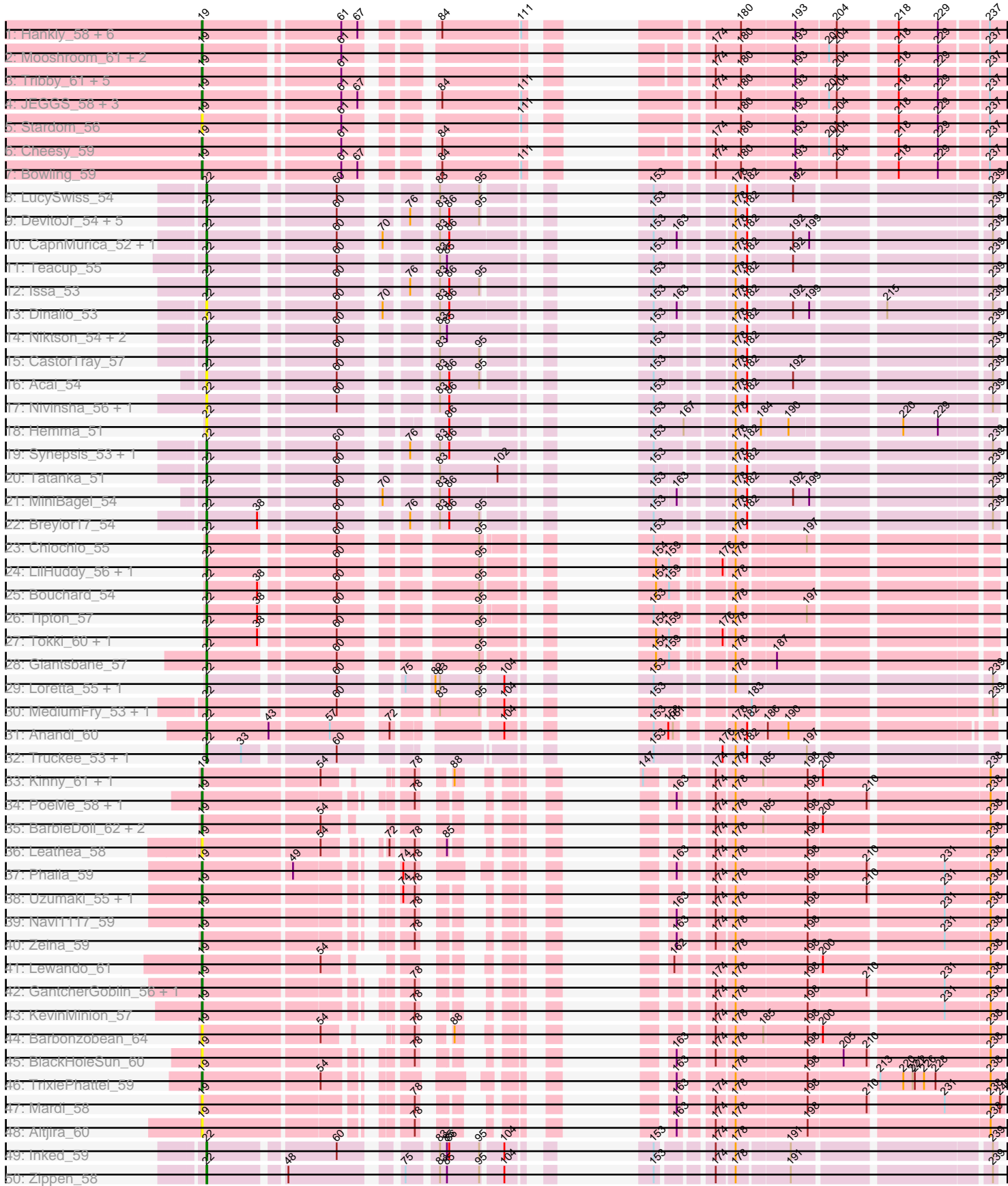


Pham 307997







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 307997 Report

This analysis was run 06/27/26 on database version 652.

Pham number 307997 has 261 members, 51 are drafts.

Phages represented in each track:

- Track 1 : Hankly\_58, KeaneyLin\_58, Benllo\_58, NapoleonB\_59, GoCrazy\_58, Circum\_61, Dynamite\_59
- Track 2 : Mooshroom\_61, YoshiYama\_59, Kardesai\_60
- Track 3 : Tribby\_61, Arcadia\_59, Correa\_56, Elsa\_59, Xenomorph\_56, Nason\_59
- Track 4 : JEGGS\_58, Heisenberger\_58, Mudcat\_56, BenitoAntonio\_59
- Track 5 : Stardom\_56
- Track 6 : Cheesy\_59
- Track 7 : Bowling\_59
- Track 8 : LucySwiss\_54
- Track 9 : DevitoJr\_54, Trustiboi\_54, Westerlin\_53, Gordon\_52, Nightmare\_56, ScienceWizSam\_55
- Track 10 : CapnMurica\_52, Tenno\_55
- Track 11 : Teacup\_55
- Track 12 : Issa\_53
- Track 13 : Dinallo\_53
- Track 14 : Niktson\_54, ElephantMan\_54, Brunswick\_55
- Track 15 : CastorTray\_57
- Track 16 : Acai\_54
- Track 17 : Nivinsha\_56, AreFloNak\_57
- Track 18 : Hemma\_51
- Track 19 : Synopsis\_53, Darby\_53
- Track 20 : Tatanka\_51
- Track 21 : MiniBagel\_54
- Track 22 : Breylor17\_54
- Track 23 : Chlochlo\_55
- Track 24 : LilHuddy\_56, Shepard\_57
- Track 25 : Bouchard\_54
- Track 26 : Tipton\_57
- Track 27 : Tokki\_60, Phaby\_57
- Track 28 : Giantsbane\_57
- Track 29 : Loretta\_55, Ingrid\_58
- Track 30 : MediumFry\_53, Caterpillar\_52
- Track 31 : Anandi\_60
- Track 32 : Truckee\_53, Makai\_55
- Track 33 : Kinny\_61, Renaldo\_64
- Track 34 : PoeMe\_58, Stardrop\_58
- Track 35 : BarbieDoll\_62, Biscute\_58, Muglass\_60

- Track 36 : Leathea\_58
- Track 37 : Phaila\_59
- Track 38 : Uzumaki\_55, Argan\_56
- Track 39 : Navi1117\_59
- Track 40 : Zeina\_59
- Track 41 : Lewando\_61
- Track 42 : GantcherGoblin\_56, Tenney120\_59
- Track 43 : KevinMinion\_57
- Track 44 : Barbonzobean\_64
- Track 45 : BlackHoleSun\_60
- Track 46 : TrixiePhattel\_59
- Track 47 : Mardi\_58
- Track 48 : Altjira\_60
- Track 49 : Inked\_59
- Track 50 : Zippen\_58
- Track 51 : RustyBoy\_55, Natasha\_55
- Track 52 : MrAaronian\_54, Egad\_54, Shiba\_53, BronxBay\_54, Djungelskog\_53, Raunak\_57, StarLord\_54, Spain\_56, Sloopyjoe\_54, Stayer\_54, ProfFrink\_54, Michelle\_54
- Track 53 : Boog\_53, HerbBucket\_54
- Track 54 : Linda\_54, Salk\_54
- Track 55 : PowellDog\_59
- Track 56 : Sporto\_55
- Track 57 : Jeremy4pt0\_53
- Track 58 : Sprinkle\_53
- Track 59 : DoctorPepper\_53
- Track 60 : Onestar\_53
- Track 61 : Meibysrarus\_56, TieDye\_57, Esketit\_58, HazuAndZazu\_57, TonyStarch\_57, Maya\_58, TaidaOne\_58, Hoshi\_57, IceWarrior\_57
- Track 62 : GirlPower\_52
- Track 63 : Madamato\_60
- Track 64 : Indigenous\_58, SpectroPatronm\_58, CherryBlossom\_58, FidgetOrca\_58, Jaylociraptor\_58
- Track 65 : Espio\_58, DrGrey\_57
- Track 66 : OlympicHelado\_58
- Track 67 : Popy\_58, FrodoSwaggins\_58
- Track 68 : Soshi\_57
- Track 69 : Rima\_59, Nam0\_59
- Track 70 : SheRa\_41, HotFries\_40
- Track 71 : GoblinVoyage\_41, Sangak\_39
- Track 72 : Annihilus\_41
- Track 73 : Bilo\_39
- Track 74 : Moozy\_40
- Track 75 : Doxi13\_41
- Track 76 : RavenPuff\_40, PherryCruz\_40
- Track 77 : Monse\_40
- Track 78 : Ditters\_40
- Track 79 : Scap1\_40
- Track 80 : RosaAsantewaa\_37
- Track 81 : LibertyBell\_48
- Track 82 : Miek\_54, Thiqqums\_57, CricKo\_57, Regigigas\_58, SendItCS\_53
- Track 83 : Rainydai\_55, FromIndy\_57
- Track 84 : Bing\_62

- Track 85 : Wigberry\_61
- Track 86 : Kardashian\_56
- Track 87 : ClubPenguin\_61
- Track 88 : Poco6\_083
- Track 89 : PerroGrande22\_77
- Track 90 : Pepy6\_084
- Track 91 : Hortihabitatio\_61
- Track 92 : EndAve\_60, Chikenjars\_57, Citrus\_58, Nithya\_59, BluerMoon\_57
- Track 93 : Capybara\_60, Gravy\_59, Odesza\_59, Roney\_60, NoPickles\_59, Tanis\_60, Magel\_61, Gill\_60, Kerry\_59
- Track 94 : ShaggyRogers\_59
- Track 95 : Rickmore\_56
- Track 96 : Avazak\_61, Football\_62, FortCran\_60, Bugg\_62, ChickyNuggy\_62, Captrips\_59, Artorias\_60, JulesRay\_60, Dancer\_60
- Track 97 : TenaciousP\_59, OlgasClover\_60, MajinBuu\_59, Aflac\_58, Jodelie19\_58
- Track 98 : Demure\_57, Untouchable\_61, Zeph\_61, Arataki\_58, Phepper\_60
- Track 99 : Duffington\_57
- Track 100 : Tairn4Wing\_62, Trufflozitus\_61
- Track 101 : PestoPenguin\_62, BetterYeti\_59, Gusicorn\_60
- Track 102 : Luthien\_61
- Track 103 : Aloe25\_61
- Track 104 : Conley\_59
- Track 105 : Fazel\_60
- Track 106 : Nadmeg\_60
- Track 107 : Madvan\_59, Dialga\_59
- Track 108 : CWormy\_58
- Track 109 : Burley\_59, Runhaar\_59, Vardy\_58
- Track 110 : AlainaMarie\_58
- Track 111 : Eddiemania\_61
- Track 112 : Mossy\_62, Blanky\_59
- Track 113 : Petite\_62
- Track 114 : Schwartz33\_61
- Track 115 : OhMyWard\_58
- Track 116 : Kenosha\_58
- Track 117 : Figliar\_57
- Track 118 : SweetCrkHerbs\_62, Talon44\_62, Perkunas\_62
- Track 119 : ArtetaBall\_59
- Track 120 : Crocheter\_59
- Track 121 : Tonaltzin\_62
- Track 122 : Secretariat\_59
- Track 123 : Pherobrine\_61
- Track 124 : Mysticmoon\_60
- Track 125 : Glintora\_60
- Track 126 : Hydrus\_61
- Track 127 : Count\_73
- Track 128 : Camille\_46
- Track 129 : DizzyRudy\_51
- Track 130 : Damascus\_48
- Track 131 : Mema\_47
- Track 132 : Sunny4976\_56, Jazzy4900\_57
- Track 133 : Arzan\_58, GermyBearimy\_65
- Track 134 : Paella\_107, Qui\_107, Gandionco\_104, JeNeSaisPas\_102, Kureo\_105, Marianna39\_105

- Track 135 : Elver\_107
- Track 136 : Pippin15\_54
- Track 137 : AddiRose\_53
- Track 138 : Serenabean\_54
- Track 139 : Eevee\_53
- Track 140 : JoyLin\_53
- Track 141 : Yotsuba\_53
- Track 142 : Daddyjeff\_54
- Track 143 : Sweetclover\_55

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

The start number called the most often in the published annotations is 14, it was called in 50 of the 210 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Aflac\_58, AlainaMarie\_58, Arataki\_58, ArtetaBall\_59, Artorias\_60, Avazak\_61, BetterYeti\_59, BluerMoon\_57, Bugg\_62, Burley\_59, Captrips\_59, Copybara\_60, ChickyNuggy\_62, Chikenjars\_57, Citrus\_58, Conley\_59, Crocheter\_59, Dancer\_60, Demure\_57, Dialga\_59, Duffington\_57, Eddiemania\_61, EndAve\_60, Figliar\_57, Football\_62, FortCran\_60, Gill\_60, Glintora\_60, Gravy\_59, Gusicorn\_60, Hydrus\_61, Jodelie19\_58, JulesRay\_60, Kenosha\_58, Kerry\_59, Luthien\_61, Madvan\_59, Magel\_61, MajinBuu\_59, Nadmeg\_60, Nithya\_59, NoPickles\_59, Odesza\_59, OlgasClover\_60, Perkunas\_62, PestoPenguin\_62, Petit\_62, Phepper\_60, Rickmore\_56, Roney\_60, Runhaar\_59, ShaggyRogers\_59, SweetCrkHerbs\_62, Tairn4Wing\_62, Talon44\_62, Tanis\_60, TenaciousP\_59, Tonaltzin\_62, Trufflozitus\_61, Untouchable\_61, Vardy\_58, Zeph\_61,

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

- Aloe25\_61, CWormy\_58,

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

- Acai\_54, AddiRose\_53, Altjira\_60, Anandi\_60, Annihilus\_41, Arcadia\_59, AreFloNak\_57, Argan\_56, Arzan\_58, BarbieDoll\_62, Barbonzobean\_64, BenitoAntonio\_59, Benllo\_58, Bilo\_39, Bing\_62, Biscute\_58, BlackHoleSun\_60, Blanky\_59, Boog\_53, Bouchard\_54, Bowling\_59, Breylor17\_54, BronxBay\_54, Brunswick\_55, Camille\_46, CapnMurica\_52, CastorTray\_57, Caterpillar\_52, Cheesy\_59, CherryBlossom\_58, Chlochlo\_55, Circum\_61, ClubPenguin\_61, Correa\_56, Count\_73, CricKo\_57, Daddyjeff\_54, Damascus\_48, Darby\_53, DevitoJr\_54, Dinallo\_53, Ditters\_40, DizzyRudy\_51, Djungelskog\_53, DoctorPepper\_53, Doxi13\_41, DrGrey\_57, Dynamite\_59, Eevee\_53, Egad\_54, ElephantMan\_54, Elsa\_59, Elver\_107, Esketit\_58, Espio\_58, Fazel\_60, FidgetOrca\_58, FrodoSwaggins\_58, FromIndy\_57, Gandionco\_104, GantcherGoblin\_56, GermyBearimy\_65, Giantsbane\_57, GirlPower\_52, GoCrazy\_58, GoblinVoyage\_41, Gordon\_52, Hankly\_58, HazuAndZazu\_57, Heisenberger\_58, Hemma\_51, HerbBucket\_54, Hortihabitatio\_61, Hoshi\_57, HotFries\_40, IceWarrior\_57, Indigenous\_58, Ingrid\_58, Inked\_59, Issa\_53, JEGGS\_58, Jaylociraptor\_58, Jazzy4900\_57, JeNeSaisPas\_102, Jeremy4pt0\_53, JoyLin\_53, Kardashian\_56, Kardesai\_60, KeaneyLin\_58, KevinMinion\_57, Kinny\_61, Kureo\_105, Leathea\_58, Lewando\_61, LibertyBell\_48, LilHuddy\_56, Linda\_54, Loretta\_55,

LucySwiss\_54, Madamato\_60, Makai\_55, Mardi\_58, Marianna39\_105, Maya\_58, MediumFry\_53, Meibysrarus\_56, Mema\_47, Michelle\_54, Miek\_54, MiniBagel\_54, Monse\_40, Mooshroom\_61, Moozy\_40, Mossy\_62, MrAaronian\_54, Mudcat\_56, Muglass\_60, Mysticmoon\_60, Namu\_59, NapoleonB\_59, Nason\_59, Natasha\_55, Navi1117\_59, Nightmare\_56, Niktson\_54, Nivinsha\_56, OhMyWard\_58, OlympicHelado\_58, Onestar\_53, Paella\_107, Pepy6\_084, PerroGrande22\_77, Phaby\_57, Phaila\_59, Pherobrine\_61, PherryCruz\_40, Pippin15\_54, Poco6\_083, PoeMe\_58, Popy\_58, Powelldog\_59, ProfFrink\_54, Qui\_107, Rainydai\_55, Raunak\_57, RavenPuff\_40, Regigigas\_58, Renaldo\_64, Rima\_59, RosaAsantewaa\_37, RustyBoy\_55, Salk\_54, Sangak\_39, Scap1\_40, Schwartz33\_61, ScienceWizSam\_55, Secretariat\_59, SendItCS\_53, Serenabean\_54, SheRa\_41, Shepard\_57, Shiba\_53, Sloopyjoe\_54, Soshi\_57, Spain\_56, Spectropatronm\_58, Sporto\_55, Sprinkle\_53, StarLord\_54, Stardom\_56, Stardrop\_58, Stayer\_54, Sunny4976\_56, Sweetclover\_55, Synepsis\_53, TaidaOne\_58, Tatanka\_51, Teacup\_55, Tenney120\_59, Tenno\_55, Thiqqums\_57, TieDye\_57, Tipton\_57, Tokki\_60, TonyStarch\_57, Tribby\_61, TrixiePhattel\_59, Truckee\_53, Trustiboi\_54, Uzumaki\_55, Westerlin\_53, Wigberry\_61, Xenomorph\_56, YoshiYama\_59, Yotsuba\_53, Zeina\_59, Zippen\_58,

### Summary by start number:

#### Start 14:

- Found in 64 of 261 ( 24.5% ) of genes in pham
- Manual Annotations of this start: 50 of 210
- Called 96.9% of time when present
- Phage (with cluster) where this start called: Aflac\_58 (DJ), AlainaMarie\_58 (DJ), Arataki\_58 (DJ), ArtetaBall\_59 (DJ), Artorias\_60 (DJ), Avazak\_61 (DJ), BetterYeti\_59 (DJ), BluerMoon\_57 (DJ), Bugg\_62 (DJ), Burley\_59 (DJ), Captrips\_59 (DJ), Capybara\_60 (DJ), ChickyNugget\_62 (DJ), Chickenjars\_57 (DJ), Citrus\_58 (DJ), Conley\_59 (DJ), Crocheter\_59 (DJ), Dancer\_60 (DJ), Demure\_57 (DJ), Dialga\_59 (DJ), Duffington\_57 (DJ), Eddiemania\_61 (DJ), EndAve\_60 (DJ), Figliar\_57 (DJ), Football\_62 (DJ), FortCran\_60 (DJ), Gill\_60 (DJ), Glintora\_60 (DJ), Gravy\_59 (DJ), Gusicorn\_60 (DJ), Hydrus\_61 (DJ), Jodelie19\_58 (DJ), JulesRay\_60 (DJ), Kenosha\_58 (DJ), Kerry\_59 (DJ), Luthien\_61 (DJ), Madvan\_59 (DJ), Magel\_61 (DJ), MajinBuu\_59 (DJ), Nadmeg\_60 (DJ), Nithya\_59 (DJ), NoPickles\_59 (DJ), Odesza\_59 (DJ), OlgasClover\_60 (DJ), Perunas\_62 (DJ), PestoPenguin\_62 (DJ), Petite\_62 (DJ), Phepper\_60 (DJ), Rickmore\_56 (DJ), Roney\_60 (DJ), Runhaar\_59 (DJ), ShaggyRogers\_59 (DJ), SweetCrkHerbs\_62 (DJ), Tairn4Wing\_62 (DJ), Talon44\_62 (DJ), Tanis\_60 (DJ), TenaciousP\_59 (DJ), Tonaltzin\_62 (DJ), Trufflozitus\_61 (DJ), Untouchable\_61 (DJ), Vardy\_58 (DJ), Zeph\_61 (DJ),

#### Start 17:

- Found in 12 of 261 ( 4.6% ) of genes in pham
- Manual Annotations of this start: 8 of 210
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Blanky\_59 (DJ), Fazel\_60 (DJ), Hortihabitatio\_61 (DJ), Mossy\_62 (DJ), Mysticmoon\_60 (DJ), OhMyWard\_58 (DJ), Pepy6\_084 (CC), PerroGrande22\_77 (CC), Pherobrine\_61 (DJ), Poco6\_083 (CC), Schwartz33\_61 (DJ), Secretariat\_59 (DJ),

#### Start 18:

- Found in 1 of 261 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 210

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Count\_73 (EL),

#### Start 19:

- Found in 89 of 261 ( 34.1% ) of genes in pham
- Manual Annotations of this start: 38 of 210
- Called 62.9% of time when present
- Phage (with cluster) where this start called: Altjira\_60 (AU6), Arcadia\_59 (AM), Argan\_56 (AU6), Arzan\_58 (FI), BarbieDoll\_62 (AU6), Barbonzobean\_64 (AU6), BenitoAntonio\_59 (AM), Benllo\_58 (AM), Biscute\_58 (AU6), BlackHoleSun\_60 (AU6), Bowling\_59 (AM), Cheesy\_59 (AM), Circum\_61 (AM), Correa\_56 (AM), Dynamite\_59 (AM), Elsa\_59 (AM), Elver\_107 (FK), Gandionco\_104 (FK), GantcherGoblin\_56 (AU6), GermyBearimy\_65 (FI), GoCrazy\_58 (AM), Hankly\_58 (AM), Heisenberger\_58 (AM), JEGGS\_58 (AM), Jazzy4900\_57 (FI), JeNeSaisPas\_102 (FK), Kardesai\_60 (AM), KeaneyLin\_58 (AM), KevinMinion\_57 (AU6), Kinny\_61 (AU6), Kureo\_105 (FK), Leathea\_58 (AU6), Lewando\_61 (AU6), Mardi\_58 (AU6), Marianna39\_105 (FK), Mooshroom\_61 (AM), Mudcat\_56 (AM), Muglass\_60 (AU6), NapoleonB\_59 (AM), Nason\_59 (AM), Navi1117\_59 (AU6), Paella\_107 (FK), Phaila\_59 (AU6), PoeMe\_58 (AU6), Qui\_107 (FK), Renaldo\_64 (AU6), Stardom\_56 (AM), Stardrop\_58 (AU6), Sunny4976\_56 (FI), Tenney120\_59 (AU6), Tribby\_61 (AM), TrixiePhattel\_59 (AU6), Uzumaki\_55 (AU6), Xenomorph\_56 (AM), YoshiYama\_59 (AM), Zeina\_59 (AU6),

#### Start 20:

- Found in 24 of 261 ( 9.2% ) of genes in pham
- Manual Annotations of this start: 19 of 210
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Boog\_53 (AW), BronxBay\_54 (AW), Djungelskog\_53 (AW), DoctorPepper\_53 (AW), Egad\_54 (AW), HerbBucket\_54 (AW), Jeremy4pt0\_53 (AW), Linda\_54 (AW), Michelle\_54 (AW), MrAaronian\_54 (AW), Natasha\_55 (AW), Onestar\_53 (AW), Powelldog\_59 (AW), ProfFrink\_54 (AW), Raunak\_57 (AW), RustyBoy\_55 (AW), Salk\_54 (AW), Shiba\_53 (AW), Sloopyjoe\_54 (AW), Spain\_56 (AW), Sporto\_55 (AW), Sprinkle\_53 (AW), StarLord\_54 (AW), Stayer\_54 (AW),

#### Start 22:

- Found in 42 of 261 ( 16.1% ) of genes in pham
- Manual Annotations of this start: 36 of 210
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Acai\_54 (AU1), Anandi\_60 (AU4), AreFloNak\_57 (AU1), Bouchard\_54 (AU2), Breylor17\_54 (AU1), Brunswick\_55 (AU1), CapnMurica\_52 (AU1), CastorTray\_57 (AU1), Caterpillar\_52 (AU4), Chlochlo\_55 (AU2), Darby\_53 (AU1), DevitoJr\_54 (AU1), Dinallo\_53 (AU1), ElephantMan\_54 (AU1), Giantsbane\_57 (AU2), Gordon\_52 (AU1), Hemma\_51 (AU1), Ingrid\_58 (AU3), Inked\_59 (AU7), Issa\_53 (AU1), LilHuddy\_56 (AU2), Loretta\_55 (AU3), LucySwiss\_54 (AU1), Makai\_55 (AU5), MediumFry\_53 (AU4), MiniBagel\_54 (AU1), Nightmare\_56 (AU1), Niktson\_54 (AU1), Nivinsha\_56 (AU1), Phaby\_57 (AU2), ScienceWizSam\_55 (AU1), Shepard\_57 (AU2), Synopsis\_53 (AU1), Tatanka\_51 (AU1), Teacup\_55 (AU1), Tenno\_55 (AU1), Tipton\_57 (AU2), Tokki\_60 (AU2), Truckee\_53 (AU5), Trustiboi\_54 (AU1), Westerlin\_53 (AU1), Zippen\_58 (AU7),

#### Start 23:

- Found in 17 of 261 ( 6.5% ) of genes in pham
- No Manual Annotations of this start.

- Called 5.9% of time when present
- Phage (with cluster) where this start called: Aloe25\_61 (DJ),

#### Start 24:

- Found in 67 of 261 ( 25.7% ) of genes in pham
- No Manual Annotations of this start.
- Called 1.5% of time when present
- Phage (with cluster) where this start called: CWormy\_58 (DJ),

#### Start 30:

- Found in 4 of 261 ( 1.5% ) of genes in pham
- Manual Annotations of this start: 1 of 210
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Eevee\_53 (JA),

#### Start 35:

- Found in 4 of 261 ( 1.5% ) of genes in pham
- Manual Annotations of this start: 3 of 210
- Called 75.0% of time when present
- Phage (with cluster) where this start called: JoyLin\_53 (JA), Pippin15\_54 (JA), Yotsuba\_53 (JA),

#### Start 41:

- Found in 13 of 261 ( 5.0% ) of genes in pham
- Manual Annotations of this start: 12 of 210
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Annihilus\_41 (BI2), Bilo\_39 (BI2), Ditters\_40 (BI2), Doxi13\_41 (BI2), GoblinVoyage\_41 (BI2), HotFries\_40 (BI2), Monse\_40 (BI2), Moozy\_40 (BI2), PherryCruz\_40 (BI2), RavenPuff\_40 (BI2), Sangak\_39 (BI2), Scap1\_40 (BI2), SheRa\_41 (BI2),

#### Start 42:

- Found in 35 of 261 ( 13.4% ) of genes in pham
- Manual Annotations of this start: 21 of 210
- Called 62.9% of time when present
- Phage (with cluster) where this start called: Bing\_62 (BI5), CricKo\_57 (BI4), Esketit\_58 (BI1), FrodoSwaggins\_58 (BI1), HazuAndZazu\_57 (BI1), Hoshi\_57 (BI1), IceWarrior\_57 (BI1), Kardashian\_56 (BI6), Madamoto\_60 (BI1), Maya\_58 (BI1), Meibysrarus\_56 (BI1), Miek\_54 (BI4), Namu\_59 (BI1), Popy\_58 (BI1), Regigigas\_58 (BI4), Rima\_59 (BI1), SendItCS\_53 (BI4), Soshi\_57 (BI1), TaidaOne\_58 (BI1), Thiqqums\_57 (BI4), TieDye\_57 (BI1), TonyStarch\_57 (BI1),

#### Start 44:

- Found in 1 of 261 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 210
- Called 100.0% of time when present
- Phage (with cluster) where this start called: RosaAsantewaa\_37 (BI2),

#### Start 46:

- Found in 49 of 261 ( 18.8% ) of genes in pham
- Manual Annotations of this start: 13 of 210
- Called 28.6% of time when present

- Phage (with cluster) where this start called: CherryBlossom\_58 (BI1), ClubPenguin\_61 (BI7), DrGrey\_57 (BI1), Espio\_58 (BI1), FidgetOrca\_58 (BI1), FromIndy\_57 (BI4), GirlPower\_52 (BI1), Indigenous\_58 (BI1), Jaylociraptor\_58 (BI1), LibertyBell\_48 (BI3), OlympicHelado\_58 (BI1), Rainydai\_55 (BI4), Spectropatronm\_58 (BI1), Wigberry\_61 (BI5),

Start 50:

- Found in 7 of 261 ( 2.7% ) of genes in pham
- Manual Annotations of this start: 3 of 210
- Called 57.1% of time when present
- Phage (with cluster) where this start called: Camille\_46 (EL), Damascus\_48 (EL), DizzyRudy\_51 (EL), Mema\_47 (EL),

Start 54:

- Found in 10 of 261 ( 3.8% ) of genes in pham
- Manual Annotations of this start: 1 of 210
- Called 10.0% of time when present
- Phage (with cluster) where this start called: Sweetclover\_55 (JA),

Start 55:

- Found in 4 of 261 ( 1.5% ) of genes in pham
- Manual Annotations of this start: 3 of 210
- Called 75.0% of time when present
- Phage (with cluster) where this start called: AddiRose\_53 (JA), Daddyjeff\_54 (JA), Serenabean\_54 (JA),

### **Summary by clusters:**

There are 22 clusters represented in this pham: DJ, FI, FK, JA, AU1, AU3, AU2, AU5, AU4, AU7, AU6, EL, CC, AM, AW, BI6, BI7, BI4, BI5, BI2, BI3, BI1,

Info for manual annotations of cluster AM:

- Start number 19 was manually annotated 21 times for cluster AM.

Info for manual annotations of cluster AU1:

- Start number 22 was manually annotated 19 times for cluster AU1.

Info for manual annotations of cluster AU2:

- Start number 22 was manually annotated 8 times for cluster AU2.

Info for manual annotations of cluster AU3:

- Start number 22 was manually annotated 2 times for cluster AU3.

Info for manual annotations of cluster AU4:

- Start number 22 was manually annotated 3 times for cluster AU4.

Info for manual annotations of cluster AU5:

- Start number 22 was manually annotated 2 times for cluster AU5.

Info for manual annotations of cluster AU6:

- Start number 19 was manually annotated 14 times for cluster AU6.

Info for manual annotations of cluster AU7:

- Start number 22 was manually annotated 2 times for cluster AU7.

Info for manual annotations of cluster AW:

- Start number 20 was manually annotated 19 times for cluster AW.

Info for manual annotations of cluster BI1:

- Start number 42 was manually annotated 15 times for cluster BI1.
- Start number 46 was manually annotated 9 times for cluster BI1.

Info for manual annotations of cluster BI2:

- Start number 41 was manually annotated 12 times for cluster BI2.
- Start number 44 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.

Info for manual annotations of cluster BI4:

- Start number 42 was manually annotated 4 times for cluster BI4.
- Start number 46 was manually annotated 1 time for cluster BI4.

Info for manual annotations of cluster BI5:

- Start number 42 was manually annotated 1 time for cluster BI5.
- Start number 46 was manually annotated 1 time for cluster BI5.

Info for manual annotations of cluster BI6:

- Start number 42 was manually annotated 1 time for cluster BI6.

Info for manual annotations of cluster BI7:

- Start number 46 was manually annotated 1 time for cluster BI7.

Info for manual annotations of cluster DJ:

- Start number 14 was manually annotated 50 times for cluster DJ.
- Start number 17 was manually annotated 8 times for cluster DJ.

Info for manual annotations of cluster EL:

- Start number 18 was manually annotated 1 time for cluster EL.
- Start number 50 was manually annotated 3 times for cluster EL.

Info for manual annotations of cluster FK:

- Start number 19 was manually annotated 3 times for cluster FK.

Info for manual annotations of cluster JA:

- Start number 30 was manually annotated 1 time for cluster JA.
- Start number 35 was manually annotated 3 times for cluster JA.
- Start number 54 was manually annotated 1 time for cluster JA.
- Start number 55 was manually annotated 3 times for cluster JA.

**Gene Information:**

Gene: Acai\_54 Start: 37297, Stop: 38052, Start Num: 22

Candidate Starts for Acai\_54:

(Start: 22 @37297 has 36 MA's), (60, 37447), (83, 37537), (86, 37549), (95, 37588), (153, 37669), (178, 37750), (182, 37765), (192, 37816), (239, 38044),

Gene: AddiRose\_53 Start: 34578, Stop: 35276, Start Num: 55

Candidate Starts for AddiRose\_53:

(Start: 55 @34578 has 3 MA's), (64, 34614), (73, 34656), (92, 34728), (93, 34734), (160, 34932), (205, 35136), (210, 35160), (221, 35220),

Gene: Aflac\_58 Start: 40402, Stop: 41313, Start Num: 14

Candidate Starts for Aflac\_58:

(8, 40342), (Start: 14 @40402 has 50 MA's), (Start: 19 @40417 has 38 MA's), (24, 40435), (31, 40462), (45, 40507), (49, 40528), (51, 40543), (65, 40606), (75, 40654), (120, 40831), (145, 40930), (176, 41023), (178, 41035), (214, 41194), (231, 41275),

Gene: AlainaMarie\_58 Start: 40386, Stop: 41294, Start Num: 14

Candidate Starts for AlainaMarie\_58:

(8, 40326), (Start: 14 @40386 has 50 MA's), (24, 40419), (31, 40446), (39, 40476), (51, 40527), (75, 40638), (89, 40698), (120, 40815), (132, 40860), (145, 40914), (176, 41007), (178, 41019), (214, 41178), (215, 41184),

Gene: Aloe25\_61 Start: 40509, Stop: 41378, Start Num: 23

Candidate Starts for Aloe25\_61:

(8, 40419), (Start: 14 @40479 has 50 MA's), (23, 40509), (24, 40512), (31, 40539), (34, 40557), (45, 40584), (49, 40605), (51, 40620), (65, 40683), (75, 40731), (120, 40902), (145, 41001), (176, 41094), (178, 41106), (214, 41265), (231, 41346),

Gene: Altjira\_60 Start: 37225, Stop: 37941, Start Num: 19

Candidate Starts for Altjira\_60:

(Start: 19 @37225 has 38 MA's), (78, 37444), (163, 37564), (174, 37597), (178, 37618), (198, 37705), (238, 37924),

Gene: Anandi\_60 Start: 37643, Stop: 38389, Start Num: 22

Candidate Starts for Anandi\_60:

(Start: 22 @37643 has 36 MA's), (43, 37724), (57, 37796), (72, 37850), (104, 37958), (153, 38015), (158, 38033), (161, 38039), (178, 38096), (182, 38111), (186, 38129), (190, 38156),

Gene: Annihilus\_41 Start: 29092, Stop: 29790, Start Num: 41

Candidate Starts for Annihilus\_41:

(Start: 41 @29092 has 12 MA's), (Start: 46 @29107 has 13 MA's), (47, 29110), (56, 29158), (59, 29170), (80, 29266), (87, 29296), (94, 29323), (134, 29437), (174, 29500), (211, 29683), (213, 29695), (215, 29704), (220, 29725),

Gene: Arataki\_58 Start: 40076, Stop: 40975, Start Num: 14

Candidate Starts for Arataki\_58:

(8, 40016), (Start: 14 @40076 has 50 MA's), (23, 40106), (24, 40109), (31, 40136), (49, 40202), (51, 40217), (75, 40328), (89, 40379), (120, 40496), (145, 40595), (176, 40688), (178, 40700), (190, 40760), (232, 40943),

Gene: Arcadia\_59 Start: 35986, Stop: 36783, Start Num: 19

Candidate Starts for Arcadia\_59:

(Start: 19 @35986 has 38 MA's), (61, 36148), (174, 36439), (180, 36472), (193, 36538), (204, 36586), (218, 36655), (229, 36706), (237, 36763),

Gene: AreFloNak\_57 Start: 37264, Stop: 38031, Start Num: 22

Candidate Starts for AreFloNak\_57:

(Start: 22 @37264 has 36 MA's), (60, 37414), (83, 37504), (86, 37516), (153, 37645), (178, 37729), (182, 37744), (239, 38023),

Gene: Argan\_56 Start: 35931, Stop: 36647, Start Num: 19

Candidate Starts for Argan\_56:

(Start: 19 @35931 has 38 MA's), (74, 36135), (78, 36150), (174, 36303), (178, 36324), (198, 36411), (210, 36483), (231, 36573), (238, 36630),

Gene: ArtetaBall\_59 Start: 40704, Stop: 41612, Start Num: 14

Candidate Starts for ArtetaBall\_59:

(8, 40644), (Start: 14 @40704 has 50 MA's), (23, 40734), (24, 40737), (31, 40764), (49, 40830), (51, 40845), (75, 40956), (89, 41016), (120, 41133), (135, 41199), (145, 41232), (176, 41325), (178, 41337), (190, 41397),

Gene: Artorias\_60 Start: 40583, Stop: 41527, Start Num: 14

Candidate Starts for Artorias\_60:

(Start: 14 @40583 has 50 MA's), (Start: 19 @40598 has 38 MA's), (24, 40616), (31, 40643), (49, 40709), (89, 40925), (105, 40988), (120, 41042), (126, 41066), (139, 41129), (145, 41147), (151, 41159), (156, 41177), (161, 41186), (213, 41405),

Gene: Arzan\_58 Start: 36809, Stop: 37624, Start Num: 19

Candidate Starts for Arzan\_58:

(Start: 19 @36809 has 38 MA's), (122, 37223), (162, 37271), (207, 37463), (212, 37481), (219, 37511), (238, 37607),

Gene: Avazak\_61 Start: 40910, Stop: 41854, Start Num: 14

Candidate Starts for Avazak\_61:

(Start: 14 @40910 has 50 MA's), (Start: 19 @40925 has 38 MA's), (24, 40943), (31, 40970), (49, 41036), (89, 41252), (105, 41315), (120, 41369), (126, 41393), (139, 41456), (145, 41474), (151, 41486), (156, 41504), (161, 41513), (213, 41732),

Gene: BarbieDoll\_62 Start: 37638, Stop: 38342, Start Num: 19

Candidate Starts for BarbieDoll\_62:

(Start: 19 @37638 has 38 MA's), (Start: 54 @37782 has 1 MA's), (174, 37998), (178, 38019), (185, 38052), (198, 38106), (200, 38121), (238, 38325),

Gene: Barbonzobean\_64 Start: 37901, Stop: 38590, Start Num: 19

Candidate Starts for Barbonzobean\_64:

(Start: 19 @37901 has 38 MA's), (Start: 54 @38045 has 1 MA's), (78, 38096), (88, 38114), (174, 38246), (178, 38267), (185, 38300), (198, 38354), (200, 38369), (238, 38573),

Gene: BenitoAntonio\_59 Start: 35510, Stop: 36310, Start Num: 19

Candidate Starts for BenitoAntonio\_59:

(Start: 19 @35510 has 38 MA's), (61, 35672), (67, 35693), (84, 35753), (111, 35852), (174, 35966), (180, 35999), (193, 36065), (201, 36104), (204, 36113), (218, 36182), (229, 36233), (237, 36290),

Gene: Benllo\_58 Start: 36188, Stop: 36988, Start Num: 19

Candidate Starts for Benllo\_58:

(Start: 19 @36188 has 38 MA's), (61, 36350), (67, 36371), (84, 36431), (111, 36530), (180, 36677), (193, 36743), (204, 36791), (218, 36860), (229, 36911), (237, 36968),

Gene: BetterYeti\_59 Start: 40478, Stop: 41377, Start Num: 14

Candidate Starts for BetterYeti\_59:

(8, 40418), (Start: 14 @40478 has 50 MA's), (23, 40508), (24, 40511), (31, 40538), (34, 40556), (45, 40583), (49, 40604), (51, 40619), (65, 40682), (75, 40730), (120, 40901), (145, 41000), (176, 41093), (178, 41105), (214, 41264), (231, 41345),

Gene: Bilo\_39 Start: 29209, Stop: 29907, Start Num: 41

Candidate Starts for Bilo\_39:

(Start: 41 @29209 has 12 MA's), (Start: 46 @29224 has 13 MA's), (47, 29227), (56, 29275), (80, 29383), (87, 29413), (94, 29440), (108, 29470), (134, 29554), (211, 29800), (213, 29812), (220, 29842), (221, 29854),

Gene: Bing\_62 Start: 37589, Stop: 38362, Start Num: 42

Candidate Starts for Bing\_62:

(Start: 42 @37589 has 21 MA's), (Start: 46 @37601 has 13 MA's), (72, 37733), (95, 37811), (133, 37937), (137, 37964), (170, 38060), (220, 38294), (221, 38306),

Gene: Biscute\_58 Start: 37290, Stop: 37994, Start Num: 19

Candidate Starts for Biscute\_58:

(Start: 19 @37290 has 38 MA's), (Start: 54 @37434 has 1 MA's), (174, 37650), (178, 37671), (185, 37704), (198, 37758), (200, 37773), (238, 37977),

Gene: BlackHoleSun\_60 Start: 36056, Stop: 36772, Start Num: 19

Candidate Starts for BlackHoleSun\_60:

(Start: 19 @36056 has 38 MA's), (78, 36275), (163, 36395), (174, 36428), (178, 36449), (198, 36536), (205, 36578), (210, 36608), (238, 36755),

Gene: Blanky\_59 Start: 42008, Stop: 42886, Start Num: 17

Candidate Starts for Blanky\_59:

(Start: 17 @42008 has 8 MA's), (25, 42035), (29, 42053), (45, 42104), (49, 42125), (64, 42200), (66, 42206), (89, 42299), (98, 42335), (105, 42362), (120, 42416), (127, 42446), (135, 42482), (142, 42509), (145, 42518), (151, 42530), (164, 42563), (178, 42623), (204, 42734), (210, 42773), (218, 42803),

Gene: BluerMoon\_57 Start: 40431, Stop: 41342, Start Num: 14

Candidate Starts for BluerMoon\_57:

(8, 40371), (Start: 14 @40431 has 50 MA's), (24, 40464), (31, 40491), (39, 40521), (49, 40557), (51, 40572), (75, 40683), (89, 40743), (120, 40860), (132, 40905), (145, 40959), (171, 41025), (176, 41052), (178, 41064), (214, 41223),

Gene: Boog\_53 Start: 34696, Stop: 35613, Start Num: 20

Candidate Starts for Boog\_53:

(Start: 20 @34696 has 19 MA's), (28, 34729), (31, 34738), (32, 34741), (34, 34756), (60, 34849), (76, 34912), (79, 34924), (109, 35047), (114, 35062), (144, 35206), (178, 35311), (236, 35587),

Gene: Bouchard\_54 Start: 37255, Stop: 38007, Start Num: 22

Candidate Starts for Bouchard\_54:

(Start: 22 @37255 has 36 MA's), (38, 37321), (60, 37405), (95, 37546), (154, 37633), (159, 37648), (178, 37705),

Gene: Bowling\_59 Start: 35826, Stop: 36626, Start Num: 19

Candidate Starts for Bowling\_59:

(Start: 19 @35826 has 38 MA's), (61, 35988), (67, 36009), (84, 36069), (111, 36168), (174, 36282), (180, 36315), (193, 36381), (204, 36429), (218, 36498), (229, 36549), (237, 36606),

Gene: Breylor17\_54 Start: 37846, Stop: 38604, Start Num: 22

Candidate Starts for Breylor17\_54:

(Start: 22 @37846 has 36 MA's), (38, 37912), (60, 37996), (76, 38059), (83, 38086), (86, 38098), (95, 38137), (153, 38218), (178, 38302), (182, 38317), (239, 38596),

Gene: BronxBay\_54 Start: 34994, Stop: 35869, Start Num: 20

Candidate Starts for BronxBay\_54:

(Start: 20 @34994 has 19 MA's), (28, 35027), (31, 35036), (32, 35039), (34, 35054), (60, 35147), (76, 35210), (79, 35222), (109, 35345), (114, 35360), (144, 35462), (178, 35567), (181, 35576), (197, 35648), (208, 35705), (236, 35843),

Gene: Brunswick\_55 Start: 37137, Stop: 37901, Start Num: 22

Candidate Starts for Brunswick\_55:

(Start: 22 @37137 has 36 MA's), (60, 37287), (83, 37377), (85, 37386), (153, 37518), (178, 37599), (182, 37614), (239, 37893),

Gene: Bugg\_62 Start: 40628, Stop: 41572, Start Num: 14

Candidate Starts for Bugg\_62:

(Start: 14 @40628 has 50 MA's), (Start: 19 @40643 has 38 MA's), (24, 40661), (31, 40688), (49, 40754), (89, 40970), (105, 41033), (120, 41087), (126, 41111), (139, 41174), (145, 41192), (151, 41204), (156, 41222), (161, 41231), (213, 41450),

Gene: Burley\_59 Start: 40165, Stop: 41073, Start Num: 14

Candidate Starts for Burley\_59:

(1, 39955), (3, 40018), (5, 40027), (Start: 14 @40165 has 50 MA's), (24, 40198), (31, 40225), (39, 40255), (49, 40291), (51, 40306), (75, 40417), (89, 40477), (120, 40594), (135, 40660), (145, 40693), (176, 40786), (178, 40798), (190, 40858),

Gene: CWormy\_58 Start: 40151, Stop: 41026, Start Num: 24

Candidate Starts for CWormy\_58:

(8, 40058), (Start: 14 @40118 has 50 MA's), (23, 40148), (24, 40151), (31, 40178), (49, 40244), (51, 40259), (75, 40370), (89, 40430), (120, 40547), (145, 40646), (176, 40739), (178, 40751), (190, 40811), (232, 40994),

Gene: Camille\_46 Start: 32245, Stop: 32997, Start Num: 50

Candidate Starts for Camille\_46:

(37, 32200), (Start: 50 @32245 has 3 MA's), (91, 32425), (103, 32467), (113, 32500), (117, 32509), (143, 32584), (206, 32812), (221, 32884), (224, 32893), (231, 32926), (236, 32977),

Gene: CapnMurica\_52 Start: 38039, Stop: 38800, Start Num: 22

Candidate Starts for CapnMurica\_52:

(Start: 22 @38039 has 36 MA's), (60, 38189), (70, 38228), (83, 38279), (86, 38291), (153, 38417), (163, 38444), (178, 38498), (182, 38513), (192, 38564), (199, 38585), (239, 38792),

Gene: Captrips\_59 Start: 40058, Stop: 41002, Start Num: 14

Candidate Starts for Captrips\_59:

(Start: 14 @40058 has 50 MA's), (Start: 19 @40073 has 38 MA's), (24, 40091), (31, 40118), (49, 40184), (89, 40400), (105, 40463), (120, 40517), (126, 40541), (139, 40604), (145, 40622), (151,

40634), (156, 40652), (161, 40661), (213, 40880),

Gene: Capybara\_60 Start: 40389, Stop: 41333, Start Num: 14

Candidate Starts for Capybara\_60:

(Start: 14 @40389 has 50 MA's), (Start: 19 @40404 has 38 MA's), (24, 40422), (31, 40449), (89, 40731), (105, 40794), (120, 40848), (126, 40872), (139, 40935), (145, 40953), (156, 40983), (161, 40992), (169, 41013), (213, 41211), (214, 41214),

Gene: CastorTray\_57 Start: 37910, Stop: 38665, Start Num: 22

Candidate Starts for CastorTray\_57:

(Start: 22 @37910 has 36 MA's), (60, 38060), (83, 38150), (95, 38201), (153, 38282), (178, 38363), (182, 38378), (239, 38657),

Gene: Caterpillar\_52 Start: 36399, Stop: 37157, Start Num: 22

Candidate Starts for Caterpillar\_52:

(Start: 22 @36399 has 36 MA's), (60, 36549), (83, 36639), (95, 36690), (104, 36714), (153, 36771), (183, 36873), (239, 37152),

Gene: Cheesy\_59 Start: 35695, Stop: 36489, Start Num: 19

Candidate Starts for Cheesy\_59:

(Start: 19 @35695 has 38 MA's), (61, 35857), (84, 35938), (174, 36145), (180, 36178), (193, 36244), (201, 36283), (204, 36292), (218, 36361), (229, 36412), (237, 36469),

Gene: CherryBlossom\_58 Start: 36769, Stop: 37482, Start Num: 46

Candidate Starts for CherryBlossom\_58:

(Start: 42 @36760 has 21 MA's), (Start: 46 @36769 has 13 MA's), (103, 37006), (128, 37096), (177, 37237), (186, 37276), (190, 37303), (220, 37426), (229, 37468),

Gene: ChickyNuggy\_62 Start: 40654, Stop: 41598, Start Num: 14

Candidate Starts for ChickyNuggy\_62:

(Start: 14 @40654 has 50 MA's), (Start: 19 @40669 has 38 MA's), (24, 40687), (31, 40714), (49, 40780), (89, 40996), (105, 41059), (120, 41113), (126, 41137), (139, 41200), (145, 41218), (151, 41230), (156, 41248), (161, 41257), (213, 41476),

Gene: Chikenjars\_57 Start: 40399, Stop: 41310, Start Num: 14

Candidate Starts for Chikenjars\_57:

(8, 40339), (Start: 14 @40399 has 50 MA's), (24, 40432), (31, 40459), (39, 40489), (49, 40525), (51, 40540), (75, 40651), (89, 40711), (120, 40828), (132, 40873), (145, 40927), (171, 40993), (176, 41020), (178, 41032), (214, 41191),

Gene: Chlochlo\_55 Start: 36999, Stop: 37757, Start Num: 22

Candidate Starts for Chlochlo\_55:

(Start: 22 @36999 has 36 MA's), (60, 37149), (95, 37290), (153, 37371), (178, 37455), (197, 37539),

Gene: Circum\_61 Start: 36379, Stop: 37179, Start Num: 19

Candidate Starts for Circum\_61:

(Start: 19 @36379 has 38 MA's), (61, 36541), (67, 36562), (84, 36622), (111, 36721), (180, 36868), (193, 36934), (204, 36982), (218, 37051), (229, 37102), (237, 37159),

Gene: Citrus\_58 Start: 40676, Stop: 41584, Start Num: 14

Candidate Starts for Citrus\_58:

(8, 40616), (Start: 14 @40676 has 50 MA's), (24, 40709), (31, 40736), (39, 40766), (49, 40802), (51, 40817), (75, 40928), (89, 40988), (120, 41105), (132, 41150), (145, 41204), (171, 41270), (176,

41297), (178, 41309), (214, 41468),

Gene: ClubPenguin\_61 Start: 37048, Stop: 37701, Start Num: 46

Candidate Starts for ClubPenguin\_61:

(Start: 46 @37048 has 13 MA's), (53, 37087), (Start: 55 @37096 has 3 MA's), (58, 37108), (96, 37243), (165, 37378), (167, 37381), (221, 37633),

Gene: Conley\_59 Start: 41139, Stop: 42083, Start Num: 14

Candidate Starts for Conley\_59:

(Start: 14 @41139 has 50 MA's), (Start: 19 @41154 has 38 MA's), (24, 41172), (31, 41199), (89, 41481), (105, 41544), (120, 41598), (126, 41622), (139, 41685), (145, 41703),

Gene: Correa\_56 Start: 34853, Stop: 35650, Start Num: 19

Candidate Starts for Correa\_56:

(Start: 19 @34853 has 38 MA's), (61, 35015), (174, 35306), (180, 35339), (193, 35405), (204, 35453), (218, 35522), (229, 35573), (237, 35630),

Gene: Count\_73 Start: 48676, Stop: 49458, Start Num: 18

Candidate Starts for Count\_73:

(Start: 18 @48676 has 1 MA's), (45, 48757), (67, 48862), (97, 48973), (110, 49021), (189, 49213), (234, 49417), (235, 49432),

Gene: CricKo\_57 Start: 35630, Stop: 36406, Start Num: 42

Candidate Starts for CricKo\_57:

(21, 35552), (Start: 42 @35630 has 21 MA's), (Start: 46 @35639 has 13 MA's), (123, 35936), (126, 35948), (136, 35990), (149, 36035), (152, 36041), (174, 36122), (175, 36125), (179, 36146), (196, 36224), (220, 36344), (233, 36398),

Gene: Crocheter\_59 Start: 40562, Stop: 41470, Start Num: 14

Candidate Starts for Crocheter\_59:

(8, 40502), (Start: 14 @40562 has 50 MA's), (24, 40595), (31, 40622), (39, 40652), (49, 40688), (51, 40703), (75, 40814), (89, 40874), (120, 40991), (145, 41090), (176, 41183), (178, 41195), (190, 41255), (232, 41438),

Gene: Daddyjeff\_54 Start: 34798, Stop: 35496, Start Num: 55

Candidate Starts for Daddyjeff\_54:

(Start: 55 @34798 has 3 MA's), (64, 34834), (73, 34876), (93, 34954), (119, 35038), (160, 35152), (203, 35341), (205, 35356), (210, 35380), (221, 35440),

Gene: Damascus\_48 Start: 33623, Stop: 34393, Start Num: 50

Candidate Starts for Damascus\_48:

(Start: 50 @33623 has 3 MA's), (62, 33680), (117, 33878), (143, 33959), (195, 34160), (203, 34187), (206, 34208), (214, 34244), (231, 34325), (236, 34376),

Gene: Dancer\_60 Start: 40318, Stop: 41262, Start Num: 14

Candidate Starts for Dancer\_60:

(Start: 14 @40318 has 50 MA's), (Start: 19 @40333 has 38 MA's), (24, 40351), (31, 40378), (49, 40444), (89, 40660), (105, 40723), (120, 40777), (126, 40801), (139, 40864), (145, 40882), (151, 40894), (156, 40912), (161, 40921), (213, 41140),

Gene: Darby\_53 Start: 37084, Stop: 37848, Start Num: 22

Candidate Starts for Darby\_53:

(Start: 22 @37084 has 36 MA's), (60, 37234), (76, 37297), (83, 37324), (86, 37336), (153, 37462), (178, 37546), (182, 37561), (239, 37840),

Gene: Demure\_57 Start: 40076, Stop: 40975, Start Num: 14

Candidate Starts for Demure\_57:

(8, 40016), (Start: 14 @40076 has 50 MA's), (23, 40106), (24, 40109), (31, 40136), (49, 40202), (51, 40217), (75, 40328), (89, 40379), (120, 40496), (145, 40595), (176, 40688), (178, 40700), (190, 40760), (232, 40943),

Gene: DevitoJr\_54 Start: 37476, Stop: 38234, Start Num: 22

Candidate Starts for DevitoJr\_54:

(Start: 22 @37476 has 36 MA's), (60, 37626), (76, 37689), (83, 37716), (86, 37728), (95, 37767), (153, 37848), (178, 37932), (182, 37947), (239, 38226),

Gene: Dialga\_59 Start: 40732, Stop: 41631, Start Num: 14

Candidate Starts for Dialga\_59:

(8, 40672), (Start: 14 @40732 has 50 MA's), (23, 40762), (24, 40765), (31, 40792), (49, 40858), (51, 40873), (75, 40984), (89, 41035), (120, 41152), (145, 41251), (176, 41344), (178, 41356), (190, 41416), (232, 41599),

Gene: Dinallo\_53 Start: 38348, Stop: 39109, Start Num: 22

Candidate Starts for Dinallo\_53:

(Start: 22 @38348 has 36 MA's), (60, 38498), (70, 38537), (83, 38588), (86, 38600), (153, 38726), (163, 38753), (178, 38807), (182, 38822), (192, 38873), (199, 38894), (215, 38975), (239, 39101),

Gene: Ditters\_40 Start: 29545, Stop: 30240, Start Num: 41

Candidate Starts for Ditters\_40:

(Start: 41 @29545 has 12 MA's), (Start: 46 @29560 has 13 MA's), (47, 29563), (68, 29656), (69, 29662), (80, 29719), (87, 29749), (94, 29776), (125, 29860), (174, 29950), (186, 30004), (211, 30133), (213, 30145), (220, 30175), (221, 30187),

Gene: DizzyRudy\_51 Start: 33510, Stop: 34280, Start Num: 50

Candidate Starts for DizzyRudy\_51:

(Start: 50 @33510 has 3 MA's), (62, 33567), (117, 33765), (143, 33843), (148, 33855), (203, 34074), (206, 34095), (214, 34131), (231, 34212), (236, 34263),

Gene: Djungelskog\_53 Start: 34993, Stop: 35868, Start Num: 20

Candidate Starts for Djungelskog\_53:

(Start: 20 @34993 has 19 MA's), (28, 35026), (31, 35035), (32, 35038), (34, 35053), (60, 35146), (76, 35209), (79, 35221), (109, 35344), (114, 35359), (144, 35461), (178, 35566), (181, 35575), (197, 35647), (208, 35704), (236, 35842),

Gene: DoctorPepper\_53 Start: 34698, Stop: 35573, Start Num: 20

Candidate Starts for DoctorPepper\_53:

(Start: 20 @34698 has 19 MA's), (28, 34731), (31, 34740), (32, 34743), (34, 34758), (60, 34851), (76, 34914), (79, 34926), (109, 35049), (114, 35064), (144, 35166), (178, 35271), (197, 35352),

Gene: Doxi13\_41 Start: 29065, Stop: 29763, Start Num: 41

Candidate Starts for Doxi13\_41:

(Start: 41 @29065 has 12 MA's), (Start: 46 @29080 has 13 MA's), (47, 29083), (56, 29131), (59, 29143), (80, 29239), (87, 29269), (108, 29326), (134, 29410), (174, 29473), (211, 29656), (213, 29668), (220, 29698), (221, 29710),

Gene: DrGrey\_57 Start: 37134, Stop: 37850, Start Num: 46

Candidate Starts for DrGrey\_57:

(Start: 42 @37125 has 21 MA's), (Start: 46 @37134 has 13 MA's), (75, 37281), (103, 37371), (128, 37461), (177, 37605), (186, 37644), (190, 37671), (220, 37794), (229, 37836),

Gene: Duffington\_57 Start: 40095, Stop: 41006, Start Num: 14

Candidate Starts for Duffington\_57:

(8, 40035), (Start: 14 @40095 has 50 MA's), (Start: 19 @40110 has 38 MA's), (24, 40128), (31, 40155), (45, 40200), (49, 40221), (51, 40236), (75, 40347), (89, 40407), (120, 40524), (132, 40569), (145, 40623), (171, 40689), (176, 40716), (178, 40728), (214, 40887), (231, 40968),

Gene: Dynamite\_59 Start: 35903, Stop: 36703, Start Num: 19

Candidate Starts for Dynamite\_59:

(Start: 19 @35903 has 38 MA's), (61, 36065), (67, 36086), (84, 36146), (111, 36245), (180, 36392), (193, 36458), (204, 36506), (218, 36575), (229, 36626), (237, 36683),

Gene: Eddiemania\_61 Start: 41307, Stop: 42206, Start Num: 14

Candidate Starts for Eddiemania\_61:

(8, 41247), (Start: 14 @41307 has 50 MA's), (24, 41340), (31, 41367), (49, 41433), (51, 41448), (75, 41559), (89, 41610), (120, 41727), (135, 41793), (145, 41826), (176, 41919), (178, 41931), (190, 41991), (232, 42174),

Gene: Eevee\_53 Start: 37769, Stop: 38530, Start Num: 30

Candidate Starts for Eevee\_53:

(Start: 30 @37769 has 1 MA's), (Start: 35 @37790 has 3 MA's), (95, 38033), (202, 38378), (203, 38381), (215, 38441),

Gene: Egad\_54 Start: 34995, Stop: 35870, Start Num: 20

Candidate Starts for Egad\_54:

(Start: 20 @34995 has 19 MA's), (28, 35028), (31, 35037), (32, 35040), (34, 35055), (60, 35148), (76, 35211), (79, 35223), (109, 35346), (114, 35361), (144, 35463), (178, 35568), (181, 35577), (197, 35649), (208, 35706), (236, 35844),

Gene: ElephantMan\_54 Start: 37760, Stop: 38524, Start Num: 22

Candidate Starts for ElephantMan\_54:

(Start: 22 @37760 has 36 MA's), (60, 37910), (83, 38000), (85, 38009), (153, 38141), (178, 38222), (182, 38237), (239, 38516),

Gene: Elsa\_59 Start: 35986, Stop: 36783, Start Num: 19

Candidate Starts for Elsa\_59:

(Start: 19 @35986 has 38 MA's), (61, 36148), (174, 36439), (180, 36472), (193, 36538), (204, 36586), (218, 36655), (229, 36706), (237, 36763),

Gene: Elver\_107 Start: 57707, Stop: 58456, Start Num: 19

Candidate Starts for Elver\_107:

(Start: 19 @57707 has 38 MA's), (31, 57752), (40, 57785), (64, 57872), (150, 58043), (174, 58109), (229, 58373), (230, 58376), (237, 58436),

Gene: EndAve\_60 Start: 40567, Stop: 41478, Start Num: 14

Candidate Starts for EndAve\_60:

(8, 40507), (Start: 14 @40567 has 50 MA's), (24, 40600), (31, 40627), (39, 40657), (49, 40693), (51, 40708), (75, 40819), (89, 40879), (120, 40996), (132, 41041), (145, 41095), (171, 41161), (176, 41188), (178, 41200), (214, 41359),

Gene: Esketit\_58 Start: 36870, Stop: 37625, Start Num: 42

Candidate Starts for Esketit\_58:

(Start: 42 @36870 has 21 MA's), (Start: 46 @36879 has 13 MA's), (103, 37149), (128, 37239), (177, 37380), (186, 37419), (190, 37446), (220, 37569), (229, 37611),

Gene: Espio\_58 Start: 37529, Stop: 38245, Start Num: 46

Candidate Starts for Espio\_58:

(Start: 42 @37520 has 21 MA's), (Start: 46 @37529 has 13 MA's), (75, 37676), (103, 37766), (128, 37856), (177, 38000), (186, 38039), (190, 38066), (220, 38189), (229, 38231),

Gene: Fazel\_60 Start: 40348, Stop: 41253, Start Num: 17

Candidate Starts for Fazel\_60:

(Start: 17 @40348 has 8 MA's), (25, 40375), (29, 40393), (45, 40444), (49, 40465), (64, 40540), (66, 40546), (75, 40594), (89, 40660), (105, 40723), (120, 40777), (126, 40801), (135, 40843), (142, 40870), (145, 40879), (151, 40891), (178, 40984), (186, 41017), (204, 41095), (218, 41164),

Gene: FidgetOrca\_58 Start: 36869, Stop: 37615, Start Num: 46

Candidate Starts for FidgetOrca\_58:

(Start: 42 @36860 has 21 MA's), (Start: 46 @36869 has 13 MA's), (103, 37139), (128, 37229), (177, 37370), (186, 37409), (190, 37436), (220, 37559), (229, 37601),

Gene: Figliar\_57 Start: 40470, Stop: 41381, Start Num: 14

Candidate Starts for Figliar\_57:

(8, 40410), (Start: 14 @40470 has 50 MA's), (Start: 19 @40485 has 38 MA's), (24, 40503), (31, 40530), (45, 40575), (49, 40596), (51, 40611), (65, 40674), (75, 40722), (120, 40899), (145, 40998), (176, 41091), (178, 41103), (214, 41262),

Gene: Football\_62 Start: 40209, Stop: 41153, Start Num: 14

Candidate Starts for Football\_62:

(Start: 14 @40209 has 50 MA's), (Start: 19 @40224 has 38 MA's), (24, 40242), (31, 40269), (49, 40335), (89, 40551), (105, 40614), (120, 40668), (126, 40692), (139, 40755), (145, 40773), (151, 40785), (156, 40803), (161, 40812), (213, 41031),

Gene: FortCran\_60 Start: 40583, Stop: 41527, Start Num: 14

Candidate Starts for FortCran\_60:

(Start: 14 @40583 has 50 MA's), (Start: 19 @40598 has 38 MA's), (24, 40616), (31, 40643), (49, 40709), (89, 40925), (105, 40988), (120, 41042), (126, 41066), (139, 41129), (145, 41147), (151, 41159), (156, 41177), (161, 41186), (213, 41405),

Gene: FrodoSwaggins\_58 Start: 37519, Stop: 38244, Start Num: 42

Candidate Starts for FrodoSwaggins\_58:

(Start: 42 @37519 has 21 MA's), (Start: 46 @37528 has 13 MA's), (75, 37675), (103, 37765), (128, 37855), (177, 37999), (186, 38038), (190, 38065), (220, 38188), (229, 38230),

Gene: FromIndy\_57 Start: 35245, Stop: 36012, Start Num: 46

Candidate Starts for FromIndy\_57:

(21, 35158), (Start: 42 @35236 has 21 MA's), (Start: 46 @35245 has 13 MA's), (123, 35542), (126, 35554), (136, 35596), (149, 35641), (152, 35647), (174, 35728), (175, 35731), (179, 35752), (196, 35830), (220, 35950), (233, 36004),

Gene: Gandionco\_104 Start: 56521, Stop: 57270, Start Num: 19

Candidate Starts for Gandionco\_104:

(Start: 19 @56521 has 38 MA's), (31, 56566), (40, 56599), (64, 56686), (101, 56788), (150, 56857), (174, 56923), (229, 57187), (230, 57190), (237, 57250),

Gene: GantcherGoblin\_56 Start: 36006, Stop: 36722, Start Num: 19

Candidate Starts for GantcherGoblin\_56:

(Start: 19 @36006 has 38 MA's), (78, 36225), (174, 36378), (178, 36399), (198, 36486), (210, 36558), (231, 36648), (238, 36705),

Gene: GermyBearimy\_65 Start: 38173, Stop: 38988, Start Num: 19

Candidate Starts for GermyBearimy\_65:

(Start: 19 @38173 has 38 MA's), (122, 38587), (162, 38635), (207, 38827), (212, 38845), (219, 38875), (238, 38971),

Gene: Giantsbane\_57 Start: 36358, Stop: 37107, Start Num: 22

Candidate Starts for Giantsbane\_57:

(Start: 22 @36358 has 36 MA's), (60, 36508), (95, 36649), (154, 36733), (159, 36748), (178, 36805), (187, 36850),

Gene: Gill\_60 Start: 40406, Stop: 41350, Start Num: 14

Candidate Starts for Gill\_60:

(Start: 14 @40406 has 50 MA's), (Start: 19 @40421 has 38 MA's), (24, 40439), (31, 40466), (89, 40748), (105, 40811), (120, 40865), (126, 40889), (139, 40952), (145, 40970), (156, 41000), (161, 41009), (169, 41030), (213, 41228), (214, 41231),

Gene: GirlPower\_52 Start: 37115, Stop: 37828, Start Num: 46

Candidate Starts for GirlPower\_52:

(Start: 42 @37106 has 21 MA's), (Start: 46 @37115 has 13 MA's), (63, 37196), (75, 37262), (133, 37460), (141, 37475), (146, 37487), (155, 37508), (177, 37589), (186, 37628), (197, 37676), (220, 37775), (229, 37817),

Gene: Glintora\_60 Start: 41015, Stop: 41926, Start Num: 14

Candidate Starts for Glintora\_60:

(8, 40955), (Start: 14 @41015 has 50 MA's), (31, 41075), (33, 41081), (34, 41093), (45, 41120), (49, 41141), (51, 41156), (75, 41267), (120, 41444), (132, 41489), (135, 41510), (145, 41543), (176, 41636), (178, 41648), (231, 41888),

Gene: GoCrazy\_58 Start: 35844, Stop: 36644, Start Num: 19

Candidate Starts for GoCrazy\_58:

(Start: 19 @35844 has 38 MA's), (61, 36006), (67, 36027), (84, 36087), (111, 36186), (180, 36333), (193, 36399), (204, 36447), (218, 36516), (229, 36567), (237, 36624),

Gene: GoblinVoyage\_41 Start: 29065, Stop: 29763, Start Num: 41

Candidate Starts for GoblinVoyage\_41:

(Start: 41 @29065 has 12 MA's), (Start: 46 @29080 has 13 MA's), (47, 29083), (56, 29131), (59, 29143), (80, 29239), (87, 29269), (108, 29326), (134, 29410), (174, 29473), (211, 29656), (213, 29668), (220, 29698),

Gene: Gordon\_52 Start: 37901, Stop: 38656, Start Num: 22

Candidate Starts for Gordon\_52:

(Start: 22 @37901 has 36 MA's), (60, 38051), (76, 38114), (83, 38141), (86, 38153), (95, 38192), (153, 38273), (178, 38357), (182, 38372), (239, 38651),

Gene: Gravy\_59 Start: 40079, Stop: 41023, Start Num: 14

Candidate Starts for Gravy\_59:

(Start: 14 @40079 has 50 MA's), (Start: 19 @40094 has 38 MA's), (24, 40112), (31, 40139), (89, 40421), (105, 40484), (120, 40538), (126, 40562), (139, 40625), (145, 40643), (156, 40673), (161, 40682), (169, 40703), (213, 40901), (214, 40904),

Gene: Gusicorn\_60 Start: 40479, Stop: 41378, Start Num: 14

Candidate Starts for Gusicorn\_60:

(8, 40419), (Start: 14 @40479 has 50 MA's), (23, 40509), (24, 40512), (31, 40539), (34, 40557), (45, 40584), (49, 40605), (51, 40620), (65, 40683), (75, 40731), (120, 40902), (145, 41001), (176, 41094), (178, 41106), (214, 41265), (231, 41346),

Gene: Hankly\_58 Start: 35118, Stop: 35918, Start Num: 19

Candidate Starts for Hankly\_58:

(Start: 19 @35118 has 38 MA's), (61, 35280), (67, 35301), (84, 35361), (111, 35460), (180, 35607), (193, 35673), (204, 35721), (218, 35790), (229, 35841), (237, 35898),

Gene: HazuAndZazu\_57 Start: 37120, Stop: 37878, Start Num: 42

Candidate Starts for HazuAndZazu\_57:

(Start: 42 @37120 has 21 MA's), (Start: 46 @37129 has 13 MA's), (103, 37399), (128, 37489), (177, 37633), (186, 37672), (190, 37699), (220, 37822), (229, 37864),

Gene: Heisenberger\_58 Start: 35412, Stop: 36188, Start Num: 19

Candidate Starts for Heisenberger\_58:

(Start: 19 @35412 has 38 MA's), (61, 35574), (67, 35595), (84, 35655), (111, 35730), (174, 35844), (180, 35877), (193, 35943), (201, 35982), (204, 35991), (218, 36060), (229, 36111), (237, 36168),

Gene: Hemma\_51 Start: 34205, Stop: 34957, Start Num: 22

Candidate Starts for Hemma\_51:

(Start: 22 @34205 has 36 MA's), (86, 34448), (153, 34565), (167, 34604), (178, 34661), (184, 34688), (190, 34721), (220, 34847), (229, 34892),

Gene: HerbBucket\_54 Start: 34693, Stop: 35610, Start Num: 20

Candidate Starts for HerbBucket\_54:

(Start: 20 @34693 has 19 MA's), (28, 34726), (31, 34735), (32, 34738), (34, 34753), (60, 34846), (76, 34909), (79, 34921), (109, 35044), (114, 35059), (144, 35203), (178, 35308), (236, 35584),

Gene: Hortihabitatio\_61 Start: 41174, Stop: 42058, Start Num: 17

Candidate Starts for Hortihabitatio\_61:

(Start: 17 @41174 has 8 MA's), (25, 41201), (29, 41219), (49, 41291), (64, 41366), (66, 41372), (89, 41465), (98, 41501), (105, 41528), (120, 41582), (126, 41606), (127, 41612), (135, 41648), (142, 41675), (145, 41684), (151, 41696), (176, 41777), (178, 41789), (186, 41822), (204, 41900), (218, 41969), (220, 41975), (225, 41999),

Gene: Hoshi\_57 Start: 36467, Stop: 37222, Start Num: 42

Candidate Starts for Hoshi\_57:

(Start: 42 @36467 has 21 MA's), (Start: 46 @36476 has 13 MA's), (103, 36746), (128, 36836), (177, 36977), (186, 37016), (190, 37043), (220, 37166), (229, 37208),

Gene: HotFries\_40 Start: 29110, Stop: 29808, Start Num: 41

Candidate Starts for HotFries\_40:

(Start: 41 @29110 has 12 MA's), (Start: 46 @29125 has 13 MA's), (47, 29128), (56, 29176), (59, 29188), (80, 29284), (87, 29314), (94, 29341), (108, 29371), (174, 29518), (211, 29701), (213, 29713), (215, 29722), (220, 29743), (221, 29755),

Gene: Hydrus\_61 Start: 41331, Stop: 42233, Start Num: 14

Candidate Starts for Hydrus\_61:

(8, 41271), (Start: 14 @41331 has 50 MA's), (23, 41361), (24, 41364), (31, 41391), (39, 41421), (49, 41457), (51, 41472), (75, 41583), (89, 41637), (120, 41754), (145, 41853), (176, 41946), (178, 41958), (190, 42018), (232, 42201),

Gene: IceWarrior\_57 Start: 36546, Stop: 37301, Start Num: 42

Candidate Starts for IceWarrior\_57:

(Start: 42 @36546 has 21 MA's), (Start: 46 @36555 has 13 MA's), (103, 36825), (128, 36915), (177, 37056), (186, 37095), (190, 37122), (220, 37245), (229, 37287),

Gene: Indigenous\_58 Start: 36873, Stop: 37619, Start Num: 46

Candidate Starts for Indigenous\_58:

(Start: 42 @36864 has 21 MA's), (Start: 46 @36873 has 13 MA's), (103, 37143), (128, 37233), (177, 37374), (186, 37413), (190, 37440), (220, 37563), (229, 37605),

Gene: Ingrid\_58 Start: 37183, Stop: 37938, Start Num: 22

Candidate Starts for Ingrid\_58:

(Start: 22 @37183 has 36 MA's), (60, 37333), (75, 37390), (82, 37417), (83, 37423), (95, 37474), (104, 37498), (153, 37555), (178, 37639), (239, 37933),

Gene: Inked\_59 Start: 38306, Stop: 39055, Start Num: 22

Candidate Starts for Inked\_59:

(Start: 22 @38306 has 36 MA's), (60, 38456), (83, 38546), (85, 38555), (86, 38558), (95, 38597), (104, 38621), (153, 38678), (174, 38735), (178, 38756), (191, 38819), (239, 39050),

Gene: Issa\_53 Start: 37136, Stop: 37894, Start Num: 22

Candidate Starts for Issa\_53:

(Start: 22 @37136 has 36 MA's), (60, 37286), (76, 37349), (83, 37376), (86, 37388), (95, 37427), (153, 37508), (178, 37592), (182, 37607), (239, 37886),

Gene: JEGGS\_58 Start: 35467, Stop: 36267, Start Num: 19

Candidate Starts for JEGGS\_58:

(Start: 19 @35467 has 38 MA's), (61, 35629), (67, 35650), (84, 35710), (111, 35809), (174, 35923), (180, 35956), (193, 36022), (201, 36061), (204, 36070), (218, 36139), (229, 36190), (237, 36247),

Gene: Jaylociraptor\_58 Start: 36872, Stop: 37618, Start Num: 46

Candidate Starts for Jaylociraptor\_58:

(Start: 42 @36863 has 21 MA's), (Start: 46 @36872 has 13 MA's), (103, 37142), (128, 37232), (177, 37373), (186, 37412), (190, 37439), (220, 37562), (229, 37604),

Gene: Jazzy4900\_57 Start: 37585, Stop: 38403, Start Num: 19

Candidate Starts for Jazzy4900\_57:

(Start: 19 @37585 has 38 MA's), (27, 37618), (122, 37999), (162, 38047), (212, 38257), (219, 38287), (221, 38302), (238, 38386),

Gene: JeNeSaisPas\_102 Start: 57125, Stop: 57874, Start Num: 19

Candidate Starts for JeNeSaisPas\_102:

(Start: 19 @57125 has 38 MA's), (31, 57170), (40, 57203), (64, 57290), (101, 57392), (150, 57461), (174, 57527), (229, 57791), (230, 57794), (237, 57854),

Gene: Jeremy4pt0\_53 Start: 34693, Stop: 35568, Start Num: 20

Candidate Starts for Jeremy4pt0\_53:

(Start: 20 @34693 has 19 MA's), (28, 34726), (31, 34735), (32, 34738), (34, 34753), (60, 34846), (76, 34909), (79, 34921), (109, 35044), (114, 35059), (144, 35161), (178, 35266), (197, 35347), (236, 35542),

Gene: Jodelie19\_58 Start: 41874, Stop: 42785, Start Num: 14

Candidate Starts for Jodelie19\_58:

(8, 41814), (Start: 14 @41874 has 50 MA's), (Start: 19 @41889 has 38 MA's), (24, 41907), (31, 41934), (45, 41979), (49, 42000), (51, 42015), (65, 42078), (75, 42126), (120, 42303), (145, 42402), (176, 42495), (178, 42507), (214, 42666), (231, 42747),

Gene: JoyLin\_53 Start: 37910, Stop: 38650, Start Num: 35

Candidate Starts for JoyLin\_53:

(Start: 30 @37889 has 1 MA's), (Start: 35 @37910 has 3 MA's), (95, 38153), (131, 38267), (202, 38498), (203, 38501), (215, 38561),

Gene: JulesRay\_60 Start: 40579, Stop: 41523, Start Num: 14

Candidate Starts for JulesRay\_60:

(Start: 14 @40579 has 50 MA's), (Start: 19 @40594 has 38 MA's), (24, 40612), (31, 40639), (49, 40705), (89, 40921), (105, 40984), (120, 41038), (126, 41062), (139, 41125), (145, 41143), (151, 41155), (156, 41173), (161, 41182), (213, 41401),

Gene: Kardashian\_56 Start: 37105, Stop: 37929, Start Num: 42

Candidate Starts for Kardashian\_56:

(13, 36997), (21, 37027), (Start: 42 @37105 has 21 MA's), (Start: 46 @37114 has 13 MA's), (51, 37150), (137, 37513), (138, 37516), (210, 37810),

Gene: Kardesai\_60 Start: 36088, Stop: 36885, Start Num: 19

Candidate Starts for Kardesai\_60:

(Start: 19 @36088 has 38 MA's), (61, 36250), (174, 36541), (180, 36574), (193, 36640), (201, 36679), (204, 36688), (218, 36757), (229, 36808), (237, 36865),

Gene: KeaneyLin\_58 Start: 35844, Stop: 36644, Start Num: 19

Candidate Starts for KeaneyLin\_58:

(Start: 19 @35844 has 38 MA's), (61, 36006), (67, 36027), (84, 36087), (111, 36186), (180, 36333), (193, 36399), (204, 36447), (218, 36516), (229, 36567), (237, 36624),

Gene: Kenosha\_58 Start: 40793, Stop: 41692, Start Num: 14

Candidate Starts for Kenosha\_58:

(8, 40733), (Start: 14 @40793 has 50 MA's), (24, 40826), (31, 40853), (45, 40898), (49, 40919), (51, 40934), (75, 41045), (89, 41096), (120, 41213), (145, 41312), (176, 41405), (178, 41417), (190, 41477), (220, 41603),

Gene: Kerry\_59 Start: 40079, Stop: 41023, Start Num: 14

Candidate Starts for Kerry\_59:

(Start: 14 @40079 has 50 MA's), (Start: 19 @40094 has 38 MA's), (24, 40112), (31, 40139), (89, 40421), (105, 40484), (120, 40538), (126, 40562), (139, 40625), (145, 40643), (156, 40673), (161, 40682), (169, 40703), (213, 40901), (214, 40904),

Gene: KevinMinion\_57 Start: 36882, Stop: 37598, Start Num: 19

Candidate Starts for KevinMinion\_57:

(Start: 19 @36882 has 38 MA's), (78, 37101), (174, 37254), (178, 37275), (198, 37362), (231, 37524), (238, 37581),

Gene: Kinny\_61 Start: 38133, Stop: 38822, Start Num: 19

Candidate Starts for Kinny\_61:

(Start: 19 @38133 has 38 MA's), (Start: 54 @38277 has 1 MA's), (78, 38328), (88, 38346), (147, 38415), (174, 38478), (178, 38499), (185, 38532), (198, 38586), (200, 38601), (238, 38805),

Gene: Kureo\_105 Start: 56717, Stop: 57466, Start Num: 19

Candidate Starts for Kureo\_105:

(Start: 19 @56717 has 38 MA's), (31, 56762), (40, 56795), (64, 56882), (101, 56984), (150, 57053), (174, 57119), (229, 57383), (230, 57386), (237, 57446),

Gene: Leathea\_58 Start: 35757, Stop: 36464, Start Num: 19

Candidate Starts for Leathea\_58:

(Start: 19 @35757 has 38 MA's), (Start: 54 @35901 has 1 MA's), (72, 35943), (78, 35967), (85, 35985), (174, 36120), (178, 36141), (198, 36228), (238, 36447),

Gene: Lewando\_61 Start: 37710, Stop: 38414, Start Num: 19

Candidate Starts for Lewando\_61:

(Start: 19 @37710 has 38 MA's), (Start: 54 @37854 has 1 MA's), (162, 38034), (178, 38091), (198, 38178), (200, 38193), (238, 38397),

Gene: LibertyBell\_48 Start: 32956, Stop: 33711, Start Num: 46

Candidate Starts for LibertyBell\_48:

(Start: 42 @32947 has 21 MA's), (Start: 46 @32956 has 13 MA's), (52, 32989), (66, 33046), (77, 33103), (81, 33115), (91, 33154), (100, 33190), (106, 33214), (166, 33409), (168, 33418), (173, 33439), (178, 33466), (187, 33511), (206, 33598), (222, 33679),

Gene: LilHuddy\_56 Start: 37293, Stop: 38045, Start Num: 22

Candidate Starts for LilHuddy\_56:

(Start: 22 @37293 has 36 MA's), (60, 37443), (95, 37584), (154, 37671), (159, 37686), (176, 37731), (178, 37743),

Gene: Linda\_54 Start: 34991, Stop: 35866, Start Num: 20

Candidate Starts for Linda\_54:

(Start: 20 @34991 has 19 MA's), (28, 35024), (31, 35033), (32, 35036), (34, 35051), (60, 35144), (76, 35207), (79, 35219), (109, 35342), (114, 35357), (144, 35459), (178, 35564), (197, 35645), (208, 35702), (236, 35840),

Gene: Loretta\_55 Start: 37183, Stop: 37938, Start Num: 22

Candidate Starts for Loretta\_55:

(Start: 22 @37183 has 36 MA's), (60, 37333), (75, 37390), (82, 37417), (83, 37423), (95, 37474), (104, 37498), (153, 37555), (178, 37639), (239, 37933),

Gene: LucySwiss\_54 Start: 36929, Stop: 37684, Start Num: 22

Candidate Starts for LucySwiss\_54:

(Start: 22 @36929 has 36 MA's), (60, 37079), (83, 37169), (95, 37220), (153, 37301), (178, 37382), (182, 37397), (192, 37448), (239, 37676),

Gene: Luthien\_61 Start: 40564, Stop: 41472, Start Num: 14

Candidate Starts for Luthien\_61:

(8, 40504), (Start: 14 @40564 has 50 MA's), (24, 40597), (31, 40624), (39, 40654), (49, 40690), (51, 40705), (75, 40816), (89, 40876), (120, 40993), (132, 41038), (145, 41092), (171, 41158), (176, 41185), (178, 41197),

Gene: Madamoto\_60 Start: 37006, Stop: 37764, Start Num: 42

Candidate Starts for Madamoto\_60:

(36, 36988), (Start: 42 @37006 has 21 MA's), (Start: 46 @37015 has 13 MA's), (148, 37408), (152, 37417), (172, 37471), (177, 37510), (190, 37576), (220, 37699), (227, 37738),

Gene: Madvan\_59 Start: 40202, Stop: 41101, Start Num: 14

Candidate Starts for Madvan\_59:

(8, 40142), (Start: 14 @40202 has 50 MA's), (23, 40232), (24, 40235), (31, 40262), (49, 40328), (51, 40343), (75, 40454), (89, 40505), (120, 40622), (145, 40721), (176, 40814), (178, 40826), (190, 40886), (232, 41069),

Gene: Magel\_61 Start: 40322, Stop: 41266, Start Num: 14

Candidate Starts for Magel\_61:

(Start: 14 @40322 has 50 MA's), (Start: 19 @40337 has 38 MA's), (24, 40355), (31, 40382), (89, 40664), (105, 40727), (120, 40781), (126, 40805), (139, 40868), (145, 40886), (156, 40916), (161, 40925), (169, 40946), (213, 41144), (214, 41147),

Gene: MajinBuu\_59 Start: 40852, Stop: 41763, Start Num: 14

Candidate Starts for MajinBuu\_59:

(8, 40792), (Start: 14 @40852 has 50 MA's), (Start: 19 @40867 has 38 MA's), (24, 40885), (31, 40912), (45, 40957), (49, 40978), (51, 40993), (65, 41056), (75, 41104), (120, 41281), (145, 41380), (176, 41473), (178, 41485), (214, 41644), (231, 41725),

Gene: Makai\_55 Start: 37391, Stop: 38140, Start Num: 22

Candidate Starts for Makai\_55:

(Start: 22 @37391 has 36 MA's), (33, 37436), (60, 37541), (153, 37751), (176, 37826), (178, 37838), (182, 37853), (197, 37922),

Gene: Mardi\_58 Start: 36478, Stop: 37194, Start Num: 19

Candidate Starts for Mardi\_58:

(Start: 19 @36478 has 38 MA's), (78, 36697), (163, 36817), (174, 36850), (178, 36871), (198, 36958), (210, 37030), (231, 37120), (238, 37177), (240, 37189),

Gene: Marianna39\_105 Start: 57132, Stop: 57881, Start Num: 19

Candidate Starts for Marianna39\_105:

(Start: 19 @57132 has 38 MA's), (31, 57177), (40, 57210), (64, 57297), (101, 57399), (150, 57468), (174, 57534), (229, 57798), (230, 57801), (237, 57861),

Gene: Maya\_58 Start: 36877, Stop: 37632, Start Num: 42

Candidate Starts for Maya\_58:

(Start: 42 @36877 has 21 MA's), (Start: 46 @36886 has 13 MA's), (103, 37156), (128, 37246), (177, 37387), (186, 37426), (190, 37453), (220, 37576), (229, 37618),

Gene: MediumFry\_53 Start: 36688, Stop: 37446, Start Num: 22

Candidate Starts for MediumFry\_53:

(Start: 22 @36688 has 36 MA's), (60, 36838), (83, 36928), (95, 36979), (104, 37003), (153, 37060), (183, 37162), (239, 37441),

Gene: Meibysrarus\_56 Start: 36240, Stop: 36995, Start Num: 42

Candidate Starts for Meibysrarus\_56:

(Start: 42 @36240 has 21 MA's), (Start: 46 @36249 has 13 MA's), (103, 36519), (128, 36609), (177, 36750), (186, 36789), (190, 36816), (220, 36939), (229, 36981),

Gene: Mema\_47 Start: 36166, Stop: 36906, Start Num: 50

Candidate Starts for Mema\_47:

(Start: 50 @36166 has 3 MA's), (80, 36298), (113, 36409), (117, 36418), (206, 36718), (224, 36802), (227, 36820), (231, 36835), (236, 36886),

Gene: Michelle\_54 Start: 34993, Stop: 35868, Start Num: 20

Candidate Starts for Michelle\_54:

(Start: 20 @34993 has 19 MA's), (28, 35026), (31, 35035), (32, 35038), (34, 35053), (60, 35146), (76, 35209), (79, 35221), (109, 35344), (114, 35359), (144, 35461), (178, 35566), (181, 35575), (197, 35647), (208, 35704), (236, 35842),

Gene: Miek\_54 Start: 34955, Stop: 35731, Start Num: 42

Candidate Starts for Miek\_54:

(21, 34877), (Start: 42 @34955 has 21 MA's), (Start: 46 @34964 has 13 MA's), (123, 35261), (126, 35273), (136, 35315), (149, 35360), (152, 35366), (174, 35447), (175, 35450), (179, 35471), (196, 35549), (220, 35669), (233, 35723),

Gene: MiniBagel\_54 Start: 38021, Stop: 38782, Start Num: 22

Candidate Starts for MiniBagel\_54:

(Start: 22 @38021 has 36 MA's), (60, 38171), (70, 38210), (83, 38261), (86, 38273), (153, 38399), (163, 38426), (178, 38480), (182, 38495), (192, 38546), (199, 38567), (239, 38774),

Gene: Monse\_40 Start: 28988, Stop: 29677, Start Num: 41

Candidate Starts for Monse\_40:

(Start: 41 @28988 has 12 MA's), (Start: 46 @29003 has 13 MA's), (47, 29006), (80, 29162), (108, 29249), (121, 29288), (125, 29303), (186, 29441), (211, 29570), (213, 29582), (220, 29612),

Gene: Mooshroom\_61 Start: 36088, Stop: 36885, Start Num: 19

Candidate Starts for Mooshroom\_61:

(Start: 19 @36088 has 38 MA's), (61, 36250), (174, 36541), (180, 36574), (193, 36640), (201, 36679), (204, 36688), (218, 36757), (229, 36808), (237, 36865),

Gene: Moozy\_40 Start: 29067, Stop: 29765, Start Num: 41

Candidate Starts for Moozy\_40:

(Start: 41 @29067 has 12 MA's), (Start: 46 @29082 has 13 MA's), (47, 29085), (56, 29133), (59, 29145), (80, 29241), (87, 29271), (94, 29298), (134, 29412), (174, 29475), (211, 29658), (213, 29670), (215, 29679), (220, 29700),

Gene: Mossy\_62 Start: 42220, Stop: 43098, Start Num: 17

Candidate Starts for Mossy\_62:

(Start: 17 @42220 has 8 MA's), (25, 42247), (29, 42265), (45, 42316), (49, 42337), (64, 42412), (66, 42418), (89, 42511), (98, 42547), (105, 42574), (120, 42628), (127, 42658), (135, 42694), (142, 42721), (145, 42730), (151, 42742), (164, 42775), (178, 42835), (204, 42946), (210, 42985), (218, 43015),

Gene: MrAaronian\_54 Start: 34993, Stop: 35868, Start Num: 20

Candidate Starts for MrAaronian\_54:

(Start: 20 @34993 has 19 MA's), (28, 35026), (31, 35035), (32, 35038), (34, 35053), (60, 35146), (76, 35209), (79, 35221), (109, 35344), (114, 35359), (144, 35461), (178, 35566), (181, 35575), (197, 35647), (208, 35704), (236, 35842),

Gene: Mudcat\_56 Start: 36825, Stop: 37625, Start Num: 19

Candidate Starts for Mudcat\_56:

(Start: 19 @36825 has 38 MA's), (61, 36987), (67, 37008), (84, 37068), (111, 37167), (174, 37281), (180, 37314), (193, 37380), (201, 37419), (204, 37428), (218, 37497), (229, 37548), (237, 37605),

Gene: Muglass\_60 Start: 37194, Stop: 37898, Start Num: 19

Candidate Starts for Muglass\_60:

(Start: 19 @37194 has 38 MA's), (Start: 54 @37338 has 1 MA's), (174, 37554), (178, 37575), (185, 37608), (198, 37662), (200, 37677), (238, 37881),

Gene: Mysticmoon\_60 Start: 41647, Stop: 42552, Start Num: 17

Candidate Starts for Mysticmoon\_60:

(Start: 17 @41647 has 8 MA's), (23, 41668), (25, 41674), (29, 41692), (45, 41743), (49, 41764), (64, 41839), (89, 41959), (98, 41995), (105, 42022), (120, 42076), (126, 42100), (135, 42142), (142, 42169), (145, 42178), (151, 42190), (164, 42223), (176, 42271), (178, 42283), (186, 42316), (204, 42394), (218, 42463), (231, 42523),

Gene: Nadmeg\_60 Start: 41448, Stop: 42356, Start Num: 14

Candidate Starts for Nadmeg\_60:

(1, 41238), (3, 41301), (5, 41310), (Start: 14 @41448 has 50 MA's), (24, 41481), (31, 41508), (39, 41538), (49, 41574), (51, 41589), (75, 41700), (89, 41760), (120, 41877), (145, 41976), (176, 42069), (178, 42081), (190, 42141),

Gene: Namo\_59 Start: 37214, Stop: 37969, Start Num: 42

Candidate Starts for Namo\_59:

(Start: 42 @37214 has 21 MA's), (Start: 46 @37223 has 13 MA's), (103, 37493), (177, 37724), (186, 37763), (190, 37790), (220, 37913), (229, 37955),

Gene: NapoleonB\_59 Start: 35903, Stop: 36703, Start Num: 19

Candidate Starts for NapoleonB\_59:

(Start: 19 @35903 has 38 MA's), (61, 36065), (67, 36086), (84, 36146), (111, 36245), (180, 36392), (193, 36458), (204, 36506), (218, 36575), (229, 36626), (237, 36683),

Gene: Nason\_59 Start: 35986, Stop: 36783, Start Num: 19

Candidate Starts for Nason\_59:

(Start: 19 @35986 has 38 MA's), (61, 36148), (174, 36439), (180, 36472), (193, 36538), (204, 36586), (218, 36655), (229, 36706), (237, 36763),

Gene: Natasha\_55 Start: 34823, Stop: 35617, Start Num: 20

Candidate Starts for Natasha\_55:

(Start: 20 @34823 has 19 MA's), (31, 34865), (43, 34895), (45, 34898), (63, 34991), (79, 35075), (157, 35249), (176, 35306), (178, 35318), (188, 35366), (236, 35591),

Gene: Navi1117\_59 Start: 36699, Stop: 37415, Start Num: 19

Candidate Starts for Navi1117\_59:

(Start: 19 @36699 has 38 MA's), (78, 36918), (163, 37038), (174, 37071), (178, 37092), (198, 37179), (231, 37341), (238, 37398),

Gene: Nightmare\_56 Start: 38318, Stop: 39076, Start Num: 22

Candidate Starts for Nightmare\_56:

(Start: 22 @38318 has 36 MA's), (60, 38468), (76, 38531), (83, 38558), (86, 38570), (95, 38609), (153, 38690), (178, 38774), (182, 38789), (239, 39068),

Gene: Niktson\_54 Start: 37760, Stop: 38524, Start Num: 22

Candidate Starts for Niktson\_54:

(Start: 22 @37760 has 36 MA's), (60, 37910), (83, 38000), (85, 38009), (153, 38141), (178, 38222), (182, 38237), (239, 38516),

Gene: Nithya\_59 Start: 40310, Stop: 41221, Start Num: 14

Candidate Starts for Nithya\_59:

(8, 40250), (Start: 14 @40310 has 50 MA's), (24, 40343), (31, 40370), (39, 40400), (49, 40436), (51, 40451), (75, 40562), (89, 40622), (120, 40739), (132, 40784), (145, 40838), (171, 40904), (176, 40931), (178, 40943), (214, 41102),

Gene: Nivinsha\_56 Start: 37264, Stop: 38031, Start Num: 22

Candidate Starts for Nivinsha\_56:

(Start: 22 @37264 has 36 MA's), (60, 37414), (83, 37504), (86, 37516), (153, 37645), (178, 37729), (182, 37744), (239, 38023),

Gene: NoPickles\_59 Start: 39744, Stop: 40688, Start Num: 14

Candidate Starts for NoPickles\_59:

(Start: 14 @39744 has 50 MA's), (Start: 19 @39759 has 38 MA's), (24, 39777), (31, 39804), (89, 40086), (105, 40149), (120, 40203), (126, 40227), (139, 40290), (145, 40308), (156, 40338), (161, 40347), (169, 40368), (213, 40566), (214, 40569),

Gene: Odesza\_59 Start: 40266, Stop: 41210, Start Num: 14

Candidate Starts for Odesza\_59:

(Start: 14 @40266 has 50 MA's), (Start: 19 @40281 has 38 MA's), (24, 40299), (31, 40326), (89, 40608), (105, 40671), (120, 40725), (126, 40749), (139, 40812), (145, 40830), (156, 40860), (161, 40869), (169, 40890), (213, 41088), (214, 41091),

Gene: OhMyWard\_58 Start: 41973, Stop: 42857, Start Num: 17

Candidate Starts for OhMyWard\_58:

(2, 41763), (4, 41823), (5, 41829), (6, 41838), (7, 41901), (10, 41931), (11, 41937), (12, 41940), (Start: 17 @41973 has 8 MA's), (25, 42000), (29, 42018), (45, 42069), (49, 42090), (64, 42165), (66, 42171), (89, 42264), (98, 42300), (105, 42327), (120, 42381), (126, 42405), (127, 42411), (135, 42447), (142, 42474), (145, 42483), (151, 42495), (164, 42528), (178, 42588), (186, 42621), (204, 42699), (205, 42708), (210, 42738), (218, 42768), (231, 42828),

Gene: OlgasClover\_60 Start: 41455, Stop: 42366, Start Num: 14

Candidate Starts for OlgasClover\_60:

(8, 41395), (Start: 14 @41455 has 50 MA's), (Start: 19 @41470 has 38 MA's), (24, 41488), (31, 41515), (45, 41560), (49, 41581), (51, 41596), (65, 41659), (75, 41707), (120, 41884), (145, 41983), (176, 42076), (178, 42088), (214, 42247), (231, 42328),

Gene: OlympicHelado\_58 Start: 36900, Stop: 37625, Start Num: 46

Candidate Starts for OlympicHelado\_58:

(Start: 42 @36891 has 21 MA's), (Start: 46 @36900 has 13 MA's), (103, 37170), (177, 37380), (186, 37419), (190, 37446), (220, 37569), (229, 37611),

Gene: Onestar\_53 Start: 34760, Stop: 35653, Start Num: 20

Candidate Starts for Onestar\_53:

(Start: 20 @34760 has 19 MA's), (28, 34793), (31, 34802), (43, 34832), (76, 34997), (109, 35132), (114, 35147), (116, 35156), (140, 35237), (178, 35345), (181, 35354), (194, 35417), (203, 35450), (208, 35483), (236, 35627),

Gene: Paella\_107 Start: 58297, Stop: 59046, Start Num: 19

Candidate Starts for Paella\_107:

(Start: 19 @58297 has 38 MA's), (31, 58342), (40, 58375), (64, 58462), (101, 58564), (150, 58633), (174, 58699), (229, 58963), (230, 58966), (237, 59026),

Gene: Pepy6\_084 Start: 50892, Stop: 51794, Start Num: 17

Candidate Starts for Pepy6\_084:

(9, 50835), (Start: 17 @50892 has 8 MA's), (24, 50916), (28, 50928), (49, 51003), (Start: 50 @51006 has 3 MA's), (84, 51186), (124, 51342), (145, 51426), (165, 51477), (169, 51489), (205, 51660), (213, 51693), (225, 51747),

Gene: Perkunas\_62 Start: 40655, Stop: 41599, Start Num: 14

Candidate Starts for Perkunas\_62:

(Start: 14 @40655 has 50 MA's), (Start: 19 @40670 has 38 MA's), (24, 40688), (31, 40715), (64, 40856), (70, 40898), (71, 40904), (105, 41060), (120, 41114), (126, 41138), (145, 41219), (151, 41231), (169, 41279), (214, 41480), (231, 41561),

Gene: PerroGrande22\_77 Start: 52624, Stop: 53508, Start Num: 17

Candidate Starts for PerroGrande22\_77:

(Start: 17 @52624 has 8 MA's), (24, 52648), (28, 52660), (49, 52735), (Start: 50 @52738 has 3 MA's), (64, 52810), (66, 52816), (83, 52906), (124, 53056), (129, 53077), (145, 53140), (165, 53191), (169, 53203), (205, 53374), (213, 53407),

Gene: PestoPenguin\_62 Start: 40479, Stop: 41378, Start Num: 14

Candidate Starts for PestoPenguin\_62:

(8, 40419), (Start: 14 @40479 has 50 MA's), (23, 40509), (24, 40512), (31, 40539), (34, 40557), (45, 40584), (49, 40605), (51, 40620), (65, 40683), (75, 40731), (120, 40902), (145, 41001), (176, 41094), (178, 41106), (214, 41265), (231, 41346),

Gene: Petite\_62 Start: 41813, Stop: 42754, Start Num: 14

Candidate Starts for Petite\_62:

(Start: 14 @41813 has 50 MA's), (Start: 19 @41828 has 38 MA's), (24, 41846), (31, 41873), (89, 42152), (105, 42215), (120, 42269), (126, 42293), (139, 42356), (145, 42374), (169, 42434),

Gene: Phaby\_57 Start: 37911, Stop: 38663, Start Num: 22

Candidate Starts for Phaby\_57:

(Start: 22 @37911 has 36 MA's), (38, 37977), (60, 38061), (95, 38202), (154, 38289), (159, 38304), (176, 38349), (178, 38361),

Gene: Phaila\_59 Start: 36120, Stop: 36854, Start Num: 19

Candidate Starts for Phaila\_59:

(Start: 19 @36120 has 38 MA's), (49, 36231), (74, 36327), (78, 36342), (163, 36477), (174, 36510), (178, 36531), (198, 36618), (210, 36690), (231, 36780), (238, 36837),

Gene: Phepper\_60 Start: 40462, Stop: 41361, Start Num: 14

Candidate Starts for Phepper\_60:

(8, 40402), (Start: 14 @40462 has 50 MA's), (23, 40492), (24, 40495), (31, 40522), (49, 40588), (51, 40603), (75, 40714), (89, 40765), (120, 40882), (145, 40981), (176, 41074), (178, 41086), (190, 41146), (232, 41329),

Gene: Pherobrine\_61 Start: 42057, Stop: 42962, Start Num: 17

Candidate Starts for Pherobrine\_61:

(Start: 17 @42057 has 8 MA's), (23, 42078), (24, 42081), (25, 42084), (29, 42102), (45, 42153), (49, 42174), (64, 42249), (89, 42369), (98, 42405), (105, 42432), (120, 42486), (126, 42510), (135, 42552),

(142, 42579), (145, 42588), (151, 42600), (164, 42633), (176, 42681), (178, 42693), (186, 42726),  
(204, 42804), (205, 42813), (218, 42873), (231, 42933),

Gene: PherryCruz\_40 Start: 29061, Stop: 29759, Start Num: 41

Candidate Starts for PherryCruz\_40:

(Start: 41 @29061 has 12 MA's), (Start: 46 @29076 has 13 MA's), (47, 29079), (56, 29127), (59, 29139), (80, 29235), (87, 29265), (94, 29292), (108, 29322), (174, 29469), (211, 29652), (213, 29664), (215, 29673), (220, 29694),

Gene: Pippin15\_54 Start: 34805, Stop: 35566, Start Num: 35

Candidate Starts for Pippin15\_54:

(16, 34730), (26, 34766), (Start: 30 @34784 has 1 MA's), (Start: 35 @34805 has 3 MA's), (95, 35048), (175, 35291), (184, 35339), (197, 35396), (206, 35438), (209, 35447), (215, 35477), (216, 35480), (220, 35498),

Gene: POCO6\_083 Start: 52419, Stop: 53303, Start Num: 17

Candidate Starts for POCO6\_083:

(Start: 17 @52419 has 8 MA's), (24, 52443), (28, 52455), (49, 52530), (Start: 50 @52533 has 3 MA's), (64, 52605), (66, 52611), (83, 52701), (124, 52851), (129, 52872), (145, 52935), (165, 52986), (169, 52998), (205, 53169), (213, 53202),

Gene: PoeMe\_58 Start: 36624, Stop: 37340, Start Num: 19

Candidate Starts for PoeMe\_58:

(Start: 19 @36624 has 38 MA's), (78, 36843), (163, 36963), (174, 36996), (178, 37017), (198, 37104), (210, 37176), (238, 37323),

Gene: Popy\_58 Start: 37519, Stop: 38244, Start Num: 42

Candidate Starts for Popy\_58:

(Start: 42 @37519 has 21 MA's), (Start: 46 @37528 has 13 MA's), (75, 37675), (103, 37765), (128, 37855), (177, 37999), (186, 38038), (190, 38065), (220, 38188), (229, 38230),

Gene: Powelldog\_59 Start: 36214, Stop: 37014, Start Num: 20

Candidate Starts for Powelldog\_59:

(Start: 20 @36214 has 19 MA's), (28, 36247), (31, 36256), (34, 36274), (52, 36334), (65, 36388), (107, 36586), (157, 36643), (178, 36712), (187, 36757), (194, 36784), (203, 36817),

Gene: ProfFrink\_54 Start: 34994, Stop: 35869, Start Num: 20

Candidate Starts for ProfFrink\_54:

(Start: 20 @34994 has 19 MA's), (28, 35027), (31, 35036), (32, 35039), (34, 35054), (60, 35147), (76, 35210), (79, 35222), (109, 35345), (114, 35360), (144, 35462), (178, 35567), (181, 35576), (197, 35648), (208, 35705), (236, 35843),

Gene: Qui\_107 Start: 58297, Stop: 59046, Start Num: 19

Candidate Starts for Qui\_107:

(Start: 19 @58297 has 38 MA's), (31, 58342), (40, 58375), (64, 58462), (101, 58564), (150, 58633), (174, 58699), (229, 58963), (230, 58966), (237, 59026),

Gene: Rainydai\_55 Start: 35639, Stop: 36406, Start Num: 46

Candidate Starts for Rainydai\_55:

(21, 35552), (Start: 42 @35630 has 21 MA's), (Start: 46 @35639 has 13 MA's), (123, 35936), (126, 35948), (136, 35990), (149, 36035), (152, 36041), (174, 36122), (175, 36125), (179, 36146), (196, 36224), (220, 36344), (233, 36398),

Gene: Raunak\_57 Start: 34691, Stop: 35566, Start Num: 20

Candidate Starts for Raunak\_57:

(Start: 20 @34691 has 19 MA's), (28, 34724), (31, 34733), (32, 34736), (34, 34751), (60, 34844), (76, 34907), (79, 34919), (109, 35042), (114, 35057), (144, 35159), (178, 35264), (181, 35273), (197, 35345), (208, 35402), (236, 35540),

Gene: RavenPuff\_40 Start: 29061, Stop: 29759, Start Num: 41

Candidate Starts for RavenPuff\_40:

(Start: 41 @29061 has 12 MA's), (Start: 46 @29076 has 13 MA's), (47, 29079), (56, 29127), (59, 29139), (80, 29235), (87, 29265), (94, 29292), (108, 29322), (174, 29469), (211, 29652), (213, 29664), (215, 29673), (220, 29694),

Gene: Regigigas\_58 Start: 35631, Stop: 36407, Start Num: 42

Candidate Starts for Regigigas\_58:

(21, 35553), (Start: 42 @35631 has 21 MA's), (Start: 46 @35640 has 13 MA's), (123, 35937), (126, 35949), (136, 35991), (149, 36036), (152, 36042), (174, 36123), (175, 36126), (179, 36147), (196, 36225), (220, 36345), (233, 36399),

Gene: Renaldo\_64 Start: 37949, Stop: 38638, Start Num: 19

Candidate Starts for Renaldo\_64:

(Start: 19 @37949 has 38 MA's), (Start: 54 @38093 has 1 MA's), (78, 38144), (88, 38162), (147, 38231), (174, 38294), (178, 38315), (185, 38348), (198, 38402), (200, 38417), (238, 38621),

Gene: Rickmore\_56 Start: 38811, Stop: 39713, Start Num: 14

Candidate Starts for Rickmore\_56:

(8, 38751), (Start: 14 @38811 has 50 MA's), (24, 38844), (31, 38871), (39, 38901), (49, 38937), (51, 38952), (75, 39063), (89, 39114), (120, 39231), (132, 39276), (145, 39330), (176, 39423), (178, 39435), (231, 39675),

Gene: Rima\_59 Start: 37214, Stop: 37969, Start Num: 42

Candidate Starts for Rima\_59:

(Start: 42 @37214 has 21 MA's), (Start: 46 @37223 has 13 MA's), (103, 37493), (177, 37724), (186, 37763), (190, 37790), (220, 37913), (229, 37955),

Gene: Roney\_60 Start: 40432, Stop: 41376, Start Num: 14

Candidate Starts for Roney\_60:

(Start: 14 @40432 has 50 MA's), (Start: 19 @40447 has 38 MA's), (24, 40465), (31, 40492), (89, 40774), (105, 40837), (120, 40891), (126, 40915), (139, 40978), (145, 40996), (156, 41026), (161, 41035), (169, 41056), (213, 41254), (214, 41257),

Gene: RosaAsantewaa\_37 Start: 28089, Stop: 28907, Start Num: 44

Candidate Starts for RosaAsantewaa\_37:

(Start: 44 @28089 has 1 MA's), (56, 28146), (65, 28182), (74, 28245), (121, 28434), (137, 28515), (160, 28584), (190, 28713), (197, 28737), (200, 28752), (220, 28845), (221, 28857), (229, 28890),

Gene: Runhaar\_59 Start: 40264, Stop: 41172, Start Num: 14

Candidate Starts for Runhaar\_59:

(1, 40054), (3, 40117), (5, 40126), (Start: 14 @40264 has 50 MA's), (24, 40297), (31, 40324), (39, 40354), (49, 40390), (51, 40405), (75, 40516), (89, 40576), (120, 40693), (135, 40759), (145, 40792), (176, 40885), (178, 40897), (190, 40957),

Gene: RustyBoy\_55 Start: 34804, Stop: 35598, Start Num: 20

Candidate Starts for RustyBoy\_55:

(Start: 20 @34804 has 19 MA's), (31, 34846), (43, 34876), (45, 34879), (63, 34972), (79, 35056), (157, 35230), (176, 35287), (178, 35299), (188, 35347), (236, 35572),

Gene: Salk\_54 Start: 34991, Stop: 35866, Start Num: 20

Candidate Starts for Salk\_54:

(Start: 20 @34991 has 19 MA's), (28, 35024), (31, 35033), (32, 35036), (34, 35051), (60, 35144), (76, 35207), (79, 35219), (109, 35342), (114, 35357), (144, 35459), (178, 35564), (197, 35645), (208, 35702), (236, 35840),

Gene: Sangak\_39 Start: 28619, Stop: 29317, Start Num: 41

Candidate Starts for Sangak\_39:

(Start: 41 @28619 has 12 MA's), (Start: 46 @28634 has 13 MA's), (47, 28637), (56, 28685), (59, 28697), (80, 28793), (87, 28823), (108, 28880), (134, 28964), (174, 29027), (211, 29210), (213, 29222), (220, 29252),

Gene: Scap1\_40 Start: 28953, Stop: 29648, Start Num: 41

Candidate Starts for Scap1\_40:

(Start: 41 @28953 has 12 MA's), (Start: 46 @28968 has 13 MA's), (47, 28971), (68, 29064), (69, 29070), (80, 29127), (87, 29157), (108, 29214), (125, 29268), (174, 29358), (186, 29412), (204, 29496), (211, 29541), (213, 29553), (220, 29583), (221, 29595),

Gene: Schwartz33\_61 Start: 40690, Stop: 41598, Start Num: 17

Candidate Starts for Schwartz33\_61:

(Start: 17 @40690 has 8 MA's), (Start: 19 @40699 has 38 MA's), (33, 40750), (45, 40789), (75, 40939), (90, 41008), (99, 41044), (105, 41068), (120, 41122), (126, 41146), (135, 41188), (145, 41224), (151, 41236), (176, 41317), (203, 41434), (213, 41482), (214, 41485), (231, 41566),

Gene: ScienceWizSam\_55 Start: 37372, Stop: 38130, Start Num: 22

Candidate Starts for ScienceWizSam\_55:

(Start: 22 @37372 has 36 MA's), (60, 37522), (76, 37585), (83, 37612), (86, 37624), (95, 37663), (153, 37744), (178, 37828), (182, 37843), (239, 38122),

Gene: Secretariat\_59 Start: 39647, Stop: 40552, Start Num: 17

Candidate Starts for Secretariat\_59:

(15, 39644), (Start: 17 @39647 has 8 MA's), (31, 39701), (45, 39746), (75, 39896), (90, 39962), (98, 39995), (120, 40076), (126, 40100), (135, 40142), (145, 40178), (151, 40190), (176, 40271), (200, 40376), (203, 40388), (214, 40439), (231, 40520),

Gene: SendItCS\_53 Start: 34943, Stop: 35719, Start Num: 42

Candidate Starts for SendItCS\_53:

(21, 34865), (Start: 42 @34943 has 21 MA's), (Start: 46 @34952 has 13 MA's), (123, 35249), (126, 35261), (136, 35303), (149, 35348), (152, 35354), (174, 35435), (175, 35438), (179, 35459), (196, 35537), (220, 35657), (233, 35711),

Gene: Serenabean\_54 Start: 34832, Stop: 35524, Start Num: 55

Candidate Starts for Serenabean\_54:

(Start: 55 @34832 has 3 MA's), (64, 34868), (73, 34910), (93, 34988), (119, 35072), (155, 35168), (160, 35180), (203, 35369), (205, 35384), (210, 35408), (221, 35468),

Gene: ShaggyRogers\_59 Start: 40215, Stop: 41114, Start Num: 14

Candidate Starts for ShaggyRogers\_59:

(8, 40155), (Start: 14 @40215 has 50 MA's), (23, 40245), (24, 40248), (31, 40275), (34, 40293), (45, 40320), (49, 40341), (51, 40356), (65, 40419), (75, 40467), (120, 40638), (145, 40737), (176, 40830),

(178, 40842), (214, 41001), (223, 41046), (231, 41082),

Gene: SheRa\_41 Start: 29108, Stop: 29806, Start Num: 41

Candidate Starts for SheRa\_41:

(Start: 41 @29108 has 12 MA's), (Start: 46 @29123 has 13 MA's), (47, 29126), (56, 29174), (59, 29186), (80, 29282), (87, 29312), (94, 29339), (108, 29369), (174, 29516), (211, 29699), (213, 29711), (215, 29720), (220, 29741), (221, 29753),

Gene: Shepard\_57 Start: 37134, Stop: 37886, Start Num: 22

Candidate Starts for Shepard\_57:

(Start: 22 @37134 has 36 MA's), (60, 37284), (95, 37425), (154, 37512), (159, 37527), (176, 37572), (178, 37584),

Gene: Shiba\_53 Start: 34691, Stop: 35566, Start Num: 20

Candidate Starts for Shiba\_53:

(Start: 20 @34691 has 19 MA's), (28, 34724), (31, 34733), (32, 34736), (34, 34751), (60, 34844), (76, 34907), (79, 34919), (109, 35042), (114, 35057), (144, 35159), (178, 35264), (181, 35273), (197, 35345), (208, 35402), (236, 35540),

Gene: Sloopyjoe\_54 Start: 34995, Stop: 35870, Start Num: 20

Candidate Starts for Sloopyjoe\_54:

(Start: 20 @34995 has 19 MA's), (28, 35028), (31, 35037), (32, 35040), (34, 35055), (60, 35148), (76, 35211), (79, 35223), (109, 35346), (114, 35361), (144, 35463), (178, 35568), (181, 35577), (197, 35649), (208, 35706), (236, 35844),

Gene: Soshi\_57 Start: 37138, Stop: 37860, Start Num: 42

Candidate Starts for Soshi\_57:

(Start: 42 @37138 has 21 MA's), (Start: 46 @37147 has 13 MA's), (71, 37276), (103, 37384), (128, 37474), (177, 37615), (186, 37654), (190, 37681), (220, 37804), (229, 37846),

Gene: Spain\_56 Start: 34993, Stop: 35868, Start Num: 20

Candidate Starts for Spain\_56:

(Start: 20 @34993 has 19 MA's), (28, 35026), (31, 35035), (32, 35038), (34, 35053), (60, 35146), (76, 35209), (79, 35221), (109, 35344), (114, 35359), (144, 35461), (178, 35566), (181, 35575), (197, 35647), (208, 35704), (236, 35842),

Gene: Spectropatronm\_58 Start: 36879, Stop: 37625, Start Num: 46

Candidate Starts for Spectropatronm\_58:

(Start: 42 @36870 has 21 MA's), (Start: 46 @36879 has 13 MA's), (103, 37149), (128, 37239), (177, 37380), (186, 37419), (190, 37446), (220, 37569), (229, 37611),

Gene: Sporto\_55 Start: 36496, Stop: 37332, Start Num: 20

Candidate Starts for Sporto\_55:

(Start: 20 @36496 has 19 MA's), (31, 36538), (67, 36676), (76, 36736), (107, 36868), (115, 36892), (178, 37027), (181, 37036), (199, 37111), (217, 37201), (236, 37306),

Gene: Sprinkle\_53 Start: 35525, Stop: 36328, Start Num: 20

Candidate Starts for Sprinkle\_53:

(Start: 20 @35525 has 19 MA's), (28, 35558), (31, 35567), (34, 35585), (52, 35645), (67, 35705), (79, 35774), (112, 35900), (155, 35939), (178, 36020), (197, 36101), (217, 36194),

Gene: StarLord\_54 Start: 34994, Stop: 35869, Start Num: 20

Candidate Starts for StarLord\_54:

(Start: 20 @34994 has 19 MA's), (28, 35027), (31, 35036), (32, 35039), (34, 35054), (60, 35147), (76, 35210), (79, 35222), (109, 35345), (114, 35360), (144, 35462), (178, 35567), (181, 35576), (197, 35648), (208, 35705), (236, 35843),

Gene: Stardom\_56 Start: 34644, Stop: 35447, Start Num: 19

Candidate Starts for Stardom\_56:

(Start: 19 @34644 has 38 MA's), (61, 34806), (111, 34989), (180, 35136), (193, 35202), (204, 35250), (218, 35319), (229, 35370), (237, 35427),

Gene: Stardrop\_58 Start: 36726, Stop: 37442, Start Num: 19

Candidate Starts for Stardrop\_58:

(Start: 19 @36726 has 38 MA's), (78, 36945), (163, 37065), (174, 37098), (178, 37119), (198, 37206), (210, 37278), (238, 37425),

Gene: Stayer\_54 Start: 34991, Stop: 35866, Start Num: 20

Candidate Starts for Stayer\_54:

(Start: 20 @34991 has 19 MA's), (28, 35024), (31, 35033), (32, 35036), (34, 35051), (60, 35144), (76, 35207), (79, 35219), (109, 35342), (114, 35357), (144, 35459), (178, 35564), (181, 35573), (197, 35645), (208, 35702), (236, 35840),

Gene: Sunny4976\_56 Start: 37585, Stop: 38403, Start Num: 19

Candidate Starts for Sunny4976\_56:

(Start: 19 @37585 has 38 MA's), (27, 37618), (122, 37999), (162, 38047), (212, 38257), (219, 38287), (221, 38302), (238, 38386),

Gene: SweetCrkHerbs\_62 Start: 40347, Stop: 41291, Start Num: 14

Candidate Starts for SweetCrkHerbs\_62:

(Start: 14 @40347 has 50 MA's), (Start: 19 @40362 has 38 MA's), (24, 40380), (31, 40407), (64, 40548), (70, 40590), (71, 40596), (105, 40752), (120, 40806), (126, 40830), (145, 40911), (151, 40923), (169, 40971), (214, 41172), (231, 41253),

Gene: Sweetclover\_55 Start: 33842, Stop: 34537, Start Num: 54

Candidate Starts for Sweetclover\_55:

(Start: 54 @33842 has 1 MA's), (130, 34124), (157, 34187), (202, 34382), (204, 34391), (205, 34400), (206, 34406), (210, 34424),

Gene: Synopsis\_53 Start: 37431, Stop: 38198, Start Num: 22

Candidate Starts for Synopsis\_53:

(Start: 22 @37431 has 36 MA's), (60, 37581), (76, 37644), (83, 37671), (86, 37683), (153, 37812), (178, 37896), (182, 37911), (239, 38190),

Gene: TaidaOne\_58 Start: 37373, Stop: 38128, Start Num: 42

Candidate Starts for TaidaOne\_58:

(Start: 42 @37373 has 21 MA's), (Start: 46 @37382 has 13 MA's), (103, 37652), (128, 37742), (177, 37883), (186, 37922), (190, 37949), (220, 38072), (229, 38114),

Gene: Tairn4Wing\_62 Start: 40423, Stop: 41367, Start Num: 14

Candidate Starts for Tairn4Wing\_62:

(Start: 14 @40423 has 50 MA's), (Start: 19 @40438 has 38 MA's), (24, 40456), (31, 40483), (89, 40765), (105, 40828), (120, 40882), (126, 40906), (139, 40969), (145, 40987), (151, 40999), (156, 41017), (161, 41026), (213, 41245), (231, 41329),

Gene: Talon44\_62 Start: 40689, Stop: 41633, Start Num: 14

Candidate Starts for Talon44\_62:

(Start: 14 @40689 has 50 MA's), (Start: 19 @40704 has 38 MA's), (24, 40722), (31, 40749), (64, 40890), (70, 40932), (71, 40938), (105, 41094), (120, 41148), (126, 41172), (145, 41253), (151, 41265), (169, 41313), (214, 41514), (231, 41595),

Gene: Tanis\_60 Start: 40252, Stop: 41196, Start Num: 14

Candidate Starts for Tanis\_60:

(Start: 14 @40252 has 50 MA's), (Start: 19 @40267 has 38 MA's), (24, 40285), (31, 40312), (89, 40594), (105, 40657), (120, 40711), (126, 40735), (139, 40798), (145, 40816), (156, 40846), (161, 40855), (169, 40876), (213, 41074), (214, 41077),

Gene: Tatanka\_51 Start: 37563, Stop: 38327, Start Num: 22

Candidate Starts for Tatanka\_51:

(Start: 22 @37563 has 36 MA's), (60, 37713), (83, 37803), (102, 37878), (153, 37944), (178, 38025), (182, 38040), (239, 38319),

Gene: Teacup\_55 Start: 37789, Stop: 38553, Start Num: 22

Candidate Starts for Teacup\_55:

(Start: 22 @37789 has 36 MA's), (60, 37939), (83, 38029), (85, 38038), (153, 38170), (178, 38251), (182, 38266), (192, 38317), (239, 38545),

Gene: TenaciousP\_59 Start: 41836, Stop: 42747, Start Num: 14

Candidate Starts for TenaciousP\_59:

(8, 41776), (Start: 14 @41836 has 50 MA's), (Start: 19 @41851 has 38 MA's), (24, 41869), (31, 41896), (45, 41941), (49, 41962), (51, 41977), (65, 42040), (75, 42088), (120, 42265), (145, 42364), (176, 42457), (178, 42469), (214, 42628), (231, 42709),

Gene: Tenney120\_59 Start: 36666, Stop: 37382, Start Num: 19

Candidate Starts for Tenney120\_59:

(Start: 19 @36666 has 38 MA's), (78, 36885), (174, 37038), (178, 37059), (198, 37146), (210, 37218), (231, 37308), (238, 37365),

Gene: Tenno\_55 Start: 38094, Stop: 38855, Start Num: 22

Candidate Starts for Tenno\_55:

(Start: 22 @38094 has 36 MA's), (60, 38244), (70, 38283), (83, 38334), (86, 38346), (153, 38472), (163, 38499), (178, 38553), (182, 38568), (192, 38619), (199, 38640), (239, 38847),

Gene: Thiqqums\_57 Start: 35630, Stop: 36406, Start Num: 42

Candidate Starts for Thiqqums\_57:

(21, 35552), (Start: 42 @35630 has 21 MA's), (Start: 46 @35639 has 13 MA's), (123, 35936), (126, 35948), (136, 35990), (149, 36035), (152, 36041), (174, 36122), (175, 36125), (179, 36146), (196, 36224), (220, 36344), (233, 36398),

Gene: TieDye\_57 Start: 36461, Stop: 37204, Start Num: 42

Candidate Starts for TieDye\_57:

(Start: 42 @36461 has 21 MA's), (Start: 46 @36470 has 13 MA's), (103, 36728), (128, 36818), (177, 36959), (186, 36998), (190, 37025), (220, 37148), (229, 37190),

Gene: Tipton\_57 Start: 37658, Stop: 38416, Start Num: 22

Candidate Starts for Tipton\_57:

(Start: 22 @37658 has 36 MA's), (38, 37724), (60, 37808), (95, 37949), (153, 38030), (178, 38114), (197, 38198),

Gene: Tokki\_60 Start: 37524, Stop: 38276, Start Num: 22

Candidate Starts for Tokki\_60:

(Start: 22 @37524 has 36 MA's), (38, 37590), (60, 37674), (95, 37815), (154, 37902), (159, 37917), (176, 37962), (178, 37974),

Gene: Tonaltzin\_62 Start: 40406, Stop: 41317, Start Num: 14

Candidate Starts for Tonaltzin\_62:

(8, 40346), (Start: 14 @40406 has 50 MA's), (24, 40439), (31, 40466), (39, 40496), (49, 40532), (51, 40547), (75, 40658), (120, 40835), (145, 40934), (176, 41027), (178, 41039), (214, 41198), (231, 41279),

Gene: TonyStarch\_57 Start: 36612, Stop: 37367, Start Num: 42

Candidate Starts for TonyStarch\_57:

(Start: 42 @36612 has 21 MA's), (Start: 46 @36621 has 13 MA's), (103, 36891), (128, 36981), (177, 37122), (186, 37161), (190, 37188), (220, 37311), (229, 37353),

Gene: Tribby\_61 Start: 36239, Stop: 37036, Start Num: 19

Candidate Starts for Tribby\_61:

(Start: 19 @36239 has 38 MA's), (61, 36401), (174, 36692), (180, 36725), (193, 36791), (204, 36839), (218, 36908), (229, 36959), (237, 37016),

Gene: TrixiePhattel\_59 Start: 36099, Stop: 36839, Start Num: 19

Candidate Starts for TrixiePhattel\_59:

(Start: 19 @36099 has 38 MA's), (Start: 54 @36243 has 1 MA's), (163, 36459), (178, 36513), (198, 36600), (213, 36678), (220, 36708), (221, 36720), (222, 36723), (226, 36735), (228, 36750), (238, 36822),

Gene: Truckee\_53 Start: 37181, Stop: 37930, Start Num: 22

Candidate Starts for Truckee\_53:

(Start: 22 @37181 has 36 MA's), (33, 37226), (60, 37331), (153, 37541), (176, 37616), (178, 37628), (182, 37643), (197, 37712),

Gene: Trufflozitus\_61 Start: 40934, Stop: 41878, Start Num: 14

Candidate Starts for Trufflozitus\_61:

(Start: 14 @40934 has 50 MA's), (Start: 19 @40949 has 38 MA's), (24, 40967), (31, 40994), (89, 41276), (105, 41339), (120, 41393), (126, 41417), (139, 41480), (145, 41498), (151, 41510), (156, 41528), (161, 41537), (213, 41756), (231, 41840),

Gene: Trustiboi\_54 Start: 37632, Stop: 38390, Start Num: 22

Candidate Starts for Trustiboi\_54:

(Start: 22 @37632 has 36 MA's), (60, 37782), (76, 37845), (83, 37872), (86, 37884), (95, 37923), (153, 38004), (178, 38088), (182, 38103), (239, 38382),

Gene: Untouchable\_61 Start: 41375, Stop: 42274, Start Num: 14

Candidate Starts for Untouchable\_61:

(8, 41315), (Start: 14 @41375 has 50 MA's), (23, 41405), (24, 41408), (31, 41435), (49, 41501), (51, 41516), (75, 41627), (89, 41678), (120, 41795), (145, 41894), (176, 41987), (178, 41999), (190, 42059), (232, 42242),

Gene: Uzumaki\_55 Start: 36107, Stop: 36823, Start Num: 19

Candidate Starts for Uzumaki\_55:

(Start: 19 @36107 has 38 MA's), (74, 36311), (78, 36326), (174, 36479), (178, 36500), (198, 36587), (210, 36659), (231, 36749), (238, 36806),

Gene: Vardy\_58 Start: 40154, Stop: 41062, Start Num: 14

Candidate Starts for Vardy\_58:

(1, 39944), (3, 40007), (5, 40016), (Start: 14 @40154 has 50 MA's), (24, 40187), (31, 40214), (39, 40244), (49, 40280), (51, 40295), (75, 40406), (89, 40466), (120, 40583), (135, 40649), (145, 40682), (176, 40775), (178, 40787), (190, 40847),

Gene: Westerlin\_53 Start: 38645, Stop: 39403, Start Num: 22

Candidate Starts for Westerlin\_53:

(Start: 22 @38645 has 36 MA's), (60, 38795), (76, 38858), (83, 38885), (86, 38897), (95, 38936), (153, 39017), (178, 39101), (182, 39116), (239, 39395),

Gene: Wigberry\_61 Start: 37059, Stop: 37826, Start Num: 46

Candidate Starts for Wigberry\_61:

(Start: 42 @37047 has 21 MA's), (Start: 46 @37059 has 13 MA's), (72, 37191), (95, 37269), (118, 37347), (120, 37356), (133, 37407), (137, 37434), (163, 37506), (220, 37758), (221, 37770), (229, 37803),

Gene: Xenomorph\_56 Start: 35657, Stop: 36454, Start Num: 19

Candidate Starts for Xenomorph\_56:

(Start: 19 @35657 has 38 MA's), (61, 35819), (174, 36110), (180, 36143), (193, 36209), (204, 36257), (218, 36326), (229, 36377), (237, 36434),

Gene: YoshiYama\_59 Start: 36296, Stop: 37093, Start Num: 19

Candidate Starts for YoshiYama\_59:

(Start: 19 @36296 has 38 MA's), (61, 36458), (174, 36749), (180, 36782), (193, 36848), (201, 36887), (204, 36896), (218, 36965), (229, 37016), (237, 37073),

Gene: Yotsuba\_53 Start: 37928, Stop: 38668, Start Num: 35

Candidate Starts for Yotsuba\_53:

(Start: 30 @37907 has 1 MA's), (Start: 35 @37928 has 3 MA's), (95, 38171), (202, 38516), (203, 38519), (215, 38579),

Gene: Zeina\_59 Start: 36674, Stop: 37390, Start Num: 19

Candidate Starts for Zeina\_59:

(Start: 19 @36674 has 38 MA's), (78, 36893), (163, 37013), (174, 37046), (178, 37067), (198, 37154), (231, 37316), (238, 37373),

Gene: Zeph\_61 Start: 41301, Stop: 42200, Start Num: 14

Candidate Starts for Zeph\_61:

(8, 41241), (Start: 14 @41301 has 50 MA's), (23, 41331), (24, 41334), (31, 41361), (49, 41427), (51, 41442), (75, 41553), (89, 41604), (120, 41721), (145, 41820), (176, 41913), (178, 41925), (190, 41985), (232, 42168),

Gene: Zippen\_58 Start: 38006, Stop: 38755, Start Num: 22

Candidate Starts for Zippen\_58:

(Start: 22 @38006 has 36 MA's), (48, 38093), (75, 38213), (83, 38246), (85, 38255), (95, 38297), (104, 38321), (153, 38378), (174, 38435), (178, 38456), (191, 38519), (239, 38750),