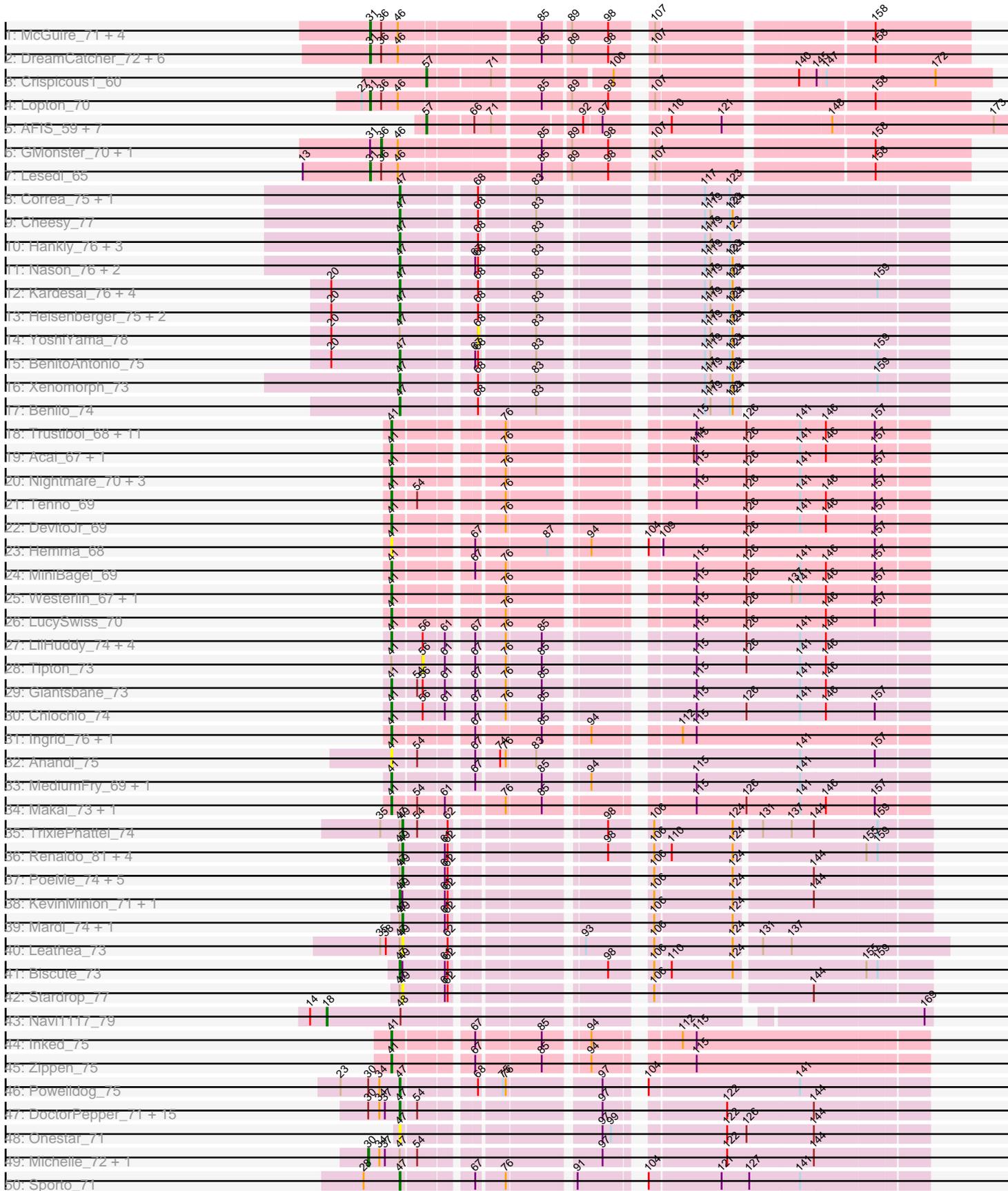
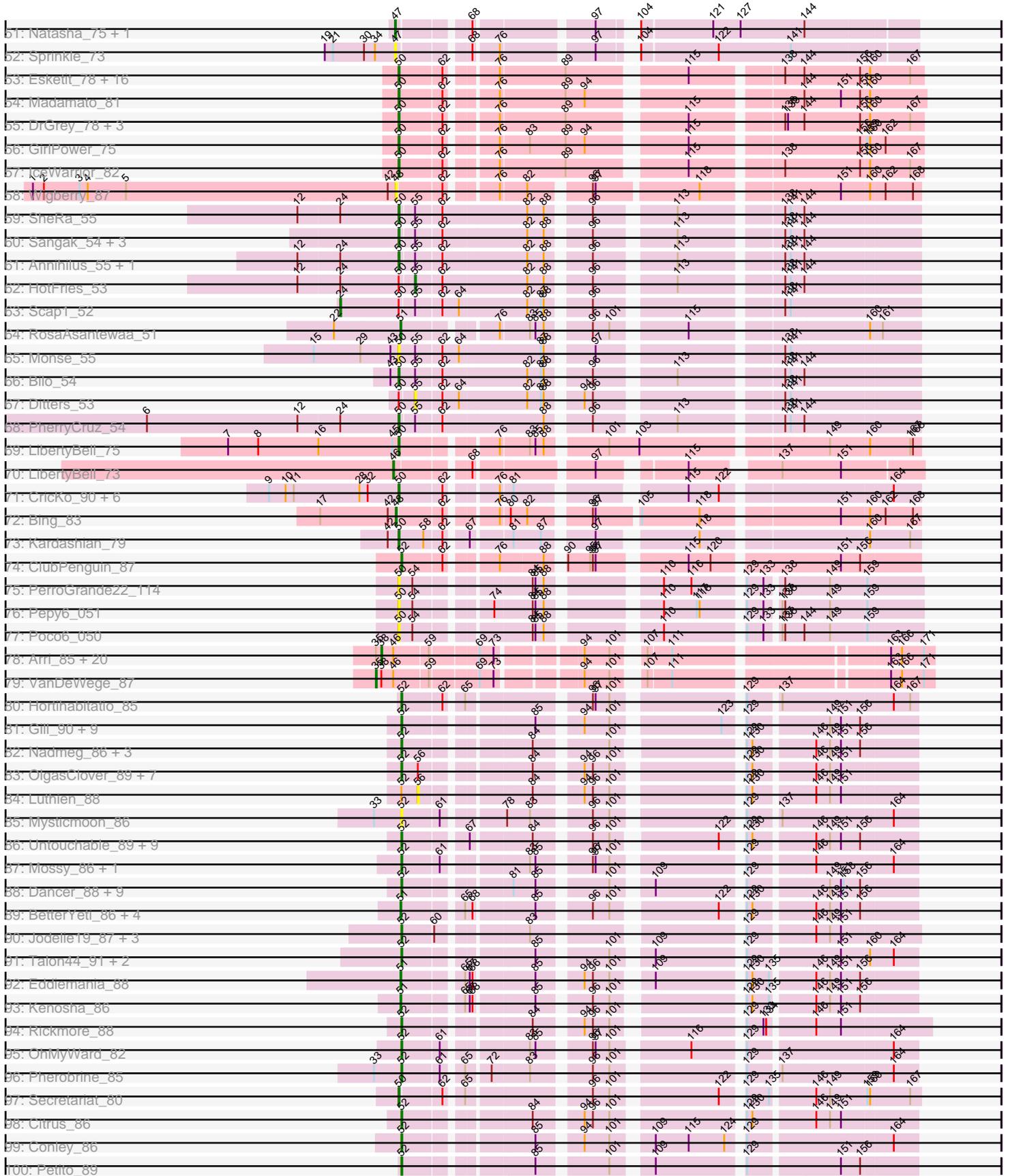


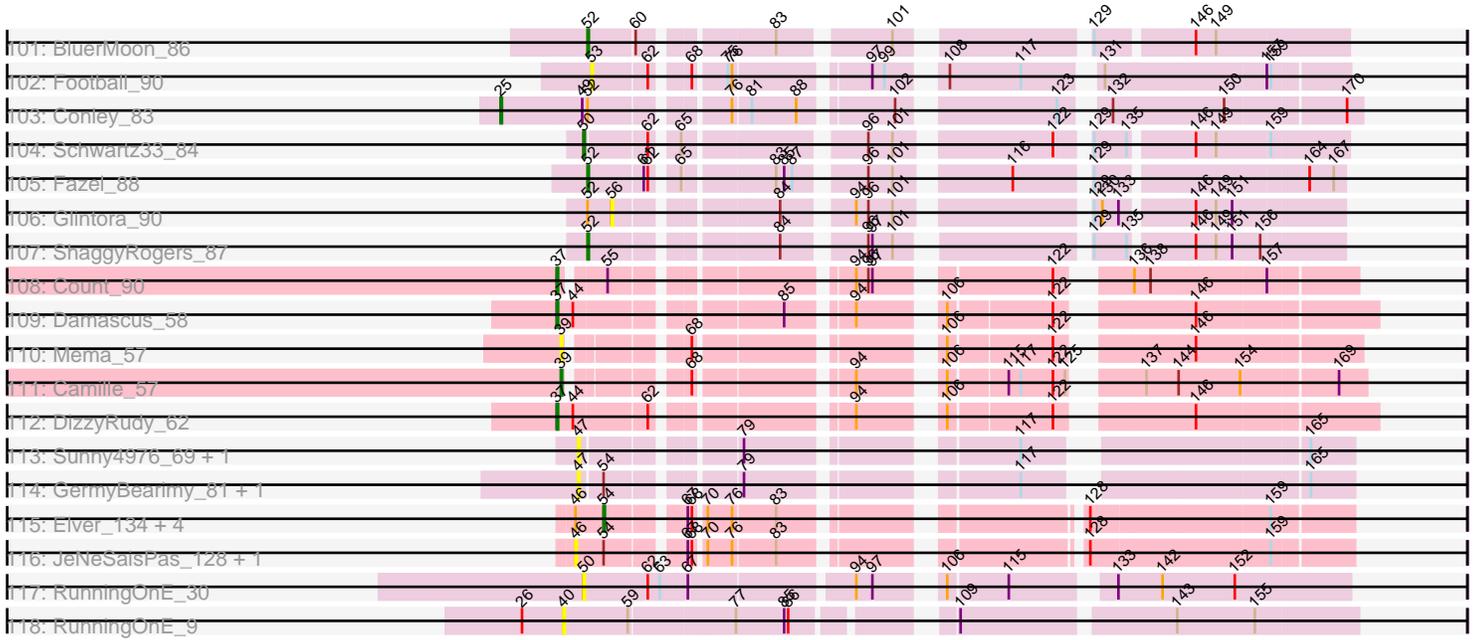
Pham 290772



Pham 290772



Pham 290772



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 290772 Report

This analysis was run 03/28/26 on database version 641.

Pham number 290772 has 302 members, 64 are drafts.

Phages represented in each track:

- Track 1 : McGuire\_71, Ichabod\_74, Squee\_73, McSinger\_68, BluSpix\_68
- Track 2 : DreamCatcher\_72, Bigchung\_69, GrecoEtereo\_71, AFIS\_66, Snazzy\_68, SarFire\_70, Thor\_70
- Track 3 : Crispicous1\_60
- Track 4 : Lopton\_70
- Track 5 : AFIS\_59, Bruns\_64, NEHalo\_60, SpikeBT\_61, Moose\_64, SwissCheese\_66, Forsytheast\_64, GageAP\_64
- Track 6 : GMonster\_70, IgnatiusPatJac\_70
- Track 7 : Lesedi\_65
- Track 8 : Correa\_75, Tribby\_80
- Track 9 : Cheesy\_77
- Track 10 : Hankly\_76, Bowling\_78, Dynamite\_76, NapoleonB\_77
- Track 11 : Nason\_76, Elsa\_76, Arcadia\_76
- Track 12 : Kardesai\_76, KeaneyLin\_72, Mooshroom\_77, Circum\_78, GoCrazy\_73
- Track 13 : Heisenberger\_75, JEGGS\_75, Mudcat\_72
- Track 14 : YoshiYama\_78
- Track 15 : BenitoAntonio\_75
- Track 16 : Xenomorph\_73
- Track 17 : Benllo\_74
- Track 18 : Trustiboi\_68, CastorTray\_73, Gordon\_67, Tatanka\_63, Darby\_67, Brunswick\_71, ElephantMan\_70, Dinallo\_65, ScienceWizSam\_71, Niktson\_70, Issa\_65, CapnMurica\_67
- Track 19 : Acai\_67, Teacup\_71
- Track 20 : Nightmare\_70, Nivinsha\_72, AreFloNak\_73, Synepsis\_66
- Track 21 : Tenno\_69
- Track 22 : DevitoJr\_69
- Track 23 : Hemma\_68
- Track 24 : MiniBagel\_69
- Track 25 : Westerlin\_67, Breylor17\_66
- Track 26 : LucySwiss\_70
- Track 27 : LilHuddy\_74, Bouchard\_74, Phaby\_75, Shepard\_74, Tokki\_79
- Track 28 : Tipton\_73
- Track 29 : Giantsbane\_73
- Track 30 : Chlochlo\_74
- Track 31 : Ingrid\_76, Loretta\_72
- Track 32 : Anandi\_75
- Track 33 : MediumFry\_69, Caterpillar\_69

- Track 34 : Makai\_73, Truckee\_71
- Track 35 : TrixiePhattel\_74
- Track 36 : Renaldo\_81, BarbieDoll\_77, Muglass\_75, Lewando\_77, Kinny\_76
- Track 37 : PoeMe\_74, Navi1117\_76, GantcherGoblin\_71, Uzumaki\_70, Zeina\_76, Phaila\_75
- Track 38 : KevinMinion\_71, Argan\_70
- Track 39 : Mardi\_74, Tenney120\_74
- Track 40 : Leathea\_73
- Track 41 : Biscute\_73
- Track 42 : Stardrop\_77
- Track 43 : Navi1117\_79
- Track 44 : Inked\_75
- Track 45 : Zippen\_75
- Track 46 : Powelldog\_75
- Track 47 : DoctorPepper\_71, Raunak\_73, MrAaronian\_72, Spain\_72, HerbBucket\_70, Jeremy4pt0\_69, Djungelskog\_71, Linda\_72, Sloopyjoe\_72, StarLord\_72, ProfFrink\_72, Salk\_72, Egad\_72, Boog\_71, BronxBay\_72, Shiba\_71
- Track 48 : Onestar\_71
- Track 49 : Michelle\_72, Stayer\_72
- Track 50 : Sporto\_71
- Track 51 : Natasha\_75, RustyBoy\_76
- Track 52 : Sprinkle\_73
- Track 53 : Esketit\_78, Indigenous\_84, TaidaOne\_82, Spectropatronm\_81, Rima\_83, OlympicHelado\_84, Meibysrarus\_80, FidgetOrca\_84, HazuAndZazu\_79, Soshi\_81, TonyStarch\_81, Jaylociraptor\_82, Hoshi\_83, Maya\_82, Namu\_84, CherryBlossom\_82, TieDye\_78
- Track 54 : Madamato\_81
- Track 55 : DrGrey\_78, FrodoSwaggins\_80, Popy\_80, Espio\_82
- Track 56 : GirlPower\_75
- Track 57 : IceWarrior\_82
- Track 58 : Wigberry\_87
- Track 59 : SheRa\_55
- Track 60 : Sangak\_54, GoblinVoyage\_55, RavenPuff\_55, Doxi13\_56
- Track 61 : Annihilus\_55, Moozy\_54
- Track 62 : HotFries\_53
- Track 63 : Scap1\_52
- Track 64 : RosaAsantewaa\_51
- Track 65 : Monse\_55
- Track 66 : Bilo\_54
- Track 67 : Ditters\_53
- Track 68 : PherryCruz\_54
- Track 69 : LibertyBell\_75
- Track 70 : LibertyBell\_73
- Track 71 : CricKo\_90, FromIndy\_88, Regigigas\_90, SendItCS\_82, Miek\_84, Thiqqums\_90, Rainydai\_87
- Track 72 : Bing\_83
- Track 73 : Kardashian\_79
- Track 74 : ClubPenguin\_87
- Track 75 : PerroGrande22\_114
- Track 76 : Pepy6\_051
- Track 77 : POCO6\_050
- Track 78 : Arri\_85, PullumCavea\_83, SmokingBunny\_86, Wizard\_80, Egi03\_83, Fireball\_88, Gezellig\_81, KimmyK\_83, TillyBobJoe\_83, CherryCola\_85,

PinkCoffee\_86, Savbucketdawg\_80, Evamon\_85, Salvador\_85, Twister6\_84,  
 RogerDodger\_88, Togo\_85, Valary\_86, Portcullis\_85, Shinji\_84, Phlop\_82  
 • Track 79 : VanDeWege\_87  
 • Track 80 : Hortihabitatio\_85  
 • Track 81 : Gill\_90, Magel\_91, Roney\_88, Capybara\_87, Kerry\_89, Odesza\_88,  
 Captrips\_87, Gravy\_89, NoPickles\_89, Tanis\_89  
 • Track 82 : Nadmeg\_86, Vardy\_86, Runhaar\_85, Burley\_86  
 • Track 83 : OlgasClover\_89, Figliar\_86, Duffington\_88, Nithya\_87, Chikenjars\_88,  
 EndAve\_89, MajinBuu\_88, AlainaMarie\_88  
 • Track 84 : Luthien\_88  
 • Track 85 : Mysticmoon\_86  
 • Track 86 : Untouchable\_89, Zeph\_90, Phepper\_88, Arataki\_87, ArtetaBall\_86,  
 Hydrus\_87, Madvan\_86, Demure\_84, Dialga\_88, CWormy\_85  
 • Track 87 : Mossy\_86, Blanky\_83  
 • Track 88 : Dancer\_88, Bugg\_92, FortCran\_88, JulesRay\_88, Football\_93,  
 Avazak\_89, Trufflozitus\_93, Artorias\_88, Tairn4Wing\_91, ChickyNugget\_90  
 • Track 89 : BetterYeti\_86, PestoPenguin\_91, Crocheter\_87, Gusicorn\_88, Aloe25\_90  
 • Track 90 : Jodelie19\_87, Aflac\_88, Tonaltzin\_92, TenaciousP\_89  
 • Track 91 : Talon44\_91, Perkunas\_90, SweetCrkHerbs\_91  
 • Track 92 : Eddiemania\_88  
 • Track 93 : Kenosha\_86  
 • Track 94 : Rickmore\_88  
 • Track 95 : OhMyWard\_82  
 • Track 96 : Pherobrine\_85  
 • Track 97 : Secretariat\_80  
 • Track 98 : Citrus\_86  
 • Track 99 : Conley\_86  
 • Track 100 : Petito\_89  
 • Track 101 : BluerMoon\_86  
 • Track 102 : Football\_90  
 • Track 103 : Conley\_83  
 • Track 104 : Schwartz33\_84  
 • Track 105 : Fazel\_88  
 • Track 106 : Glintora\_90  
 • Track 107 : ShaggyRogers\_87  
 • Track 108 : Count\_90  
 • Track 109 : Damascus\_58  
 • Track 110 : Mema\_57  
 • Track 111 : Camille\_57  
 • Track 112 : DizzyRudy\_62  
 • Track 113 : Sunny4976\_69, Jazzy4900\_70  
 • Track 114 : GermyBearimy\_81, Arzan\_73  
 • Track 115 : Elver\_134, Paella\_134, Kureo\_131, Qui\_134, Marianna39\_131  
 • Track 116 : JeNeSaisPas\_128, Gandionco\_130  
 • Track 117 : RunningOnE\_30  
 • Track 118 : RunningOnE\_9

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

The start number called the most often in the published annotations is 52, it was called in 50 of the 238 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Aflac\_88, AlainaMarie\_88, Arataki\_87, ArtetaBall\_86, Artorias\_88, Avazak\_89, Blanky\_83, BluerMoon\_86, Bugg\_92, Burley\_86, CWormy\_85, Captrips\_87, Capybara\_87, ChickyNuggy\_90, Chikenjars\_88, Citrus\_86, ClubPenguin\_87, Conley\_86, Dancer\_88, Demure\_84, Dialga\_88, Duffington\_88, EndAve\_89, Fazel\_88, Figliar\_86, Football\_93, FortCran\_88, Gill\_90, Gravy\_89, Hortihabitatio\_85, Hydrus\_87, Jodelie19\_87, JulesRay\_88, Kerry\_89, Madvan\_86, Magel\_91, MajinBuu\_88, Mossy\_86, Mysticmoon\_86, Nadmeg\_86, Nithya\_87, NoPickles\_89, Odesza\_88, OhMyWard\_82, OlgasClover\_89, Perkunas\_90, Petite\_89, Phepper\_88, Pherobrine\_85, Rickmore\_88, Roney\_88, Runhaar\_85, ShaggyRogers\_87, SweetCrkHerbs\_91, Tairn4Wing\_91, Talon44\_91, Tanis\_89, TenaciousP\_89, Tonaltzin\_92, Trufflozitus\_93, Untouchable\_89, Vardy\_86, Zeph\_90,

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

- Conley\_83, Glintora\_90, Luthien\_88,

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

- AFIS\_59, AFIS\_66, Acai\_67, Aloe25\_90, Anandi\_75, Annihilus\_55, Arcadia\_76, AreFloNak\_73, Argan\_70, Arri\_85, Arzan\_73, BarbieDoll\_77, BenitoAntonio\_75, Benllo\_74, BetterYeti\_86, Bigchungji\_69, Bilo\_54, Bing\_83, Biscute\_73, BluSpix\_68, Boog\_71, Bouchard\_74, Bowling\_78, Breylor17\_66, BronxBay\_72, Bruns\_64, Brunswick\_71, Camille\_57, CapnMurica\_67, CastorTray\_73, Caterpillar\_69, Cheesy\_77, CherryBlossom\_82, CherryCola\_85, Chlochlo\_74, Circum\_78, Correa\_75, Count\_90, CricKo\_90, Crispicous1\_60, Crocheter\_87, Damascus\_58, Darby\_67, DevitoJr\_69, Dinallo\_65, Ditters\_53, DizzyRudy\_62, Djungelskog\_71, DoctorPepper\_71, Doxi13\_56, DrGrey\_78, DreamCatcher\_72, Dynamite\_76, Eddiemania\_88, Egad\_72, Egi03\_83, ElephantMan\_70, Elsa\_76, Elver\_134, Esketit\_78, Espio\_82, Evamon\_85, FidgetOrca\_84, Fireball\_88, Football\_90, Forsytheast\_64, FrodoSwaggins\_80, FromIndy\_88, GMonster\_70, GageAP\_64, Gandionco\_130, GantcherGoblin\_71, GermyBearimy\_81, Gezellig\_81, Giantsbane\_73, GirlPower\_75, GoCrazy\_73, GoblinVoyage\_55, Gordon\_67, GrecoEtereo\_71, Gusicorn\_88, Hankly\_76, HazuAndZazu\_79, Heisenberger\_75, Hemma\_68, HerbBucket\_70, Hoshi\_83, HotFries\_53, IceWarrior\_82, Ichabod\_74, IgnatiusPatJac\_70, Indigenous\_84, Ingrid\_76, Inked\_75, Issa\_65, JEGGS\_75, Jaylociraptor\_82, Jazzy4900\_70, JeNeSaisPas\_128, Jeremy4pt0\_69, Kardashian\_79, Kardesai\_76, KeaneyLin\_72, Kenosha\_86, KevinMinion\_71, KimmyK\_83, Kinny\_76, Kureo\_131, Leathea\_73, Lesedi\_65, Lewando\_77, LibertyBell\_73, LibertyBell\_75, LilHuddy\_74, Linda\_72, Lopton\_70, Loretta\_72, LucySwiss\_70, Madamato\_81, Makai\_73, Mardi\_74, Marianna39\_131, Maya\_82, McGuire\_71, McSinger\_68, MediumFry\_69, Meibysrarus\_80, Mema\_57, Michelle\_72, Miek\_84, MiniBagel\_69, Monse\_55, Moose\_64, Mooshroom\_77, Moozy\_54, MrAaronian\_72, Mudcat\_72, Muglass\_75, NEHalo\_60, Namu\_84, NapoleonB\_77, Nason\_76, Natasha\_75, Navi1117\_76, Navi1117\_79, Nightmare\_70, Niktson\_70, Nivinsha\_72, OlympicHelado\_84, Onestar\_71, Paella\_134, Pepy6\_051, PerroGrande22\_114, PestoPenguin\_91, Phaby\_75, Phaila\_75, PherryCruz\_54, Phlop\_82, PinkCoffee\_86, Poco6\_050, PoeMe\_74, Popy\_80, Portcullis\_85, Powelldog\_75, ProfFrink\_72, PullumCavea\_83, Qui\_134, Rainydai\_87, Raunak\_73, RavenPuff\_55, Regigigas\_90, Renaldo\_81, Rima\_83, RogerDodger\_88, RosaAsantewaa\_51, RunningOnE\_30, RunningOnE\_9, RustyBoy\_76, Salk\_72, Salvador\_85, Sangak\_54, SarFire\_70, Savbucketdawg\_80, Scap1\_52,

Schwartz33\_84, ScienceWizSam\_71, Secretariat\_80, SendItCS\_82, SheRa\_55, Shepard\_74, Shiba\_71, Shinji\_84, Sloopyjoe\_72, SmokingBunny\_86, Snazzy\_68, Soshi\_81, Spain\_72, Spectropatronm\_81, SpikeBT\_61, Sporto\_71, Sprinkle\_73, Squee\_73, StarLord\_72, Stardrop\_77, Stayer\_72, Sunny4976\_69, SwissCheese\_66, Synopsis\_66, TaidaOne\_82, Tatanka\_63, Teacup\_71, Tenney120\_74, Tenno\_69, Thiqqums\_90, Thor\_70, TieDye\_78, TillyBobJoe\_83, Tipton\_73, Togo\_85, Tokki\_79, TonyStarch\_81, Tribby\_80, TrixiePhattel\_74, Truckee\_71, Trustiboi\_68, Twister6\_84, Uzumaki\_70, Valary\_86, VanDeWege\_87, Westerlin\_67, Wigberry\_87, Wizard\_80, Xenomorph\_73, YoshiYama\_78, Zeina\_76, Zippen\_75,

### Summary by start number:

#### Start 18:

- Found in 1 of 302 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 238
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Navi1117\_79 (AU6),

#### Start 24:

- Found in 6 of 302 ( 2.0% ) of genes in pham
- Manual Annotations of this start: 1 of 238
- Called 16.7% of time when present
- Phage (with cluster) where this start called: Scap1\_52 (BI2),

#### Start 25:

- Found in 1 of 302 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 238
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Conley\_83 (DJ),

#### Start 30:

- Found in 20 of 302 ( 6.6% ) of genes in pham
- Manual Annotations of this start: 2 of 238
- Called 10.0% of time when present
- Phage (with cluster) where this start called: Michelle\_72 (AW), Stayer\_72 (AW),

#### Start 31:

- Found in 16 of 302 ( 5.3% ) of genes in pham
- Manual Annotations of this start: 14 of 238
- Called 87.5% of time when present
- Phage (with cluster) where this start called: AFIS\_66 (A1), Bigchungji\_69 (A1), BluSpix\_68 (A1), DreamCatcher\_72 (A1), GrecoEtereo\_71 (A1), Ichabod\_74 (A1), Lesedi\_65 (A1), Lopton\_70 (A1), McGuire\_71 (A1), McSinger\_68 (A1), SarFire\_70 (A1), Snazzy\_68 (A1), Squee\_73 (A1), Thor\_70 (A1),

#### Start 35:

- Found in 24 of 302 ( 7.9% ) of genes in pham
- Manual Annotations of this start: 1 of 238
- Called 4.2% of time when present
- Phage (with cluster) where this start called: VanDeWege\_87 (DC1),

#### Start 36:

- Found in 16 of 302 ( 5.3% ) of genes in pham

- Manual Annotations of this start: 2 of 238
- Called 12.5% of time when present
- Phage (with cluster) where this start called: GMonster\_70 (A1), IgnatiusPatJac\_70 (A1),

#### Start 37:

- Found in 21 of 302 ( 7.0% ) of genes in pham
- Manual Annotations of this start: 3 of 238
- Called 14.3% of time when present
- Phage (with cluster) where this start called: Count\_90 (EL), Damascus\_58 (EL), DizzyRudy\_62 (EL),

#### Start 38:

- Found in 23 of 302 ( 7.6% ) of genes in pham
- Manual Annotations of this start: 19 of 238
- Called 91.3% of time when present
- Phage (with cluster) where this start called: Arri\_85 (DC1), CherryCola\_85 (DC1), Egi03\_83 (DC1), Evamon\_85 (DC1), Fireball\_88 (DC1), Gezellig\_81 (DC1), KimmyK\_83 (DC1), Phlop\_82 (DC1), PinkCoffee\_86 (DC1), Portcullis\_85 (DC1), PullumCavea\_83 (DC1), RogerDodger\_88 (DC1), Salvador\_85 (DC1), Savbucketdawg\_80 (DC1), Shinji\_84 (DC1), SmokingBunny\_86 (DC1), TillyBobJoe\_83 (DC1), Togo\_85 (DC1), Twister6\_84 (DC1), Valary\_86 (DC1), Wizard\_80 (DC1),

#### Start 39:

- Found in 2 of 302 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 1 of 238
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Camille\_57 (EL), Mema\_57 (EL),

#### Start 40:

- Found in 1 of 302 ( 0.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: RunningOnE\_9 (UNK),

#### Start 41:

- Found in 42 of 302 ( 13.9% ) of genes in pham
- Manual Annotations of this start: 34 of 238
- Called 97.6% of time when present
- Phage (with cluster) where this start called: Acai\_67 (AU1), Anandi\_75 (AU4), AreFloNak\_73 (AU1), Bouchard\_74 (AU2), Breylor17\_66 (AU1), Brunswick\_71 (AU1), CapnMurica\_67 (AU1), CastorTray\_73 (AU1), Caterpillar\_69 (AU4), Chlochlo\_74 (AU2), Darby\_67 (AU1), DevitoJr\_69 (AU1), Dinallo\_65 (AU1), ElephantMan\_70 (AU1), Giantsbane\_73 (AU2), Gordon\_67 (AU1), Hemma\_68 (AU1), Ingrid\_76 (AU3), Inked\_75 (AU7), Issa\_65 (AU1), LilHuddy\_74 (AU2), Loretta\_72 (AU3), LucySwiss\_70 (AU1), Makai\_73 (AU5), MediumFry\_69 (AU4), MiniBagel\_69 (AU1), Nightmare\_70 (AU1), Niktson\_70 (AU1), Nivinsha\_72 (AU1), Phaby\_75 (AU2), ScienceWizSam\_71 (AU1), Shepard\_74 (AU2), Synopsis\_66 (AU1), Tatanka\_63 (AU1), Teacup\_71 (AU1), Tenno\_69 (AU1), Tokki\_79 (AU2), Truckee\_71 (AU5), Trustiboi\_68 (AU1), Westerlin\_67 (AU1), Zippen\_75 (AU7),

#### Start 46:

- Found in 46 of 302 ( 15.2% ) of genes in pham
- Manual Annotations of this start: 1 of 238
- Called 6.5% of time when present
- Phage (with cluster) where this start called: Gandionco\_130 (FK), JeNeSaisPas\_128 (FK), LibertyBell\_73 (BI3),

#### Start 47:

- Found in 69 of 302 ( 22.8% ) of genes in pham
- Manual Annotations of this start: 40 of 238
- Called 72.5% of time when present
- Phage (with cluster) where this start called: Arcadia\_76 (AM), Argan\_70 (AU6), Arzan\_73 (FI), BenitoAntonio\_75 (AM), Benllo\_74 (AM), Biscute\_73 (AU6), Boog\_71 (AW), Bowling\_78 (AM), BronxBay\_72 (AW), Cheesy\_77 (AM), Circum\_78 (AM), Correa\_75 (AM), Djungelskog\_71 (AW), DoctorPepper\_71 (AW), Dynamite\_76 (AM), Egad\_72 (AW), Elsa\_76 (AM), GermyBearimy\_81 (FI), GoCrazy\_73 (AM), Hankly\_76 (AM), Heisenberger\_75 (AM), HerbBucket\_70 (AW), JEGGS\_75 (AM), Jazzy4900\_70 (FI), Jeremy4pt0\_69 (AW), Kardesai\_76 (AM), KeaneyLin\_72 (AM), KevinMinion\_71 (AU6), Linda\_72 (AW), Mooshroom\_77 (AM), MrAaronian\_72 (AW), Mudcat\_72 (AM), NapoleonB\_77 (AM), Nason\_76 (AM), Natasha\_75 (AW), Onestar\_71 (AW), PowellDog\_75 (AW), ProfFrink\_72 (AW), Raunak\_73 (AW), RustyBoy\_76 (AW), Salk\_72 (AW), Shiba\_71 (AW), Sloopyjoe\_72 (AW), Spain\_72 (AW), Sporto\_71 (AW), Sprinkle\_73 (AW), StarLord\_72 (AW), Sunny4976\_69 (FI), Tribby\_80 (AM), Xenomorph\_73 (AM),

#### Start 48:

- Found in 3 of 302 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 1 of 238
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Bing\_83 (BI5), Wigberry\_87 (BI1),

#### Start 49:

- Found in 20 of 302 ( 6.6% ) of genes in pham
- Manual Annotations of this start: 8 of 238
- Called 80.0% of time when present
- Phage (with cluster) where this start called: BarbieDoll\_77 (AU6), GantcherGoblin\_71 (AU6), Kinny\_76 (AU6), Leathea\_73 (AU6), Lewando\_77 (AU6), Mardi\_74 (AU6), Muglass\_75 (AU6), Navi1117\_76 (AU6), Phaila\_75 (AU6), PoeMe\_74 (AU6), Renaldo\_81 (AU6), Stardrop\_77 (AU6), Tenney120\_74 (AU6), TrixiePhattel\_74 (AU6), Uzumaki\_70 (AU6), Zeina\_76 (AU6),

#### Start 50:

- Found in 52 of 302 ( 17.2% ) of genes in pham
- Manual Annotations of this start: 40 of 238
- Called 94.2% of time when present
- Phage (with cluster) where this start called: Annihilus\_55 (BI2), Bilo\_54 (BI2), CherryBlossom\_82 (BI1), CricKo\_90 (BI4), Doxi13\_56 (BI2), DrGrey\_78 (BI1), Esketit\_78 (BI1), Espio\_82 (BI1), FidgetOrca\_84 (BI1), FrodoSwaggins\_80 (BI1), FromIndy\_88 (BI4), GirlPower\_75 (BI1), GoblinVoyage\_55 (BI2), HazuAndZazu\_79 (BI1), Hoshi\_83 (BI1), IceWarrior\_82 (BI1), Indigenous\_84 (BI1), Jaylociraptor\_82 (BI1), Kardashian\_79 (BI6), LibertyBell\_75 (BI3), Madamato\_81 (BI1), Maya\_82 (BI1), Meibysrarus\_80 (BI1), Miek\_84 (BI4), Monse\_55 (BI2), Moozy\_54 (BI2), Namu\_84 (BI1), OlympicHelado\_84 (BI1), Pepy6\_051 (CC), PerroGrande22\_114 (CC), PherryCruz\_54 (BI2), Poco6\_050 (CC), Popy\_80 (BI1), Rainydai\_87 (BI4),

RavenPuff\_55 (BI2), Regigigas\_90 (BI4), Rima\_83 (BI1), RunningOnE\_30 (UNK), Sangak\_54 (BI2), Schwartz33\_84 (DJ), Secretariat\_80 (DJ), SendItCS\_82 (BI4), SheRa\_55 (BI2), Soshi\_81 (BI1), Spectropatronm\_81 (BI1), TaidaOne\_82 (BI1), Thiqqums\_90 (BI4), TieDye\_78 (BI1), TonyStarch\_81 (BI1),

Start 51:

- Found in 8 of 302 ( 2.6% ) of genes in pham
- Manual Annotations of this start: 6 of 238
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aloe25\_90 (DJ), BetterYeti\_86 (DJ), Crocheter\_87 (DJ), Eddiemania\_88 (DJ), Gusicorn\_88 (DJ), Kenosha\_86 (DJ), PestoPenguin\_91 (DJ), RosaAsantewaa\_51 (BI2),

Start 52:

- Found in 66 of 302 ( 21.9% ) of genes in pham
- Manual Annotations of this start: 50 of 238
- Called 95.5% of time when present
- Phage (with cluster) where this start called: Aflac\_88 (DJ), AlainaMarie\_88 (DJ), Arataki\_87 (DJ), ArtetaBall\_86 (DJ), Artorias\_88 (DJ), Avazak\_89 (DJ), Blanky\_83 (DJ), BluerMoon\_86 (DJ), Bugg\_92 (DJ), Burley\_86 (DJ), CWormy\_85 (DJ), Captrips\_87 (DJ), Copybara\_87 (DJ), ChickyNuggy\_90 (DJ), Chikenjars\_88 (DJ), Citrus\_86 (DJ), ClubPenguin\_87 (BI7), Conley\_86 (DJ), Dancer\_88 (DJ), Demure\_84 (DJ), Dialga\_88 (DJ), Duffington\_88 (DJ), EndAve\_89 (DJ), Fazel\_88 (DJ), Figliar\_86 (DJ), Football\_93 (DJ), FortCran\_88 (DJ), Gill\_90 (DJ), Gravy\_89 (DJ), Hortihabitatio\_85 (DJ), Hydrus\_87 (DJ), Jodelie19\_87 (DJ), JulesRay\_88 (DJ), Kerry\_89 (DJ), Madvan\_86 (DJ), Magel\_91 (DJ), MajinBuu\_88 (DJ), Mossy\_86 (DJ), Mysticmoon\_86 (DJ), Nadmeg\_86 (DJ), Nithya\_87 (DJ), NoPickles\_89 (DJ), Odesza\_88 (DJ), OhMyWard\_82 (DJ), OlgasClover\_89 (DJ), Perkunas\_90 (DJ), Petite\_89 (DJ), Phepper\_88 (DJ), Pherobrine\_85 (DJ), Rickmore\_88 (DJ), Roney\_88 (DJ), Runhaar\_85 (DJ), ShaggyRogers\_87 (DJ), SweetCrkHerbs\_91 (DJ), Tairn4Wing\_91 (DJ), Talon44\_91 (DJ), Tanis\_89 (DJ), TenaciousP\_89 (DJ), Tonaltzin\_92 (DJ), Trufflozitus\_93 (DJ), Untouchable\_89 (DJ), Vardy\_86 (DJ), Zeph\_90 (DJ),

Start 53:

- Found in 1 of 302 ( 0.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Football\_90 (DJ),

Start 54:

- Found in 36 of 302 ( 11.9% ) of genes in pham
- Manual Annotations of this start: 3 of 238
- Called 13.9% of time when present
- Phage (with cluster) where this start called: Elver\_134 (FK), Kureo\_131 (FK), Marianna39\_131 (FK), Paella\_134 (FK), Qui\_134 (FK),

Start 55:

- Found in 14 of 302 ( 4.6% ) of genes in pham
- Manual Annotations of this start: 1 of 238
- Called 14.3% of time when present
- Phage (with cluster) where this start called: Ditters\_53 (BI2), HotFries\_53 (BI2),

Start 56:

- Found in 18 of 302 ( 6.0% ) of genes in pham
- No Manual Annotations of this start.
- Called 16.7% of time when present
- Phage (with cluster) where this start called: Glintora\_90 (DJ), Luthien\_88 (DJ), Tipton\_73 (AU2),

Start 57:

- Found in 9 of 302 ( 3.0% ) of genes in pham
- Manual Annotations of this start: 9 of 238
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AFIS\_59 (A1), Bruns\_64 (A1), Crispicous1\_60 (A1), Forsytheast\_64 (A1), GageAP\_64 (A1), Moose\_64 (A1), NEHalo\_60 (A1), SpikeBT\_61 (A1), SwissCheese\_66 (A1),

Start 68:

- Found in 44 of 302 ( 14.6% ) of genes in pham
- No Manual Annotations of this start.
- Called 2.3% of time when present
- Phage (with cluster) where this start called: YoshiYama\_78 (AM),

**Summary by clusters:**

There are 24 clusters represented in this pham: DJ, FI, FK, A1, BI5, AU1, AU3, AU2, AU5, AU4, AU7, AU6, BI1, EL, CC, AM, AW, BI6, BI7, BI4, UNK, BI2, BI3, DC1,

Info for manual annotations of cluster A1:

- Start number 31 was manually annotated 14 times for cluster A1.
- Start number 36 was manually annotated 2 times for cluster A1.
- Start number 57 was manually annotated 9 times for cluster A1.

Info for manual annotations of cluster AM:

- Start number 47 was manually annotated 21 times for cluster AM.

Info for manual annotations of cluster AU1:

- Start number 41 was manually annotated 19 times for cluster AU1.

Info for manual annotations of cluster AU2:

- Start number 41 was manually annotated 7 times for cluster AU2.

Info for manual annotations of cluster AU3:

- Start number 41 was manually annotated 2 times for cluster AU3.

Info for manual annotations of cluster AU4:

- Start number 41 was manually annotated 2 times for cluster AU4.

Info for manual annotations of cluster AU5:

- Start number 41 was manually annotated 2 times for cluster AU5.

Info for manual annotations of cluster AU6:

- Start number 18 was manually annotated 1 time for cluster AU6.
- Start number 47 was manually annotated 3 times for cluster AU6.
- Start number 49 was manually annotated 8 times for cluster AU6.

Info for manual annotations of cluster AU7:

- Start number 41 was manually annotated 2 times for cluster AU7.

Info for manual annotations of cluster AW:

- Start number 30 was manually annotated 2 times for cluster AW.
- Start number 47 was manually annotated 16 times for cluster AW.

Info for manual annotations of cluster BI1:

- Start number 50 was manually annotated 23 times for cluster BI1.

Info for manual annotations of cluster BI2:

- Start number 24 was manually annotated 1 time for cluster BI2.
- Start number 50 was manually annotated 8 times for cluster BI2.
- Start number 51 was manually annotated 1 time for cluster BI2.
- Start number 55 was manually annotated 1 time for cluster BI2.

Info for manual annotations of cluster BI3:

- Start number 46 was manually annotated 1 time for cluster BI3.
- Start number 50 was manually annotated 1 time for cluster BI3.

Info for manual annotations of cluster BI4:

- Start number 50 was manually annotated 5 times for cluster BI4.

Info for manual annotations of cluster BI5:

- Start number 48 was manually annotated 1 time for cluster BI5.

Info for manual annotations of cluster BI6:

- Start number 50 was manually annotated 1 time for cluster BI6.

Info for manual annotations of cluster BI7:

- Start number 52 was manually annotated 1 time for cluster BI7.

Info for manual annotations of cluster DC1:

- Start number 35 was manually annotated 1 time for cluster DC1.
- Start number 38 was manually annotated 19 times for cluster DC1.

Info for manual annotations of cluster DJ:

- Start number 25 was manually annotated 1 time for cluster DJ.
- Start number 50 was manually annotated 2 times for cluster DJ.
- Start number 51 was manually annotated 5 times for cluster DJ.
- Start number 52 was manually annotated 49 times for cluster DJ.

Info for manual annotations of cluster EL:

- Start number 37 was manually annotated 3 times for cluster EL.
- Start number 39 was manually annotated 1 time for cluster EL.

Info for manual annotations of cluster FK:

- Start number 54 was manually annotated 3 times for cluster FK.

**Gene Information:**

Gene: AFIS\_59 Start: 40536, Stop: 39979, Start Num: 57

Candidate Starts for AFIS\_59:

(Start: 57 @40536 has 9 MA's), (66, 40494), (71, 40476), (92, 40392), (97, 40374), (110, 40323), (121, 40269), (148, 40167), (173, 39999),

Gene: AFIS\_66 Start: 43840, Stop: 43262, Start Num: 31

Candidate Starts for AFIS\_66:

(Start: 31 @43840 has 14 MA's), (Start: 36 @43828 has 2 MA's), (Start: 46 @43810 has 1 MA's), (85, 43669), (89, 43642), (98, 43603), (107, 43573), (158, 43360),

Gene: Acai\_67 Start: 46762, Stop: 47265, Start Num: 41

Candidate Starts for Acai\_67:

(Start: 41 @46762 has 34 MA's), (76, 46861), (114, 47020), (115, 47023), (126, 47077), (141, 47134), (146, 47161), (157, 47212),

Gene: Aflac\_88 Start: 56715, Stop: 57197, Start Num: 52

Candidate Starts for Aflac\_88:

(Start: 52 @56715 has 50 MA's), (60, 56748), (83, 56832), (129, 57021), (146, 57087), (149, 57102), (151, 57114),

Gene: AlainaMarie\_88 Start: 56739, Stop: 57221, Start Num: 52

Candidate Starts for AlainaMarie\_88:

(Start: 52 @56739 has 50 MA's), (56, 56757), (84, 56859), (94, 56901), (96, 56910), (101, 56928), (129, 57048), (130, 57054), (146, 57114), (149, 57129), (151, 57141),

Gene: Aloe25\_90 Start: 55873, Stop: 56352, Start Num: 51

Candidate Starts for Aloe25\_90:

(Start: 51 @55873 has 6 MA's), (65, 55930), (68, 55936), (85, 55996), (96, 56044), (101, 56062), (122, 56161), (129, 56179), (130, 56185), (146, 56245), (149, 56260), (151, 56272), (156, 56293),

Gene: Anandi\_75 Start: 47524, Stop: 48027, Start Num: 41

Candidate Starts for Anandi\_75:

(Start: 41 @47524 has 34 MA's), (Start: 54 @47548 has 3 MA's), (67, 47596), (74, 47617), (76, 47623), (83, 47653), (141, 47896), (157, 47974),

Gene: Annihilus\_55 Start: 38912, Stop: 39421, Start Num: 50

Candidate Starts for Annihilus\_55:

(12, 38804), (Start: 24 @38849 has 1 MA's), (Start: 50 @38912 has 40 MA's), (Start: 55 @38927 has 1 MA's), (62, 38954), (82, 39044), (88, 39062), (96, 39101), (113, 39176), (138, 39278), (141, 39284), (144, 39299),

Gene: Arataki\_87 Start: 55860, Stop: 56339, Start Num: 52

Candidate Starts for Arataki\_87:

(Start: 52 @55860 has 50 MA's), (67, 55920), (84, 55980), (96, 56031), (101, 56049), (122, 56148), (129, 56166), (130, 56172), (146, 56232), (149, 56247), (151, 56259), (156, 56280),

Gene: Arcadia\_76 Start: 45700, Stop: 46212, Start Num: 47

Candidate Starts for Arcadia\_76:

(Start: 47 @45700 has 40 MA's), (67, 45766), (68, 45769), (83, 45823), (117, 45967), (119, 45973), (123, 45994), (124, 45997),

Gene: AreFloNak\_73 Start: 46808, Stop: 47311, Start Num: 41

Candidate Starts for AreFloNak\_73:

(Start: 41 @46808 has 34 MA's), (76, 46907), (115, 47069), (126, 47123), (141, 47180), (157, 47258),

Gene: Argan\_70 Start: 44513, Stop: 45007, Start Num: 47

Candidate Starts for Argan\_70:

(Start: 47 @44513 has 40 MA's), (Start: 49 @44516 has 8 MA's), (61, 44558), (62, 44561), (106, 44729), (124, 44810), (144, 44888),

Gene: Arri\_85 Start: 56022, Stop: 55507, Start Num: 38

Candidate Starts for Arri\_85:

(Start: 35 @56028 has 1 MA's), (Start: 38 @56022 has 19 MA's), (Start: 46 @56010 has 1 MA's), (59, 55974), (69, 55929), (73, 55914), (94, 55836), (101, 55809), (107, 55788), (111, 55764), (163, 55554), (166, 55542), (171, 55518),

Gene: ArtetaBall\_86 Start: 55817, Stop: 56296, Start Num: 52

Candidate Starts for ArtetaBall\_86:

(Start: 52 @55817 has 50 MA's), (67, 55877), (84, 55937), (96, 55988), (101, 56006), (122, 56105), (129, 56123), (130, 56129), (146, 56189), (149, 56204), (151, 56216), (156, 56237),

Gene: Artorias\_88 Start: 55253, Stop: 55735, Start Num: 52

Candidate Starts for Artorias\_88:

(Start: 52 @55253 has 50 MA's), (81, 55352), (85, 55376), (101, 55442), (109, 55475), (129, 55562), (149, 55643), (151, 55655), (153, 55658), (156, 55676),

Gene: Arzan\_73 Start: 46217, Stop: 46693, Start Num: 47

Candidate Starts for Arzan\_73:

(Start: 47 @46217 has 40 MA's), (Start: 54 @46232 has 3 MA's), (79, 46313), (117, 46481), (165, 46661),

Gene: Avazak\_89 Start: 55682, Stop: 56164, Start Num: 52

Candidate Starts for Avazak\_89:

(Start: 52 @55682 has 50 MA's), (81, 55781), (85, 55805), (101, 55871), (109, 55904), (129, 55991), (149, 56072), (151, 56084), (153, 56087), (156, 56105),

Gene: BarbieDoll\_77 Start: 46222, Stop: 46713, Start Num: 49

Candidate Starts for BarbieDoll\_77:

(Start: 47 @46219 has 40 MA's), (Start: 49 @46222 has 8 MA's), (61, 46264), (62, 46267), (98, 46405), (106, 46435), (110, 46450), (124, 46516), (155, 46648), (159, 46660),

Gene: BenitoAntonio\_75 Start: 45340, Stop: 45852, Start Num: 47

Candidate Starts for BenitoAntonio\_75:

(20, 45268), (Start: 47 @45340 has 40 MA's), (67, 45406), (68, 45409), (83, 45463), (117, 45607), (119, 45613), (123, 45634), (124, 45637), (159, 45781),

Gene: Benllo\_74 Start: 46018, Stop: 46530, Start Num: 47

Candidate Starts for Benllo\_74:

(Start: 47 @46018 has 40 MA's), (68, 46087), (83, 46141), (117, 46285), (119, 46291), (123, 46312), (124, 46315),

Gene: BetterYeti\_86 Start: 55872, Stop: 56351, Start Num: 51

Candidate Starts for BetterYeti\_86:

(Start: 51 @55872 has 6 MA's), (65, 55929), (68, 55935), (85, 55995), (96, 56043), (101, 56061), (122, 56160), (129, 56178), (130, 56184), (146, 56244), (149, 56259), (151, 56271), (156, 56292),

Gene: Bigchungji\_69 Start: 44593, Stop: 44015, Start Num: 31

Candidate Starts for Bigchungji\_69:

(Start: 31 @44593 has 14 MA's), (Start: 36 @44581 has 2 MA's), (Start: 46 @44563 has 1 MA's), (85, 44422), (89, 44395), (98, 44356), (107, 44326), (158, 44113),

Gene: Bilo\_54 Start: 39203, Stop: 39715, Start Num: 50

Candidate Starts for Bilo\_54:

(43, 39194), (Start: 50 @39203 has 40 MA's), (Start: 55 @39221 has 1 MA's), (62, 39248), (82, 39338), (87, 39353), (88, 39356), (96, 39395), (113, 39470), (138, 39572), (141, 39578), (144, 39593),

Gene: Bing\_83 Start: 51639, Stop: 52142, Start Num: 48

Candidate Starts for Bing\_83:

(17, 51558), (42, 51630), (Start: 48 @51639 has 1 MA's), (62, 51684), (76, 51729), (80, 51738), (82, 51756), (96, 51813), (97, 51816), (105, 51858), (118, 51921), (151, 52059), (160, 52089), (162, 52104), (168, 52134),

Gene: Biscute\_73 Start: 45871, Stop: 46365, Start Num: 47

Candidate Starts for Biscute\_73:

(Start: 47 @45871 has 40 MA's), (Start: 49 @45874 has 8 MA's), (61, 45916), (62, 45919), (98, 46057), (106, 46087), (110, 46102), (124, 46168), (155, 46300), (159, 46312),

Gene: Blanky\_83 Start: 56507, Stop: 56989, Start Num: 52

Candidate Starts for Blanky\_83:

(Start: 52 @56507 has 50 MA's), (61, 56546), (83, 56624), (85, 56630), (96, 56678), (97, 56681), (101, 56696), (129, 56816), (146, 56882), (164, 56963),

Gene: BluSpix\_68 Start: 40281, Stop: 39703, Start Num: 31

Candidate Starts for BluSpix\_68:

(Start: 31 @40281 has 14 MA's), (Start: 36 @40269 has 2 MA's), (Start: 46 @40251 has 1 MA's), (85, 40110), (89, 40083), (98, 40044), (107, 40014), (158, 39801),

Gene: BluerMoon\_86 Start: 56545, Stop: 57027, Start Num: 52

Candidate Starts for BluerMoon\_86:

(Start: 52 @56545 has 50 MA's), (60, 56578), (83, 56662), (101, 56734), (129, 56851), (146, 56917), (149, 56932),

Gene: Boog\_71 Start: 44933, Stop: 45430, Start Num: 47

Candidate Starts for Boog\_71:

(Start: 30 @44900 has 2 MA's), (34, 44912), (Start: 37 @44918 has 3 MA's), (Start: 47 @44933 has 40 MA's), (Start: 54 @44948 has 3 MA's), (97, 45113), (122, 45221), (144, 45314),

Gene: Bouchard\_74 Start: 47398, Stop: 47901, Start Num: 41

Candidate Starts for Bouchard\_74:

(Start: 41 @47398 has 34 MA's), (56, 47428), (61, 47449), (67, 47470), (76, 47497), (85, 47533), (115, 47659), (126, 47713), (141, 47770), (146, 47797),

Gene: Bowling\_78 Start: 46295, Stop: 46807, Start Num: 47

Candidate Starts for Bowling\_78:

(Start: 47 @46295 has 40 MA's), (68, 46364), (83, 46418), (117, 46562), (119, 46568), (123, 46589),

Gene: Breylor17\_66 Start: 47201, Stop: 47704, Start Num: 41

Candidate Starts for Breylor17\_66:

(Start: 41 @47201 has 34 MA's), (76, 47300), (115, 47462), (126, 47516), (137, 47564), (141, 47573), (146, 47600), (157, 47651),

Gene: BronxBay\_72 Start: 45205, Stop: 45702, Start Num: 47

Candidate Starts for BronxBay\_72:

(Start: 30 @45172 has 2 MA's), (34, 45184), (Start: 37 @45190 has 3 MA's), (Start: 47 @45205 has 40 MA's), (Start: 54 @45220 has 3 MA's), (97, 45385), (122, 45493), (144, 45586),

Gene: Bruns\_64 Start: 41012, Stop: 40455, Start Num: 57

Candidate Starts for Bruns\_64:

(Start: 57 @41012 has 9 MA's), (66, 40970), (71, 40952), (92, 40868), (97, 40850), (110, 40799), (121, 40745), (148, 40643), (173, 40475),

Gene: Brunswick\_71 Start: 46642, Stop: 47145, Start Num: 41

Candidate Starts for Brunswick\_71:

(Start: 41 @46642 has 34 MA's), (76, 46741), (115, 46903), (126, 46957), (141, 47014), (146, 47041), (157, 47092),

Gene: Bugg\_92 Start: 55298, Stop: 55780, Start Num: 52

Candidate Starts for Bugg\_92:

(Start: 52 @55298 has 50 MA's), (81, 55397), (85, 55421), (101, 55487), (109, 55520), (129, 55607), (149, 55688), (151, 55700), (153, 55703), (156, 55721),

Gene: Burley\_86 Start: 55548, Stop: 56027, Start Num: 52

Candidate Starts for Burley\_86:

(Start: 52 @55548 has 50 MA's), (84, 55668), (101, 55737), (129, 55854), (130, 55860), (146, 55920), (149, 55935), (151, 55947), (156, 55968),

Gene: CWormy\_85 Start: 55500, Stop: 55979, Start Num: 52

Candidate Starts for CWormy\_85:

(Start: 52 @55500 has 50 MA's), (67, 55560), (84, 55620), (96, 55671), (101, 55689), (122, 55788), (129, 55806), (130, 55812), (146, 55872), (149, 55887), (151, 55899), (156, 55920),

Gene: Camille\_57 Start: 40747, Stop: 41235, Start Num: 39

Candidate Starts for Camille\_57:

(Start: 39 @40747 has 1 MA's), (68, 40816), (94, 40915), (106, 40963), (115, 41002), (117, 41011), (122, 41035), (125, 41044), (137, 41080), (144, 41104), (154, 41149), (169, 41215),

Gene: CapnMurica\_67 Start: 47359, Stop: 47862, Start Num: 41

Candidate Starts for CapnMurica\_67:

(Start: 41 @47359 has 34 MA's), (76, 47458), (115, 47620), (126, 47674), (141, 47731), (146, 47758), (157, 47809),

Gene: Captrips\_87 Start: 55033, Stop: 55515, Start Num: 52

Candidate Starts for Captrips\_87:

(Start: 52 @55033 has 50 MA's), (85, 55156), (94, 55195), (101, 55222), (123, 55327), (129, 55342), (149, 55423), (151, 55435), (156, 55456),

Gene: Copybara\_87 Start: 55256, Stop: 55738, Start Num: 52

Candidate Starts for Capybara\_87:

(Start: 52 @55256 has 50 MA's), (85, 55379), (94, 55418), (101, 55445), (123, 55550), (129, 55565), (149, 55646), (151, 55658), (156, 55679),

Gene: CastorTray\_73 Start: 47393, Stop: 47896, Start Num: 41

Candidate Starts for CastorTray\_73:

(Start: 41 @47393 has 34 MA's), (76, 47492), (115, 47654), (126, 47708), (141, 47765), (146, 47792), (157, 47843),

Gene: Caterpillar\_69 Start: 46228, Stop: 46731, Start Num: 41

Candidate Starts for Caterpillar\_69:

(Start: 41 @46228 has 34 MA's), (67, 46300), (85, 46363), (94, 46402), (115, 46489), (141, 46600),

Gene: Cheesy\_77 Start: 45492, Stop: 46004, Start Num: 47

Candidate Starts for Cheesy\_77:

(Start: 47 @45492 has 40 MA's), (68, 45561), (83, 45615), (117, 45759), (119, 45765), (123, 45786), (124, 45789),

Gene: CherryBlossom\_82 Start: 50872, Stop: 51381, Start Num: 50

Candidate Starts for CherryBlossom\_82:

(Start: 50 @50872 has 40 MA's), (62, 50917), (76, 50962), (89, 51031), (115, 51145), (138, 51235), (144, 51256), (156, 51316), (160, 51325), (167, 51367),

Gene: CherryCola\_85 Start: 56435, Stop: 55920, Start Num: 38

Candidate Starts for CherryCola\_85:

(Start: 35 @56441 has 1 MA's), (Start: 38 @56435 has 19 MA's), (Start: 46 @56423 has 1 MA's), (59, 56387), (69, 56342), (73, 56327), (94, 56249), (101, 56222), (107, 56201), (111, 56177), (163, 55967), (166, 55955), (171, 55931),

Gene: ChickyNuggy\_90 Start: 55424, Stop: 55906, Start Num: 52

Candidate Starts for ChickyNuggy\_90:

(Start: 52 @55424 has 50 MA's), (81, 55523), (85, 55547), (101, 55613), (109, 55646), (129, 55733), (149, 55814), (151, 55826), (153, 55829), (156, 55847),

Gene: Chikenjars\_88 Start: 56967, Stop: 57449, Start Num: 52

Candidate Starts for Chikenjars\_88:

(Start: 52 @56967 has 50 MA's), (56, 56985), (84, 57087), (94, 57129), (96, 57138), (101, 57156), (129, 57276), (130, 57282), (146, 57342), (149, 57357), (151, 57369),

Gene: Chlochlo\_74 Start: 46925, Stop: 47428, Start Num: 41

Candidate Starts for Chlochlo\_74:

(Start: 41 @46925 has 34 MA's), (56, 46955), (61, 46976), (67, 46997), (76, 47024), (85, 47060), (115, 47186), (126, 47240), (141, 47297), (146, 47324), (157, 47375),

Gene: Circum\_78 Start: 46108, Stop: 46620, Start Num: 47

Candidate Starts for Circum\_78:

(20, 46036), (Start: 47 @46108 has 40 MA's), (68, 46177), (83, 46231), (117, 46375), (119, 46381), (123, 46402), (124, 46405), (159, 46549),

Gene: Citrus\_86 Start: 56560, Stop: 57042, Start Num: 52

Candidate Starts for Citrus\_86:

(Start: 52 @56560 has 50 MA's), (84, 56680), (94, 56722), (96, 56731), (101, 56749), (129, 56869), (130, 56875), (146, 56935), (149, 56950), (151, 56962),

Gene: ClubPenguin\_87 Start: 51570, Stop: 52061, Start Num: 52

Candidate Starts for ClubPenguin\_87:

(Start: 52 @51570 has 50 MA's), (62, 51612), (76, 51657), (88, 51702), (90, 51714), (95, 51738), (96, 51741), (97, 51744), (115, 51828), (120, 51852), (151, 51978), (156, 51999),

Gene: Conley\_86 Start: 55548, Stop: 56030, Start Num: 52

Candidate Starts for Conley\_86:

(Start: 52 @55548 has 50 MA's), (85, 55671), (94, 55710), (101, 55737), (109, 55770), (115, 55806), (124, 55845), (129, 55857), (164, 56004),

Gene: Conley\_83 Start: 53384, Stop: 53935, Start Num: 25

Candidate Starts for Conley\_83:

(Start: 25 @53384 has 1 MA's), (Start: 49 @53444 has 8 MA's), (Start: 52 @53447 has 50 MA's), (76, 53534), (81, 53546), (88, 53579), (102, 53636), (123, 53735), (132, 53759), (150, 53840), (170, 53924),

Gene: Correa\_75 Start: 45066, Stop: 45578, Start Num: 47

Candidate Starts for Correa\_75:

(Start: 47 @45066 has 40 MA's), (68, 45135), (83, 45189), (117, 45333), (123, 45360),

Gene: Count\_90 Start: 59071, Stop: 59562, Start Num: 37

Candidate Starts for Count\_90:

(Start: 37 @59071 has 3 MA's), (Start: 55 @59098 has 1 MA's), (94, 59245), (96, 59254), (97, 59257), (122, 59368), (136, 59404), (138, 59416), (157, 59500),

Gene: CricKo\_90 Start: 53073, Stop: 53564, Start Num: 50

Candidate Starts for CricKo\_90:

(9, 52932), (10, 52950), (11, 52959), (28, 53031), (32, 53040), (Start: 50 @53073 has 40 MA's), (62, 53118), (76, 53163), (81, 53175), (115, 53331), (122, 53364), (164, 53535),

Gene: Crispicous1\_60 Start: 40522, Stop: 39992, Start Num: 57

Candidate Starts for Crispicous1\_60:

(Start: 57 @40522 has 9 MA's), (71, 40462), (100, 40348), (140, 40186), (145, 40168), (147, 40159), (172, 40051),

Gene: Crocheter\_87 Start: 55966, Stop: 56445, Start Num: 51

Candidate Starts for Crocheter\_87:

(Start: 51 @55966 has 6 MA's), (65, 56023), (68, 56029), (85, 56089), (96, 56137), (101, 56155), (122, 56254), (129, 56272), (130, 56278), (146, 56338), (149, 56353), (151, 56365), (156, 56386),

Gene: Damascus\_58 Start: 42170, Stop: 42682, Start Num: 37

Candidate Starts for Damascus\_58:

(Start: 37 @42170 has 3 MA's), (44, 42182), (85, 42314), (94, 42353), (106, 42401), (122, 42473), (146, 42554),

Gene: Dancer\_88 Start: 54990, Stop: 55472, Start Num: 52

Candidate Starts for Dancer\_88:

(Start: 52 @54990 has 50 MA's), (81, 55089), (85, 55113), (101, 55179), (109, 55212), (129, 55299), (149, 55380), (151, 55392), (153, 55395), (156, 55413),

Gene: Darby\_67 Start: 46386, Stop: 46889, Start Num: 41

Candidate Starts for Darby\_67:

(Start: 41 @46386 has 34 MA's), (76, 46485), (115, 46647), (126, 46701), (141, 46758), (146, 46785), (157, 46836),

Gene: Demure\_84 Start: 55994, Stop: 56473, Start Num: 52

Candidate Starts for Demure\_84:

(Start: 52 @55994 has 50 MA's), (67, 56054), (84, 56114), (96, 56165), (101, 56183), (122, 56282), (129, 56300), (130, 56306), (146, 56366), (149, 56381), (151, 56393), (156, 56414),

Gene: DevitoJr\_69 Start: 46771, Stop: 47274, Start Num: 41

Candidate Starts for DevitoJr\_69:

(Start: 41 @46771 has 34 MA's), (76, 46870), (126, 47086), (141, 47143), (146, 47170), (157, 47221),

Gene: Dialga\_88 Start: 55833, Stop: 56312, Start Num: 52

Candidate Starts for Dialga\_88:

(Start: 52 @55833 has 50 MA's), (67, 55893), (84, 55953), (96, 56004), (101, 56022), (122, 56121), (129, 56139), (130, 56145), (146, 56205), (149, 56220), (151, 56232), (156, 56253),

Gene: Dinallo\_65 Start: 47651, Stop: 48154, Start Num: 41

Candidate Starts for Dinallo\_65:

(Start: 41 @47651 has 34 MA's), (76, 47750), (115, 47912), (126, 47966), (141, 48023), (146, 48050), (157, 48101),

Gene: Ditters\_53 Start: 39401, Stop: 39895, Start Num: 55

Candidate Starts for Ditters\_53:

(Start: 50 @39386 has 40 MA's), (Start: 55 @39401 has 1 MA's), (62, 39428), (64, 39446), (82, 39518), (87, 39533), (88, 39536), (94, 39566), (96, 39575), (138, 39752), (141, 39758),

Gene: DizzyRudy\_62 Start: 42057, Stop: 42569, Start Num: 37

Candidate Starts for DizzyRudy\_62:

(Start: 37 @42057 has 3 MA's), (44, 42069), (62, 42120), (94, 42240), (106, 42288), (122, 42360), (146, 42441),

Gene: Djungelskog\_71 Start: 45207, Stop: 45704, Start Num: 47

Candidate Starts for Djungelskog\_71:

(Start: 30 @45174 has 2 MA's), (34, 45186), (Start: 37 @45192 has 3 MA's), (Start: 47 @45207 has 40 MA's), (Start: 54 @45222 has 3 MA's), (97, 45387), (122, 45495), (144, 45588),

Gene: DoctorPepper\_71 Start: 44909, Stop: 45406, Start Num: 47

Candidate Starts for DoctorPepper\_71:

(Start: 30 @44876 has 2 MA's), (34, 44888), (Start: 37 @44894 has 3 MA's), (Start: 47 @44909 has 40 MA's), (Start: 54 @44924 has 3 MA's), (97, 45089), (122, 45197), (144, 45290),

Gene: Doxi13\_56 Start: 39042, Stop: 39551, Start Num: 50

Candidate Starts for Doxi13\_56:

(Start: 50 @39042 has 40 MA's), (Start: 55 @39057 has 1 MA's), (62, 39084), (82, 39174), (88, 39192), (96, 39231), (113, 39306), (138, 39408), (141, 39414), (144, 39429),

Gene: DrGrey\_78 Start: 51385, Stop: 51894, Start Num: 50

Candidate Starts for DrGrey\_78:

(Start: 50 @51385 has 40 MA's), (62, 51430), (76, 51475), (89, 51544), (115, 51658), (138, 51748), (139, 51751), (144, 51769), (156, 51829), (160, 51838), (167, 51880),

Gene: DreamCatcher\_72 Start: 44845, Stop: 44267, Start Num: 31

Candidate Starts for DreamCatcher\_72:

(Start: 31 @44845 has 14 MA's), (Start: 36 @44833 has 2 MA's), (Start: 46 @44815 has 1 MA's), (85, 44674), (89, 44647), (98, 44608), (107, 44578), (158, 44365),

Gene: Duffington\_88 Start: 56767, Stop: 57249, Start Num: 52

Candidate Starts for Duffington\_88:

(Start: 52 @56767 has 50 MA's), (56, 56785), (84, 56887), (94, 56929), (96, 56938), (101, 56956), (129, 57076), (130, 57082), (146, 57142), (149, 57157), (151, 57169),

Gene: Dynamite\_76 Start: 45552, Stop: 46064, Start Num: 47

Candidate Starts for Dynamite\_76:

(Start: 47 @45552 has 40 MA's), (68, 45621), (83, 45675), (117, 45819), (119, 45825), (123, 45846),

Gene: Eddiemania\_88 Start: 56862, Stop: 57341, Start Num: 51

Candidate Starts for Eddiemania\_88:

(Start: 51 @56862 has 6 MA's), (65, 56919), (67, 56922), (68, 56925), (85, 56985), (94, 57024), (96, 57033), (101, 57051), (109, 57081), (129, 57168), (130, 57174), (135, 57192), (146, 57234), (149, 57249), (151, 57261), (156, 57282),

Gene: Egad\_72 Start: 45183, Stop: 45680, Start Num: 47

Candidate Starts for Egad\_72:

(Start: 30 @45150 has 2 MA's), (34, 45162), (Start: 37 @45168 has 3 MA's), (Start: 47 @45183 has 40 MA's), (Start: 54 @45198 has 3 MA's), (97, 45363), (122, 45471), (144, 45564),

Gene: Egi03\_83 Start: 55457, Stop: 54942, Start Num: 38

Candidate Starts for Egi03\_83:

(Start: 35 @55463 has 1 MA's), (Start: 38 @55457 has 19 MA's), (Start: 46 @55445 has 1 MA's), (59, 55409), (69, 55364), (73, 55349), (94, 55271), (101, 55244), (107, 55223), (111, 55199), (163, 54989), (166, 54977), (171, 54953),

Gene: ElephantMan\_70 Start: 47272, Stop: 47775, Start Num: 41

Candidate Starts for ElephantMan\_70:

(Start: 41 @47272 has 34 MA's), (76, 47371), (115, 47533), (126, 47587), (141, 47644), (146, 47671), (157, 47722),

Gene: Elsa\_76 Start: 45700, Stop: 46212, Start Num: 47

Candidate Starts for Elsa\_76:

(Start: 47 @45700 has 40 MA's), (67, 45766), (68, 45769), (83, 45823), (117, 45967), (119, 45973), (123, 45994), (124, 45997),

Gene: Elver\_134 Start: 71317, Stop: 71790, Start Num: 54

Candidate Starts for Elver\_134:

(Start: 46 @71296 has 1 MA's), (Start: 54 @71317 has 3 MA's), (67, 71365), (68, 71368), (70, 71374), (76, 71392), (83, 71422), (128, 71605), (159, 71734),

Gene: EndAve\_89 Start: 56677, Stop: 57159, Start Num: 52

Candidate Starts for EndAve\_89:

(Start: 52 @56677 has 50 MA's), (56, 56695), (84, 56797), (94, 56839), (96, 56848), (101, 56866), (129, 56986), (130, 56992), (146, 57052), (149, 57067), (151, 57079),

Gene: Esketit\_78 Start: 49973, Stop: 50482, Start Num: 50

Candidate Starts for Esketit\_78:

(Start: 50 @49973 has 40 MA's), (62, 50018), (76, 50063), (89, 50132), (115, 50246), (138, 50336), (144, 50357), (156, 50417), (160, 50426), (167, 50468),

Gene: Espio\_82 Start: 51756, Stop: 52265, Start Num: 50

Candidate Starts for Espio\_82:

(Start: 50 @51756 has 40 MA's), (62, 51801), (76, 51846), (89, 51915), (115, 52029), (138, 52119), (139, 52122), (144, 52140), (156, 52200), (160, 52209), (167, 52251),

Gene: Evamon\_85 Start: 55834, Stop: 55319, Start Num: 38

Candidate Starts for Evamon\_85:

(Start: 35 @55840 has 1 MA's), (Start: 38 @55834 has 19 MA's), (Start: 46 @55822 has 1 MA's), (59, 55786), (69, 55741), (73, 55726), (94, 55648), (101, 55621), (107, 55600), (111, 55576), (163, 55366), (166, 55354), (171, 55330),

Gene: Fazel\_88 Start: 55520, Stop: 56002, Start Num: 52

Candidate Starts for Fazel\_88:

(Start: 52 @55520 has 50 MA's), (61, 55559), (62, 55562), (65, 55577), (83, 55637), (85, 55643), (87, 55649), (96, 55691), (101, 55709), (116, 55781), (129, 55829), (164, 55976), (167, 55994),

Gene: FidgetOrca\_84 Start: 51423, Stop: 51932, Start Num: 50

Candidate Starts for FidgetOrca\_84:

(Start: 50 @51423 has 40 MA's), (62, 51468), (76, 51513), (89, 51582), (115, 51696), (138, 51786), (144, 51807), (156, 51867), (160, 51876), (167, 51918),

Gene: Figliar\_86 Start: 56571, Stop: 57053, Start Num: 52

Candidate Starts for Figliar\_86:

(Start: 52 @56571 has 50 MA's), (56, 56589), (84, 56691), (94, 56733), (96, 56742), (101, 56760), (129, 56880), (130, 56886), (146, 56946), (149, 56961), (151, 56973),

Gene: Fireball\_88 Start: 56296, Stop: 55781, Start Num: 38

Candidate Starts for Fireball\_88:

(Start: 35 @56302 has 1 MA's), (Start: 38 @56296 has 19 MA's), (Start: 46 @56284 has 1 MA's), (59, 56248), (69, 56203), (73, 56188), (94, 56110), (101, 56083), (107, 56062), (111, 56038), (163, 55828), (166, 55816), (171, 55792),

Gene: Football\_93 Start: 55333, Stop: 55815, Start Num: 52

Candidate Starts for Football\_93:

(Start: 52 @55333 has 50 MA's), (81, 55432), (85, 55456), (101, 55522), (109, 55555), (129, 55642), (149, 55723), (151, 55735), (153, 55738), (156, 55756),

Gene: Football\_90 Start: 53214, Stop: 53690, Start Num: 53

Candidate Starts for Football\_90:

(53, 53214), (62, 53253), (68, 53274), (75, 53295), (76, 53298), (97, 53385), (99, 53394), (108, 53421), (117, 53472), (131, 53517), (157, 53634), (159, 53637),

Gene: Forsytheast\_64 Start: 41180, Stop: 40623, Start Num: 57

Candidate Starts for Forsytheast\_64:

(Start: 57 @41180 has 9 MA's), (66, 41138), (71, 41120), (92, 41036), (97, 41018), (110, 40967), (121, 40913), (148, 40811), (173, 40643),

Gene: FortCran\_88 Start: 55254, Stop: 55736, Start Num: 52

Candidate Starts for FortCran\_88:

(Start: 52 @55254 has 50 MA's), (81, 55353), (85, 55377), (101, 55443), (109, 55476), (129, 55563), (149, 55644), (151, 55656), (153, 55659), (156, 55677),

Gene: FrodoSwaggins\_80 Start: 51780, Stop: 52289, Start Num: 50

Candidate Starts for FrodoSwaggins\_80:

(Start: 50 @51780 has 40 MA's), (62, 51825), (76, 51870), (89, 51939), (115, 52053), (138, 52143), (139, 52146), (144, 52164), (156, 52224), (160, 52233), (167, 52275),

Gene: FromIndy\_88 Start: 52273, Stop: 52764, Start Num: 50

Candidate Starts for FromIndy\_88:

(9, 52132), (10, 52150), (11, 52159), (28, 52231), (32, 52240), (Start: 50 @52273 has 40 MA's), (62, 52318), (76, 52363), (81, 52375), (115, 52531), (122, 52564), (164, 52735),

Gene: GMonster\_70 Start: 44872, Stop: 44306, Start Num: 36

Candidate Starts for GMonster\_70:

(Start: 31 @44884 has 14 MA's), (Start: 36 @44872 has 2 MA's), (Start: 46 @44854 has 1 MA's), (85, 44713), (89, 44686), (98, 44647), (107, 44617), (158, 44404),

Gene: GageAP\_64 Start: 42203, Stop: 41646, Start Num: 57

Candidate Starts for GageAP\_64:

(Start: 57 @42203 has 9 MA's), (66, 42161), (71, 42143), (92, 42059), (97, 42041), (110, 41990), (121, 41936), (148, 41834), (173, 41666),

Gene: Gandionco\_130 Start: 70114, Stop: 70608, Start Num: 46

Candidate Starts for Gandionco\_130:

(Start: 46 @70114 has 1 MA's), (Start: 54 @70135 has 3 MA's), (67, 70183), (68, 70186), (70, 70192), (76, 70210), (83, 70240), (128, 70423), (159, 70552),

Gene: GantcherGoblin\_71 Start: 44575, Stop: 45066, Start Num: 49

Candidate Starts for GantcherGoblin\_71:

(Start: 47 @44572 has 40 MA's), (Start: 49 @44575 has 8 MA's), (61, 44617), (62, 44620), (106, 44788), (124, 44869), (144, 44947),

Gene: GermyBearimy\_81 Start: 47778, Stop: 48254, Start Num: 47

Candidate Starts for GermyBearimy\_81:

(Start: 47 @47778 has 40 MA's), (Start: 54 @47793 has 3 MA's), (79, 47874), (117, 48042), (165, 48222),

Gene: Gezellig\_81 Start: 55680, Stop: 55165, Start Num: 38

Candidate Starts for Gezellig\_81:

(Start: 35 @55686 has 1 MA's), (Start: 38 @55680 has 19 MA's), (Start: 46 @55668 has 1 MA's), (59, 55632), (69, 55587), (73, 55572), (94, 55494), (101, 55467), (107, 55446), (111, 55422), (163, 55212), (166, 55200), (171, 55176),

Gene: Giantsbane\_73 Start: 45925, Stop: 46428, Start Num: 41

Candidate Starts for Giantsbane\_73:

(Start: 41 @45925 has 34 MA's), (Start: 54 @45949 has 3 MA's), (56, 45955), (61, 45976), (67, 45997), (76, 46024), (85, 46060), (115, 46186), (141, 46297), (146, 46324),

Gene: Gill\_90 Start: 55283, Stop: 55765, Start Num: 52

Candidate Starts for Gill\_90:

(Start: 52 @55283 has 50 MA's), (85, 55406), (94, 55445), (101, 55472), (123, 55577), (129, 55592), (149, 55673), (151, 55685), (156, 55706),

Gene: GirlPower\_75 Start: 50852, Stop: 51361, Start Num: 50

Candidate Starts for GirlPower\_75:

(Start: 50 @50852 has 40 MA's), (62, 50897), (76, 50942), (83, 50972), (89, 51011), (94, 51032), (115, 51125), (156, 51296), (159, 51302), (160, 51305), (162, 51320),

Gene: Glintora\_90 Start: 56976, Stop: 57440, Start Num: 56

Candidate Starts for Glintora\_90:

(Start: 52 @56958 has 50 MA's), (56, 56976), (84, 57078), (94, 57120), (96, 57129), (101, 57147), (129, 57267), (130, 57273), (133, 57285), (146, 57333), (149, 57348), (151, 57360),

Gene: GoCrazy\_73 Start: 44995, Stop: 45507, Start Num: 47

Candidate Starts for GoCrazy\_73:

(20, 44923), (Start: 47 @44995 has 40 MA's), (68, 45064), (83, 45118), (117, 45262), (119, 45268), (123, 45289), (124, 45292), (159, 45436),

Gene: GoblinVoyage\_55 Start: 38886, Stop: 39395, Start Num: 50

Candidate Starts for GoblinVoyage\_55:

(Start: 50 @38886 has 40 MA's), (Start: 55 @38901 has 1 MA's), (62, 38928), (82, 39018), (88, 39036), (96, 39075), (113, 39150), (138, 39252), (141, 39258), (144, 39273),

Gene: Gordon\_67 Start: 47259, Stop: 47762, Start Num: 41

Candidate Starts for Gordon\_67:

(Start: 41 @47259 has 34 MA's), (76, 47358), (115, 47520), (126, 47574), (141, 47631), (146, 47658), (157, 47709),

Gene: Gravy\_89 Start: 54946, Stop: 55428, Start Num: 52

Candidate Starts for Gravy\_89:

(Start: 52 @54946 has 50 MA's), (85, 55069), (94, 55108), (101, 55135), (123, 55240), (129, 55255), (149, 55336), (151, 55348), (156, 55369),

Gene: GrecoEtereo\_71 Start: 44625, Stop: 44047, Start Num: 31

Candidate Starts for GrecoEtereo\_71:

(Start: 31 @44625 has 14 MA's), (Start: 36 @44613 has 2 MA's), (Start: 46 @44595 has 1 MA's), (85, 44454), (89, 44427), (98, 44388), (107, 44358), (158, 44145),

Gene: Gusicorn\_88 Start: 55873, Stop: 56352, Start Num: 51

Candidate Starts for Gusicorn\_88:

(Start: 51 @55873 has 6 MA's), (65, 55930), (68, 55936), (85, 55996), (96, 56044), (101, 56062), (122, 56161), (129, 56179), (130, 56185), (146, 56245), (149, 56260), (151, 56272), (156, 56293),

Gene: Hankly\_76 Start: 45190, Stop: 45702, Start Num: 47

Candidate Starts for Hankly\_76:

(Start: 47 @45190 has 40 MA's), (68, 45259), (83, 45313), (117, 45457), (119, 45463), (123, 45484),

Gene: HazuAndZazu\_79 Start: 51132, Stop: 51641, Start Num: 50

Candidate Starts for HazuAndZazu\_79:

(Start: 50 @51132 has 40 MA's), (62, 51177), (76, 51222), (89, 51291), (115, 51405), (138, 51495), (144, 51516), (156, 51576), (160, 51585), (167, 51627),

Gene: Heisenberger\_75 Start: 44957, Stop: 45469, Start Num: 47

Candidate Starts for Heisenberger\_75:

(20, 44885), (Start: 47 @44957 has 40 MA's), (68, 45026), (83, 45080), (117, 45224), (119, 45230), (123, 45251), (124, 45254),

Gene: Hemma\_68 Start: 44675, Stop: 45178, Start Num: 41

Candidate Starts for Hemma\_68:

(Start: 41 @44675 has 34 MA's), (67, 44747), (87, 44816), (94, 44849), (104, 44888), (109, 44900), (126, 44990), (157, 45125),

Gene: HerbBucket\_70 Start: 44915, Stop: 45412, Start Num: 47

Candidate Starts for HerbBucket\_70:

(Start: 30 @44882 has 2 MA's), (34, 44894), (Start: 37 @44900 has 3 MA's), (Start: 47 @44915 has 40 MA's), (Start: 54 @44930 has 3 MA's), (97, 45095), (122, 45203), (144, 45296),

Gene: Hortihabitatio\_85 Start: 55292, Stop: 55774, Start Num: 52

Candidate Starts for Hortihabitatio\_85:

(Start: 52 @55292 has 50 MA's), (62, 55334), (65, 55349), (96, 55463), (97, 55466), (101, 55481), (129, 55601), (137, 55631), (164, 55748), (167, 55766),

Gene: Hoshi\_83 Start: 51036, Stop: 51545, Start Num: 50

Candidate Starts for Hoshi\_83:

(Start: 50 @51036 has 40 MA's), (62, 51081), (76, 51126), (89, 51195), (115, 51309), (138, 51399), (144, 51420), (156, 51480), (160, 51489), (167, 51531),

Gene: HotFries\_53 Start: 39084, Stop: 39578, Start Num: 55

Candidate Starts for HotFries\_53:

(12, 38961), (Start: 24 @39006 has 1 MA's), (Start: 50 @39069 has 40 MA's), (Start: 55 @39084 has 1 MA's), (62, 39111), (82, 39201), (88, 39219), (96, 39258), (113, 39333), (138, 39435), (141, 39441), (144, 39456),

Gene: Hydrus\_87 Start: 56277, Stop: 56756, Start Num: 52

Candidate Starts for Hydrus\_87:

(Start: 52 @56277 has 50 MA's), (67, 56337), (84, 56397), (96, 56448), (101, 56466), (122, 56565), (129, 56583), (130, 56589), (146, 56649), (149, 56664), (151, 56676), (156, 56697),

Gene: IceWarrior\_82 Start: 50842, Stop: 51351, Start Num: 50

Candidate Starts for IceWarrior\_82:

(Start: 50 @50842 has 40 MA's), (62, 50887), (76, 50932), (89, 51001), (115, 51115), (138, 51205), (156, 51286), (160, 51295), (167, 51337),

Gene: Ichabod\_74 Start: 45654, Stop: 45076, Start Num: 31

Candidate Starts for Ichabod\_74:

(Start: 31 @45654 has 14 MA's), (Start: 36 @45642 has 2 MA's), (Start: 46 @45624 has 1 MA's), (85, 45483), (89, 45456), (98, 45417), (107, 45387), (158, 45174),

Gene: IgnatiusPatJac\_70 Start: 44214, Stop: 43648, Start Num: 36

Candidate Starts for IgnatiusPatJac\_70:

(Start: 31 @44226 has 14 MA's), (Start: 36 @44214 has 2 MA's), (Start: 46 @44196 has 1 MA's), (85, 44055), (89, 44028), (98, 43989), (107, 43959), (158, 43746),

Gene: Indigenous\_84 Start: 51428, Stop: 51937, Start Num: 50

Candidate Starts for Indigenous\_84:

(Start: 50 @51428 has 40 MA's), (62, 51473), (76, 51518), (89, 51587), (115, 51701), (138, 51791), (144, 51812), (156, 51872), (160, 51881), (167, 51923),

Gene: Ingrid\_76 Start: 47223, Stop: 47726, Start Num: 41  
Candidate Starts for Ingrid\_76:  
(Start: 41 @47223 has 34 MA's), (67, 47295), (85, 47358), (94, 47397), (112, 47469), (115, 47484),

Gene: Inked\_75 Start: 47849, Stop: 48352, Start Num: 41  
Candidate Starts for Inked\_75:  
(Start: 41 @47849 has 34 MA's), (67, 47921), (85, 47984), (94, 48023), (112, 48095), (115, 48110),

Gene: Issa\_65 Start: 46433, Stop: 46936, Start Num: 41  
Candidate Starts for Issa\_65:  
(Start: 41 @46433 has 34 MA's), (76, 46532), (115, 46694), (126, 46748), (141, 46805), (146, 46832),  
(157, 46883),

Gene: JEGGS\_75 Start: 45036, Stop: 45548, Start Num: 47  
Candidate Starts for JEGGS\_75:  
(20, 44964), (Start: 47 @45036 has 40 MA's), (68, 45105), (83, 45159), (117, 45303), (119, 45309),  
(123, 45330), (124, 45333),

Gene: Jaylociraptor\_82 Start: 51008, Stop: 51517, Start Num: 50  
Candidate Starts for Jaylociraptor\_82:  
(Start: 50 @51008 has 40 MA's), (62, 51053), (76, 51098), (89, 51167), (115, 51281), (138, 51371),  
(144, 51392), (156, 51452), (160, 51461), (167, 51503),

Gene: Jazzy4900\_70 Start: 47081, Stop: 47557, Start Num: 47  
Candidate Starts for Jazzy4900\_70:  
(Start: 47 @47081 has 40 MA's), (79, 47177), (117, 47345), (165, 47525),

Gene: JeNeSaisPas\_128 Start: 70710, Stop: 71204, Start Num: 46  
Candidate Starts for JeNeSaisPas\_128:  
(Start: 46 @70710 has 1 MA's), (Start: 54 @70731 has 3 MA's), (67, 70779), (68, 70782), (70, 70788),  
(76, 70806), (83, 70836), (128, 71019), (159, 71148),

Gene: Jeremy4pt0\_69 Start: 44904, Stop: 45401, Start Num: 47  
Candidate Starts for Jeremy4pt0\_69:  
(Start: 30 @44871 has 2 MA's), (34, 44883), (Start: 37 @44889 has 3 MA's), (Start: 47 @44904 has 40 MA's),  
(Start: 54 @44919 has 3 MA's), (97, 45084), (122, 45192), (144, 45285),

Gene: Jodelie19\_87 Start: 57758, Stop: 58240, Start Num: 52  
Candidate Starts for Jodelie19\_87:  
(Start: 52 @57758 has 50 MA's), (60, 57791), (83, 57875), (129, 58064), (146, 58130), (149, 58145),  
(151, 58157),

Gene: JulesRay\_88 Start: 55349, Stop: 55831, Start Num: 52  
Candidate Starts for JulesRay\_88:  
(Start: 52 @55349 has 50 MA's), (81, 55448), (85, 55472), (101, 55538), (109, 55571), (129, 55658),  
(149, 55739), (151, 55751), (153, 55754), (156, 55772),

Gene: Kardashian\_79 Start: 51398, Stop: 51889, Start Num: 50  
Candidate Starts for Kardashian\_79:  
(42, 51386), (Start: 50 @51398 has 40 MA's), (58, 51425), (62, 51443), (67, 51461), (81, 51500), (87,  
51530), (97, 51575), (118, 51668), (160, 51836), (167, 51878),

Gene: Kardesai\_76 Start: 45309, Stop: 45821, Start Num: 47

Candidate Starts for Kardesai\_76:

(20, 45237), (Start: 47 @45309 has 40 MA's), (68, 45378), (83, 45432), (117, 45576), (119, 45582), (123, 45603), (124, 45606), (159, 45750),

Gene: KeaneyLin\_72 Start: 44995, Stop: 45507, Start Num: 47

Candidate Starts for KeaneyLin\_72:

(20, 44923), (Start: 47 @44995 has 40 MA's), (68, 45064), (83, 45118), (117, 45262), (119, 45268), (123, 45289), (124, 45292), (159, 45436),

Gene: Kenosha\_86 Start: 56334, Stop: 56813, Start Num: 51

Candidate Starts for Kenosha\_86:

(Start: 51 @56334 has 6 MA's), (65, 56391), (67, 56394), (68, 56397), (85, 56457), (96, 56505), (101, 56523), (129, 56640), (130, 56646), (135, 56664), (146, 56706), (149, 56721), (151, 56733), (156, 56754),

Gene: Kerry\_89 Start: 55009, Stop: 55491, Start Num: 52

Candidate Starts for Kerry\_89:

(Start: 52 @55009 has 50 MA's), (85, 55132), (94, 55171), (101, 55198), (123, 55303), (129, 55318), (149, 55399), (151, 55411), (156, 55432),

Gene: KevinMinion\_71 Start: 45464, Stop: 45958, Start Num: 47

Candidate Starts for KevinMinion\_71:

(Start: 47 @45464 has 40 MA's), (Start: 49 @45467 has 8 MA's), (61, 45509), (62, 45512), (106, 45680), (124, 45761), (144, 45839),

Gene: KimmyK\_83 Start: 56127, Stop: 55612, Start Num: 38

Candidate Starts for KimmyK\_83:

(Start: 35 @56133 has 1 MA's), (Start: 38 @56127 has 19 MA's), (Start: 46 @56115 has 1 MA's), (59, 56079), (69, 56034), (73, 56019), (94, 55941), (101, 55914), (107, 55893), (111, 55869), (163, 55659), (166, 55647), (171, 55623),

Gene: Kinny\_76 Start: 46701, Stop: 47192, Start Num: 49

Candidate Starts for Kinny\_76:

(Start: 47 @46698 has 40 MA's), (Start: 49 @46701 has 8 MA's), (61, 46743), (62, 46746), (98, 46884), (106, 46914), (110, 46929), (124, 46995), (155, 47127), (159, 47139),

Gene: Kureo\_131 Start: 70331, Stop: 70804, Start Num: 54

Candidate Starts for Kureo\_131:

(Start: 46 @70310 has 1 MA's), (Start: 54 @70331 has 3 MA's), (67, 70379), (68, 70382), (70, 70388), (76, 70406), (83, 70436), (128, 70619), (159, 70748),

Gene: Leathea\_73 Start: 44483, Stop: 44992, Start Num: 49

Candidate Starts for Leathea\_73:

(Start: 35 @44459 has 1 MA's), (Start: 38 @44465 has 19 MA's), (Start: 47 @44480 has 40 MA's), (Start: 49 @44483 has 8 MA's), (62, 44528), (93, 44642), (106, 44696), (124, 44777), (131, 44801), (137, 44831),

Gene: Lesedi\_65 Start: 42530, Stop: 41952, Start Num: 31

Candidate Starts for Lesedi\_65:

(13, 42602), (Start: 31 @42530 has 14 MA's), (Start: 36 @42518 has 2 MA's), (Start: 46 @42500 has 1 MA's), (85, 42359), (89, 42332), (98, 42293), (107, 42263), (158, 42050),

Gene: Lewando\_77 Start: 46439, Stop: 46930, Start Num: 49

Candidate Starts for Lewando\_77:

(Start: 47 @46436 has 40 MA's), (Start: 49 @46439 has 8 MA's), (61, 46481), (62, 46484), (98, 46622), (106, 46652), (110, 46667), (124, 46733), (155, 46865), (159, 46877),

Gene: LibertyBell\_75 Start: 48093, Stop: 48605, Start Num: 50

Candidate Starts for LibertyBell\_75:

(7, 47907), (8, 47940), (16, 48006), (45, 48087), (Start: 50 @48093 has 40 MA's), (76, 48183), (83, 48213), (85, 48219), (88, 48228), (101, 48285), (103, 48318), (149, 48510), (160, 48552), (167, 48594), (168, 48597),

Gene: LibertyBell\_73 Start: 45969, Stop: 46457, Start Num: 46

Candidate Starts for LibertyBell\_73:

(Start: 46 @45969 has 1 MA's), (68, 46038), (97, 46152), (115, 46227), (137, 46308), (151, 46371),

Gene: LilHuddy\_74 Start: 47051, Stop: 47554, Start Num: 41

Candidate Starts for LilHuddy\_74:

(Start: 41 @47051 has 34 MA's), (56, 47081), (61, 47102), (67, 47123), (76, 47150), (85, 47186), (115, 47312), (126, 47366), (141, 47423), (146, 47450),

Gene: Linda\_72 Start: 45202, Stop: 45699, Start Num: 47

Candidate Starts for Linda\_72:

(Start: 30 @45169 has 2 MA's), (34, 45181), (Start: 37 @45187 has 3 MA's), (Start: 47 @45202 has 40 MA's), (Start: 54 @45217 has 3 MA's), (97, 45382), (122, 45490), (144, 45583),

Gene: Lopton\_70 Start: 46302, Stop: 45724, Start Num: 31

Candidate Starts for Lopton\_70:

(27, 46311), (Start: 31 @46302 has 14 MA's), (Start: 36 @46290 has 2 MA's), (Start: 46 @46272 has 1 MA's), (85, 46131), (89, 46104), (98, 46065), (107, 46035), (158, 45822),

Gene: Loretta\_72 Start: 47223, Stop: 47726, Start Num: 41

Candidate Starts for Loretta\_72:

(Start: 41 @47223 has 34 MA's), (67, 47295), (85, 47358), (94, 47397), (112, 47469), (115, 47484),

Gene: LucySwiss\_70 Start: 46378, Stop: 46881, Start Num: 41

Candidate Starts for LucySwiss\_70:

(Start: 41 @46378 has 34 MA's), (76, 46477), (115, 46639), (126, 46693), (146, 46777), (157, 46828),

Gene: Luthien\_88 Start: 56700, Stop: 57164, Start Num: 56

Candidate Starts for Luthien\_88:

(Start: 52 @56682 has 50 MA's), (56, 56700), (84, 56802), (94, 56844), (96, 56853), (101, 56871), (129, 56991), (130, 56997), (146, 57057), (149, 57072), (151, 57084),

Gene: Madamoto\_81 Start: 50680, Stop: 51192, Start Num: 50

Candidate Starts for Madamoto\_81:

(Start: 50 @50680 has 40 MA's), (62, 50725), (76, 50770), (89, 50839), (94, 50860), (144, 51064), (151, 51103), (156, 51124), (160, 51133),

Gene: Madvan\_86 Start: 55589, Stop: 56068, Start Num: 52

Candidate Starts for Madvan\_86:

(Start: 52 @55589 has 50 MA's), (67, 55649), (84, 55709), (96, 55760), (101, 55778), (122, 55877), (129, 55895), (130, 55901), (146, 55961), (149, 55976), (151, 55988), (156, 56009),

Gene: Magel\_91 Start: 55198, Stop: 55680, Start Num: 52

Candidate Starts for Magel\_91:

(Start: 52 @55198 has 50 MA's), (85, 55321), (94, 55360), (101, 55387), (123, 55492), (129, 55507), (149, 55588), (151, 55600), (156, 55621),

Gene: MajinBuu\_88 Start: 56949, Stop: 57431, Start Num: 52

Candidate Starts for MajinBuu\_88:

(Start: 52 @56949 has 50 MA's), (56, 56967), (84, 57069), (94, 57111), (96, 57120), (101, 57138), (129, 57258), (130, 57264), (146, 57324), (149, 57339), (151, 57351),

Gene: Makai\_73 Start: 47336, Stop: 47839, Start Num: 41

Candidate Starts for Makai\_73:

(Start: 41 @47336 has 34 MA's), (Start: 54 @47360 has 3 MA's), (61, 47387), (76, 47435), (85, 47471), (115, 47597), (126, 47651), (141, 47708), (146, 47735), (157, 47786),

Gene: Mardi\_74 Start: 45219, Stop: 45710, Start Num: 49

Candidate Starts for Mardi\_74:

(Start: 47 @45216 has 40 MA's), (Start: 49 @45219 has 8 MA's), (61, 45261), (62, 45264), (106, 45432), (124, 45513),

Gene: Marianna39\_131 Start: 70740, Stop: 71213, Start Num: 54

Candidate Starts for Marianna39\_131:

(Start: 46 @70719 has 1 MA's), (Start: 54 @70740 has 3 MA's), (67, 70788), (68, 70791), (70, 70797), (76, 70815), (83, 70845), (128, 71028), (159, 71157),

Gene: Maya\_82 Start: 51022, Stop: 51531, Start Num: 50

Candidate Starts for Maya\_82:

(Start: 50 @51022 has 40 MA's), (62, 51067), (76, 51112), (89, 51181), (115, 51295), (138, 51385), (144, 51406), (156, 51466), (160, 51475), (167, 51517),

Gene: McGuire\_71 Start: 44174, Stop: 43596, Start Num: 31

Candidate Starts for McGuire\_71:

(Start: 31 @44174 has 14 MA's), (Start: 36 @44162 has 2 MA's), (Start: 46 @44144 has 1 MA's), (85, 44003), (89, 43976), (98, 43937), (107, 43907), (158, 43694),

Gene: McSinger\_68 Start: 43534, Stop: 42956, Start Num: 31

Candidate Starts for McSinger\_68:

(Start: 31 @43534 has 14 MA's), (Start: 36 @43522 has 2 MA's), (Start: 46 @43504 has 1 MA's), (85, 43363), (89, 43336), (98, 43297), (107, 43267), (158, 43054),

Gene: MediumFry\_69 Start: 46566, Stop: 47069, Start Num: 41

Candidate Starts for MediumFry\_69:

(Start: 41 @46566 has 34 MA's), (67, 46638), (85, 46701), (94, 46740), (115, 46827), (141, 46938),

Gene: Meibysrarus\_80 Start: 50406, Stop: 50915, Start Num: 50

Candidate Starts for Meibysrarus\_80:

(Start: 50 @50406 has 40 MA's), (62, 50451), (76, 50496), (89, 50565), (115, 50679), (138, 50769), (144, 50790), (156, 50850), (160, 50859), (167, 50901),

Gene: Mema\_57 Start: 44587, Stop: 45072, Start Num: 39

Candidate Starts for Mema\_57:

(Start: 39 @44587 has 1 MA's), (68, 44656), (106, 44803), (122, 44875), (146, 44956),

Gene: Michelle\_72 Start: 45171, Stop: 45701, Start Num: 30

Candidate Starts for Michelle\_72:

(Start: 30 @45171 has 2 MA's), (34, 45183), (Start: 37 @45189 has 3 MA's), (Start: 47 @45204 has 40 MA's), (Start: 54 @45219 has 3 MA's), (97, 45384), (122, 45492), (144, 45585),

Gene: Miek\_84 Start: 51455, Stop: 51946, Start Num: 50

Candidate Starts for Miek\_84:

(9, 51314), (10, 51332), (11, 51341), (28, 51413), (32, 51422), (Start: 50 @51455 has 40 MA's), (62, 51500), (76, 51545), (81, 51557), (115, 51713), (122, 51746), (164, 51917),

Gene: MiniBagel\_69 Start: 47363, Stop: 47866, Start Num: 41

Candidate Starts for MiniBagel\_69:

(Start: 41 @47363 has 34 MA's), (67, 47435), (76, 47462), (115, 47624), (126, 47678), (141, 47735), (146, 47762), (157, 47813),

Gene: Monse\_55 Start: 38889, Stop: 39401, Start Num: 50

Candidate Starts for Monse\_55:

(15, 38796), (29, 38847), (43, 38880), (Start: 50 @38889 has 40 MA's), (Start: 55 @38907 has 1 MA's), (62, 38934), (64, 38952), (87, 39039), (88, 39042), (97, 39084), (138, 39258), (141, 39264),

Gene: Moose\_64 Start: 41180, Stop: 40623, Start Num: 57

Candidate Starts for Moose\_64:

(Start: 57 @41180 has 9 MA's), (66, 41138), (71, 41120), (92, 41036), (97, 41018), (110, 40967), (121, 40913), (148, 40811), (173, 40643),

Gene: Mooshroom\_77 Start: 45309, Stop: 45821, Start Num: 47

Candidate Starts for Mooshroom\_77:

(20, 45237), (Start: 47 @45309 has 40 MA's), (68, 45378), (83, 45432), (117, 45576), (119, 45582), (123, 45603), (124, 45606), (159, 45750),

Gene: Moozy\_54 Start: 38896, Stop: 39405, Start Num: 50

Candidate Starts for Moozy\_54:

(12, 38788), (Start: 24 @38833 has 1 MA's), (Start: 50 @38896 has 40 MA's), (Start: 55 @38911 has 1 MA's), (62, 38938), (82, 39028), (88, 39046), (96, 39085), (113, 39160), (138, 39262), (141, 39268), (144, 39283),

Gene: Mossy\_86 Start: 56611, Stop: 57093, Start Num: 52

Candidate Starts for Mossy\_86:

(Start: 52 @56611 has 50 MA's), (61, 56650), (83, 56728), (85, 56734), (96, 56782), (97, 56785), (101, 56800), (129, 56920), (146, 56986), (164, 57067),

Gene: MrAaronian\_72 Start: 45204, Stop: 45701, Start Num: 47

Candidate Starts for MrAaronian\_72:

(Start: 30 @45171 has 2 MA's), (34, 45183), (Start: 37 @45189 has 3 MA's), (Start: 47 @45204 has 40 MA's), (Start: 54 @45219 has 3 MA's), (97, 45384), (122, 45492), (144, 45585),

Gene: Mudcat\_72 Start: 46394, Stop: 46906, Start Num: 47

Candidate Starts for Mudcat\_72:

(20, 46322), (Start: 47 @46394 has 40 MA's), (68, 46463), (83, 46517), (117, 46661), (119, 46667), (123, 46688), (124, 46691),

Gene: Muglass\_75 Start: 45778, Stop: 46269, Start Num: 49

Candidate Starts for Muglass\_75:

(Start: 47 @45775 has 40 MA's), (Start: 49 @45778 has 8 MA's), (61, 45820), (62, 45823), (98, 45961), (106, 45991), (110, 46006), (124, 46072), (155, 46204), (159, 46216),

Gene: Mysticmoon\_86 Start: 55708, Stop: 56190, Start Num: 52

Candidate Starts for Mysticmoon\_86:

(33, 55678), (Start: 52 @55708 has 50 MA's), (61, 55747), (78, 55801), (83, 55825), (96, 55879), (101, 55897), (129, 56017), (137, 56047), (164, 56164),

Gene: NEHalo\_60 Start: 41604, Stop: 41047, Start Num: 57

Candidate Starts for NEHalo\_60:

(Start: 57 @41604 has 9 MA's), (66, 41562), (71, 41544), (92, 41460), (97, 41442), (110, 41391), (121, 41337), (148, 41235), (173, 41067),

Gene: Nadmeg\_86 Start: 56574, Stop: 57053, Start Num: 52

Candidate Starts for Nadmeg\_86:

(Start: 52 @56574 has 50 MA's), (84, 56694), (101, 56763), (129, 56880), (130, 56886), (146, 56946), (149, 56961), (151, 56973), (156, 56994),

Gene: Namo\_84 Start: 51477, Stop: 51986, Start Num: 50

Candidate Starts for Namo\_84:

(Start: 50 @51477 has 40 MA's), (62, 51522), (76, 51567), (89, 51636), (115, 51750), (138, 51840), (144, 51861), (156, 51921), (160, 51930), (167, 51972),

Gene: NapoleonB\_77 Start: 45552, Stop: 46064, Start Num: 47

Candidate Starts for NapoleonB\_77:

(Start: 47 @45552 has 40 MA's), (68, 45621), (83, 45675), (117, 45819), (119, 45825), (123, 45846),

Gene: Nason\_76 Start: 45700, Stop: 46212, Start Num: 47

Candidate Starts for Nason\_76:

(Start: 47 @45700 has 40 MA's), (67, 45766), (68, 45769), (83, 45823), (117, 45967), (119, 45973), (123, 45994), (124, 45997),

Gene: Natasha\_75 Start: 45514, Stop: 46011, Start Num: 47

Candidate Starts for Natasha\_75:

(Start: 47 @45514 has 40 MA's), (68, 45580), (97, 45694), (104, 45721), (121, 45796), (127, 45826), (144, 45895),

Gene: Navi1117\_76 Start: 45655, Stop: 46146, Start Num: 49

Candidate Starts for Navi1117\_76:

(Start: 47 @45652 has 40 MA's), (Start: 49 @45655 has 8 MA's), (61, 45697), (62, 45700), (106, 45868), (124, 45949), (144, 46027),

Gene: Navi1117\_79 Start: 46821, Stop: 47384, Start Num: 18

Candidate Starts for Navi1117\_79:

(14, 46803), (Start: 18 @46821 has 1 MA's), (Start: 48 @46899 has 1 MA's), (169, 47376),

Gene: Nightmare\_70 Start: 47676, Stop: 48179, Start Num: 41

Candidate Starts for Nightmare\_70:

(Start: 41 @47676 has 34 MA's), (76, 47775), (115, 47937), (126, 47991), (141, 48048), (157, 48126),

Gene: Niktson\_70 Start: 47272, Stop: 47775, Start Num: 41

Candidate Starts for Niktson\_70:

(Start: 41 @47272 has 34 MA's), (76, 47371), (115, 47533), (126, 47587), (141, 47644), (146, 47671), (157, 47722),

Gene: Nithya\_87 Start: 56516, Stop: 56998, Start Num: 52

Candidate Starts for Nithya\_87:

(Start: 52 @56516 has 50 MA's), (56, 56534), (84, 56636), (94, 56678), (96, 56687), (101, 56705), (129, 56825), (130, 56831), (146, 56891), (149, 56906), (151, 56918),

Gene: Nivinsha\_72 Start: 46808, Stop: 47311, Start Num: 41

Candidate Starts for Nivinsha\_72:

(Start: 41 @46808 has 34 MA's), (76, 46907), (115, 47069), (126, 47123), (141, 47180), (157, 47258),

Gene: NoPickles\_89 Start: 55105, Stop: 55587, Start Num: 52

Candidate Starts for NoPickles\_89:

(Start: 52 @55105 has 50 MA's), (85, 55228), (94, 55267), (101, 55294), (123, 55399), (129, 55414), (149, 55495), (151, 55507), (156, 55528),

Gene: Odesza\_88 Start: 55145, Stop: 55627, Start Num: 52

Candidate Starts for Odesza\_88:

(Start: 52 @55145 has 50 MA's), (85, 55268), (94, 55307), (101, 55334), (123, 55439), (129, 55454), (149, 55535), (151, 55547), (156, 55568),

Gene: OhMyWard\_82 Start: 56405, Stop: 56887, Start Num: 52

Candidate Starts for OhMyWard\_82:

(Start: 52 @56405 has 50 MA's), (61, 56444), (83, 56522), (85, 56528), (96, 56576), (97, 56579), (101, 56594), (116, 56666), (129, 56714), (164, 56861),

Gene: OlgasClover\_89 Start: 57350, Stop: 57832, Start Num: 52

Candidate Starts for OlgasClover\_89:

(Start: 52 @57350 has 50 MA's), (56, 57368), (84, 57470), (94, 57512), (96, 57521), (101, 57539), (129, 57659), (130, 57665), (146, 57725), (149, 57740), (151, 57752),

Gene: OlympicHelado\_84 Start: 51498, Stop: 52007, Start Num: 50

Candidate Starts for OlympicHelado\_84:

(Start: 50 @51498 has 40 MA's), (62, 51543), (76, 51588), (89, 51657), (115, 51771), (138, 51861), (144, 51882), (156, 51942), (160, 51951), (167, 51993),

Gene: Onestar\_71 Start: 45345, Stop: 45842, Start Num: 47

Candidate Starts for Onestar\_71:

(Start: 47 @45345 has 40 MA's), (97, 45525), (99, 45534), (122, 45633), (126, 45654), (144, 45726),

Gene: Paella\_134 Start: 71880, Stop: 72353, Start Num: 54

Candidate Starts for Paella\_134:

(Start: 46 @71859 has 1 MA's), (Start: 54 @71880 has 3 MA's), (67, 71928), (68, 71931), (70, 71937), (76, 71955), (83, 71985), (128, 72168), (159, 72297),

Gene: Pepy6\_051 Start: 72091, Stop: 72582, Start Num: 50

Candidate Starts for Pepy6\_051:

(Start: 50 @72091 has 40 MA's), (Start: 54 @72106 has 3 MA's), (74, 72175), (84, 72214), (85, 72217), (88, 72226), (110, 72325), (117, 72361), (118, 72364), (129, 72403), (133, 72421), (137, 72433), (138, 72436), (149, 72484), (159, 72523),

Gene: Perkunas\_90 Start: 55043, Stop: 55525, Start Num: 52

Candidate Starts for PerkuNAS\_90:

(Start: 52 @55043 has 50 MA's), (85, 55166), (101, 55232), (109, 55265), (129, 55352), (151, 55445), (160, 55475), (164, 55499),

Gene: PerroGrande22\_114 Start: 74744, Stop: 75235, Start Num: 50

Candidate Starts for PerroGrande22\_114:

(Start: 50 @74744 has 40 MA's), (Start: 54 @74759 has 3 MA's), (84, 74867), (85, 74870), (88, 74879), (110, 74978), (116, 75008), (129, 75056), (133, 75074), (138, 75089), (149, 75137), (159, 75176),

Gene: PestoPenguin\_91 Start: 55873, Stop: 56352, Start Num: 51

Candidate Starts for PestoPenguin\_91:

(Start: 51 @55873 has 6 MA's), (65, 55930), (68, 55936), (85, 55996), (96, 56044), (101, 56062), (122, 56161), (129, 56179), (130, 56185), (146, 56245), (149, 56260), (151, 56272), (156, 56293),

Gene: Petito\_89 Start: 55917, Stop: 56399, Start Num: 52

Candidate Starts for Petito\_89:

(Start: 52 @55917 has 50 MA's), (85, 56040), (101, 56106), (109, 56139), (129, 56226), (151, 56319), (156, 56340),

Gene: Phaby\_75 Start: 47582, Stop: 48085, Start Num: 41

Candidate Starts for Phaby\_75:

(Start: 41 @47582 has 34 MA's), (56, 47612), (61, 47633), (67, 47654), (76, 47681), (85, 47717), (115, 47843), (126, 47897), (141, 47954), (146, 47981),

Gene: Phaila\_75 Start: 44697, Stop: 45188, Start Num: 49

Candidate Starts for Phaila\_75:

(Start: 47 @44694 has 40 MA's), (Start: 49 @44697 has 8 MA's), (61, 44739), (62, 44742), (106, 44910), (124, 44991), (144, 45069),

Gene: Phepper\_88 Start: 56061, Stop: 56540, Start Num: 52

Candidate Starts for Phepper\_88:

(Start: 52 @56061 has 50 MA's), (67, 56121), (84, 56181), (96, 56232), (101, 56250), (122, 56349), (129, 56367), (130, 56373), (146, 56433), (149, 56448), (151, 56460), (156, 56481),

Gene: Pherobrine\_85 Start: 55751, Stop: 56233, Start Num: 52

Candidate Starts for Pherobrine\_85:

(33, 55721), (Start: 52 @55751 has 50 MA's), (61, 55790), (65, 55808), (72, 55829), (83, 55868), (96, 55922), (101, 55940), (129, 56060), (137, 56090), (164, 56207),

Gene: PherryCruz\_54 Start: 39085, Stop: 39594, Start Num: 50

Candidate Starts for PherryCruz\_54:

(6, 38812), (12, 38977), (Start: 24 @39022 has 1 MA's), (Start: 50 @39085 has 40 MA's), (Start: 55 @39100 has 1 MA's), (62, 39127), (88, 39235), (96, 39274), (113, 39349), (138, 39451), (141, 39457), (144, 39472),

Gene: Phlop\_82 Start: 55730, Stop: 55215, Start Num: 38

Candidate Starts for Phlop\_82:

(Start: 35 @55736 has 1 MA's), (Start: 38 @55730 has 19 MA's), (Start: 46 @55718 has 1 MA's), (59, 55682), (69, 55637), (73, 55622), (94, 55544), (101, 55517), (107, 55496), (111, 55472), (163, 55262), (166, 55250), (171, 55226),

Gene: PinkCoffee\_86 Start: 55594, Stop: 55079, Start Num: 38

Candidate Starts for PinkCoffee\_86:

(Start: 35 @55600 has 1 MA's), (Start: 38 @55594 has 19 MA's), (Start: 46 @55582 has 1 MA's), (59, 55546), (69, 55501), (73, 55486), (94, 55408), (101, 55381), (107, 55360), (111, 55336), (163, 55126), (166, 55114), (171, 55090),

Gene: Poco6\_050 Start: 73353, Stop: 73844, Start Num: 50

Candidate Starts for Poco6\_050:

(Start: 50 @73353 has 40 MA's), (Start: 54 @73368 has 3 MA's), (84, 73476), (85, 73479), (88, 73488), (110, 73587), (129, 73665), (133, 73683), (137, 73695), (138, 73698), (144, 73719), (149, 73746), (159, 73785),

Gene: PoeMe\_74 Start: 45187, Stop: 45678, Start Num: 49

Candidate Starts for PoeMe\_74:

(Start: 47 @45184 has 40 MA's), (Start: 49 @45187 has 8 MA's), (61, 45229), (62, 45232), (106, 45400), (124, 45481), (144, 45559),

Gene: Popy\_80 Start: 51779, Stop: 52288, Start Num: 50

Candidate Starts for Popy\_80:

(Start: 50 @51779 has 40 MA's), (62, 51824), (76, 51869), (89, 51938), (115, 52052), (138, 52142), (139, 52145), (144, 52163), (156, 52223), (160, 52232), (167, 52274),

Gene: Portcullis\_85 Start: 55736, Stop: 55221, Start Num: 38

Candidate Starts for Portcullis\_85:

(Start: 35 @55742 has 1 MA's), (Start: 38 @55736 has 19 MA's), (Start: 46 @55724 has 1 MA's), (59, 55688), (69, 55643), (73, 55628), (94, 55550), (101, 55523), (107, 55502), (111, 55478), (163, 55268), (166, 55256), (171, 55232),

Gene: Powelldog\_75 Start: 45923, Stop: 46420, Start Num: 47

Candidate Starts for Powelldog\_75:

(23, 45860), (Start: 30 @45890 has 2 MA's), (34, 45902), (Start: 47 @45923 has 40 MA's), (68, 45989), (75, 46010), (76, 46013), (97, 46103), (104, 46130), (141, 46289),

Gene: ProfFrink\_72 Start: 45182, Stop: 45679, Start Num: 47

Candidate Starts for ProfFrink\_72:

(Start: 30 @45149 has 2 MA's), (34, 45161), (Start: 37 @45167 has 3 MA's), (Start: 47 @45182 has 40 MA's), (Start: 54 @45197 has 3 MA's), (97, 45362), (122, 45470), (144, 45563),

Gene: PullumCavea\_83 Start: 55907, Stop: 55392, Start Num: 38

Candidate Starts for PullumCavea\_83:

(Start: 35 @55913 has 1 MA's), (Start: 38 @55907 has 19 MA's), (Start: 46 @55895 has 1 MA's), (59, 55859), (69, 55814), (73, 55799), (94, 55721), (101, 55694), (107, 55673), (111, 55649), (163, 55439), (166, 55427), (171, 55403),

Gene: Qui\_134 Start: 71880, Stop: 72353, Start Num: 54

Candidate Starts for Qui\_134:

(Start: 46 @71859 has 1 MA's), (Start: 54 @71880 has 3 MA's), (67, 71928), (68, 71931), (70, 71937), (76, 71955), (83, 71985), (128, 72168), (159, 72297),

Gene: Rainydai\_87 Start: 53073, Stop: 53564, Start Num: 50

Candidate Starts for Rainydai\_87:

(9, 52932), (10, 52950), (11, 52959), (28, 53031), (32, 53040), (Start: 50 @53073 has 40 MA's), (62, 53118), (76, 53163), (81, 53175), (115, 53331), (122, 53364), (164, 53535),

Gene: Raunak\_73 Start: 44844, Stop: 45341, Start Num: 47

Candidate Starts for Raunak\_73:

(Start: 30 @44811 has 2 MA's), (34, 44823), (Start: 37 @44829 has 3 MA's), (Start: 47 @44844 has 40 MA's), (Start: 54 @44859 has 3 MA's), (97, 45024), (122, 45132), (144, 45225),

Gene: RavenPuff\_55 Start: 39055, Stop: 39564, Start Num: 50

Candidate Starts for RavenPuff\_55:

(Start: 50 @39055 has 40 MA's), (Start: 55 @39070 has 1 MA's), (62, 39097), (82, 39187), (88, 39205), (96, 39244), (113, 39319), (138, 39421), (141, 39427), (144, 39442),

Gene: Regigigas\_90 Start: 52685, Stop: 53176, Start Num: 50

Candidate Starts for Regigigas\_90:

(9, 52544), (10, 52562), (11, 52571), (28, 52643), (32, 52652), (Start: 50 @52685 has 40 MA's), (62, 52730), (76, 52775), (81, 52787), (115, 52943), (122, 52976), (164, 53147),

Gene: Renaldo\_81 Start: 46660, Stop: 47151, Start Num: 49

Candidate Starts for Renaldo\_81:

(Start: 47 @46657 has 40 MA's), (Start: 49 @46660 has 8 MA's), (61, 46702), (62, 46705), (98, 46843), (106, 46873), (110, 46888), (124, 46954), (155, 47086), (159, 47098),

Gene: Rickmore\_88 Start: 55645, Stop: 56139, Start Num: 52

Candidate Starts for Rickmore\_88:

(Start: 52 @55645 has 50 MA's), (84, 55765), (94, 55807), (96, 55816), (101, 55834), (129, 55951), (133, 55969), (134, 55972), (146, 56017), (151, 56044),

Gene: Rima\_83 Start: 51477, Stop: 51986, Start Num: 50

Candidate Starts for Rima\_83:

(Start: 50 @51477 has 40 MA's), (62, 51522), (76, 51567), (89, 51636), (115, 51750), (138, 51840), (144, 51861), (156, 51921), (160, 51930), (167, 51972),

Gene: RogerDodger\_88 Start: 56495, Stop: 55980, Start Num: 38

Candidate Starts for RogerDodger\_88:

(Start: 35 @56501 has 1 MA's), (Start: 38 @56495 has 19 MA's), (Start: 46 @56483 has 1 MA's), (59, 56447), (69, 56402), (73, 56387), (94, 56309), (101, 56282), (107, 56261), (111, 56237), (163, 56027), (166, 56015), (171, 55991),

Gene: Roney\_88 Start: 55308, Stop: 55790, Start Num: 52

Candidate Starts for Roney\_88:

(Start: 52 @55308 has 50 MA's), (85, 55431), (94, 55470), (101, 55497), (123, 55602), (129, 55617), (149, 55698), (151, 55710), (156, 55731),

Gene: RosaAsantewaa\_51 Start: 38179, Stop: 38670, Start Num: 51

Candidate Starts for RosaAsantewaa\_51:

(22, 38107), (Start: 51 @38179 has 6 MA's), (76, 38266), (83, 38296), (85, 38302), (88, 38311), (96, 38350), (101, 38368), (115, 38437), (160, 38617), (161, 38629),

Gene: Runhaar\_85 Start: 55666, Stop: 56145, Start Num: 52

Candidate Starts for Runhaar\_85:

(Start: 52 @55666 has 50 MA's), (84, 55786), (101, 55855), (129, 55972), (130, 55978), (146, 56038), (149, 56053), (151, 56065), (156, 56086),

Gene: RunningOnE\_30 Start: 14405, Stop: 13887, Start Num: 50

Candidate Starts for RunningOnE\_30:

(Start: 50 @14405 has 40 MA's), (62, 14357), (63, 14348), (67, 14327), (94, 14213), (97, 14201), (106, 14165), (115, 14123), (133, 14060), (142, 14027), (152, 13973),

Gene: RunningOnE\_9 Start: 3940, Stop: 3410, Start Num: 40

Candidate Starts for RunningOnE\_9:

(26, 3970), (40, 3940), (59, 3892), (77, 3817), (85, 3781), (86, 3778), (109, 3688), (143, 3541), (155, 3484),

Gene: RustyBoy\_76 Start: 45713, Stop: 46210, Start Num: 47

Candidate Starts for RustyBoy\_76:

(Start: 47 @45713 has 40 MA's), (68, 45779), (97, 45893), (104, 45920), (121, 45995), (127, 46025), (144, 46094),

Gene: Salk\_72 Start: 45202, Stop: 45699, Start Num: 47

Candidate Starts for Salk\_72:

(Start: 30 @45169 has 2 MA's), (34, 45181), (Start: 37 @45187 has 3 MA's), (Start: 47 @45202 has 40 MA's), (Start: 54 @45217 has 3 MA's), (97, 45382), (122, 45490), (144, 45583),

Gene: Salvador\_85 Start: 55832, Stop: 55317, Start Num: 38

Candidate Starts for Salvador\_85:

(Start: 35 @55838 has 1 MA's), (Start: 38 @55832 has 19 MA's), (Start: 46 @55820 has 1 MA's), (59, 55784), (69, 55739), (73, 55724), (94, 55646), (101, 55619), (107, 55598), (111, 55574), (163, 55364), (166, 55352), (171, 55328),

Gene: Sangak\_54 Start: 38595, Stop: 39104, Start Num: 50

Candidate Starts for Sangak\_54:

(Start: 50 @38595 has 40 MA's), (Start: 55 @38610 has 1 MA's), (62, 38637), (82, 38727), (88, 38745), (96, 38784), (113, 38859), (138, 38961), (141, 38967), (144, 38982),

Gene: SarFire\_70 Start: 44563, Stop: 43985, Start Num: 31

Candidate Starts for SarFire\_70:

(Start: 31 @44563 has 14 MA's), (Start: 36 @44551 has 2 MA's), (Start: 46 @44533 has 1 MA's), (85, 44392), (89, 44365), (98, 44326), (107, 44296), (158, 44083),

Gene: Savbucketdawg\_80 Start: 55174, Stop: 54659, Start Num: 38

Candidate Starts for Savbucketdawg\_80:

(Start: 35 @55180 has 1 MA's), (Start: 38 @55174 has 19 MA's), (Start: 46 @55162 has 1 MA's), (59, 55126), (69, 55081), (73, 55066), (94, 54988), (101, 54961), (107, 54940), (111, 54916), (163, 54706), (166, 54694), (171, 54670),

Gene: Scap1\_52 Start: 38365, Stop: 38937, Start Num: 24

Candidate Starts for Scap1\_52:

(Start: 24 @38365 has 1 MA's), (Start: 50 @38428 has 40 MA's), (Start: 55 @38443 has 1 MA's), (62, 38470), (64, 38488), (82, 38560), (87, 38575), (88, 38578), (96, 38617), (138, 38794), (141, 38800),

Gene: Schwartz33\_84 Start: 54940, Stop: 55425, Start Num: 50

Candidate Starts for Schwartz33\_84:

(Start: 50 @54940 has 40 MA's), (62, 54982), (65, 54997), (96, 55111), (101, 55129), (122, 55231), (129, 55249), (135, 55273), (146, 55315), (149, 55330), (159, 55369),

Gene: ScienceWizSam\_71 Start: 46973, Stop: 47476, Start Num: 41

Candidate Starts for ScienceWizSam\_71:

(Start: 41 @46973 has 34 MA's), (76, 47072), (115, 47234), (126, 47288), (141, 47345), (146, 47372), (157, 47423),

Gene: Secretariat\_80 Start: 53208, Stop: 53693, Start Num: 50

Candidate Starts for Secretariat\_80:

(Start: 50 @53208 has 40 MA's), (62, 53250), (65, 53265), (96, 53379), (101, 53397), (122, 53499), (129, 53517), (135, 53541), (146, 53583), (149, 53598), (159, 53637), (160, 53640), (167, 53682),

Gene: SendItCS\_82 Start: 51443, Stop: 51934, Start Num: 50

Candidate Starts for SendItCS\_82:

(9, 51302), (10, 51320), (11, 51329), (28, 51401), (32, 51410), (Start: 50 @51443 has 40 MA's), (62, 51488), (76, 51533), (81, 51545), (115, 51701), (122, 51734), (164, 51905),

Gene: ShaggyRogers\_87 Start: 55632, Stop: 56111, Start Num: 52

Candidate Starts for ShaggyRogers\_87:

(Start: 52 @55632 has 50 MA's), (84, 55752), (96, 55803), (97, 55806), (101, 55821), (129, 55938), (135, 55962), (146, 56004), (149, 56019), (151, 56031), (156, 56052),

Gene: SheRa\_55 Start: 38965, Stop: 39474, Start Num: 50

Candidate Starts for SheRa\_55:

(12, 38857), (Start: 24 @38902 has 1 MA's), (Start: 50 @38965 has 40 MA's), (Start: 55 @38980 has 1 MA's), (62, 39007), (82, 39097), (88, 39115), (96, 39154), (113, 39229), (138, 39331), (141, 39337), (144, 39352),

Gene: Shepard\_74 Start: 46904, Stop: 47407, Start Num: 41

Candidate Starts for Shepard\_74:

(Start: 41 @46904 has 34 MA's), (56, 46934), (61, 46955), (67, 46976), (76, 47003), (85, 47039), (115, 47165), (126, 47219), (141, 47276), (146, 47303),

Gene: Shiba\_71 Start: 44860, Stop: 45357, Start Num: 47

Candidate Starts for Shiba\_71:

(Start: 30 @44827 has 2 MA's), (34, 44839), (Start: 37 @44845 has 3 MA's), (Start: 47 @44860 has 40 MA's), (Start: 54 @44875 has 3 MA's), (97, 45040), (122, 45148), (144, 45241),

Gene: Shinji\_84 Start: 55913, Stop: 55398, Start Num: 38

Candidate Starts for Shinji\_84:

(Start: 35 @55919 has 1 MA's), (Start: 38 @55913 has 19 MA's), (Start: 46 @55901 has 1 MA's), (59, 55865), (69, 55820), (73, 55805), (94, 55727), (101, 55700), (107, 55679), (111, 55655), (163, 55445), (166, 55433), (171, 55409),

Gene: Sloopyjoe\_72 Start: 45206, Stop: 45703, Start Num: 47

Candidate Starts for Sloopyjoe\_72:

(Start: 30 @45173 has 2 MA's), (34, 45185), (Start: 37 @45191 has 3 MA's), (Start: 47 @45206 has 40 MA's), (Start: 54 @45221 has 3 MA's), (97, 45386), (122, 45494), (144, 45587),

Gene: SmokingBunny\_86 Start: 56828, Stop: 56313, Start Num: 38

Candidate Starts for SmokingBunny\_86:

(Start: 35 @56834 has 1 MA's), (Start: 38 @56828 has 19 MA's), (Start: 46 @56816 has 1 MA's), (59, 56780), (69, 56735), (73, 56720), (94, 56642), (101, 56615), (107, 56594), (111, 56570), (163, 56360), (166, 56348), (171, 56324),

Gene: Snazzy\_68 Start: 43855, Stop: 43277, Start Num: 31

Candidate Starts for Snazzy\_68:

(Start: 31 @43855 has 14 MA's), (Start: 36 @43843 has 2 MA's), (Start: 46 @43825 has 1 MA's), (85, 43684), (89, 43657), (98, 43618), (107, 43588), (158, 43375),

Gene: Soshi\_81 Start: 51620, Stop: 52129, Start Num: 50

Candidate Starts for Soshi\_81:

(Start: 50 @51620 has 40 MA's), (62, 51665), (76, 51710), (89, 51779), (115, 51893), (138, 51983), (144, 52004), (156, 52064), (160, 52073), (167, 52115),

Gene: Spain\_72 Start: 45204, Stop: 45701, Start Num: 47

Candidate Starts for Spain\_72:

(Start: 30 @45171 has 2 MA's), (34, 45183), (Start: 37 @45189 has 3 MA's), (Start: 47 @45204 has 40 MA's), (Start: 54 @45219 has 3 MA's), (97, 45384), (122, 45492), (144, 45585),

Gene: Spectropatronm\_81 Start: 51016, Stop: 51525, Start Num: 50

Candidate Starts for Spectropatronm\_81:

(Start: 50 @51016 has 40 MA's), (62, 51061), (76, 51106), (89, 51175), (115, 51289), (138, 51379), (144, 51400), (156, 51460), (160, 51469), (167, 51511),

Gene: SpikeBT\_61 Start: 41461, Stop: 40904, Start Num: 57

Candidate Starts for SpikeBT\_61:

(Start: 57 @41461 has 9 MA's), (66, 41419), (71, 41401), (92, 41317), (97, 41299), (110, 41248), (121, 41194), (148, 41092), (173, 40924),

Gene: Sporto\_71 Start: 46287, Stop: 46784, Start Num: 47

Candidate Starts for Sporto\_71:

(28, 46248), (Start: 47 @46287 has 40 MA's), (67, 46350), (76, 46377), (91, 46440), (104, 46494), (121, 46569), (127, 46599), (141, 46653),

Gene: Sprinkle\_73 Start: 45895, Stop: 46392, Start Num: 47

Candidate Starts for Sprinkle\_73:

(19, 45820), (21, 45829), (Start: 30 @45862 has 2 MA's), (34, 45874), (Start: 47 @45895 has 40 MA's), (68, 45961), (76, 45985), (97, 46075), (104, 46102), (122, 46183), (141, 46261),

Gene: Squee\_73 Start: 44893, Stop: 44315, Start Num: 31

Candidate Starts for Squee\_73:

(Start: 31 @44893 has 14 MA's), (Start: 36 @44881 has 2 MA's), (Start: 46 @44863 has 1 MA's), (85, 44722), (89, 44695), (98, 44656), (107, 44626), (158, 44413),

Gene: StarLord\_72 Start: 45199, Stop: 45696, Start Num: 47

Candidate Starts for StarLord\_72:

(Start: 30 @45166 has 2 MA's), (34, 45178), (Start: 37 @45184 has 3 MA's), (Start: 47 @45199 has 40 MA's), (Start: 54 @45214 has 3 MA's), (97, 45379), (122, 45487), (144, 45580),

Gene: Stardrop\_77 Start: 45289, Stop: 45780, Start Num: 49

Candidate Starts for Stardrop\_77:

(Start: 47 @45286 has 40 MA's), (Start: 49 @45289 has 8 MA's), (61, 45331), (62, 45334), (106, 45502), (144, 45661),

Gene: Stayer\_72 Start: 45169, Stop: 45699, Start Num: 30

Candidate Starts for Stayer\_72:

(Start: 30 @45169 has 2 MA's), (34, 45181), (Start: 37 @45187 has 3 MA's), (Start: 47 @45202 has 40 MA's), (Start: 54 @45217 has 3 MA's), (97, 45382), (122, 45490), (144, 45583),

Gene: Sunny4976\_69 Start: 47081, Stop: 47557, Start Num: 47  
Candidate Starts for Sunny4976\_69:  
(Start: 47 @47081 has 40 MA's), (79, 47177), (117, 47345), (165, 47525),

Gene: SweetCrkHerbs\_91 Start: 55056, Stop: 55538, Start Num: 52  
Candidate Starts for SweetCrkHerbs\_91:  
(Start: 52 @55056 has 50 MA's), (85, 55179), (101, 55245), (109, 55278), (129, 55365), (151, 55458),  
(160, 55488), (164, 55512),

Gene: SwissCheese\_66 Start: 41680, Stop: 41123, Start Num: 57  
Candidate Starts for SwissCheese\_66:  
(Start: 57 @41680 has 9 MA's), (66, 41638), (71, 41620), (92, 41536), (97, 41518), (110, 41467), (121,  
41413), (148, 41311), (173, 41143),

Gene: Synopsis\_66 Start: 46738, Stop: 47241, Start Num: 41  
Candidate Starts for Synopsis\_66:  
(Start: 41 @46738 has 34 MA's), (76, 46837), (115, 46999), (126, 47053), (141, 47110), (157, 47188),

Gene: TaidaOne\_82 Start: 51492, Stop: 52001, Start Num: 50  
Candidate Starts for TaidaOne\_82:  
(Start: 50 @51492 has 40 MA's), (62, 51537), (76, 51582), (89, 51651), (115, 51765), (138, 51855),  
(144, 51876), (156, 51936), (160, 51945), (167, 51987),

Gene: Tairn4Wing\_91 Start: 55091, Stop: 55573, Start Num: 52  
Candidate Starts for Tairn4Wing\_91:  
(Start: 52 @55091 has 50 MA's), (81, 55190), (85, 55214), (101, 55280), (109, 55313), (129, 55400),  
(149, 55481), (151, 55493), (153, 55496), (156, 55514),

Gene: Talon44\_91 Start: 55653, Stop: 56135, Start Num: 52  
Candidate Starts for Talon44\_91:  
(Start: 52 @55653 has 50 MA's), (85, 55776), (101, 55842), (109, 55875), (129, 55962), (151, 56055),  
(160, 56085), (164, 56109),

Gene: Tanis\_89 Start: 55128, Stop: 55610, Start Num: 52  
Candidate Starts for Tanis\_89:  
(Start: 52 @55128 has 50 MA's), (85, 55251), (94, 55290), (101, 55317), (123, 55422), (129, 55437),  
(149, 55518), (151, 55530), (156, 55551),

Gene: Tatanka\_63 Start: 46880, Stop: 47383, Start Num: 41  
Candidate Starts for Tatanka\_63:  
(Start: 41 @46880 has 34 MA's), (76, 46979), (115, 47141), (126, 47195), (141, 47252), (146, 47279),  
(157, 47330),

Gene: Teacup\_71 Start: 47312, Stop: 47815, Start Num: 41  
Candidate Starts for Teacup\_71:  
(Start: 41 @47312 has 34 MA's), (76, 47411), (114, 47570), (115, 47573), (126, 47627), (141, 47684),  
(146, 47711), (157, 47762),

Gene: TenaciousP\_89 Start: 57721, Stop: 58203, Start Num: 52  
Candidate Starts for TenaciousP\_89:  
(Start: 52 @57721 has 50 MA's), (60, 57754), (83, 57838), (129, 58027), (146, 58093), (149, 58108),  
(151, 58120),

Gene: Tenney120\_74 Start: 45235, Stop: 45726, Start Num: 49

Candidate Starts for Tenney120\_74:

(Start: 47 @45232 has 40 MA's), (Start: 49 @45235 has 8 MA's), (61, 45277), (62, 45280), (106, 45448), (124, 45529),

Gene: Tenno\_69 Start: 47396, Stop: 47899, Start Num: 41

Candidate Starts for Tenno\_69:

(Start: 41 @47396 has 34 MA's), (Start: 54 @47420 has 3 MA's), (76, 47495), (115, 47657), (126, 47711), (141, 47768), (146, 47795), (157, 47846),

Gene: Thiqqums\_90 Start: 53073, Stop: 53564, Start Num: 50

Candidate Starts for Thiqqums\_90:

(9, 52932), (10, 52950), (11, 52959), (28, 53031), (32, 53040), (Start: 50 @53073 has 40 MA's), (62, 53118), (76, 53163), (81, 53175), (115, 53331), (122, 53364), (164, 53535),

Gene: Thor\_70 Start: 43921, Stop: 43343, Start Num: 31

Candidate Starts for Thor\_70:

(Start: 31 @43921 has 14 MA's), (Start: 36 @43909 has 2 MA's), (Start: 46 @43891 has 1 MA's), (85, 43750), (89, 43723), (98, 43684), (107, 43654), (158, 43441),

Gene: TieDye\_78 Start: 50340, Stop: 50849, Start Num: 50

Candidate Starts for TieDye\_78:

(Start: 50 @50340 has 40 MA's), (62, 50385), (76, 50430), (89, 50499), (115, 50613), (138, 50703), (144, 50724), (156, 50784), (160, 50793), (167, 50835),

Gene: TillyBobJoe\_83 Start: 55714, Stop: 55199, Start Num: 38

Candidate Starts for TillyBobJoe\_83:

(Start: 35 @55720 has 1 MA's), (Start: 38 @55714 has 19 MA's), (Start: 46 @55702 has 1 MA's), (59, 55666), (69, 55621), (73, 55606), (94, 55528), (101, 55501), (107, 55480), (111, 55456), (163, 55246), (166, 55234), (171, 55210),

Gene: Tipton\_73 Start: 47449, Stop: 47922, Start Num: 56

Candidate Starts for Tipton\_73:

(Start: 41 @47419 has 34 MA's), (56, 47449), (61, 47470), (67, 47491), (76, 47518), (85, 47554), (115, 47680), (126, 47734), (141, 47791), (146, 47818),

Gene: Togo\_85 Start: 56828, Stop: 56313, Start Num: 38

Candidate Starts for Togo\_85:

(Start: 35 @56834 has 1 MA's), (Start: 38 @56828 has 19 MA's), (Start: 46 @56816 has 1 MA's), (59, 56780), (69, 56735), (73, 56720), (94, 56642), (101, 56615), (107, 56594), (111, 56570), (163, 56360), (166, 56348), (171, 56324),

Gene: Tokki\_79 Start: 47450, Stop: 47953, Start Num: 41

Candidate Starts for Tokki\_79:

(Start: 41 @47450 has 34 MA's), (56, 47480), (61, 47501), (67, 47522), (76, 47549), (85, 47585), (115, 47711), (126, 47765), (141, 47822), (146, 47849),

Gene: Tonaltzin\_92 Start: 56460, Stop: 56942, Start Num: 52

Candidate Starts for Tonaltzin\_92:

(Start: 52 @56460 has 50 MA's), (60, 56493), (83, 56577), (129, 56766), (146, 56832), (149, 56847), (151, 56859),

Gene: TonyStarch\_81 Start: 50778, Stop: 51287, Start Num: 50

Candidate Starts for TonyStarch\_81:

(Start: 50 @50778 has 40 MA's), (62, 50823), (76, 50868), (89, 50937), (115, 51051), (138, 51141), (144, 51162), (156, 51222), (160, 51231), (167, 51273),

Gene: Tribby\_80 Start: 46452, Stop: 46964, Start Num: 47

Candidate Starts for Tribby\_80:

(Start: 47 @46452 has 40 MA's), (68, 46521), (83, 46575), (117, 46719), (123, 46746),

Gene: TrixiePhattel\_74 Start: 44870, Stop: 45361, Start Num: 49

Candidate Starts for TrixiePhattel\_74:

(Start: 35 @44846 has 1 MA's), (Start: 47 @44867 has 40 MA's), (Start: 49 @44870 has 8 MA's), (Start: 54 @44885 has 3 MA's), (62, 44915), (98, 45053), (106, 45083), (124, 45164), (131, 45188), (137, 45218), (144, 45242), (159, 45308),

Gene: Truckee\_71 Start: 47121, Stop: 47624, Start Num: 41

Candidate Starts for Truckee\_71:

(Start: 41 @47121 has 34 MA's), (Start: 54 @47145 has 3 MA's), (61, 47172), (76, 47220), (85, 47256), (115, 47382), (126, 47436), (141, 47493), (146, 47520), (157, 47571),

Gene: Trufflozitus\_93 Start: 55606, Stop: 56088, Start Num: 52

Candidate Starts for Trufflozitus\_93:

(Start: 52 @55606 has 50 MA's), (81, 55705), (85, 55729), (101, 55795), (109, 55828), (129, 55915), (149, 55996), (151, 56008), (153, 56011), (156, 56029),

Gene: Trustiboi\_68 Start: 46995, Stop: 47498, Start Num: 41

Candidate Starts for Trustiboi\_68:

(Start: 41 @46995 has 34 MA's), (76, 47094), (115, 47256), (126, 47310), (141, 47367), (146, 47394), (157, 47445),

Gene: Twister6\_84 Start: 55177, Stop: 54662, Start Num: 38

Candidate Starts for Twister6\_84:

(Start: 35 @55183 has 1 MA's), (Start: 38 @55177 has 19 MA's), (Start: 46 @55165 has 1 MA's), (59, 55129), (69, 55084), (73, 55069), (94, 54991), (101, 54964), (107, 54943), (111, 54919), (163, 54709), (166, 54697), (171, 54673),

Gene: Untouchable\_89 Start: 57058, Stop: 57537, Start Num: 52

Candidate Starts for Untouchable\_89:

(Start: 52 @57058 has 50 MA's), (67, 57118), (84, 57178), (96, 57229), (101, 57247), (122, 57346), (129, 57364), (130, 57370), (146, 57430), (149, 57445), (151, 57457), (156, 57478),

Gene: Uzumaki\_70 Start: 44675, Stop: 45166, Start Num: 49

Candidate Starts for Uzumaki\_70:

(Start: 47 @44672 has 40 MA's), (Start: 49 @44675 has 8 MA's), (61, 44717), (62, 44720), (106, 44888), (124, 44969), (144, 45047),

Gene: Valary\_86 Start: 56820, Stop: 56305, Start Num: 38

Candidate Starts for Valary\_86:

(Start: 35 @56826 has 1 MA's), (Start: 38 @56820 has 19 MA's), (Start: 46 @56808 has 1 MA's), (59, 56772), (69, 56727), (73, 56712), (94, 56634), (101, 56607), (107, 56586), (111, 56562), (163, 56352), (166, 56340), (171, 56316),

Gene: VanDeWege\_87 Start: 56351, Stop: 55830, Start Num: 35

Candidate Starts for VanDeWege\_87:

(Start: 35 @56351 has 1 MA's), (Start: 38 @56345 has 19 MA's), (Start: 46 @56333 has 1 MA's), (59, 56297), (69, 56252), (73, 56237), (94, 56159), (101, 56132), (107, 56111), (111, 56087), (163, 55877), (166, 55865), (171, 55841),

Gene: Vardy\_86 Start: 55581, Stop: 56060, Start Num: 52

Candidate Starts for Vardy\_86:

(Start: 52 @55581 has 50 MA's), (84, 55701), (101, 55770), (129, 55887), (130, 55893), (146, 55953), (149, 55968), (151, 55980), (156, 56001),

Gene: Westerlin\_67 Start: 48082, Stop: 48585, Start Num: 41

Candidate Starts for Westerlin\_67:

(Start: 41 @48082 has 34 MA's), (76, 48181), (115, 48343), (126, 48397), (137, 48445), (141, 48454), (146, 48481), (157, 48532),

Gene: Wigberry\_87 Start: 52198, Stop: 52701, Start Num: 48

Candidate Starts for Wigberry\_87:

(1, 51802), (2, 51814), (3, 51853), (4, 51862), (5, 51904), (42, 52189), (Start: 48 @52198 has 1 MA's), (62, 52243), (76, 52288), (82, 52315), (96, 52372), (97, 52375), (118, 52480), (151, 52618), (160, 52648), (162, 52663), (168, 52693),

Gene: Wizard\_80 Start: 55680, Stop: 55165, Start Num: 38

Candidate Starts for Wizard\_80:

(Start: 35 @55686 has 1 MA's), (Start: 38 @55680 has 19 MA's), (Start: 46 @55668 has 1 MA's), (59, 55632), (69, 55587), (73, 55572), (94, 55494), (101, 55467), (107, 55446), (111, 55422), (163, 55212), (166, 55200), (171, 55176),

Gene: Xenomorph\_73 Start: 45979, Stop: 46491, Start Num: 47

Candidate Starts for Xenomorph\_73:

(Start: 47 @45979 has 40 MA's), (68, 46048), (83, 46102), (117, 46246), (119, 46252), (123, 46273), (124, 46276), (159, 46420),

Gene: YoshiYama\_78 Start: 46617, Stop: 47060, Start Num: 68

Candidate Starts for YoshiYama\_78:

(20, 46476), (Start: 47 @46548 has 40 MA's), (68, 46617), (83, 46671), (117, 46815), (119, 46821), (123, 46842), (124, 46845),

Gene: Zeina\_76 Start: 45531, Stop: 46022, Start Num: 49

Candidate Starts for Zeina\_76:

(Start: 47 @45528 has 40 MA's), (Start: 49 @45531 has 8 MA's), (61, 45573), (62, 45576), (106, 45744), (124, 45825), (144, 45903),

Gene: Zeph\_90 Start: 56862, Stop: 57341, Start Num: 52

Candidate Starts for Zeph\_90:

(Start: 52 @56862 has 50 MA's), (67, 56922), (84, 56982), (96, 57033), (101, 57051), (122, 57150), (129, 57168), (130, 57174), (146, 57234), (149, 57249), (151, 57261), (156, 57282),

Gene: Zippen\_75 Start: 47714, Stop: 48217, Start Num: 41

Candidate Starts for Zippen\_75:

(Start: 41 @47714 has 34 MA's), (67, 47786), (85, 47849), (94, 47888), (115, 47975),