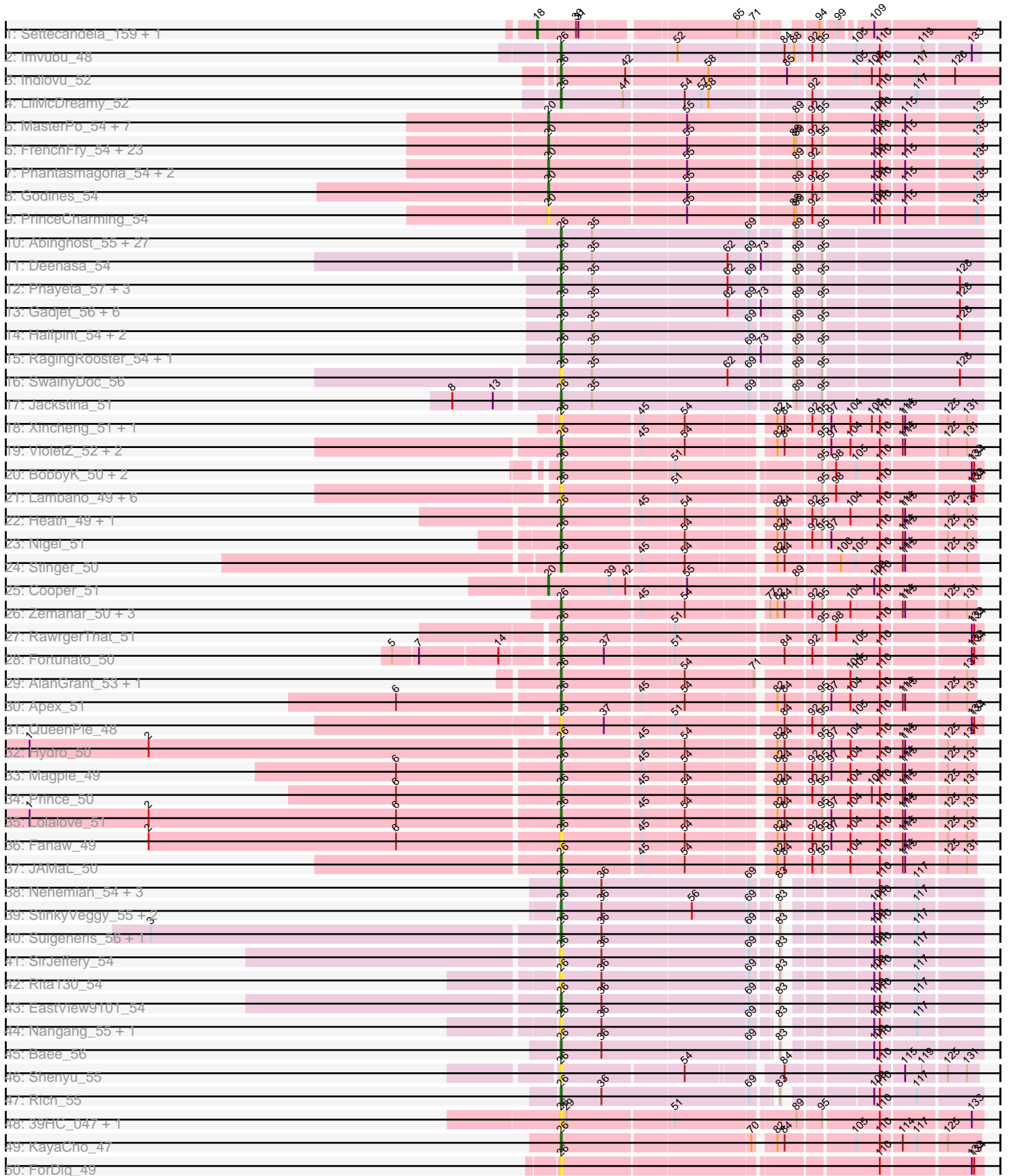
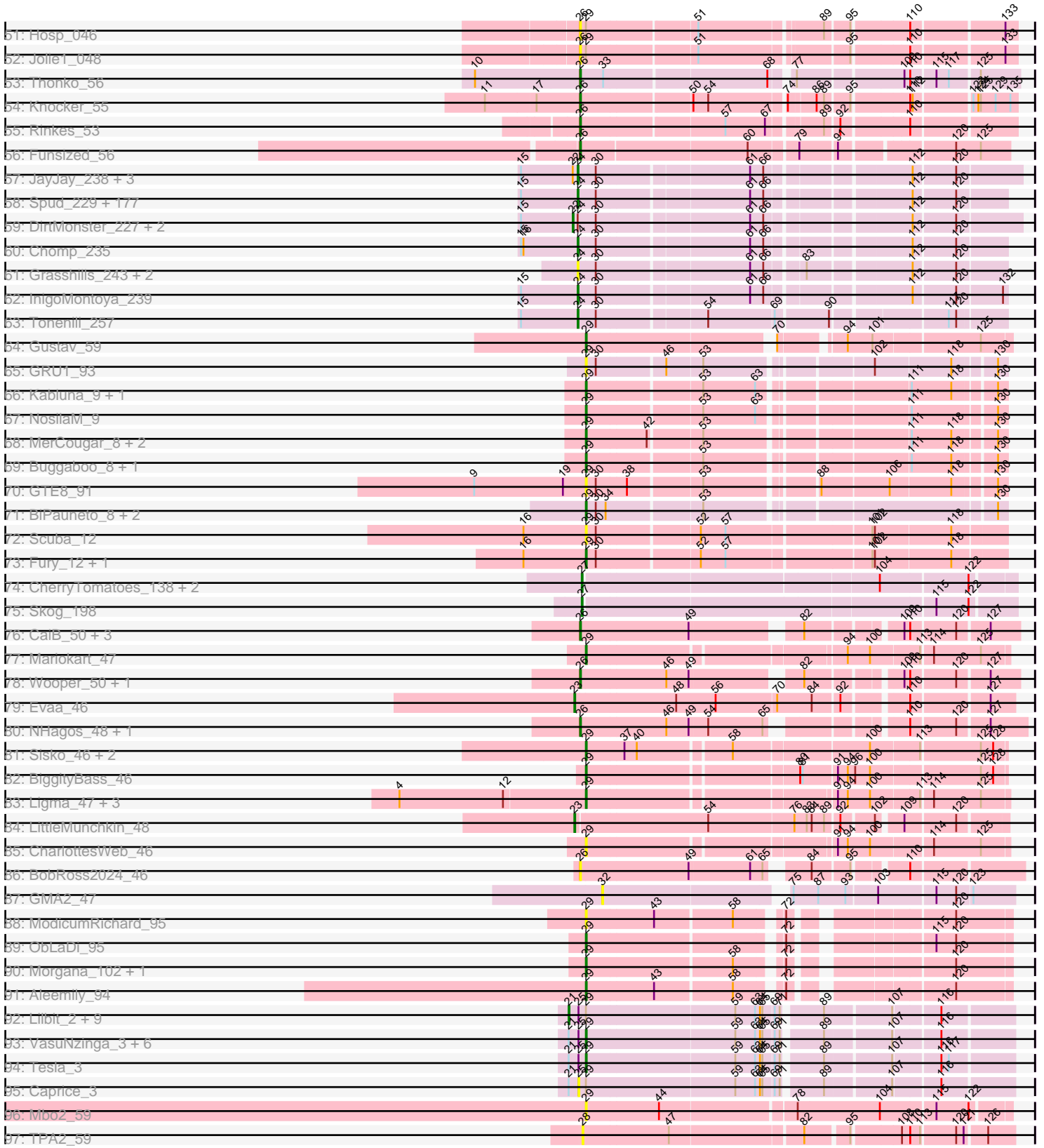


Pham 222784



Pham 222784



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 222784 Report

This analysis was run 03/28/25 on database version 593.

Pham number 222784 has 412 members, 76 are drafts.

Phages represented in each track:

- Track 1 : Settecandela\_159, Phrappuccino\_159
- Track 2 : Imvubu\_48
- Track 3 : Indlovu\_52
- Track 4 : LilMcDreamy\_52
- Track 5 : MasterPo\_54, Blocker23\_54, Coffee\_54, Laurie\_53, TA17A\_55, Vic9\_00053, Boyle\_54, LizLemon\_54
- Track 6 : FrenchFry\_54, Bananafish\_54, Calamitous\_54, Tinciduntolum\_55, Holeinone\_54, Lephleur\_54, ItsyBitsy1\_54, Kaleb\_54, Lars\_54, Brownie5\_54, Rhinoforte\_54, Tres\_54, Kolhan\_54, Sabella\_53, Rosebush\_53, Opia\_54, Allegro\_54, Glass\_54, Hedgerow\_54, LilSmirk\_54, Eaglehorse\_54, Kheth\_54, Arbiter\_53, Ares\_54
- Track 7 : Phantasmagoria\_54, Faze9\_53, West99\_54
- Track 8 : Godines\_54
- Track 9 : PrinceCharming\_54
- Track 10 : Abinghost\_55, Devonte\_54, Compostia\_55, HarveySr\_54, GlenHope\_56, Chalmers\_54, Kronus\_55, Nozo\_55, Gervas\_56, Athena\_57, Yahalom\_54, Philly\_54, Ben11\_55, Marlia\_56, Corofin\_55, Morty007\_55, Glubnar\_55, Mortcellus\_55, RomaT\_55, OrangeOswald\_55, Akoma\_55, Marley1013\_56, LestyG\_54, SlippinJimmy\_57, Rita1961\_56, Obutu\_56, Kamiyu\_55, Phlyer\_55
- Track 11 : Deenasa\_54
- Track 12 : Phayeta\_57, Chentzyk\_56, MmasiCarm\_56, Olivio\_55
- Track 13 : Gadget\_56, SynergyX\_55, Baloo\_55, Audrey\_55, ChaChing\_55, Heathcliff\_55, Yinz\_55
- Track 14 : Halfpint\_54, Bernardo\_56, Chandler\_55
- Track 15 : RagingRooster\_54, Casbah\_55
- Track 16 : SwainyDoc\_56
- Track 17 : Jackstina\_51
- Track 18 : Xincheng\_51, JaguarMi\_52
- Track 19 : VioletZ\_52, Austelle\_51, Mudslide\_50
- Track 20 : BobbyK\_50, Frederick\_50, Mithril\_49
- Track 21 : Lambano\_49, Antihero\_49, GinPorsche\_49, Epah\_49, Hally898\_49, Nanao\_49, Poster\_49
- Track 22 : Heath\_49, ChrisnMich\_50
- Track 23 : Nigel\_51
- Track 24 : Stinger\_50
- Track 25 : Cooper\_51
- Track 26 : Zemanar\_50, Waleliano\_49, Hangman\_49, BrownCNA\_51

- Track 27 : RawrgerThat\_51
- Track 28 : Fortunato\_50
- Track 29 : AlanGrant\_53, Vincenzo\_52
- Track 30 : Apex\_51
- Track 31 : QueenPie\_48
- Track 32 : Hydro\_50
- Track 33 : Magpie\_49
- Track 34 : Prince\_50
- Track 35 : Lolalove\_51
- Track 36 : Fanaw\_49
- Track 37 : JAMaL\_50
- Track 38 : Nehemiah\_54, Phelemich\_53, Mysterious\_55, Reprobate\_54
- Track 39 : StinkyVeggy\_55, KarasumaRum\_55, Acadian\_55
- Track 40 : Suigeneris\_56, Donny\_56
- Track 41 : SirJeffery\_54
- Track 42 : Rita130\_54
- Track 43 : EastView9101\_54
- Track 44 : Nangang\_55, DigitDog\_55
- Track 45 : Bae\_56
- Track 46 : Shenyu\_55
- Track 47 : Rich\_55
- Track 48 : 39HC\_047, 40BC\_047
- Track 49 : KayaCho\_47
- Track 50 : ForDig\_49
- Track 51 : Hosp\_046
- Track 52 : Jolie1\_048
- Track 53 : Thonko\_56
- Track 54 : Knocker\_55
- Track 55 : Rinkes\_53
- Track 56 : Funsized\_56
- Track 57 : JayJay\_238, Shifa\_213, Flabslab\_232, Sebata\_238
- Track 58 : Spud\_229, SilverDipper\_240, Babyland\_239, Blackdragon\_230, GlutenPhree\_235, Tainan\_236, Momo\_237, Ablatia\_233, InterFolia\_237, Quasimodo\_239, LifeSavor\_236, Darko\_235, Capablanca\_241, Phlegm\_240, Tortoise16\_234, Erdmann\_236, Yassified\_233, Adlitam\_236, Shelob\_237, Sauce\_233, ParkTD\_235, Bipolarisk\_234, SmallFry\_237, Rahel\_238, Jedediah\_237, Guwapp\_232, ZygoTaiga\_231, Audrick\_238, Derek\_232, Cane17\_226, Cali\_227, BananaFence\_233, Turret\_227, NuevoMundo\_237, TinyTim\_234, FrayBell\_239, Ava3\_233, Cactojaque\_230, Lee7\_235, Wally\_234, Rizal\_226, DTDevon\_237, Ewok\_235, BeanWater\_229, Yucca\_235, Fludd\_236, LinStu\_234, LolaVinca\_232, Breeniome\_235, Mangeria\_237, Ghost\_235, SVoro\_232, Burrough\_236, NedWong\_235, Jemmno\_236, ScottMcG\_228, Amataga\_237, Jaygup\_233, Grungle\_218, Naija\_237, RoMag\_231, ChaylaJr\_235, Daffodil\_241, Megamind\_233, MoMoMixon\_232, Letha\_237, Delylah\_238, Shaqnato\_227, Pleione\_240, Chergie21\_233, Norm\_236, Shrimp\_238, Salacia\_237, Gabriel\_239, Fongie\_236, Zalkecks\_235, JustHall\_230, McWolfish\_233, YoungMoneyMata\_236, Concombre\_241, Pio\_242, FoxtrotP1\_234, EmmaElysia\_241, Bxz1\_223, BadAgartude\_230, LordLeafolot\_238, Domi\_230, Halldule\_228, Maby2021\_236, Roots515\_239, Lukilu\_225, YemiJoy2021\_237, Melpomini\_231, Mikro\_230, ShiaLabeouf\_234, Dietrick\_225, StephanieG\_230, Kamryn\_235, Bread\_231, Catera\_226, Basquiat\_233, Ngannou\_231, Spec\_230, Napoleon13\_233, Nidhogg\_237, ArcherS7\_237, Patter\_238, Blubba\_224, Astraea\_230, Izajani\_232, Bonray\_238, BackyardAgain\_231, Trinitium\_232, McGee\_237, Essence\_234,

EmToTheThree\_236, Specks\_240, Primadonna\_230, Phox\_237, Demodog\_242, Willis\_236, Morizzled23\_233, LRRHood\_228, I3\_246, Latch\_236, Pivoine\_237, Bangla1971\_237, Pier\_235, Iota\_233, Littleton\_239, Matsumoto\_234, Koguma\_235, Teardrop\_234, Jessibeth14\_236, Kboogie\_240, ValleyTerrace\_237, Issimir\_229, QBert\_228, Colt\_227, JPickles\_233, Jezreel\_232, Phusco\_235, Drazdys\_233, Atlantean\_236, Blackbrain\_234, Gizmo\_241, Loanshark\_233, Shnickers\_235, Ronan\_232, EasyJones\_237, Nappy\_236, MikeLiesIn\_236, PurduePete\_236, Janiyra\_239, Ading\_238, ChickenPhender\_232, JulietS\_228, ErnieJ\_229, Sprinklers\_234, Belieber\_228, Dandelion\_242, Bigswole\_241, Zeenon\_236, Delilah\_234, Asterius\_236, StubbySaigey\_242, Khaleesi\_235, CharlieB\_230, SrishMeg2525\_233, FudgeTart\_230, Naval22\_241, Gamgam\_238, Tyke\_233, JigglyPuff\_242, Caravan\_226, IkeLoa\_230, CindyLou\_237, DrPhinkDaddy\_233

- Track 59 : DirtMonster\_227, DeejaClivia\_225, HyRo\_221
- Track 60 : Chomp\_235
- Track 61 : Grasshills\_243, EggyFarm\_244, BigCity\_244
- Track 62 : InigoMontoya\_239
- Track 63 : Tonenili\_257
- Track 64 : Gustav\_59
- Track 65 : GRU1\_93
- Track 66 : Kabluna\_9, Bonum\_9
- Track 67 : NosilaM\_9
- Track 68 : MerCougar\_8, StarStruck\_8, Outis\_8
- Track 69 : Buggaboo\_8, SuperSulley\_8
- Track 70 : GTE8\_91
- Track 71 : BiPauneto\_8, Yndexa\_8, Sukkupi\_8
- Track 72 : Scuba\_12
- Track 73 : Fury\_12, Pleakley\_12
- Track 74 : CherryTomatoes\_138, Pupper\_137, SCentae\_136
- Track 75 : Skog\_198
- Track 76 : CaiB\_50, MossRose\_49, AnarQue\_49, CloverMinnie\_49
- Track 77 : Mariokart\_47
- Track 78 : Wooper\_50, Yeshua\_50
- Track 79 : Evaa\_46
- Track 80 : NHagos\_48, AksarBAT\_48
- Track 81 : Sisko\_46, AnClar\_47, Yago84\_46
- Track 82 : BiggityBass\_46
- Track 83 : Ligma\_47, Fresco\_47, Axumite\_47, Shatter\_47
- Track 84 : LittleMunchkin\_48
- Track 85 : CharlottesWeb\_46
- Track 86 : BobRoss2024\_46
- Track 87 : GMA2\_47
- Track 88 : ModicumRichard\_95
- Track 89 : ObLaDi\_95
- Track 90 : Morgana\_102, Cafasso\_96
- Track 91 : Aleemily\_94
- Track 92 : Lilbit\_2, Poise\_3, RedRaider77\_3, Raela\_2, JoieB\_3, Beelzebub\_3, Blackbeetle\_3, Huphlepuuff\_2, LittleLaf\_2, Clarkson\_2
- Track 93 : VasuNzinga\_3, Gattaca\_4, MosMoris\_4, GoongGoong\_3, Marvin\_2, FeliMaine\_2, Corazon\_2
- Track 94 : Tesla\_3
- Track 95 : Caprice\_3
- Track 96 : Mbo2\_59
- Track 97 : TPA2\_59

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

The start number called the most often in the published annotations is 24, it was called in 164 of the 336 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Ablatia\_233, Ading\_238, Adlitam\_236, Amataga\_237, ArcherS7\_237, Asterius\_236, Astraea\_230, Atlantean\_236, Audrick\_238, Ava3\_233, Babyland\_239, BackyardAgain\_231, BadAgartude\_230, BananaFence\_233, Bangla1971\_237, Basquiat\_233, BeanWater\_229, Belieber\_228, BigCity\_244, Bigswole\_241, Bipolarisk\_234, Blackbrain\_234, Blackdragon\_230, Blubba\_224, Bonray\_238, Bread\_231, Breeniome\_235, Burrough\_236, Bxz1\_223, Cactojaque\_230, Cali\_227, Cane17\_226, Capablanca\_241, Caravan\_226, Catera\_226, Charge21\_233, CharlieB\_230, ChaylaJr\_235, ChickenPhender\_232, Chomp\_235, CindyLou\_237, Colt\_227, Concombre\_241, DTDevon\_237, Daffodil\_241, Dandelion\_242, Darko\_235, Delilah\_234, Delylah\_238, Demodog\_242, Derek\_232, Dietrick\_225, Domi\_230, DrPhinkDaddy\_233, Drazdys\_233, EasyJones\_237, EggyFarm\_244, EmToTheThree\_236, EmmaElysia\_241, Erdmann\_236, ErnieJ\_229, Essence\_234, Ewok\_235, Flabslab\_232, Fludd\_236, Fongie\_236, FoxtrotP1\_234, FrayBell\_239, FudgeTart\_230, Gabriel\_239, Gangam\_238, Ghost\_235, Gizmo\_241, GlutenPhree\_235, Grasshills\_243, Grungle\_218, Guwapp\_232, Halldule\_228, I3\_246, IkeLoa\_230, InigoMontoya\_239, InterFolia\_237, Iota\_233, Issimir\_229, Izajani\_232, JPickles\_233, Janiyra\_239, JayJay\_238, Jaygup\_233, Jedediah\_237, Jemmno\_236, Jessibeth14\_236, Jezreel\_232, JigglyPuff\_242, JulietS\_228, JustHall\_230, Kamryn\_235, Kboogie\_240, Khaleesi\_235, Koguma\_235, LRRHood\_228, Latch\_236, Lee7\_235, Lethe\_237, LifeSavor\_236, LinStu\_234, Littleton\_239, Loanshark\_233, LolaVinca\_232, LordLeafolot\_238, Lukilu\_225, Maby2021\_236, Mangeria\_237, Matsumoto\_234, McGee\_237, McWolfish\_233, Megamind\_233, Melpomini\_231, MikeLiesIn\_236, Mikro\_230, MoMoMixon\_232, Momo\_237, Morizzled23\_233, Naija\_237, Napoleon13\_233, Nappy\_236, Naval22\_241, NedWong\_235, Ngannou\_231, Nidhogg\_237, Norm\_236, NuevoMundo\_237, ParkTD\_235, Patter\_238, Phlegm\_240, Phox\_237, Phusco\_235, Pier\_235, Pio\_242, Pivoine\_237, Pleione\_240, Primadonna\_230, PurduePete\_236, QBert\_228, Quasimodo\_239, Rahel\_238, Rizal\_226, RoMag\_231, Ronan\_232, Roots515\_239, SVoro\_232, Salacia\_237, Sauce\_233, ScottMcG\_228, Sebata\_238, Shaq nato\_227, Shelob\_237, ShiaLabeouf\_234, Shifa\_213, Shnickers\_235, Shrimp\_238, SilverDipper\_240, SmallFry\_237, Spec\_230, Specks\_240, Sprinklers\_234, Spud\_229, SrishMeg2525\_233, StephanieG\_230, StubbySaigey\_242, Tainan\_236, Teardrop\_234, TinyTim\_234, Tonenili\_257, Tortoise16\_234, Trinitium\_232, Turret\_227, Tyke\_233, ValleyTerrace\_237, Wally\_234, Willis\_236, Yassified\_233, YemiJoy2021\_237, YoungMoneyMata\_236, Yucca\_235, Zalkecks\_235, Zeenon\_236, ZygoTaiga\_231,

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

- DeejaClivia\_225, DirtMonster\_227, HyRo\_221,

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

- 39HC\_047, 40BC\_047, Abinghost\_55, Acadian\_55, Akoma\_55, AksarBAT\_48, AlanGrant\_53, Aleemily\_94, Allegro\_54, AnClar\_47, AnarQue\_49, Antihero\_49,

Apex\_51, Arbiter\_53, Ares\_54, Athena\_57, Audrey\_55, Austelle\_51, Axumite\_47, Bae\_56, Baloo\_55, Bananafish\_54, Beelzebub\_3, Ben11\_55, Bernardo\_56, BiPauneto\_8, BiggityBass\_46, Blackbeetle\_3, Blocker23\_54, BobRoss2024\_46, BobbyK\_50, Bonum\_9, Boyle\_54, BrownCNA\_51, Brownie5\_54, Buggaboo\_8, Cafasso\_96, CaiB\_50, Calamitous\_54, Caprice\_3, Casbah\_55, ChaChing\_55, Chalmers\_54, Chandler\_55, CharlottesWeb\_46, Chentzyk\_56, CherryTomatoes\_138, ChrisnMich\_50, Clarkson\_2, CloverMinnie\_49, Coffee\_54, Compostia\_55, Cooper\_51, Corazon\_2, Corofin\_55, Deenasa\_54, Devonte\_54, DigitDog\_55, Donny\_56, Eaglehorse\_54, EastView9101\_54, Epah\_49, Evaa\_46, Fanaw\_49, Faze9\_53, FeliMaine\_2, ForDig\_49, Fortunato\_50, Frederick\_50, FrenchFry\_54, Fresco\_47, Funsized\_56, Fury\_12, GMA2\_47, GRU1\_93, GTE8\_91, Gadget\_56, Gattaca\_4, Gervas\_56, GinPorsche\_49, Glass\_54, GlenHope\_56, Glubnar\_55, Godines\_54, GoongGoong\_3, Gustav\_59, Halfpint\_54, Hally898\_49, Hangman\_49, HarveySr\_54, Heath\_49, Heathcliff\_55, Hedgerow\_54, Holeinone\_54, Hosp\_046, Huphlepuuff\_2, Hydro\_50, Imvubu\_48, Indlovu\_52, ItsyBitsy1\_54, JAMaL\_50, Jackstina\_51, JaguarMi\_52, JoieB\_3, Jolie1\_048, Kabluna\_9, Kaleb\_54, Kamiyu\_55, KarasumaRum\_55, KayaCho\_47, Kheth\_54, Knocker\_55, Kolhan\_54, Kronus\_55, Lambano\_49, Lars\_54, Laurie\_53, Lephleur\_54, LestyG\_54, Ligma\_47, LilMcDreamy\_52, LilSmirk\_54, Lilbit\_2, LittleLaf\_2, LittleMunchkin\_48, LizLemon\_54, Lolalove\_51, Magpie\_49, Mariokart\_47, Marley1013\_56, Marlia\_56, Marvin\_2, MasterPo\_54, Mbo2\_59, MerCougar\_8, Mithril\_49, MmasiCarm\_56, ModicumRichard\_95, Morgana\_102, Mortcellus\_55, Morty007\_55, MosMoris\_4, MossRose\_49, Mudslide\_50, Mysterious\_55, NHagos\_48, Nanao\_49, Nangang\_55, Nehemiah\_54, Nigel\_51, NosilaM\_9, Nozo\_55, ObLaDi\_95, Obutu\_56, Olivio\_55, Opia\_54, OrangeOswald\_55, Outis\_8, Phantasmagoria\_54, Phayeta\_57, Phelemich\_53, Philly\_54, Phlyer\_55, Phrappuccino\_159, Pleakley\_12, Poise\_3, Poster\_49, PrinceCharming\_54, Prince\_50, Pupper\_137, QueenPie\_48, Raela\_2, RagingRooster\_54, RawrgerThat\_51, RedRaider77\_3, Reprobate\_54, Rhinoforte\_54, Rich\_55, Rinkes\_53, Rita130\_54, Rita1961\_56, RomaT\_55, Rosebush\_53, SCentae\_136, Sabella\_53, Scuba\_12, Settecandela\_159, Shatter\_47, Shenyu\_55, SirJeffery\_54, Sisko\_46, Skog\_198, SlippinJimmy\_57, StarStruck\_8, Stinger\_50, StinkyVeggy\_55, Suigeneris\_56, Sukkupi\_8, SuperSulley\_8, SwainyDoc\_56, SynergyX\_55, TA17A\_55, TPA2\_59, Tesla\_3, Thonko\_56, Tinciduntolum\_55, Tres\_54, VasuNzinga\_3, Vic9\_00053, Vincenzo\_52, VioletZ\_52, Waleliano\_49, West99\_54, Wooper\_50, Xincheng\_51, Yago84\_46, Yahalom\_54, Yeshua\_50, Yinz\_55, Yndexa\_8, Zemanar\_50,

### Summary by start number:

#### Start 18:

- Found in 2 of 412 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 2 of 336
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Phrappuccino\_159 (AA), Settecandela\_159 (AA),

#### Start 20:

- Found in 38 of 412 ( 9.2% ) of genes in pham
- Manual Annotations of this start: 34 of 336
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Allegro\_54 (B2), Arbiter\_53 (B2), Ares\_54 (B2), Bananafish\_54 (B2), Blocker23\_54 (B2), Boyle\_54 (B2), Brownie5\_54 (B2), Calamitous\_54 (B2), Coffee\_54 (B2), Cooper\_51 (B4), Eaglehorse\_54 (B2),

Faze9\_53 (B2), FrenchFry\_54 (B2), Glass\_54 (B2), Godines\_54 (B2), Hedgerow\_54 (B2), Holeinone\_54 (B2), ItsyBitsy1\_54 (B2), Kaleb\_54 (B2), Kheth\_54 (B2), Kolhan\_54 (B2), Lars\_54 (B2), Laurie\_53 (B2), Lephleur\_54 (B2), LilSmirk\_54 (B2), LizLemon\_54 (B2), MasterPo\_54 (B2), Opia\_54 (B2), Phantasmagoria\_54 (B2), PrinceCharming\_54 (B2), Rhinoforte\_54 (B2), Rosebush\_53 (B2), Sabella\_53 (B2), TA17A\_55 (B2), Tinciduntolum\_55 (B2), Tres\_54 (B2), Vic9\_00053 (B2), West99\_54 (B2),

#### Start 21:

- Found in 19 of 412 ( 4.6% ) of genes in pham
- Manual Annotations of this start: 9 of 336
- Called 52.6% of time when present
- Phage (with cluster) where this start called: Beelzebub\_3 (S), Blackbeetle\_3 (S), Clarkson\_2 (S), Huphlepuuff\_2 (S), JoieB\_3 (S), Lilbit\_2 (S), LittleLaf\_2 (S), Poise\_3 (S), Raela\_2 (S), RedRaider77\_3 (S),

#### Start 22:

- Found in 7 of 412 ( 1.7% ) of genes in pham
- Manual Annotations of this start: 2 of 336
- Called 42.9% of time when present
- Phage (with cluster) where this start called: DeejaClivia\_225 (C1), DirtMonster\_227 (C1), HyRo\_221 (C1),

#### Start 23:

- Found in 2 of 412 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 2 of 336
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Evaa\_46 (DR), LittleMunchkin\_48 (DR),

#### Start 24:

- Found in 191 of 412 ( 46.4% ) of genes in pham
- Manual Annotations of this start: 164 of 336
- Called 98.4% of time when present
- Phage (with cluster) where this start called: Ablatia\_233 (C1), Ading\_238 (C1), Adlitam\_236 (C1), Amataga\_237 (C1), ArcherS7\_237 (C1), Asterius\_236 (C1), Astraea\_230 (C1), Atlantean\_236 (C1), Audrick\_238 (C1), Ava3\_233 (C1), Babyland\_239 (C1), BackyardAgain\_231 (C1), BadAgartude\_230 (C1), BananaFence\_233 (C1), Bangla1971\_237 (C1), Basquiat\_233 (C1), BeanWater\_229 (C1), Belieber\_228 (C1), BigCity\_244 (C1), Bigswole\_241 (C1), Bipolarisk\_234 (C1), Blackbrain\_234 (C1), Blackdragon\_230 (C1), Blubba\_224 (C1), Bonray\_238 (C1), Bread\_231 (C1), Breeniome\_235 (C1), Burrough\_236 (C1), Bxz1\_223 (C1), Cactojaque\_230 (C1), Cali\_227 (C1), Cane17\_226 (C1), Capablanca\_241 (C1), Caravan\_226 (C1), Catera\_226 (C1), Chargie21\_233 (C1), CharlieB\_230 (C1), ChaylaJr\_235 (C1), ChickenPhender\_232 (C1), Chomp\_235 (C1), CindyLou\_237 (C1), Colt\_227 (C1), Concombre\_241 (C1), DTDevon\_237 (C1), Daffodil\_241 (C1), Dandelion\_242 (C1), Darko\_235 (C1), Delilah\_234 (C1), Delylah\_238 (C1), Demodog\_242 (C1), Derek\_232 (C1), Dietrick\_225 (C1), Domi\_230 (C1), DrPhinkDaddy\_233 (C1), Drazdys\_233 (C1), EasyJones\_237 (C1), EggyFarm\_244 (C1), EmToTheThree\_236 (C1), EmmaElysia\_241 (C1), Erdmann\_236 (C1), ErnieJ\_229 (C1), Essence\_234 (C1), Ewok\_235 (C1), Flabslab\_232 (C1), Fludd\_236 (C1), Fongie\_236 (C1), FoxtrotP1\_234 (C1), FrayBell\_239 (C1), FudgeTart\_230 (C1), Gabriel\_239 (C1), Gamgam\_238 (C1), Ghost\_235 (C1), Gizmo\_241 (C1), GlutenPhree\_235 (C1), Grasshills\_243 (C1), Grungle\_218 (C1), Guwapp\_232 (C1),



Halldule\_228 (C1), I3\_246 (C1), IkeLoa\_230 (C1), InigoMontoya\_239 (C1),  
 InterFolia\_237 (C1), Iota\_233 (C1), Issimir\_229 (C1), Izajani\_232 (C1), JPickles\_233  
 (C1), Janiyrá\_239 (C1), JayJay\_238 (C1), Jaygup\_233 (C1), Jedediah\_237 (C1),  
 Jemmno\_236 (C1), Jessibeth14\_236 (C1), Jezreel\_232 (C1), JigglyPuff\_242 (C1),  
 JulietS\_228 (C1), JustHall\_230 (C1), Kamryn\_235 (C1), Kboogie\_240 (C1),  
 Khaleesi\_235 (C1), Koguma\_235 (C1), LRRHood\_228 (C1), Latch\_236 (C1),  
 Lee7\_235 (C1), Lethe\_237 (C1), LifeSavor\_236 (C1), LinStu\_234 (C1), Littleton\_239  
 (C1), Loanshark\_233 (C1), LolaVinca\_232 (C1), LordLeafolot\_238 (C1), Lukilu\_225  
 (C1), Maby2021\_236 (C1), Mangeria\_237 (C1), Matsumoto\_234 (C1), McGee\_237  
 (C1), McWolfish\_233 (C1), Megamind\_233 (C1), Melpomini\_231 (C1),  
 MikeLiesIn\_236 (C1), Mikro\_230 (C1), MoMoMixon\_232 (C1), Momo\_237 (C1),  
 Morizzled23\_233 (C1), Naija\_237 (C1), Napoleon13\_233 (C1), Nappy\_236 (C1),  
 Naval22\_241 (C1), NedWong\_235 (C1), Ngannou\_231 (C1), Nidhogg\_237 (C1),  
 Norm\_236 (C1), NuevoMundo\_237 (C1), ParkTD\_235 (C1), Patter\_238 (C1),  
 Phlegm\_240 (C1), Phox\_237 (C1), Phusco\_235 (C1), Pier\_235 (C1), Pio\_242 (C1),  
 Pivoine\_237 (C1), Pleione\_240 (C1), Primadonna\_230 (C1), PurduePete\_236 (C1),  
 QBert\_228 (C1), Quasimodo\_239 (C1), Rahel\_238 (C1), Rizal\_226 (C1), RoMag\_231  
 (C1), Ronan\_232 (C1), Roots515\_239 (C1), SVoro\_232 (C1), Salacia\_237 (C1),  
 Sauce\_233 (C1), ScottMcG\_228 (C1), Sebata\_238 (C1), Shaqnato\_227 (C1),  
 Shelob\_237 (C1), ShiaLabeouf\_234 (C1), Shifa\_213 (C1), Shnickers\_235 (C1),  
 Shrimp\_238 (C1), SilverDipper\_240 (C1), SmallFry\_237 (C1), Spec\_230 (C1),  
 Specks\_240 (C1), Sprinklers\_234 (C1), Spud\_229 (C1), SrishMeg2525\_233 (C1),  
 StephanieG\_230 (C1), StubbySaigey\_242 (C1), Tainan\_236 (C1), Teardrop\_234  
 (C1), TinyTim\_234 (C1), Tonenili\_257 (C1), Tortoise16\_234 (C1), Trinitium\_232 (C1),  
 Turret\_227 (C1), Tyke\_233 (C1), ValleyTerrace\_237 (C1), Wally\_234 (C1), Willis\_236  
 (C1), Yassified\_233 (C1), YemiJoy2021\_237 (C1), YoungMoneyMata\_236 (C1),  
 Yucca\_235 (C1), Zalkecks\_235 (C1), Zeenon\_236 (C1), ZygoTaiga\_231 (C1),

#### Start 25:

- Found in 19 of 412 ( 4.6% ) of genes in pham
- No Manual Annotations of this start.
- Called 5.3% of time when present
- Phage (with cluster) where this start called: Caprice\_3 (S),

#### Start 26:

- Found in 121 of 412 ( 29.4% ) of genes in pham
- Manual Annotations of this start: 85 of 336
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 39HC\_047 (B6), 40BC\_047 (B6),  
 Abinghost\_55 (B3), Acadian\_55 (B5), Akoma\_55 (B3), AksarBAT\_48 (DR),  
 AlanGrant\_53 (B4), AnarQue\_49 (DR), Antihero\_49 (B4), Apex\_51 (B4), Athena\_57  
 (B3), Audrey\_55 (B3), Austelle\_51 (B4), Bae\_56 (B5), Baloo\_55 (B3), Ben11\_55  
 (B3), Bernardo\_56 (B3), BobRoss2024\_46 (DR), BobbyK\_50 (B4), BrownCNA\_51  
 (B4), CaiB\_50 (DR), Casbah\_55 (B3), ChaChing\_55 (B3), Chalmers\_54 (B3),  
 Chandler\_55 (B3), Chentzyk\_56 (B3), ChrisnMich\_50 (B4), CloverMinnie\_49 (DR),  
 Compostia\_55 (B3), Corofin\_55 (B3), Deenasa\_54 (B3), Devonte\_54 (B3),  
 DigitDog\_55 (B5), Donny\_56 (B5), EastView9101\_54 (B5), Epah\_49 (B4), Fanaw\_49  
 (B4), ForDig\_49 (B6), Fortunato\_50 (B4), Frederick\_50 (B4), Funsized\_56 (B9),  
 Gadget\_56 (B3), Gervas\_56 (B3), GinPorsche\_49 (B4), GlenHope\_56 (B3),  
 Glubnar\_55 (B3), Halfpint\_54 (B3), Hally898\_49 (B4), Hangman\_49 (B4),  
 HarveySr\_54 (B3), Heath\_49 (B4), Heathcliff\_55 (B3), Hosp\_046 (B6), Hydro\_50  
 (B4), Imvubu\_48 (B10), Indlovu\_52 (B11), JAMaL\_50 (B4), Jackstina\_51 (B3),  
 JaguarMi\_52 (B4), Jolie1\_048 (B6), Kamiyu\_55 (B3), KarasumaRum\_55 (B5),

KayaCho\_47 (B6), Knocker\_55 (B9), Kronus\_55 (B3), Lambano\_49 (B4), LestyG\_54 (B3), LiiMcDreamy\_52 (B12), Lolalove\_51 (B4), Magpie\_49 (B4), Marley1013\_56 (B3), Marlia\_56 (B3), Mithril\_49 (B4), MmasiCarm\_56 (B3), Mortcellus\_55 (B3), Morty007\_55 (B3), MossRose\_49 (DR), Mudslide\_50 (B4), Mysterious\_55 (B5), NHagos\_48 (DR), Nanao\_49 (B4), Nangang\_55 (B5), Nehemiah\_54 (B5), Nigel\_51 (B4), Nozo\_55 (B3), Obutu\_56 (B3), Olivio\_55 (B3), OrangeOswald\_55 (B3), Phayeta\_57 (B3), Phelemich\_53 (B5), Philly\_54 (B3), Phlyer\_55 (B3), Poster\_49 (B4), Prince\_50 (B4), QueenPie\_48 (B4), RagingRooster\_54 (B3), RawrgerThat\_51 (B4), Reprobate\_54 (B5), Rich\_55 (B5), Rinkes\_53 (B9), Rita130\_54 (B5), Rita1961\_56 (B3), RomaT\_55 (B3), Shenyu\_55 (B5), SirJeffery\_54 (B5), SlippinJimmy\_57 (B3), Stinger\_50 (B4), StinkyVeggy\_55 (B5), Suigeneris\_56 (B5), SwainyDoc\_56 (B3), SynergyX\_55 (B3), Thonko\_56 (B8), Vincenzo\_52 (B4), VioletZ\_52 (B4), Waleliano\_49 (B4), Wooper\_50 (DR), Xincheng\_51 (B4), Yahalom\_54 (B3), Yeshua\_50 (DR), Yinz\_55 (B3), Zemanar\_50 (B4),

#### Start 27:

- Found in 4 of 412 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 4 of 336
- Called 100.0% of time when present
- Phage (with cluster) where this start called: CherryTomatoes\_138 (DO), Pupper\_137 (DO), SCentae\_136 (DO), Skog\_198 (DO),

#### Start 28:

- Found in 1 of 412 ( 0.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: TPA2\_59 (singleton),

#### Start 29:

- Found in 56 of 412 ( 13.6% ) of genes in pham
- Manual Annotations of this start: 34 of 336
- Called 73.2% of time when present
- Phage (with cluster) where this start called: Aleemily\_94 (DZ), AnClar\_47 (DR), Axumite\_47 (DR), BiPauneto\_8 (CR4), BiggityBass\_46 (DR), Bonum\_9 (CR2), Buggaboo\_8 (CR2), Cafasso\_96 (DZ), CharlottesWeb\_46 (DR), Corazon\_2 (S), FeliMaine\_2 (S), Fresco\_47 (DR), Fury\_12 (CR5), GRU1\_93 (CR1), GTE8\_91 (CR2), Gattaca\_4 (S), GoongGoong\_3 (S), Gustav\_59 (CD), Kabluna\_9 (CR2), Ligma\_47 (DR), Mariokart\_47 (DR), Marvin\_2 (S), Mbo2\_59 (singleton), MerCougar\_8 (CR2), ModicumRichard\_95 (DZ), Morgana\_102 (DZ), MosMoris\_4 (S), NosilaM\_9 (CR2), ObLaDi\_95 (DZ), Outis\_8 (CR2), Pleakley\_12 (CR5), Scuba\_12 (CR5), Shatter\_47 (DR), Sisko\_46 (DR), StarStruck\_8 (CR2), Sukkupi\_8 (CR4), SuperSulley\_8 (CR2), Tesla\_3 (S), VasuNzinga\_3 (S), Yago84\_46 (DR), Yndexa\_8 (CR4),

#### Start 32:

- Found in 1 of 412 ( 0.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GMA2\_47 (DS),

### Summary by clusters:

There are 23 clusters represented in this pham: DO, singleton, DZ, B10, B11, DR, DS, C1, AA, CD, S, CR2, CR1, CR4, CR5, B4, B5, B6, B2, B3, B12, B8, B9,

Info for manual annotations of cluster AA:

- Start number 18 was manually annotated 2 times for cluster AA.

Info for manual annotations of cluster B10:

- Start number 26 was manually annotated 1 time for cluster B10.

Info for manual annotations of cluster B11:

- Start number 26 was manually annotated 1 time for cluster B11.

Info for manual annotations of cluster B12:

- Start number 26 was manually annotated 1 time for cluster B12.

Info for manual annotations of cluster B2:

- Start number 20 was manually annotated 33 times for cluster B2.

Info for manual annotations of cluster B3:

- Start number 26 was manually annotated 39 times for cluster B3.

Info for manual annotations of cluster B4:

- Start number 20 was manually annotated 1 time for cluster B4.
- Start number 26 was manually annotated 24 times for cluster B4.

Info for manual annotations of cluster B5:

- Start number 26 was manually annotated 8 times for cluster B5.

Info for manual annotations of cluster B6:

- Start number 26 was manually annotated 1 time for cluster B6.

Info for manual annotations of cluster B8:

- Start number 26 was manually annotated 1 time for cluster B8.

Info for manual annotations of cluster B9:

- Start number 26 was manually annotated 3 times for cluster B9.

Info for manual annotations of cluster C1:

- Start number 22 was manually annotated 2 times for cluster C1.
- Start number 24 was manually annotated 164 times for cluster C1.

Info for manual annotations of cluster CD:

- Start number 29 was manually annotated 1 time for cluster CD.

Info for manual annotations of cluster CR2:

- Start number 29 was manually annotated 8 times for cluster CR2.

Info for manual annotations of cluster CR4:

- Start number 29 was manually annotated 3 times for cluster CR4.

Info for manual annotations of cluster CR5:

- Start number 29 was manually annotated 2 times for cluster CR5.

Info for manual annotations of cluster DO:

- Start number 27 was manually annotated 4 times for cluster DO.

Info for manual annotations of cluster DR:

- Start number 23 was manually annotated 2 times for cluster DR.
- Start number 26 was manually annotated 6 times for cluster DR.
- Start number 29 was manually annotated 9 times for cluster DR.

Info for manual annotations of cluster DZ:

- Start number 29 was manually annotated 4 times for cluster DZ.

Info for manual annotations of cluster S:

- Start number 21 was manually annotated 9 times for cluster S.
- Start number 29 was manually annotated 7 times for cluster S.

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

Gene: 39HC\_047 Start: 46065, Stop: 45586, Start Num: 26

Candidate Starts for 39HC\_047:

(Start: 26 @46065 has 85 MA's), (Start: 29 @46059 has 34 MA's), (51, 45933), (89, 45795), (95, 45768), (110, 45705), (133, 45600),

Gene: 40BC\_047 Start: 46065, Stop: 45586, Start Num: 26

Candidate Starts for 40BC\_047:

(Start: 26 @46065 has 85 MA's), (Start: 29 @46059 has 34 MA's), (51, 45933), (89, 45795), (95, 45768), (110, 45705), (133, 45600),

Gene: Abinghost\_55 Start: 48403, Stop: 47930, Start Num: 26

Candidate Starts for Abinghost\_55:

(Start: 26 @48403 has 85 MA's), (35, 48367), (69, 48175), (89, 48139), (95, 48112),

Gene: Ablatia\_233 Start: 130787, Stop: 131254, Start Num: 24

Candidate Starts for Ablatia\_233:

(15, 130718), (Start: 24 @130787 has 164 MA's), (30, 130808), (61, 130982), (66, 130997), (112, 131150), (120, 131198),

Gene: Acadian\_55 Start: 48973, Stop: 48512, Start Num: 26

Candidate Starts for Acadian\_55:

(Start: 26 @48973 has 85 MA's), (36, 48925), (56, 48814), (69, 48745), (83, 48724), (109, 48637), (110, 48631), (117, 48589),

Gene: Ading\_238 Start: 133220, Stop: 133687, Start Num: 24

Candidate Starts for Ading\_238:

(15, 133151), (Start: 24 @133220 has 164 MA's), (30, 133241), (61, 133415), (66, 133430), (112, 133583), (120, 133631),

Gene: Adlitam\_236 Start: 131824, Stop: 132291, Start Num: 24

Candidate Starts for Adlitam\_236:

(15, 131755), (Start: 24 @131824 has 164 MA's), (30, 131845), (61, 132019), (66, 132034), (112, 132187), (120, 132235),

Gene: Akoma\_55 Start: 48418, Stop: 47945, Start Num: 26  
Candidate Starts for Akoma\_55:  
(Start: 26 @48418 has 85 MA's), (35, 48382), (69, 48190), (89, 48154), (95, 48127),

Gene: AksarBAT\_48 Start: 41599, Stop: 41123, Start Num: 26  
Candidate Starts for AksarBAT\_48:  
(Start: 26 @41599 has 85 MA's), (46, 41497), (49, 41470), (54, 41449), (65, 41383), (110, 41254),  
(120, 41203), (127, 41167),

Gene: AlanGrant\_53 Start: 49377, Stop: 48913, Start Num: 26  
Candidate Starts for AlanGrant\_53:  
(Start: 26 @49377 has 85 MA's), (54, 49236), (71, 49152), (104, 49056), (105, 49050), (110, 49023),  
(131, 48924),

Gene: Aleemily\_94 Start: 55554, Stop: 56000, Start Num: 29  
Candidate Starts for Aleemily\_94:  
(Start: 29 @55554 has 34 MA's), (43, 55635), (58, 55725), (72, 55770), (120, 55935),

Gene: Allegro\_54 Start: 47624, Stop: 47133, Start Num: 20  
Candidate Starts for Allegro\_54:  
(Start: 20 @47624 has 34 MA's), (55, 47465), (88, 47345), (89, 47342), (92, 47327), (95, 47315), (109,  
47258), (110, 47252), (115, 47225), (135, 47141),

Gene: Amataga\_237 Start: 130823, Stop: 131290, Start Num: 24  
Candidate Starts for Amataga\_237:  
(15, 130754), (Start: 24 @130823 has 164 MA's), (30, 130844), (61, 131018), (66, 131033), (112,  
131186), (120, 131234),

Gene: AnClar\_47 Start: 43032, Stop: 42556, Start Num: 29  
Candidate Starts for AnClar\_47:  
(Start: 29 @43032 has 34 MA's), (37, 42987), (40, 42972), (58, 42867), (100, 42711), (113, 42654),  
(125, 42585), (128, 42570),

Gene: AnarQue\_49 Start: 42622, Stop: 42155, Start Num: 26  
Candidate Starts for AnarQue\_49:  
(Start: 26 @42622 has 85 MA's), (49, 42493), (82, 42379), (109, 42283), (110, 42277), (120, 42226),  
(127, 42190),

Gene: Antihero\_49 Start: 47622, Stop: 47143, Start Num: 26  
Candidate Starts for Antihero\_49:  
(Start: 26 @47622 has 85 MA's), (51, 47490), (95, 47325), (98, 47313), (110, 47262), (133, 47157),  
(134, 47154),

Gene: Apex\_51 Start: 48844, Stop: 48383, Start Num: 26  
Candidate Starts for Apex\_51:  
(6, 49039), (Start: 26 @48844 has 85 MA's), (45, 48751), (54, 48703), (82, 48607), (84, 48598), (95,  
48556), (97, 48550), (104, 48526), (110, 48493), (114, 48469), (115, 48466), (125, 48418), (131,  
48394),

Gene: Arbiter\_53 Start: 47730, Stop: 47239, Start Num: 20  
Candidate Starts for Arbiter\_53:  
(Start: 20 @47730 has 34 MA's), (55, 47571), (88, 47451), (89, 47448), (92, 47433), (95, 47421), (109,  
47364), (110, 47358), (115, 47331), (135, 47247),

Gene: ArcherS7\_237 Start: 132568, Stop: 133035, Start Num: 24

Candidate Starts for ArcherS7\_237:

(15, 132499), (Start: 24 @132568 has 164 MA's), (30, 132589), (61, 132763), (66, 132778), (112, 132931), (120, 132979),

Gene: Ares\_54 Start: 47699, Stop: 47208, Start Num: 20

Candidate Starts for Ares\_54:

(Start: 20 @47699 has 34 MA's), (55, 47540), (88, 47420), (89, 47417), (92, 47402), (95, 47390), (109, 47333), (110, 47327), (115, 47300), (135, 47216),

Gene: Asterius\_236 Start: 131232, Stop: 131699, Start Num: 24

Candidate Starts for Asterius\_236:

(15, 131163), (Start: 24 @131232 has 164 MA's), (30, 131253), (61, 131427), (66, 131442), (112, 131595), (120, 131643),

Gene: Astraea\_230 Start: 130427, Stop: 130894, Start Num: 24

Candidate Starts for Astraea\_230:

(15, 130358), (Start: 24 @130427 has 164 MA's), (30, 130448), (61, 130622), (66, 130637), (112, 130790), (120, 130838),

Gene: Athena\_57 Start: 49161, Stop: 48688, Start Num: 26

Candidate Starts for Athena\_57:

(Start: 26 @49161 has 85 MA's), (35, 49125), (69, 48933), (89, 48897), (95, 48870),

Gene: Atlantean\_236 Start: 130823, Stop: 131290, Start Num: 24

Candidate Starts for Atlantean\_236:

(15, 130754), (Start: 24 @130823 has 164 MA's), (30, 130844), (61, 131018), (66, 131033), (112, 131186), (120, 131234),

Gene: Audrey\_55 Start: 48409, Stop: 47936, Start Num: 26

Candidate Starts for Audrey\_55:

(Start: 26 @48409 has 85 MA's), (35, 48373), (62, 48205), (69, 48181), (73, 48172), (89, 48145), (95, 48118), (128, 47965),

Gene: Audrick\_238 Start: 130713, Stop: 131180, Start Num: 24

Candidate Starts for Audrick\_238:

(15, 130644), (Start: 24 @130713 has 164 MA's), (30, 130734), (61, 130908), (66, 130923), (112, 131076), (120, 131124),

Gene: Austelle\_51 Start: 49294, Stop: 48833, Start Num: 26

Candidate Starts for Austelle\_51:

(Start: 26 @49294 has 85 MA's), (45, 49201), (54, 49153), (82, 49057), (84, 49048), (95, 49006), (97, 49000), (104, 48976), (110, 48943), (114, 48919), (115, 48916), (125, 48868), (131, 48844),

Gene: Ava3\_233 Start: 131283, Stop: 131750, Start Num: 24

Candidate Starts for Ava3\_233:

(15, 131214), (Start: 24 @131283 has 164 MA's), (30, 131304), (61, 131478), (66, 131493), (112, 131646), (120, 131694),

Gene: Axumite\_47 Start: 40708, Stop: 40232, Start Num: 29

Candidate Starts for Axumite\_47:

(4, 40930), (12, 40804), (Start: 29 @40708 has 34 MA's), (91, 40429), (94, 40417), (100, 40390), (113, 40333), (114, 40321), (125, 40264),

Gene: Babyland\_239 Start: 131600, Stop: 132067, Start Num: 24

Candidate Starts for Babyland\_239:

(15, 131531), (Start: 24 @131600 has 164 MA's), (30, 131621), (61, 131795), (66, 131810), (112, 131963), (120, 132011),

Gene: BackyardAgain\_231 Start: 128973, Stop: 129440, Start Num: 24

Candidate Starts for BackyardAgain\_231:

(15, 128904), (Start: 24 @128973 has 164 MA's), (30, 128994), (61, 129168), (66, 129183), (112, 129336), (120, 129384),

Gene: BadAgartude\_230 Start: 130913, Stop: 131380, Start Num: 24

Candidate Starts for BadAgartude\_230:

(15, 130844), (Start: 24 @130913 has 164 MA's), (30, 130934), (61, 131108), (66, 131123), (112, 131276), (120, 131324),

Gene: Bae\_56 Start: 50252, Stop: 49791, Start Num: 26

Candidate Starts for Bae\_56:

(Start: 26 @50252 has 85 MA's), (36, 50204), (69, 50024), (83, 50003), (109, 49916), (110, 49910),

Gene: Baloo\_55 Start: 48412, Stop: 47939, Start Num: 26

Candidate Starts for Baloo\_55:

(Start: 26 @48412 has 85 MA's), (35, 48376), (62, 48208), (69, 48184), (73, 48175), (89, 48148), (95, 48121), (128, 47968),

Gene: BananaFence\_233 Start: 131056, Stop: 131523, Start Num: 24

Candidate Starts for BananaFence\_233:

(15, 130987), (Start: 24 @131056 has 164 MA's), (30, 131077), (61, 131251), (66, 131266), (112, 131419), (120, 131467),

Gene: Bananafish\_54 Start: 47633, Stop: 47142, Start Num: 20

Candidate Starts for Bananafish\_54:

(Start: 20 @47633 has 34 MA's), (55, 47474), (88, 47354), (89, 47351), (92, 47336), (95, 47324), (109, 47267), (110, 47261), (115, 47234), (135, 47150),

Gene: Bangla1971\_237 Start: 131532, Stop: 131999, Start Num: 24

Candidate Starts for Bangla1971\_237:

(15, 131463), (Start: 24 @131532 has 164 MA's), (30, 131553), (61, 131727), (66, 131742), (112, 131895), (120, 131943),

Gene: Basquiat\_233 Start: 129342, Stop: 129809, Start Num: 24

Candidate Starts for Basquiat\_233:

(15, 129273), (Start: 24 @129342 has 164 MA's), (30, 129363), (61, 129537), (66, 129552), (112, 129705), (120, 129753),

Gene: BeanWater\_229 Start: 130669, Stop: 131136, Start Num: 24

Candidate Starts for BeanWater\_229:

(15, 130600), (Start: 24 @130669 has 164 MA's), (30, 130690), (61, 130864), (66, 130879), (112, 131032), (120, 131080),

Gene: Beelzebub\_3 Start: 781, Stop: 1281, Start Num: 21

Candidate Starts for Beelzebub\_3:

(Start: 21 @781 has 9 MA's), (25, 793), (Start: 29 @802 has 34 MA's), (59, 979), (63, 1003), (64, 1009), (65, 1012), (69, 1024), (71, 1030), (89, 1072), (107, 1147), (116, 1198),

Gene: Belieber\_228 Start: 129469, Stop: 129936, Start Num: 24

Candidate Starts for Belieber\_228:

(15, 129400), (Start: 24 @129469 has 164 MA's), (30, 129490), (61, 129664), (66, 129679), (112, 129832), (120, 129880),

Gene: Ben11\_55 Start: 48694, Stop: 48221, Start Num: 26

Candidate Starts for Ben11\_55:

(Start: 26 @48694 has 85 MA's), (35, 48658), (69, 48466), (89, 48430), (95, 48403),

Gene: Bernardo\_56 Start: 48845, Stop: 48372, Start Num: 26

Candidate Starts for Bernardo\_56:

(Start: 26 @48845 has 85 MA's), (35, 48809), (69, 48617), (89, 48581), (95, 48554), (128, 48401),

Gene: BiPauneto\_8 Start: 3928, Stop: 4389, Start Num: 29

Candidate Starts for BiPauneto\_8:

(Start: 29 @3928 has 34 MA's), (30, 3940), (34, 3952), (53, 4060), (130, 4378),

Gene: BigCity\_244 Start: 133429, Stop: 133896, Start Num: 24

Candidate Starts for BigCity\_244:

(Start: 24 @133429 has 164 MA's), (30, 133450), (61, 133624), (66, 133639), (83, 133678), (112, 133792), (120, 133840),

Gene: BiggityBass\_46 Start: 42504, Stop: 42028, Start Num: 29

Candidate Starts for BiggityBass\_46:

(Start: 29 @42504 has 34 MA's), (80, 42264), (81, 42261), (91, 42222), (94, 42210), (96, 42201), (100, 42183), (125, 42057), (128, 42042),

Gene: Bigswole\_241 Start: 133391, Stop: 133858, Start Num: 24

Candidate Starts for Bigswole\_241:

(15, 133322), (Start: 24 @133391 has 164 MA's), (30, 133412), (61, 133586), (66, 133601), (112, 133754), (120, 133802),

Gene: Bipolarisk\_234 Start: 131551, Stop: 132018, Start Num: 24

Candidate Starts for Bipolarisk\_234:

(15, 131482), (Start: 24 @131551 has 164 MA's), (30, 131572), (61, 131746), (66, 131761), (112, 131914), (120, 131962),

Gene: Blackbeetle\_3 Start: 790, Stop: 1290, Start Num: 21

Candidate Starts for Blackbeetle\_3:

(Start: 21 @790 has 9 MA's), (25, 802), (Start: 29 @811 has 34 MA's), (59, 988), (63, 1012), (64, 1018), (65, 1021), (69, 1033), (71, 1039), (89, 1081), (107, 1156), (116, 1207),

Gene: Blackbrain\_234 Start: 131119, Stop: 131586, Start Num: 24

Candidate Starts for Blackbrain\_234:

(15, 131050), (Start: 24 @131119 has 164 MA's), (30, 131140), (61, 131314), (66, 131329), (112, 131482), (120, 131530),

Gene: Blackdragon\_230 Start: 131144, Stop: 131611, Start Num: 24

Candidate Starts for Blackdragon\_230:



(15, 131075), (Start: 24 @131144 has 164 MA's), (30, 131165), (61, 131339), (66, 131354), (112, 131507), (120, 131555),

Gene: Blocker23\_54 Start: 47746, Stop: 47255, Start Num: 20

Candidate Starts for Blocker23\_54:

(Start: 20 @47746 has 34 MA's), (55, 47587), (89, 47464), (92, 47449), (95, 47437), (109, 47380), (110, 47374), (115, 47347), (135, 47263),

Gene: Blubba\_224 Start: 134689, Stop: 135174, Start Num: 24

Candidate Starts for Blubba\_224:

(15, 134620), (Start: 24 @134689 has 164 MA's), (30, 134710), (61, 134884), (66, 134899), (112, 135052), (120, 135100),

Gene: BobRoss2024\_46 Start: 40623, Stop: 40150, Start Num: 26

Candidate Starts for BobRoss2024\_46:

(Start: 26 @40623 has 85 MA's), (49, 40494), (61, 40422), (65, 40407), (84, 40371), (95, 40329), (110, 40278),

Gene: BobbyK\_50 Start: 48250, Stop: 47771, Start Num: 26

Candidate Starts for BobbyK\_50:

(Start: 26 @48250 has 85 MA's), (51, 48118), (95, 47953), (98, 47941), (105, 47917), (110, 47890), (133, 47785), (134, 47782),

Gene: Bonray\_238 Start: 132919, Stop: 133386, Start Num: 24

Candidate Starts for Bonray\_238:

(15, 132850), (Start: 24 @132919 has 164 MA's), (30, 132940), (61, 133114), (66, 133129), (112, 133282), (120, 133330),

Gene: Bonum\_9 Start: 5341, Stop: 5799, Start Num: 29

Candidate Starts for Bonum\_9:

(Start: 29 @5341 has 34 MA's), (53, 5473), (63, 5536), (111, 5695), (118, 5743), (130, 5788),

Gene: Boyle\_54 Start: 47766, Stop: 47275, Start Num: 20

Candidate Starts for Boyle\_54:

(Start: 20 @47766 has 34 MA's), (55, 47607), (89, 47484), (92, 47469), (95, 47457), (109, 47400), (110, 47394), (115, 47367), (135, 47283),

Gene: Bread\_231 Start: 130926, Stop: 131393, Start Num: 24

Candidate Starts for Bread\_231:

(15, 130857), (Start: 24 @130926 has 164 MA's), (30, 130947), (61, 131121), (66, 131136), (112, 131289), (120, 131337),

Gene: Breeniome\_235 Start: 130380, Stop: 130847, Start Num: 24

Candidate Starts for Breeniome\_235:

(15, 130311), (Start: 24 @130380 has 164 MA's), (30, 130401), (61, 130575), (66, 130590), (112, 130743), (120, 130791),

Gene: BrownCNA\_51 Start: 48520, Stop: 48059, Start Num: 26

Candidate Starts for BrownCNA\_51:

(Start: 26 @48520 has 85 MA's), (45, 48427), (54, 48379), (77, 48292), (82, 48283), (84, 48274), (92, 48244), (95, 48232), (104, 48202), (110, 48169), (114, 48145), (115, 48142), (125, 48094), (131, 48070),

Gene: Brownie5\_54 Start: 47782, Stop: 47291, Start Num: 20

Candidate Starts for Brownie5\_54:

(Start: 20 @47782 has 34 MA's), (55, 47623), (88, 47503), (89, 47500), (92, 47485), (95, 47473), (109, 47416), (110, 47410), (115, 47383), (135, 47299),

Gene: Buggaboo\_8 Start: 4860, Stop: 5318, Start Num: 29

Candidate Starts for Buggaboo\_8:

(Start: 29 @4860 has 34 MA's), (53, 4992), (111, 5214), (118, 5262), (130, 5307),

Gene: Burrough\_236 Start: 132696, Stop: 133163, Start Num: 24

Candidate Starts for Burrough\_236:

(15, 132627), (Start: 24 @132696 has 164 MA's), (30, 132717), (61, 132891), (66, 132906), (112, 133059), (120, 133107),

Gene: Bxz1\_223 Start: 132901, Stop: 133368, Start Num: 24

Candidate Starts for Bxz1\_223:

(15, 132832), (Start: 24 @132901 has 164 MA's), (30, 132922), (61, 133096), (66, 133111), (112, 133264), (120, 133312),

Gene: Cactojaque\_230 Start: 130065, Stop: 130532, Start Num: 24

Candidate Starts for Cactojaque\_230:

(15, 129996), (Start: 24 @130065 has 164 MA's), (30, 130086), (61, 130260), (66, 130275), (112, 130428), (120, 130476),

Gene: Cafasso\_96 Start: 56105, Stop: 56551, Start Num: 29

Candidate Starts for Cafasso\_96:

(Start: 29 @56105 has 34 MA's), (58, 56276), (72, 56321), (120, 56486),

Gene: CaiB\_50 Start: 43465, Stop: 42998, Start Num: 26

Candidate Starts for CaiB\_50:

(Start: 26 @43465 has 85 MA's), (49, 43336), (82, 43222), (109, 43126), (110, 43120), (120, 43069), (127, 43033),

Gene: Calamitous\_54 Start: 47632, Stop: 47141, Start Num: 20

Candidate Starts for Calamitous\_54:

(Start: 20 @47632 has 34 MA's), (55, 47473), (88, 47353), (89, 47350), (92, 47335), (95, 47323), (109, 47266), (110, 47260), (115, 47233), (135, 47149),

Gene: Cali\_227 Start: 131294, Stop: 131761, Start Num: 24

Candidate Starts for Cali\_227:

(15, 131225), (Start: 24 @131294 has 164 MA's), (30, 131315), (61, 131489), (66, 131504), (112, 131657), (120, 131705),

Gene: Cane17\_226 Start: 135098, Stop: 135583, Start Num: 24

Candidate Starts for Cane17\_226:

(15, 135029), (Start: 24 @135098 has 164 MA's), (30, 135119), (61, 135293), (66, 135308), (112, 135461), (120, 135509),

Gene: Capablanca\_241 Start: 133548, Stop: 134015, Start Num: 24

Candidate Starts for Capablanca\_241:

(15, 133479), (Start: 24 @133548 has 164 MA's), (30, 133569), (61, 133743), (66, 133758), (112, 133911), (120, 133959),

Gene: Caprice\_3 Start: 802, Stop: 1290, Start Num: 25

Candidate Starts for Caprice\_3:

(Start: 21 @790 has 9 MA's), (25, 802), (Start: 29 @811 has 34 MA's), (59, 988), (63, 1012), (64, 1018), (65, 1021), (69, 1033), (71, 1039), (89, 1081), (107, 1156), (116, 1207),

Gene: Caravan\_226 Start: 131634, Stop: 132101, Start Num: 24

Candidate Starts for Caravan\_226:

(15, 131565), (Start: 24 @131634 has 164 MA's), (30, 131655), (61, 131829), (66, 131844), (112, 131997), (120, 132045),

Gene: Casbah\_55 Start: 48727, Stop: 48254, Start Num: 26

Candidate Starts for Casbah\_55:

(Start: 26 @48727 has 85 MA's), (35, 48691), (69, 48499), (73, 48490), (89, 48463), (95, 48436),

Gene: Catera\_226 Start: 130036, Stop: 130503, Start Num: 24

Candidate Starts for Catera\_226:

(15, 129967), (Start: 24 @130036 has 164 MA's), (30, 130057), (61, 130231), (66, 130246), (112, 130399), (120, 130447),

Gene: ChaChing\_55 Start: 48426, Stop: 47953, Start Num: 26

Candidate Starts for ChaChing\_55:

(Start: 26 @48426 has 85 MA's), (35, 48390), (62, 48222), (69, 48198), (73, 48189), (89, 48162), (95, 48135), (128, 47982),

Gene: Chalmers\_54 Start: 48901, Stop: 48428, Start Num: 26

Candidate Starts for Chalmers\_54:

(Start: 26 @48901 has 85 MA's), (35, 48865), (69, 48673), (89, 48637), (95, 48610),

Gene: Chandler\_55 Start: 49197, Stop: 48724, Start Num: 26

Candidate Starts for Chandler\_55:

(Start: 26 @49197 has 85 MA's), (35, 49161), (69, 48969), (89, 48933), (95, 48906), (128, 48753),

Gene: Chargie21\_233 Start: 129342, Stop: 129809, Start Num: 24

Candidate Starts for Chargie21\_233:

(15, 129273), (Start: 24 @129342 has 164 MA's), (30, 129363), (61, 129537), (66, 129552), (112, 129705), (120, 129753),

Gene: CharlieB\_230 Start: 131048, Stop: 131515, Start Num: 24

Candidate Starts for CharlieB\_230:

(15, 130979), (Start: 24 @131048 has 164 MA's), (30, 131069), (61, 131243), (66, 131258), (112, 131411), (120, 131459),

Gene: CharlottesWeb\_46 Start: 40078, Stop: 39602, Start Num: 29

Candidate Starts for CharlottesWeb\_46:

(Start: 29 @40078 has 34 MA's), (91, 39799), (94, 39787), (100, 39760), (114, 39691), (125, 39634),

Gene: ChaylaJr\_235 Start: 130733, Stop: 131200, Start Num: 24

Candidate Starts for ChaylaJr\_235:

(15, 130664), (Start: 24 @130733 has 164 MA's), (30, 130754), (61, 130928), (66, 130943), (112, 131096), (120, 131144),

Gene: Chentzyk\_56 Start: 49236, Stop: 48763, Start Num: 26

Candidate Starts for Chentzyk\_56:

(Start: 26 @49236 has 85 MA's), (35, 49200), (62, 49032), (69, 49008), (89, 48972), (95, 48945), (128, 48792),

Gene: CherryTomatoes\_138 Start: 95998, Stop: 96492, Start Num: 27

Candidate Starts for CherryTomatoes\_138:

(Start: 27 @95998 has 4 MA's), (104, 96340), (122, 96442),

Gene: ChickenPhender\_232 Start: 129489, Stop: 129956, Start Num: 24

Candidate Starts for ChickenPhender\_232:

(15, 129420), (Start: 24 @129489 has 164 MA's), (30, 129510), (61, 129684), (66, 129699), (112, 129852), (120, 129900),

Gene: Chomp\_235 Start: 132925, Stop: 133392, Start Num: 24

Candidate Starts for Chomp\_235:

(15, 132856), (16, 132859), (Start: 24 @132925 has 164 MA's), (30, 132946), (61, 133120), (66, 133135), (112, 133288), (120, 133336),

Gene: ChrisnMich\_50 Start: 47606, Stop: 47145, Start Num: 26

Candidate Starts for ChrisnMich\_50:

(Start: 26 @47606 has 85 MA's), (45, 47513), (54, 47465), (82, 47369), (84, 47360), (92, 47330), (95, 47318), (104, 47288), (110, 47255), (114, 47231), (115, 47228), (125, 47180), (131, 47156),

Gene: CindyLou\_237 Start: 133185, Stop: 133652, Start Num: 24

Candidate Starts for CindyLou\_237:

(15, 133116), (Start: 24 @133185 has 164 MA's), (30, 133206), (61, 133380), (66, 133395), (112, 133548), (120, 133596),

Gene: Clarkson\_2 Start: 557, Stop: 1057, Start Num: 21

Candidate Starts for Clarkson\_2:

(Start: 21 @557 has 9 MA's), (25, 569), (Start: 29 @578 has 34 MA's), (59, 755), (63, 779), (64, 785), (65, 788), (69, 800), (71, 806), (89, 848), (107, 923), (116, 974),

Gene: CloverMinnie\_49 Start: 42548, Stop: 42081, Start Num: 26

Candidate Starts for CloverMinnie\_49:

(Start: 26 @42548 has 85 MA's), (49, 42419), (82, 42305), (109, 42209), (110, 42203), (120, 42152), (127, 42116),

Gene: Coffee\_54 Start: 47741, Stop: 47250, Start Num: 20

Candidate Starts for Coffee\_54:

(Start: 20 @47741 has 34 MA's), (55, 47582), (89, 47459), (92, 47444), (95, 47432), (109, 47375), (110, 47369), (115, 47342), (135, 47258),

Gene: Colt\_227 Start: 134329, Stop: 134814, Start Num: 24

Candidate Starts for Colt\_227:

(15, 134260), (Start: 24 @134329 has 164 MA's), (30, 134350), (61, 134524), (66, 134539), (112, 134692), (120, 134740),

Gene: Compostia\_55 Start: 48846, Stop: 48373, Start Num: 26

Candidate Starts for Compostia\_55:

(Start: 26 @48846 has 85 MA's), (35, 48810), (69, 48618), (89, 48582), (95, 48555),

Gene: Concombres\_241 Start: 133081, Stop: 133548, Start Num: 24

Candidate Starts for Concombres\_241:

(15, 133012), (Start: 24 @133081 has 164 MA's), (30, 133102), (61, 133276), (66, 133291), (112, 133444), (120, 133492),

Gene: Cooper\_51 Start: 47858, Stop: 47370, Start Num: 20

Candidate Starts for Cooper\_51:

(Start: 20 @47858 has 34 MA's), (39, 47786), (42, 47765), (55, 47699), (89, 47573), (109, 47489), (110, 47483),

Gene: Corazon\_2 Start: 802, Stop: 1281, Start Num: 29

Candidate Starts for Corazon\_2:

(Start: 21 @781 has 9 MA's), (25, 793), (Start: 29 @802 has 34 MA's), (59, 979), (63, 1003), (64, 1009), (65, 1012), (69, 1024), (71, 1030), (89, 1072), (107, 1147), (116, 1198),

Gene: Corofin\_55 Start: 48440, Stop: 47967, Start Num: 26

Candidate Starts for Corofin\_55:

(Start: 26 @48440 has 85 MA's), (35, 48404), (69, 48212), (89, 48176), (95, 48149),

Gene: DTDevon\_237 Start: 133564, Stop: 134031, Start Num: 24

Candidate Starts for DTDevon\_237:

(15, 133495), (Start: 24 @133564 has 164 MA's), (30, 133585), (61, 133759), (66, 133774), (112, 133927), (120, 133975),

Gene: Daffodil\_241 Start: 131851, Stop: 132318, Start Num: 24

Candidate Starts for Daffodil\_241:

(15, 131782), (Start: 24 @131851 has 164 MA's), (30, 131872), (61, 132046), (66, 132061), (112, 132214), (120, 132262),

Gene: Dandelion\_242 Start: 134454, Stop: 134921, Start Num: 24

Candidate Starts for Dandelion\_242:

(15, 134385), (Start: 24 @134454 has 164 MA's), (30, 134475), (61, 134649), (66, 134664), (112, 134817), (120, 134865),

Gene: Darko\_235 Start: 131060, Stop: 131527, Start Num: 24

Candidate Starts for Darko\_235:

(15, 130991), (Start: 24 @131060 has 164 MA's), (30, 131081), (61, 131255), (66, 131270), (112, 131423), (120, 131471),

Gene: DeejaClivia\_225 Start: 129891, Stop: 130382, Start Num: 22

Candidate Starts for DeejaClivia\_225:

(15, 129828), (Start: 22 @129891 has 2 MA's), (Start: 24 @129897 has 164 MA's), (30, 129918), (61, 130092), (66, 130107), (112, 130260), (120, 130308),

Gene: Deenasa\_54 Start: 48857, Stop: 48384, Start Num: 26

Candidate Starts for Deenasa\_54:

(Start: 26 @48857 has 85 MA's), (35, 48821), (62, 48653), (69, 48629), (73, 48620), (89, 48593), (95, 48566),

Gene: Delilah\_234 Start: 131944, Stop: 132411, Start Num: 24

Candidate Starts for Delilah\_234:

(15, 131875), (Start: 24 @131944 has 164 MA's), (30, 131965), (61, 132139), (66, 132154), (112, 132307), (120, 132355),

Gene: Delylah\_238 Start: 132258, Stop: 132725, Start Num: 24

Candidate Starts for Delylah\_238:

(15, 132189), (Start: 24 @132258 has 164 MA's), (30, 132279), (61, 132453), (66, 132468), (112, 132621), (120, 132669),

Gene: Demodog\_242 Start: 133091, Stop: 133558, Start Num: 24

Candidate Starts for Demodog\_242:

(15, 133022), (Start: 24 @133091 has 164 MA's), (30, 133112), (61, 133286), (66, 133301), (112, 133454), (120, 133502),

Gene: Derek\_232 Start: 132202, Stop: 132669, Start Num: 24

Candidate Starts for Derek\_232:

(15, 132133), (Start: 24 @132202 has 164 MA's), (30, 132223), (61, 132397), (66, 132412), (112, 132565), (120, 132613),

Gene: Devonte\_54 Start: 48085, Stop: 47612, Start Num: 26

Candidate Starts for Devonte\_54:

(Start: 26 @48085 has 85 MA's), (35, 48049), (69, 47857), (89, 47821), (95, 47794),

Gene: Dietrick\_225 Start: 130065, Stop: 130532, Start Num: 24

Candidate Starts for Dietrick\_225:

(15, 129996), (Start: 24 @130065 has 164 MA's), (30, 130086), (61, 130260), (66, 130275), (112, 130428), (120, 130476),

Gene: DigitDog\_55 Start: 48969, Stop: 48508, Start Num: 26

Candidate Starts for DigitDog\_55:

(Start: 26 @48969 has 85 MA's), (36, 48921), (69, 48741), (83, 48720), (109, 48633), (110, 48627), (117, 48585),

Gene: DirtMonster\_227 Start: 131397, Stop: 131888, Start Num: 22

Candidate Starts for DirtMonster\_227:

(15, 131334), (Start: 22 @131397 has 2 MA's), (Start: 24 @131403 has 164 MA's), (30, 131424), (61, 131598), (66, 131613), (112, 131766), (120, 131814),

Gene: Domi\_230 Start: 131404, Stop: 131871, Start Num: 24

Candidate Starts for Domi\_230:

(15, 131335), (Start: 24 @131404 has 164 MA's), (30, 131425), (61, 131599), (66, 131614), (112, 131767), (120, 131815),

Gene: Donny\_56 Start: 49263, Stop: 48802, Start Num: 26

Candidate Starts for Donny\_56:

(3, 49764), (Start: 26 @49263 has 85 MA's), (36, 49215), (69, 49035), (83, 49014), (109, 48927), (110, 48921), (117, 48879),

Gene: DrPhinkDaddy\_233 Start: 132629, Stop: 133096, Start Num: 24

Candidate Starts for DrPhinkDaddy\_233:

(15, 132560), (Start: 24 @132629 has 164 MA's), (30, 132650), (61, 132824), (66, 132839), (112, 132992), (120, 133040),

Gene: Drazdys\_233 Start: 132209, Stop: 132676, Start Num: 24

Candidate Starts for Drazdys\_233:

(15, 132140), (Start: 24 @132209 has 164 MA's), (30, 132230), (61, 132404), (66, 132419), (112, 132572), (120, 132620),

Gene: Eaglehorse\_54 Start: 47667, Stop: 47176, Start Num: 20

Candidate Starts for Eaglehorse\_54:

(Start: 20 @47667 has 34 MA's), (55, 47508), (88, 47388), (89, 47385), (92, 47370), (95, 47358), (109, 47301), (110, 47295), (115, 47268), (135, 47184),

Gene: EastView9101\_54 Start: 48910, Stop: 48449, Start Num: 26

Candidate Starts for EastView9101\_54:

(Start: 26 @48910 has 85 MA's), (36, 48862), (69, 48682), (83, 48661), (109, 48574), (110, 48568), (117, 48526),

Gene: EasyJones\_237 Start: 130585, Stop: 131052, Start Num: 24

Candidate Starts for EasyJones\_237:

(15, 130516), (Start: 24 @130585 has 164 MA's), (30, 130606), (61, 130780), (66, 130795), (112, 130948), (120, 130996),

Gene: EggyFarm\_244 Start: 133430, Stop: 133897, Start Num: 24

Candidate Starts for EggyFarm\_244:

(Start: 24 @133430 has 164 MA's), (30, 133451), (61, 133625), (66, 133640), (83, 133679), (112, 133793), (120, 133841),

Gene: EmToTheThree\_236 Start: 131968, Stop: 132435, Start Num: 24

Candidate Starts for EmToTheThree\_236:

(15, 131899), (Start: 24 @131968 has 164 MA's), (30, 131989), (61, 132163), (66, 132178), (112, 132331), (120, 132379),

Gene: EmmaElysia\_241 Start: 133080, Stop: 133547, Start Num: 24

Candidate Starts for EmmaElysia\_241:

(15, 133011), (Start: 24 @133080 has 164 MA's), (30, 133101), (61, 133275), (66, 133290), (112, 133443), (120, 133491),

Gene: Epah\_49 Start: 47622, Stop: 47143, Start Num: 26

Candidate Starts for Epah\_49:

(Start: 26 @47622 has 85 MA's), (51, 47490), (95, 47325), (98, 47313), (110, 47262), (133, 47157), (134, 47154),

Gene: Erdmann\_236 Start: 131936, Stop: 132403, Start Num: 24

Candidate Starts for Erdmann\_236:

(15, 131867), (Start: 24 @131936 has 164 MA's), (30, 131957), (61, 132131), (66, 132146), (112, 132299), (120, 132347),

Gene: ErnieJ\_229 Start: 128764, Stop: 129231, Start Num: 24

Candidate Starts for ErnieJ\_229:

(15, 128695), (Start: 24 @128764 has 164 MA's), (30, 128785), (61, 128959), (66, 128974), (112, 129127), (120, 129175),

Gene: Essence\_234 Start: 131421, Stop: 131888, Start Num: 24

Candidate Starts for Essence\_234:

(15, 131352), (Start: 24 @131421 has 164 MA's), (30, 131442), (61, 131616), (66, 131631), (112, 131784), (120, 131832),

Gene: Evaa\_46 Start: 41052, Stop: 40558, Start Num: 23

Candidate Starts for Evaa\_46:

(Start: 23 @41052 has 2 MA's), (48, 40932), (56, 40884), (70, 40812), (84, 40770), (92, 40740), (110, 40674), (127, 40587),

Gene: Ewok\_235 Start: 131879, Stop: 132346, Start Num: 24

Candidate Starts for Ewok\_235:

(15, 131810), (Start: 24 @131879 has 164 MA's), (30, 131900), (61, 132074), (66, 132089), (112, 132242), (120, 132290),

Gene: Fanaw\_49 Start: 48294, Stop: 47833, Start Num: 26

Candidate Starts for Fanaw\_49:

(2, 48801), (6, 48489), (Start: 26 @48294 has 85 MA's), (45, 48201), (54, 48153), (82, 48057), (84, 48048), (92, 48018), (95, 48006), (97, 48000), (104, 47976), (110, 47943), (114, 47919), (115, 47916), (125, 47868), (131, 47844),

Gene: Faze9\_53 Start: 47761, Stop: 47270, Start Num: 20

Candidate Starts for Faze9\_53:

(Start: 20 @47761 has 34 MA's), (55, 47602), (89, 47479), (92, 47464), (109, 47395), (110, 47389), (115, 47362), (135, 47278),

Gene: FeliMaine\_2 Start: 579, Stop: 1058, Start Num: 29

Candidate Starts for FeliMaine\_2:

(Start: 21 @558 has 9 MA's), (25, 570), (Start: 29 @579 has 34 MA's), (59, 756), (63, 780), (64, 786), (65, 789), (69, 801), (71, 807), (89, 849), (107, 924), (116, 975),

Gene: Flabslab\_232 Start: 129100, Stop: 129585, Start Num: 24

Candidate Starts for Flabslab\_232:

(15, 129031), (Start: 22 @129094 has 2 MA's), (Start: 24 @129100 has 164 MA's), (30, 129121), (61, 129295), (66, 129310), (112, 129463), (120, 129511),

Gene: Fludd\_236 Start: 130297, Stop: 130764, Start Num: 24

Candidate Starts for Fludd\_236:

(15, 130228), (Start: 24 @130297 has 164 MA's), (30, 130318), (61, 130492), (66, 130507), (112, 130660), (120, 130708),

Gene: Fongie\_236 Start: 131877, Stop: 132344, Start Num: 24

Candidate Starts for Fongie\_236:

(15, 131808), (Start: 24 @131877 has 164 MA's), (30, 131898), (61, 132072), (66, 132087), (112, 132240), (120, 132288),

Gene: ForDig\_49 Start: 46304, Stop: 45825, Start Num: 26

Candidate Starts for ForDig\_49:

(Start: 26 @46304 has 85 MA's), (110, 45944), (133, 45839), (134, 45836),

Gene: Fortunato\_50 Start: 48287, Stop: 47805, Start Num: 26

Candidate Starts for Fortunato\_50:

(5, 48473), (7, 48443), (14, 48350), (Start: 26 @48287 has 85 MA's), (37, 48236), (51, 48155), (84, 48029), (92, 47999), (105, 47951), (110, 47924), (133, 47819), (134, 47816),

Gene: FoxtrotP1\_234 Start: 132522, Stop: 132989, Start Num: 24

Candidate Starts for FoxtrotP1\_234:

(15, 132453), (Start: 24 @132522 has 164 MA's), (30, 132543), (61, 132717), (66, 132732), (112, 132885), (120, 132933),



Gene: FrayBell\_239 Start: 130485, Stop: 130952, Start Num: 24

Candidate Starts for FrayBell\_239:

(15, 130416), (Start: 24 @130485 has 164 MA's), (30, 130506), (61, 130680), (66, 130695), (112, 130848), (120, 130896),

Gene: Frederick\_50 Start: 48247, Stop: 47768, Start Num: 26

Candidate Starts for Frederick\_50:

(Start: 26 @48247 has 85 MA's), (51, 48115), (95, 47950), (98, 47938), (105, 47914), (110, 47887), (133, 47782), (134, 47779),

Gene: FrenchFry\_54 Start: 47740, Stop: 47249, Start Num: 20

Candidate Starts for FrenchFry\_54:

(Start: 20 @47740 has 34 MA's), (55, 47581), (88, 47461), (89, 47458), (92, 47443), (95, 47431), (109, 47374), (110, 47368), (115, 47341), (135, 47257),

Gene: Fresco\_47 Start: 40708, Stop: 40232, Start Num: 29

Candidate Starts for Fresco\_47:

(4, 40930), (12, 40804), (Start: 29 @40708 has 34 MA's), (91, 40429), (94, 40417), (100, 40390), (113, 40333), (114, 40321), (125, 40264),

Gene: FudgeTart\_230 Start: 131026, Stop: 131493, Start Num: 24

Candidate Starts for FudgeTart\_230:

(15, 130957), (Start: 24 @131026 has 164 MA's), (30, 131047), (61, 131221), (66, 131236), (112, 131389), (120, 131437),

Gene: Funsized\_56 Start: 50763, Stop: 50284, Start Num: 26

Candidate Starts for Funsized\_56:

(Start: 26 @50763 has 85 MA's), (60, 50568), (79, 50514), (91, 50472), (120, 50349), (125, 50319),

Gene: Fury\_12 Start: 5438, Stop: 5917, Start Num: 29

Candidate Starts for Fury\_12:

(16, 5363), (Start: 29 @5438 has 34 MA's), (30, 5450), (52, 5567), (57, 5597), (101, 5762), (102, 5765), (118, 5855),

Gene: GMA2\_47 Start: 48456, Stop: 47995, Start Num: 32

Candidate Starts for GMA2\_47:

(32, 48456), (75, 48252), (87, 48222), (93, 48189), (103, 48153), (115, 48087), (120, 48063), (123, 48045),

Gene: GRU1\_93 Start: 64270, Stop: 64728, Start Num: 29

Candidate Starts for GRU1\_93:

(Start: 29 @64270 has 34 MA's), (30, 64282), (46, 64360), (53, 64402), (102, 64582), (118, 64672), (130, 64717),

Gene: GTE8\_91 Start: 66184, Stop: 66642, Start Num: 29

Candidate Starts for GTE8\_91:

(9, 66049), (19, 66157), (Start: 29 @66184 has 34 MA's), (30, 66196), (38, 66232), (53, 66316), (88, 66436), (106, 66514), (118, 66586), (130, 66631),

Gene: Gabriel\_239 Start: 130456, Stop: 130923, Start Num: 24

Candidate Starts for Gabriel\_239:

(15, 130387), (Start: 24 @130456 has 164 MA's), (30, 130477), (61, 130651), (66, 130666), (112, 130819), (120, 130867),

Gene: Gadget\_56 Start: 48745, Stop: 48272, Start Num: 26

Candidate Starts for Gadget\_56:

(Start: 26 @48745 has 85 MA's), (35, 48709), (62, 48541), (69, 48517), (73, 48508), (89, 48481), (95, 48454), (128, 48301),

Gene: Gamgam\_238 Start: 130813, Stop: 131280, Start Num: 24

Candidate Starts for Gamgam\_238:

(15, 130744), (Start: 24 @130813 has 164 MA's), (30, 130834), (61, 131008), (66, 131023), (112, 131176), (120, 131224),

Gene: Gattaca\_4 Start: 802, Stop: 1281, Start Num: 29

Candidate Starts for Gattaca\_4:

(Start: 21 @781 has 9 MA's), (25, 793), (Start: 29 @802 has 34 MA's), (59, 979), (63, 1003), (64, 1009), (65, 1012), (69, 1024), (71, 1030), (89, 1072), (107, 1147), (116, 1198),

Gene: Gervas\_56 Start: 48853, Stop: 48380, Start Num: 26

Candidate Starts for Gervas\_56:

(Start: 26 @48853 has 85 MA's), (35, 48817), (69, 48625), (89, 48589), (95, 48562),

Gene: Ghost\_235 Start: 131437, Stop: 131904, Start Num: 24

Candidate Starts for Ghost\_235:

(15, 131368), (Start: 24 @131437 has 164 MA's), (30, 131458), (61, 131632), (66, 131647), (112, 131800), (120, 131848),

Gene: GinPorsche\_49 Start: 47622, Stop: 47143, Start Num: 26

Candidate Starts for GinPorsche\_49:

(Start: 26 @47622 has 85 MA's), (51, 47490), (95, 47325), (98, 47313), (110, 47262), (133, 47157), (134, 47154),

Gene: Gizmo\_241 Start: 133853, Stop: 134320, Start Num: 24

Candidate Starts for Gizmo\_241:

(15, 133784), (Start: 24 @133853 has 164 MA's), (30, 133874), (61, 134048), (66, 134063), (112, 134216), (120, 134264),

Gene: Glass\_54 Start: 47745, Stop: 47254, Start Num: 20

Candidate Starts for Glass\_54:

(Start: 20 @47745 has 34 MA's), (55, 47586), (88, 47466), (89, 47463), (92, 47448), (95, 47436), (109, 47379), (110, 47373), (115, 47346), (135, 47262),

Gene: GlenHope\_56 Start: 48408, Stop: 47935, Start Num: 26

Candidate Starts for GlenHope\_56:

(Start: 26 @48408 has 85 MA's), (35, 48372), (69, 48180), (89, 48144), (95, 48117),

Gene: Glubnar\_55 Start: 48404, Stop: 47931, Start Num: 26

Candidate Starts for Glubnar\_55:

(Start: 26 @48404 has 85 MA's), (35, 48368), (69, 48176), (89, 48140), (95, 48113),

Gene: GlutenPhree\_235 Start: 130824, Stop: 131291, Start Num: 24

Candidate Starts for GlutenPhree\_235:

(15, 130755), (Start: 24 @130824 has 164 MA's), (30, 130845), (61, 131019), (66, 131034), (112, 131187), (120, 131235),

Gene: Godines\_54 Start: 47697, Stop: 47206, Start Num: 20

Candidate Starts for Godines\_54:

(Start: 20 @47697 has 34 MA's), (55, 47538), (89, 47415), (92, 47400), (95, 47388), (109, 47331), (110, 47325), (115, 47298), (135, 47214),

Gene: GoongGoong\_3 Start: 811, Stop: 1290, Start Num: 29

Candidate Starts for GoongGoong\_3:

(Start: 21 @790 has 9 MA's), (25, 802), (Start: 29 @811 has 34 MA's), (59, 988), (63, 1012), (64, 1018), (65, 1021), (69, 1033), (71, 1039), (89, 1081), (107, 1156), (116, 1207),

Gene: Grasshills\_243 Start: 133429, Stop: 133896, Start Num: 24

Candidate Starts for Grasshills\_243:

(Start: 24 @133429 has 164 MA's), (30, 133450), (61, 133624), (66, 133639), (83, 133678), (112, 133792), (120, 133840),

Gene: Grungle\_218 Start: 128759, Stop: 129226, Start Num: 24

Candidate Starts for Grungle\_218:

(15, 128690), (Start: 24 @128759 has 164 MA's), (30, 128780), (61, 128954), (66, 128969), (112, 129122), (120, 129170),

Gene: Gustav\_59 Start: 40519, Stop: 40055, Start Num: 29

Candidate Starts for Gustav\_59:

(Start: 29 @40519 has 34 MA's), (70, 40309), (94, 40243), (101, 40213), (125, 40090),

Gene: Guwapp\_232 Start: 130271, Stop: 130738, Start Num: 24

Candidate Starts for Guwapp\_232:

(15, 130202), (Start: 24 @130271 has 164 MA's), (30, 130292), (61, 130466), (66, 130481), (112, 130634), (120, 130682),

Gene: Halfpint\_54 Start: 48229, Stop: 47756, Start Num: 26

Candidate Starts for Halfpint\_54:

(Start: 26 @48229 has 85 MA's), (35, 48193), (69, 48001), (89, 47965), (95, 47938), (128, 47785),

Gene: Halldule\_228 Start: 129941, Stop: 130408, Start Num: 24

Candidate Starts for Halldule\_228:

(15, 129872), (Start: 24 @129941 has 164 MA's), (30, 129962), (61, 130136), (66, 130151), (112, 130304), (120, 130352),

Gene: Hally898\_49 Start: 47637, Stop: 47158, Start Num: 26

Candidate Starts for Hally898\_49:

(Start: 26 @47637 has 85 MA's), (51, 47505), (95, 47340), (98, 47328), (110, 47277), (133, 47172), (134, 47169),

Gene: Hangman\_49 Start: 48338, Stop: 47877, Start Num: 26

Candidate Starts for Hangman\_49:

(Start: 26 @48338 has 85 MA's), (45, 48245), (54, 48197), (77, 48110), (82, 48101), (84, 48092), (92, 48062), (95, 48050), (104, 48020), (110, 47987), (114, 47963), (115, 47960), (125, 47912), (131, 47888),

Gene: HarveySr\_54 Start: 48081, Stop: 47608, Start Num: 26

Candidate Starts for HarveySr\_54:

(Start: 26 @48081 has 85 MA's), (35, 48045), (69, 47853), (89, 47817), (95, 47790),

Gene: Heath\_49 Start: 48246, Stop: 47785, Start Num: 26

Candidate Starts for Heath\_49:

(Start: 26 @48246 has 85 MA's), (45, 48153), (54, 48105), (82, 48009), (84, 48000), (92, 47970), (95, 47958), (104, 47928), (110, 47895), (114, 47871), (115, 47868), (125, 47820), (131, 47796),

Gene: Heathcliff\_55 Start: 48375, Stop: 47902, Start Num: 26

Candidate Starts for Heathcliff\_55:

(Start: 26 @48375 has 85 MA's), (35, 48339), (62, 48171), (69, 48147), (73, 48138), (89, 48111), (95, 48084), (128, 47931),

Gene: Hedgerow\_54 Start: 47754, Stop: 47263, Start Num: 20

Candidate Starts for Hedgerow\_54:

(Start: 20 @47754 has 34 MA's), (55, 47595), (88, 47475), (89, 47472), (92, 47457), (95, 47445), (109, 47388), (110, 47382), (115, 47355), (135, 47271),

Gene: Holeinone\_54 Start: 47605, Stop: 47114, Start Num: 20

Candidate Starts for Holeinone\_54:

(Start: 20 @47605 has 34 MA's), (55, 47446), (88, 47326), (89, 47323), (92, 47308), (95, 47296), (109, 47239), (110, 47233), (115, 47206), (135, 47122),

Gene: Hosp\_046 Start: 44495, Stop: 44016, Start Num: 26

Candidate Starts for Hosp\_046:

(Start: 26 @44495 has 85 MA's), (Start: 29 @44489 has 34 MA's), (51, 44363), (89, 44225), (95, 44198), (110, 44135), (133, 44030),

Gene: Huphlepuuff\_2 Start: 558, Stop: 1058, Start Num: 21

Candidate Starts for Huphlepuuff\_2:

(Start: 21 @558 has 9 MA's), (25, 570), (Start: 29 @579 has 34 MA's), (59, 756), (63, 780), (64, 786), (65, 789), (69, 801), (71, 807), (89, 849), (107, 924), (116, 975),

Gene: HyRo\_221 Start: 130778, Stop: 131269, Start Num: 22

Candidate Starts for HyRo\_221:

(15, 130715), (Start: 22 @130778 has 2 MA's), (Start: 24 @130784 has 164 MA's), (30, 130805), (61, 130979), (66, 130994), (112, 131147), (120, 131195),

Gene: Hydro\_50 Start: 48672, Stop: 48211, Start Num: 26

Candidate Starts for Hydro\_50:

(1, 49329), (2, 49179), (Start: 26 @48672 has 85 MA's), (45, 48579), (54, 48531), (82, 48435), (84, 48426), (95, 48384), (97, 48378), (104, 48354), (110, 48321), (114, 48297), (115, 48294), (125, 48246), (131, 48222),

Gene: I3\_246 Start: 132627, Stop: 133094, Start Num: 24

Candidate Starts for I3\_246:

(15, 132558), (Start: 24 @132627 has 164 MA's), (30, 132648), (61, 132822), (66, 132837), (112, 132990), (120, 133038),

Gene: IkeLoa\_230 Start: 131169, Stop: 131636, Start Num: 24

Candidate Starts for IkeLoa\_230:

(15, 131100), (Start: 24 @131169 has 164 MA's), (30, 131190), (61, 131364), (66, 131379), (112, 131532), (120, 131580),

Gene: Imvubu\_48 Start: 45835, Stop: 45356, Start Num: 26

Candidate Starts for Imvubu\_48:

(Start: 26 @45835 has 85 MA's), (52, 45700), (84, 45577), (88, 45565), (92, 45547), (95, 45535), (105, 45499), (110, 45472), (119, 45424), (133, 45367),

Gene: Indlovu\_52 Start: 48321, Stop: 47821, Start Num: 26

Candidate Starts for Indlovu\_52:

(Start: 26 @48321 has 85 MA's), (42, 48243), (58, 48147), (85, 48063), (105, 47988), (108, 47970), (110, 47961), (117, 47919), (126, 47877),

Gene: InigoMontoya\_239 Start: 131487, Stop: 131954, Start Num: 24

Candidate Starts for InigoMontoya\_239:

(15, 131418), (Start: 24 @131487 has 164 MA's), (30, 131508), (61, 131682), (66, 131697), (112, 131850), (120, 131898), (132, 131949),

Gene: InterFolia\_237 Start: 132290, Stop: 132757, Start Num: 24

Candidate Starts for InterFolia\_237:

(15, 132221), (Start: 24 @132290 has 164 MA's), (30, 132311), (61, 132485), (66, 132500), (112, 132653), (120, 132701),

Gene: Iota\_233 Start: 131199, Stop: 131666, Start Num: 24

Candidate Starts for Iota\_233:

(15, 131130), (Start: 24 @131199 has 164 MA's), (30, 131220), (61, 131394), (66, 131409), (112, 131562), (120, 131610),

Gene: Issimir\_229 Start: 131125, Stop: 131592, Start Num: 24

Candidate Starts for Issimir\_229:

(15, 131056), (Start: 24 @131125 has 164 MA's), (30, 131146), (61, 131320), (66, 131335), (112, 131488), (120, 131536),

Gene: ItsyBitsy1\_54 Start: 47622, Stop: 47131, Start Num: 20

Candidate Starts for ItsyBitsy1\_54:

(Start: 20 @47622 has 34 MA's), (55, 47463), (88, 47343), (89, 47340), (92, 47325), (95, 47313), (109, 47256), (110, 47250), (115, 47223), (135, 47139),

Gene: Izajani\_232 Start: 132019, Stop: 132486, Start Num: 24

Candidate Starts for Izajani\_232:

(15, 131950), (Start: 24 @132019 has 164 MA's), (30, 132040), (61, 132214), (66, 132229), (112, 132382), (120, 132430),

Gene: JAMaL\_50 Start: 48798, Stop: 48337, Start Num: 26

Candidate Starts for JAMaL\_50:

(Start: 26 @48798 has 85 MA's), (45, 48705), (54, 48657), (82, 48561), (84, 48552), (92, 48522), (95, 48510), (104, 48480), (110, 48447), (114, 48423), (115, 48420), (125, 48372), (131, 48348),

Gene: JPickles\_233 Start: 130175, Stop: 130642, Start Num: 24

Candidate Starts for JPickles\_233:

(15, 130106), (Start: 24 @130175 has 164 MA's), (30, 130196), (61, 130370), (66, 130385), (112, 130538), (120, 130586),

Gene: Jackstina\_51 Start: 48334, Stop: 47861, Start Num: 26

Candidate Starts for Jackstina\_51:

(8, 48460), (13, 48409), (Start: 26 @48334 has 85 MA's), (35, 48298), (69, 48106), (89, 48070), (95, 48043),

Gene: JaguarMi\_52 Start: 49739, Stop: 49278, Start Num: 26

Candidate Starts for JaguarMi\_52:

(Start: 26 @49739 has 85 MA's), (45, 49646), (54, 49598), (82, 49502), (84, 49493), (92, 49463), (95, 49451), (97, 49445), (104, 49421), (108, 49397), (110, 49388), (114, 49364), (115, 49361), (125, 49313), (131, 49289),

Gene: Janiyra\_239 Start: 131712, Stop: 132179, Start Num: 24

Candidate Starts for Janiyra\_239:

(15, 131643), (Start: 24 @131712 has 164 MA's), (30, 131733), (61, 131907), (66, 131922), (112, 132075), (120, 132123),

Gene: JayJay\_238 Start: 131602, Stop: 132087, Start Num: 24

Candidate Starts for JayJay\_238:

(15, 131533), (Start: 22 @131596 has 2 MA's), (Start: 24 @131602 has 164 MA's), (30, 131623), (61, 131797), (66, 131812), (112, 131965), (120, 132013),

Gene: Jaygup\_233 Start: 131346, Stop: 131813, Start Num: 24

Candidate Starts for Jaygup\_233:

(15, 131277), (Start: 24 @131346 has 164 MA's), (30, 131367), (61, 131541), (66, 131556), (112, 131709), (120, 131757),

Gene: Jedediah\_237 Start: 132399, Stop: 132866, Start Num: 24

Candidate Starts for Jedediah\_237:

(15, 132330), (Start: 24 @132399 has 164 MA's), (30, 132420), (61, 132594), (66, 132609), (112, 132762), (120, 132810),

Gene: Jemmno\_236 Start: 131118, Stop: 131585, Start Num: 24

Candidate Starts for Jemmno\_236:

(15, 131049), (Start: 24 @131118 has 164 MA's), (30, 131139), (61, 131313), (66, 131328), (112, 131481), (120, 131529),

Gene: Jessibeth14\_236 Start: 132594, Stop: 133061, Start Num: 24

Candidate Starts for Jessibeth14\_236:

(15, 132525), (Start: 24 @132594 has 164 MA's), (30, 132615), (61, 132789), (66, 132804), (112, 132957), (120, 133005),

Gene: Jezreel\_232 Start: 131663, Stop: 132130, Start Num: 24

Candidate Starts for Jezreel\_232:

(15, 131594), (Start: 24 @131663 has 164 MA's), (30, 131684), (61, 131858), (66, 131873), (112, 132026), (120, 132074),

Gene: JigglyPuff\_242 Start: 133089, Stop: 133556, Start Num: 24

Candidate Starts for JigglyPuff\_242:

(15, 133020), (Start: 24 @133089 has 164 MA's), (30, 133110), (61, 133284), (66, 133299), (112, 133452), (120, 133500),

Gene: JoieB\_3 Start: 780, Stop: 1280, Start Num: 21

Candidate Starts for JoieB\_3:

(Start: 21 @780 has 9 MA's), (25, 792), (Start: 29 @801 has 34 MA's), (59, 978), (63, 1002), (64, 1008), (65, 1011), (69, 1023), (71, 1029), (89, 1071), (107, 1146), (116, 1197),

Gene: Jolie1\_048 Start: 46283, Stop: 45804, Start Num: 26

Candidate Starts for Jolie1\_048:

(Start: 26 @46283 has 85 MA's), (Start: 29 @46277 has 34 MA's), (51, 46151), (95, 45986), (110, 45923), (133, 45818),

Gene: JulietS\_228 Start: 128698, Stop: 129165, Start Num: 24

Candidate Starts for JulietS\_228:

(15, 128629), (Start: 24 @128698 has 164 MA's), (30, 128719), (61, 128893), (66, 128908), (112, 129061), (120, 129109),

Gene: JustHall\_230 Start: 130648, Stop: 131115, Start Num: 24

Candidate Starts for JustHall\_230:

(15, 130579), (Start: 24 @130648 has 164 MA's), (30, 130669), (61, 130843), (66, 130858), (112, 131011), (120, 131059),

Gene: Kabluna\_9 Start: 4732, Stop: 5190, Start Num: 29

Candidate Starts for Kabluna\_9:

(Start: 29 @4732 has 34 MA's), (53, 4864), (63, 4927), (111, 5086), (118, 5134), (130, 5179),

Gene: Kaleb\_54 Start: 47769, Stop: 47278, Start Num: 20

Candidate Starts for Kaleb\_54:

(Start: 20 @47769 has 34 MA's), (55, 47610), (88, 47490), (89, 47487), (92, 47472), (95, 47460), (109, 47403), (110, 47397), (115, 47370), (135, 47286),

Gene: Kamiyu\_55 Start: 48385, Stop: 47912, Start Num: 26

Candidate Starts for Kamiyu\_55:

(Start: 26 @48385 has 85 MA's), (35, 48349), (69, 48157), (89, 48121), (95, 48094),

Gene: Kamryn\_235 Start: 132238, Stop: 132705, Start Num: 24

Candidate Starts for Kamryn\_235:

(15, 132169), (Start: 24 @132238 has 164 MA's), (30, 132259), (61, 132433), (66, 132448), (112, 132601), (120, 132649),

Gene: KarasumaRum\_55 Start: 49120, Stop: 48659, Start Num: 26

Candidate Starts for KarasumaRum\_55:

(Start: 26 @49120 has 85 MA's), (36, 49072), (56, 48961), (69, 48892), (83, 48871), (109, 48784), (110, 48778), (117, 48736),

Gene: KayaCho\_47 Start: 46059, Stop: 45589, Start Num: 26

Candidate Starts for KayaCho\_47:

(Start: 26 @46059 has 85 MA's), (70, 45837), (82, 45819), (84, 45810), (105, 45732), (110, 45705), (114, 45681), (117, 45663), (125, 45630),

Gene: Kboogie\_240 Start: 131277, Stop: 131744, Start Num: 24

Candidate Starts for Kboogie\_240:

(15, 131208), (Start: 24 @131277 has 164 MA's), (30, 131298), (61, 131472), (66, 131487), (112, 131640), (120, 131688),

Gene: Khaleesi\_235 Start: 132061, Stop: 132528, Start Num: 24

Candidate Starts for Khaleesi\_235:

(15, 131992), (Start: 24 @132061 has 164 MA's), (30, 132082), (61, 132256), (66, 132271), (112, 132424), (120, 132472),

Gene: Kheth\_54 Start: 47658, Stop: 47167, Start Num: 20

Candidate Starts for Kheth\_54:

(Start: 20 @47658 has 34 MA's), (55, 47499), (88, 47379), (89, 47376), (92, 47361), (95, 47349), (109, 47292), (110, 47286), (115, 47259), (135, 47175),

Gene: Knocker\_55 Start: 50204, Stop: 49725, Start Num: 26

Candidate Starts for Knocker\_55:

(11, 50315), (17, 50255), (Start: 26 @50204 has 85 MA's), (50, 50078), (54, 50060), (74, 49973), (86, 49943), (89, 49934), (95, 49907), (110, 49844), (112, 49841), (123, 49778), (124, 49772), (125, 49769), (129, 49751), (135, 49733),

Gene: Koguma\_235 Start: 130918, Stop: 131385, Start Num: 24

Candidate Starts for Koguma\_235:

(15, 130849), (Start: 24 @130918 has 164 MA's), (30, 130939), (61, 131113), (66, 131128), (112, 131281), (120, 131329),

Gene: Kolhan\_54 Start: 47622, Stop: 47131, Start Num: 20

Candidate Starts for Kolhan\_54:

(Start: 20 @47622 has 34 MA's), (55, 47463), (88, 47343), (89, 47340), (92, 47325), (95, 47313), (109, 47256), (110, 47250), (115, 47223), (135, 47139),

Gene: Kronus\_55 Start: 49462, Stop: 48989, Start Num: 26

Candidate Starts for Kronus\_55:

(Start: 26 @49462 has 85 MA's), (35, 49426), (69, 49234), (89, 49198), (95, 49171),

Gene: LRRHood\_228 Start: 130270, Stop: 130737, Start Num: 24

Candidate Starts for LRRHood\_228:

(15, 130201), (Start: 24 @130270 has 164 MA's), (30, 130291), (61, 130465), (66, 130480), (112, 130633), (120, 130681),

Gene: Lambano\_49 Start: 47637, Stop: 47158, Start Num: 26

Candidate Starts for Lambano\_49:

(Start: 26 @47637 has 85 MA's), (51, 47505), (95, 47340), (98, 47328), (110, 47277), (133, 47172), (134, 47169),

Gene: Lars\_54 Start: 47729, Stop: 47238, Start Num: 20

Candidate Starts for Lars\_54:

(Start: 20 @47729 has 34 MA's), (55, 47570), (88, 47450), (89, 47447), (92, 47432), (95, 47420), (109, 47363), (110, 47357), (115, 47330), (135, 47246),

Gene: Latch\_236 Start: 130823, Stop: 131290, Start Num: 24

Candidate Starts for Latch\_236:

(15, 130754), (Start: 24 @130823 has 164 MA's), (30, 130844), (61, 131018), (66, 131033), (112, 131186), (120, 131234),

Gene: Laurie\_53 Start: 47114, Stop: 46623, Start Num: 20

Candidate Starts for Laurie\_53:

(Start: 20 @47114 has 34 MA's), (55, 46955), (89, 46832), (92, 46817), (95, 46805), (109, 46748), (110, 46742), (115, 46715), (135, 46631),

Gene: Lee7\_235 Start: 133475, Stop: 133942, Start Num: 24

Candidate Starts for Lee7\_235:

(15, 133406), (Start: 24 @133475 has 164 MA's), (30, 133496), (61, 133670), (66, 133685), (112, 133838), (120, 133886),



Gene: Lephleur\_54 Start: 47635, Stop: 47144, Start Num: 20

Candidate Starts for Lephleur\_54:

(Start: 20 @47635 has 34 MA's), (55, 47476), (88, 47356), (89, 47353), (92, 47338), (95, 47326), (109, 47269), (110, 47263), (115, 47236), (135, 47152),

Gene: LestyG\_54 Start: 48098, Stop: 47625, Start Num: 26

Candidate Starts for LestyG\_54:

(Start: 26 @48098 has 85 MA's), (35, 48062), (69, 47870), (89, 47834), (95, 47807),

Gene: Lethe\_237 Start: 132714, Stop: 133181, Start Num: 24

Candidate Starts for Lethe\_237:

(15, 132645), (Start: 24 @132714 has 164 MA's), (30, 132735), (61, 132909), (66, 132924), (112, 133077), (120, 133125),

Gene: LifeSavor\_236 Start: 132051, Stop: 132518, Start Num: 24

Candidate Starts for LifeSavor\_236:

(15, 131982), (Start: 24 @132051 has 164 MA's), (30, 132072), (61, 132246), (66, 132261), (112, 132414), (120, 132462),

Gene: Ligma\_47 Start: 40708, Stop: 40232, Start Num: 29

Candidate Starts for Ligma\_47:

(4, 40930), (12, 40804), (Start: 29 @40708 has 34 MA's), (91, 40429), (94, 40417), (100, 40390), (113, 40333), (114, 40321), (125, 40264),

Gene: LilMcDreamy\_52 Start: 48261, Stop: 47788, Start Num: 26

Candidate Starts for LilMcDreamy\_52:

(Start: 26 @48261 has 85 MA's), (41, 48186), (54, 48117), (57, 48096), (58, 48087), (92, 47976), (110, 47901), (117, 47859),

Gene: LilSmirk\_54 Start: 47632, Stop: 47141, Start Num: 20

Candidate Starts for LilSmirk\_54:

(Start: 20 @47632 has 34 MA's), (55, 47473), (88, 47353), (89, 47350), (92, 47335), (95, 47323), (109, 47266), (110, 47260), (115, 47233), (135, 47149),

Gene: Lilbit\_2 Start: 558, Stop: 1058, Start Num: 21

Candidate Starts for Lilbit\_2:

(Start: 21 @558 has 9 MA's), (25, 570), (Start: 29 @579 has 34 MA's), (59, 756), (63, 780), (64, 786), (65, 789), (69, 801), (71, 807), (89, 849), (107, 924), (116, 975),

Gene: LinStu\_234 Start: 130556, Stop: 131041, Start Num: 24

Candidate Starts for LinStu\_234:

(15, 130487), (Start: 24 @130556 has 164 MA's), (30, 130577), (61, 130751), (66, 130766), (112, 130919), (120, 130967),

Gene: LittleLaf\_2 Start: 558, Stop: 1058, Start Num: 21

Candidate Starts for LittleLaf\_2:

(Start: 21 @558 has 9 MA's), (25, 570), (Start: 29 @579 has 34 MA's), (59, 756), (63, 780), (64, 786), (65, 789), (69, 801), (71, 807), (89, 849), (107, 924), (116, 975),

Gene: LittleMunchkin\_48 Start: 43521, Stop: 43039, Start Num: 23

Candidate Starts for LittleMunchkin\_48:

(Start: 23 @43521 has 2 MA's), (54, 43365), (76, 43263), (83, 43248), (84, 43242), (89, 43227), (92, 43212), (102, 43176), (109, 43152), (120, 43095),

Gene: Littleton\_239 Start: 132060, Stop: 132527, Start Num: 24

Candidate Starts for Littleton\_239:

(15, 131991), (Start: 24 @132060 has 164 MA's), (30, 132081), (61, 132255), (66, 132270), (112, 132423), (120, 132471),

Gene: LizLemon\_54 Start: 47751, Stop: 47260, Start Num: 20

Candidate Starts for LizLemon\_54:

(Start: 20 @47751 has 34 MA's), (55, 47592), (89, 47469), (92, 47454), (95, 47442), (109, 47385), (110, 47379), (115, 47352), (135, 47268),

Gene: Loanshark\_233 Start: 131410, Stop: 131877, Start Num: 24

Candidate Starts for Loanshark\_233:

(15, 131341), (Start: 24 @131410 has 164 MA's), (30, 131431), (61, 131605), (66, 131620), (112, 131773), (120, 131821),

Gene: LolaVinca\_232 Start: 131720, Stop: 132187, Start Num: 24

Candidate Starts for LolaVinca\_232:

(15, 131651), (Start: 24 @131720 has 164 MA's), (30, 131741), (61, 131915), (66, 131930), (112, 132083), (120, 132131),

Gene: Lolalove\_51 Start: 48640, Stop: 48179, Start Num: 26

Candidate Starts for Lolalove\_51:

(1, 49297), (2, 49147), (6, 48835), (Start: 26 @48640 has 85 MA's), (45, 48547), (54, 48499), (82, 48403), (84, 48394), (95, 48352), (97, 48346), (104, 48322), (110, 48289), (114, 48265), (115, 48262), (125, 48214), (131, 48190),

Gene: LordLeafolot\_238 Start: 131333, Stop: 131800, Start Num: 24

Candidate Starts for LordLeafolot\_238:

(15, 131264), (Start: 24 @131333 has 164 MA's), (30, 131354), (61, 131528), (66, 131543), (112, 131696), (120, 131744),

Gene: Lukilu\_225 Start: 132274, Stop: 132741, Start Num: 24

Candidate Starts for Lukilu\_225:

(15, 132205), (Start: 24 @132274 has 164 MA's), (30, 132295), (61, 132469), (66, 132484), (112, 132637), (120, 132685),

Gene: Maby2021\_236 Start: 132514, Stop: 132981, Start Num: 24

Candidate Starts for Maby2021\_236:

(15, 132445), (Start: 24 @132514 has 164 MA's), (30, 132535), (61, 132709), (66, 132724), (112, 132877), (120, 132925),

Gene: Magpie\_49 Start: 48475, Stop: 48014, Start Num: 26

Candidate Starts for Magpie\_49:

(6, 48670), (Start: 26 @48475 has 85 MA's), (45, 48382), (54, 48334), (82, 48238), (84, 48229), (92, 48199), (95, 48187), (97, 48181), (104, 48157), (110, 48124), (114, 48100), (115, 48097), (125, 48049), (131, 48025),

Gene: Mangeria\_237 Start: 132616, Stop: 133101, Start Num: 24

Candidate Starts for Mangeria\_237:

(15, 132547), (Start: 24 @132616 has 164 MA's), (30, 132637), (61, 132811), (66, 132826), (112, 132979), (120, 133027),

Gene: Mariokart\_47 Start: 40855, Stop: 40379, Start Num: 29

Candidate Starts for Mariokart\_47:

(Start: 29 @40855 has 34 MA's), (94, 40564), (100, 40537), (113, 40480), (114, 40468), (125, 40411),

Gene: Marley1013\_56 Start: 49347, Stop: 48874, Start Num: 26

Candidate Starts for Marley1013\_56:

(Start: 26 @49347 has 85 MA's), (35, 49311), (69, 49119), (89, 49083), (95, 49056),

Gene: Marlia\_56 Start: 48857, Stop: 48384, Start Num: 26

Candidate Starts for Marlia\_56:

(Start: 26 @48857 has 85 MA's), (35, 48821), (69, 48629), (89, 48593), (95, 48566),

Gene: Marvin\_2 Start: 802, Stop: 1281, Start Num: 29

Candidate Starts for Marvin\_2:

(Start: 21 @781 has 9 MA's), (25, 793), (Start: 29 @802 has 34 MA's), (59, 979), (63, 1003), (64, 1009), (65, 1012), (69, 1024), (71, 1030), (89, 1072), (107, 1147), (116, 1198),

Gene: MasterPo\_54 Start: 47644, Stop: 47153, Start Num: 20

Candidate Starts for MasterPo\_54:

(Start: 20 @47644 has 34 MA's), (55, 47485), (89, 47362), (92, 47347), (95, 47335), (109, 47278), (110, 47272), (115, 47245), (135, 47161),

Gene: Matsumoto\_234 Start: 131265, Stop: 131732, Start Num: 24

Candidate Starts for Matsumoto\_234:

(15, 131196), (Start: 24 @131265 has 164 MA's), (30, 131286), (61, 131460), (66, 131475), (112, 131628), (120, 131676),

Gene: Mbo2\_59 Start: 47195, Stop: 46707, Start Num: 29

Candidate Starts for Mbo2\_59:

(Start: 29 @47195 has 34 MA's), (44, 47108), (78, 46952), (104, 46853), (115, 46790), (122, 46751),

Gene: McGee\_237 Start: 131162, Stop: 131629, Start Num: 24

Candidate Starts for McGee\_237:

(15, 131093), (Start: 24 @131162 has 164 MA's), (30, 131183), (61, 131357), (66, 131372), (112, 131525), (120, 131573),

Gene: McWolfish\_233 Start: 131272, Stop: 131739, Start Num: 24

Candidate Starts for McWolfish\_233:

(15, 131203), (Start: 24 @131272 has 164 MA's), (30, 131293), (61, 131467), (66, 131482), (112, 131635), (120, 131683),

Gene: Megamind\_233 Start: 131597, Stop: 132064, Start Num: 24

Candidate Starts for Megamind\_233:

(15, 131528), (Start: 24 @131597 has 164 MA's), (30, 131618), (61, 131792), (66, 131807), (112, 131960), (120, 132008),

Gene: Melpomini\_231 Start: 130357, Stop: 130824, Start Num: 24

Candidate Starts for Melpomini\_231:

(15, 130288), (Start: 24 @130357 has 164 MA's), (30, 130378), (61, 130552), (66, 130567), (112, 130720), (120, 130768),

Gene: MerCougar\_8 Start: 5083, Stop: 5541, Start Num: 29

Candidate Starts for MerCougar\_8:

(Start: 29 @5083 has 34 MA's), (42, 5155), (53, 5215), (111, 5437), (118, 5485), (130, 5530),

Gene: MikeLiesIn\_236 Start: 132733, Stop: 133200, Start Num: 24

Candidate Starts for MikeLiesIn\_236:

(15, 132664), (Start: 24 @132733 has 164 MA's), (30, 132754), (61, 132928), (66, 132943), (112, 133096), (120, 133144),

Gene: Mikro\_230 Start: 133245, Stop: 133712, Start Num: 24

Candidate Starts for Mikro\_230:

(15, 133176), (Start: 24 @133245 has 164 MA's), (30, 133266), (61, 133440), (66, 133455), (112, 133608), (120, 133656),

Gene: Mithril\_49 Start: 48260, Stop: 47781, Start Num: 26

Candidate Starts for Mithril\_49:

(Start: 26 @48260 has 85 MA's), (51, 48128), (95, 47963), (98, 47951), (105, 47927), (110, 47900), (133, 47795), (134, 47792),

Gene: MmasiCarm\_56 Start: 48903, Stop: 48430, Start Num: 26

Candidate Starts for MmasiCarm\_56:

(Start: 26 @48903 has 85 MA's), (35, 48867), (62, 48699), (69, 48675), (89, 48639), (95, 48612), (128, 48459),

Gene: MoMoMixon\_232 Start: 131738, Stop: 132205, Start Num: 24

Candidate Starts for MoMoMixon\_232:

(15, 131669), (Start: 24 @131738 has 164 MA's), (30, 131759), (61, 131933), (66, 131948), (112, 132101), (120, 132149),

Gene: ModicumRichard\_95 Start: 55749, Stop: 56195, Start Num: 29

Candidate Starts for ModicumRichard\_95:

(Start: 29 @55749 has 34 MA's), (43, 55830), (58, 55920), (72, 55965), (120, 56130),

Gene: Momo\_237 Start: 130823, Stop: 131290, Start Num: 24

Candidate Starts for Momo\_237:

(15, 130754), (Start: 24 @130823 has 164 MA's), (30, 130844), (61, 131018), (66, 131033), (112, 131186), (120, 131234),

Gene: Morgana\_102 Start: 57954, Stop: 58400, Start Num: 29

Candidate Starts for Morgana\_102:

(Start: 29 @57954 has 34 MA's), (58, 58125), (72, 58170), (120, 58335),

Gene: Morizzled23\_233 Start: 130190, Stop: 130657, Start Num: 24

Candidate Starts for Morizzled23\_233:

(15, 130121), (Start: 24 @130190 has 164 MA's), (30, 130211), (61, 130385), (66, 130400), (112, 130553), (120, 130601),

Gene: Mortcellus\_55 Start: 49510, Stop: 49037, Start Num: 26

Candidate Starts for Mortcellus\_55:

(Start: 26 @49510 has 85 MA's), (35, 49474), (69, 49282), (89, 49246), (95, 49219),

Gene: Morty007\_55 Start: 49347, Stop: 48874, Start Num: 26

Candidate Starts for Morty007\_55:

(Start: 26 @49347 has 85 MA's), (35, 49311), (69, 49119), (89, 49083), (95, 49056),

Gene: MosMoris\_4 Start: 802, Stop: 1281, Start Num: 29

Candidate Starts for MosMoris\_4:

(Start: 21 @781 has 9 MA's), (25, 793), (Start: 29 @802 has 34 MA's), (59, 979), (63, 1003), (64, 1009), (65, 1012), (69, 1024), (71, 1030), (89, 1072), (107, 1147), (116, 1198),

Gene: MossRose\_49 Start: 42605, Stop: 42138, Start Num: 26

Candidate Starts for MossRose\_49:

(Start: 26 @42605 has 85 MA's), (49, 42476), (82, 42362), (109, 42266), (110, 42260), (120, 42209), (127, 42173),

Gene: Mudslide\_50 Start: 48905, Stop: 48444, Start Num: 26

Candidate Starts for Mudslide\_50:

(Start: 26 @48905 has 85 MA's), (45, 48812), (54, 48764), (82, 48668), (84, 48659), (95, 48617), (97, 48611), (104, 48587), (110, 48554), (114, 48530), (115, 48527), (125, 48479), (131, 48455),

Gene: Mysterious\_55 Start: 49105, Stop: 48644, Start Num: 26

Candidate Starts for Mysterious\_55:

(Start: 26 @49105 has 85 MA's), (36, 49057), (69, 48877), (83, 48856), (110, 48763), (117, 48721),

Gene: NHagos\_48 Start: 41598, Stop: 41122, Start Num: 26

Candidate Starts for NHagos\_48:

(Start: 26 @41598 has 85 MA's), (46, 41496), (49, 41469), (54, 41448), (65, 41382), (110, 41253), (120, 41202), (127, 41166),

Gene: Naija\_237 Start: 131526, Stop: 131993, Start Num: 24

Candidate Starts for Naija\_237:

(15, 131457), (Start: 24 @131526 has 164 MA's), (30, 131547), (61, 131721), (66, 131736), (112, 131889), (120, 131937),

Gene: Nanao\_49 Start: 47627, Stop: 47148, Start Num: 26

Candidate Starts for Nanao\_49:

(Start: 26 @47627 has 85 MA's), (51, 47495), (95, 47330), (98, 47318), (110, 47267), (133, 47162), (134, 47159),

Gene: Nangang\_55 Start: 49334, Stop: 48873, Start Num: 26

Candidate Starts for Nangang\_55:

(Start: 26 @49334 has 85 MA's), (36, 49286), (69, 49106), (83, 49085), (109, 48998), (110, 48992), (117, 48950),

Gene: Napoleon13\_233 Start: 130555, Stop: 131022, Start Num: 24

Candidate Starts for Napoleon13\_233:

(15, 130486), (Start: 24 @130555 has 164 MA's), (30, 130576), (61, 130750), (66, 130765), (112, 130918), (120, 130966),

Gene: Nappy\_236 Start: 133028, Stop: 133513, Start Num: 24

Candidate Starts for Nappy\_236:

(15, 132959), (Start: 24 @133028 has 164 MA's), (30, 133049), (61, 133223), (66, 133238), (112, 133391), (120, 133439),

Gene: Naval22\_241 Start: 133306, Stop: 133773, Start Num: 24

Candidate Starts for Naval22\_241:

(15, 133237), (Start: 24 @133306 has 164 MA's), (30, 133327), (61, 133501), (66, 133516), (112, 133669), (120, 133717),

Gene: NedWong\_235 Start: 131984, Stop: 132451, Start Num: 24

Candidate Starts for NedWong\_235:

(15, 131915), (Start: 24 @131984 has 164 MA's), (30, 132005), (61, 132179), (66, 132194), (112, 132347), (120, 132395),

Gene: Nehemiah\_54 Start: 49105, Stop: 48644, Start Num: 26

Candidate Starts for Nehemiah\_54:

(Start: 26 @49105 has 85 MA's), (36, 49057), (69, 48877), (83, 48856), (110, 48763), (117, 48721),

Gene: Ngannou\_231 Start: 130508, Stop: 130975, Start Num: 24

Candidate Starts for Ngannou\_231:

(15, 130439), (Start: 24 @130508 has 164 MA's), (30, 130529), (61, 130703), (66, 130718), (112, 130871), (120, 130919),

Gene: Nidhogg\_237 Start: 132352, Stop: 132819, Start Num: 24

Candidate Starts for Nidhogg\_237:

(15, 132283), (Start: 24 @132352 has 164 MA's), (30, 132373), (61, 132547), (66, 132562), (112, 132715), (120, 132763),

Gene: Nigel\_51 Start: 48614, Stop: 48153, Start Num: 26

Candidate Starts for Nigel\_51:

(Start: 26 @48614 has 85 MA's), (54, 48473), (82, 48377), (84, 48368), (92, 48338), (95, 48326), (97, 48320), (110, 48263), (114, 48239), (115, 48236), (125, 48188), (131, 48164),

Gene: Norm\_236 Start: 132253, Stop: 132720, Start Num: 24

Candidate Starts for Norm\_236:

(15, 132184), (Start: 24 @132253 has 164 MA's), (30, 132274), (61, 132448), (66, 132463), (112, 132616), (120, 132664),

Gene: NosilaM\_9 Start: 5620, Stop: 6078, Start Num: 29

Candidate Starts for NosilaM\_9:

(Start: 29 @5620 has 34 MA's), (53, 5752), (63, 5815), (111, 5974), (130, 6067),

Gene: Nozo\_55 Start: 49176, Stop: 48703, Start Num: 26

Candidate Starts for Nozo\_55:

(Start: 26 @49176 has 85 MA's), (35, 49140), (69, 48948), (89, 48912), (95, 48885),

Gene: NuevoMundo\_237 Start: 132808, Stop: 133275, Start Num: 24

Candidate Starts for NuevoMundo\_237:

(15, 132739), (Start: 24 @132808 has 164 MA's), (30, 132829), (61, 133003), (66, 133018), (112, 133171), (120, 133219),

Gene: ObLaDi\_95 Start: 55798, Stop: 56244, Start Num: 29

Candidate Starts for ObLaDi\_95:

(Start: 29 @55798 has 34 MA's), (72, 56014), (115, 56155), (120, 56179),

Gene: Obutu\_56 Start: 48859, Stop: 48386, Start Num: 26

Candidate Starts for Obutu\_56:

(Start: 26 @48859 has 85 MA's), (35, 48823), (69, 48631), (89, 48595), (95, 48568),

Gene: Olivio\_55 Start: 48718, Stop: 48245, Start Num: 26

Candidate Starts for Olivio\_55:

(Start: 26 @48718 has 85 MA's), (35, 48682), (62, 48514), (69, 48490), (89, 48454), (95, 48427), (128, 48274),

Gene: Opia\_54 Start: 47638, Stop: 47147, Start Num: 20

Candidate Starts for Opia\_54:

(Start: 20 @47638 has 34 MA's), (55, 47479), (88, 47359), (89, 47356), (92, 47341), (95, 47329), (109, 47272), (110, 47266), (115, 47239), (135, 47155),

Gene: OrangeOswald\_55 Start: 48417, Stop: 47944, Start Num: 26

Candidate Starts for OrangeOswald\_55:

(Start: 26 @48417 has 85 MA's), (35, 48381), (69, 48189), (89, 48153), (95, 48126),

Gene: Outis\_8 Start: 4774, Stop: 5232, Start Num: 29

Candidate Starts for Outis\_8:

(Start: 29 @4774 has 34 MA's), (42, 4846), (53, 4906), (111, 5128), (118, 5176), (130, 5221),

Gene: ParkTD\_235 Start: 131823, Stop: 132290, Start Num: 24

Candidate Starts for ParkTD\_235:

(15, 131754), (Start: 24 @131823 has 164 MA's), (30, 131844), (61, 132018), (66, 132033), (112, 132186), (120, 132234),

Gene: Patter\_238 Start: 131540, Stop: 132007, Start Num: 24

Candidate Starts for Patter\_238:

(15, 131471), (Start: 24 @131540 has 164 MA's), (30, 131561), (61, 131735), (66, 131750), (112, 131903), (120, 131951),

Gene: Phantasmagoria\_54 Start: 47636, Stop: 47145, Start Num: 20

Candidate Starts for Phantasmagoria\_54:

(Start: 20 @47636 has 34 MA's), (55, 47477), (89, 47354), (92, 47339), (109, 47270), (110, 47264), (115, 47237), (135, 47153),

Gene: Phayeta\_57 Start: 48740, Stop: 48267, Start Num: 26

Candidate Starts for Phayeta\_57:

(Start: 26 @48740 has 85 MA's), (35, 48704), (62, 48536), (69, 48512), (89, 48476), (95, 48449), (128, 48296),

Gene: Phelemich\_53 Start: 49104, Stop: 48643, Start Num: 26

Candidate Starts for Phelemich\_53:

(Start: 26 @49104 has 85 MA's), (36, 49056), (69, 48876), (83, 48855), (110, 48762), (117, 48720),

Gene: Philly\_54 Start: 48267, Stop: 47794, Start Num: 26

Candidate Starts for Philly\_54:

(Start: 26 @48267 has 85 MA's), (35, 48231), (69, 48039), (89, 48003), (95, 47976),

Gene: Phlegm\_240 Start: 132229, Stop: 132696, Start Num: 24

Candidate Starts for Phlegm\_240:

(15, 132160), (Start: 24 @132229 has 164 MA's), (30, 132250), (61, 132424), (66, 132439), (112, 132592), (120, 132640),

Gene: Phlyer\_55 Start: 49152, Stop: 48679, Start Num: 26

Candidate Starts for Phlyer\_55:

(Start: 26 @49152 has 85 MA's), (35, 49116), (69, 48924), (89, 48888), (95, 48861),

Gene: Phox\_237 Start: 131478, Stop: 131945, Start Num: 24

Candidate Starts for Phox\_237:

(15, 131409), (Start: 24 @131478 has 164 MA's), (30, 131499), (61, 131673), (66, 131688), (112, 131841), (120, 131889),

Gene: Phrappuccino\_159 Start: 108261, Stop: 108728, Start Num: 18

Candidate Starts for Phrappuccino\_159:

(Start: 18 @108261 has 2 MA's), (30, 108306), (31, 108309), (65, 108486), (71, 108504), (94, 108558), (99, 108576), (109, 108606),

Gene: Phusco\_235 Start: 131061, Stop: 131528, Start Num: 24

Candidate Starts for Phusco\_235:

(15, 130992), (Start: 24 @131061 has 164 MA's), (30, 131082), (61, 131256), (66, 131271), (112, 131424), (120, 131472),

Gene: Pier\_235 Start: 132354, Stop: 132821, Start Num: 24

Candidate Starts for Pier\_235:

(15, 132285), (Start: 24 @132354 has 164 MA's), (30, 132375), (61, 132549), (66, 132564), (112, 132717), (120, 132765),

Gene: Pio\_242 Start: 133557, Stop: 134024, Start Num: 24

Candidate Starts for Pio\_242:

(15, 133488), (Start: 24 @133557 has 164 MA's), (30, 133578), (61, 133752), (66, 133767), (112, 133920), (120, 133968),

Gene: Pivoine\_237 Start: 131526, Stop: 131993, Start Num: 24

Candidate Starts for Pivoine\_237:

(15, 131457), (Start: 24 @131526 has 164 MA's), (30, 131547), (61, 131721), (66, 131736), (112, 131889), (120, 131937),

Gene: Pleakley\_12 Start: 5438, Stop: 5917, Start Num: 29

Candidate Starts for Pleakley\_12:

(16, 5363), (Start: 29 @5438 has 34 MA's), (30, 5450), (52, 5567), (57, 5597), (101, 5762), (102, 5765), (118, 5855),

Gene: Pleione\_240 Start: 132289, Stop: 132756, Start Num: 24

Candidate Starts for Pleione\_240:

(15, 132220), (Start: 24 @132289 has 164 MA's), (30, 132310), (61, 132484), (66, 132499), (112, 132652), (120, 132700),

Gene: Poise\_3 Start: 790, Stop: 1290, Start Num: 21

Candidate Starts for Poise\_3:

(Start: 21 @790 has 9 MA's), (25, 802), (Start: 29 @811 has 34 MA's), (59, 988), (63, 1012), (64, 1018), (65, 1021), (69, 1033), (71, 1039), (89, 1081), (107, 1156), (116, 1207),

Gene: Poster\_49 Start: 47628, Stop: 47149, Start Num: 26

Candidate Starts for Poster\_49:

(Start: 26 @47628 has 85 MA's), (51, 47496), (95, 47331), (98, 47319), (110, 47268), (133, 47163), (134, 47160),

Gene: Primadonna\_230 Start: 131189, Stop: 131656, Start Num: 24

Candidate Starts for Primadonna\_230:



(15, 131120), (Start: 24 @131189 has 164 MA's), (30, 131210), (61, 131384), (66, 131399), (112, 131552), (120, 131600),

Gene: Prince\_50 Start: 48815, Stop: 48354, Start Num: 26

Candidate Starts for Prince\_50:

(6, 49010), (Start: 26 @48815 has 85 MA's), (45, 48722), (54, 48674), (82, 48578), (84, 48569), (92, 48539), (95, 48527), (104, 48497), (108, 48473), (110, 48464), (114, 48440), (115, 48437), (125, 48389), (131, 48365),

Gene: PrinceCharming\_54 Start: 47735, Stop: 47244, Start Num: 20

Candidate Starts for PrinceCharming\_54:

(Start: 20 @47735 has 34 MA's), (55, 47576), (88, 47456), (89, 47453), (92, 47438), (109, 47369), (110, 47363), (115, 47336), (135, 47252),

Gene: Pupper\_137 Start: 96238, Stop: 96732, Start Num: 27

Candidate Starts for Pupper\_137:

(Start: 27 @96238 has 4 MA's), (104, 96580), (122, 96682),

Gene: PurduePete\_236 Start: 132554, Stop: 133021, Start Num: 24

Candidate Starts for PurduePete\_236:

(15, 132485), (Start: 24 @132554 has 164 MA's), (30, 132575), (61, 132749), (66, 132764), (112, 132917), (120, 132965),

Gene: QBert\_228 Start: 129877, Stop: 130344, Start Num: 24

Candidate Starts for QBert\_228:

(15, 129808), (Start: 24 @129877 has 164 MA's), (30, 129898), (61, 130072), (66, 130087), (112, 130240), (120, 130288),

Gene: Quasimodo\_239 Start: 131862, Stop: 132329, Start Num: 24

Candidate Starts for Quasimodo\_239:

(15, 131793), (Start: 24 @131862 has 164 MA's), (30, 131883), (61, 132057), (66, 132072), (112, 132225), (120, 132273),

Gene: QueenPie\_48 Start: 48361, Stop: 47879, Start Num: 26

Candidate Starts for QueenPie\_48:

(Start: 26 @48361 has 85 MA's), (37, 48310), (51, 48229), (84, 48103), (92, 48073), (95, 48061), (105, 48025), (110, 47998), (133, 47893), (134, 47890),

Gene: Raela\_2 Start: 790, Stop: 1290, Start Num: 21

Candidate Starts for Raela\_2:

(Start: 21 @790 has 9 MA's), (25, 802), (Start: 29 @811 has 34 MA's), (59, 988), (63, 1012), (64, 1018), (65, 1021), (69, 1033), (71, 1039), (89, 1081), (107, 1156), (116, 1207),

Gene: RagingRooster\_54 Start: 48098, Stop: 47625, Start Num: 26

Candidate Starts for RagingRooster\_54:

(Start: 26 @48098 has 85 MA's), (35, 48062), (69, 47870), (73, 47861), (89, 47834), (95, 47807),

Gene: Rahel\_238 Start: 131964, Stop: 132431, Start Num: 24

Candidate Starts for Rahel\_238:

(15, 131895), (Start: 24 @131964 has 164 MA's), (30, 131985), (61, 132159), (66, 132174), (112, 132327), (120, 132375),

Gene: RawrgerThat\_51 Start: 48688, Stop: 48209, Start Num: 26

Candidate Starts for RawrgerThat\_51:

(Start: 26 @48688 has 85 MA's), (51, 48556), (95, 48391), (98, 48379), (110, 48328), (133, 48223), (134, 48220),

Gene: RedRaider77\_3 Start: 781, Stop: 1281, Start Num: 21

Candidate Starts for RedRaider77\_3:

(Start: 21 @781 has 9 MA's), (25, 793), (Start: 29 @802 has 34 MA's), (59, 979), (63, 1003), (64, 1009), (65, 1012), (69, 1024), (71, 1030), (89, 1072), (107, 1147), (116, 1198),

Gene: Reprobate\_54 Start: 49109, Stop: 48648, Start Num: 26

Candidate Starts for Reprobate\_54:

(Start: 26 @49109 has 85 MA's), (36, 49061), (69, 48881), (83, 48860), (110, 48767), (117, 48725),

Gene: Rhinoforte\_54 Start: 47757, Stop: 47266, Start Num: 20

Candidate Starts for Rhinoforte\_54:

(Start: 20 @47757 has 34 MA's), (55, 47598), (88, 47478), (89, 47475), (92, 47460), (95, 47448), (109, 47391), (110, 47385), (115, 47358), (135, 47274),

Gene: Rich\_55 Start: 50543, Stop: 50082, Start Num: 26

Candidate Starts for Rich\_55:

(Start: 26 @50543 has 85 MA's), (36, 50495), (69, 50315), (83, 50294), (109, 50207), (110, 50201), (117, 50159),

Gene: Rinkes\_53 Start: 49227, Stop: 48748, Start Num: 26

Candidate Starts for Rinkes\_53:

(Start: 26 @49227 has 85 MA's), (57, 49062), (67, 49014), (89, 48957), (92, 48942), (110, 48867),

Gene: Rita130\_54 Start: 48981, Stop: 48520, Start Num: 26

Candidate Starts for Rita130\_54:

(Start: 26 @48981 has 85 MA's), (36, 48933), (69, 48753), (83, 48732), (109, 48645), (110, 48639), (117, 48597),

Gene: Rita1961\_56 Start: 48859, Stop: 48386, Start Num: 26

Candidate Starts for Rita1961\_56:

(Start: 26 @48859 has 85 MA's), (35, 48823), (69, 48631), (89, 48595), (95, 48568),

Gene: Rizal\_226 Start: 129779, Stop: 130246, Start Num: 24

Candidate Starts for Rizal\_226:

(15, 129710), (Start: 24 @129779 has 164 MA's), (30, 129800), (61, 129974), (66, 129989), (112, 130142), (120, 130190),

Gene: RoMag\_231 Start: 131560, Stop: 132027, Start Num: 24

Candidate Starts for RoMag\_231:

(15, 131491), (Start: 24 @131560 has 164 MA's), (30, 131581), (61, 131755), (66, 131770), (112, 131923), (120, 131971),

Gene: RomaT\_55 Start: 49007, Stop: 48534, Start Num: 26

Candidate Starts for RomaT\_55:

(Start: 26 @49007 has 85 MA's), (35, 48971), (69, 48779), (89, 48743), (95, 48716),

Gene: Ronan\_232 Start: 129949, Stop: 130416, Start Num: 24

Candidate Starts for Ronan\_232:

(15, 129880), (Start: 24 @129949 has 164 MA's), (30, 129970), (61, 130144), (66, 130159), (112, 130312), (120, 130360),

Gene: Roots515\_239 Start: 133105, Stop: 133572, Start Num: 24

Candidate Starts for Roots515\_239:

(15, 133036), (Start: 24 @133105 has 164 MA's), (30, 133126), (61, 133300), (66, 133315), (112, 133468), (120, 133516),

Gene: Rosebush\_53 Start: 47769, Stop: 47278, Start Num: 20

Candidate Starts for Rosebush\_53:

(Start: 20 @47769 has 34 MA's), (55, 47610), (88, 47490), (89, 47487), (92, 47472), (95, 47460), (109, 47403), (110, 47397), (115, 47370), (135, 47286),

Gene: SCentae\_136 Start: 96389, Stop: 96883, Start Num: 27

Candidate Starts for SCentae\_136:

(Start: 27 @96389 has 4 MA's), (104, 96731), (122, 96833),

Gene: SVoro\_232 Start: 131862, Stop: 132329, Start Num: 24

Candidate Starts for SVoro\_232:

(15, 131793), (Start: 24 @131862 has 164 MA's), (30, 131883), (61, 132057), (66, 132072), (112, 132225), (120, 132273),

Gene: Sabella\_53 Start: 47620, Stop: 47129, Start Num: 20

Candidate Starts for Sabella\_53:

(Start: 20 @47620 has 34 MA's), (55, 47461), (88, 47341), (89, 47338), (92, 47323), (95, 47311), (109, 47254), (110, 47248), (115, 47221), (135, 47137),

Gene: Salacia\_237 Start: 132980, Stop: 133447, Start Num: 24

Candidate Starts for Salacia\_237:

(15, 132911), (Start: 24 @132980 has 164 MA's), (30, 133001), (61, 133175), (66, 133190), (112, 133343), (120, 133391),

Gene: Sauce\_233 Start: 131288, Stop: 131755, Start Num: 24

Candidate Starts for Sauce\_233:

(15, 131219), (Start: 24 @131288 has 164 MA's), (30, 131309), (61, 131483), (66, 131498), (112, 131651), (120, 131699),

Gene: ScottMcG\_228 Start: 130558, Stop: 131025, Start Num: 24

Candidate Starts for ScottMcG\_228:

(15, 130489), (Start: 24 @130558 has 164 MA's), (30, 130579), (61, 130753), (66, 130768), (112, 130921), (120, 130969),

Gene: Scuba\_12 Start: 5536, Stop: 6015, Start Num: 29

Candidate Starts for Scuba\_12:

(16, 5461), (Start: 29 @5536 has 34 MA's), (30, 5548), (52, 5665), (57, 5695), (101, 5860), (102, 5863), (118, 5953),

Gene: Sebata\_238 Start: 132793, Stop: 133278, Start Num: 24

Candidate Starts for Sebata\_238:

(15, 132724), (Start: 22 @132787 has 2 MA's), (Start: 24 @132793 has 164 MA's), (30, 132814), (61, 132988), (66, 133003), (112, 133156), (120, 133204),

Gene: Settecandela\_159 Start: 108261, Stop: 108728, Start Num: 18

Candidate Starts for Settecandela\_159:

(Start: 18 @108261 has 2 MA's), (30, 108306), (31, 108309), (65, 108486), (71, 108504), (94, 108558), (99, 108576), (109, 108606),

Gene: Shaqnato\_227 Start: 130686, Stop: 131153, Start Num: 24

Candidate Starts for Shaqnato\_227:

(15, 130617), (Start: 24 @130686 has 164 MA's), (30, 130707), (61, 130881), (66, 130896), (112, 131049), (120, 131097),

Gene: Shatter\_47 Start: 40708, Stop: 40232, Start Num: 29

Candidate Starts for Shatter\_47:

(4, 40930), (12, 40804), (Start: 29 @40708 has 34 MA's), (91, 40429), (94, 40417), (100, 40390), (113, 40333), (114, 40321), (125, 40264),

Gene: Shelob\_237 Start: 133423, Stop: 133890, Start Num: 24

Candidate Starts for Shelob\_237:

(15, 133354), (Start: 24 @133423 has 164 MA's), (30, 133444), (61, 133618), (66, 133633), (112, 133786), (120, 133834),

Gene: Shenyu\_55 Start: 49334, Stop: 48873, Start Num: 26

Candidate Starts for Shenyu\_55:

(Start: 26 @49334 has 85 MA's), (54, 49193), (84, 49091), (110, 48986), (115, 48959), (119, 48938), (125, 48911), (131, 48887),

Gene: ShiaLabeouf\_234 Start: 131282, Stop: 131749, Start Num: 24

Candidate Starts for ShiaLabeouf\_234:

(15, 131213), (Start: 24 @131282 has 164 MA's), (30, 131303), (61, 131477), (66, 131492), (112, 131645), (120, 131693),

Gene: Shifa\_213 Start: 130752, Stop: 131237, Start Num: 24

Candidate Starts for Shifa\_213:

(15, 130683), (Start: 22 @130746 has 2 MA's), (Start: 24 @130752 has 164 MA's), (30, 130773), (61, 130947), (66, 130962), (112, 131115), (120, 131163),

Gene: Shnickers\_235 Start: 131346, Stop: 131813, Start Num: 24

Candidate Starts for Shnickers\_235:

(15, 131277), (Start: 24 @131346 has 164 MA's), (30, 131367), (61, 131541), (66, 131556), (112, 131709), (120, 131757),

Gene: Shrimp\_238 Start: 132591, Stop: 133058, Start Num: 24

Candidate Starts for Shrimp\_238:

(15, 132522), (Start: 24 @132591 has 164 MA's), (30, 132612), (61, 132786), (66, 132801), (112, 132954), (120, 133002),

Gene: SilverDipper\_240 Start: 132082, Stop: 132549, Start Num: 24

Candidate Starts for SilverDipper\_240:

(15, 132013), (Start: 24 @132082 has 164 MA's), (30, 132103), (61, 132277), (66, 132292), (112, 132445), (120, 132493),

Gene: SirJeffery\_54 Start: 48983, Stop: 48522, Start Num: 26

Candidate Starts for SirJeffery\_54:

(Start: 26 @48983 has 85 MA's), (36, 48935), (69, 48755), (83, 48734), (109, 48647), (110, 48641), (117, 48599),

Gene: Sisko\_46 Start: 41036, Stop: 40560, Start Num: 29

Candidate Starts for Sisko\_46:

(Start: 29 @41036 has 34 MA's), (37, 40991), (40, 40976), (58, 40871), (100, 40715), (113, 40658), (125, 40589), (128, 40574),

Gene: Skog\_198 Start: 125939, Stop: 126439, Start Num: 27

Candidate Starts for Skog\_198:

(Start: 27 @125939 has 4 MA's), (115, 126347), (122, 126386),

Gene: SlippinJimmy\_57 Start: 49641, Stop: 49168, Start Num: 26

Candidate Starts for SlippinJimmy\_57:

(Start: 26 @49641 has 85 MA's), (35, 49605), (69, 49413), (89, 49377), (95, 49350),

Gene: SmallFry\_237 Start: 131440, Stop: 131907, Start Num: 24

Candidate Starts for SmallFry\_237:

(15, 131371), (Start: 24 @131440 has 164 MA's), (30, 131461), (61, 131635), (66, 131650), (112, 131803), (120, 131851),

Gene: Spec\_230 Start: 131509, Stop: 131976, Start Num: 24

Candidate Starts for Spec\_230:

(15, 131440), (Start: 24 @131509 has 164 MA's), (30, 131530), (61, 131704), (66, 131719), (112, 131872), (120, 131920),

Gene: Specks\_240 Start: 131931, Stop: 132398, Start Num: 24

Candidate Starts for Specks\_240:

(15, 131862), (Start: 24 @131931 has 164 MA's), (30, 131952), (61, 132126), (66, 132141), (112, 132294), (120, 132342),

Gene: Sprinklers\_234 Start: 131176, Stop: 131643, Start Num: 24

Candidate Starts for Sprinklers\_234:

(15, 131107), (Start: 24 @131176 has 164 MA's), (30, 131197), (61, 131371), (66, 131386), (112, 131539), (120, 131587),

Gene: Spud\_229 Start: 130897, Stop: 131364, Start Num: 24

Candidate Starts for Spud\_229:

(15, 130828), (Start: 24 @130897 has 164 MA's), (30, 130918), (61, 131092), (66, 131107), (112, 131260), (120, 131308),

Gene: SrishMeg2525\_233 Start: 132086, Stop: 132553, Start Num: 24

Candidate Starts for SrishMeg2525\_233:

(15, 132017), (Start: 24 @132086 has 164 MA's), (30, 132107), (61, 132281), (66, 132296), (112, 132449), (120, 132497),

Gene: StarStruck\_8 Start: 4774, Stop: 5232, Start Num: 29

Candidate Starts for StarStruck\_8:

(Start: 29 @4774 has 34 MA's), (42, 4846), (53, 4906), (111, 5128), (118, 5176), (130, 5221),

Gene: StephanieG\_230 Start: 132083, Stop: 132550, Start Num: 24

Candidate Starts for StephanieG\_230:

(15, 132014), (Start: 24 @132083 has 164 MA's), (30, 132104), (61, 132278), (66, 132293), (112, 132446), (120, 132494),

Gene: Stinger\_50 Start: 47346, Stop: 46885, Start Num: 26

Candidate Starts for Stinger\_50:

(Start: 26 @47346 has 85 MA's), (45, 47253), (54, 47205), (82, 47112), (84, 47103), (100, 47043), (105, 47025), (110, 46998), (114, 46974), (115, 46971), (125, 46923), (131, 46899),

Gene: StinkyVeggy\_55 Start: 49120, Stop: 48659, Start Num: 26

Candidate Starts for StinkyVeggy\_55:

(Start: 26 @49120 has 85 MA's), (36, 49072), (56, 48961), (69, 48892), (83, 48871), (109, 48784), (110, 48778), (117, 48736),

Gene: StubbySaigey\_242 Start: 131616, Stop: 132083, Start Num: 24

Candidate Starts for StubbySaigey\_242:

(15, 131547), (Start: 24 @131616 has 164 MA's), (30, 131637), (61, 131811), (66, 131826), (112, 131979), (120, 132027),

Gene: Suigeneris\_56 Start: 49263, Stop: 48802, Start Num: 26

Candidate Starts for Suigeneris\_56:

(3, 49764), (Start: 26 @49263 has 85 MA's), (36, 49215), (69, 49035), (83, 49014), (109, 48927), (110, 48921), (117, 48879),

Gene: Sukkupi\_8 Start: 3819, Stop: 4280, Start Num: 29

Candidate Starts for Sukkupi\_8:

(Start: 29 @3819 has 34 MA's), (30, 3831), (34, 3843), (53, 3951), (130, 4269),

Gene: SuperSulley\_8 Start: 4860, Stop: 5318, Start Num: 29

Candidate Starts for SuperSulley\_8:

(Start: 29 @4860 has 34 MA's), (53, 4992), (111, 5214), (118, 5262), (130, 5307),

Gene: SwainyDoc\_56 Start: 48871, Stop: 48398, Start Num: 26

Candidate Starts for SwainyDoc\_56:

(Start: 26 @48871 has 85 MA's), (35, 48835), (62, 48667), (69, 48643), (89, 48607), (95, 48580), (128, 48427),

Gene: SynergyX\_55 Start: 48414, Stop: 47941, Start Num: 26

Candidate Starts for SynergyX\_55:

(Start: 26 @48414 has 85 MA's), (35, 48378), (62, 48210), (69, 48186), (73, 48177), (89, 48150), (95, 48123), (128, 47970),

Gene: TA17A\_55 Start: 47619, Stop: 47128, Start Num: 20

Candidate Starts for TA17A\_55:

(Start: 20 @47619 has 34 MA's), (55, 47460), (89, 47337), (92, 47322), (95, 47310), (109, 47253), (110, 47247), (115, 47220), (135, 47136),

Gene: TPA2\_59 Start: 47083, Stop: 46601, Start Num: 28

Candidate Starts for TPA2\_59:

(28, 47083), (47, 46981), (82, 46828), (95, 46780), (108, 46726), (110, 46717), (113, 46705), (120, 46666), (121, 46657), (126, 46633),

Gene: Tainan\_236 Start: 131060, Stop: 131527, Start Num: 24

Candidate Starts for Tainan\_236:

(15, 130991), (Start: 24 @131060 has 164 MA's), (30, 131081), (61, 131255), (66, 131270), (112, 131423), (120, 131471),

Gene: Teardrop\_234 Start: 130943, Stop: 131410, Start Num: 24  
Candidate Starts for Teardrop\_234:  
(15, 130874), (Start: 24 @130943 has 164 MA's), (30, 130964), (61, 131138), (66, 131153), (112, 131306), (120, 131354),

Gene: Tesla\_3 Start: 802, Stop: 1281, Start Num: 29  
Candidate Starts for Tesla\_3:  
(Start: 21 @781 has 9 MA's), (25, 793), (Start: 29 @802 has 34 MA's), (59, 979), (63, 1003), (64, 1009), (65, 1012), (69, 1024), (71, 1030), (89, 1072), (107, 1147), (116, 1198), (117, 1207),

Gene: Thonko\_56 Start: 47465, Stop: 46986, Start Num: 26  
Candidate Starts for Thonko\_56:  
(10, 47591), (Start: 26 @47465 has 85 MA's), (33, 47438), (68, 47249), (77, 47231), (109, 47114), (110, 47108), (115, 47081), (117, 47066), (125, 47033),

Gene: Tinciduntolum\_55 Start: 47781, Stop: 47290, Start Num: 20  
Candidate Starts for Tinciduntolum\_55:  
(Start: 20 @47781 has 34 MA's), (55, 47622), (88, 47502), (89, 47499), (92, 47484), (95, 47472), (109, 47415), (110, 47409), (115, 47382), (135, 47298),

Gene: TinyTim\_234 Start: 130910, Stop: 131377, Start Num: 24  
Candidate Starts for TinyTim\_234:  
(15, 130841), (Start: 24 @130910 has 164 MA's), (30, 130931), (61, 131105), (66, 131120), (112, 131273), (120, 131321),

Gene: Tonenili\_257 Start: 136733, Stop: 137203, Start Num: 24  
Candidate Starts for Tonenili\_257:  
(15, 136664), (Start: 24 @136733 has 164 MA's), (30, 136754), (54, 136877), (69, 136955), (90, 137015), (117, 137138), (120, 137147),

Gene: Tortoise16\_234 Start: 131372, Stop: 131839, Start Num: 24  
Candidate Starts for Tortoise16\_234:  
(15, 131303), (Start: 24 @131372 has 164 MA's), (30, 131393), (61, 131567), (66, 131582), (112, 131735), (120, 131783),

Gene: Tres\_54 Start: 47632, Stop: 47141, Start Num: 20  
Candidate Starts for Tres\_54:  
(Start: 20 @47632 has 34 MA's), (55, 47473), (88, 47353), (89, 47350), (92, 47335), (95, 47323), (109, 47266), (110, 47260), (115, 47233), (135, 47149),

Gene: Trinitium\_232 Start: 129664, Stop: 130131, Start Num: 24  
Candidate Starts for Trinitium\_232:  
(15, 129595), (Start: 24 @129664 has 164 MA's), (30, 129685), (61, 129859), (66, 129874), (112, 130027), (120, 130075),

Gene: Turret\_227 Start: 129246, Stop: 129713, Start Num: 24  
Candidate Starts for Turret\_227:  
(15, 129177), (Start: 24 @129246 has 164 MA's), (30, 129267), (61, 129441), (66, 129456), (112, 129609), (120, 129657),

Gene: Tyke\_233 Start: 133552, Stop: 134019, Start Num: 24  
Candidate Starts for Tyke\_233:

(15, 133483), (Start: 24 @133552 has 164 MA's), (30, 133573), (61, 133747), (66, 133762), (112, 133915), (120, 133963),

Gene: ValleyTerrace\_237 Start: 130823, Stop: 131290, Start Num: 24

Candidate Starts for ValleyTerrace\_237:

(15, 130754), (Start: 24 @130823 has 164 MA's), (30, 130844), (61, 131018), (66, 131033), (112, 131186), (120, 131234),

Gene: VasuNzinga\_3 Start: 802, Stop: 1281, Start Num: 29

Candidate Starts for VasuNzinga\_3:

(Start: 21 @781 has 9 MA's), (25, 793), (Start: 29 @802 has 34 MA's), (59, 979), (63, 1003), (64, 1009), (65, 1012), (69, 1024), (71, 1030), (89, 1072), (107, 1147), (116, 1198),

Gene: Vic9\_00053 Start: 48150, Stop: 47659, Start Num: 20

Candidate Starts for Vic9\_00053:

(Start: 20 @48150 has 34 MA's), (55, 47991), (89, 47868), (92, 47853), (95, 47841), (109, 47784), (110, 47778), (115, 47751), (135, 47667),

Gene: Vincenzo\_52 Start: 49377, Stop: 48913, Start Num: 26

Candidate Starts for Vincenzo\_52:

(Start: 26 @49377 has 85 MA's), (54, 49236), (71, 49152), (104, 49056), (105, 49050), (110, 49023), (131, 48924),

Gene: VioletZ\_52 Start: 48734, Stop: 48273, Start Num: 26

Candidate Starts for VioletZ\_52:

(Start: 26 @48734 has 85 MA's), (45, 48641), (54, 48593), (82, 48497), (84, 48488), (95, 48446), (97, 48440), (104, 48416), (110, 48383), (114, 48359), (115, 48356), (125, 48308), (131, 48284),

Gene: Waleliano\_49 Start: 48252, Stop: 47791, Start Num: 26

Candidate Starts for Waleliano\_49:

(Start: 26 @48252 has 85 MA's), (45, 48159), (54, 48111), (77, 48024), (82, 48015), (84, 48006), (92, 47976), (95, 47964), (104, 47934), (110, 47901), (114, 47877), (115, 47874), (125, 47826), (131, 47802),

Gene: Wally\_234 Start: 130807, Stop: 131274, Start Num: 24

Candidate Starts for Wally\_234:

(15, 130738), (Start: 24 @130807 has 164 MA's), (30, 130828), (61, 131002), (66, 131017), (112, 131170), (120, 131218),

Gene: West99\_54 Start: 47778, Stop: 47287, Start Num: 20

Candidate Starts for West99\_54:

(Start: 20 @47778 has 34 MA's), (55, 47619), (89, 47496), (92, 47481), (109, 47412), (110, 47406), (115, 47379), (135, 47295),

Gene: Willis\_236 Start: 131746, Stop: 132213, Start Num: 24

Candidate Starts for Willis\_236:

(15, 131677), (Start: 24 @131746 has 164 MA's), (30, 131767), (61, 131941), (66, 131956), (112, 132109), (120, 132157),

Gene: Wooper\_50 Start: 42937, Stop: 42470, Start Num: 26

Candidate Starts for Wooper\_50:

(Start: 26 @42937 has 85 MA's), (46, 42835), (49, 42808), (82, 42694), (109, 42598), (110, 42592), (120, 42541), (127, 42505),



Gene: Xincheng\_51 Start: 49715, Stop: 49254, Start Num: 26

Candidate Starts for Xincheng\_51:

(Start: 26 @49715 has 85 MA's), (45, 49622), (54, 49574), (82, 49478), (84, 49469), (92, 49439), (95, 49427), (97, 49421), (104, 49397), (108, 49373), (110, 49364), (114, 49340), (115, 49337), (125, 49289), (131, 49265),

Gene: Yago84\_46 Start: 41111, Stop: 40635, Start Num: 29

Candidate Starts for Yago84\_46:

(Start: 29 @41111 has 34 MA's), (37, 41066), (40, 41051), (58, 40946), (100, 40790), (113, 40733), (125, 40664), (128, 40649),

Gene: Yahalom\_54 Start: 48424, Stop: 47951, Start Num: 26

Candidate Starts for Yahalom\_54:

(Start: 26 @48424 has 85 MA's), (35, 48388), (69, 48196), (89, 48160), (95, 48133),

Gene: Yassified\_233 Start: 131159, Stop: 131626, Start Num: 24

Candidate Starts for Yassified\_233:

(15, 131090), (Start: 24 @131159 has 164 MA's), (30, 131180), (61, 131354), (66, 131369), (112, 131522), (120, 131570),

Gene: YemiJoy2021\_237 Start: 132477, Stop: 132944, Start Num: 24

Candidate Starts for YemiJoy2021\_237:

(15, 132408), (Start: 24 @132477 has 164 MA's), (30, 132498), (61, 132672), (66, 132687), (112, 132840), (120, 132888),

Gene: Yeshua\_50 Start: 42914, Stop: 42447, Start Num: 26

Candidate Starts for Yeshua\_50:

(Start: 26 @42914 has 85 MA's), (46, 42812), (49, 42785), (82, 42671), (109, 42575), (110, 42569), (120, 42518), (127, 42482),

Gene: Yinz\_55 Start: 48270, Stop: 47797, Start Num: 26

Candidate Starts for Yinz\_55:

(Start: 26 @48270 has 85 MA's), (35, 48234), (62, 48066), (69, 48042), (73, 48033), (89, 48006), (95, 47979), (128, 47826),

Gene: Yndexa\_8 Start: 3819, Stop: 4280, Start Num: 29

Candidate Starts for Yndexa\_8:

(Start: 29 @3819 has 34 MA's), (30, 3831), (34, 3843), (53, 3951), (130, 4269),

Gene: YoungMoneyMata\_236 Start: 131995, Stop: 132462, Start Num: 24

Candidate Starts for YoungMoneyMata\_236:

(15, 131926), (Start: 24 @131995 has 164 MA's), (30, 132016), (61, 132190), (66, 132205), (112, 132358), (120, 132406),

Gene: Yucca\_235 Start: 132469, Stop: 132936, Start Num: 24

Candidate Starts for Yucca\_235:

(15, 132400), (Start: 24 @132469 has 164 MA's), (30, 132490), (61, 132664), (66, 132679), (112, 132832), (120, 132880),

Gene: Zalkecks\_235 Start: 131575, Stop: 132042, Start Num: 24

Candidate Starts for Zalkecks\_235:

(15, 131506), (Start: 24 @131575 has 164 MA's), (30, 131596), (61, 131770), (66, 131785), (112, 131938), (120, 131986),

Gene: Zeenon\_236 Start: 132109, Stop: 132576, Start Num: 24

Candidate Starts for Zeenon\_236:

(15, 132040), (Start: 24 @132109 has 164 MA's), (30, 132130), (61, 132304), (66, 132319), (112, 132472), (120, 132520),

Gene: Zemanar\_50 Start: 48233, Stop: 47772, Start Num: 26

Candidate Starts for Zemanar\_50:

(Start: 26 @48233 has 85 MA's), (45, 48140), (54, 48092), (77, 48005), (82, 47996), (84, 47987), (92, 47957), (95, 47945), (104, 47915), (110, 47882), (114, 47858), (115, 47855), (125, 47807), (131, 47783),

Gene: ZygoTaiga\_231 Start: 132766, Stop: 133233, Start Num: 24

Candidate Starts for ZygoTaiga\_231:

(15, 132697), (Start: 24 @132766 has 164 MA's), (30, 132787), (61, 132961), (66, 132976), (112, 133129), (120, 133177),