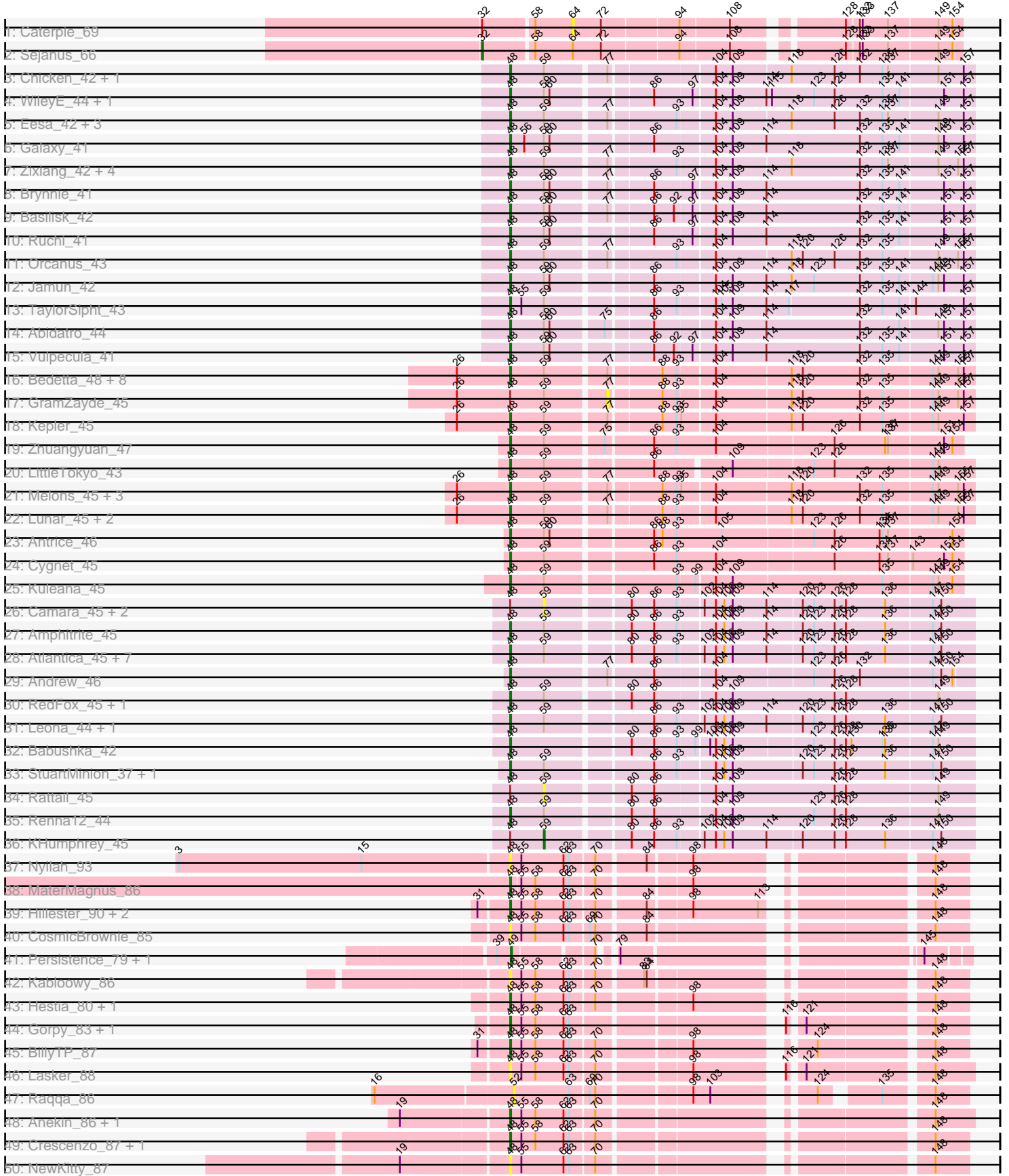
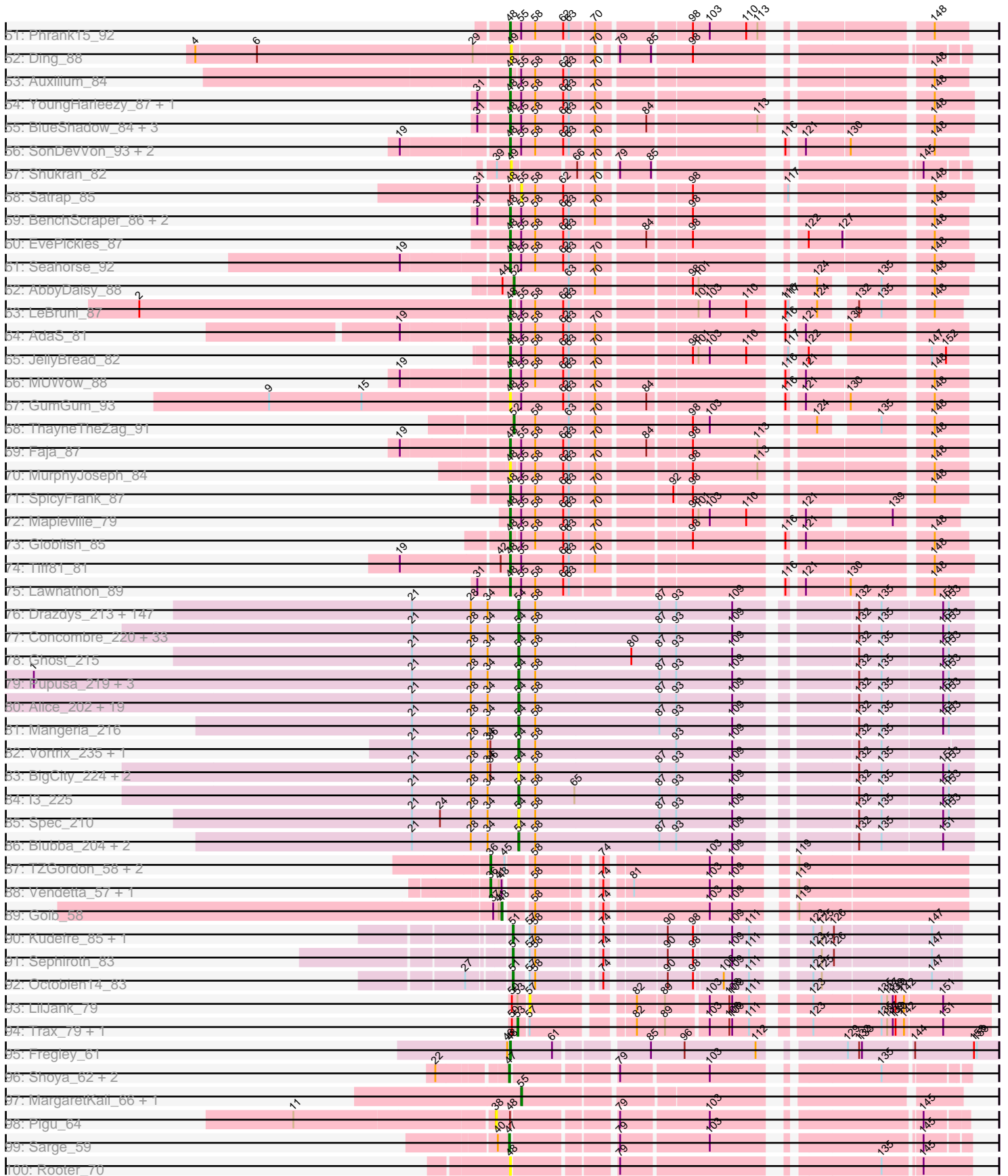


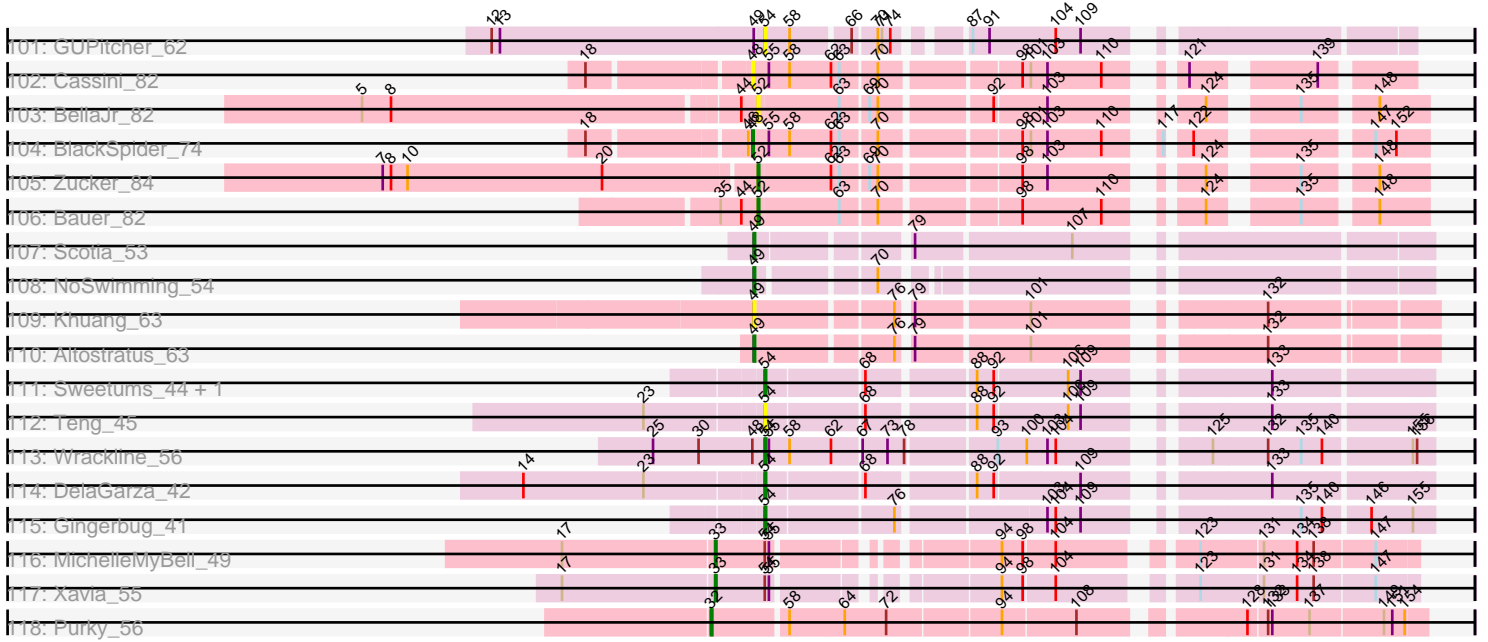
Pham 306023



Pham 306023



Pham 306023



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 306023 Report

This analysis was run 06/20/26 on database version 651.

Pham number 306023 has 383 members, 80 are drafts.

Phages represented in each track:

- Track 1 : Caterpie\_69
- Track 2 : Sejanus\_66
- Track 3 : Chicken\_42, Niblet\_42
- Track 4 : WileyE\_44, Chickaboom\_44
- Track 5 : Eesa\_42, Westrich\_51, Pelletreau\_52, Gravel\_52
- Track 6 : Galaxy\_41
- Track 7 : Zixiang\_42, Amanises\_45, KendraB23\_53, Toad24\_45, Shen\_42
- Track 8 : Brynnie\_41
- Track 9 : Basilisk\_42
- Track 10 : Ruchi\_41
- Track 11 : Orcanus\_43
- Track 12 : Jamun\_42
- Track 13 : TaylorSipht\_43
- Track 14 : Abidatro\_44
- Track 15 : Vulpecula\_41
- Track 16 : Bedetta\_48, Damocles\_47, Amelia\_43, Cote\_45, Bibble12\_47, Colusalem\_44, HannahPhantana\_44, Pineda\_45, Jerole\_44
- Track 17 : GramZayde\_45
- Track 18 : Kepler\_45
- Track 19 : Zhuangyuan\_47
- Track 20 : LittleTokyo\_43
- Track 21 : Melons\_45, Polka\_43, Coral\_43, OtsoOtso\_44
- Track 22 : Lunar\_45, PhirstandPhine\_52, Daob\_45
- Track 23 : Antrice\_46
- Track 24 : Cygnet\_45
- Track 25 : Kuleana\_45
- Track 26 : Camara\_45, Laphuphu24k\_44, Oppalora\_44
- Track 27 : Amphitrite\_45
- Track 28 : Atlantica\_45, AdoptaAdorbs\_44, HamCheese\_45, Glotell\_46, DanHam62\_45, AmiCi24\_44, Juno112\_44, Fingolfin\_45
- Track 29 : Andrew\_46
- Track 30 : RedFox\_45, PhluffyCoco\_45
- Track 31 : Leona\_44, Azaz\_45
- Track 32 : Babushka\_42
- Track 33 : StuartMinion\_37, AlexMinion\_47
- Track 34 : Rattail\_45
- Track 35 : Renna12\_44

- Track 36 : KHumphrey\_45
- Track 37 : Nyilah\_93
- Track 38 : MaterMagnus\_86
- Track 39 : Hillester\_90, RadFad\_91, BasketStar\_86
- Track 40 : CosmicBrownie\_85
- Track 41 : Persistence\_79, JakeTheSnake\_89
- Track 42 : Kabloowy\_86
- Track 43 : Hestia\_80, Bhageatrice\_90
- Track 44 : Gorpy\_83, Sakai\_82
- Track 45 : BillyTP\_87
- Track 46 : Lasker\_88
- Track 47 : Raqqa\_86
- Track 48 : Anekin\_86, Aikyam\_84
- Track 49 : Crescenzo\_87, DarwinJr\_89
- Track 50 : NewKitty\_87
- Track 51 : Phrank15\_92
- Track 52 : Ding\_88
- Track 53 : Auxilium\_84
- Track 54 : YoungHarleezy\_87, Isolde\_87
- Track 55 : BlueShadow\_84, Raphaella\_86, Vopal\_87, MidnightRain\_92
- Track 56 : SonDevVon\_93, Sporco\_87, CookieBear\_84
- Track 57 : Shukran\_82
- Track 58 : Satrap\_85
- Track 59 : BenchScraper\_86, Richie\_89, Windest\_90
- Track 60 : EvePickles\_87
- Track 61 : Seahorse\_92
- Track 62 : AbbyDaisy\_88
- Track 63 : LeBruni\_87
- Track 64 : AdaS\_81
- Track 65 : JellyBread\_82
- Track 66 : MUWow\_88
- Track 67 : GumGum\_93
- Track 68 : ThayneTheZag\_91
- Track 69 : Faja\_87
- Track 70 : MurphyJoseph\_84
- Track 71 : SpicyFrank\_87
- Track 72 : Mapleville\_79
- Track 73 : Globfish\_85
- Track 74 : Tiff81\_81
- Track 75 : Lawnathon\_89
- Track 76 : Drazdys\_213, BobaPhatt\_207, SVoro\_211, Bipolarisk\_213, Koguma\_214, CharlieB\_209, Jessibeth14\_215, Ewok\_214, Naval22\_222, Patter\_216, MoMoMixon\_213, Breeniome\_214, SoilZilla\_210, Astraea\_209, InigoMontoya\_218, Fixie\_215, Lukilu\_206, Latch\_215, Shrimp\_217, Burrough\_217, Cleatunium\_208, Grungle\_199, Jedediah\_215, LookingGlass\_214, Bowman\_213, Halldule\_208, Teardrop\_212, MikeLiesIn\_217, Tortoise16\_213, Morizzled23\_212, Asterius\_217, Pleione\_219, Adlitam\_214, Guwapp\_210, Littleton\_218, Gabriel\_218, Salacia\_215, Kamryn\_214, Janiyra\_218, Fongie\_216, Tyke\_213, Audrick\_217, FudgeTart\_210, Naija\_216, IkeLoa\_207, Duckfeet\_209, Rizal\_207, RoMag\_210, Delylah\_217, Willis\_216, JustHall\_209, Shelob\_216, DTDevon\_217, Gamgam\_216, Issimir\_208, Roots515\_217, McGee\_214, Catera\_207, SmallFry\_215, Atlantean\_215, Rahel\_216, YoungMoneyMata\_214, Babyland\_218, Bangla1971\_215, Domi\_209, DirtMonster\_208, Substance289\_212, LifeSavor\_214, Daffodil\_220, Labradorite\_213,

Matsumoto\_213, Dessert\_213, Iota\_210, Primadonna\_210, Loanshark\_212, Khaleesi\_214, Essence\_212, CindyLou\_216, ValleyTerrace\_216, YemiJoy2021\_216, Jezreel\_212, ArcherS7\_215, Pivoine\_216, Rocha\_212, Maby2021\_215, Melpomini\_210, NedWong\_214, Kboogie\_219, OrediggerDelux\_211, Amataga\_216, Momo\_216, Dietrick\_204, Ading\_216, Gizmo\_221, Phusco\_213, Zeenon\_217, ScottMcG\_209, EmmaElysia\_219, NoodleTree\_221, ParkTD\_214, Chomp\_215, Megamind\_212, StubbySaigey\_220, PurduePete\_215, Zalkecks\_214, Ronan\_211, Nidhogg\_216, Norm\_215, Phlegm\_219, McWolfish\_212, TinyTim\_213, ShiaLabeouf\_212, SrishMeg2525\_212, GlutenPhree\_216, BadAgartude\_209, JPickles\_211, Erdmann\_216, Blackdragon\_210, Shaqnato\_206, Delilah\_213, ZygoTaiga\_212, Shnickers\_213, Derek\_212, StephanieG\_211, Capablanca\_220, Jaygup\_211, Bread\_210, Bonray\_217, Ngannou\_212, ET08\_203, Napoleon13\_212, DrPhinkDaddy\_212, Sprinklers\_213, Ava3\_214, Jemmno\_214, Izajani\_213, Lethe\_215, Wally\_213, Lee7\_215, Spud\_209, Mikro\_211, Yucca\_215, BananaFence\_212, Caravan\_206, Darko\_214, FoxtrotP1\_213, EmToTheThree\_215, SilverDipper\_219

- Track 77 : Concombre\_220, Cali\_208, Turret\_208, Bigswole\_220, PharkleMinkus\_217, Phox\_216, Bxz1\_205, Bezza\_204, LordLeafolot\_216, EasyJones\_218, FrayBell\_218, Demodog\_221, Trinitium\_211, Belieber\_208, Nappy\_216, Dandelion\_223, InterFolia\_218, Ablatia\_214, LolaVinca\_213, LRRHood\_208, ChickenPhender\_211, Specks\_219, Quasimodo\_217, Fludd\_215, Cactojaque\_210, ErnieJ\_208, QBert\_207, Chargie21\_212, Tainan\_216, BeanWater\_207, Basquiat\_212, Blackbrain\_212, JigglyPuff\_222, Pio\_223

- Track 78 : Ghost\_215

- Track 79 : Pupusa\_219, Sauce\_211, JulietS\_206, Yassified\_212

- Track 80 : Alice\_202, DeejaClivia\_203, HyRo\_203, Flabslab\_210, JayJay\_217, Stubby\_199, Shifa\_192, Maturis\_212, Moby\_211, Pier\_216, Montpel\_213, NuevoMundo\_218, ChaylaJr\_213, Sebata\_216, Pinkcreek\_199, Rabinovish\_208, BackyardAgain\_211, Lunareta\_213, LinStu\_214, Moiqah\_210

- Track 81 : Mangeria\_216

- Track 82 : Vortrix\_235, Tonenili\_237

- Track 83 : BigCity\_224, EggyFarm\_224, Grasshills\_223

- Track 84 : l3\_225

- Track 85 : Spec\_210

- Track 86 : Blubba\_204, Colt\_206, Cane17\_206

- Track 87 : TZGordon\_58, DinoDaryn\_57, Huffy\_57

- Track 88 : Vendetta\_57, Splinter\_57

- Track 89 : Goib\_58

- Track 90 : Kudrefre\_85, Syleon\_86

- Track 91 : Sephiroth\_83

- Track 92 : Octobien14\_83

- Track 93 : LilJank\_79

- Track 94 : Trax\_79, Neville\_76

- Track 95 : Fregley\_61

- Track 96 : Shoya\_62, BrayBeast\_62, JeanClaude\_61

- Track 97 : MargaretKali\_66, Kumotta\_70

- Track 98 : Pigu\_64

- Track 99 : Sarge\_59

- Track 100 : Rooter\_70

- Track 101 : GUPitcher\_62

- Track 102 : Cassini\_82

- Track 103 : BellaJr\_82

- Track 104 : BlackSpider\_74

- Track 105 : Zucker\_84
- Track 106 : Bauer\_82
- Track 107 : Scotia\_53
- Track 108 : NoSwimming\_54
- Track 109 : Khuang\_63
- Track 110 : Altostratus\_63
- Track 111 : Sweetums\_44, Lesiram\_43
- Track 112 : Teng\_45
- Track 113 : Wrackline\_56
- Track 114 : DelaGarza\_42
- Track 115 : Gingerbug\_41
- Track 116 : MichelleMyBell\_49
- Track 117 : Xavia\_55
- Track 118 : Purky\_56

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

The start number called the most often in the published annotations is 54, it was called in 186 of the 303 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Ablatia\_214, Ading\_216, Adlitam\_214, Alice\_202, Amataga\_216, ArcherS7\_215, Asterius\_217, Astraea\_209, Atlantean\_215, Audrick\_217, Ava3\_214, Babyland\_218, BackyardAgain\_211, BadAgartude\_209, BananaFence\_212, Bangla1971\_215, Basquiat\_212, BeanWater\_207, Belieber\_208, Bezza\_204, BigCity\_224, Bigswole\_220, Bipolarisk\_213, Blackbrain\_212, Blackdragon\_210, Blubba\_204, BobaPhatt\_207, Bonray\_217, Bowman\_213, Bread\_210, Breeniome\_214, Burrough\_217, Bxz1\_205, Cactojaque\_210, Cali\_208, Cane17\_206, Capablanca\_220, Caravan\_206, Catera\_207, Chargie21\_212, CharlieB\_209, ChaylaJr\_213, ChickenPhender\_211, Chomp\_215, CindyLou\_216, Cleatunium\_208, Colt\_206, Concombre\_220, DTDevon\_217, Daffodil\_220, Dandelion\_223, Darko\_214, DeejaClivia\_203, DelaGarza\_42, Delilah\_213, Delylah\_217, Demodog\_221, Derek\_212, Dessert\_213, Dietrick\_204, DirtMonster\_208, Domi\_209, DrPhinkDaddy\_212, Drazdys\_213, Duckfeet\_209, ET08\_203, EasyJones\_218, EggyFarm\_224, EmToTheThree\_215, EmmaElysia\_219, Erdmann\_216, ErnieJ\_208, Essence\_212, Ewok\_214, Fixie\_215, Flabslab\_210, Fludd\_215, Fongie\_216, FoxtrotP1\_213, FrayBell\_218, FudgeTart\_210, GUPitcher\_62, Gabriel\_218, Gangam\_216, Ghost\_215, Gingerbug\_41, Gizmo\_221, GlutenPhree\_216, Grasshills\_223, Grungle\_199, Guwapp\_210, Halldule\_208, HyRo\_203, I3\_225, IkeLoa\_207, InigoMontoya\_218, InterFolia\_218, Iota\_210, Issimir\_208, Izajani\_213, JPickles\_211, Janiyra\_218, JayJay\_217, Jaygup\_211, Jedediah\_215, Jemmno\_214, Jessibeth14\_215, Jezreel\_212, JigglyPuff\_222, JulietS\_206, JustHall\_209, Kamryn\_214, Kboogie\_219, Khaleesi\_214, Koguma\_214, LRRHood\_208, Labradorite\_213, Latch\_215, Lee7\_215, Lesiram\_43, Lethe\_215, LifeSavor\_214, LinStu\_214, Littleton\_218, Loanshark\_212, LolaVinca\_213, LookingGlass\_214, LordLeafolot\_216, Lukilu\_206, Lunareta\_213, Maby2021\_215, Mangeria\_216, Matsumoto\_213, Maturis\_212, McGee\_214, McWolfish\_212, Megamind\_212, Melpomini\_210, MikeLiesIn\_217, Mikro\_211, MoMoMixon\_213, Moby\_211, Moiqah\_210, Momo\_216, Montpel\_213, Morizzled23\_212, Naija\_216, Napoleon13\_212, Nappy\_216, Naval22\_222, NedWong\_214, Ngannou\_212,

Nidhogg\_216, NoodleTree\_221, Norm\_215, NuevoMundo\_218, OrediggerDelux\_211, ParkTD\_214, Patter\_216, PharkleMinkus\_217, Phlegm\_219, Phox\_216, Phusco\_213, Pier\_216, Pinkcreek\_199, Pio\_223, Pivoine\_216, Pleione\_219, Primadonna\_210, Pupusa\_219, PurduePete\_215, QBert\_207, Quasimodo\_217, Rabinovish\_208, Rahel\_216, Rizal\_207, RoMag\_210, Rocha\_212, Ronan\_211, Roots515\_217, SVoro\_211, Salacia\_215, Sauce\_211, ScottMcG\_209, Sebata\_216, Shaqnato\_206, Shelob\_216, ShiaLabeouf\_212, Shifa\_192, Shnickers\_213, Shrimp\_217, SilverDipper\_219, SmallFry\_215, SoilZilla\_210, Spec\_210, Specks\_219, Sprinklers\_213, Spud\_209, SrishMeg2525\_212, StephanieG\_211, StubbySaigey\_220, Stubby\_199, Substance289\_212, Sweetums\_44, Tainan\_216, Teardrop\_212, Teng\_45, TinyTim\_213, Tonenili\_237, Tortoise16\_213, Trinitium\_211, Turret\_208, Tyke\_213, ValleyTerrace\_216, Vortrix\_235, Wally\_213, Willis\_216, Wrackline\_56, Yassified\_212, YemiJoy2021\_216, YoungMoneyMata\_214, Yucca\_215, Zalkecks\_214, Zeenon\_217, ZygoTaiga\_212,

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

- MichelleMyBell\_49, Xavia\_55,

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

- AbbyDaisy\_88, Abidatro\_44, AdaS\_81, AdoptaAdorbs\_44, Aikyam\_84, AlexMinion\_47, Altostratus\_63, Amanises\_45, Amelia\_43, AmiCi24\_44, Amphitrite\_45, Andrew\_46, Anekin\_86, Antrice\_46, Atlantica\_45, Auxilium\_84, Azaz\_45, Babushka\_42, Basilisk\_42, BasketStar\_86, Bauer\_82, Bedetta\_48, BellaJr\_82, BenchScraper\_86, Bhageatrice\_90, Bibble12\_47, BillyTP\_87, BlackSpider\_74, BlueShadow\_84, BrayBeast\_62, Brynnie\_41, Camara\_45, Cassini\_82, Caterpie\_69, Chickaboom\_44, Chicken\_42, Colusalem\_44, CookieBear\_84, Coral\_43, CosmicBrownie\_85, Cote\_45, Crescenzo\_87, Cygnet\_45, Damocles\_47, DanHam62\_45, Daob\_45, DarwinJr\_89, Ding\_88, DinoDaryn\_57, Eesa\_42, EvePickles\_87, Faja\_87, Fingolfin\_45, Fregley\_61, Galaxy\_41, Globfish\_85, Glotell\_46, Goib\_58, Gorpy\_83, GramZayde\_45, Gravel\_52, GumGum\_93, HamCheese\_45, HannahPhantana\_44, Hestia\_80, Hillester\_90, Huffy\_57, Isolde\_87, JakeTheSnake\_89, Jamun\_42, JeanClaude\_61, JellyBread\_82, Jerole\_44, Juno112\_44, KHumphrey\_45, Kabloowy\_86, KendraB23\_53, Kepler\_45, Khuang\_63, Kudrefre\_85, Kuleana\_45, Kumotta\_70, Laphuphu24k\_44, Lasker\_88, Lawnathon\_89, LeBruni\_87, Leona\_44, LilJank\_79, LittleTokyo\_43, Lunar\_45, MUWow\_88, Mapleville\_79, MargaretKali\_66, MaterMagnus\_86, Melons\_45, MidnightRain\_92, MurphyJoseph\_84, Neville\_76, NewKitty\_87, Niblet\_42, NoSwimming\_54, Nyilah\_93, Octobien14\_83, Oppalora\_44, Orcanus\_43, OtsoOtso\_44, Pelletreau\_52, Persistence\_79, PhirstandPhine\_52, PhluffyCoco\_45, Phrank15\_92, Pigu\_64, Pineda\_45, Polka\_43, Purky\_56, RadFad\_91, Raphaella\_86, Raqqa\_86, Rattail\_45, RedFox\_45, Renna12\_44, Richie\_89, Rooter\_70, Ruchi\_41, Sakai\_82, Sarge\_59, Satrap\_85, Scotia\_53, Seahorse\_92, Sejanus\_66, Sephiroth\_83, Shen\_42, Shoya\_62, Shukran\_82, SonDevVon\_93, SpicyFrank\_87, Splinter\_57, Sporco\_87, StuartMinion\_37, Syleon\_86, TZGordon\_58, TaylorSipht\_43, ThayneTheZag\_91, Tiff81\_81, Toad24\_45, Trax\_79, Vendetta\_57, Vopal\_87, Vulpecula\_41, Westrich\_51, WileyE\_44, Windest\_90, YoungHarleezy\_87, Zhuangyuan\_47, Zixiang\_42, Zucker\_84,

### Summary by start number:

Start 32:

- Found in 3 of 383 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 2 of 303

- Called 66.7% of time when present
- Phage (with cluster) where this start called: Purky\_56 (P6), Sejanus\_66 (AD),

#### Start 33:

- Found in 2 of 383 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 2 of 303
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MichelleMyBell\_49 (N), Xavia\_55 (P3),

#### Start 36:

- Found in 10 of 383 ( 2.6% ) of genes in pham
- Manual Annotations of this start: 5 of 303
- Called 50.0% of time when present
- Phage (with cluster) where this start called: DinoDaryn\_57 (CU1), Huffy\_57 (CU1), Splinter\_57 (CU1), TZGordon\_58 (CU1), Vendetta\_57 (CU1),

#### Start 38:

- Found in 1 of 383 ( 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: Pigu\_64 (FB),

#### Start 43:

- Found in 3 of 383 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 303
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Goib\_58 (CU1),

#### Start 47:

- Found in 4 of 383 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 3 of 303
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BrayBeast\_62 (FB), JeanClaude\_61 (FB), Sarge\_59 (FB), Shoya\_62 (FB),

#### Start 48:

- Found in 121 of 383 ( 31.6% ) of genes in pham
- Manual Annotations of this start: 87 of 303
- Called 92.6% of time when present
- Phage (with cluster) where this start called: Abidatro\_44 (AS1), AdaS\_81 (AY), AdoptaAdorbs\_44 (AS3), Aikyam\_84 (AY), AlexMinion\_47 (AS3), Amanises\_45 (AS1), Amelia\_43 (AS2), AmiCi24\_44 (AS3), Amphitrite\_45 (AS3), Andrew\_46 (AS3), Anekin\_86 (AY), Antrice\_46 (AS2), Atlantica\_45 (AS3), Auxilium\_84 (AY), Azaz\_45 (AS3), Babushka\_42 (AS3), Basilisk\_42 (AS1), BasketStar\_86 (AY), Bedetta\_48 (AS2), BenchScraper\_86 (AY), Bhageatrice\_90 (AY), Bible12\_47 (AS2), BillyTP\_87 (AY), BlackSpider\_74 (FN), BlueShadow\_84 (AY), Brynnie\_41 (AS1), Cassini\_82 (FN), Chickaboom\_44 (AS1), Chicken\_42 (AS1), Colusalem\_44 (AS2), CookieBear\_84 (AY), Coral\_43 (AS2), CosmicBrownie\_85 (AY), Cote\_45 (AS2), Crescenzo\_87 (AY), Cygnet\_45 (AS2), Damocles\_47 (AS2), DanHam62\_45 (AS3), Daob\_45 (AS2), DarwinJr\_89 (AY), Eesa\_42 (AS1), EvePickles\_87 (AY), Faja\_87 (AY), Fingolfin\_45 (AS3), Fregley\_61 (EG), Galaxy\_41 (AS1), Globfish\_85 (AY), Glotell\_46 (AS3), Gorpy\_83 (AY), Gravel\_52 (AS1), GumGum\_93 (AY), HamCheese\_45 (AS3), HannahPhantana\_44 (AS2), Hestia\_80 (AY), Hillester\_90

(AY), Isolde\_87 (AY), Jamun\_42 (AS1), JellyBread\_82 (AY), Jerole\_44 (AS2), Juno112\_44 (AS3), Kabloowy\_86 (AY), KendraB23\_53 (AS1), Kepler\_45 (AS2), Kuleana\_45 (AS2), Lasker\_88 (AY), Lawnathon\_89 (AY), LeBruni\_87 (AY), Leona\_44 (AS3), LittleTokyo\_43 (AS2), Lunar\_45 (AS2), MUWow\_88 (AY), Mapleville\_79 (AY), MaterMagnus\_86 (AY), Melons\_45 (AS2), MidnightRain\_92 (AY), MurphyJoseph\_84 (AY), NewKitty\_87 (AY), Niblet\_42 (AS1), Nyilah\_93 (AY), Orcanus\_43 (AS1), OtsoOtso\_44 (AS2), Pelletreau\_52 (AS1), PhirstandPhine\_52 (AS2), PhluffyCoco\_45 (AS3), Phrank15\_92 (AY), Pineda\_45 (AS2), Polka\_43 (AS2), RadFad\_91 (AY), Raphaella\_86 (AY), RedFox\_45 (AS3), Renna12\_44 (AS3), Richie\_89 (AY), Rooter\_70 (FB), Ruchi\_41 (AS1), Sakai\_82 (AY), Seahorse\_92 (AY), Shen\_42 (AS1), SonDevVon\_93 (AY), SpicyFrank\_87 (AY), Sporco\_87 (AY), StuartMinion\_37 (AS3), TaylorSipt\_43 (AS1), Tiff81\_81 (AY), Toad24\_45 (AS1), Vopal\_87 (AY), Vulpecula\_41 (AS1), Westrich\_51 (AS1), WileyE\_44 (AS1), Windest\_90 (AY), YoungHarleezy\_87 (AY), Zhuangyuan\_47 (AS2), Zixiang\_42 (AS1),

#### Start 49:

- Found in 9 of 383 ( 2.3% ) of genes in pham
- Manual Annotations of this start: 4 of 303
- Called 88.9% of time when present
- Phage (with cluster) where this start called: Altostratus\_63 (FS), Ding\_88 (AY), JakeTheSnake\_89 (AY), Khuang\_63 (FS), NoSwimming\_54 (FO), Persistence\_79 (AY), Scotia\_53 (FO), Shukran\_82 (AY),

#### Start 51:

- Found in 4 of 383 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 4 of 303
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kudrefre\_85 (DU1), Octobien14\_83 (DU1), Sephiroth\_83 (DU1), Syleon\_86 (DU1),

#### Start 52:

- Found in 6 of 383 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 4 of 303
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AbbyDaisy\_88 (AY), Bauer\_82 (FN), BellaJr\_82 (FN), Raqqa\_86 (AY), ThayneTheZag\_91 (AY), Zucker\_84 (FN),

#### Start 53:

- Found in 3 of 383 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 2 of 303
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Neville\_76 (DU2), Trax\_79 (DU2),

#### Start 54:

- Found in 227 of 383 ( 59.3% ) of genes in pham
- Manual Annotations of this start: 186 of 303
- Called 99.1% of time when present
- Phage (with cluster) where this start called: Ablatia\_214 (C1), Ading\_216 (C1), Adlitam\_214 (C1), Alice\_202 (C1), Amataga\_216 (C1), ArcherS7\_215 (C1), Asterius\_217 (C1), Astraea\_209 (C1), Atlantean\_215 (C1), Audrick\_217 (C1), Ava3\_214 (C1), Babyland\_218 (C1), BackyardAgain\_211 (C1), BadAgartude\_209 (C1), BananaFence\_212 (C1), Bangla1971\_215 (C1), Basquiat\_212 (C1), BeanWater\_207 (C1), Belieber\_208 (C1), Bezza\_204 (C1), BigCity\_224 (C1),

Bigswole\_220 (C1), Bipolarisk\_213 (C1), Blackbrain\_212 (C1), Blackdragon\_210 (C1), Blubba\_204 (C1), BobaPhatt\_207 (C1), Bonray\_217 (C1), Bowman\_213 (C1), Bread\_210 (C1), Breeniome\_214 (C1), Burrough\_217 (C1), Bxz1\_205 (C1), Cactojaque\_210 (C1), Cali\_208 (C1), Cane17\_206 (C1), Capablanca\_220 (C1), Caravan\_206 (C1), Catera\_207 (C1), Chargie21\_212 (C1), CharlieB\_209 (C1), ChaylaJr\_213 (C1), ChickenPhender\_211 (C1), Chomp\_215 (C1), CindyLou\_216 (C1), Cleatunium\_208 (C1), Colt\_206 (C1), Concombre\_220 (C1), DTDevon\_217 (C1), Daffodil\_220 (C1), Dandelion\_223 (C1), Darko\_214 (C1), DeejaClivia\_203 (C1), DelaGarza\_42 (GF), Delilah\_213 (C1), Delylah\_217 (C1), Demodog\_221 (C1), Derek\_212 (C1), Dessert\_213 (C1), Dietrick\_204 (C1), DirtMonster\_208 (C1), Domi\_209 (C1), DrPhinkDaddy\_212 (C1), Drazdys\_213 (C1), Duckfeet\_209 (C1), ET08\_203 (C1), EasyJones\_218 (C1), EggyFarm\_224 (C1), EmToTheThree\_215 (C1), EmmaElysia\_219 (C1), Erdmann\_216 (C1), ErnieJ\_208 (C1), Essence\_212 (C1), Ewok\_214 (C1), Fixie\_215 (C1), Flabslab\_210 (C1), Fludd\_215 (C1), Fongie\_216 (C1), FoxtrotP1\_213 (C1), FrayBell\_218 (C1), FudgeTart\_210 (C1), GUPitcher\_62 (FJ), Gabriel\_218 (C1), Gamgam\_216 (C1), Ghost\_215 (C1), Gingerbug\_41 (GF), Gizmo\_221 (C1), GlutenPhree\_216 (C1), Grasshills\_223 (C1), Grungle\_199 (C1), Guwapp\_210 (C1), Halldule\_208 (C1), HyRo\_203 (C1), I3\_225 (C1), IkeLoa\_207 (C1), InigoMontoya\_218 (C1), InterFolia\_218 (C1), Iota\_210 (C1), Issimir\_208 (C1), Izajani\_213 (C1), JPickles\_211 (C1), Janiyra\_218 (C1), JayJay\_217 (C1), Jaygup\_211 (C1), Jedediah\_215 (C1), Jemmno\_214 (C1), Jessibeth14\_215 (C1), Jezreel\_212 (C1), JigglyPuff\_222 (C1), JulietS\_206 (C1), JustHall\_209 (C1), Kamryn\_214 (C1), Kboogie\_219 (C1), Khaleesi\_214 (C1), Koguma\_214 (C1), LRRHood\_208 (C1), Labradorite\_213 (C1), Latch\_215 (C1), Lee7\_215 (C1), Lesiram\_43 (GF), Lethe\_215 (C1), LifeSavor\_214 (C1), LinStu\_214 (C1), Littleton\_218 (C1), Loanshark\_212 (C1), LolaVinca\_213 (C1), LookingGlass\_214 (C1), LordLeafolot\_216 (C1), Lukilu\_206 (C1), Lunareta\_213 (C1), Maby2021\_215 (C1), Mangeria\_216 (C1), Matsumoto\_213 (C1), Maturis\_212 (C1), McGee\_214 (C1), McWolfish\_212 (C1), Megamind\_212 (C1), Melpomini\_210 (C1), MikeLiesIn\_217 (C1), Mikro\_211 (C1), MoMoMixon\_213 (C1), Moby\_211 (C1), Moiqah\_210 (C1), Momo\_216 (C1), Montpel\_213 (C1), Morizzled23\_212 (C1), Naija\_216 (C1), Napoleon13\_212 (C1), Nappy\_216 (C1), Naval22\_222 (C1), NedWong\_214 (C1), Ngannou\_212 (C1), Nidhogg\_216 (C1), NoodleTree\_221 (C1), Norm\_215 (C1), NuevoMundo\_218 (C1), OrediggerDelux\_211 (C1), ParkTD\_214 (C1), Patter\_216 (C1), PharkleMinkus\_217 (C1), Phlegm\_219 (C1), Phox\_216 (C1), Phusco\_213 (C1), Pier\_216 (C1), Pinkcreek\_199 (C1), Pio\_223 (C1), Pivoine\_216 (C1), Pleione\_219 (C1), Primadonna\_210 (C1), Pupusa\_219 (C1), PurduePete\_215 (C1), QBert\_207 (C1), Quasimodo\_217 (C1), Rabinovish\_208 (C1), Rahel\_216 (C1), Rizal\_207 (C1), RoMag\_210 (C1), Rocha\_212 (C1), Ronan\_211 (C1), Roots515\_217 (C1), SVoro\_211 (C1), Salacia\_215 (C1), Sauce\_211 (C1), ScottMcG\_209 (C1), Sebata\_216 (C1), Shaqnato\_206 (C1), Shelob\_216 (C1), ShiaLabeouf\_212 (C1), Shifa\_192 (C1), Shnickers\_213 (C1), Shrimp\_217 (C1), SilverDipper\_219 (C1), SmallFry\_215 (C1), SoilZilla\_210 (C1), Spec\_210 (C1), Specks\_219 (C1), Sprinklers\_213 (C1), Spud\_209 (C1), SrishMeg2525\_212 (C1), StephanieG\_211 (C1), StubbySaigey\_220 (C1), Stubby\_199 (C1), Substance289\_212 (C1), Sweetums\_44 (GF), Tainan\_216 (C1), Teardrop\_212 (C1), Teng\_45 (GF), TinyTim\_213 (C1), Tonerili\_237 (C1), Tortoise16\_213 (C1), Trinitium\_211 (C1), Turret\_208 (C1), Tyke\_213 (C1), ValleyTerrace\_216 (C1), Vortrix\_235 (C1), Wally\_213 (C1), Willis\_216 (C1), Wrackline\_56 (GF), Yassified\_212 (C1), YemiJoy2021\_216 (C1), YoungMoneyMata\_214 (C1), Yucca\_215 (C1), Zalkecks\_214 (C1), Zeenon\_217 (C1), ZygoTaiga\_212 (C1),

Start 55:

- Found in 55 of 383 ( 14.4% ) of genes in pham
- Manual Annotations of this start: 2 of 303
- Called 5.5% of time when present
- Phage (with cluster) where this start called: Kumotta\_70 (FB), MargaretKali\_66 (FB), Satrap\_85 (AY),

Start 57:

- Found in 7 of 383 ( 1.8% ) of genes in pham
- No Manual Annotations of this start.
- Called 14.3% of time when present
- Phage (with cluster) where this start called: LilJank\_79 (DU2),

Start 59:

- Found in 66 of 383 ( 17.2% ) of genes in pham
- Manual Annotations of this start: 1 of 303
- Called 7.6% of time when present
- Phage (with cluster) where this start called: Camara\_45 (AS3), KHumphrey\_45 (AS3), Laphuphu24k\_44 (AS3), Oppalora\_44 (AS3), Rattail\_45 (AS3),

Start 64:

- Found in 3 of 383 ( 0.8% ) of genes in pham
- No Manual Annotations of this start.
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Caterpie\_69 (AD),

Start 77:

- Found in 33 of 383 ( 8.6% ) of genes in pham
- No Manual Annotations of this start.
- Called 3.0% of time when present
- Phage (with cluster) where this start called: GramZayde\_45 (AS2),

### **Summary by clusters:**

There are 19 clusters represented in this pham: AS3, AS2, AS1, FS, P6, AD, CU1, P3, FJ, EG, N, GF, FB, AY, DU1, C1, DU2, FN, FO,

Info for manual annotations of cluster AD:

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

Info for manual annotations of cluster AS1:

- Start number 48 was manually annotated 17 times for cluster AS1.

Info for manual annotations of cluster AS2:

- Start number 48 was manually annotated 18 times for cluster AS2.

Info for manual annotations of cluster AS3:

- Start number 48 was manually annotated 16 times for cluster AS3.
- Start number 59 was manually annotated 1 time for cluster AS3.

Info for manual annotations of cluster AY:

- Start number 48 was manually annotated 34 times for cluster AY.
- Start number 49 was manually annotated 1 time for cluster AY.
- Start number 52 was manually annotated 2 times for cluster AY.

Info for manual annotations of cluster C1:

- Start number 54 was manually annotated 181 times for cluster C1.

Info for manual annotations of cluster CU1:

- Start number 36 was manually annotated 5 times for cluster CU1.
- Start number 43 was manually annotated 1 time for cluster CU1.

Info for manual annotations of cluster DU1:

- Start number 51 was manually annotated 4 times for cluster DU1.

Info for manual annotations of cluster DU2:

- Start number 53 was manually annotated 2 times for cluster DU2.

Info for manual annotations of cluster EG:

- Start number 48 was manually annotated 1 time for cluster EG.

Info for manual annotations of cluster FB:

- Start number 47 was manually annotated 3 times for cluster FB.
- Start number 55 was manually annotated 2 times for cluster FB.

Info for manual annotations of cluster FN:

- Start number 48 was manually annotated 1 time for cluster FN.
- Start number 52 was manually annotated 2 times for cluster FN.

Info for manual annotations of cluster FO:

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

Info for manual annotations of cluster FS:

- Start number 49 was manually annotated 1 time for cluster FS.

Info for manual annotations of cluster GF:

- Start number 54 was manually annotated 5 times for cluster GF.

Info for manual annotations of cluster N:

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

Info for manual annotations of cluster P3:

- Start number 33 was manually annotated 1 time for cluster P3.

Info for manual annotations of cluster P6:

- Start number 32 was manually annotated 1 time for cluster P6.

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

Gene: AbbyDaisy\_88 Start: 50419, Stop: 50823, Start Num: 52

Candidate Starts for AbbyDaisy\_88:

(44, 50407), (Start: 52 @50419 has 4 MA's), (63, 50476), (70, 50500), (98, 50590), (101, 50596), (124, 50692), (135, 50743), (148, 50788),

Gene: Abidatro\_44 Start: 29002, Stop: 29472, Start Num: 48

Candidate Starts for Abidatro\_44:

(Start: 48 @29002 has 87 MA's), (Start: 59 @29038 has 1 MA's), (60, 29044), (75, 29095), (86, 29140), (104, 29200), (109, 29218), (114, 29254), (132, 29353), (141, 29395), (149, 29434), (151, 29440), (157, 29461),

Gene: Ablatia\_214 Start: 119512, Stop: 119967, Start Num: 54

Candidate Starts for Ablatia\_214:

(21, 119398), (28, 119461), (34, 119479), (Start: 54 @119512 has 186 MA's), (58, 119530), (87, 119662), (93, 119680), (109, 119740), (132, 119848), (135, 119872), (151, 119935), (153, 119941),

Gene: AdaS\_81 Start: 45341, Stop: 45766, Start Num: 48

Candidate Starts for AdaS\_81:

(19, 45236), (Start: 48 @45341 has 87 MA's), (Start: 55 @45353 has 2 MA's), (58, 45368), (62, 45398), (63, 45404), (70, 45428), (116, 45596), (121, 45608), (130, 45653),

Gene: Ading\_216 Start: 121132, Stop: 121587, Start Num: 54

Candidate Starts for Ading\_216:

(21, 121018), (28, 121081), (34, 121099), (Start: 54 @121132 has 186 MA's), (58, 121150), (87, 121282), (93, 121300), (109, 121360), (132, 121468), (135, 121492), (151, 121555), (153, 121561),

Gene: Adlitam\_214 Start: 119736, Stop: 120191, Start Num: 54

Candidate Starts for Adlitam\_214:

(21, 119622), (28, 119685), (34, 119703), (Start: 54 @119736 has 186 MA's), (58, 119754), (87, 119886), (93, 119904), (109, 119964), (132, 120072), (135, 120096), (151, 120159), (153, 120165),

Gene: AdoptaAdorbs\_44 Start: 28239, Stop: 28709, Start Num: 48

Candidate Starts for AdoptaAdorbs\_44:

(Start: 48 @28239 has 87 MA's), (Start: 59 @28275 has 1 MA's), (80, 28356), (86, 28380), (93, 28404), (102, 28428), (104, 28440), (106, 28449), (109, 28458), (114, 28494), (120, 28530), (123, 28542), (126, 28563), (128, 28575), (136, 28617), (147, 28665), (150, 28674),

Gene: Aikyam\_84 Start: 46399, Stop: 46830, Start Num: 48

Candidate Starts for Aikyam\_84:

(19, 46294), (Start: 48 @46399 has 87 MA's), (Start: 55 @46411 has 2 MA's), (58, 46426), (62, 46456), (63, 46462), (70, 46486), (148, 46789),

Gene: AlexMinion\_47 Start: 28495, Stop: 28965, Start Num: 48

Candidate Starts for AlexMinion\_47:

(Start: 48 @28495 has 87 MA's), (Start: 59 @28531 has 1 MA's), (86, 28636), (93, 28660), (104, 28696), (106, 28705), (109, 28714), (120, 28786), (123, 28798), (126, 28819), (128, 28831), (136, 28873), (147, 28921), (150, 28930),

Gene: Alice\_202 Start: 118711, Stop: 119166, Start Num: 54

Candidate Starts for Alice\_202:

(21, 118597), (28, 118660), (34, 118678), (Start: 54 @118711 has 186 MA's), (58, 118729), (87, 118861), (93, 118879), (109, 118939), (132, 119047), (135, 119071), (151, 119134), (153, 119140),

Gene: Altostratus\_63 Start: 36693, Stop: 37115, Start Num: 49

Candidate Starts for Altostratus\_63:

(Start: 49 @36693 has 4 MA's), (76, 36783), (79, 36789), (101, 36867), (132, 37005),

Gene: Amanises\_45 Start: 29930, Stop: 30397, Start Num: 48

Candidate Starts for Amanises\_45:

(Start: 48 @29930 has 87 MA's), (Start: 59 @29966 has 1 MA's), (77, 30026), (93, 30092), (104, 30128), (109, 30146), (118, 30206), (132, 30278), (135, 30302), (137, 30308), (149, 30359), (155, 30380), (157, 30386),

Gene: Amataga\_216 Start: 119548, Stop: 120003, Start Num: 54

Candidate Starts for Amataga\_216:

(21, 119434), (28, 119497), (34, 119515), (Start: 54 @119548 has 186 MA's), (58, 119566), (87, 119698), (93, 119716), (109, 119776), (132, 119884), (135, 119908), (151, 119971), (153, 119977),

Gene: Amelia\_43 Start: 27285, Stop: 27752, Start Num: 48

Candidate Starts for Amelia\_43:

(26, 27228), (Start: 48 @27285 has 87 MA's), (Start: 59 @27321 has 1 MA's), (77, 27381), (88, 27432), (93, 27447), (104, 27483), (118, 27561), (120, 27573), (132, 27633), (135, 27657), (147, 27708), (149, 27714), (155, 27735), (157, 27741),

Gene: AmiCi24\_44 Start: 28339, Stop: 28809, Start Num: 48

Candidate Starts for AmiCi24\_44:

(Start: 48 @28339 has 87 MA's), (Start: 59 @28375 has 1 MA's), (80, 28456), (86, 28480), (93, 28504), (102, 28528), (104, 28540), (106, 28549), (109, 28558), (114, 28594), (120, 28630), (123, 28642), (126, 28663), (128, 28675), (136, 28717), (147, 28765), (150, 28774),

Gene: Amphitrite\_45 Start: 28238, Stop: 28708, Start Num: 48

Candidate Starts for Amphitrite\_45:

(Start: 48 @28238 has 87 MA's), (Start: 59 @28274 has 1 MA's), (80, 28355), (86, 28379), (93, 28403), (104, 28439), (106, 28448), (109, 28457), (114, 28493), (120, 28529), (123, 28541), (126, 28562), (128, 28574), (136, 28616), (147, 28664), (150, 28673),

Gene: Andrew\_46 Start: 28224, Stop: 28688, Start Num: 48

Candidate Starts for Andrew\_46:

(Start: 48 @28224 has 87 MA's), (77, 28320), (86, 28365), (104, 28425), (123, 28524), (126, 28545), (132, 28572), (147, 28647), (150, 28656), (154, 28668),

Gene: Anekin\_86 Start: 48622, Stop: 49053, Start Num: 48

Candidate Starts for Anekin\_86:

(19, 48517), (Start: 48 @48622 has 87 MA's), (Start: 55 @48634 has 2 MA's), (58, 48649), (62, 48679), (63, 48685), (70, 48709), (148, 49012),

Gene: Antrice\_46 Start: 28458, Stop: 28919, Start Num: 48

Candidate Starts for Antrice\_46:

(Start: 48 @28458 has 87 MA's), (Start: 59 @28494 has 1 MA's), (60, 28500), (86, 28599), (88, 28608), (93, 28623), (105, 28671), (123, 28764), (126, 28785), (134, 28833), (135, 28836), (137, 28842), (154, 28908),

Gene: ArcherS7\_215 Start: 120590, Stop: 121045, Start Num: 54

Candidate Starts for ArcherS7\_215:

(21, 120476), (28, 120539), (34, 120557), (Start: 54 @120590 has 186 MA's), (58, 120608), (87, 120740), (93, 120758), (109, 120818), (132, 120926), (135, 120950), (151, 121013), (153, 121019),

Gene: Asterius\_217 Start: 119957, Stop: 120412, Start Num: 54

Candidate Starts for Asterius\_217:

(21, 119843), (28, 119906), (34, 119924), (Start: 54 @119957 has 186 MA's), (58, 119975), (87, 120107), (93, 120125), (109, 120185), (132, 120293), (135, 120317), (151, 120380), (153, 120386),

Gene: Astraea\_209 Start: 119152, Stop: 119607, Start Num: 54

Candidate Starts for Astraea\_209:

(21, 119038), (28, 119101), (34, 119119), (Start: 54 @119152 has 186 MA's), (58, 119170), (87, 119302), (93, 119320), (109, 119380), (132, 119488), (135, 119512), (151, 119575), (153, 119581),

Gene: Atlantean\_215 Start: 119548, Stop: 120003, Start Num: 54

Candidate Starts for Atlantean\_215:

(21, 119434), (28, 119497), (34, 119515), (Start: 54 @119548 has 186 MA's), (58, 119566), (87, 119698), (93, 119716), (109, 119776), (132, 119884), (135, 119908), (151, 119971), (153, 119977),

Gene: Atlantica\_45 Start: 28341, Stop: 28811, Start Num: 48

Candidate Starts for Atlantica\_45:

(Start: 48 @28341 has 87 MA's), (Start: 59 @28377 has 1 MA's), (80, 28458), (86, 28482), (93, 28506), (102, 28530), (104, 28542), (106, 28551), (109, 28560), (114, 28596), (120, 28632), (123, 28644), (126, 28665), (128, 28677), (136, 28719), (147, 28767), (150, 28776),

Gene: Audrick\_217 Start: 119438, Stop: 119893, Start Num: 54

Candidate Starts for Audrick\_217:

(21, 119324), (28, 119387), (34, 119405), (Start: 54 @119438 has 186 MA's), (58, 119456), (87, 119588), (93, 119606), (109, 119666), (132, 119774), (135, 119798), (151, 119861), (153, 119867),

Gene: Auxilium\_84 Start: 46039, Stop: 46461, Start Num: 48

Candidate Starts for Auxilium\_84:

(Start: 48 @46039 has 87 MA's), (Start: 55 @46048 has 2 MA's), (58, 46063), (62, 46093), (63, 46099), (70, 46123), (148, 46426),

Gene: Ava3\_214 Start: 119982, Stop: 120437, Start Num: 54

Candidate Starts for Ava3\_214:

(21, 119868), (28, 119931), (34, 119949), (Start: 54 @119982 has 186 MA's), (58, 120000), (87, 120132), (93, 120150), (109, 120210), (132, 120318), (135, 120342), (151, 120405), (153, 120411),

Gene: Azaz\_45 Start: 28419, Stop: 28889, Start Num: 48

Candidate Starts for Azaz\_45:

(Start: 48 @28419 has 87 MA's), (Start: 59 @28455 has 1 MA's), (86, 28560), (93, 28584), (102, 28608), (104, 28620), (106, 28629), (109, 28638), (114, 28674), (120, 28710), (123, 28722), (126, 28743), (128, 28755), (136, 28797), (147, 28845), (150, 28854),

Gene: Babushka\_42 Start: 28169, Stop: 28636, Start Num: 48

Candidate Starts for Babushka\_42:

(Start: 48 @28169 has 87 MA's), (80, 28286), (86, 28310), (93, 28334), (99, 28352), (103, 28364), (104, 28370), (106, 28379), (109, 28388), (123, 28469), (126, 28490), (128, 28502), (130, 28508), (135, 28541), (136, 28544), (147, 28592), (149, 28598),

Gene: Babyland\_218 Start: 120325, Stop: 120780, Start Num: 54

Candidate Starts for Babyland\_218:

(21, 120211), (28, 120274), (34, 120292), (Start: 54 @120325 has 186 MA's), (58, 120343), (87, 120475), (93, 120493), (109, 120553), (132, 120661), (135, 120685), (151, 120748), (153, 120754),

Gene: BackyardAgain\_211 Start: 117513, Stop: 117968, Start Num: 54

Candidate Starts for BackyardAgain\_211:

(21, 117399), (28, 117462), (34, 117480), (Start: 54 @117513 has 186 MA's), (58, 117531), (87, 117663), (93, 117681), (109, 117741), (132, 117849), (135, 117873), (151, 117936), (153, 117942),

Gene: BadAgartude\_209 Start: 119650, Stop: 120105, Start Num: 54

Candidate Starts for BadAgartude\_209:

(21, 119536), (28, 119599), (34, 119617), (Start: 54 @119650 has 186 MA's), (58, 119668), (87, 119800), (93, 119818), (109, 119878), (132, 119986), (135, 120010), (151, 120073), (153, 120079),

Gene: BananaFence\_212 Start: 119781, Stop: 120236, Start Num: 54

Candidate Starts for BananaFence\_212:

(21, 119667), (28, 119730), (34, 119748), (Start: 54 @119781 has 186 MA's), (58, 119799), (87, 119931), (93, 119949), (109, 120009), (132, 120117), (135, 120141), (151, 120204), (153, 120210),

Gene: Bangla1971\_215 Start: 119554, Stop: 120009, Start Num: 54

Candidate Starts for Bangla1971\_215:

(21, 119440), (28, 119503), (34, 119521), (Start: 54 @119554 has 186 MA's), (58, 119572), (87, 119704), (93, 119722), (109, 119782), (132, 119890), (135, 119914), (151, 119977), (153, 119983),

Gene: Basilisk\_42 Start: 28172, Stop: 28642, Start Num: 48

Candidate Starts for Basilisk\_42:

(Start: 48 @28172 has 87 MA's), (Start: 59 @28208 has 1 MA's), (60, 28214), (77, 28268), (86, 28310), (92, 28331), (97, 28349), (104, 28370), (109, 28388), (114, 28424), (132, 28523), (135, 28547), (141, 28565), (151, 28610), (157, 28631),

Gene: BasketStar\_86 Start: 48582, Stop: 49007, Start Num: 48

Candidate Starts for BasketStar\_86:

(31, 48552), (Start: 48 @48582 has 87 MA's), (Start: 55 @48594 has 2 MA's), (58, 48609), (62, 48639), (63, 48645), (70, 48669), (84, 48717), (98, 48759), (113, 48828), (148, 48972),

Gene: Basquiat\_212 Start: 118067, Stop: 118522, Start Num: 54

Candidate Starts for Basquiat\_212:

(21, 117953), (28, 118016), (34, 118034), (Start: 54 @118067 has 186 MA's), (58, 118085), (87, 118217), (93, 118235), (109, 118295), (132, 118403), (135, 118427), (151, 118490), (153, 118496),

Gene: Bauer\_82 Start: 45126, Stop: 45530, Start Num: 52

Candidate Starts for Bauer\_82:

(35, 45099), (44, 45114), (Start: 52 @45126 has 4 MA's), (63, 45183), (70, 45207), (98, 45297), (110, 45354), (124, 45399), (135, 45450), (148, 45495),

Gene: BeanWater\_207 Start: 118593, Stop: 119048, Start Num: 54

Candidate Starts for BeanWater\_207:

(21, 118479), (28, 118542), (34, 118560), (Start: 54 @118593 has 186 MA's), (58, 118611), (87, 118743), (93, 118761), (109, 118821), (132, 118929), (135, 118953), (151, 119016), (153, 119022),

Gene: Bedetta\_48 Start: 27432, Stop: 27899, Start Num: 48

Candidate Starts for Bedetta\_48:

(26, 27375), (Start: 48 @27432 has 87 MA's), (Start: 59 @27468 has 1 MA's), (77, 27528), (88, 27579), (93, 27594), (104, 27630), (118, 27708), (120, 27720), (132, 27780), (135, 27804), (147, 27855), (149, 27861), (155, 27882), (157, 27888),

Gene: Belieber\_208 Start: 117381, Stop: 117836, Start Num: 54

Candidate Starts for Belieber\_208:

(21, 117267), (28, 117330), (34, 117348), (Start: 54 @117381 has 186 MA's), (58, 117399), (87, 117531), (93, 117549), (109, 117609), (132, 117717), (135, 117741), (151, 117804), (153, 117810),

Gene: BellaJr\_82 Start: 47457, Stop: 47861, Start Num: 52

Candidate Starts for BellaJr\_82:

(5, 47181), (8, 47202), (44, 47445), (Start: 52 @47457 has 4 MA's), (63, 47514), (69, 47532), (70, 47538), (92, 47610), (103, 47646), (124, 47730), (135, 47781), (148, 47826),

Gene: BenchScraper\_86 Start: 46987, Stop: 47412, Start Num: 48

Candidate Starts for BenchScraper\_86:

(31, 46957), (Start: 48 @46987 has 87 MA's), (Start: 55 @46999 has 2 MA's), (58, 47014), (62, 47044), (63, 47050), (70, 47074), (98, 47164), (148, 47377),

Gene: Bezza\_204 Start: 119105, Stop: 119560, Start Num: 54

Candidate Starts for Bezza\_204:

(21, 118991), (28, 119054), (34, 119072), (Start: 54 @119105 has 186 MA's), (58, 119123), (87, 119255), (93, 119273), (109, 119333), (132, 119441), (135, 119465), (151, 119528), (153, 119534),

Gene: Bhageatrice\_90 Start: 51263, Stop: 51688, Start Num: 48

Candidate Starts for Bhageatrice\_90:

(Start: 48 @51263 has 87 MA's), (Start: 55 @51275 has 2 MA's), (58, 51290), (62, 51320), (63, 51326), (70, 51350), (98, 51440), (148, 51653),

Gene: Bible12\_47 Start: 27280, Stop: 27747, Start Num: 48

Candidate Starts for Bible12\_47:

(26, 27223), (Start: 48 @27280 has 87 MA's), (Start: 59 @27316 has 1 MA's), (77, 27376), (88, 27427), (93, 27442), (104, 27478), (118, 27556), (120, 27568), (132, 27628), (135, 27652), (147, 27703), (149, 27709), (155, 27730), (157, 27736),

Gene: BigCity\_224 Start: 122164, Stop: 122619, Start Num: 54

Candidate Starts for BigCity\_224:

(21, 122050), (28, 122113), (34, 122131), (Start: 36 @122134 has 5 MA's), (Start: 54 @122164 has 186 MA's), (58, 122182), (87, 122314), (93, 122332), (109, 122392), (132, 122500), (135, 122524), (151, 122587), (153, 122593),

Gene: Bigswole\_220 Start: 122018, Stop: 122473, Start Num: 54

Candidate Starts for Bigswole\_220:

(21, 121904), (28, 121967), (34, 121985), (Start: 54 @122018 has 186 MA's), (58, 122036), (87, 122168), (93, 122186), (109, 122246), (132, 122354), (135, 122378), (151, 122441), (153, 122447),

Gene: BillyTP\_87 Start: 49093, Stop: 49518, Start Num: 48

Candidate Starts for BillyTP\_87:

(31, 49063), (Start: 48 @49093 has 87 MA's), (Start: 55 @49105 has 2 MA's), (58, 49120), (62, 49150), (63, 49156), (70, 49180), (98, 49270), (124, 49372), (148, 49483),

Gene: Bipolarisk\_213 Start: 120251, Stop: 120706, Start Num: 54

Candidate Starts for Bipolarisk\_213:

(21, 120137), (28, 120200), (34, 120218), (Start: 54 @120251 has 186 MA's), (58, 120269), (87, 120401), (93, 120419), (109, 120479), (132, 120587), (135, 120611), (151, 120674), (153, 120680),

Gene: BlackSpider\_74 Start: 45516, Stop: 45926, Start Num: 48

Candidate Starts for BlackSpider\_74:

(18, 45411), (46, 45513), (Start: 48 @45516 has 87 MA's), (Start: 55 @45528 has 2 MA's), (58, 45543), (62, 45573), (63, 45579), (70, 45603), (98, 45693), (101, 45699), (103, 45711), (110, 45750), (117, 45774), (122, 45786), (147, 45888), (152, 45903),

Gene: Blackbrain\_212 Start: 119152, Stop: 119607, Start Num: 54

Candidate Starts for Blackbrain\_212:

(21, 119038), (28, 119101), (34, 119119), (Start: 54 @119152 has 186 MA's), (58, 119170), (87, 119302), (93, 119320), (109, 119380), (132, 119488), (135, 119512), (151, 119575), (153, 119581),

Gene: Blackdragon\_210 Start: 119884, Stop: 120339, Start Num: 54

Candidate Starts for Blackdragon\_210:

(21, 119770), (28, 119833), (34, 119851), (Start: 54 @119884 has 186 MA's), (58, 119902), (87, 120034), (93, 120052), (109, 120112), (132, 120220), (135, 120244), (151, 120307), (153, 120313),

Gene: Blubba\_204 Start: 123233, Stop: 123688, Start Num: 54

Candidate Starts for Blubba\_204:

(21, 123119), (28, 123182), (34, 123200), (Start: 54 @123233 has 186 MA's), (58, 123251), (87, 123383), (93, 123401), (109, 123461), (132, 123569), (135, 123593), (151, 123656),

Gene: BlueShadow\_84 Start: 48348, Stop: 48779, Start Num: 48

Candidate Starts for BlueShadow\_84:

(31, 48318), (Start: 48 @48348 has 87 MA's), (Start: 55 @48360 has 2 MA's), (58, 48375), (62, 48405), (63, 48411), (70, 48435), (84, 48483), (113, 48594), (148, 48738),

Gene: BobaPhatt\_207 Start: 118259, Stop: 118714, Start Num: 54

Candidate Starts for BobaPhatt\_207:

(21, 118145), (28, 118208), (34, 118226), (Start: 54 @118259 has 186 MA's), (58, 118277), (87, 118409), (93, 118427), (109, 118487), (132, 118595), (135, 118619), (151, 118682), (153, 118688),

Gene: Bonray\_217 Start: 121653, Stop: 122108, Start Num: 54

Candidate Starts for Bonray\_217:

(21, 121539), (28, 121602), (34, 121620), (Start: 54 @121653 has 186 MA's), (58, 121671), (87, 121803), (93, 121821), (109, 121881), (132, 121989), (135, 122013), (151, 122076), (153, 122082),

Gene: Bowman\_213 Start: 120759, Stop: 121214, Start Num: 54

Candidate Starts for Bowman\_213:

(21, 120645), (28, 120708), (34, 120726), (Start: 54 @120759 has 186 MA's), (58, 120777), (87, 120909), (93, 120927), (109, 120987), (132, 121095), (135, 121119), (151, 121182), (153, 121188),

Gene: BrayBeast\_62 Start: 35523, Stop: 35936, Start Num: 47

Candidate Starts for BrayBeast\_62:

(22, 35457), (Start: 47 @35523 has 3 MA's), (79, 35619), (103, 35709), (135, 35859),

Gene: Bread\_210 Start: 119651, Stop: 120106, Start Num: 54

Candidate Starts for Bread\_210:

(21, 119537), (28, 119600), (34, 119618), (Start: 54 @119651 has 186 MA's), (58, 119669), (87, 119801), (93, 119819), (109, 119879), (132, 119987), (135, 120011), (151, 120074), (153, 120080),

Gene: Breeniome\_214 Start: 119105, Stop: 119560, Start Num: 54

Candidate Starts for Breeniome\_214:

(21, 118991), (28, 119054), (34, 119072), (Start: 54 @119105 has 186 MA's), (58, 119123), (87, 119255), (93, 119273), (109, 119333), (132, 119441), (135, 119465), (151, 119528), (153, 119534),

Gene: Brynnie\_41 Start: 28050, Stop: 28520, Start Num: 48

Candidate Starts for Brynnie\_41:

(Start: 48 @28050 has 87 MA's), (Start: 59 @28086 has 1 MA's), (60, 28092), (77, 28146), (86, 28188), (97, 28227), (104, 28248), (109, 28266), (114, 28302), (132, 28401), (135, 28425), (141, 28443), (151,

28488), (157, 28509),

Gene: Burrough\_217 Start: 121421, Stop: 121876, Start Num: 54

Candidate Starts for Burrough\_217:

(21, 121307), (28, 121370), (34, 121388), (Start: 54 @121421 has 186 MA's), (58, 121439), (87, 121571), (93, 121589), (109, 121649), (132, 121757), (135, 121781), (151, 121844), (153, 121850),

Gene: Bxz1\_205 Start: 121627, Stop: 122082, Start Num: 54

Candidate Starts for Bxz1\_205:

(21, 121513), (28, 121576), (34, 121594), (Start: 54 @121627 has 186 MA's), (58, 121645), (87, 121777), (93, 121795), (109, 121855), (132, 121963), (135, 121987), (151, 122050), (153, 122056),

Gene: Cactojaque\_210 Start: 118087, Stop: 118542, Start Num: 54

Candidate Starts for Cactojaque\_210:

(21, 117973), (28, 118036), (34, 118054), (Start: 54 @118087 has 186 MA's), (58, 118105), (87, 118237), (93, 118255), (109, 118315), (132, 118423), (135, 118447), (151, 118510), (153, 118516),

Gene: Cali\_208 Start: 120034, Stop: 120489, Start Num: 54

Candidate Starts for Cali\_208:

(21, 119920), (28, 119983), (34, 120001), (Start: 54 @120034 has 186 MA's), (58, 120052), (87, 120184), (93, 120202), (109, 120262), (132, 120370), (135, 120394), (151, 120457), (153, 120463),

Gene: Camara\_45 Start: 28277, Stop: 28711, Start Num: 59

Candidate Starts for Camara\_45:

(Start: 48 @28241 has 87 MA's), (Start: 59 @28277 has 1 MA's), (80, 28358), (86, 28382), (93, 28406), (102, 28430), (104, 28442), (106, 28451), (109, 28460), (114, 28496), (120, 28532), (123, 28544), (126, 28565), (128, 28577), (136, 28619), (147, 28667), (150, 28676),

Gene: Cane17\_206 Start: 123642, Stop: 124097, Start Num: 54

Candidate Starts for Cane17\_206:

(21, 123528), (28, 123591), (34, 123609), (Start: 54 @123642 has 186 MA's), (58, 123660), (87, 123792), (93, 123810), (109, 123870), (132, 123978), (135, 124002), (151, 124065),

Gene: Capablanca\_220 Start: 122248, Stop: 122703, Start Num: 54

Candidate Starts for Capablanca\_220:

(21, 122134), (28, 122197), (34, 122215), (Start: 54 @122248 has 186 MA's), (58, 122266), (87, 122398), (93, 122416), (109, 122476), (132, 122584), (135, 122608), (151, 122671), (153, 122677),

Gene: Caravan\_206 Start: 120368, Stop: 120823, Start Num: 54

Candidate Starts for Caravan\_206:

(21, 120254), (28, 120317), (34, 120335), (Start: 54 @120368 has 186 MA's), (58, 120386), (87, 120518), (93, 120536), (109, 120596), (132, 120704), (135, 120728), (151, 120791), (153, 120797),

Gene: Cassini\_82 Start: 47390, Stop: 47791, Start Num: 48

Candidate Starts for Cassini\_82:

(18, 47285), (Start: 48 @47390 has 87 MA's), (Start: 55 @47402 has 2 MA's), (58, 47417), (62, 47447), (63, 47453), (70, 47477), (98, 47567), (101, 47573), (103, 47585), (110, 47624), (121, 47657), (139, 47732),

Gene: Catera\_207 Start: 118761, Stop: 119216, Start Num: 54

Candidate Starts for Catera\_207:

(21, 118647), (28, 118710), (34, 118728), (Start: 54 @118761 has 186 MA's), (58, 118779), (87, 118911), (93, 118929), (109, 118989), (132, 119097), (135, 119121), (151, 119184), (153, 119190),

Gene: Caterpie\_69 Start: 50850, Stop: 51224, Start Num: 64

Candidate Starts for Caterpie\_69:

(Start: 32 @50760 has 2 MA's), (58, 50811), (64, 50850), (72, 50880), (94, 50958), (108, 51009), (128, 51108), (132, 51120), (133, 51123), (137, 51150), (149, 51201), (154, 51216),

Gene: Chargie21\_212 Start: 118067, Stop: 118522, Start Num: 54

Candidate Starts for Chargie21\_212:

(21, 117953), (28, 118016), (34, 118034), (Start: 54 @118067 has 186 MA's), (58, 118085), (87, 118217), (93, 118235), (109, 118295), (132, 118403), (135, 118427), (151, 118490), (153, 118496),

Gene: CharlieB\_209 Start: 119788, Stop: 120243, Start Num: 54

Candidate Starts for CharlieB\_209:

(21, 119674), (28, 119737), (34, 119755), (Start: 54 @119788 has 186 MA's), (58, 119806), (87, 119938), (93, 119956), (109, 120016), (132, 120124), (135, 120148), (151, 120211), (153, 120217),

Gene: ChaylaJr\_213 Start: 118767, Stop: 119222, Start Num: 54

Candidate Starts for ChaylaJr\_213:

(21, 118653), (28, 118716), (34, 118734), (Start: 54 @118767 has 186 MA's), (58, 118785), (87, 118917), (93, 118935), (109, 118995), (132, 119103), (135, 119127), (151, 119190), (153, 119196),

Gene: Chickaboom\_44 Start: 28771, Stop: 29241, Start Num: 48

Candidate Starts for Chickaboom\_44:

(Start: 48 @28771 has 87 MA's), (Start: 59 @28807 has 1 MA's), (60, 28813), (86, 28909), (97, 28948), (104, 28969), (109, 28987), (114, 29023), (115, 29029), (123, 29074), (126, 29095), (135, 29146), (141, 29164), (151, 29209), (157, 29230),

Gene: Chicken\_42 Start: 29231, Stop: 29698, Start Num: 48

Candidate Starts for Chicken\_42:

(Start: 48 @29231 has 87 MA's), (Start: 59 @29267 has 1 MA's), (77, 29327), (104, 29429), (109, 29447), (118, 29507), (126, 29552), (132, 29579), (135, 29603), (137, 29609), (149, 29660), (157, 29687),

Gene: ChickenPhender\_211 Start: 118214, Stop: 118669, Start Num: 54

Candidate Starts for ChickenPhender\_211:

(21, 118100), (28, 118163), (34, 118181), (Start: 54 @118214 has 186 MA's), (58, 118232), (87, 118364), (93, 118382), (109, 118442), (132, 118550), (135, 118574), (151, 118637), (153, 118643),

Gene: Chomp\_215 Start: 120837, Stop: 121292, Start Num: 54

Candidate Starts for Chomp\_215:

(21, 120723), (28, 120786), (34, 120804), (Start: 54 @120837 has 186 MA's), (58, 120855), (87, 120987), (93, 121005), (109, 121065), (132, 121173), (135, 121197), (151, 121260), (153, 121266),

Gene: CindyLou\_216 Start: 121097, Stop: 121552, Start Num: 54

Candidate Starts for CindyLou\_216:

(21, 120983), (28, 121046), (34, 121064), (Start: 54 @121097 has 186 MA's), (58, 121115), (87, 121247), (93, 121265), (109, 121325), (132, 121433), (135, 121457), (151, 121520), (153, 121526),

Gene: Cleatunium\_208 Start: 119480, Stop: 119935, Start Num: 54

Candidate Starts for Cleatunium\_208:

(21, 119366), (28, 119429), (34, 119447), (Start: 54 @119480 has 186 MA's), (58, 119498), (87, 119630), (93, 119648), (109, 119708), (132, 119816), (135, 119840), (151, 119903), (153, 119909),

Gene: Colt\_206 Start: 122873, Stop: 123328, Start Num: 54

Candidate Starts for Colt\_206:

(21, 122759), (28, 122822), (34, 122840), (Start: 54 @122873 has 186 MA's), (58, 122891), (87, 123023), (93, 123041), (109, 123101), (132, 123209), (135, 123233), (151, 123296),

Gene: Colusalem\_44 Start: 27262, Stop: 27729, Start Num: 48

Candidate Starts for Colusalem\_44:

(26, 27205), (Start: 48 @27262 has 87 MA's), (Start: 59 @27298 has 1 MA's), (77, 27358), (88, 27409), (93, 27424), (104, 27460), (118, 27538), (120, 27550), (132, 27610), (135, 27634), (147, 27685), (149, 27691), (155, 27712), (157, 27718),

Gene: Concombres\_220 Start: 121707, Stop: 122162, Start Num: 54

Candidate Starts for Concombres\_220:

(21, 121593), (28, 121656), (34, 121674), (Start: 54 @121707 has 186 MA's), (58, 121725), (87, 121857), (93, 121875), (109, 121935), (132, 122043), (135, 122067), (151, 122130), (153, 122136),

Gene: CookieBear\_84 Start: 47392, Stop: 47817, Start Num: 48

Candidate Starts for CookieBear\_84:

(19, 47287), (Start: 48 @47392 has 87 MA's), (Start: 55 @47404 has 2 MA's), (58, 47419), (62, 47449), (63, 47455), (70, 47479), (116, 47647), (121, 47659), (130, 47704), (148, 47782),

Gene: Coral\_43 Start: 27133, Stop: 27600, Start Num: 48

Candidate Starts for Coral\_43:

(26, 27076), (Start: 48 @27133 has 87 MA's), (Start: 59 @27169 has 1 MA's), (77, 27229), (88, 27280), (93, 27295), (95, 27298), (104, 27331), (118, 27409), (120, 27421), (132, 27481), (135, 27505), (147, 27556), (149, 27562), (155, 27583), (157, 27589),

Gene: CosmicBrownie\_85 Start: 47189, Stop: 47614, Start Num: 48

Candidate Starts for CosmicBrownie\_85:

(Start: 48 @47189 has 87 MA's), (Start: 55 @47201 has 2 MA's), (58, 47216), (62, 47246), (63, 47252), (69, 47270), (70, 47276), (84, 47324), (148, 47579),

Gene: Cote\_45 Start: 27610, Stop: 28077, Start Num: 48

Candidate Starts for Cote\_45:

(26, 27553), (Start: 48 @27610 has 87 MA's), (Start: 59 @27646 has 1 MA's), (77, 27706), (88, 27757), (93, 27772), (104, 27808), (118, 27886), (120, 27898), (132, 27958), (135, 27982), (147, 28033), (149, 28039), (155, 28060), (157, 28066),

Gene: Crescenzo\_87 Start: 49757, Stop: 50182, Start Num: 48

Candidate Starts for Crescenzo\_87:

(Start: 48 @49757 has 87 MA's), (Start: 55 @49769 has 2 MA's), (58, 49784), (62, 49814), (63, 49820), (70, 49844), (148, 50147),

Gene: Cygnet\_45 Start: 29068, Stop: 29529, Start Num: 48

Candidate Starts for Cygnet\_45:

(Start: 48 @29068 has 87 MA's), (Start: 59 @29104 has 1 MA's), (86, 29209), (93, 29233), (104, 29275), (126, 29395), (134, 29443), (137, 29452), (143, 29476), (151, 29509), (154, 29518),

Gene: DTDevon\_217 Start: 121586, Stop: 122041, Start Num: 54

Candidate Starts for DTDevon\_217:

(21, 121472), (28, 121535), (34, 121553), (Start: 54 @121586 has 186 MA's), (58, 121604), (87, 121736), (93, 121754), (109, 121814), (132, 121922), (135, 121946), (151, 122009), (153, 122015),

Gene: Daffodil\_220 Start: 120551, Stop: 121006, Start Num: 54

Candidate Starts for Daffodil\_220:

(21, 120437), (28, 120500), (34, 120518), (Start: 54 @120551 has 186 MA's), (58, 120569), (87, 120701), (93, 120719), (109, 120779), (132, 120887), (135, 120911), (151, 120974), (153, 120980),

Gene: Damocles\_47 Start: 27421, Stop: 27888, Start Num: 48

Candidate Starts for Damocles\_47:

(26, 27364), (Start: 48 @27421 has 87 MA's), (Start: 59 @27457 has 1 MA's), (77, 27517), (88, 27568), (93, 27583), (104, 27619), (118, 27697), (120, 27709), (132, 27769), (135, 27793), (147, 27844), (149, 27850), (155, 27871), (157, 27877),

Gene: DanHam62\_45 Start: 28340, Stop: 28810, Start Num: 48

Candidate Starts for DanHam62\_45:

(Start: 48 @28340 has 87 MA's), (Start: 59 @28376 has 1 MA's), (80, 28457), (86, 28481), (93, 28505), (102, 28529), (104, 28541), (106, 28550), (109, 28559), (114, 28595), (120, 28631), (123, 28643), (126, 28664), (128, 28676), (136, 28718), (147, 28766), (150, 28775),

Gene: Dandelion\_223 Start: 123191, Stop: 123646, Start Num: 54

Candidate Starts for Dandelion\_223:

(21, 123077), (28, 123140), (34, 123158), (Start: 54 @123191 has 186 MA's), (58, 123209), (87, 123341), (93, 123359), (109, 123419), (132, 123527), (135, 123551), (151, 123614), (153, 123620),

Gene: Daob\_45 Start: 27618, Stop: 28085, Start Num: 48

Candidate Starts for Daob\_45:

(26, 27561), (Start: 48 @27618 has 87 MA's), (Start: 59 @27654 has 1 MA's), (77, 27714), (88, 27765), (93, 27780), (104, 27816), (118, 27894), (120, 27906), (132, 27966), (135, 27990), (147, 28041), (149, 28047), (155, 28068), (157, 28074),

Gene: Darko\_214 Start: 119785, Stop: 120240, Start Num: 54

Candidate Starts for Darko\_214:

(21, 119671), (28, 119734), (34, 119752), (Start: 54 @119785 has 186 MA's), (58, 119803), (87, 119935), (93, 119953), (109, 120013), (132, 120121), (135, 120145), (151, 120208), (153, 120214),

Gene: DarwinJr\_89 Start: 49871, Stop: 50296, Start Num: 48

Candidate Starts for DarwinJr\_89:

(Start: 48 @49871 has 87 MA's), (Start: 55 @49883 has 2 MA's), (58, 49898), (62, 49928), (63, 49934), (70, 49958), (148, 50261),

Gene: DeejaClivia\_203 Start: 117927, Stop: 118382, Start Num: 54

Candidate Starts for DeejaClivia\_203:

(21, 117813), (28, 117876), (34, 117894), (Start: 54 @117927 has 186 MA's), (58, 117945), (87, 118077), (93, 118095), (109, 118155), (132, 118263), (135, 118287), (151, 118350), (153, 118356),

Gene: DelaGarza\_42 Start: 25918, Stop: 25496, Start Num: 54

Candidate Starts for DelaGarza\_42:

(14, 26086), (23, 25999), (Start: 54 @25918 has 186 MA's), (68, 25852), (88, 25783), (92, 25771), (109, 25711), (133, 25606),

Gene: Delilah\_213 Start: 120669, Stop: 121124, Start Num: 54

Candidate Starts for Delilah\_213:

(21, 120555), (28, 120618), (34, 120636), (Start: 54 @120669 has 186 MA's), (58, 120687), (87, 120819), (93, 120837), (109, 120897), (132, 121005), (135, 121029), (151, 121092), (153, 121098),

Gene: Delylah\_217 Start: 120958, Stop: 121413, Start Num: 54

Candidate Starts for Delylah\_217:

(21, 120844), (28, 120907), (34, 120925), (Start: 54 @120958 has 186 MA's), (58, 120976), (87, 121108), (93, 121126), (109, 121186), (132, 121294), (135, 121318), (151, 121381), (153, 121387),

Gene: Demodog\_221 Start: 121717, Stop: 122172, Start Num: 54

Candidate Starts for Demodog\_221:

(21, 121603), (28, 121666), (34, 121684), (Start: 54 @121717 has 186 MA's), (58, 121735), (87, 121867), (93, 121885), (109, 121945), (132, 122053), (135, 122077), (151, 122140), (153, 122146),

Gene: Derek\_212 Start: 120114, Stop: 120569, Start Num: 54

Candidate Starts for Derek\_212:

(21, 120000), (28, 120063), (34, 120081), (Start: 54 @120114 has 186 MA's), (58, 120132), (87, 120264), (93, 120282), (109, 120342), (132, 120450), (135, 120474), (151, 120537), (153, 120543),

Gene: Dessert\_213 Start: 119114, Stop: 119569, Start Num: 54

Candidate Starts for Dessert\_213:

(21, 119000), (28, 119063), (34, 119081), (Start: 54 @119114 has 186 MA's), (58, 119132), (87, 119264), (93, 119282), (109, 119342), (132, 119450), (135, 119474), (151, 119537), (153, 119543),

Gene: Dietrick\_204 Start: 118790, Stop: 119245, Start Num: 54

Candidate Starts for Dietrick\_204:

(21, 118676), (28, 118739), (34, 118757), (Start: 54 @118790 has 186 MA's), (58, 118808), (87, 118940), (93, 118958), (109, 119018), (132, 119126), (135, 119150), (151, 119213), (153, 119219),

Gene: Ding\_88 Start: 47949, Stop: 48350, Start Num: 49

Candidate Starts for Ding\_88:

(4, 47613), (6, 47679), (29, 47910), (Start: 49 @47949 has 4 MA's), (70, 48024), (79, 48033), (85, 48066), (98, 48105),

Gene: DinoDaryn\_57 Start: 37067, Stop: 37507, Start Num: 36

Candidate Starts for DinoDaryn\_57:

(Start: 36 @37067 has 5 MA's), (45, 37082), (58, 37106), (74, 37160), (103, 37262), (109, 37286), (119, 37331),

Gene: DirtMonster\_208 Start: 120030, Stop: 120485, Start Num: 54

Candidate Starts for DirtMonster\_208:

(21, 119916), (28, 119979), (34, 119997), (Start: 54 @120030 has 186 MA's), (58, 120048), (87, 120180), (93, 120198), (109, 120258), (132, 120366), (135, 120390), (151, 120453), (153, 120459),

Gene: Domi\_209 Start: 120141, Stop: 120596, Start Num: 54

Candidate Starts for Domi\_209:

(21, 120027), (28, 120090), (34, 120108), (Start: 54 @120141 has 186 MA's), (58, 120159), (87, 120291), (93, 120309), (109, 120369), (132, 120477), (135, 120501), (151, 120564), (153, 120570),

Gene: DrPhinkDaddy\_212 Start: 121329, Stop: 121784, Start Num: 54

Candidate Starts for DrPhinkDaddy\_212:

(21, 121215), (28, 121278), (34, 121296), (Start: 54 @121329 has 186 MA's), (58, 121347), (87, 121479), (93, 121497), (109, 121557), (132, 121665), (135, 121689), (151, 121752), (153, 121758),

Gene: Drazdys\_213 Start: 120231, Stop: 120686, Start Num: 54

Candidate Starts for Drazdys\_213:

(21, 120117), (28, 120180), (34, 120198), (Start: 54 @120231 has 186 MA's), (58, 120249), (87, 120381), (93, 120399), (109, 120459), (132, 120567), (135, 120591), (151, 120654), (153, 120660),

Gene: Duckfeet\_209 Start: 119757, Stop: 120212, Start Num: 54

Candidate Starts for Duckfeet\_209:

(21, 119643), (28, 119706), (34, 119724), (Start: 54 @119757 has 186 MA's), (58, 119775), (87, 119907), (93, 119925), (109, 119985), (132, 120093), (135, 120117), (151, 120180), (153, 120186),

Gene: ET08\_203 Start: 119822, Stop: 120277, Start Num: 54

Candidate Starts for ET08\_203:

(21, 119708), (28, 119771), (34, 119789), (Start: 54 @119822 has 186 MA's), (58, 119840), (87, 119972), (93, 119990), (109, 120050), (132, 120158), (135, 120182), (151, 120245), (153, 120251),

Gene: EasyJones\_218 Start: 119310, Stop: 119765, Start Num: 54

Candidate Starts for EasyJones\_218:

(21, 119196), (28, 119259), (34, 119277), (Start: 54 @119310 has 186 MA's), (58, 119328), (87, 119460), (93, 119478), (109, 119538), (132, 119646), (135, 119670), (151, 119733), (153, 119739),

Gene: Eesa\_42 Start: 29653, Stop: 30120, Start Num: 48

Candidate Starts for Eesa\_42:

(Start: 48 @29653 has 87 MA's), (Start: 59 @29689 has 1 MA's), (77, 29749), (93, 29815), (104, 29851), (109, 29869), (118, 29929), (126, 29974), (132, 30001), (135, 30025), (137, 30031), (149, 30082), (157, 30109),

Gene: EggyFarm\_224 Start: 122165, Stop: 122620, Start Num: 54

Candidate Starts for EggyFarm\_224:

(21, 122051), (28, 122114), (34, 122132), (Start: 36 @122135 has 5 MA's), (Start: 54 @122165 has 186 MA's), (58, 122183), (87, 122315), (93, 122333), (109, 122393), (132, 122501), (135, 122525), (151, 122588), (153, 122594),

Gene: EmToTheThree\_215 Start: 120702, Stop: 121157, Start Num: 54

Candidate Starts for EmToTheThree\_215:

(21, 120588), (28, 120651), (34, 120669), (Start: 54 @120702 has 186 MA's), (58, 120720), (87, 120852), (93, 120870), (109, 120930), (132, 121038), (135, 121062), (151, 121125), (153, 121131),

Gene: EmmaElysia\_219 Start: 120993, Stop: 121448, Start Num: 54

Candidate Starts for EmmaElysia\_219:

(21, 120879), (28, 120942), (34, 120960), (Start: 54 @120993 has 186 MA's), (58, 121011), (87, 121143), (93, 121161), (109, 121221), (132, 121329), (135, 121353), (151, 121416), (153, 121422),

Gene: Erdmann\_216 Start: 120661, Stop: 121116, Start Num: 54

Candidate Starts for Erdmann\_216:

(21, 120547), (28, 120610), (34, 120628), (Start: 54 @120661 has 186 MA's), (58, 120679), (87, 120811), (93, 120829), (109, 120889), (132, 120997), (135, 121021), (151, 121084), (153, 121090),

Gene: ErnieJ\_208 Start: 117489, Stop: 117944, Start Num: 54

Candidate Starts for ErnieJ\_208:

(21, 117375), (28, 117438), (34, 117456), (Start: 54 @117489 has 186 MA's), (58, 117507), (87, 117639), (93, 117657), (109, 117717), (132, 117825), (135, 117849), (151, 117912), (153, 117918),

Gene: Essence\_212 Start: 119443, Stop: 119898, Start Num: 54

Candidate Starts for Essence\_212:

(21, 119329), (28, 119392), (34, 119410), (Start: 54 @119443 has 186 MA's), (58, 119461), (87, 119593), (93, 119611), (109, 119671), (132, 119779), (135, 119803), (151, 119866), (153, 119872),

Gene: EvePickles\_87 Start: 49459, Stop: 49884, Start Num: 48

Candidate Starts for EvePickles\_87:

(Start: 48 @49459 has 87 MA's), (Start: 55 @49471 has 2 MA's), (58, 49486), (62, 49516), (63, 49522), (84, 49594), (98, 49636), (122, 49729), (127, 49765), (148, 49849),

Gene: Ewok\_214 Start: 120579, Stop: 121034, Start Num: 54

Candidate Starts for Ewok\_214:

(21, 120465), (28, 120528), (34, 120546), (Start: 54 @120579 has 186 MA's), (58, 120597), (87, 120729), (93, 120747), (109, 120807), (132, 120915), (135, 120939), (151, 121002), (153, 121008),

Gene: Faja\_87 Start: 48745, Stop: 49170, Start Num: 48

Candidate Starts for Faja\_87:

(19, 48640), (Start: 48 @48745 has 87 MA's), (Start: 55 @48757 has 2 MA's), (58, 48772), (62, 48802), (63, 48808), (70, 48832), (84, 48880), (98, 48922), (113, 48991), (148, 49135),

Gene: Fingolfin\_45 Start: 28343, Stop: 28813, Start Num: 48

Candidate Starts for Fingolfin\_45:

(Start: 48 @28343 has 87 MA's), (Start: 59 @28379 has 1 MA's), (80, 28460), (86, 28484), (93, 28508), (102, 28532), (104, 28544), (106, 28553), (109, 28562), (114, 28598), (120, 28634), (123, 28646), (126, 28667), (128, 28679), (136, 28721), (147, 28769), (150, 28778),

Gene: Fixie\_215 Start: 120223, Stop: 120678, Start Num: 54

Candidate Starts for Fixie\_215:

(21, 120109), (28, 120172), (34, 120190), (Start: 54 @120223 has 186 MA's), (58, 120241), (87, 120373), (93, 120391), (109, 120451), (132, 120559), (135, 120583), (151, 120646), (153, 120652),

Gene: Flabslab\_210 Start: 117631, Stop: 118086, Start Num: 54

Candidate Starts for Flabslab\_210:

(21, 117517), (28, 117580), (34, 117598), (Start: 54 @117631 has 186 MA's), (58, 117649), (87, 117781), (93, 117799), (109, 117859), (132, 117967), (135, 117991), (151, 118054), (153, 118060),

Gene: Fludd\_215 Start: 119022, Stop: 119477, Start Num: 54

Candidate Starts for Fludd\_215:

(21, 118908), (28, 118971), (34, 118989), (Start: 54 @119022 has 186 MA's), (58, 119040), (87, 119172), (93, 119190), (109, 119250), (132, 119358), (135, 119382), (151, 119445), (153, 119451),

Gene: Fongie\_216 Start: 120602, Stop: 121057, Start Num: 54

Candidate Starts for Fongie\_216:

(21, 120488), (28, 120551), (34, 120569), (Start: 54 @120602 has 186 MA's), (58, 120620), (87, 120752), (93, 120770), (109, 120830), (132, 120938), (135, 120962), (151, 121025), (153, 121031),

Gene: FoxtrotP1\_213 Start: 121259, Stop: 121714, Start Num: 54

Candidate Starts for FoxtrotP1\_213:

(21, 121145), (28, 121208), (34, 121226), (Start: 54 @121259 has 186 MA's), (58, 121277), (87, 121409), (93, 121427), (109, 121487), (132, 121595), (135, 121619), (151, 121682), (153, 121688),

Gene: FrayBell\_218 Start: 119112, Stop: 119567, Start Num: 54

Candidate Starts for FrayBell\_218:

(21, 118998), (28, 119061), (34, 119079), (Start: 54 @119112 has 186 MA's), (58, 119130), (87, 119262), (93, 119280), (109, 119340), (132, 119448), (135, 119472), (151, 119535), (153, 119541),

Gene: Fregley\_61 Start: 42057, Stop: 41593, Start Num: 48

Candidate Starts for Fregley\_61:

(46, 42060), (Start: 48 @42057 has 87 MA's), (61, 42012), (85, 41925), (96, 41889), (112, 41814), (129, 41748), (132, 41736), (133, 41733), (144, 41682), (158, 41619), (159, 41616),

Gene: FudgeTart\_210 Start: 119726, Stop: 120181, Start Num: 54

Candidate Starts for FudgeTart\_210:

(21, 119612), (28, 119675), (34, 119693), (Start: 54 @119726 has 186 MA's), (58, 119744), (87, 119876), (93, 119894), (109, 119954), (132, 120062), (135, 120086), (151, 120149), (153, 120155),

Gene: GUPitcher\_62 Start: 39387, Stop: 39782, Start Num: 54

Candidate Starts for GUPitcher\_62:

(12, 39192), (13, 39198), (Start: 49 @39381 has 4 MA's), (Start: 54 @39387 has 186 MA's), (58, 39405), (66, 39444), (70, 39459), (71, 39462), (74, 39468), (87, 39504), (91, 39516), (104, 39564), (109, 39582),

Gene: Gabriel\_218 Start: 119181, Stop: 119636, Start Num: 54

Candidate Starts for Gabriel\_218:

(21, 119067), (28, 119130), (34, 119148), (Start: 54 @119181 has 186 MA's), (58, 119199), (87, 119331), (93, 119349), (109, 119409), (132, 119517), (135, 119541), (151, 119604), (153, 119610),

Gene: Galaxy\_41 Start: 27422, Stop: 27892, Start Num: 48

Candidate Starts for Galaxy\_41:

(Start: 48 @27422 has 87 MA's), (56, 27437), (Start: 59 @27458 has 1 MA's), (60, 27464), (86, 27560), (104, 27620), (109, 27638), (114, 27674), (132, 27773), (135, 27797), (141, 27815), (149, 27854), (151, 27860), (157, 27881),

Gene: Gamgam\_216 Start: 119538, Stop: 119993, Start Num: 54

Candidate Starts for Gamgam\_216:

(21, 119424), (28, 119487), (34, 119505), (Start: 54 @119538 has 186 MA's), (58, 119556), (87, 119688), (93, 119706), (109, 119766), (132, 119874), (135, 119898), (151, 119961), (153, 119967),

Gene: Ghost\_215 Start: 119459, Stop: 119914, Start Num: 54

Candidate Starts for Ghost\_215:

(21, 119345), (28, 119408), (34, 119426), (Start: 54 @119459 has 186 MA's), (58, 119477), (80, 119579), (87, 119609), (93, 119627), (109, 119687), (132, 119795), (135, 119819), (151, 119882), (153, 119888),

Gene: Gingerbug\_41 Start: 26445, Stop: 26023, Start Num: 54

Candidate Starts for Gingerbug\_41:

(Start: 54 @26445 has 186 MA's), (76, 26358), (103, 26262), (104, 26256), (109, 26238), (135, 26112), (140, 26097), (146, 26067), (155, 26037),

Gene: Gizmo\_221 Start: 122577, Stop: 123032, Start Num: 54

Candidate Starts for Gizmo\_221:

(21, 122463), (28, 122526), (34, 122544), (Start: 54 @122577 has 186 MA's), (58, 122595), (87, 122727), (93, 122745), (109, 122805), (132, 122913), (135, 122937), (151, 123000), (153, 123006),

Gene: Globfish\_85 Start: 47014, Stop: 47436, Start Num: 48

Candidate Starts for Globfish\_85:

(Start: 48 @47014 has 87 MA's), (Start: 55 @47023 has 2 MA's), (58, 47038), (62, 47068), (63, 47074), (70, 47098), (98, 47188), (116, 47266), (121, 47278), (148, 47401),

Gene: Glotell\_46 Start: 28397, Stop: 28867, Start Num: 48

Candidate Starts for Glotell\_46:

(Start: 48 @28397 has 87 MA's), (Start: 59 @28433 has 1 MA's), (80, 28514), (86, 28538), (93, 28562), (102, 28586), (104, 28598), (106, 28607), (109, 28616), (114, 28652), (120, 28688), (123, 28700), (126, 28721), (128, 28733), (136, 28775), (147, 28823), (150, 28832),

Gene: GlutenPhree\_216 Start: 119549, Stop: 120004, Start Num: 54

Candidate Starts for GlutenPhree\_216:

(21, 119435), (28, 119498), (34, 119516), (Start: 54 @119549 has 186 MA's), (58, 119567), (87, 119699), (93, 119717), (109, 119777), (132, 119885), (135, 119909), (151, 119972), (153, 119978),

Gene: Goib\_58 Start: 38192, Stop: 38617, Start Num: 43

Candidate Starts for Goib\_58:

(37, 38183), (41, 38189), (Start: 43 @38192 has 1 MA's), (58, 38216), (74, 38270), (103, 38372), (109, 38396), (119, 38441),

Gene: Gorpy\_83 Start: 48809, Stop: 49234, Start Num: 48

Candidate Starts for Gorpy\_83:

(Start: 48 @48809 has 87 MA's), (Start: 55 @48821 has 2 MA's), (58, 48836), (62, 48866), (63, 48872), (116, 49064), (121, 49076), (148, 49199),

Gene: GramZayde\_45 Start: 27542, Stop: 27913, Start Num: 77

Candidate Starts for GramZayde\_45:

(26, 27389), (Start: 48 @27446 has 87 MA's), (Start: 59 @27482 has 1 MA's), (77, 27542), (88, 27593), (93, 27608), (104, 27644), (118, 27722), (120, 27734), (132, 27794), (135, 27818), (147, 27869), (149, 27875), (155, 27896), (157, 27902),

Gene: Grasshills\_223 Start: 122164, Stop: 122619, Start Num: 54

Candidate Starts for Grasshills\_223:

(21, 122050), (28, 122113), (34, 122131), (Start: 36 @122134 has 5 MA's), (Start: 54 @122164 has 186 MA's), (58, 122182), (87, 122314), (93, 122332), (109, 122392), (132, 122500), (135, 122524), (151, 122587), (153, 122593),

Gene: Gravel\_52 Start: 29743, Stop: 30210, Start Num: 48

Candidate Starts for Gravel\_52:

(Start: 48 @29743 has 87 MA's), (Start: 59 @29779 has 1 MA's), (77, 29839), (93, 29905), (104, 29941), (109, 29959), (118, 30019), (126, 30064), (132, 30091), (135, 30115), (137, 30121), (149, 30172), (157, 30199),

Gene: Grungle\_199 Start: 117496, Stop: 117951, Start Num: 54

Candidate Starts for Grungle\_199:

(21, 117382), (28, 117445), (34, 117463), (Start: 54 @117496 has 186 MA's), (58, 117514), (87, 117646), (93, 117664), (109, 117724), (132, 117832), (135, 117856), (151, 117919), (153, 117925),

Gene: GumGum\_93 Start: 49153, Stop: 49578, Start Num: 48

Candidate Starts for GumGum\_93:

(9, 48901), (15, 49000), (Start: 48 @49153 has 87 MA's), (Start: 55 @49165 has 2 MA's), (62, 49210), (63, 49216), (70, 49240), (84, 49288), (116, 49408), (121, 49420), (130, 49465), (148, 49543),

Gene: Guwapp\_210 Start: 118293, Stop: 118748, Start Num: 54

Candidate Starts for Guwapp\_210:

(21, 118179), (28, 118242), (34, 118260), (Start: 54 @118293 has 186 MA's), (58, 118311), (87, 118443), (93, 118461), (109, 118521), (132, 118629), (135, 118653), (151, 118716), (153, 118722),

Gene: Halldule\_208 Start: 118678, Stop: 119133, Start Num: 54

Candidate Starts for Halldule\_208:

(21, 118564), (28, 118627), (34, 118645), (Start: 54 @118678 has 186 MA's), (58, 118696), (87, 118828), (93, 118846), (109, 118906), (132, 119014), (135, 119038), (151, 119101), (153, 119107),

Gene: HamCheese\_45 Start: 28327, Stop: 28797, Start Num: 48

Candidate Starts for HamCheese\_45:

(Start: 48 @28327 has 87 MA's), (Start: 59 @28363 has 1 MA's), (80, 28444), (86, 28468), (93, 28492), (102, 28516), (104, 28528), (106, 28537), (109, 28546), (114, 28582), (120, 28618), (123, 28630), (126, 28651), (128, 28663), (136, 28705), (147, 28753), (150, 28762),

Gene: HannahPhantana\_44 Start: 27280, Stop: 27747, Start Num: 48

Candidate Starts for HannahPhantana\_44:

(26, 27223), (Start: 48 @27280 has 87 MA's), (Start: 59 @27316 has 1 MA's), (77, 27376), (88, 27427), (93, 27442), (104, 27478), (118, 27556), (120, 27568), (132, 27628), (135, 27652), (147, 27703), (149, 27709), (155, 27730), (157, 27736),

Gene: Hestia\_80 Start: 45962, Stop: 46387, Start Num: 48

Candidate Starts for Hestia\_80:

(Start: 48 @45962 has 87 MA's), (Start: 55 @45974 has 2 MA's), (58, 45989), (62, 46019), (63, 46025), (70, 46049), (98, 46139), (148, 46352),

Gene: Hillester\_90 Start: 48709, Stop: 49134, Start Num: 48

Candidate Starts for Hillester\_90:

(31, 48679), (Start: 48 @48709 has 87 MA's), (Start: 55 @48721 has 2 MA's), (58, 48736), (62, 48766), (63, 48772), (70, 48796), (84, 48844), (98, 48886), (113, 48955), (148, 49099),

Gene: Huffy\_57 Start: 37067, Stop: 37507, Start Num: 36

Candidate Starts for Huffy\_57:

(Start: 36 @37067 has 5 MA's), (45, 37082), (58, 37106), (74, 37160), (103, 37262), (109, 37286), (119, 37331),

Gene: HyRo\_203 Start: 118809, Stop: 119264, Start Num: 54

Candidate Starts for HyRo\_203:

(21, 118695), (28, 118758), (34, 118776), (Start: 54 @118809 has 186 MA's), (58, 118827), (87, 118959), (93, 118977), (109, 119037), (132, 119145), (135, 119169), (151, 119232), (153, 119238),

Gene: I3\_225 Start: 121254, Stop: 121709, Start Num: 54

Candidate Starts for I3\_225:

(21, 121140), (28, 121203), (34, 121221), (Start: 54 @121254 has 186 MA's), (58, 121272), (65, 121314), (87, 121404), (93, 121422), (109, 121482), (132, 121590), (135, 121614), (151, 121677), (153, 121683),

Gene: IkeLoa\_207 Start: 119203, Stop: 119658, Start Num: 54

Candidate Starts for IkeLoa\_207:

(21, 119089), (28, 119152), (34, 119170), (Start: 54 @119203 has 186 MA's), (58, 119221), (87, 119353), (93, 119371), (109, 119431), (132, 119539), (135, 119563), (151, 119626), (153, 119632),

Gene: InigoMontoya\_218 Start: 120212, Stop: 120667, Start Num: 54

Candidate Starts for InigoMontoya\_218:

(21, 120098), (28, 120161), (34, 120179), (Start: 54 @120212 has 186 MA's), (58, 120230), (87, 120362), (93, 120380), (109, 120440), (132, 120548), (135, 120572), (151, 120635), (153, 120641),

Gene: InterFolia\_218 Start: 120917, Stop: 121372, Start Num: 54

Candidate Starts for InterFolia\_218:

(21, 120803), (28, 120866), (34, 120884), (Start: 54 @120917 has 186 MA's), (58, 120935), (87, 121067), (93, 121085), (109, 121145), (132, 121253), (135, 121277), (151, 121340), (153, 121346),

Gene: Iota\_210 Start: 119897, Stop: 120352, Start Num: 54

Candidate Starts for Iota\_210:

(21, 119783), (28, 119846), (34, 119864), (Start: 54 @119897 has 186 MA's), (58, 119915), (87, 120047), (93, 120065), (109, 120125), (132, 120233), (135, 120257), (151, 120320), (153, 120326),

Gene: Isolde\_87 Start: 49198, Stop: 49623, Start Num: 48

Candidate Starts for Isolde\_87:

(31, 49168), (Start: 48 @49198 has 87 MA's), (Start: 55 @49210 has 2 MA's), (58, 49225), (62, 49255), (63, 49261), (70, 49285), (148, 49588),

Gene: Issimir\_208 Start: 119850, Stop: 120305, Start Num: 54

Candidate Starts for Issimir\_208:

(21, 119736), (28, 119799), (34, 119817), (Start: 54 @119850 has 186 MA's), (58, 119868), (87, 120000), (93, 120018), (109, 120078), (132, 120186), (135, 120210), (151, 120273), (153, 120279),

Gene: Izajani\_213 Start: 120719, Stop: 121174, Start Num: 54

Candidate Starts for Izajani\_213:

(21, 120605), (28, 120668), (34, 120686), (Start: 54 @120719 has 186 MA's), (58, 120737), (87, 120869), (93, 120887), (109, 120947), (132, 121055), (135, 121079), (151, 121142), (153, 121148),

Gene: JPickles\_211 Start: 118197, Stop: 118652, Start Num: 54

Candidate Starts for JPickles\_211:

(21, 118083), (28, 118146), (34, 118164), (Start: 54 @118197 has 186 MA's), (58, 118215), (87, 118347), (93, 118365), (109, 118425), (132, 118533), (135, 118557), (151, 118620), (153, 118626),

Gene: JakeTheSnake\_89 Start: 50117, Stop: 50518, Start Num: 49

Candidate Starts for JakeTheSnake\_89:

(39, 50102), (Start: 49 @50117 has 4 MA's), (70, 50192), (79, 50201), (145, 50477),

Gene: Jamun\_42 Start: 28931, Stop: 29401, Start Num: 48

Candidate Starts for Jamun\_42:

(Start: 48 @28931 has 87 MA's), (Start: 59 @28967 has 1 MA's), (60, 28973), (86, 29069), (104, 29129), (109, 29147), (114, 29183), (118, 29210), (123, 29234), (132, 29282), (135, 29306), (141, 29324), (147, 29357), (149, 29363), (151, 29369), (157, 29390),

Gene: Janiyra\_218 Start: 120437, Stop: 120892, Start Num: 54

Candidate Starts for Janiyra\_218:

(21, 120323), (28, 120386), (34, 120404), (Start: 54 @120437 has 186 MA's), (58, 120455), (87, 120587), (93, 120605), (109, 120665), (132, 120773), (135, 120797), (151, 120860), (153, 120866),

Gene: JayJay\_217 Start: 120141, Stop: 120596, Start Num: 54

Candidate Starts for JayJay\_217:

(21, 120027), (28, 120090), (34, 120108), (Start: 54 @120141 has 186 MA's), (58, 120159), (87, 120291), (93, 120309), (109, 120369), (132, 120477), (135, 120501), (151, 120564), (153, 120570),

Gene: Jaygup\_211 Start: 119258, Stop: 119713, Start Num: 54

Candidate Starts for Jaygup\_211:

(21, 119144), (28, 119207), (34, 119225), (Start: 54 @119258 has 186 MA's), (58, 119276), (87, 119408), (93, 119426), (109, 119486), (132, 119594), (135, 119618), (151, 119681), (153, 119687),

Gene: JeanClaude\_61 Start: 33888, Stop: 34313, Start Num: 47

Candidate Starts for JeanClaude\_61:

(22, 33822), (Start: 47 @33888 has 3 MA's), (79, 33984), (103, 34074), (135, 34224),

Gene: Jedediah\_215 Start: 120311, Stop: 120766, Start Num: 54

Candidate Starts for Jedediah\_215:

(21, 120197), (28, 120260), (34, 120278), (Start: 54 @120311 has 186 MA's), (58, 120329), (87, 120461), (93, 120479), (109, 120539), (132, 120647), (135, 120671), (151, 120734), (153, 120740),

Gene: JellyBread\_82 Start: 47875, Stop: 48285, Start Num: 48

Candidate Starts for JellyBread\_82:

(Start: 48 @47875 has 87 MA's), (Start: 55 @47887 has 2 MA's), (58, 47902), (62, 47932), (63, 47938), (70, 47962), (98, 48052), (101, 48058), (103, 48070), (110, 48109), (117, 48133), (122, 48145), (147, 48247), (152, 48262),

Gene: Jemmno\_214 Start: 119140, Stop: 119595, Start Num: 54

Candidate Starts for Jemmno\_214:

(21, 119026), (28, 119089), (34, 119107), (Start: 54 @119140 has 186 MA's), (58, 119158), (87, 119290), (93, 119308), (109, 119368), (132, 119476), (135, 119500), (151, 119563), (153, 119569),

Gene: Jerole\_44 Start: 27404, Stop: 27871, Start Num: 48

Candidate Starts for Jerole\_44:

(26, 27347), (Start: 48 @27404 has 87 MA's), (Start: 59 @27440 has 1 MA's), (77, 27500), (88, 27551), (93, 27566), (104, 27602), (118, 27680), (120, 27692), (132, 27752), (135, 27776), (147, 27827), (149, 27833), (155, 27854), (157, 27860),

Gene: Jessibeth14\_215 Start: 121328, Stop: 121783, Start Num: 54

Candidate Starts for Jessibeth14\_215:

(21, 121214), (28, 121277), (34, 121295), (Start: 54 @121328 has 186 MA's), (58, 121346), (87, 121478), (93, 121496), (109, 121556), (132, 121664), (135, 121688), (151, 121751), (153, 121757),

Gene: Jezreel\_212 Start: 120398, Stop: 120853, Start Num: 54

Candidate Starts for Jezreel\_212:

(21, 120284), (28, 120347), (34, 120365), (Start: 54 @120398 has 186 MA's), (58, 120416), (87, 120548), (93, 120566), (109, 120626), (132, 120734), (135, 120758), (151, 120821), (153, 120827),

Gene: JigglyPuff\_222 Start: 121715, Stop: 122170, Start Num: 54

Candidate Starts for JigglyPuff\_222:

(21, 121601), (28, 121664), (34, 121682), (Start: 54 @121715 has 186 MA's), (58, 121733), (87, 121865), (93, 121883), (109, 121943), (132, 122051), (135, 122075), (151, 122138), (153, 122144),

Gene: JulietS\_206 Start: 117438, Stop: 117893, Start Num: 54

Candidate Starts for JulietS\_206:

(1, 116919), (21, 117324), (28, 117387), (34, 117405), (Start: 54 @117438 has 186 MA's), (58, 117456), (87, 117588), (93, 117606), (109, 117666), (132, 117774), (135, 117798), (151, 117861), (153, 117867),

Gene: Juno112\_44 Start: 28343, Stop: 28813, Start Num: 48

Candidate Starts for Juno112\_44:

(Start: 48 @28343 has 87 MA's), (Start: 59 @28379 has 1 MA's), (80, 28460), (86, 28484), (93, 28508), (102, 28532), (104, 28544), (106, 28553), (109, 28562), (114, 28598), (120, 28634), (123, 28646), (126, 28667), (128, 28679), (136, 28721), (147, 28769), (150, 28778),

Gene: JustHall\_209 Start: 119344, Stop: 119799, Start Num: 54

Candidate Starts for JustHall\_209:

(21, 119230), (28, 119293), (34, 119311), (Start: 54 @119344 has 186 MA's), (58, 119362), (87, 119494), (93, 119512), (109, 119572), (132, 119680), (135, 119704), (151, 119767), (153, 119773),

Gene: KHumphrey\_45 Start: 28276, Stop: 28710, Start Num: 59

Candidate Starts for KHumphrey\_45:

(Start: 48 @28240 has 87 MA's), (Start: 59 @28276 has 1 MA's), (80, 28357), (86, 28381), (93, 28405), (102, 28429), (104, 28441), (106, 28450), (109, 28459), (114, 28495), (120, 28531), (126, 28564), (128, 28576), (136, 28618), (147, 28666), (150, 28675),

Gene: Kabloowy\_86 Start: 48768, Stop: 49193, Start Num: 48

Candidate Starts for Kabloowy\_86:

(Start: 48 @48768 has 87 MA's), (Start: 55 @48780 has 2 MA's), (58, 48795), (62, 48825), (63, 48831), (70, 48855), (83, 48900), (84, 48903), (148, 49158),

Gene: Kamryn\_214 Start: 120974, Stop: 121429, Start Num: 54

Candidate Starts for Kamryn\_214:

(21, 120860), (28, 120923), (34, 120941), (Start: 54 @120974 has 186 MA's), (58, 120992), (87, 121124), (93, 121142), (109, 121202), (132, 121310), (135, 121334), (151, 121397), (153, 121403),

Gene: Kboogie\_219 Start: 120002, Stop: 120457, Start Num: 54

Candidate Starts for Kboogie\_219:

(21, 119888), (28, 119951), (34, 119969), (Start: 54 @120002 has 186 MA's), (58, 120020), (87, 120152), (93, 120170), (109, 120230), (132, 120338), (135, 120362), (151, 120425), (153, 120431),

Gene: KendraB23\_53 Start: 29930, Stop: 30397, Start Num: 48

Candidate Starts for KendraB23\_53:

(Start: 48 @29930 has 87 MA's), (Start: 59 @29966 has 1 MA's), (77, 30026), (93, 30092), (104, 30128), (109, 30146), (118, 30206), (132, 30278), (135, 30302), (137, 30308), (149, 30359), (155, 30380), (157, 30386),

Gene: Kepler\_45 Start: 28028, Stop: 28495, Start Num: 48

Candidate Starts for Kepler\_45:

(26, 27971), (Start: 48 @28028 has 87 MA's), (Start: 59 @28064 has 1 MA's), (77, 28124), (88, 28175), (93, 28190), (95, 28193), (104, 28226), (118, 28304), (120, 28316), (132, 28376), (135, 28400), (147, 28451), (149, 28457), (157, 28484),

Gene: Khaleesi\_214 Start: 120795, Stop: 121250, Start Num: 54

Candidate Starts for Khaleesi\_214:

(21, 120681), (28, 120744), (34, 120762), (Start: 54 @120795 has 186 MA's), (58, 120813), (87, 120945), (93, 120963), (109, 121023), (132, 121131), (135, 121155), (151, 121218), (153, 121224),

Gene: Khuang\_63 Start: 36921, Stop: 37343, Start Num: 49

Candidate Starts for Khuang\_63:

(Start: 49 @36921 has 4 MA's), (76, 37011), (79, 37017), (101, 37095), (132, 37233),

Gene: Koguma\_214 Start: 119655, Stop: 120110, Start Num: 54

Candidate Starts for Koguma\_214:

(21, 119541), (28, 119604), (34, 119622), (Start: 54 @119655 has 186 MA's), (58, 119673), (87, 119805), (93, 119823), (109, 119883), (132, 119991), (135, 120015), (151, 120078), (153, 120084),

Gene: Kudrefre\_85 Start: 49906, Stop: 50304, Start Num: 51

Candidate Starts for Kudrefre\_85:

(Start: 51 @49906 has 4 MA's), (57, 49918), (58, 49924), (74, 49978), (90, 50032), (98, 50059), (109, 50095), (111, 50113), (123, 50155), (125, 50164), (126, 50176), (147, 50275),

Gene: Kuleana\_45 Start: 27612, Stop: 28070, Start Num: 48

Candidate Starts for Kuleana\_45:

(Start: 48 @27612 has 87 MA's), (Start: 59 @27648 has 1 MA's), (93, 27777), (99, 27795), (104, 27813), (109, 27831), (135, 27987), (147, 28038), (149, 28044), (154, 28059),

Gene: Kumotta\_70 Start: 37512, Stop: 37922, Start Num: 55

Candidate Starts for Kumotta\_70:

(Start: 55 @37512 has 2 MA's),

Gene: LRRHood\_208 Start: 119007, Stop: 119462, Start Num: 54

Candidate Starts for LRRHood\_208:

(21, 118893), (28, 118956), (34, 118974), (Start: 54 @119007 has 186 MA's), (58, 119025), (87, 119157), (93, 119175), (109, 119235), (132, 119343), (135, 119367), (151, 119430), (153, 119436),

Gene: Labradorite\_213 Start: 118749, Stop: 119204, Start Num: 54

Candidate Starts for Labradorite\_213:

(21, 118635), (28, 118698), (34, 118716), (Start: 54 @118749 has 186 MA's), (58, 118767), (87, 118899), (93, 118917), (109, 118977), (132, 119085), (135, 119109), (151, 119172), (153, 119178),

Gene: Laphuphu24k\_44 Start: 28363, Stop: 28797, Start Num: 59

Candidate Starts for Laphuphu24k\_44:

(Start: 48 @28327 has 87 MA's), (Start: 59 @28363 has 1 MA's), (80, 28444), (86, 28468), (93, 28492), (102, 28516), (104, 28528), (106, 28537), (109, 28546), (114, 28582), (120, 28618), (123, 28630), (126, 28651), (128, 28663), (136, 28705), (147, 28753), (150, 28762),

Gene: Lasker\_88 Start: 49087, Stop: 49518, Start Num: 48

Candidate Starts for Lasker\_88:

(Start: 48 @49087 has 87 MA's), (Start: 55 @49099 has 2 MA's), (58, 49114), (62, 49144), (63, 49150), (70, 49174), (98, 49264), (116, 49342), (121, 49354), (148, 49477),

Gene: Latch\_215 Start: 119548, Stop: 120003, Start Num: 54

Candidate Starts for Latch\_215:

(21, 119434), (28, 119497), (34, 119515), (Start: 54 @119548 has 186 MA's), (58, 119566), (87, 119698), (93, 119716), (109, 119776), (132, 119884), (135, 119908), (151, 119971), (153, 119977),

Gene: Lawnathon\_89 Start: 48159, Stop: 48584, Start Num: 48

Candidate Starts for Lawnathon\_89:

(31, 48129), (Start: 48 @48159 has 87 MA's), (Start: 55 @48171 has 2 MA's), (58, 48186), (62, 48216), (63, 48222), (116, 48414), (121, 48426), (130, 48471), (148, 48549),

Gene: LeBruni\_87 Start: 48342, Stop: 48743, Start Num: 48

Candidate Starts for LeBruni\_87:

(2, 47949), (Start: 48 @48342 has 87 MA's), (Start: 55 @48351 has 2 MA's), (58, 48366), (62, 48396), (63, 48402), (101, 48522), (103, 48534), (110, 48573), (116, 48594), (117, 48597), (124, 48618), (132,

48645), (135, 48669), (148, 48714),

Gene: Lee7\_215 Start: 122175, Stop: 122630, Start Num: 54

Candidate Starts for Lee7\_215:

(21, 122061), (28, 122124), (34, 122142), (Start: 54 @122175 has 186 MA's), (58, 122193), (87, 122325), (93, 122343), (109, 122403), (132, 122511), (135, 122535), (151, 122598), (153, 122604),

Gene: Leona\_44 Start: 28420, Stop: 28890, Start Num: 48

Candidate Starts for Leona\_44:

(Start: 48 @28420 has 87 MA's), (Start: 59 @28456 has 1 MA's), (86, 28561), (93, 28585), (102, 28609), (104, 28621), (106, 28630), (109, 28639), (114, 28675), (120, 28711), (123, 28723), (126, 28744), (128, 28756), (136, 28798), (147, 28846), (150, 28855),

Gene: Lesiram\_43 Start: 25890, Stop: 25468, Start Num: 54

Candidate Starts for Lesiram\_43:

(Start: 54 @25890 has 186 MA's), (68, 25824), (88, 25755), (92, 25743), (106, 25692), (109, 25683), (133, 25578),

Gene: Lethe\_215 Start: 121438, Stop: 121893, Start Num: 54

Candidate Starts for Lethe\_215:

(21, 121324), (28, 121387), (34, 121405), (Start: 54 @121438 has 186 MA's), (58, 121456), (87, 121588), (93, 121606), (109, 121666), (132, 121774), (135, 121798), (151, 121861), (153, 121867),

Gene: LifeSavor\_214 Start: 120073, Stop: 120528, Start Num: 54

Candidate Starts for LifeSavor\_214:

(21, 119959), (28, 120022), (34, 120040), (Start: 54 @120073 has 186 MA's), (58, 120091), (87, 120223), (93, 120241), (109, 120301), (132, 120409), (135, 120433), (151, 120496), (153, 120502),

Gene: LilJank\_79 Start: 49581, Stop: 50012, Start Num: 57

Candidate Starts for LilJank\_79:

(50, 49566), (Start: 53 @49572 has 2 MA's), (57, 49581), (82, 49674), (89, 49701), (103, 49743), (108, 49764), (109, 49767), (111, 49785), (123, 49830), (135, 49899), (137, 49905), (139, 49911), (140, 49914), (142, 49923), (151, 49962),

Gene: LinStu\_214 Start: 119294, Stop: 119749, Start Num: 54

Candidate Starts for LinStu\_214:

(21, 119180), (28, 119243), (34, 119261), (Start: 54 @119294 has 186 MA's), (58, 119312), (87, 119444), (93, 119462), (109, 119522), (132, 119630), (135, 119654), (151, 119717), (153, 119723),

Gene: LittleTokyo\_43 Start: 27119, Stop: 27583, Start Num: 48

Candidate Starts for LittleTokyo\_43:

(Start: 48 @27119 has 87 MA's), (Start: 59 @27155 has 1 MA's), (86, 27260), (109, 27335), (123, 27416), (126, 27437), (147, 27539), (149, 27545),

Gene: Littleton\_218 Start: 120785, Stop: 121240, Start Num: 54

Candidate Starts for Littleton\_218:

(21, 120671), (28, 120734), (34, 120752), (Start: 54 @120785 has 186 MA's), (58, 120803), (87, 120935), (93, 120953), (109, 121013), (132, 121121), (135, 121145), (151, 121208), (153, 121214),

Gene: Loanshark\_212 Start: 120110, Stop: 120565, Start Num: 54

Candidate Starts for Loanshark\_212:

(21, 119996), (28, 120059), (34, 120077), (Start: 54 @120110 has 186 MA's), (58, 120128), (87, 120260), (93, 120278), (109, 120338), (132, 120446), (135, 120470), (151, 120533), (153, 120539),

Gene: LolaVinca\_213 Start: 120347, Stop: 120802, Start Num: 54

Candidate Starts for LolaVinca\_213:

(21, 120233), (28, 120296), (34, 120314), (Start: 54 @120347 has 186 MA's), (58, 120365), (87, 120497), (93, 120515), (109, 120575), (132, 120683), (135, 120707), (151, 120770), (153, 120776),

Gene: LookingGlass\_214 Start: 120305, Stop: 120760, Start Num: 54

Candidate Starts for LookingGlass\_214:

(21, 120191), (28, 120254), (34, 120272), (Start: 54 @120305 has 186 MA's), (58, 120323), (87, 120455), (93, 120473), (109, 120533), (132, 120641), (135, 120665), (151, 120728), (153, 120734),

Gene: LordLeafolot\_216 Start: 119960, Stop: 120415, Start Num: 54

Candidate Starts for LordLeafolot\_216:

(21, 119846), (28, 119909), (34, 119927), (Start: 54 @119960 has 186 MA's), (58, 119978), (87, 120110), (93, 120128), (109, 120188), (132, 120296), (135, 120320), (151, 120383), (153, 120389),

Gene: Lukilu\_206 Start: 121010, Stop: 121465, Start Num: 54

Candidate Starts for Lukilu\_206:

(21, 120896), (28, 120959), (34, 120977), (Start: 54 @121010 has 186 MA's), (58, 121028), (87, 121160), (93, 121178), (109, 121238), (132, 121346), (135, 121370), (151, 121433), (153, 121439),

Gene: Lunar\_45 Start: 27944, Stop: 28411, Start Num: 48

Candidate Starts for Lunar\_45:

(26, 27887), (Start: 48 @27944 has 87 MA's), (Start: 59 @27980 has 1 MA's), (77, 28040), (88, 28091), (93, 28106), (104, 28142), (118, 28220), (120, 28232), (132, 28292), (135, 28316), (147, 28367), (149, 28373), (155, 28394), (157, 28400),

Gene: Lunareta\_213 Start: 120653, Stop: 121108, Start Num: 54

Candidate Starts for Lunareta\_213:

(21, 120539), (28, 120602), (34, 120620), (Start: 54 @120653 has 186 MA's), (58, 120671), (87, 120803), (93, 120821), (109, 120881), (132, 120989), (135, 121013), (151, 121076), (153, 121082),

Gene: MUWow\_88 Start: 49555, Stop: 49980, Start Num: 48

Candidate Starts for MUWow\_88:

(19, 49450), (Start: 48 @49555 has 87 MA's), (Start: 55 @49567 has 2 MA's), (58, 49582), (62, 49612), (63, 49618), (70, 49642), (116, 49810), (121, 49822), (148, 49945),

Gene: Maby2021\_215 Start: 121239, Stop: 121694, Start Num: 54

Candidate Starts for Maby2021\_215:

(21, 121125), (28, 121188), (34, 121206), (Start: 54 @121239 has 186 MA's), (58, 121257), (87, 121389), (93, 121407), (109, 121467), (132, 121575), (135, 121599), (151, 121662), (153, 121668),

Gene: Mangeria\_216 Start: 121341, Stop: 121796, Start Num: 54

Candidate Starts for Mangeria\_216:

(21, 121227), (28, 121290), (34, 121308), (Start: 54 @121341 has 186 MA's), (58, 121359), (87, 121491), (93, 121509), (109, 121569), (132, 121677), (135, 121701), (151, 121764), (153, 121770),

Gene: Mapleville\_79 Start: 46764, Stop: 47165, Start Num: 48

Candidate Starts for Mapleville\_79:

(Start: 48 @46764 has 87 MA's), (Start: 55 @46776 has 2 MA's), (58, 46791), (62, 46821), (63, 46827), (70, 46851), (98, 46941), (101, 46947), (103, 46959), (110, 46998), (121, 47031), (139, 47106),

Gene: MargaretKali\_66 Start: 36130, Stop: 36540, Start Num: 55

Candidate Starts for MargaretKali\_66:

(Start: 55 @36130 has 2 MA's),

Gene: MaterMagnus\_86 Start: 49021, Stop: 49443, Start Num: 48

Candidate Starts for MaterMagnus\_86:

(Start: 48 @49021 has 87 MA's), (Start: 55 @49030 has 2 MA's), (58, 49045), (62, 49075), (63, 49081), (70, 49105), (98, 49195), (148, 49408),

Gene: Matsumoto\_213 Start: 119990, Stop: 120445, Start Num: 54

Candidate Starts for Matsumoto\_213:

(21, 119876), (28, 119939), (34, 119957), (Start: 54 @119990 has 186 MA's), (58, 120008), (87, 120140), (93, 120158), (109, 120218), (132, 120326), (135, 120350), (151, 120413), (153, 120419),

Gene: Maturis\_212 Start: 119509, Stop: 119964, Start Num: 54

Candidate Starts for Maturis\_212:

(21, 119395), (28, 119458), (34, 119476), (Start: 54 @119509 has 186 MA's), (58, 119527), (87, 119659), (93, 119677), (109, 119737), (132, 119845), (135, 119869), (151, 119932), (153, 119938),

Gene: McGee\_214 Start: 119184, Stop: 119639, Start Num: 54

Candidate Starts for McGee\_214:

(21, 119070), (28, 119133), (34, 119151), (Start: 54 @119184 has 186 MA's), (58, 119202), (87, 119334), (93, 119352), (109, 119412), (132, 119520), (135, 119544), (151, 119607), (153, 119613),

Gene: McWolfish\_212 Start: 120006, Stop: 120461, Start Num: 54

Candidate Starts for McWolfish\_212:

(21, 119892), (28, 119955), (34, 119973), (Start: 54 @120006 has 186 MA's), (58, 120024), (87, 120156), (93, 120174), (109, 120234), (132, 120342), (135, 120366), (151, 120429), (153, 120435),

Gene: Megamind\_212 Start: 120297, Stop: 120752, Start Num: 54

Candidate Starts for Megamind\_212:

(21, 120183), (28, 120246), (34, 120264), (Start: 54 @120297 has 186 MA's), (58, 120315), (87, 120447), (93, 120465), (109, 120525), (132, 120633), (135, 120657), (151, 120720), (153, 120726),

Gene: Melons\_45 Start: 27758, Stop: 28225, Start Num: 48

Candidate Starts for Melons\_45:

(26, 27701), (Start: 48 @27758 has 87 MA's), (Start: 59 @27794 has 1 MA's), (77, 27854), (88, 27905), (93, 27920), (95, 27923), (104, 27956), (118, 28034), (120, 28046), (132, 28106), (135, 28130), (147, 28181), (149, 28187), (155, 28208), (157, 28214),

Gene: Melpomini\_210 Start: 119082, Stop: 119537, Start Num: 54

Candidate Starts for Melpomini\_210:

(21, 118968), (28, 119031), (34, 119049), (Start: 54 @119082 has 186 MA's), (58, 119100), (87, 119232), (93, 119250), (109, 119310), (132, 119418), (135, 119442), (151, 119505), (153, 119511),

Gene: MichelleMyBell\_49 Start: 33179, Stop: 33610, Start Num: 33

Candidate Starts for MichelleMyBell\_49:

(17, 33071), (Start: 33 @33179 has 2 MA's), (Start: 54 @33215 has 186 MA's), (Start: 55 @33218 has 2 MA's), (94, 33347), (98, 33362), (104, 33383), (123, 33461), (131, 33503), (134, 33527), (138, 33539), (147, 33581),

Gene: MidnightRain\_92 Start: 49545, Stop: 49970, Start Num: 48

Candidate Starts for MidnightRain\_92:

(31, 49515), (Start: 48 @49545 has 87 MA's), (Start: 55 @49557 has 2 MA's), (58, 49572), (62, 49602), (63, 49608), (70, 49632), (84, 49680), (113, 49791), (148, 49935),

Gene: MikeLiesIn\_217 Start: 121433, Stop: 121888, Start Num: 54

Candidate Starts for MikeLiesIn\_217:

(21, 121319), (28, 121382), (34, 121400), (Start: 54 @121433 has 186 MA's), (58, 121451), (87, 121583), (93, 121601), (109, 121661), (132, 121769), (135, 121793), (151, 121856), (153, 121862),

Gene: Mikro\_211 Start: 121982, Stop: 122437, Start Num: 54

Candidate Starts for Mikro\_211:

(21, 121868), (28, 121931), (34, 121949), (Start: 54 @121982 has 186 MA's), (58, 122000), (87, 122132), (93, 122150), (109, 122210), (132, 122318), (135, 122342), (151, 122405), (153, 122411),

Gene: MoMoMixon\_213 Start: 120472, Stop: 120927, Start Num: 54

Candidate Starts for MoMoMixon\_213:

(21, 120358), (28, 120421), (34, 120439), (Start: 54 @120472 has 186 MA's), (58, 120490), (87, 120622), (93, 120640), (109, 120700), (132, 120808), (135, 120832), (151, 120895), (153, 120901),

Gene: Moby\_211 Start: 118454, Stop: 118909, Start Num: 54

Candidate Starts for Moby\_211:

(21, 118340), (28, 118403), (34, 118421), (Start: 54 @118454 has 186 MA's), (58, 118472), (87, 118604), (93, 118622), (109, 118682), (132, 118790), (135, 118814), (151, 118877), (153, 118883),

Gene: Moiqah\_210 Start: 118431, Stop: 118886, Start Num: 54

Candidate Starts for Moiqah\_210:

(21, 118317), (28, 118380), (34, 118398), (Start: 54 @118431 has 186 MA's), (58, 118449), (87, 118581), (93, 118599), (109, 118659), (132, 118767), (135, 118791), (151, 118854), (153, 118860),

Gene: Momo\_216 Start: 119548, Stop: 120003, Start Num: 54

Candidate Starts for Momo\_216:

(21, 119434), (28, 119497), (34, 119515), (Start: 54 @119548 has 186 MA's), (58, 119566), (87, 119698), (93, 119716), (109, 119776), (132, 119884), (135, 119908), (151, 119971), (153, 119977),

Gene: Montpel\_213 Start: 120651, Stop: 121106, Start Num: 54

Candidate Starts for Montpel\_213:

(21, 120537), (28, 120600), (34, 120618), (Start: 54 @120651 has 186 MA's), (58, 120669), (87, 120801), (93, 120819), (109, 120879), (132, 120987), (135, 121011), (151, 121074), (153, 121080),

Gene: Morizzled23\_212 Start: 118915, Stop: 119370, Start Num: 54

Candidate Starts for Morizzled23\_212:

(21, 118801), (28, 118864), (34, 118882), (Start: 54 @118915 has 186 MA's), (58, 118933), (87, 119065), (93, 119083), (109, 119143), (132, 119251), (135, 119275), (151, 119338), (153, 119344),

Gene: MurphyJoseph\_84 Start: 47041, Stop: 47463, Start Num: 48

Candidate Starts for MurphyJoseph\_84:

(Start: 48 @47041 has 87 MA's), (Start: 55 @47050 has 2 MA's), (58, 47065), (62, 47095), (63, 47101), (70, 47125), (98, 47215), (113, 47284), (148, 47428),

Gene: Naija\_216 Start: 120251, Stop: 120706, Start Num: 54

Candidate Starts for Naija\_216:

(21, 120137), (28, 120200), (34, 120218), (Start: 54 @120251 has 186 MA's), (58, 120269), (87, 120401), (93, 120419), (109, 120479), (132, 120587), (135, 120611), (151, 120674), (153, 120680),

Gene: Napoleon13\_212 Start: 119279, Stop: 119734, Start Num: 54

Candidate Starts for Napoleon13\_212:

(21, 119165), (28, 119228), (34, 119246), (Start: 54 @119279 has 186 MA's), (58, 119297), (87, 119429), (93, 119447), (109, 119507), (132, 119615), (135, 119639), (151, 119702), (153, 119708),

Gene: Nappy\_216 Start: 120952, Stop: 121407, Start Num: 54

Candidate Starts for Nappy\_216:

(21, 120838), (28, 120901), (34, 120919), (Start: 54 @120952 has 186 MA's), (58, 120970), (87, 121102), (93, 121120), (109, 121180), (132, 121288), (135, 121312), (151, 121375), (153, 121381),

Gene: Naval22\_222 Start: 122028, Stop: 122483, Start Num: 54

Candidate Starts for Naval22\_222:

(21, 121914), (28, 121977), (34, 121995), (Start: 54 @122028 has 186 MA's), (58, 122046), (87, 122178), (93, 122196), (109, 122256), (132, 122364), (135, 122388), (151, 122451), (153, 122457),

Gene: NedWong\_214 Start: 120684, Stop: 121139, Start Num: 54

Candidate Starts for NedWong\_214:

(21, 120570), (28, 120633), (34, 120651), (Start: 54 @120684 has 186 MA's), (58, 120702), (87, 120834), (93, 120852), (109, 120912), (132, 121020), (135, 121044), (151, 121107), (153, 121113),

Gene: Neville\_76 Start: 48231, Stop: 48671, Start Num: 53

Candidate Starts for Neville\_76:

(50, 48225), (Start: 53 @48231 has 2 MA's), (57, 48240), (82, 48333), (89, 48360), (103, 48402), (108, 48423), (109, 48426), (111, 48444), (123, 48489), (135, 48558), (137, 48564), (139, 48570), (140, 48573), (142, 48582), (151, 48621),

Gene: NewKitty\_87 Start: 49196, Stop: 49621, Start Num: 48

Candidate Starts for NewKitty\_87:

(19, 49091), (Start: 48 @49196 has 87 MA's), (Start: 55 @49208 has 2 MA's), (62, 49253), (63, 49259), (70, 49283), (148, 49586),

Gene: Ngannou\_212 Start: 118530, Stop: 118985, Start Num: 54

Candidate Starts for Ngannou\_212:

(21, 118416), (28, 118479), (34, 118497), (Start: 54 @118530 has 186 MA's), (58, 118548), (87, 118680), (93, 118698), (109, 118758), (132, 118866), (135, 118890), (151, 118953), (153, 118959),

Gene: Niblet\_42 Start: 29318, Stop: 29785, Start Num: 48

Candidate Starts for Niblet\_42:

(Start: 48 @29318 has 87 MA's), (Start: 59 @29354 has 1 MA's), (77, 29414), (104, 29516), (109, 29534), (118, 29594), (126, 29639), (132, 29666), (135, 29690), (137, 29696), (149, 29747), (157, 29774),

Gene: Nidhogg\_216 Start: 121077, Stop: 121532, Start Num: 54

Candidate Starts for Nidhogg\_216:

(21, 120963), (28, 121026), (34, 121044), (Start: 54 @121077 has 186 MA's), (58, 121095), (87, 121227), (93, 121245), (109, 121305), (132, 121413), (135, 121437), (151, 121500), (153, 121506),

Gene: NoSwimming\_54 Start: 38737, Stop: 39144, Start Num: 49

Candidate Starts for NoSwimming\_54:

(Start: 49 @38737 has 4 MA's), (70, 38809),

Gene: NoodleTree\_221 Start: 120984, Stop: 121439, Start Num: 54

Candidate Starts for NoodleTree\_221:

(21, 120870), (28, 120933), (34, 120951), (Start: 54 @120984 has 186 MA's), (58, 121002), (87, 121134), (93, 121152), (109, 121212), (132, 121320), (135, 121344), (151, 121407), (153, 121413),

Gene: Norm\_215 Start: 120986, Stop: 121441, Start Num: 54

Candidate Starts for Norm\_215:

(21, 120872), (28, 120935), (34, 120953), (Start: 54 @120986 has 186 MA's), (58, 121004), (87, 121136), (93, 121154), (109, 121214), (132, 121322), (135, 121346), (151, 121409), (153, 121415),

Gene: NuevoMundo\_218 Start: 121545, Stop: 122000, Start Num: 54

Candidate Starts for NuevoMundo\_218:

(21, 121431), (28, 121494), (34, 121512), (Start: 54 @121545 has 186 MA's), (58, 121563), (87, 121695), (93, 121713), (109, 121773), (132, 121881), (135, 121905), (151, 121968), (153, 121974),

Gene: Nyilah\_93 Start: 48310, Stop: 48735, Start Num: 48

Candidate Starts for Nyilah\_93:

(3, 47962), (15, 48157), (Start: 48 @48310 has 87 MA's), (Start: 55 @48322 has 2 MA's), (62, 48367), (63, 48373), (70, 48397), (84, 48445), (98, 48487), (148, 48700),

Gene: Octobien14\_83 Start: 49218, Stop: 49616, Start Num: 51

Candidate Starts for Octobien14\_83:

(27, 49179), (Start: 51 @49218 has 4 MA's), (57, 49230), (58, 49236), (74, 49290), (90, 49344), (98, 49371), (106, 49398), (109, 49407), (111, 49425), (123, 49467), (125, 49476), (147, 49587),

Gene: Oppalora\_44 Start: 28377, Stop: 28811, Start Num: 59

Candidate Starts for Oppalora\_44:

(Start: 48 @28341 has 87 MA's), (Start: 59 @28377 has 1 MA's), (80, 28458), (86, 28482), (93, 28506), (102, 28530), (104, 28542), (106, 28551), (109, 28560), (114, 28596), (120, 28632), (123, 28644), (126, 28665), (128, 28677), (136, 28719), (147, 28767), (150, 28776),

Gene: Orcanus\_43 Start: 29287, Stop: 29754, Start Num: 48

Candidate Starts for Orcanus\_43:

(Start: 48 @29287 has 87 MA's), (Start: 59 @29323 has 1 MA's), (77, 29383), (93, 29449), (104, 29485), (118, 29563), (120, 29575), (126, 29608), (132, 29635), (135, 29659), (149, 29716), (155, 29737), (157, 29743),

Gene: OrediggerDelux\_211 Start: 121216, Stop: 121671, Start Num: 54

Candidate Starts for OrediggerDelux\_211:

(21, 121102), (28, 121165), (34, 121183), (Start: 54 @121216 has 186 MA's), (58, 121234), (87, 121366), (93, 121384), (109, 121444), (132, 121552), (135, 121576), (151, 121639), (153, 121645),

Gene: OtsoOtso\_44 Start: 27134, Stop: 27601, Start Num: 48

Candidate Starts for OtsoOtso\_44:

(26, 27077), (Start: 48 @27134 has 87 MA's), (Start: 59 @27170 has 1 MA's), (77, 27230), (88, 27281), (93, 27296), (95, 27299), (104, 27332), (118, 27410), (120, 27422), (132, 27482), (135, 27506), (147, 27557), (149, 27563), (155, 27584), (157, 27590),

Gene: ParkTD\_214 Start: 120548, Stop: 121003, Start Num: 54

Candidate Starts for ParkTD\_214:

(21, 120434), (28, 120497), (34, 120515), (Start: 54 @120548 has 186 MA's), (58, 120566), (87, 120698), (93, 120716), (109, 120776), (132, 120884), (135, 120908), (151, 120971), (153, 120977),

Gene: Patter\_216 Start: 119562, Stop: 120017, Start Num: 54

Candidate Starts for Patter\_216:

(21, 119448), (28, 119511), (34, 119529), (Start: 54 @119562 has 186 MA's), (58, 119580), (87, 119712), (93, 119730), (109, 119790), (132, 119898), (135, 119922), (151, 119985), (153, 119991),

Gene: Pelletreau\_52 Start: 29743, Stop: 30210, Start Num: 48

Candidate Starts for Pelletreau\_52:

(Start: 48 @29743 has 87 MA's), (Start: 59 @29779 has 1 MA's), (77, 29839), (93, 29905), (104, 29941), (109, 29959), (118, 30019), (126, 30064), (132, 30091), (135, 30115), (137, 30121), (149, 30172), (157, 30199),

Gene: Persistence\_79 Start: 45632, Stop: 46033, Start Num: 49

Candidate Starts for Persistence\_79:

(39, 45617), (Start: 49 @45632 has 4 MA's), (70, 45707), (79, 45716), (145, 45992),

Gene: PharkleMinkus\_217 Start: 119111, Stop: 119566, Start Num: 54

Candidate Starts for PharkleMinkus\_217:

(21, 118997), (28, 119060), (34, 119078), (Start: 54 @119111 has 186 MA's), (58, 119129), (87, 119261), (93, 119279), (109, 119339), (132, 119447), (135, 119471), (151, 119534), (153, 119540),

Gene: PhirstandPhine\_52 Start: 27904, Stop: 28371, Start Num: 48

Candidate Starts for PhirstandPhine\_52:

(26, 27847), (Start: 48 @27904 has 87 MA's), (Start: 59 @27940 has 1 MA's), (77, 28000), (88, 28051), (93, 28066), (104, 28102), (118, 28180), (120, 28192), (132, 28252), (135, 28276), (147, 28327), (149, 28333), (155, 28354), (157, 28360),

Gene: Phlegm\_219 Start: 120251, Stop: 120706, Start Num: 54

Candidate Starts for Phlegm\_219:

(21, 120137), (28, 120200), (34, 120218), (Start: 54 @120251 has 186 MA's), (58, 120269), (87, 120401), (93, 120419), (109, 120479), (132, 120587), (135, 120611), (151, 120674), (153, 120680),

Gene: PhluffyCoco\_45 Start: 28438, Stop: 28911, Start Num: 48

Candidate Starts for PhluffyCoco\_45:

(Start: 48 @28438 has 87 MA's), (Start: 59 @28474 has 1 MA's), (80, 28555), (86, 28579), (104, 28639), (109, 28657), (126, 28765), (128, 28777), (149, 28873),

Gene: Phox\_216 Start: 120213, Stop: 120668, Start Num: 54

Candidate Starts for Phox\_216:

(21, 120099), (28, 120162), (34, 120180), (Start: 54 @120213 has 186 MA's), (58, 120231), (87, 120363), (93, 120381), (109, 120441), (132, 120549), (135, 120573), (151, 120636), (153, 120642),

Gene: Phrank15\_92 Start: 49189, Stop: 49614, Start Num: 48

Candidate Starts for Phrank15\_92:

(Start: 48 @49189 has 87 MA's), (Start: 55 @49201 has 2 MA's), (58, 49216), (62, 49246), (63, 49252), (70, 49276), (98, 49366), (103, 49384), (110, 49423), (113, 49435), (148, 49579),

Gene: Phusco\_213 Start: 119083, Stop: 119538, Start Num: 54

Candidate Starts for Phusco\_213:

(21, 118969), (28, 119032), (34, 119050), (Start: 54 @119083 has 186 MA's), (58, 119101), (87, 119233), (93, 119251), (109, 119311), (132, 119419), (135, 119443), (151, 119506), (153, 119512),

Gene: Pier\_216 Start: 121090, Stop: 121545, Start Num: 54

Candidate Starts for Pier\_216:

(21, 120976), (28, 121039), (34, 121057), (Start: 54 @121090 has 186 MA's), (58, 121108), (87, 121240), (93, 121258), (109, 121318), (132, 121426), (135, 121450), (151, 121513), (153, 121519),

Gene: Pigu\_64 Start: 34020, Stop: 34448, Start Num: 38

Candidate Starts for Pigu\_64:

(11, 33813), (38, 34020), (Start: 48 @34035 has 87 MA's), (79, 34131), (103, 34221), (145, 34407),

Gene: Pineda\_45 Start: 27430, Stop: 27897, Start Num: 48

Candidate Starts for Pineda\_45:

(26, 27373), (Start: 48 @27430 has 87 MA's), (Start: 59 @27466 has 1 MA's), (77, 27526), (88, 27577), (93, 27592), (104, 27628), (118, 27706), (120, 27718), (132, 27778), (135, 27802), (147, 27853), (149, 27859), (155, 27880), (157, 27886),

Gene: Pinkcreek\_199 Start: 118466, Stop: 118921, Start Num: 54

Candidate Starts for Pinkcreek\_199:

(21, 118352), (28, 118415), (34, 118433), (Start: 54 @118466 has 186 MA's), (58, 118484), (87, 118616), (93, 118634), (109, 118694), (132, 118802), (135, 118826), (151, 118889), (153, 118895),

Gene: Pio\_223 Start: 122282, Stop: 122737, Start Num: 54

Candidate Starts for Pio\_223:

(21, 122168), (28, 122231), (34, 122249), (Start: 54 @122282 has 186 MA's), (58, 122300), (87, 122432), (93, 122450), (109, 122510), (132, 122618), (135, 122642), (151, 122705), (153, 122711),

Gene: Pivoine\_216 Start: 120251, Stop: 120706, Start Num: 54

Candidate Starts for Pivoine\_216:

(21, 120137), (28, 120200), (34, 120218), (Start: 54 @120251 has 186 MA's), (58, 120269), (87, 120401), (93, 120419), (109, 120479), (132, 120587), (135, 120611), (151, 120674), (153, 120680),

Gene: Pleione\_219 Start: 121026, Stop: 121481, Start Num: 54

Candidate Starts for Pleione\_219:

(21, 120912), (28, 120975), (34, 120993), (Start: 54 @121026 has 186 MA's), (58, 121044), (87, 121176), (93, 121194), (109, 121254), (132, 121362), (135, 121386), (151, 121449), (153, 121455),

Gene: Polka\_43 Start: 27134, Stop: 27601, Start Num: 48

Candidate Starts for Polka\_43:

(26, 27077), (Start: 48 @27134 has 87 MA's), (Start: 59 @27170 has 1 MA's), (77, 27230), (88, 27281), (93, 27296), (95, 27299), (104, 27332), (118, 27410), (120, 27422), (132, 27482), (135, 27506), (147, 27557), (149, 27563), (155, 27584), (157, 27590),

Gene: Primadonna\_210 Start: 119912, Stop: 120367, Start Num: 54

Candidate Starts for Primadonna\_210:

(21, 119798), (28, 119861), (34, 119879), (Start: 54 @119912 has 186 MA's), (58, 119930), (87, 120062), (93, 120080), (109, 120140), (132, 120248), (135, 120272), (151, 120335), (153, 120341),

Gene: Pupusa\_219 Start: 121590, Stop: 122045, Start Num: 54

Candidate Starts for Pupusa\_219:

(1, 121071), (21, 121476), (28, 121539), (34, 121557), (Start: 54 @121590 has 186 MA's), (58, 121608), (87, 121740), (93, 121758), (109, 121818), (132, 121926), (135, 121950), (151, 122013), (153, 122019),

Gene: PurduePete\_215 Start: 121254, Stop: 121709, Start Num: 54

Candidate Starts for PurduePete\_215:

(21, 121140), (28, 121203), (34, 121221), (Start: 54 @121254 has 186 MA's), (58, 121272), (87, 121404), (93, 121422), (109, 121482), (132, 121590), (135, 121614), (151, 121677), (153, 121683),

Gene: Purky\_56 Start: 37685, Stop: 38155, Start Num: 32

Candidate Starts for Purky\_56:

(Start: 32 @37685 has 2 MA's), (58, 37736), (64, 37775), (72, 37805), (94, 37883), (108, 37934), (128, 38033), (132, 38045), (133, 38048), (137, 38075), (149, 38126), (151, 38132), (154, 38141),

Gene: QBert\_207 Start: 118614, Stop: 119069, Start Num: 54

Candidate Starts for QBert\_207:

(21, 118500), (28, 118563), (34, 118581), (Start: 54 @118614 has 186 MA's), (58, 118632), (87, 118764), (93, 118782), (109, 118842), (132, 118950), (135, 118974), (151, 119037), (153, 119043),

Gene: Quasimodo\_217 Start: 119884, Stop: 120339, Start Num: 54

Candidate Starts for Quasimodo\_217:

(21, 119770), (28, 119833), (34, 119851), (Start: 54 @119884 has 186 MA's), (58, 119902), (87, 120034), (93, 120052), (109, 120112), (132, 120220), (135, 120244), (151, 120307), (153, 120313),

Gene: Rabinovish\_208 Start: 120159, Stop: 120614, Start Num: 54

Candidate Starts for Rabinovish\_208:

(21, 120045), (28, 120108), (34, 120126), (Start: 54 @120159 has 186 MA's), (58, 120177), (87, 120309), (93, 120327), (109, 120387), (132, 120495), (135, 120519), (151, 120582), (153, 120588),

Gene: RadFad\_91 Start: 48709, Stop: 49134, Start Num: 48

Candidate Starts for RadFad\_91:

(31, 48679), (Start: 48 @48709 has 87 MA's), (Start: 55 @48721 has 2 MA's), (58, 48736), (62, 48766), (63, 48772), (70, 48796), (84, 48844), (98, 48886), (113, 48955), (148, 49099),

Gene: Rahel\_216 Start: 119986, Stop: 120441, Start Num: 54

Candidate Starts for Rahel\_216:

(21, 119872), (28, 119935), (34, 119953), (Start: 54 @119986 has 186 MA's), (58, 120004), (87, 120136), (93, 120154), (109, 120214), (132, 120322), (135, 120346), (151, 120409), (153, 120415),

Gene: Raphaella\_86 Start: 47326, Stop: 47757, Start Num: 48

Candidate Starts for Raphaella\_86:

(31, 47296), (Start: 48 @47326 has 87 MA's), (Start: 55 @47338 has 2 MA's), (58, 47353), (62, 47383), (63, 47389), (70, 47413), (84, 47461), (113, 47572), (148, 47716),

Gene: Raqqa\_86 Start: 48107, Stop: 48511, Start Num: 52

Candidate Starts for Raqqa\_86:

(16, 47966), (Start: 52 @48107 has 4 MA's), (63, 48164), (69, 48182), (70, 48188), (98, 48278), (103, 48296), (124, 48380), (135, 48431), (148, 48476),

Gene: Rattail\_45 Start: 28560, Stop: 28997, Start Num: 59

Candidate Starts for Rattail\_45:

(Start: 48 @28524 has 87 MA's), (Start: 59 @28560 has 1 MA's), (80, 28641), (86, 28665), (104, 28725), (109, 28743), (126, 28851), (128, 28863), (149, 28959),

Gene: RedFox\_45 Start: 28437, Stop: 28910, Start Num: 48

Candidate Starts for RedFox\_45:

(Start: 48 @28437 has 87 MA's), (Start: 59 @28473 has 1 MA's), (80, 28554), (86, 28578), (104, 28638), (109, 28656), (126, 28764), (128, 28776), (149, 28872),

Gene: Renna12\_44 Start: 28294, Stop: 28767, Start Num: 48

Candidate Starts for Renna12\_44:

(Start: 48 @28294 has 87 MA's), (Start: 59 @28330 has 1 MA's), (80, 28411), (86, 28435), (104, 28495), (109, 28513), (123, 28600), (126, 28621), (128, 28633), (149, 28729),

Gene: Richie\_89 Start: 49559, Stop: 49984, Start Num: 48

Candidate Starts for Richie\_89:

(31, 49529), (Start: 48 @49559 has 87 MA's), (Start: 55 @49571 has 2 MA's), (58, 49586), (62, 49616), (63, 49622), (70, 49646), (98, 49736), (148, 49949),

Gene: Rizal\_207 Start: 118504, Stop: 118959, Start Num: 54

Candidate Starts for Rizal\_207:

(21, 118390), (28, 118453), (34, 118471), (Start: 54 @118504 has 186 MA's), (58, 118522), (87, 118654), (93, 118672), (109, 118732), (132, 118840), (135, 118864), (151, 118927), (153, 118933),

Gene: RoMag\_210 Start: 120297, Stop: 120752, Start Num: 54

Candidate Starts for RoMag\_210:

(21, 120183), (28, 120246), (34, 120264), (Start: 54 @120297 has 186 MA's), (58, 120315), (87, 120447), (93, 120465), (109, 120525), (132, 120633), (135, 120657), (151, 120720), (153, 120726),

Gene: Rocha\_212 Start: 119740, Stop: 120195, Start Num: 54

Candidate Starts for Rocha\_212:

(21, 119626), (28, 119689), (34, 119707), (Start: 54 @119740 has 186 MA's), (58, 119758), (87, 119890), (93, 119908), (109, 119968), (132, 120076), (135, 120100), (151, 120163), (153, 120169),

Gene: Ronan\_211 Start: 118689, Stop: 119144, Start Num: 54

Candidate Starts for Ronan\_211:

(21, 118575), (28, 118638), (34, 118656), (Start: 54 @118689 has 186 MA's), (58, 118707), (87, 118839), (93, 118857), (109, 118917), (132, 119025), (135, 119049), (151, 119112), (153, 119118),

Gene: Rooter\_70 Start: 35994, Stop: 36416, Start Num: 48

Candidate Starts for Rooter\_70:

(Start: 48 @35994 has 87 MA's), (79, 36090), (135, 36330), (145, 36366),

Gene: Roots515\_217 Start: 121805, Stop: 122260, Start Num: 54

Candidate Starts for Roots515\_217:

(21, 121691), (28, 121754), (34, 121772), (Start: 54 @121805 has 186 MA's), (58, 121823), (87, 121955), (93, 121973), (109, 122033), (132, 122141), (135, 122165), (151, 122228), (153, 122234),

Gene: Ruchi\_41 Start: 28118, Stop: 28588, Start Num: 48

Candidate Starts for Ruchi\_41:

(Start: 48 @28118 has 87 MA's), (Start: 59 @28154 has 1 MA's), (60, 28160), (86, 28256), (97, 28295), (104, 28316), (109, 28334), (114, 28370), (132, 28469), (135, 28493), (141, 28511), (151, 28556), (157, 28577),

Gene: SVoro\_211 Start: 120599, Stop: 121054, Start Num: 54

Candidate Starts for SVoro\_211:

(21, 120485), (28, 120548), (34, 120566), (Start: 54 @120599 has 186 MA's), (58, 120617), (87, 120749), (93, 120767), (109, 120827), (132, 120935), (135, 120959), (151, 121022), (153, 121028),

Gene: Sakai\_82 Start: 47520, Stop: 47945, Start Num: 48

Candidate Starts for Sakai\_82:

(Start: 48 @47520 has 87 MA's), (Start: 55 @47532 has 2 MA's), (58, 47547), (62, 47577), (63, 47583), (116, 47775), (121, 47787), (148, 47910),

Gene: Salacia\_215 Start: 120389, Stop: 120844, Start Num: 54

Candidate Starts for Salacia\_215:

(21, 120275), (28, 120338), (34, 120356), (Start: 54 @120389 has 186 MA's), (58, 120407), (87, 120539), (93, 120557), (109, 120617), (132, 120725), (135, 120749), (151, 120812), (153, 120818),

Gene: Sarge\_59 Start: 33281, Stop: 33694, Start Num: 47

Candidate Starts for Sarge\_59:

(40, 33269), (Start: 47 @33281 has 3 MA's), (79, 33377), (103, 33467), (145, 33653),

Gene: Satrap\_85 Start: 47810, Stop: 48229, Start Num: 55

Candidate Starts for Satrap\_85:

(31, 47771), (Start: 48 @47801 has 87 MA's), (Start: 55 @47810 has 2 MA's), (58, 47825), (62, 47855), (70, 47885), (98, 47975), (117, 48056), (148, 48188),

Gene: Sauce\_211 Start: 119212, Stop: 119667, Start Num: 54

Candidate Starts for Sauce\_211:

(1, 118693), (21, 119098), (28, 119161), (34, 119179), (Start: 54 @119212 has 186 MA's), (58, 119230), (87, 119362), (93, 119380), (109, 119440), (132, 119548), (135, 119572), (151, 119635), (153, 119641),

Gene: Scotia\_53 Start: 37733, Stop: 38152, Start Num: 49

Candidate Starts for Scotia\_53:

(Start: 49 @37733 has 4 MA's), (79, 37826), (107, 37934),

Gene: ScottMcG\_209 Start: 119282, Stop: 119737, Start Num: 54

Candidate Starts for ScottMcG\_209:

(21, 119168), (28, 119231), (34, 119249), (Start: 54 @119282 has 186 MA's), (58, 119300), (87, 119432), (93, 119450), (109, 119510), (132, 119618), (135, 119642), (151, 119705), (153, 119711),

Gene: Seahorse\_92 Start: 52725, Stop: 53156, Start Num: 48

Candidate Starts for Seahorse\_92:

(19, 52620), (Start: 48 @52725 has 87 MA's), (Start: 55 @52737 has 2 MA's), (58, 52752), (62, 52782), (63, 52788), (70, 52812), (148, 53115),

Gene: Sebata\_216 Start: 120719, Stop: 121174, Start Num: 54

Candidate Starts for Sebata\_216:

(21, 120605), (28, 120668), (34, 120686), (Start: 54 @120719 has 186 MA's), (58, 120737), (87, 120869), (93, 120887), (109, 120947), (132, 121055), (135, 121079), (151, 121142), (153, 121148),

Gene: Sejanus\_66 Start: 51688, Stop: 52152, Start Num: 32

Candidate Starts for Sejanus\_66:

(Start: 32 @51688 has 2 MA's), (58, 51739), (64, 51778), (72, 51808), (94, 51886), (108, 51937), (128, 52036), (132, 52048), (133, 52051), (137, 52078), (149, 52129), (154, 52144),

Gene: Sephiroth\_83 Start: 50078, Stop: 50476, Start Num: 51

Candidate Starts for Sephiroth\_83:

(Start: 51 @50078 has 4 MA's), (57, 50090), (58, 50096), (74, 50150), (90, 50204), (98, 50231), (109, 50267), (111, 50285), (123, 50327), (125, 50336), (126, 50348), (147, 50447),

Gene: Shaqnato\_206 Start: 119420, Stop: 119875, Start Num: 54

Candidate Starts for Shaqnato\_206:

(21, 119306), (28, 119369), (34, 119387), (Start: 54 @119420 has 186 MA's), (58, 119438), (87, 119570), (93, 119588), (109, 119648), (132, 119756), (135, 119780), (151, 119843), (153, 119849),

Gene: Shelob\_216 Start: 122160, Stop: 122615, Start Num: 54

Candidate Starts for Shelob\_216:

(21, 122046), (28, 122109), (34, 122127), (Start: 54 @122160 has 186 MA's), (58, 122178), (87, 122310), (93, 122328), (109, 122388), (132, 122496), (135, 122520), (151, 122583), (153, 122589),

Gene: Shen\_42 Start: 27844, Stop: 28311, Start Num: 48

Candidate Starts for Shen\_42:

(Start: 48 @27844 has 87 MA's), (Start: 59 @27880 has 1 MA's), (77, 27940), (93, 28006), (104, 28042), (109, 28060), (118, 28120), (132, 28192), (135, 28216), (137, 28222), (149, 28273), (155, 28294), (157, 28300),

Gene: ShiaLabeouf\_212 Start: 119194, Stop: 119649, Start Num: 54

Candidate Starts for ShiaLabeouf\_212:

(21, 119080), (28, 119143), (34, 119161), (Start: 54 @119194 has 186 MA's), (58, 119212), (87, 119344), (93, 119362), (109, 119422), (132, 119530), (135, 119554), (151, 119617), (153, 119623),

Gene: Shifa\_192 Start: 118778, Stop: 119233, Start Num: 54

Candidate Starts for Shifa\_192:

(21, 118664), (28, 118727), (34, 118745), (Start: 54 @118778 has 186 MA's), (58, 118796), (87, 118928), (93, 118946), (109, 119006), (132, 119114), (135, 119138), (151, 119201), (153, 119207),

Gene: Shnickers\_213 Start: 119258, Stop: 119713, Start Num: 54

Candidate Starts for Shnickers\_213:

(21, 119144), (28, 119207), (34, 119225), (Start: 54 @119258 has 186 MA's), (58, 119276), (87, 119408), (93, 119426), (109, 119486), (132, 119594), (135, 119618), (151, 119681), (153, 119687),

Gene: Shoya\_62 Start: 35352, Stop: 35765, Start Num: 47

Candidate Starts for Shoya\_62:

(22, 35286), (Start: 47 @35352 has 3 MA's), (79, 35448), (103, 35538), (135, 35688),

Gene: Shrimp\_217 Start: 121315, Stop: 121770, Start Num: 54

Candidate Starts for Shrimp\_217:

(21, 121201), (28, 121264), (34, 121282), (Start: 54 @121315 has 186 MA's), (58, 121333), (87, 121465), (93, 121483), (109, 121543), (132, 121651), (135, 121675), (151, 121738), (153, 121744),

Gene: Shukran\_82 Start: 46326, Stop: 46727, Start Num: 49

Candidate Starts for Shukran\_82:

(39, 46311), (Start: 49 @46326 has 4 MA's), (66, 46386), (70, 46401), (79, 46410), (85, 46443), (145, 46686),

Gene: SilverDipper\_219 Start: 120807, Stop: 121262, Start Num: 54

Candidate Starts for SilverDipper\_219:

(21, 120693), (28, 120756), (34, 120774), (Start: 54 @120807 has 186 MA's), (58, 120825), (87, 120957), (93, 120975), (109, 121035), (132, 121143), (135, 121167), (151, 121230), (153, 121236),

Gene: SmallFry\_215 Start: 119352, Stop: 119807, Start Num: 54

Candidate Starts for SmallFry\_215:

(21, 119238), (28, 119301), (34, 119319), (Start: 54 @119352 has 186 MA's), (58, 119370), (87, 119502), (93, 119520), (109, 119580), (132, 119688), (135, 119712), (151, 119775), (153, 119781),

Gene: SoilZilla\_210 Start: 119907, Stop: 120362, Start Num: 54

Candidate Starts for SoilZilla\_210:

(21, 119793), (28, 119856), (34, 119874), (Start: 54 @119907 has 186 MA's), (58, 119925), (87, 120057), (93, 120075), (109, 120135), (132, 120243), (135, 120267), (151, 120330), (153, 120336),

Gene: SonDevVon\_93 Start: 48390, Stop: 48815, Start Num: 48

Candidate Starts for SonDevVon\_93:

(19, 48285), (Start: 48 @48390 has 87 MA's), (Start: 55 @48402 has 2 MA's), (58, 48417), (62, 48447), (63, 48453), (70, 48477), (116, 48645), (121, 48657), (130, 48702), (148, 48780),

Gene: Spec\_210 Start: 119543, Stop: 119998, Start Num: 54

Candidate Starts for Spec\_210:

(21, 119429), (24, 119459), (28, 119492), (34, 119510), (Start: 54 @119543 has 186 MA's), (58, 119561), (87, 119693), (93, 119711), (109, 119771), (132, 119879), (135, 119903), (151, 119966), (153, 119972),

Gene: Specks\_219 Start: 120668, Stop: 121123, Start Num: 54

Candidate Starts for Specks\_219:

(21, 120554), (28, 120617), (34, 120635), (Start: 54 @120668 has 186 MA's), (58, 120686), (87, 120818), (93, 120836), (109, 120896), (132, 121004), (135, 121028), (151, 121091), (153, 121097),

Gene: SpicyFrank\_87 Start: 47815, Stop: 48240, Start Num: 48

Candidate Starts for SpicyFrank\_87:

(Start: 48 @47815 has 87 MA's), (Start: 55 @47827 has 2 MA's), (58, 47842), (62, 47872), (63, 47878), (70, 47902), (92, 47974), (98, 47992), (148, 48205),

Gene: Splinter\_57 Start: 38151, Stop: 38588, Start Num: 36

Candidate Starts for Splinter\_57:

(Start: 36 @38151 has 5 MA's), (41, 38160), (Start: 43 @38163 has 1 MA's), (58, 38187), (74, 38241), (81, 38262), (103, 38343), (109, 38367), (119, 38412),

Gene: Sporco\_87 Start: 49153, Stop: 49578, Start Num: 48

Candidate Starts for Sporco\_87:

(19, 49048), (Start: 48 @49153 has 87 MA's), (Start: 55 @49165 has 2 MA's), (58, 49180), (62, 49210), (63, 49216), (70, 49240), (116, 49408), (121, 49420), (130, 49465), (148, 49543),

Gene: Sprinklers\_213 Start: 119910, Stop: 120365, Start Num: 54

Candidate Starts for Sprinklers\_213:

(21, 119796), (28, 119859), (34, 119877), (Start: 54 @119910 has 186 MA's), (58, 119928), (87, 120060), (93, 120078), (109, 120138), (132, 120246), (135, 120270), (151, 120333), (153, 120339),

Gene: Spud\_209 Start: 119622, Stop: 120077, Start Num: 54

Candidate Starts for Spud\_209:

(21, 119508), (28, 119571), (34, 119589), (Start: 54 @119622 has 186 MA's), (58, 119640), (87, 119772), (93, 119790), (109, 119850), (132, 119958), (135, 119982), (151, 120045), (153, 120051),

Gene: SrishMeg2525\_212 Start: 120786, Stop: 121241, Start Num: 54

Candidate Starts for SrishMeg2525\_212:

(21, 120672), (28, 120735), (34, 120753), (Start: 54 @120786 has 186 MA's), (58, 120804), (87, 120936), (93, 120954), (109, 121014), (132, 121122), (135, 121146), (151, 121209), (153, 121215),

Gene: StephanieG\_211 Start: 120820, Stop: 121275, Start Num: 54

Candidate Starts for StephanieG\_211:

(21, 120706), (28, 120769), (34, 120787), (Start: 54 @120820 has 186 MA's), (58, 120838), (87, 120970), (93, 120988), (109, 121048), (132, 121156), (135, 121180), (151, 121243), (153, 121249),

Gene: StuartMinion\_37 Start: 25394, Stop: 25864, Start Num: 48

Candidate Starts for StuartMinion\_37:

(Start: 48 @25394 has 87 MA's), (Start: 59 @25430 has 1 MA's), (86, 25535), (93, 25559), (104, 25595), (106, 25604), (109, 25613), (120, 25685), (123, 25697), (126, 25718), (128, 25730), (136, 25772), (147, 25820), (150, 25829),

Gene: Stubby\_199 Start: 118669, Stop: 119124, Start Num: 54

Candidate Starts for Stubby\_199:

(21, 118555), (28, 118618), (34, 118636), (Start: 54 @118669 has 186 MA's), (58, 118687), (87, 118819), (93, 118837), (109, 118897), (132, 119005), (135, 119029), (151, 119092), (153, 119098),

Gene: StubbySaigey\_220 Start: 120341, Stop: 120796, Start Num: 54

Candidate Starts for StubbySaigey\_220:

(21, 120227), (28, 120290), (34, 120308), (Start: 54 @120341 has 186 MA's), (58, 120359), (87, 120491), (93, 120509), (109, 120569), (132, 120677), (135, 120701), (151, 120764), (153, 120770),

Gene: Substance289\_212 Start: 119400, Stop: 119855, Start Num: 54

Candidate Starts for Substance289\_212:

(21, 119286), (28, 119349), (34, 119367), (Start: 54 @119400 has 186 MA's), (58, 119418), (87, 119550), (93, 119568), (109, 119628), (132, 119736), (135, 119760), (151, 119823), (153, 119829),

Gene: Sweetums\_44 Start: 26011, Stop: 25589, Start Num: 54

Candidate Starts for Sweetums\_44:

(Start: 54 @26011 has 186 MA's), (68, 25945), (88, 25876), (92, 25864), (106, 25813), (109, 25804), (133, 25699),

Gene: Syleon\_86 Start: 50016, Stop: 50414, Start Num: 51

Candidate Starts for Syleon\_86:

(Start: 51 @50016 has 4 MA's), (57, 50028), (58, 50034), (74, 50088), (90, 50142), (98, 50169), (109, 50205), (111, 50223), (123, 50265), (125, 50274), (126, 50286), (147, 50385),

Gene: TZGordon\_58 Start: 37043, Stop: 37483, Start Num: 36

Candidate Starts for TZGordon\_58:

(Start: 36 @37043 has 5 MA's), (45, 37058), (58, 37082), (74, 37136), (103, 37238), (109, 37262), (119, 37307),

Gene: Tainan\_216 Start: 119687, Stop: 120142, Start Num: 54

Candidate Starts for Tainan\_216:

(21, 119573), (28, 119636), (34, 119654), (Start: 54 @119687 has 186 MA's), (58, 119705), (87, 119837), (93, 119855), (109, 119915), (132, 120023), (135, 120047), (151, 120110), (153, 120116),

Gene: TaylorSipht\_43 Start: 28692, Stop: 29159, Start Num: 48

Candidate Starts for TaylorSipht\_43:

(Start: 48 @28692 has 87 MA's), (Start: 55 @28704 has 2 MA's), (Start: 59 @28728 has 1 MA's), (86, 28830), (93, 28854), (104, 28890), (105, 28896), (109, 28908), (114, 28944), (117, 28968), (132, 29040), (135, 29064), (141, 29082), (144, 29097), (157, 29148),

Gene: Teardrop\_212 Start: 118854, Stop: 119309, Start Num: 54

Candidate Starts for Teardrop\_212:

(21, 118740), (28, 118803), (34, 118821), (Start: 54 @118854 has 186 MA's), (58, 118872), (87, 119004), (93, 119022), (109, 119082), (132, 119190), (135, 119214), (151, 119277), (153, 119283),

Gene: Teng\_45 Start: 25920, Stop: 25498, Start Num: 54

Candidate Starts for Teng\_45:

(23, 25998), (Start: 54 @25920 has 186 MA's), (68, 25854), (88, 25785), (92, 25773), (106, 25722), (109, 25713), (133, 25608),

Gene: ThayneTheZag\_91 Start: 48711, Stop: 49115, Start Num: 52

Candidate Starts for ThayneTheZag\_91:

(Start: 52 @48711 has 4 MA's), (58, 48732), (63, 48768), (70, 48792), (98, 48882), (103, 48900), (124, 48984), (135, 49035), (148, 49080),

Gene: Tiff81\_81 Start: 46437, Stop: 46868, Start Num: 48

Candidate Starts for Tiff81\_81:

(19, 46326), (42, 46428), (Start: 48 @46437 has 87 MA's), (Start: 55 @46449 has 2 MA's), (62, 46494), (63, 46500), (70, 46524), (148, 46827),

Gene: TinyTim\_213 Start: 119635, Stop: 120090, Start Num: 54

Candidate Starts for TinyTim\_213:

(21, 119521), (28, 119584), (34, 119602), (Start: 54 @119635 has 186 MA's), (58, 119653), (87, 119785), (93, 119803), (109, 119863), (132, 119971), (135, 119995), (151, 120058), (153, 120064),

Gene: Toad24\_45 Start: 29983, Stop: 30450, Start Num: 48

Candidate Starts for Toad24\_45:

(Start: 48 @29983 has 87 MA's), (Start: 59 @30019 has 1 MA's), (77, 30079), (93, 30145), (104, 30181), (109, 30199), (118, 30259), (132, 30331), (135, 30355), (137, 30361), (149, 30412), (155, 30433), (157, 30439),

Gene: Tonenili\_237 Start: 125468, Stop: 125920, Start Num: 54

Candidate Starts for Tonenili\_237:

(21, 125354), (28, 125417), (34, 125435), (Start: 36 @125438 has 5 MA's), (Start: 54 @125468 has 186 MA's), (58, 125486), (93, 125636), (109, 125696), (132, 125804), (135, 125828),

Gene: Tortoise16\_213 Start: 120097, Stop: 120552, Start Num: 54

Candidate Starts for Tortoise16\_213:

(21, 119983), (28, 120046), (34, 120064), (Start: 54 @120097 has 186 MA's), (58, 120115), (87, 120247), (93, 120265), (109, 120325), (132, 120433), (135, 120457), (151, 120520), (153, 120526),

Gene: Trax\_79 Start: 49196, Stop: 49636, Start Num: 53

Candidate Starts for Trax\_79:

(50, 49190), (Start: 53 @49196 has 2 MA's), (57, 49205), (82, 49298), (89, 49325), (103, 49367), (108, 49388), (109, 49391), (111, 49409), (123, 49454), (135, 49523), (137, 49529), (139, 49535), (140, 49538), (142, 49547), (151, 49586),

Gene: Trinitium\_211 Start: 118389, Stop: 118844, Start Num: 54

Candidate Starts for Trinitium\_211:

(21, 118275), (28, 118338), (34, 118356), (Start: 54 @118389 has 186 MA's), (58, 118407), (87, 118539), (93, 118557), (109, 118617), (132, 118725), (135, 118749), (151, 118812), (153, 118818),

Gene: Turret\_208 Start: 117971, Stop: 118426, Start Num: 54

Candidate Starts for Turret\_208:

(21, 117857), (28, 117920), (34, 117938), (Start: 54 @117971 has 186 MA's), (58, 117989), (87, 118121), (93, 118139), (109, 118199), (132, 118307), (135, 118331), (151, 118394), (153, 118400),

Gene: Tyke\_213 Start: 121464, Stop: 121919, Start Num: 54

Candidate Starts for Tyke\_213:

(21, 121350), (28, 121413), (34, 121431), (Start: 54 @121464 has 186 MA's), (58, 121482), (87, 121614), (93, 121632), (109, 121692), (132, 121800), (135, 121824), (151, 121887), (153, 121893),

Gene: ValleyTerrace\_216 Start: 119548, Stop: 120003, Start Num: 54

Candidate Starts for ValleyTerrace\_216:

(21, 119434), (28, 119497), (34, 119515), (Start: 54 @119548 has 186 MA's), (58, 119566), (87, 119698), (93, 119716), (109, 119776), (132, 119884), (135, 119908), (151, 119971), (153, 119977),

Gene: Vendetta\_57 Start: 38151, Stop: 38588, Start Num: 36

Candidate Starts for Vendetta\_57:

(Start: 36 @38151 has 5 MA's), (41, 38160), (Start: 43 @38163 has 1 MA's), (58, 38187), (74, 38241), (81, 38262), (103, 38343), (109, 38367), (119, 38412),

Gene: Vopal\_87 Start: 49392, Stop: 49823, Start Num: 48

Candidate Starts for Vopal\_87:

(31, 49362), (Start: 48 @49392 has 87 MA's), (Start: 55 @49404 has 2 MA's), (58, 49419), (62, 49449), (63, 49455), (70, 49479), (84, 49527), (113, 49638), (148, 49782),

Gene: Vortrix\_235 Start: 124255, Stop: 124707, Start Num: 54

Candidate Starts for Vortrix\_235:

(21, 124141), (28, 124204), (34, 124222), (Start: 36 @124225 has 5 MA's), (Start: 54 @124255 has 186 MA's), (58, 124273), (93, 124423), (109, 124483), (132, 124591), (135, 124615),

Gene: Vulpecula\_41 Start: 27795, Stop: 28265, Start Num: 48

Candidate Starts for Vulpecula\_41:

(Start: 48 @27795 has 87 MA's), (Start: 59 @27831 has 1 MA's), (60, 27837), (86, 27933), (92, 27954), (97, 27972), (104, 27993), (109, 28011), (114, 28047), (132, 28146), (135, 28170), (141, 28188), (151, 28233), (157, 28254),

Gene: Wally\_213 Start: 119532, Stop: 119987, Start Num: 54

Candidate Starts for Wally\_213:

(21, 119418), (28, 119481), (34, 119499), (Start: 54 @119532 has 186 MA's), (58, 119550), (87, 119682), (93, 119700), (109, 119760), (132, 119868), (135, 119892), (151, 119955), (153, 119961),

Gene: Westrich\_51 Start: 29667, Stop: 30134, Start Num: 48

Candidate Starts for Westrich\_51:

(Start: 48 @29667 has 87 MA's), (Start: 59 @29703 has 1 MA's), (77, 29763), (93, 29829), (104, 29865), (109, 29883), (118, 29943), (126, 29988), (132, 30015), (135, 30039), (137, 30045), (149, 30096), (157, 30123),

Gene: WileyE\_44 Start: 28771, Stop: 29241, Start Num: 48

Candidate Starts for WileyE\_44:

(Start: 48 @28771 has 87 MA's), (Start: 59 @28807 has 1 MA's), (60, 28813), (86, 28909), (97, 28948), (104, 28969), (109, 28987), (114, 29023), (115, 29029), (123, 29074), (126, 29095), (135, 29146), (141, 29164), (151, 29209), (157, 29230),

Gene: Willis\_216 Start: 120446, Stop: 120901, Start Num: 54

Candidate Starts for Willis\_216:

(21, 120332), (28, 120395), (34, 120413), (Start: 54 @120446 has 186 MA's), (58, 120464), (87, 120596), (93, 120614), (109, 120674), (132, 120782), (135, 120806), (151, 120869), (153, 120875),

Gene: Windest\_90 Start: 47044, Stop: 47469, Start Num: 48

Candidate Starts for Windest\_90:

(31, 47014), (Start: 48 @47044 has 87 MA's), (Start: 55 @47056 has 2 MA's), (58, 47071), (62, 47101), (63, 47107), (70, 47131), (98, 47221), (148, 47434),

Gene: Wrackline\_56 Start: 29872, Stop: 29441, Start Num: 54

Candidate Starts for Wrackline\_56:

(25, 29953), (30, 29920), (Start: 48 @29881 has 87 MA's), (Start: 54 @29872 has 186 MA's), (Start: 55 @29869 has 2 MA's), (58, 29854), (62, 29824), (67, 29806), (73, 29788), (78, 29776), (93, 29716), (100, 29695), (103, 29680), (104, 29674), (125, 29593), (132, 29554), (135, 29530), (140, 29515), (155, 29455), (156, 29452),

Gene: Xavia\_55 Start: 40820, Stop: 41251, Start Num: 33

Candidate Starts for Xavia\_55:

(17, 40712), (Start: 33 @40820 has 2 MA's), (Start: 54 @40856 has 186 MA's), (Start: 55 @40859 has 2 MA's), (94, 40988), (98, 41003), (104, 41024), (123, 41102), (131, 41144), (134, 41168), (138, 41180), (147, 41222),

Gene: Yassified\_212 Start: 119896, Stop: 120351, Start Num: 54

Candidate Starts for Yassified\_212:

(1, 119377), (21, 119782), (28, 119845), (34, 119863), (Start: 54 @119896 has 186 MA's), (58, 119914), (87, 120046), (93, 120064), (109, 120124), (132, 120232), (135, 120256), (151, 120319), (153, 120325),

Gene: YemiJoy2021\_216 Start: 121202, Stop: 121657, Start Num: 54

Candidate Starts for YemiJoy2021\_216:

(21, 121088), (28, 121151), (34, 121169), (Start: 54 @121202 has 186 MA's), (58, 121220), (87, 121352), (93, 121370), (109, 121430), (132, 121538), (135, 121562), (151, 121625), (153, 121631),

Gene: YoungHarleezy\_87 Start: 48839, Stop: 49270, Start Num: 48

Candidate Starts for YoungHarleezy\_87:

(31, 48809), (Start: 48 @48839 has 87 MA's), (Start: 55 @48851 has 2 MA's), (58, 48866), (62, 48896), (63, 48902), (70, 48926), (148, 49229),

Gene: YoungMoneyMata\_214 Start: 120016, Stop: 120471, Start Num: 54

Candidate Starts for YoungMoneyMata\_214:

(21, 119902), (28, 119965), (34, 119983), (Start: 54 @120016 has 186 MA's), (58, 120034), (87, 120166), (93, 120184), (109, 120244), (132, 120352), (135, 120376), (151, 120439), (153, 120445),

Gene: Yucca\_215 Start: 121194, Stop: 121649, Start Num: 54

Candidate Starts for Yucca\_215:

(21, 121080), (28, 121143), (34, 121161), (Start: 54 @121194 has 186 MA's), (58, 121212), (87, 121344), (93, 121362), (109, 121422), (132, 121530), (135, 121554), (151, 121617), (153, 121623),

Gene: Zalkecks\_214 Start: 120275, Stop: 120730, Start Num: 54

Candidate Starts for Zalkecks\_214:

(21, 120161), (28, 120224), (34, 120242), (Start: 54 @120275 has 186 MA's), (58, 120293), (87, 120425), (93, 120443), (109, 120503), (132, 120611), (135, 120635), (151, 120698), (153, 120704),

Gene: Zeenon\_217 Start: 120846, Stop: 121301, Start Num: 54

Candidate Starts for Zeenon\_217:

(21, 120732), (28, 120795), (34, 120813), (Start: 54 @120846 has 186 MA's), (58, 120864), (87, 120996), (93, 121014), (109, 121074), (132, 121182), (135, 121206), (151, 121269), (153, 121275),

Gene: Zhuangyuan\_47 Start: 28900, Stop: 29361, Start Num: 48

Candidate Starts for Zhuangyuan\_47:

(Start: 48 @28900 has 87 MA's), (Start: 59 @28936 has 1 MA's), (75, 28993), (86, 29041), (93, 29065), (104, 29107), (126, 29227), (136, 29281), (137, 29284), (151, 29341), (154, 29350),

Gene: Zixiang\_42 Start: 29348, Stop: 29815, Start Num: 48

Candidate Starts for Zixiang\_42:

(Start: 48 @29348 has 87 MA's), (Start: 59 @29384 has 1 MA's), (77, 29444), (93, 29510), (104, 29546), (109, 29564), (118, 29624), (132, 29696), (135, 29720), (137, 29726), (149, 29777), (155, 29798), (157, 29804),

Gene: Zucker\_84 Start: 49086, Stop: 49490, Start Num: 52

Candidate Starts for Zucker\_84:

(7, 48822), (8, 48828), (10, 48840), (20, 48981), (Start: 52 @49086 has 4 MA's), (62, 49137), (63, 49143), (69, 49161), (70, 49167), (98, 49257), (103, 49275), (124, 49359), (135, 49410), (148, 49455),

Gene: ZygoTaiga\_212 Start: 121466, Stop: 121921, Start Num: 54

Candidate Starts for ZygoTaiga\_212:

(21, 121352), (28, 121415), (34, 121433), (Start: 54 @121466 has 186 MA's), (58, 121484), (87, 121616), (93, 121634), (109, 121694), (132, 121802), (135, 121826), (151, 121889), (153, 121895),