, 20383), (239, 20617), (245, 20635), (260, 20731), (264, 20758), (279, 20824), (281, 20848),

Gene: Webster2\_24 Start: 19750, Stop: 20853, Start Num: 61

Candidate Starts for Webster2\_24:

(18, 19483), (Start: 61 @19750 has 23 MA's), (94, 19855), (96, 19861), (97, 19864), (100, 19879), (101, 19882), (102, 19885), (103, 19888), (105, 19897), (120, 19981), (124, 19996), (134, 20047), (147, 20116), (148, 20122), (153, 20134), (155, 20143), (171, 20215), (182, 20278), (190, 20308), (191, 20311), (210, 20407), (215, 20446), (218, 20461), (237, 20560), (240, 20569), (252, 20641), (262, 20725), (270, 20758), (271, 20764), (286, 20845),

Gene: WeirDo19\_21 Start: 18379, Stop: 19518, Start Num: 51

Candidate Starts for WeirDo19\_21:

(2, 17932), (4, 17980), (20, 18148), (30, 18304), (41, 18346), (Start: 51 @18379 has 1 MA's), (59, 18394), (62, 18400), (75, 18445), (97, 18511), (102, 18532), (161, 18841), (172, 18886), (179, 18925), (182, 18943), (195, 18988), (208, 19051), (209, 19060), (236, 19219), (237, 19225), (260, 19372), (264, 19399), (268, 19417), (271, 19429), (286, 19510),

Gene: WheatThin\_24 Start: 19505, Stop: 20605, Start Num: 57

Candidate Starts for WheatThin\_24:

(Start: 57 @19505 has 15 MA's), (75, 19556), (100, 19637), (143, 19850), (148, 19886), (175, 19994), (196, 20081), (219, 20216), (226, 20252), (227, 20261), (234, 20297), (247, 20363), (253, 20408), (260, 20459), (264, 20486), (267, 20504), (282, 20582), (286, 20597),

Gene: WilliamBoone\_55 Start: 33575, Stop: 34657, Start Num: 58

Candidate Starts for WilliamBoone\_55:

(Start: 58 @33575 has 21 MA's), (71, 33614), (102, 33710), (114, 33782), (133, 33872), (212, 34244), (225, 34319), (236, 34361), (253, 34454), (263, 34529), (283, 34640),

Gene: Wintermute\_26 Start: 20925, Stop: 22022, Start Num: 55

Candidate Starts for Wintermute\_26:

(19, 20676), (22, 20703), (38, 20874), (Start: 55 @20925 has 38 MA's), (62, 20937), (96, 21045), (104, 21078), (134, 21234), (140, 21261), (155, 21330), (161, 21363), (186, 21480), (191, 21504), (202, 21546), (209, 21573), (245, 21756), (262, 21870), (264, 21879), (285, 21984),

Gene: Wishmaker\_24 Start: 19750, Stop: 20853, Start Num: 61

Candidate Starts for Wishmaker\_24:

(18, 19483), (Start: 61 @19750 has 23 MA's), (94, 19855), (96, 19861), (97, 19864), (100, 19879), (101, 19882), (102, 19885), (103, 19888), (105, 19897), (120, 19981), (124, 19996), (134, 20047), (147, 20116), (148, 20122), (153, 20134), (155, 20143), (171, 20215), (182, 20278), (190, 20308), (191, 20311), (210, 20407), (215, 20446), (218, 20461), (237, 20560), (240, 20569), (252, 20641), (262, 20725), (270, 20758), (271, 20764), (286, 20845),

Gene: Ximenita\_25 Start: 18805, Stop: 19887, Start Num: 50

Candidate Starts for Ximenita\_25:

(Start: 50 @18805 has 121 MA's), (59, 18820), (78, 18877), (89, 18913), (96, 18931), (132, 19114), (139, 19144), (140, 19147), (155, 19216), (191, 19390), (197, 19411), (199, 19417), (239, 19624), (279, 19831), (281, 19855), (285, 19870),

Gene: Y10\_26 Start: 20925, Stop: 22022, Start Num: 55

Candidate Starts for Y10\_26:

(19, 20676), (22, 20703), (38, 20874), (Start: 55 @20925 has 38 MA's), (62, 20937), (96, 21045), (104, 21078), (134, 21234), (140, 21261), (155, 21330), (161, 21363), (186, 21480), (191, 21504), (202, 21546), (209, 21573), (245, 21756), (262, 21870), (264, 21879), (285, 21984),

Gene: Y2\_26 Start: 20925, Stop: 22022, Start Num: 55

Candidate Starts for Y2\_26:

(19, 20676), (22, 20703), (38, 20874), (Start: 55 @20925 has 38 MA's), (62, 20937), (96, 21045), (104, 21078), (134, 21234), (140, 21261), (155, 21330), (161, 21363), (186, 21480), (191, 21504), (202, 21546), (209, 21573), (245, 21756), (262, 21870), (264, 21879), (285, 21984),

Gene: YoureAdopted\_24 Start: 19450, Stop: 20532, Start Num: 50

Candidate Starts for YoureAdopted\_24:

(Start: 50 @19450 has 121 MA's), (89, 19558), (96, 19576), (100, 19594), (139, 19789), (140, 19792), (155, 19861), (171, 19933), (191, 20035), (239, 20269), (251, 20329), (260, 20383), (279, 20476), (285, 20515),

Gene: Yuna\_26 Start: 19410, Stop: 20495, Start Num: 50

Candidate Starts for Yuna\_26:

(Start: 50 @19410 has 121 MA's), (Start: 56 @19422 has 4 MA's), (73, 19470), (78, 19485), (89, 19521), (96, 19539), (100, 19557), (132, 19722), (139, 19752), (140, 19755), (155, 19824), (159, 19845), (162, 19860), (199, 20025), (225, 20166), (239, 20232), (255, 20307), (259, 20340), (269, 20394), (285, 20478),

Gene: Yunkel11\_25 Start: 18700, Stop: 19782, Start Num: 50

Candidate Starts for Yunkel11\_25:

(Start: 50 @18700 has 121 MA's), (89, 18808), (96, 18826), (139, 19039), (140, 19042), (155, 19111), (171, 19183), (191, 19285), (239, 19519), (251, 19579), (260, 19633), (279, 19726), (285, 19765),

Gene: Yvonnetastic\_52 Start: 35837, Stop: 36913, Start Num: 58

Candidate Starts for Yvonnetastic\_52:

(Start: 58 @35837 has 21 MA's), (87, 35927), (103, 35975), (114, 36044), (144, 36185), (155, 36236), (160, 36260), (189, 36407), (211, 36494), (229, 36599), (239, 36635), (255, 36725), (281, 36890),

Gene: Zabiza\_26 Start: 19481, Stop: 20563, Start Num: 50

Candidate Starts for Zabiza\_26:

(Start: 50 @19481 has 121 MA's), (89, 19589), (96, 19607), (100, 19625), (139, 19820), (140, 19823), (155, 19892), (171, 19964), (191, 20066), (239, 20300), (251, 20360), (260, 20414), (279, 20507), (285, 20546),

Gene: Zavala\_25 Start: 19456, Stop: 20538, Start Num: 50

Candidate Starts for Zavala\_25:

(Start: 50 @19456 has 121 MA's), (89, 19564), (96, 19582), (100, 19600), (139, 19795), (140, 19798), (155, 19867), (171, 19939), (185, 20014), (191, 20041), (239, 20275), (251, 20335), (260, 20389), (279, 20482), (285, 20521),

Gene: ZoMa\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for ZoMa\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),

Gene: ZoeJ\_21 Start: 17280, Stop: 18359, Start Num: 55

Candidate Starts for ZoeJ\_21:

(26, 17139), (Start: 55 @17280 has 38 MA's), (80, 17355), (89, 17382), (96, 17400), (104, 17433), (140, 17616), (155, 17685), (161, 17718), (191, 17859), (199, 17886), (209, 17928), (213, 17961), (239, 18093), (255, 18168), (260, 18207), (264, 18234),

Gene: Zombie\_20 Start: 18861, Stop: 19997, Start Num: 32

Candidate Starts for Zombie\_20:

(16, 18657), (27, 18816), (Start: 32 @18861 has 65 MA's), (67, 18939), (68, 18942), (69, 18945), (72, 18957), (78, 18975), (88, 19008), (94, 19023), (109, 19104), (134, 19218), (136, 19230), (155, 19317), (157, 19338), (178, 19434), (196, 19512), (222, 19665), (245, 19758), (259, 19848), (269, 19902), (273, 19917), (274, 19920), (276, 19935), (283, 19980), (284, 19983),