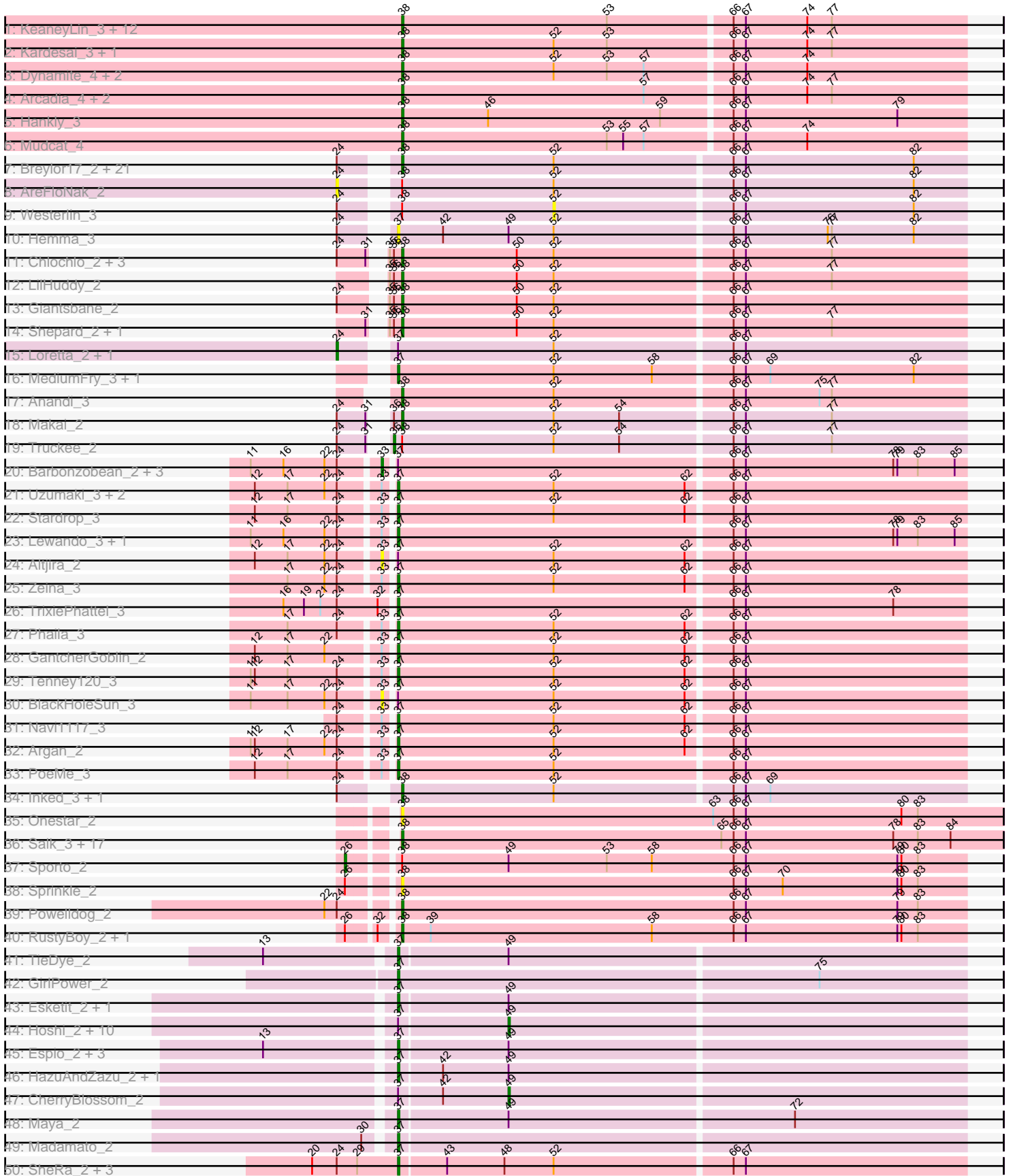
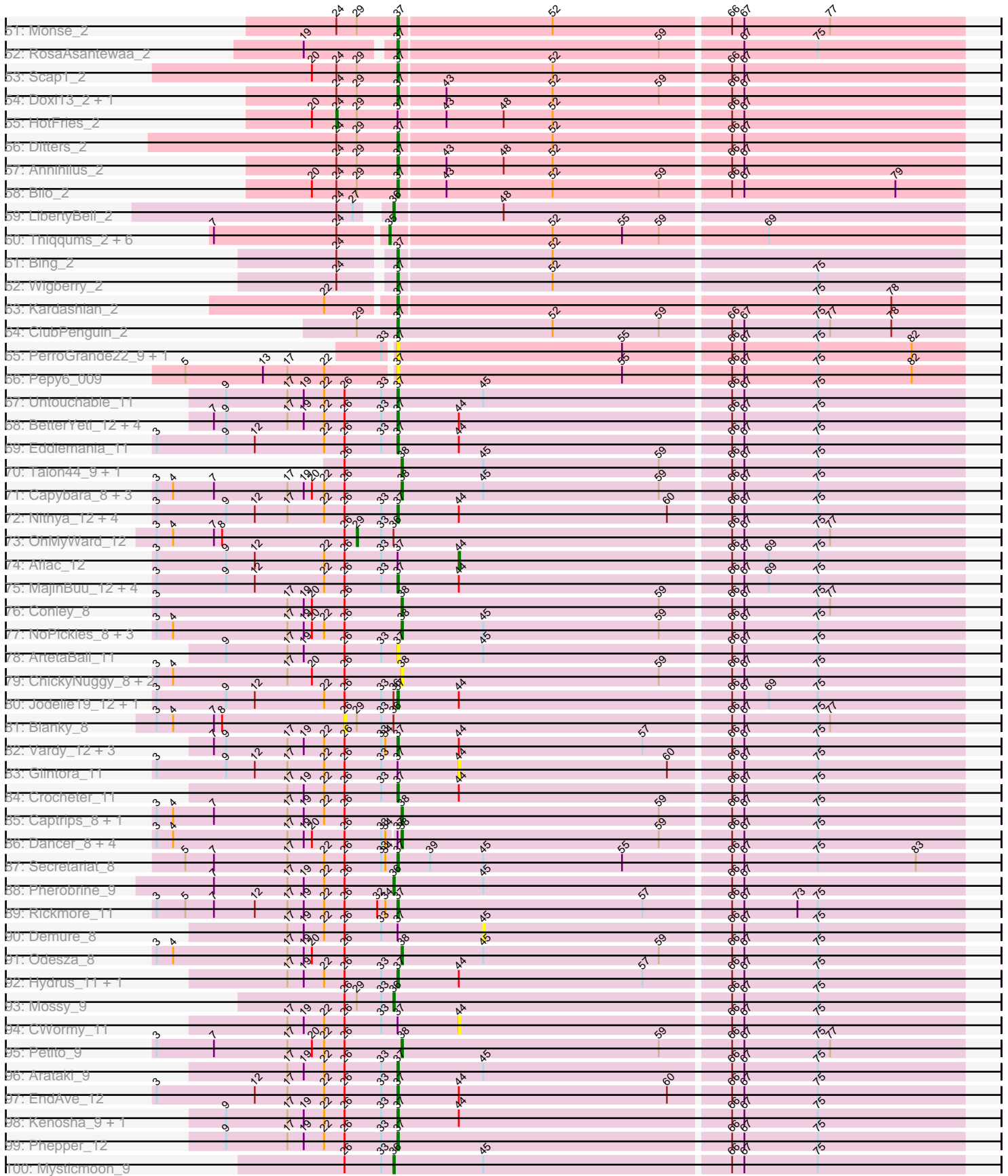


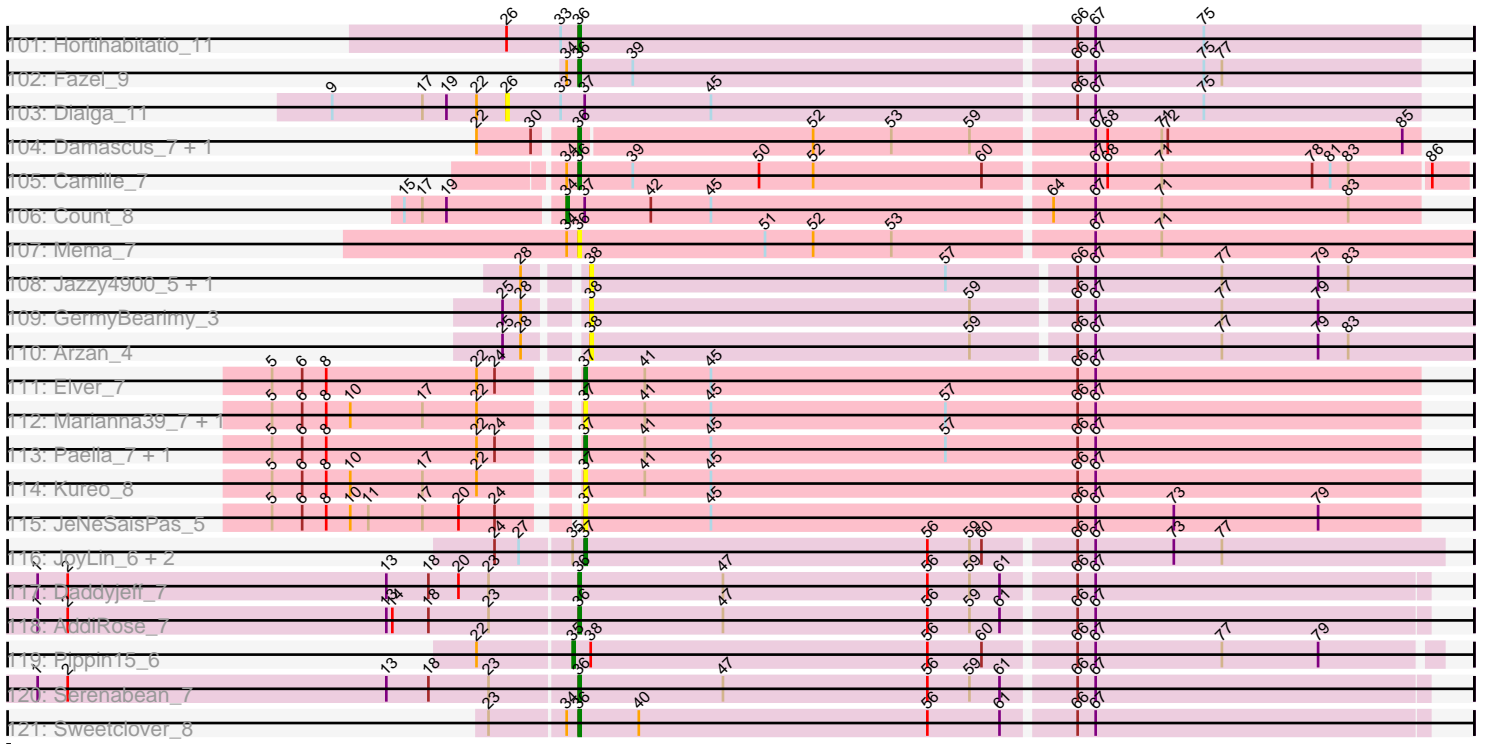
Pham 306101



Pham 306101



Pham 306101



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 306101 Report

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

Pham number 306101 has 254 members, 45 are drafts.

Phages represented in each track:

- Track 1 : KeaneyLin\_3, Benllo\_3, Heisenberger\_4, YoshiYama\_3, Cheesy\_4, JEGGS\_4, Xenomorph\_3, BenitoAntonio\_4, Correa\_4, GoCrazy\_3, Circum\_4, Tribby\_4, Stardom\_3
- Track 2 : Kardesai\_3, Mooshroom\_4
- Track 3 : Dynamite\_4, NapoleonB\_4, Bowling\_4
- Track 4 : Arcadia\_4, Nason\_4, Elsa\_4
- Track 5 : Hankly\_3
- Track 6 : Mudcat\_4
- Track 7 : Breylor17\_2, CastorTray\_3, Gordon\_2, Dinallo\_3, ElephantMan\_2, Issa\_2, Acai\_2, Tatanka\_2, Teacup\_3, Tenno\_3, ScienceWizSam\_3, DevitoJr\_2, CapnMurica\_3, Darby\_2, Trustiboi\_2, LucySwiss\_2, Niktson\_2, Nightmare\_2, Brunswick\_2, MiniBagel\_3, Nivinsha\_2, Synepsis\_2
- Track 8 : AreFloNak\_2
- Track 9 : Westerlin\_3
- Track 10 : Hemma\_3
- Track 11 : Chlochlo\_2, Tipton\_2, Tokki\_2, Bouchard\_2
- Track 12 : LilHuddy\_2
- Track 13 : Giantsbane\_2
- Track 14 : Shepard\_2, Phaby\_2
- Track 15 : Loretta\_2, Ingrid\_2
- Track 16 : MediumFry\_3, Caterpillar\_3
- Track 17 : Anandi\_3
- Track 18 : Makai\_2
- Track 19 : Truckee\_2
- Track 20 : Barbonzobean\_2, Renaldo\_3, Muglass\_2, Kinny\_3
- Track 21 : Uzumaki\_3, KevinMinion\_2, Mardi\_3
- Track 22 : Stardrop\_3
- Track 23 : Lewando\_3, Biscute\_2
- Track 24 : Altjira\_2
- Track 25 : Zeina\_3
- Track 26 : TrixiePhattel\_3
- Track 27 : Phaila\_3
- Track 28 : GantcherGoblin\_2
- Track 29 : Tenney120\_3
- Track 30 : BlackHoleSun\_3
- Track 31 : Navi1117\_3
- Track 32 : Argan\_2

- Track 33 : PoeMe\_3
- Track 34 : Inked\_3, Zippen\_3
- Track 35 : Onestar\_2
- Track 36 : Salk\_3, HerbBucket\_3, DoctorPepper\_3, Stayer\_3, Egad\_3, Boog\_3, Michelle\_3, StarLord\_3, Shiba\_3, Raunak\_3, BronxBay\_3, Djungelskog\_3, Sloopyjoe\_3, MrAaronian\_3, Spain\_3, Jeremy4pt0\_3, Linda\_3, ProfFrink\_3
- Track 37 : Sporto\_2
- Track 38 : Sprinkle\_2
- Track 39 : Powelldog\_2
- Track 40 : RustyBoy\_2, Natasha\_2
- Track 41 : TieDye\_2
- Track 42 : GirlPower\_2
- Track 43 : Esketit\_2, TonyStarch\_2
- Track 44 : Hoshi\_2, FidgetOrca\_2, Rima\_2, Indigenous\_2, Meibysrarus\_2, Spectropatronm\_2, IceWarrior\_2, TaidaOne\_2, Jaylociraptor\_2, OlympicHelado\_2, Namo\_2
- Track 45 : Espio\_2, FrodoSwaggins\_2, Popy\_2, DrGrey\_2
- Track 46 : HazuAndZazu\_2, Soshi\_2
- Track 47 : CherryBlossom\_2
- Track 48 : Maya\_2
- Track 49 : Madamato\_2
- Track 50 : SheRa\_2, Moozy\_2, RavenPuff\_2, PherryCruz\_2
- Track 51 : Monse\_2
- Track 52 : RosaAsantewaa\_2
- Track 53 : Scap1\_2
- Track 54 : Doxi13\_2, GoblinVoyage\_2
- Track 55 : HotFries\_2
- Track 56 : Ditters\_2
- Track 57 : Annihilus\_2
- Track 58 : Bilu\_2
- Track 59 : LibertyBell\_2
- Track 60 : Thiqqums\_2, Miek\_2, Regigigas\_2, CricKo\_2, FromIndy\_2, SendItCS\_2, Rainydai\_2
- Track 61 : Bing\_2
- Track 62 : Wigberry\_2
- Track 63 : Kardashian\_2
- Track 64 : ClubPenguin\_2
- Track 65 : PerroGrande22\_9, Poco6\_011
- Track 66 : Pepy6\_009
- Track 67 : Untouchable\_11
- Track 68 : BetterYeti\_12, PestoPenguin\_12, ShaggyRogers\_12, Aloe25\_12, Gusicorn\_12
- Track 69 : Eddiemania\_11
- Track 70 : Talon44\_9, Perkunas\_10
- Track 71 : Capybara\_8, Gravy\_8, Kerry\_8, Gill\_8
- Track 72 : Nithya\_12, Duffington\_12, Citrus\_11, AlainaMarie\_12, Chikenjars\_12
- Track 73 : OhMyWard\_12
- Track 74 : Aflac\_12
- Track 75 : MajinBuu\_12, Figliar\_12, OlgasClover\_12, Tonaltzin\_13, BluerMoon\_12
- Track 76 : Conley\_8
- Track 77 : NoPickles\_8, Roney\_8, Magel\_8, Tanis\_8
- Track 78 : ArtetaBall\_11
- Track 79 : ChickyNuggy\_8, Bugg\_9, Football\_8

- Track 80 : Jodelie19\_12, TenaciousP\_12
- Track 81 : Blanky\_8
- Track 82 : Vardy\_12, Runhaar\_12, Nadmeg\_12, Burley\_12
- Track 83 : Glintora\_11
- Track 84 : Crocheter\_11
- Track 85 : Captrips\_8, Avazak\_8
- Track 86 : Dancer\_8, Trufflozitus\_8, Artorias\_8, JulesRay\_8, FortCran\_8
- Track 87 : Secretariat\_8
- Track 88 : Pherobrine\_9
- Track 89 : Rickmore\_11
- Track 90 : Demure\_8
- Track 91 : Odesza\_8
- Track 92 : Hydrus\_11, Zeph\_11
- Track 93 : Mossy\_9
- Track 94 : CWormy\_11
- Track 95 : Petite\_9
- Track 96 : Arataki\_9
- Track 97 : EndAve\_12
- Track 98 : Kenosha\_9, Madvan\_12
- Track 99 : Phepper\_12
- Track 100 : Mysticmoon\_9
- Track 101 : Hortihabitatio\_11
- Track 102 : Fazel\_9
- Track 103 : Dialga\_11
- Track 104 : Damascus\_7, DizzyRudy\_7
- Track 105 : Camille\_7
- Track 106 : Count\_8
- Track 107 : Mema\_7
- Track 108 : Jazzy4900\_5, Sunny4976\_4
- Track 109 : GermyBearimy\_3
- Track 110 : Arzan\_4
- Track 111 : Elver\_7
- Track 112 : Marianna39\_7, Gandionco\_6
- Track 113 : Paella\_7, Qui\_7
- Track 114 : Kureo\_8
- Track 115 : JeNeSaisPas\_5
- Track 116 : JoyLin\_6, Eevee\_6, Yotsuba\_6
- Track 117 : Daddyjeff\_7
- Track 118 : AddiRose\_7
- Track 119 : Pippin15\_6
- Track 120 : Serenabean\_7
- Track 121 : Sweetclover\_8

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

The start number called the most often in the published annotations is 38, it was called in 90 of the 209 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Acai\_2, Anandi\_3, Arcadia\_4, Artorias\_8, Arzan\_4, Avazak\_8, BenitoAntonio\_4, Benllo\_3, Boog\_3, Bouchard\_2, Bowling\_4, Breylor17\_2, BronxBay\_3, Brunswick\_2, Bugg\_9, CapnMurica\_3, Captrips\_8, Capybara\_8, CastorTray\_3, Cheesy\_4, ChickyNuggy\_8, Chlochlo\_2, Circum\_4, Conley\_8, Correa\_4, Dancer\_8, Darby\_2, DevitoJr\_2, Dinallo\_3, Djungelskog\_3, DoctorPepper\_3, Dynamite\_4, Egad\_3, ElephantMan\_2, Elsa\_4, Football\_8, FortCran\_8, GemyBearimy\_3, Giantsbane\_2, Gill\_8, GoCrazy\_3, Gordon\_2, Gravy\_8, Hankly\_3, Heisenberger\_4, HerbBucket\_3, Inked\_3, Issa\_2, JEGGS\_4, Jazzy4900\_5, Jeremy4pt0\_3, JulesRay\_8, Kardesai\_3, KeaneyLin\_3, Kerry\_8, LilHuddy\_2, Linda\_3, LucySwiss\_2, Magel\_8, Makai\_2, Michelle\_3, MiniBagel\_3, Mooshroom\_4, MrAaronian\_3, Mudcat\_4, NapoleonB\_4, Nason\_4, Natasha\_2, Nightmare\_2, Niktson\_2, Nivinsha\_2, NoPickles\_8, Odesza\_8, Onestar\_2, Perkunas\_10, Petito\_9, Phaby\_2, PowellDog\_2, ProfFrink\_3, Raunak\_3, Roney\_8, RustyBoy\_2, Salk\_3, ScienceWizSam\_3, Shepard\_2, Shiba\_3, SloopyJoe\_3, Spain\_3, Sprinkle\_2, StarLord\_3, Stardom\_3, Stayer\_3, Sunny4976\_4, Synepsis\_2, Talon44\_9, Tanis\_8, Tatanka\_2, Teacup\_3, Tenno\_3, Tipton\_2, Tokki\_2, Tribby\_4, Trufflozitus\_8, Trustiboi\_2, Xenomorph\_3, YoshiYama\_3, Zippen\_3,

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

- AreFloNak\_2, Pippin15\_6, Sporto\_2, Truckee\_2, Westerlin\_3,

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

- AddiRose\_7, Aflac\_12, AlainaMarie\_12, Aloe25\_12, Altjira\_2, Annihilus\_2, Arataki\_9, Argan\_2, ArtetaBall\_11, Barbonzobean\_2, BetterYeti\_12, Bilo\_2, Bing\_2, Biscute\_2, BlackHoleSun\_3, Blanky\_8, BluerMoon\_12, Burley\_12, CWormy\_11, Camille\_7, Caterpillar\_3, CherryBlossom\_2, Chikenjars\_12, Citrus\_11, ClubPenguin\_2, Count\_8, Cricko\_2, Crocheter\_11, Daddyjeff\_7, Damascus\_7, Demure\_8, Dialga\_11, Ditters\_2, DizzyRudy\_7, Doxi13\_2, DrGrey\_2, Duffington\_12, Eddiemania\_11, Eevee\_6, Elver\_7, EndAve\_12, Esketit\_2, Espio\_2, Fazel\_9, FidgetOrca\_2, Figliar\_12, FrodoSwaggins\_2, FromIndy\_2, Gandionco\_6, GantcherGoblin\_2, GirlPower\_2, Glintora\_11, GoblinVoyage\_2, Gusicorn\_12, HazuAndZazu\_2, Hemma\_3, Hortihabitatio\_11, Hoshi\_2, HotFries\_2, Hydrus\_11, IceWarrior\_2, Indigenous\_2, Ingrid\_2, Jaylociraptor\_2, JeNeSaisPas\_5, Jodelie19\_12, JoyLin\_6, Kardashian\_2, Kenosha\_9, KevinMinion\_2, Kinny\_3, Kureo\_8, Lewando\_3, LibertyBell\_2, Loretta\_2, Madamoto\_2, Madvan\_12, MajinBuu\_12, Mardi\_3, Marianna39\_7, Maya\_2, MediumFry\_3, Meibysrarus\_2, Mema\_7, Miek\_2, Monse\_2, Moozy\_2, Mossy\_9, Muglass\_2, Mysticmoon\_9, Nadmeg\_12, Namo\_2, Navi1117\_3, Nithya\_12, OhMyWard\_12, OlgasClover\_12, OlympicHelado\_2, Paella\_7, Pepy6\_009, PerroGrande22\_9, PestoPenguin\_12, Phaila\_3, Phepper\_12, Pherobrine\_9, PherryCruz\_2, Poco6\_011, PoeMe\_3, Popy\_2, Qui\_7, Rainydai\_2, RavenPuff\_2, Regigigas\_2, Renaldo\_3, Rickmore\_11, Rima\_2, RosaAsantewaa\_2, Runhaar\_12, Scap1\_2, Secretariat\_8, SendItCS\_2, Serenabean\_7, ShaggyRogers\_12, SheRa\_2, Soshi\_2, Spectropatronm\_2, Stardrop\_3, Sweetclover\_8, TaidaOne\_2, TenaciousP\_12, Tenney120\_3, Thiqqums\_2, TieDye\_2, Tonaltzin\_13, TonyStarch\_2, TrixiePhattel\_3, Untouchable\_11, Uzumaki\_3, Vardy\_12, Wigberry\_2, Yotsuba\_6, Zeina\_3, Zeph\_11,

### Summary by start number:

Start 24:

- Found in 85 of 254 ( 33.5% ) of genes in pham
- Manual Annotations of this start: 3 of 209
- Called 4.7% of time when present

- Phage (with cluster) where this start called: AreFloNak\_2 (AU1), HotFries\_2 (BI2), Ingrid\_2 (AU3), Loretta\_2 (AU3),

#### Start 26:

- Found in 72 of 254 ( 28.3% ) of genes in pham
- Manual Annotations of this start: 1 of 209
- Called 4.2% of time when present
- Phage (with cluster) where this start called: Blanky\_8 (DJ), Dialga\_11 (DJ), Sporto\_2 (AW),

#### Start 29:

- Found in 16 of 254 ( 6.3% ) of genes in pham
- Manual Annotations of this start: 1 of 209
- Called 6.2% of time when present
- Phage (with cluster) where this start called: OhMyWard\_12 (DJ),

#### Start 33:

- Found in 69 of 254 ( 27.2% ) of genes in pham
- Manual Annotations of this start: 1 of 209
- Called 8.7% of time when present
- Phage (with cluster) where this start called: Altjira\_2 (AU6), Barbonzobean\_2 (AU6), BlackHoleSun\_3 (AU6), Kinny\_3 (AU6), Muglass\_2 (AU6), Renaldo\_3 (AU6),

#### Start 34:

- Found in 16 of 254 ( 6.3% ) of genes in pham
- Manual Annotations of this start: 1 of 209
- Called 6.2% of time when present
- Phage (with cluster) where this start called: Count\_8 (EL),

#### Start 35:

- Found in 19 of 254 ( 7.5% ) of genes in pham
- Manual Annotations of this start: 6 of 209
- Called 42.1% of time when present
- Phage (with cluster) where this start called: CricKo\_2 (BI4), FromIndy\_2 (BI4), Miek\_2 (BI4), Pippin15\_6 (JA), Rainydai\_2 (BI4), Regigigas\_2 (BI4), SendItCS\_2 (BI4), Thiqqums\_2 (BI4),

#### Start 36:

- Found in 28 of 254 ( 11.0% ) of genes in pham
- Manual Annotations of this start: 14 of 209
- Called 53.6% of time when present
- Phage (with cluster) where this start called: AddiRose\_7 (JA), Camille\_7 (EL), Daddyjeff\_7 (JA), Damascus\_7 (EL), DizzyRudy\_7 (EL), Fazel\_9 (DJ), Hortihabitatio\_11 (DJ), LibertyBell\_2 (BI3), Mema\_7 (EL), Mossy\_9 (DJ), Mysticmoon\_9 (DJ), Pherobrine\_9 (DJ), Serenabean\_7 (JA), Sweetclover\_8 (JA), Truckee\_2 (AU5),

#### Start 37:

- Found in 124 of 254 ( 48.8% ) of genes in pham
- Manual Annotations of this start: 79 of 209
- Called 74.2% of time when present
- Phage (with cluster) where this start called: AlainaMarie\_12 (DJ), Aloe25\_12 (DJ), Annihilus\_2 (BI2), Arataki\_9 (DJ), Argan\_2 (AU6), ArtetaBall\_11 (DJ), BetterYeti\_12

(DJ), Bilo\_2 (BI2), Bing\_2 (BI5), Biscute\_2 (AU6), BluerMoon\_12 (DJ), Burley\_12 (DJ), Caterpillar\_3 (AU4), Chikenjars\_12 (DJ), Citrus\_11 (DJ), ClubPenguin\_2 (BI7), Crocheter\_11 (DJ), Ditters\_2 (BI2), Doxi13\_2 (BI2), DrGrey\_2 (BI1), Duffington\_12 (DJ), Eddiemania\_11 (DJ), Eevee\_6 (JA), Elver\_7 (FK), EndAve\_12 (DJ), Esketit\_2 (BI1), Espio\_2 (BI1), Figliar\_12 (DJ), FrodoSwaggins\_2 (BI1), Gandionco\_6 (FK), GantcherGoblin\_2 (AU6), GirlPower\_2 (BI1), GoblinVoyage\_2 (BI2), Gusicorn\_12 (DJ), HazuAndZazu\_2 (BI1), Hemma\_3 (AU1), Hydrus\_11 (DJ), JeNeSaisPas\_5 (FK), Jodelie19\_12 (DJ), JoyLin\_6 (JA), Kardashian\_2 (BI6), Kenosha\_9 (DJ), KevinMinion\_2 (AU6), Kureo\_8 (FK), Lewando\_3 (AU6), Madamato\_2 (BI1), Madvan\_12 (DJ), MajinBuu\_12 (DJ), Mardi\_3 (AU6), Marianna39\_7 (FK), Maya\_2 (BI1), MediumFry\_3 (AU4), Monse\_2 (BI2), Moozy\_2 (BI2), Nadmeg\_12 (DJ), Navi1117\_3 (AU6), Nithya\_12 (DJ), OlgasClover\_12 (DJ), Paella\_7 (FK), Pepy6\_009 (CC), PerroGrande22\_9 (CC), PestoPenguin\_12 (DJ), Phaila\_3 (AU6), Phepper\_12 (DJ), PherryCruz\_2 (BI2), Poco6\_011 (CC), PoeMe\_3 (AU6), Popy\_2 (BI1), Qui\_7 (FK), RavenPuff\_2 (BI2), Rickmore\_11 (DJ), RosaAsantewaa\_2 (BI2), Runhaar\_12 (DJ), Scap1\_2 (BI2), Secretariat\_8 (DJ), ShaggyRogers\_12 (DJ), SheRa\_2 (BI2), Soshi\_2 (BI1), Stardrop\_3 (AU6), TenaciousP\_12 (DJ), Tenney120\_3 (AU6), TieDye\_2 (BI1), Tonaltzin\_13 (DJ), TonyStarch\_2 (BI1), TrixiePhattel\_3 (AU6), Untouchable\_11 (DJ), Uzumaki\_3 (AU6), Vardy\_12 (DJ), Wigberry\_2 (BI5), Yotsuba\_6 (JA), Zeina\_3 (AU6), Zeph\_11 (DJ),

Start 38:

- Found in 112 of 254 ( 44.1% ) of genes in pham
- Manual Annotations of this start: 90 of 209
- Called 95.5% of time when present
- Phage (with cluster) where this start called: Acai\_2 (AU1), Anandi\_3 (AU4), Arcadia\_4 (AM), Artorias\_8 (DJ), Arzan\_4 (FI), Avazak\_8 (DJ), BenitoAntonio\_4 (AM), Benllo\_3 (AM), Boog\_3 (AW), Bouchard\_2 (AU2), Bowling\_4 (AM), Breylor17\_2 (AU1), BronxBay\_3 (AW), Brunswick\_2 (AU1), Bugg\_9 (DJ), CapnMurica\_3 (AU1), Captrips\_8 (DJ), Copybara\_8 (DJ), CastorTray\_3 (AU1), Cheesy\_4 (AM), ChickyNuggy\_8 (DJ), Chlochlo\_2 (AU2), Circum\_4 (AM), Conley\_8 (DJ), Correa\_4 (AM), Dancer\_8 (DJ), Darby\_2 (AU1), DevitoJr\_2 (AU1), Dinallo\_3 (AU1), Djungelskog\_3 (AW), DoctorPepper\_3 (AW), Dynamite\_4 (AM), Egad\_3 (AW), ElephantMan\_2 (AU1), Elsa\_4 (AM), Football\_8 (DJ), FortCran\_8 (DJ), GermyBearimy\_3 (FI), Giantsbane\_2 (AU2), Gill\_8 (DJ), GoCrazy\_3 (AM), Gordon\_2 (AU1), Gravy\_8 (DJ), Hankly\_3 (AM), Heisenberger\_4 (AM), HerbBucket\_3 (AW), Inked\_3 (AU7), Issa\_2 (AU1), JEGGS\_4 (AM), Jazzy4900\_5 (FI), Jeremy4pt0\_3 (AW), JulesRay\_8 (DJ), Kardesai\_3 (AM), KeaneyLin\_3 (AM), Kerry\_8 (DJ), LilHuddy\_2 (AU2), Linda\_3 (AW), LucySwiss\_2 (AU1), Magel\_8 (DJ), Makai\_2 (AU5), Michelle\_3 (AW), MiniBagel\_3 (AU1), Mooshroom\_4 (AM), MrAaronian\_3 (AW), Mudcat\_4 (AM), NapoleonB\_4 (AM), Nason\_4 (AM), Natasha\_2 (AW), Nightmare\_2 (AU1), Niktson\_2 (AU1), Nivinsha\_2 (AU1), NoPickles\_8 (DJ), Odesza\_8 (DJ), Onestar\_2 (AW), Perkunas\_10 (DJ), Petite\_9 (DJ), Phaby\_2 (AU2), PowellDog\_2 (AW), ProfFrink\_3 (AW), Raunak\_3 (AW), Roney\_8 (DJ), RustyBoy\_2 (AW), Salk\_3 (AW), ScienceWizSam\_3 (AU1), Shepard\_2 (AU2), Shiba\_3 (AW), Sloopyjoe\_3 (AW), Spain\_3 (AW), Sprinkle\_2 (AW), StarLord\_3 (AW), Stardom\_3 (AM), Stayer\_3 (AW), Sunny4976\_4 (FI), Synopsis\_2 (AU1), Talon44\_9 (DJ), Tanis\_8 (DJ), Tatanka\_2 (AU1), Teacup\_3 (AU1), Tenno\_3 (AU1), Tipton\_2 (AU2), Tokki\_2 (AU2), Tribby\_4 (AM), Trufflozitus\_8 (DJ), Trustiboi\_2 (AU1), Xenomorph\_3 (AM), YoshiYama\_3 (AM), Zippen\_3 (AU7),

Start 44:

- Found in 31 of 254 ( 12.2% ) of genes in pham

- Manual Annotations of this start: 1 of 209
- Called 9.7% of time when present
- Phage (with cluster) where this start called: Aflac\_12 (DJ), CWormy\_11 (DJ), Glintora\_11 (DJ),

Start 45:

- Found in 27 of 254 ( 10.6% ) of genes in pham
- No Manual Annotations of this start.
- Called 3.7% of time when present
- Phage (with cluster) where this start called: Demure\_8 (DJ),

Start 49:

- Found in 24 of 254 ( 9.4% ) of genes in pham
- Manual Annotations of this start: 12 of 209
- Called 50.0% of time when present
- Phage (with cluster) where this start called: CherryBlossom\_2 (BI1), FidgetOrca\_2 (BI1), Hoshi\_2 (BI1), IceWarrior\_2 (BI1), Indigenous\_2 (BI1), Jaylociraptor\_2 (BI1), Meibysrarus\_2 (BI1), Namu\_2 (BI1), OlympicHelado\_2 (BI1), Rima\_2 (BI1), Spectropatronm\_2 (BI1), TaidaOne\_2 (BI1),

Start 52:

- Found in 86 of 254 ( 33.9% ) of genes in pham
- No Manual Annotations of this start.
- Called 1.2% of time when present
- Phage (with cluster) where this start called: Westerlin\_3 (AU1),

### **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 38 was manually annotated 21 times for cluster AM.

Info for manual annotations of cluster AU1:

- Start number 38 was manually annotated 19 times for cluster AU1.

Info for manual annotations of cluster AU2:

- Start number 38 was manually annotated 8 times for cluster AU2.

Info for manual annotations of cluster AU3:

- Start number 24 was manually annotated 2 times for cluster AU3.

Info for manual annotations of cluster AU4:

- Start number 37 was manually annotated 2 times for cluster AU4.
- Start number 38 was manually annotated 1 time for cluster AU4.

Info for manual annotations of cluster AU5:

- Start number 36 was manually annotated 1 time for cluster AU5.
- Start number 38 was manually annotated 1 time for cluster AU5.

Info for manual annotations of cluster AU6:

- Start number 33 was manually annotated 1 time for cluster AU6.

- Start number 37 was manually annotated 13 times for cluster AU6.

Info for manual annotations of cluster AU7:

- Start number 38 was manually annotated 2 times for cluster AU7.

Info for manual annotations of cluster AW:

- Start number 26 was manually annotated 1 time for cluster AW.
- Start number 38 was manually annotated 18 times for cluster AW.

Info for manual annotations of cluster BI1:

- Start number 37 was manually annotated 12 times for cluster BI1.
- Start number 49 was manually annotated 12 times for cluster BI1.

Info for manual annotations of cluster BI2:

- Start number 24 was manually annotated 1 time for cluster BI2.
- Start number 37 was manually annotated 12 times for cluster BI2.

Info for manual annotations of cluster BI3:

- Start number 36 was manually annotated 1 time for cluster BI3.

Info for manual annotations of cluster BI4:

- Start number 35 was manually annotated 5 times for cluster BI4.

Info for manual annotations of cluster BI5:

- Start number 37 was manually annotated 2 times for cluster BI5.

Info for manual annotations of cluster BI6:

- Start number 37 was manually annotated 1 time for cluster BI6.

Info for manual annotations of cluster BI7:

- Start number 37 was manually annotated 1 time for cluster BI7.

Info for manual annotations of cluster DJ:

- Start number 29 was manually annotated 1 time for cluster DJ.
- Start number 36 was manually annotated 5 times for cluster DJ.
- Start number 37 was manually annotated 30 times for cluster DJ.
- Start number 38 was manually annotated 20 times for cluster DJ.
- Start number 44 was manually annotated 1 time for cluster DJ.

Info for manual annotations of cluster EL:

- Start number 34 was manually annotated 1 time for cluster EL.
- Start number 36 was manually annotated 3 times for cluster EL.

Info for manual annotations of cluster FK:

- Start number 37 was manually annotated 3 times for cluster FK.

Info for manual annotations of cluster JA:

- Start number 35 was manually annotated 1 time for cluster JA.
- Start number 36 was manually annotated 4 times for cluster JA.
- Start number 37 was manually annotated 3 times for cluster JA.

**Gene Information:**

Gene: Acai\_2 Start: 1121, Stop: 1528, Start Num: 38

Candidate Starts for Acai\_2:

(Start: 24 @1091 has 3 MA's), (Start: 38 @1121 has 90 MA's), (52, 1232), (66, 1358), (67, 1367), (82, 1490),

Gene: AddiRose\_7 Start: 2955, Stop: 3371, Start Num: 36

Candidate Starts for AddiRose\_7:

(1, 2688), (2, 2703), (13, 2862), (14, 2865), (18, 2883), (23, 2913), (Start: 36 @2955 has 14 MA's), (47, 3027), (56, 3129), (59, 3150), (61, 3165), (66, 3198), (67, 3207),

Gene: Aflac\_12 Start: 6272, Stop: 6637, Start Num: 44

Candidate Starts for Aflac\_12:

(3, 6050), (9, 6101), (12, 6122), (22, 6173), (Start: 26 @6188 has 1 MA's), (Start: 33 @6215 has 1 MA's), (Start: 37 @6227 has 79 MA's), (Start: 44 @6272 has 1 MA's), (66, 6467), (67, 6476), (69, 6494), (75, 6530),

Gene: AlainaMarie\_12 Start: 6218, Stop: 6628, Start Num: 37

Candidate Starts for AlainaMarie\_12:

(3, 6041), (9, 6092), (12, 6113), (17, 6137), (22, 6164), (Start: 26 @6179 has 1 MA's), (Start: 33 @6206 has 1 MA's), (Start: 37 @6218 has 79 MA's), (Start: 44 @6263 has 1 MA's), (60, 6416), (66, 6458), (67, 6467), (75, 6521),

Gene: Aloe25\_12 Start: 6017, Stop: 6427, Start Num: 37

Candidate Starts for Aloe25\_12:

(7, 5882), (9, 5891), (17, 5936), (19, 5948), (22, 5963), (Start: 26 @5978 has 1 MA's), (Start: 33 @6005 has 1 MA's), (Start: 37 @6017 has 79 MA's), (Start: 44 @6062 has 1 MA's), (66, 6257), (67, 6266), (75, 6320),

Gene: Altjira\_2 Start: 985, Stop: 1401, Start Num: 33

Candidate Starts for Altjira\_2:

(12, 898), (17, 922), (22, 949), (Start: 24 @958 has 3 MA's), (Start: 33 @985 has 1 MA's), (Start: 37 @991 has 79 MA's), (52, 1105), (62, 1201), (66, 1231), (67, 1240),

Gene: Anandi\_3 Start: 1217, Stop: 1624, Start Num: 38

Candidate Starts for Anandi\_3:

(Start: 38 @1217 has 90 MA's), (52, 1328), (66, 1454), (67, 1463), (75, 1517), (77, 1526),

Gene: Annihilus\_2 Start: 483, Stop: 890, Start Num: 37

Candidate Starts for Annihilus\_2:

(Start: 24 @438 has 3 MA's), (Start: 29 @453 has 1 MA's), (Start: 37 @483 has 79 MA's), (43, 516), (48, 558), (52, 594), (66, 720), (67, 729),

Gene: Arataki\_9 Start: 3809, Stop: 4219, Start Num: 37

Candidate Starts for Arataki\_9:

(17, 3728), (19, 3740), (22, 3755), (Start: 26 @3770 has 1 MA's), (Start: 33 @3797 has 1 MA's), (Start: 37 @3809 has 79 MA's), (45, 3872), (66, 4049), (67, 4058), (75, 4112),

Gene: Arcadia\_4 Start: 1466, Stop: 1873, Start Num: 38

Candidate Starts for Arcadia\_4:

(Start: 38 @1466 has 90 MA's), (57, 1643), (66, 1703), (67, 1712), (74, 1757), (77, 1775),

Gene: AreFloNak\_2 Start: 954, Stop: 1391, Start Num: 24

Candidate Starts for AreFloNak\_2:

(Start: 24 @954 has 3 MA's), (Start: 38 @984 has 90 MA's), (52, 1095), (66, 1221), (67, 1230), (82, 1353),

Gene: Argan\_2 Start: 805, Stop: 1215, Start Num: 37

Candidate Starts for Argan\_2:

(11, 709), (12, 712), (17, 736), (22, 763), (Start: 24 @772 has 3 MA's), (Start: 33 @799 has 1 MA's), (Start: 37 @805 has 79 MA's), (52, 919), (62, 1015), (66, 1045), (67, 1054),

Gene: ArtetaBall\_11 Start: 4945, Stop: 5355, Start Num: 37

Candidate Starts for ArtetaBall\_11:

(9, 4819), (17, 4864), (19, 4876), (Start: 26 @4906 has 1 MA's), (Start: 33 @4933 has 1 MA's), (Start: 37 @4945 has 79 MA's), (45, 5008), (66, 5185), (67, 5194), (75, 5248),

Gene: Artorias\_8 Start: 3380, Stop: 3787, Start Num: 38

Candidate Starts for Artorias\_8:

(3, 3203), (4, 3215), (17, 3299), (19, 3311), (20, 3317), (Start: 26 @3341 has 1 MA's), (Start: 33 @3368 has 1 MA's), (Start: 34 @3371 has 1 MA's), (Start: 37 @3377 has 79 MA's), (Start: 38 @3380 has 90 MA's), (59, 3569), (66, 3617), (67, 3626), (75, 3680),

Gene: Arzan\_4 Start: 1534, Stop: 1968, Start Num: 38

Candidate Starts for Arzan\_4:

(25, 1501), (28, 1510), (Start: 38 @1534 has 90 MA's), (59, 1723), (66, 1771), (67, 1780), (77, 1843), (79, 1891), (83, 1906),

Gene: Avazak\_8 Start: 3383, Stop: 3790, Start Num: 38

Candidate Starts for Avazak\_8:

(3, 3203), (4, 3215), (7, 3245), (17, 3299), (19, 3311), (22, 3326), (Start: 26 @3341 has 1 MA's), (Start: 38 @3383 has 90 MA's), (59, 3572), (66, 3620), (67, 3629), (75, 3683),

Gene: Barbonzobean\_2 Start: 791, Stop: 1207, Start Num: 33

Candidate Starts for Barbonzobean\_2:

(11, 701), (16, 725), (22, 755), (Start: 24 @764 has 3 MA's), (Start: 33 @791 has 1 MA's), (Start: 37 @797 has 79 MA's), (66, 1037), (67, 1046), (78, 1154), (79, 1157), (83, 1172), (85, 1199),

Gene: BenitoAntonio\_4 Start: 1074, Stop: 1481, Start Num: 38

Candidate Starts for BenitoAntonio\_4:

(Start: 38 @1074 has 90 MA's), (53, 1224), (66, 1311), (67, 1320), (74, 1365), (77, 1383),

Gene: Benllo\_3 Start: 1076, Stop: 1483, Start Num: 38

Candidate Starts for Benllo\_3:

(Start: 38 @1076 has 90 MA's), (53, 1226), (66, 1313), (67, 1322), (74, 1367), (77, 1385),

Gene: BetterYeti\_12 Start: 6017, Stop: 6427, Start Num: 37

Candidate Starts for BetterYeti\_12:

(7, 5882), (9, 5891), (17, 5936), (19, 5948), (22, 5963), (Start: 26 @5978 has 1 MA's), (Start: 33 @6005 has 1 MA's), (Start: 37 @6017 has 79 MA's), (Start: 44 @6062 has 1 MA's), (66, 6257), (67, 6266), (75, 6320),

Gene: Bilo\_2 Start: 483, Stop: 890, Start Num: 37

Candidate Starts for Bilo\_2:

(20, 420), (Start: 24 @438 has 3 MA's), (Start: 29 @453 has 1 MA's), (Start: 37 @483 has 79 MA's), (43, 516), (52, 594), (59, 672), (66, 720), (67, 729), (79, 840),

Gene: Bing\_2 Start: 495, Stop: 902, Start Num: 37

Candidate Starts for Bing\_2:

(Start: 24 @459 has 3 MA's), (Start: 37 @495 has 79 MA's), (52, 606),

Gene: Biscute\_2 Start: 797, Stop: 1207, Start Num: 37

Candidate Starts for Biscute\_2:

(11, 701), (16, 725), (22, 755), (Start: 24 @764 has 3 MA's), (Start: 33 @791 has 1 MA's), (Start: 37 @797 has 79 MA's), (66, 1037), (67, 1046), (78, 1154), (79, 1157), (83, 1172), (85, 1199),

Gene: BlackHoleSun\_3 Start: 1166, Stop: 1582, Start Num: 33

Candidate Starts for BlackHoleSun\_3:

(11, 1076), (17, 1103), (22, 1130), (Start: 24 @1139 has 3 MA's), (Start: 33 @1166 has 1 MA's), (Start: 37 @1172 has 79 MA's), (52, 1286), (62, 1382), (66, 1412), (67, 1421),

Gene: Blanky\_8 Start: 3827, Stop: 4276, Start Num: 26

Candidate Starts for Blanky\_8:

(3, 3689), (4, 3701), (7, 3731), (8, 3737), (Start: 26 @3827 has 1 MA's), (Start: 29 @3836 has 1 MA's), (Start: 33 @3854 has 1 MA's), (Start: 36 @3863 has 14 MA's), (66, 4106), (67, 4115), (75, 4169), (77, 4178),

Gene: BluerMoon\_12 Start: 6221, Stop: 6631, Start Num: 37

Candidate Starts for BluerMoon\_12:

(3, 6044), (9, 6095), (12, 6116), (22, 6167), (Start: 26 @6182 has 1 MA's), (Start: 33 @6209 has 1 MA's), (Start: 37 @6221 has 79 MA's), (Start: 44 @6266 has 1 MA's), (66, 6461), (67, 6470), (69, 6488), (75, 6524),

Gene: Boog\_3 Start: 1003, Stop: 1443, Start Num: 38

Candidate Starts for Boog\_3:

(Start: 38 @1003 has 90 MA's), (65, 1237), (66, 1246), (67, 1255), (78, 1363), (83, 1381), (84, 1405),

Gene: Bouchard\_2 Start: 968, Stop: 1375, Start Num: 38

Candidate Starts for Bouchard\_2:

(Start: 24 @935 has 3 MA's), (31, 956), (Start: 35 @959 has 6 MA's), (Start: 36 @962 has 14 MA's), (Start: 38 @968 has 90 MA's), (50, 1052), (52, 1079), (66, 1205), (67, 1214), (77, 1277),

Gene: Bowling\_4 Start: 1076, Stop: 1483, Start Num: 38

Candidate Starts for Bowling\_4:

(Start: 38 @1076 has 90 MA's), (52, 1187), (53, 1226), (57, 1253), (66, 1313), (67, 1322), (74, 1367),

Gene: Breylor17\_2 Start: 1109, Stop: 1516, Start Num: 38

Candidate Starts for Breylor17\_2:

(Start: 24 @1079 has 3 MA's), (Start: 38 @1109 has 90 MA's), (52, 1220), (66, 1346), (67, 1355), (82, 1478),

Gene: BronxBay\_3 Start: 1002, Stop: 1442, Start Num: 38

Candidate Starts for BronxBay\_3:

(Start: 38 @1002 has 90 MA's), (65, 1236), (66, 1245), (67, 1254), (78, 1362), (83, 1380), (84, 1404),

Gene: Brunswick\_2 Start: 1118, Stop: 1525, Start Num: 38

Candidate Starts for Brunswick\_2:

(Start: 24 @1088 has 3 MA's), (Start: 38 @1118 has 90 MA's), (52, 1229), (66, 1355), (67, 1364), (82, 1487),

Gene: Bugg\_9 Start: 3393, Stop: 3800, Start Num: 38

Candidate Starts for Bugg\_9:

(3, 3213), (4, 3225), (17, 3309), (20, 3327), (Start: 26 @3351 has 1 MA's), (Start: 38 @3393 has 90 MA's), (59, 3582), (66, 3630), (67, 3639), (75, 3693),

Gene: Burley\_12 Start: 6018, Stop: 6428, Start Num: 37

Candidate Starts for Burley\_12:

(7, 5883), (9, 5892), (17, 5937), (19, 5949), (22, 5964), (Start: 26 @5979 has 1 MA's), (Start: 33 @6006 has 1 MA's), (Start: 34 @6009 has 1 MA's), (Start: 37 @6018 has 79 MA's), (Start: 44 @6063 has 1 MA's), (57, 6198), (66, 6258), (67, 6267), (75, 6321),

Gene: CWormy\_11 Start: 4990, Stop: 5355, Start Num: 44

Candidate Starts for CWormy\_11:

(17, 4864), (19, 4876), (22, 4891), (Start: 26 @4906 has 1 MA's), (Start: 33 @4933 has 1 MA's), (Start: 37 @4945 has 79 MA's), (Start: 44 @4990 has 1 MA's), (66, 5185), (67, 5194), (75, 5248),

Gene: Camille\_7 Start: 2602, Stop: 3036, Start Num: 36

Candidate Starts for Camille\_7:

(Start: 34 @2596 has 1 MA's), (Start: 36 @2602 has 14 MA's), (39, 2629), (50, 2692), (52, 2719), (60, 2803), (67, 2854), (68, 2860), (71, 2887), (78, 2962), (81, 2971), (83, 2980), (86, 3019),

Gene: CapnMurica\_3 Start: 2361, Stop: 2768, Start Num: 38

Candidate Starts for CapnMurica\_3:

(Start: 24 @2331 has 3 MA's), (Start: 38 @2361 has 90 MA's), (52, 2472), (66, 2598), (67, 2607), (82, 2730),

Gene: Captrips\_8 Start: 3383, Stop: 3790, Start Num: 38

Candidate Starts for Captrips\_8:

(3, 3203), (4, 3215), (7, 3245), (17, 3299), (19, 3311), (22, 3326), (Start: 26 @3341 has 1 MA's), (Start: 38 @3383 has 90 MA's), (59, 3572), (66, 3620), (67, 3629), (75, 3683),

Gene: Capybara\_8 Start: 3096, Stop: 3503, Start Num: 38

Candidate Starts for Capybara\_8:

(3, 2916), (4, 2928), (7, 2958), (17, 3012), (19, 3024), (20, 3030), (22, 3039), (Start: 26 @3054 has 1 MA's), (Start: 38 @3096 has 90 MA's), (45, 3156), (59, 3285), (66, 3333), (67, 3342), (75, 3396),

Gene: CastorTray\_3 Start: 963, Stop: 1370, Start Num: 38

Candidate Starts for CastorTray\_3:

(Start: 24 @933 has 3 MA's), (Start: 38 @963 has 90 MA's), (52, 1074), (66, 1200), (67, 1209), (82, 1332),

Gene: Caterpillar\_3 Start: 1189, Stop: 1599, Start Num: 37

Candidate Starts for Caterpillar\_3:

(Start: 37 @1189 has 79 MA's), (52, 1303), (58, 1375), (66, 1429), (67, 1438), (69, 1456), (82, 1561),

Gene: Cheesy\_4 Start: 1076, Stop: 1483, Start Num: 38

Candidate Starts for Cheesy\_4:

(Start: 38 @1076 has 90 MA's), (53, 1226), (66, 1313), (67, 1322), (74, 1367), (77, 1385),

Gene: CherryBlossom\_2 Start: 563, Stop: 892, Start Num: 49  
Candidate Starts for CherryBlossom\_2:  
(Start: 37 @485 has 79 MA's), (42, 515), (Start: 49 @563 has 12 MA's),

Gene: ChickyNuggy\_8 Start: 3098, Stop: 3505, Start Num: 38  
Candidate Starts for ChickyNuggy\_8:  
(3, 2918), (4, 2930), (17, 3014), (20, 3032), (Start: 26 @3056 has 1 MA's), (Start: 38 @3098 has 90 MA's), (59, 3287), (66, 3335), (67, 3344), (75, 3398),

Gene: Chikenjars\_12 Start: 6218, Stop: 6628, Start Num: 37  
Candidate Starts for Chikenjars\_12:  
(3, 6041), (9, 6092), (12, 6113), (17, 6137), (22, 6164), (Start: 26 @6179 has 1 MA's), (Start: 33 @6206 has 1 MA's), (Start: 37 @6218 has 79 MA's), (Start: 44 @6263 has 1 MA's), (60, 6416), (66, 6458), (67, 6467), (75, 6521),

Gene: Chlochlo\_2 Start: 969, Stop: 1376, Start Num: 38  
Candidate Starts for Chlochlo\_2:  
(Start: 24 @936 has 3 MA's), (31, 957), (Start: 35 @960 has 6 MA's), (Start: 36 @963 has 14 MA's), (Start: 38 @969 has 90 MA's), (50, 1053), (52, 1080), (66, 1206), (67, 1215), (77, 1278),

Gene: Circum\_4 Start: 1076, Stop: 1483, Start Num: 38  
Candidate Starts for Circum\_4:  
(Start: 38 @1076 has 90 MA's), (53, 1226), (66, 1313), (67, 1322), (74, 1367), (77, 1385),

Gene: Citrus\_11 Start: 6225, Stop: 6635, Start Num: 37  
Candidate Starts for Citrus\_11:  
(3, 6048), (9, 6099), (12, 6120), (17, 6144), (22, 6171), (Start: 26 @6186 has 1 MA's), (Start: 33 @6213 has 1 MA's), (Start: 37 @6225 has 79 MA's), (Start: 44 @6270 has 1 MA's), (60, 6423), (66, 6465), (67, 6474), (75, 6528),

Gene: ClubPenguin\_2 Start: 452, Stop: 862, Start Num: 37  
Candidate Starts for ClubPenguin\_2:  
(Start: 29 @422 has 1 MA's), (Start: 37 @452 has 79 MA's), (52, 566), (59, 644), (66, 692), (67, 701), (75, 755), (77, 764), (78, 809),

Gene: Conley\_8 Start: 3411, Stop: 3818, Start Num: 38  
Candidate Starts for Conley\_8:  
(3, 3231), (17, 3327), (19, 3339), (20, 3345), (Start: 26 @3369 has 1 MA's), (Start: 38 @3411 has 90 MA's), (59, 3600), (66, 3648), (67, 3657), (75, 3711), (77, 3720),

Gene: Correa\_4 Start: 1076, Stop: 1483, Start Num: 38  
Candidate Starts for Correa\_4:  
(Start: 38 @1076 has 90 MA's), (53, 1226), (66, 1313), (67, 1322), (74, 1367), (77, 1385),

Gene: Count\_8 Start: 3025, Stop: 3444, Start Num: 34  
Candidate Starts for Count\_8:  
(15, 2950), (17, 2959), (19, 2971), (Start: 34 @3025 has 1 MA's), (Start: 37 @3034 has 79 MA's), (42, 3067), (45, 3097), (64, 3262), (67, 3283), (71, 3316), (83, 3409),

Gene: CricKo\_2 Start: 524, Stop: 937, Start Num: 35  
Candidate Starts for CricKo\_2:  
(7, 401), (Start: 24 @491 has 3 MA's), (Start: 35 @524 has 6 MA's), (52, 641), (55, 692), (59, 719), (69, 794),

Gene: Crocheter\_11 Start: 4945, Stop: 5355, Start Num: 37

Candidate Starts for Crocheter\_11:

(17, 4864), (19, 4876), (22, 4891), (Start: 26 @4906 has 1 MA's), (Start: 33 @4933 has 1 MA's), (Start: 37 @4945 has 79 MA's), (Start: 44 @4990 has 1 MA's), (66, 5185), (67, 5194), (75, 5248),

Gene: Daddyjeff\_7 Start: 2954, Stop: 3370, Start Num: 36

Candidate Starts for Daddyjeff\_7:

(1, 2687), (2, 2702), (13, 2861), (18, 2882), (20, 2897), (23, 2912), (Start: 36 @2954 has 14 MA's), (47, 3026), (56, 3128), (59, 3149), (61, 3164), (66, 3197), (67, 3206),

Gene: Damascus\_7 Start: 2601, Stop: 3011, Start Num: 36

Candidate Starts for Damascus\_7:

(22, 2556), (30, 2583), (Start: 36 @2601 has 14 MA's), (52, 2715), (53, 2754), (59, 2793), (67, 2850), (68, 2856), (71, 2883), (72, 2886), (85, 3003),

Gene: Dancer\_8 Start: 3086, Stop: 3493, Start Num: 38

Candidate Starts for Dancer\_8:

(3, 2909), (4, 2921), (17, 3005), (19, 3017), (20, 3023), (Start: 26 @3047 has 1 MA's), (Start: 33 @3074 has 1 MA's), (Start: 34 @3077 has 1 MA's), (Start: 37 @3083 has 79 MA's), (Start: 38 @3086 has 90 MA's), (59, 3275), (66, 3323), (67, 3332), (75, 3386),

Gene: Darby\_2 Start: 966, Stop: 1373, Start Num: 38

Candidate Starts for Darby\_2:

(Start: 24 @936 has 3 MA's), (Start: 38 @966 has 90 MA's), (52, 1077), (66, 1203), (67, 1212), (82, 1335),

Gene: Demure\_8 Start: 3872, Stop: 4219, Start Num: 45

Candidate Starts for Demure\_8:

(17, 3728), (19, 3740), (22, 3755), (Start: 26 @3770 has 1 MA's), (Start: 33 @3797 has 1 MA's), (Start: 37 @3809 has 79 MA's), (45, 3872), (66, 4049), (67, 4058), (75, 4112),

Gene: DevitoJr\_2 Start: 1108, Stop: 1515, Start Num: 38

Candidate Starts for DevitoJr\_2:

(Start: 24 @1078 has 3 MA's), (Start: 38 @1108 has 90 MA's), (52, 1219), (66, 1345), (67, 1354), (82, 1477),

Gene: Dialga\_11 Start: 4906, Stop: 5355, Start Num: 26

Candidate Starts for Dialga\_11:

(9, 4819), (17, 4864), (19, 4876), (22, 4891), (Start: 26 @4906 has 1 MA's), (Start: 33 @4933 has 1 MA's), (Start: 37 @4945 has 79 MA's), (45, 5008), (66, 5185), (67, 5194), (75, 5248),

Gene: Dinallo\_3 Start: 2361, Stop: 2768, Start Num: 38

Candidate Starts for Dinallo\_3:

(Start: 24 @2331 has 3 MA's), (Start: 38 @2361 has 90 MA's), (52, 2472), (66, 2598), (67, 2607), (82, 2730),

Gene: Ditters\_2 Start: 494, Stop: 901, Start Num: 37

Candidate Starts for Ditters\_2:

(Start: 24 @449 has 3 MA's), (Start: 29 @464 has 1 MA's), (Start: 37 @494 has 79 MA's), (52, 605), (66, 731), (67, 740),

Gene: DizzyRudy\_7 Start: 2599, Stop: 3009, Start Num: 36

Candidate Starts for DizzyRudy\_7:

(22, 2554), (30, 2581), (Start: 36 @2599 has 14 MA's), (52, 2713), (53, 2752), (59, 2791), (67, 2848), (68, 2854), (71, 2881), (72, 2884), (85, 3001),

Gene: Djungelskog\_3 Start: 1002, Stop: 1442, Start Num: 38

Candidate Starts for Djungelskog\_3:

(Start: 38 @1002 has 90 MA's), (65, 1236), (66, 1245), (67, 1254), (78, 1362), (83, 1380), (84, 1404),

Gene: DoctorPepper\_3 Start: 1002, Stop: 1442, Start Num: 38

Candidate Starts for DoctorPepper\_3:

(Start: 38 @1002 has 90 MA's), (65, 1236), (66, 1245), (67, 1254), (78, 1362), (83, 1380), (84, 1404),

Gene: Doxi13\_2 Start: 483, Stop: 890, Start Num: 37

Candidate Starts for Doxi13\_2:

(Start: 24 @438 has 3 MA's), (Start: 29 @453 has 1 MA's), (Start: 37 @483 has 79 MA's), (43, 516), (52, 594), (59, 672), (66, 720), (67, 729),

Gene: DrGrey\_2 Start: 485, Stop: 892, Start Num: 37

Candidate Starts for DrGrey\_2:

(13, 395), (Start: 37 @485 has 79 MA's), (Start: 49 @563 has 12 MA's),

Gene: Duffington\_12 Start: 6203, Stop: 6613, Start Num: 37

Candidate Starts for Duffington\_12:

(3, 6026), (9, 6077), (12, 6098), (17, 6122), (22, 6149), (Start: 26 @6164 has 1 MA's), (Start: 33 @6191 has 1 MA's), (Start: 37 @6203 has 79 MA's), (Start: 44 @6248 has 1 MA's), (60, 6401), (66, 6443), (67, 6452), (75, 6506),

Gene: Dynamite\_4 Start: 1076, Stop: 1483, Start Num: 38

Candidate Starts for Dynamite\_4:

(Start: 38 @1076 has 90 MA's), (52, 1187), (53, 1226), (57, 1253), (66, 1313), (67, 1322), (74, 1367),

Gene: Eddiemania\_11 Start: 5410, Stop: 5820, Start Num: 37

Candidate Starts for Eddiemania\_11:

(3, 5233), (9, 5284), (12, 5305), (22, 5356), (Start: 26 @5371 has 1 MA's), (Start: 33 @5398 has 1 MA's), (Start: 37 @5410 has 79 MA's), (Start: 44 @5455 has 1 MA's), (66, 5650), (67, 5659), (75, 5713),

Gene: Eevee\_6 Start: 2497, Stop: 2919, Start Num: 37

Candidate Starts for Eevee\_6:

(Start: 24 @2455 has 3 MA's), (27, 2467), (Start: 35 @2491 has 6 MA's), (Start: 37 @2497 has 79 MA's), (56, 2668), (59, 2689), (60, 2695), (66, 2737), (67, 2746), (73, 2785), (77, 2809),

Gene: Egad\_3 Start: 1003, Stop: 1443, Start Num: 38

Candidate Starts for Egad\_3:

(Start: 38 @1003 has 90 MA's), (65, 1237), (66, 1246), (67, 1255), (78, 1363), (83, 1381), (84, 1405),

Gene: ElephantMan\_2 Start: 1121, Stop: 1528, Start Num: 38

Candidate Starts for ElephantMan\_2:

(Start: 24 @1091 has 3 MA's), (Start: 38 @1121 has 90 MA's), (52, 1232), (66, 1358), (67, 1367), (82, 1490),

Gene: Elsa\_4 Start: 1466, Stop: 1873, Start Num: 38

Candidate Starts for Elsa\_4:

(Start: 38 @1466 has 90 MA's), (57, 1643), (66, 1703), (67, 1712), (74, 1757), (77, 1775),

Gene: Elver\_7 Start: 2230, Stop: 2646, Start Num: 37

Candidate Starts for Elver\_7:

(5, 2089), (6, 2104), (8, 2116), (22, 2191), (Start: 24 @2200 has 3 MA's), (Start: 37 @2230 has 79 MA's), (41, 2260), (45, 2293), (66, 2476), (67, 2485),

Gene: EndAve\_12 Start: 6218, Stop: 6628, Start Num: 37

Candidate Starts for EndAve\_12:

(3, 6041), (12, 6113), (17, 6137), (22, 6164), (Start: 26 @6179 has 1 MA's), (Start: 33 @6206 has 1 MA's), (Start: 37 @6218 has 79 MA's), (Start: 44 @6263 has 1 MA's), (60, 6416), (66, 6458), (67, 6467), (75, 6521),

Gene: Esketit\_2 Start: 485, Stop: 892, Start Num: 37

Candidate Starts for Esketit\_2:

(Start: 37 @485 has 79 MA's), (Start: 49 @563 has 12 MA's),

Gene: Espio\_2 Start: 485, Stop: 892, Start Num: 37

Candidate Starts for Espio\_2:

(13, 395), (Start: 37 @485 has 79 MA's), (Start: 49 @563 has 12 MA's),

Gene: Fazel\_9 Start: 4950, Stop: 5363, Start Num: 36

Candidate Starts for Fazel\_9:

(Start: 34 @4944 has 1 MA's), (Start: 36 @4950 has 14 MA's), (39, 4977), (66, 5193), (67, 5202), (75, 5256), (77, 5265),

Gene: FidgetOrca\_2 Start: 563, Stop: 892, Start Num: 49

Candidate Starts for FidgetOrca\_2:

(Start: 37 @485 has 79 MA's), (Start: 49 @563 has 12 MA's),

Gene: Figliar\_12 Start: 6227, Stop: 6637, Start Num: 37

Candidate Starts for Figliar\_12:

(3, 6050), (9, 6101), (12, 6122), (22, 6173), (Start: 26 @6188 has 1 MA's), (Start: 33 @6215 has 1 MA's), (Start: 37 @6227 has 79 MA's), (Start: 44 @6272 has 1 MA's), (66, 6467), (67, 6476), (69, 6494), (75, 6530),

Gene: Football\_8 Start: 3098, Stop: 3505, Start Num: 38

Candidate Starts for Football\_8:

(3, 2918), (4, 2930), (17, 3014), (20, 3032), (Start: 26 @3056 has 1 MA's), (Start: 38 @3098 has 90 MA's), (59, 3287), (66, 3335), (67, 3344), (75, 3398),

Gene: FortCran\_8 Start: 3380, Stop: 3787, Start Num: 38

Candidate Starts for FortCran\_8:

(3, 3203), (4, 3215), (17, 3299), (19, 3311), (20, 3317), (Start: 26 @3341 has 1 MA's), (Start: 33 @3368 has 1 MA's), (Start: 34 @3371 has 1 MA's), (Start: 37 @3377 has 79 MA's), (Start: 38 @3380 has 90 MA's), (59, 3569), (66, 3617), (67, 3626), (75, 3680),

Gene: FrodoSwaggins\_2 Start: 485, Stop: 892, Start Num: 37

Candidate Starts for FrodoSwaggins\_2:

(13, 395), (Start: 37 @485 has 79 MA's), (Start: 49 @563 has 12 MA's),

Gene: FromIndy\_2 Start: 524, Stop: 937, Start Num: 35

Candidate Starts for FromIndy\_2:

(7, 401), (Start: 24 @491 has 3 MA's), (Start: 35 @524 has 6 MA's), (52, 641), (55, 692), (59, 719), (69, 794),

Gene: Gandionco\_6 Start: 2229, Stop: 2645, Start Num: 37

Candidate Starts for Gandionco\_6:

(5, 2088), (6, 2103), (8, 2115), (10, 2127), (17, 2163), (22, 2190), (Start: 37 @2229 has 79 MA's), (41, 2259), (45, 2292), (57, 2409), (66, 2475), (67, 2484),

Gene: GantcherGoblin\_2 Start: 805, Stop: 1215, Start Num: 37

Candidate Starts for GantcherGoblin\_2:

(12, 712), (17, 736), (22, 763), (Start: 33 @799 has 1 MA's), (Start: 37 @805 has 79 MA's), (52, 919), (62, 1015), (66, 1045), (67, 1054),

Gene: GermyBearimy\_3 Start: 1282, Stop: 1716, Start Num: 38

Candidate Starts for GermyBearimy\_3:

(25, 1249), (28, 1258), (Start: 38 @1282 has 90 MA's), (59, 1471), (66, 1519), (67, 1528), (77, 1591), (79, 1639),

Gene: Giantsbane\_2 Start: 969, Stop: 1376, Start Num: 38

Candidate Starts for Giantsbane\_2:

(Start: 24 @936 has 3 MA's), (Start: 35 @960 has 6 MA's), (Start: 36 @963 has 14 MA's), (Start: 38 @969 has 90 MA's), (50, 1053), (52, 1080), (66, 1206), (67, 1215),

Gene: Gill\_8 Start: 3096, Stop: 3503, Start Num: 38

Candidate Starts for Gill\_8:

(3, 2916), (4, 2928), (7, 2958), (17, 3012), (19, 3024), (20, 3030), (22, 3039), (Start: 26 @3054 has 1 MA's), (Start: 38 @3096 has 90 MA's), (45, 3156), (59, 3285), (66, 3333), (67, 3342), (75, 3396),

Gene: GirlPower\_2 Start: 1348, Stop: 1758, Start Num: 37

Candidate Starts for GirlPower\_2:

(Start: 37 @1348 has 79 MA's), (75, 1651),

Gene: Glintora\_11 Start: 6263, Stop: 6628, Start Num: 44

Candidate Starts for Glintora\_11:

(3, 6041), (9, 6092), (12, 6113), (17, 6137), (22, 6164), (Start: 26 @6179 has 1 MA's), (Start: 33 @6206 has 1 MA's), (Start: 37 @6218 has 79 MA's), (Start: 44 @6263 has 1 MA's), (60, 6416), (66, 6458), (67, 6467), (75, 6521),

Gene: GoCrazy\_3 Start: 1076, Stop: 1483, Start Num: 38

Candidate Starts for GoCrazy\_3:

(Start: 38 @1076 has 90 MA's), (53, 1226), (66, 1313), (67, 1322), (74, 1367), (77, 1385),

Gene: GoblinVoyage\_2 Start: 483, Stop: 890, Start Num: 37

Candidate Starts for GoblinVoyage\_2:

(Start: 24 @438 has 3 MA's), (Start: 29 @453 has 1 MA's), (Start: 37 @483 has 79 MA's), (43, 516), (52, 594), (59, 672), (66, 720), (67, 729),

Gene: Gordon\_2 Start: 962, Stop: 1369, Start Num: 38

Candidate Starts for Gordon\_2:

(Start: 24 @932 has 3 MA's), (Start: 38 @962 has 90 MA's), (52, 1073), (66, 1199), (67, 1208), (82, 1331),

Gene: Gravy\_8 Start: 3096, Stop: 3503, Start Num: 38

Candidate Starts for Gravy\_8:

(3, 2916), (4, 2928), (7, 2958), (17, 3012), (19, 3024), (20, 3030), (22, 3039), (Start: 26 @3054 has 1 MA's), (Start: 38 @3096 has 90 MA's), (45, 3156), (59, 3285), (66, 3333), (67, 3342), (75, 3396),

Gene: Gusicorn\_12 Start: 6017, Stop: 6427, Start Num: 37

Candidate Starts for Gusicorn\_12:

(7, 5882), (9, 5891), (17, 5936), (19, 5948), (22, 5963), (Start: 26 @5978 has 1 MA's), (Start: 33 @6005 has 1 MA's), (Start: 37 @6017 has 79 MA's), (Start: 44 @6062 has 1 MA's), (66, 6257), (67, 6266), (75, 6320),

Gene: Hankly\_3 Start: 1076, Stop: 1483, Start Num: 38

Candidate Starts for Hankly\_3:

(Start: 38 @1076 has 90 MA's), (46, 1139), (59, 1265), (66, 1313), (67, 1322), (79, 1433),

Gene: HazuAndZazu\_2 Start: 485, Stop: 892, Start Num: 37

Candidate Starts for HazuAndZazu\_2:

(Start: 37 @485 has 79 MA's), (42, 515), (Start: 49 @563 has 12 MA's),

Gene: Heisenberger\_4 Start: 1076, Stop: 1483, Start Num: 38

Candidate Starts for Heisenberger\_4:

(Start: 38 @1076 has 90 MA's), (53, 1226), (66, 1313), (67, 1322), (74, 1367), (77, 1385),

Gene: Hemma\_3 Start: 750, Stop: 1160, Start Num: 37

Candidate Starts for Hemma\_3:

(Start: 24 @723 has 3 MA's), (Start: 37 @750 has 79 MA's), (42, 783), (Start: 49 @831 has 12 MA's), (52, 864), (66, 990), (67, 999), (76, 1059), (77, 1062), (82, 1122),

Gene: HerbBucket\_3 Start: 1003, Stop: 1443, Start Num: 38

Candidate Starts for HerbBucket\_3:

(Start: 38 @1003 has 90 MA's), (65, 1237), (66, 1246), (67, 1255), (78, 1363), (83, 1381), (84, 1405),

Gene: Hortihabitatio\_11 Start: 5306, Stop: 5719, Start Num: 36

Candidate Starts for Hortihabitatio\_11:

(Start: 26 @5270 has 1 MA's), (Start: 33 @5297 has 1 MA's), (Start: 36 @5306 has 14 MA's), (66, 5549), (67, 5558), (75, 5612),

Gene: Hoshi\_2 Start: 563, Stop: 892, Start Num: 49

Candidate Starts for Hoshi\_2:

(Start: 37 @485 has 79 MA's), (Start: 49 @563 has 12 MA's),

Gene: HotFries\_2 Start: 438, Stop: 890, Start Num: 24

Candidate Starts for HotFries\_2:

(20, 420), (Start: 24 @438 has 3 MA's), (Start: 29 @453 has 1 MA's), (Start: 37 @483 has 79 MA's), (43, 516), (48, 558), (52, 594), (66, 720), (67, 729),

Gene: Hydrus\_11 Start: 5203, Stop: 5613, Start Num: 37

Candidate Starts for Hydrus\_11:

(17, 5122), (19, 5134), (22, 5149), (Start: 26 @5164 has 1 MA's), (Start: 33 @5191 has 1 MA's), (Start: 37 @5203 has 79 MA's), (Start: 44 @5248 has 1 MA's), (57, 5383), (66, 5443), (67, 5452), (75, 5506),

Gene: IceWarrior\_2 Start: 563, Stop: 892, Start Num: 49

Candidate Starts for IceWarrior\_2:

(Start: 37 @485 has 79 MA's), (Start: 49 @563 has 12 MA's),

Gene: Indigenous\_2 Start: 563, Stop: 892, Start Num: 49  
Candidate Starts for Indigenous\_2:  
(Start: 37 @485 has 79 MA's), (Start: 49 @563 has 12 MA's),

Gene: Ingrid\_2 Start: 960, Stop: 1397, Start Num: 24  
Candidate Starts for Ingrid\_2:  
(Start: 24 @960 has 3 MA's), (Start: 37 @987 has 79 MA's), (52, 1101), (66, 1227), (67, 1236),

Gene: Inked\_3 Start: 1227, Stop: 1634, Start Num: 38  
Candidate Starts for Inked\_3:  
(Start: 24 @1197 has 3 MA's), (Start: 38 @1227 has 90 MA's), (52, 1338), (66, 1464), (67, 1473), (69, 1491),

Gene: Issa\_2 Start: 1109, Stop: 1516, Start Num: 38  
Candidate Starts for Issa\_2:  
(Start: 24 @1079 has 3 MA's), (Start: 38 @1109 has 90 MA's), (52, 1220), (66, 1346), (67, 1355), (82, 1478),

Gene: JEGGS\_4 Start: 1078, Stop: 1485, Start Num: 38  
Candidate Starts for JEGGS\_4:  
(Start: 38 @1078 has 90 MA's), (53, 1228), (66, 1315), (67, 1324), (74, 1369), (77, 1387),

Gene: Jaylociraptor\_2 Start: 563, Stop: 892, Start Num: 49  
Candidate Starts for Jaylociraptor\_2:  
(Start: 37 @485 has 79 MA's), (Start: 49 @563 has 12 MA's),

Gene: Jazzy4900\_5 Start: 1560, Stop: 1994, Start Num: 38  
Candidate Starts for Jazzy4900\_5:  
(28, 1536), (Start: 38 @1560 has 90 MA's), (57, 1737), (66, 1797), (67, 1806), (77, 1869), (79, 1917), (83, 1932),

Gene: JeNeSaisPas\_5 Start: 1742, Stop: 2158, Start Num: 37  
Candidate Starts for JeNeSaisPas\_5:  
(5, 1601), (6, 1616), (8, 1628), (10, 1640), (11, 1649), (17, 1676), (20, 1694), (Start: 24 @1712 has 3 MA's), (Start: 37 @1742 has 79 MA's), (45, 1805), (66, 1988), (67, 1997), (73, 2036), (79, 2108),

Gene: Jeremy4pt0\_3 Start: 1002, Stop: 1442, Start Num: 38  
Candidate Starts for Jeremy4pt0\_3:  
(Start: 38 @1002 has 90 MA's), (65, 1236), (66, 1245), (67, 1254), (78, 1362), (83, 1380), (84, 1404),

Gene: Jodelie19\_12 Start: 6221, Stop: 6631, Start Num: 37  
Candidate Starts for Jodelie19\_12:  
(3, 6044), (9, 6095), (12, 6116), (22, 6167), (Start: 26 @6182 has 1 MA's), (Start: 33 @6209 has 1 MA's), (Start: 36 @6218 has 14 MA's), (Start: 37 @6221 has 79 MA's), (Start: 44 @6266 has 1 MA's), (66, 6461), (67, 6470), (69, 6488), (75, 6524),

Gene: JoyLin\_6 Start: 2497, Stop: 2919, Start Num: 37  
Candidate Starts for JoyLin\_6:  
(Start: 24 @2455 has 3 MA's), (27, 2467), (Start: 35 @2491 has 6 MA's), (Start: 37 @2497 has 79 MA's), (56, 2668), (59, 2689), (60, 2695), (66, 2737), (67, 2746), (73, 2785), (77, 2809),

Gene: JulesRay\_8 Start: 3380, Stop: 3787, Start Num: 38

Candidate Starts for JulesRay\_8:

(3, 3203), (4, 3215), (17, 3299), (19, 3311), (20, 3317), (Start: 26 @3341 has 1 MA's), (Start: 33 @3368 has 1 MA's), (Start: 34 @3371 has 1 MA's), (Start: 37 @3377 has 79 MA's), (Start: 38 @3380 has 90 MA's), (59, 3569), (66, 3617), (67, 3626), (75, 3680),

Gene: Kardashian\_2 Start: 561, Stop: 968, Start Num: 37

Candidate Starts for Kardashian\_2:

(22, 513), (Start: 37 @561 has 79 MA's), (75, 861), (78, 915),

Gene: Kardesai\_3 Start: 1076, Stop: 1483, Start Num: 38

Candidate Starts for Kardesai\_3:

(Start: 38 @1076 has 90 MA's), (52, 1187), (53, 1226), (66, 1313), (67, 1322), (74, 1367), (77, 1385),

Gene: KeaneyLin\_3 Start: 1076, Stop: 1483, Start Num: 38

Candidate Starts for KeaneyLin\_3:

(Start: 38 @1076 has 90 MA's), (53, 1226), (66, 1313), (67, 1322), (74, 1367), (77, 1385),

Gene: Kenosha\_9 Start: 3804, Stop: 4214, Start Num: 37

Candidate Starts for Kenosha\_9:

(9, 3678), (17, 3723), (19, 3735), (22, 3750), (Start: 26 @3765 has 1 MA's), (Start: 33 @3792 has 1 MA's), (Start: 37 @3804 has 79 MA's), (Start: 44 @3849 has 1 MA's), (66, 4044), (67, 4053), (75, 4107),

Gene: Kerry\_8 Start: 3096, Stop: 3503, Start Num: 38

Candidate Starts for Kerry\_8:

(3, 2916), (4, 2928), (7, 2958), (17, 3012), (19, 3024), (20, 3030), (22, 3039), (Start: 26 @3054 has 1 MA's), (Start: 38 @3096 has 90 MA's), (45, 3156), (59, 3285), (66, 3333), (67, 3342), (75, 3396),

Gene: KevinMinion\_2 Start: 961, Stop: 1371, Start Num: 37

Candidate Starts for KevinMinion\_2:

(12, 868), (17, 892), (22, 919), (Start: 24 @928 has 3 MA's), (Start: 33 @955 has 1 MA's), (Start: 37 @961 has 79 MA's), (52, 1075), (62, 1171), (66, 1201), (67, 1210),

Gene: Kinny\_3 Start: 1095, Stop: 1511, Start Num: 33

Candidate Starts for Kinny\_3:

(11, 1005), (16, 1029), (22, 1059), (Start: 24 @1068 has 3 MA's), (Start: 33 @1095 has 1 MA's), (Start: 37 @1101 has 79 MA's), (66, 1341), (67, 1350), (78, 1458), (79, 1461), (83, 1476), (85, 1503),

Gene: Kureo\_8 Start: 3459, Stop: 3875, Start Num: 37

Candidate Starts for Kureo\_8:

(5, 3318), (6, 3333), (8, 3345), (10, 3357), (17, 3393), (22, 3420), (Start: 37 @3459 has 79 MA's), (41, 3489), (45, 3522), (66, 3705), (67, 3714),

Gene: Lewando\_3 Start: 1100, Stop: 1510, Start Num: 37

Candidate Starts for Lewando\_3:

(11, 1004), (16, 1028), (22, 1058), (Start: 24 @1067 has 3 MA's), (Start: 33 @1094 has 1 MA's), (Start: 37 @1100 has 79 MA's), (66, 1340), (67, 1349), (78, 1457), (79, 1460), (83, 1475), (85, 1502),

Gene: LibertyBell\_2 Start: 486, Stop: 896, Start Num: 36

Candidate Starts for LibertyBell\_2:

(Start: 24 @459 has 3 MA's), (27, 471), (Start: 36 @486 has 14 MA's), (48, 564),

Gene: LilHuddy\_2 Start: 969, Stop: 1376, Start Num: 38

Candidate Starts for LilHuddy\_2:

(Start: 35 @960 has 6 MA's), (Start: 36 @963 has 14 MA's), (Start: 38 @969 has 90 MA's), (50, 1053), (52, 1080), (66, 1206), (67, 1215), (77, 1278),

Gene: Linda\_3 Start: 1002, Stop: 1442, Start Num: 38

Candidate Starts for Linda\_3:

(Start: 38 @1002 has 90 MA's), (65, 1236), (66, 1245), (67, 1254), (78, 1362), (83, 1380), (84, 1404),

Gene: Loretta\_2 Start: 960, Stop: 1397, Start Num: 24

Candidate Starts for Loretta\_2:

(Start: 24 @960 has 3 MA's), (Start: 37 @987 has 79 MA's), (52, 1101), (66, 1227), (67, 1236),

Gene: LucySwiss\_2 Start: 1128, Stop: 1535, Start Num: 38

Candidate Starts for LucySwiss\_2:

(Start: 24 @1098 has 3 MA's), (Start: 38 @1128 has 90 MA's), (52, 1239), (66, 1365), (67, 1374), (82, 1497),

Gene: Madamoto\_2 Start: 486, Stop: 893, Start Num: 37

Candidate Starts for Madamoto\_2:

(30, 468), (Start: 37 @486 has 79 MA's),

Gene: Madvan\_12 Start: 6018, Stop: 6428, Start Num: 37

Candidate Starts for Madvan\_12:

(9, 5892), (17, 5937), (19, 5949), (22, 5964), (Start: 26 @5979 has 1 MA's), (Start: 33 @6006 has 1 MA's), (Start: 37 @6018 has 79 MA's), (Start: 44 @6063 has 1 MA's), (66, 6258), (67, 6267), (75, 6321),

Gene: Magel\_8 Start: 3096, Stop: 3503, Start Num: 38

Candidate Starts for Magel\_8:

(3, 2916), (4, 2928), (17, 3012), (19, 3024), (20, 3030), (22, 3039), (Start: 26 @3054 has 1 MA's), (Start: 38 @3096 has 90 MA's), (45, 3156), (59, 3285), (66, 3333), (67, 3342), (75, 3396),

Gene: MajinBuu\_12 Start: 6222, Stop: 6632, Start Num: 37

Candidate Starts for MajinBuu\_12:

(3, 6045), (9, 6096), (12, 6117), (22, 6168), (Start: 26 @6183 has 1 MA's), (Start: 33 @6210 has 1 MA's), (Start: 37 @6222 has 79 MA's), (Start: 44 @6267 has 1 MA's), (66, 6462), (67, 6471), (69, 6489), (75, 6525),

Gene: Makai\_2 Start: 1049, Stop: 1456, Start Num: 38

Candidate Starts for Makai\_2:

(Start: 24 @1019 has 3 MA's), (31, 1040), (Start: 36 @1043 has 14 MA's), (Start: 38 @1049 has 90 MA's), (52, 1160), (54, 1208), (66, 1286), (67, 1295), (77, 1358),

Gene: Mardi\_3 Start: 1110, Stop: 1520, Start Num: 37

Candidate Starts for Mardi\_3:

(12, 1017), (17, 1041), (22, 1068), (Start: 24 @1077 has 3 MA's), (Start: 33 @1104 has 1 MA's), (Start: 37 @1110 has 79 MA's), (52, 1224), (62, 1320), (66, 1350), (67, 1359),

Gene: Marianna39\_7 Start: 2229, Stop: 2645, Start Num: 37

Candidate Starts for Marianna39\_7:

(5, 2088), (6, 2103), (8, 2115), (10, 2127), (17, 2163), (22, 2190), (Start: 37 @2229 has 79 MA's), (41, 2259), (45, 2292), (57, 2409), (66, 2475), (67, 2484),

Gene: Maya\_2 Start: 485, Stop: 892, Start Num: 37  
Candidate Starts for Maya\_2:  
(Start: 37 @485 has 79 MA's), (Start: 49 @563 has 12 MA's), (72, 767),

Gene: MediumFry\_3 Start: 1218, Stop: 1628, Start Num: 37  
Candidate Starts for MediumFry\_3:  
(Start: 37 @1218 has 79 MA's), (52, 1332), (58, 1404), (66, 1458), (67, 1467), (69, 1485), (82, 1590),

Gene: Meibysrarus\_2 Start: 563, Stop: 892, Start Num: 49  
Candidate Starts for Meibysrarus\_2:  
(Start: 37 @485 has 79 MA's), (Start: 49 @563 has 12 MA's),

Gene: Mema\_7 Start: 3476, Stop: 3916, Start Num: 36  
Candidate Starts for Mema\_7:  
(Start: 34 @3470 has 1 MA's), (Start: 36 @3476 has 14 MA's), (51, 3569), (52, 3593), (53, 3632), (67, 3728), (71, 3761),

Gene: Michelle\_3 Start: 1002, Stop: 1442, Start Num: 38  
Candidate Starts for Michelle\_3:  
(Start: 38 @1002 has 90 MA's), (65, 1236), (66, 1245), (67, 1254), (78, 1362), (83, 1380), (84, 1404),

Gene: Miek\_2 Start: 524, Stop: 937, Start Num: 35  
Candidate Starts for Miek\_2:  
(7, 401), (Start: 24 @491 has 3 MA's), (Start: 35 @524 has 6 MA's), (52, 641), (55, 692), (59, 719), (69, 794),

Gene: MiniBagel\_3 Start: 2361, Stop: 2768, Start Num: 38  
Candidate Starts for MiniBagel\_3:  
(Start: 24 @2331 has 3 MA's), (Start: 38 @2361 has 90 MA's), (52, 2472), (66, 2598), (67, 2607), (82, 2730),

Gene: Monse\_2 Start: 494, Stop: 901, Start Num: 37  
Candidate Starts for Monse\_2:  
(Start: 24 @449 has 3 MA's), (Start: 29 @464 has 1 MA's), (Start: 37 @494 has 79 MA's), (52, 605), (66, 731), (67, 740), (77, 803),

Gene: Mooshroom\_4 Start: 1076, Stop: 1483, Start Num: 38  
Candidate Starts for Mooshroom\_4:  
(Start: 38 @1076 has 90 MA's), (52, 1187), (53, 1226), (66, 1313), (67, 1322), (74, 1367), (77, 1385),

Gene: Moozy\_2 Start: 483, Stop: 890, Start Num: 37  
Candidate Starts for Moozy\_2:  
(20, 420), (Start: 24 @438 has 3 MA's), (Start: 29 @453 has 1 MA's), (Start: 37 @483 has 79 MA's), (43, 516), (48, 558), (52, 594), (66, 720), (67, 729),

Gene: Mossy\_9 Start: 4077, Stop: 4490, Start Num: 36  
Candidate Starts for Mossy\_9:  
(Start: 26 @4041 has 1 MA's), (Start: 29 @4050 has 1 MA's), (Start: 33 @4068 has 1 MA's), (Start: 36 @4077 has 14 MA's), (66, 4320), (67, 4329), (75, 4383),

Gene: MrAaronian\_3 Start: 1002, Stop: 1442, Start Num: 38  
Candidate Starts for MrAaronian\_3:  
(Start: 38 @1002 has 90 MA's), (65, 1236), (66, 1245), (67, 1254), (78, 1362), (83, 1380), (84, 1404),

Gene: Mudcat\_4 Start: 1075, Stop: 1482, Start Num: 38

Candidate Starts for Mudcat\_4:

(Start: 38 @1075 has 90 MA's), (53, 1225), (55, 1237), (57, 1252), (66, 1312), (67, 1321), (74, 1366),

Gene: Muglass\_2 Start: 791, Stop: 1207, Start Num: 33

Candidate Starts for Muglass\_2:

(11, 701), (16, 725), (22, 755), (Start: 24 @764 has 3 MA's), (Start: 33 @791 has 1 MA's), (Start: 37 @797 has 79 MA's), (66, 1037), (67, 1046), (78, 1154), (79, 1157), (83, 1172), (85, 1199),

Gene: Mysticmoon\_9 Start: 3780, Stop: 4193, Start Num: 36

Candidate Starts for Mysticmoon\_9:

(Start: 26 @3744 has 1 MA's), (Start: 33 @3771 has 1 MA's), (Start: 36 @3780 has 14 MA's), (45, 3846), (66, 4023), (67, 4032), (75, 4086),

Gene: Nadmeg\_12 Start: 6019, Stop: 6429, Start Num: 37

Candidate Starts for Nadmeg\_12:

(7, 5884), (9, 5893), (17, 5938), (19, 5950), (22, 5965), (Start: 26 @5980 has 1 MA's), (Start: 33 @6007 has 1 MA's), (Start: 34 @6010 has 1 MA's), (Start: 37 @6019 has 79 MA's), (Start: 44 @6064 has 1 MA's), (57, 6199), (66, 6259), (67, 6268), (75, 6322),

Gene: Namo\_2 Start: 563, Stop: 892, Start Num: 49

Candidate Starts for Namo\_2:

(Start: 37 @485 has 79 MA's), (Start: 49 @563 has 12 MA's),

Gene: NapoleonB\_4 Start: 1076, Stop: 1483, Start Num: 38

Candidate Starts for NapoleonB\_4:

(Start: 38 @1076 has 90 MA's), (52, 1187), (53, 1226), (57, 1253), (66, 1313), (67, 1322), (74, 1367),

Gene: Nason\_4 Start: 1466, Stop: 1873, Start Num: 38

Candidate Starts for Nason\_4:

(Start: 38 @1466 has 90 MA's), (57, 1643), (66, 1703), (67, 1712), (74, 1757), (77, 1775),

Gene: Natasha\_2 Start: 979, Stop: 1392, Start Num: 38

Candidate Starts for Natasha\_2:

(Start: 26 @949 has 1 MA's), (32, 967), (Start: 38 @979 has 90 MA's), (39, 1000), (58, 1162), (66, 1222), (67, 1231), (79, 1342), (80, 1345), (83, 1357),

Gene: Navi1117\_3 Start: 1200, Stop: 1610, Start Num: 37

Candidate Starts for Navi1117\_3:

(Start: 24 @1167 has 3 MA's), (Start: 33 @1194 has 1 MA's), (Start: 37 @1200 has 79 MA's), (52, 1314), (62, 1410), (66, 1440), (67, 1449),

Gene: Nightmare\_2 Start: 1128, Stop: 1535, Start Num: 38

Candidate Starts for Nightmare\_2:

(Start: 24 @1098 has 3 MA's), (Start: 38 @1128 has 90 MA's), (52, 1239), (66, 1365), (67, 1374), (82, 1497),

Gene: Niktson\_2 Start: 1121, Stop: 1528, Start Num: 38

Candidate Starts for Niktson\_2:

(Start: 24 @1091 has 3 MA's), (Start: 38 @1121 has 90 MA's), (52, 1232), (66, 1358), (67, 1367), (82, 1490),

Gene: Nithya\_12 Start: 6218, Stop: 6628, Start Num: 37

Candidate Starts for Nithya\_12:

(3, 6041), (9, 6092), (12, 6113), (17, 6137), (22, 6164), (Start: 26 @6179 has 1 MA's), (Start: 33 @6206 has 1 MA's), (Start: 37 @6218 has 79 MA's), (Start: 44 @6263 has 1 MA's), (60, 6416), (66, 6458), (67, 6467), (75, 6521),

Gene: Nivinsha\_2 Start: 984, Stop: 1391, Start Num: 38

Candidate Starts for Nivinsha\_2:

(Start: 24 @954 has 3 MA's), (Start: 38 @984 has 90 MA's), (52, 1095), (66, 1221), (67, 1230), (82, 1353),

Gene: NoPickles\_8 Start: 3096, Stop: 3503, Start Num: 38

Candidate Starts for NoPickles\_8:

(3, 2916), (4, 2928), (17, 3012), (19, 3024), (20, 3030), (22, 3039), (Start: 26 @3054 has 1 MA's), (Start: 38 @3096 has 90 MA's), (45, 3156), (59, 3285), (66, 3333), (67, 3342), (75, 3396),

Gene: Odesza\_8 Start: 3096, Stop: 3503, Start Num: 38

Candidate Starts for Odesza\_8:

(3, 2916), (4, 2928), (17, 3012), (19, 3024), (20, 3030), (Start: 26 @3054 has 1 MA's), (Start: 38 @3096 has 90 MA's), (45, 3156), (59, 3285), (66, 3333), (67, 3342), (75, 3396),

Gene: OhMyWard\_12 Start: 5989, Stop: 6429, Start Num: 29

Candidate Starts for OhMyWard\_12:

(3, 5842), (4, 5854), (7, 5884), (8, 5890), (Start: 26 @5980 has 1 MA's), (Start: 29 @5989 has 1 MA's), (Start: 33 @6007 has 1 MA's), (Start: 36 @6016 has 14 MA's), (66, 6259), (67, 6268), (75, 6322), (77, 6331),

Gene: OlgasClover\_12 Start: 6218, Stop: 6628, Start Num: 37

Candidate Starts for OlgasClover\_12:

(3, 6041), (9, 6092), (12, 6113), (22, 6164), (Start: 26 @6179 has 1 MA's), (Start: 33 @6206 has 1 MA's), (Start: 37 @6218 has 79 MA's), (Start: 44 @6263 has 1 MA's), (66, 6458), (67, 6467), (69, 6485), (75, 6521),

Gene: OlympicHelado\_2 Start: 563, Stop: 892, Start Num: 49

Candidate Starts for OlympicHelado\_2:

(Start: 37 @485 has 79 MA's), (Start: 49 @563 has 12 MA's),

Gene: Onestar\_2 Start: 1014, Stop: 1454, Start Num: 38

Candidate Starts for Onestar\_2:

(Start: 38 @1014 has 90 MA's), (63, 1242), (66, 1257), (67, 1266), (80, 1380), (83, 1392),

Gene: Paella\_7 Start: 2229, Stop: 2645, Start Num: 37

Candidate Starts for Paella\_7:

(5, 2088), (6, 2103), (8, 2115), (22, 2190), (Start: 24 @2199 has 3 MA's), (Start: 37 @2229 has 79 MA's), (41, 2259), (45, 2292), (57, 2409), (66, 2475), (67, 2484),

Gene: Pepy6\_009 Start: 8541, Stop: 8951, Start Num: 37

Candidate Starts for Pepy6\_009:

(5, 8391), (13, 8448), (17, 8466), (22, 8493), (Start: 37 @8541 has 79 MA's), (55, 8706), (66, 8781), (67, 8790), (75, 8844), (82, 8913),

Gene: Perkunas\_10 Start: 3907, Stop: 4314, Start Num: 38

Candidate Starts for Perkunas\_10:

(Start: 26 @3865 has 1 MA's), (Start: 38 @3907 has 90 MA's), (45, 3967), (59, 4096), (66, 4144), (67, 4153), (75, 4207),

Gene: PerroGrande22\_9 Start: 8741, Stop: 9151, Start Num: 37

Candidate Starts for PerroGrande22\_9:

(Start: 33 @8735 has 1 MA's), (Start: 37 @8741 has 79 MA's), (55, 8906), (66, 8981), (67, 8990), (75, 9044), (82, 9113),

Gene: PestoPenguin\_12 Start: 6017, Stop: 6427, Start Num: 37

Candidate Starts for PestoPenguin\_12:

(7, 5882), (9, 5891), (17, 5936), (19, 5948), (22, 5963), (Start: 26 @5978 has 1 MA's), (Start: 33 @6005 has 1 MA's), (Start: 37 @6017 has 79 MA's), (Start: 44 @6062 has 1 MA's), (66, 6257), (67, 6266), (75, 6320),

Gene: Petito\_9 Start: 3605, Stop: 4012, Start Num: 38

Candidate Starts for Petito\_9:

(3, 3425), (7, 3467), (17, 3521), (20, 3539), (22, 3548), (Start: 26 @3563 has 1 MA's), (Start: 38 @3605 has 90 MA's), (59, 3794), (66, 3842), (67, 3851), (75, 3905), (77, 3914),

Gene: Phaby\_2 Start: 968, Stop: 1375, Start Num: 38

Candidate Starts for Phaby\_2:

(31, 956), (Start: 35 @959 has 6 MA's), (Start: 36 @962 has 14 MA's), (Start: 38 @968 has 90 MA's), (50, 1052), (52, 1079), (66, 1205), (67, 1214), (77, 1277),

Gene: Phaila\_3 Start: 1074, Stop: 1484, Start Num: 37

Candidate Starts for Phaila\_3:

(17, 1005), (Start: 24 @1041 has 3 MA's), (Start: 33 @1068 has 1 MA's), (Start: 37 @1074 has 79 MA's), (52, 1188), (62, 1284), (66, 1314), (67, 1323),

Gene: Phepper\_12 Start: 6017, Stop: 6427, Start Num: 37

Candidate Starts for Phepper\_12:

(9, 5891), (17, 5936), (19, 5948), (22, 5963), (Start: 26 @5978 has 1 MA's), (Start: 33 @6005 has 1 MA's), (Start: 37 @6017 has 79 MA's), (66, 6257), (67, 6266), (75, 6320),

Gene: Pherobrine\_9 Start: 3776, Stop: 4189, Start Num: 36

Candidate Starts for Pherobrine\_9:

(7, 3644), (17, 3698), (19, 3710), (22, 3725), (Start: 26 @3740 has 1 MA's), (Start: 36 @3776 has 14 MA's), (45, 3842), (66, 4019), (67, 4028),

Gene: PherryCruz\_2 Start: 483, Stop: 890, Start Num: 37

Candidate Starts for PherryCruz\_2:

(20, 420), (Start: 24 @438 has 3 MA's), (Start: 29 @453 has 1 MA's), (Start: 37 @483 has 79 MA's), (43, 516), (48, 558), (52, 594), (66, 720), (67, 729),

Gene: Pippin15\_6 Start: 2510, Stop: 2932, Start Num: 35

Candidate Starts for Pippin15\_6:

(22, 2465), (Start: 35 @2510 has 6 MA's), (Start: 38 @2519 has 90 MA's), (56, 2687), (60, 2714), (66, 2756), (67, 2765), (77, 2828), (79, 2876),

Gene: Poco6\_011 Start: 11972, Stop: 12382, Start Num: 37

Candidate Starts for Poco6\_011:

(Start: 33 @11966 has 1 MA's), (Start: 37 @11972 has 79 MA's), (55, 12137), (66, 12212), (67, 12221), (75, 12275), (82, 12344),

Gene: PoeMe\_3 Start: 1108, Stop: 1518, Start Num: 37

Candidate Starts for PoeMe\_3:

(12, 1015), (17, 1039), (Start: 24 @1075 has 3 MA's), (Start: 33 @1102 has 1 MA's), (Start: 37 @1108 has 79 MA's), (52, 1222), (66, 1348), (67, 1357),

Gene: Popy\_2 Start: 485, Stop: 892, Start Num: 37

Candidate Starts for Popy\_2:

(13, 395), (Start: 37 @485 has 79 MA's), (Start: 49 @563 has 12 MA's),

Gene: Powelldog\_2 Start: 1038, Stop: 1451, Start Num: 38

Candidate Starts for Powelldog\_2:

(22, 993), (Start: 24 @1002 has 3 MA's), (Start: 38 @1038 has 90 MA's), (66, 1281), (67, 1290), (79, 1401), (83, 1416),

Gene: ProfFrink\_3 Start: 1002, Stop: 1442, Start Num: 38

Candidate Starts for ProfFrink\_3:

(Start: 38 @1002 has 90 MA's), (65, 1236), (66, 1245), (67, 1254), (78, 1362), (83, 1380), (84, 1404),

Gene: Qui\_7 Start: 2229, Stop: 2645, Start Num: 37

Candidate Starts for Qui\_7:

(5, 2088), (6, 2103), (8, 2115), (22, 2190), (Start: 24 @2199 has 3 MA's), (Start: 37 @2229 has 79 MA's), (41, 2259), (45, 2292), (57, 2409), (66, 2475), (67, 2484),

Gene: Rainydai\_2 Start: 524, Stop: 937, Start Num: 35

Candidate Starts for Rainydai\_2:

(7, 401), (Start: 24 @491 has 3 MA's), (Start: 35 @524 has 6 MA's), (52, 641), (55, 692), (59, 719), (69, 794),

Gene: Raunak\_3 Start: 1002, Stop: 1442, Start Num: 38

Candidate Starts for Raunak\_3:

(Start: 38 @1002 has 90 MA's), (65, 1236), (66, 1245), (67, 1254), (78, 1362), (83, 1380), (84, 1404),

Gene: RavenPuff\_2 Start: 483, Stop: 890, Start Num: 37

Candidate Starts for RavenPuff\_2:

(20, 420), (Start: 24 @438 has 3 MA's), (Start: 29 @453 has 1 MA's), (Start: 37 @483 has 79 MA's), (43, 516), (48, 558), (52, 594), (66, 720), (67, 729),

Gene: Regigigas\_2 Start: 524, Stop: 937, Start Num: 35

Candidate Starts for Regigigas\_2:

(7, 401), (Start: 24 @491 has 3 MA's), (Start: 35 @524 has 6 MA's), (52, 641), (55, 692), (59, 719), (69, 794),

Gene: Renaldo\_3 Start: 1095, Stop: 1511, Start Num: 33

Candidate Starts for Renaldo\_3:

(11, 1005), (16, 1029), (22, 1059), (Start: 24 @1068 has 3 MA's), (Start: 33 @1095 has 1 MA's), (Start: 37 @1101 has 79 MA's), (66, 1341), (67, 1350), (78, 1458), (79, 1461), (83, 1476), (85, 1503),

Gene: Rickmore\_11 Start: 4788, Stop: 5198, Start Num: 37

Candidate Starts for Rickmore\_11:

(3, 4611), (5, 4632), (7, 4653), (12, 4683), (17, 4707), (19, 4719), (22, 4734), (Start: 26 @4749 has 1 MA's), (32, 4773), (Start: 34 @4779 has 1 MA's), (Start: 37 @4788 has 79 MA's), (57, 4968), (66, 5028), (67, 5037), (73, 5076), (75, 5091),

Gene: Rima\_2 Start: 563, Stop: 892, Start Num: 49  
Candidate Starts for Rima\_2:  
(Start: 37 @485 has 79 MA's), (Start: 49 @563 has 12 MA's),

Gene: Roney\_8 Start: 3096, Stop: 3503, Start Num: 38  
Candidate Starts for Roney\_8:  
(3, 2916), (4, 2928), (17, 3012), (19, 3024), (20, 3030), (22, 3039), (Start: 26 @3054 has 1 MA's),  
(Start: 38 @3096 has 90 MA's), (45, 3156), (59, 3285), (66, 3333), (67, 3342), (75, 3396),

Gene: RosaAsantewaa\_2 Start: 443, Stop: 850, Start Num: 37  
Candidate Starts for RosaAsantewaa\_2:  
(19, 383), (Start: 37 @443 has 79 MA's), (59, 632), (67, 689), (75, 743),

Gene: Runhaar\_12 Start: 6019, Stop: 6429, Start Num: 37  
Candidate Starts for Runhaar\_12:  
(7, 5884), (9, 5893), (17, 5938), (19, 5950), (22, 5965), (Start: 26 @5980 has 1 MA's), (Start: 33 @6007  
has 1 MA's), (Start: 34 @6010 has 1 MA's), (Start: 37 @6019 has 79 MA's), (Start: 44 @6064 has 1  
MA's), (57, 6199), (66, 6259), (67, 6268), (75, 6322),

Gene: RustyBoy\_2 Start: 979, Stop: 1392, Start Num: 38  
Candidate Starts for RustyBoy\_2:  
(Start: 26 @949 has 1 MA's), (32, 967), (Start: 38 @979 has 90 MA's), (39, 1000), (58, 1162), (66,  
1222), (67, 1231), (79, 1342), (80, 1345), (83, 1357),

Gene: Salk\_3 Start: 1002, Stop: 1442, Start Num: 38  
Candidate Starts for Salk\_3:  
(Start: 38 @1002 has 90 MA's), (65, 1236), (66, 1245), (67, 1254), (78, 1362), (83, 1380), (84, 1404),

Gene: Scap1\_2 Start: 494, Stop: 901, Start Num: 37  
Candidate Starts for Scap1\_2:  
(20, 431), (Start: 24 @449 has 3 MA's), (Start: 29 @464 has 1 MA's), (Start: 37 @494 has 79 MA's),  
(52, 605), (66, 731), (67, 740),

Gene: ScienceWizSam\_3 Start: 939, Stop: 1346, Start Num: 38  
Candidate Starts for ScienceWizSam\_3:  
(Start: 24 @909 has 3 MA's), (Start: 38 @939 has 90 MA's), (52, 1050), (66, 1176), (67, 1185), (82,  
1308),

Gene: Secretariat\_8 Start: 3865, Stop: 4275, Start Num: 37  
Candidate Starts for Secretariat\_8:  
(5, 3709), (7, 3730), (17, 3784), (22, 3811), (Start: 26 @3826 has 1 MA's), (Start: 33 @3853 has 1  
MA's), (Start: 34 @3856 has 1 MA's), (Start: 37 @3865 has 79 MA's), (39, 3889), (45, 3928), (55,  
4030), (66, 4105), (67, 4114), (75, 4168), (83, 4240),

Gene: SendItCS\_2 Start: 524, Stop: 937, Start Num: 35  
Candidate Starts for SendItCS\_2:  
(7, 401), (Start: 24 @491 has 3 MA's), (Start: 35 @524 has 6 MA's), (52, 641), (55, 692), (59, 719), (69,  
794),

Gene: Serenabean\_7 Start: 2954, Stop: 3370, Start Num: 36  
Candidate Starts for Serenabean\_7:

(1, 2687), (2, 2702), (13, 2861), (18, 2882), (23, 2912), (Start: 36 @2954 has 14 MA's), (47, 3026), (56, 3128), (59, 3149), (61, 3164), (66, 3197), (67, 3206),

Gene: ShaggyRogers\_12 Start: 6016, Stop: 6426, Start Num: 37

Candidate Starts for ShaggyRogers\_12:

(7, 5881), (9, 5890), (17, 5935), (19, 5947), (22, 5962), (Start: 26 @5977 has 1 MA's), (Start: 33 @6004 has 1 MA's), (Start: 37 @6016 has 79 MA's), (Start: 44 @6061 has 1 MA's), (66, 6256), (67, 6265), (75, 6319),

Gene: SheRa\_2 Start: 483, Stop: 890, Start Num: 37

Candidate Starts for SheRa\_2:

(20, 420), (Start: 24 @438 has 3 MA's), (Start: 29 @453 has 1 MA's), (Start: 37 @483 has 79 MA's), (43, 516), (48, 558), (52, 594), (66, 720), (67, 729),

Gene: Shepard\_2 Start: 969, Stop: 1376, Start Num: 38

Candidate Starts for Shepard\_2:

(31, 957), (Start: 35 @960 has 6 MA's), (Start: 36 @963 has 14 MA's), (Start: 38 @969 has 90 MA's), (50, 1053), (52, 1080), (66, 1206), (67, 1215), (77, 1278),

Gene: Shiba\_3 Start: 1002, Stop: 1442, Start Num: 38

Candidate Starts for Shiba\_3:

(Start: 38 @1002 has 90 MA's), (65, 1236), (66, 1245), (67, 1254), (78, 1362), (83, 1380), (84, 1404),

Gene: Sloopypjoe\_3 Start: 1003, Stop: 1443, Start Num: 38

Candidate Starts for Sloopypjoe\_3:

(Start: 38 @1003 has 90 MA's), (65, 1237), (66, 1246), (67, 1255), (78, 1363), (83, 1381), (84, 1405),

Gene: Soshi\_2 Start: 485, Stop: 892, Start Num: 37

Candidate Starts for Soshi\_2:

(Start: 37 @485 has 79 MA's), (42, 515), (Start: 49 @563 has 12 MA's),

Gene: Spain\_3 Start: 1002, Stop: 1442, Start Num: 38

Candidate Starts for Spain\_3:

(Start: 38 @1002 has 90 MA's), (65, 1236), (66, 1245), (67, 1254), (78, 1362), (83, 1380), (84, 1404),

Gene: Spectropatronm\_2 Start: 563, Stop: 892, Start Num: 49

Candidate Starts for Spectropatronm\_2:

(Start: 37 @485 has 79 MA's), (Start: 49 @563 has 12 MA's),

Gene: Sporto\_2 Start: 927, Stop: 1370, Start Num: 26

Candidate Starts for Sporto\_2:

(Start: 26 @927 has 1 MA's), (Start: 38 @957 has 90 MA's), (Start: 49 @1035 has 12 MA's), (53, 1107), (58, 1140), (66, 1200), (67, 1209), (79, 1320), (80, 1323), (83, 1335),

Gene: Sprinkle\_2 Start: 984, Stop: 1397, Start Num: 38

Candidate Starts for Sprinkle\_2:

(Start: 26 @954 has 1 MA's), (Start: 38 @984 has 90 MA's), (66, 1227), (67, 1236), (70, 1263), (79, 1347), (80, 1350), (83, 1362),

Gene: StarLord\_3 Start: 1003, Stop: 1443, Start Num: 38

Candidate Starts for StarLord\_3:

(Start: 38 @1003 has 90 MA's), (65, 1237), (66, 1246), (67, 1255), (78, 1363), (83, 1381), (84, 1405),

Gene: Stardom\_3 Start: 1076, Stop: 1483, Start Num: 38

Candidate Starts for Stardom\_3:

(Start: 38 @1076 has 90 MA's), (53, 1226), (66, 1313), (67, 1322), (74, 1367), (77, 1385),

Gene: Stardrop\_3 Start: 1108, Stop: 1518, Start Num: 37

Candidate Starts for Stardrop\_3:

(12, 1015), (17, 1039), (Start: 24 @1075 has 3 MA's), (Start: 33 @1102 has 1 MA's), (Start: 37 @1108 has 79 MA's), (52, 1222), (62, 1318), (66, 1348), (67, 1357),

Gene: Stayer\_3 Start: 1002, Stop: 1442, Start Num: 38

Candidate Starts for Stayer\_3:

(Start: 38 @1002 has 90 MA's), (65, 1236), (66, 1245), (67, 1254), (78, 1362), (83, 1380), (84, 1404),

Gene: Sunny4976\_4 Start: 1560, Stop: 1994, Start Num: 38

Candidate Starts for Sunny4976\_4:

(28, 1536), (Start: 38 @1560 has 90 MA's), (57, 1737), (66, 1797), (67, 1806), (77, 1869), (79, 1917), (83, 1932),

Gene: Sweetclover\_8 Start: 2919, Stop: 3335, Start Num: 36

Candidate Starts for Sweetclover\_8:

(23, 2877), (Start: 34 @2913 has 1 MA's), (Start: 36 @2919 has 14 MA's), (40, 2949), (56, 3093), (61, 3129), (66, 3162), (67, 3171),

Gene: Synopsis\_2 Start: 1107, Stop: 1514, Start Num: 38

Candidate Starts for Synopsis\_2:

(Start: 24 @1077 has 3 MA's), (Start: 38 @1107 has 90 MA's), (52, 1218), (66, 1344), (67, 1353), (82, 1476),

Gene: TaidaOne\_2 Start: 563, Stop: 892, Start Num: 49

Candidate Starts for TaidaOne\_2:

(Start: 37 @485 has 79 MA's), (Start: 49 @563 has 12 MA's),

Gene: Talon44\_9 Start: 3583, Stop: 3990, Start Num: 38

Candidate Starts for Talon44\_9:

(Start: 26 @3541 has 1 MA's), (Start: 38 @3583 has 90 MA's), (45, 3643), (59, 3772), (66, 3820), (67, 3829), (75, 3883),

Gene: Tanis\_8 Start: 2946, Stop: 3353, Start Num: 38

Candidate Starts for Tanis\_8:

(3, 2766), (4, 2778), (17, 2862), (19, 2874), (20, 2880), (22, 2889), (Start: 26 @2904 has 1 MA's), (Start: 38 @2946 has 90 MA's), (45, 3006), (59, 3135), (66, 3183), (67, 3192), (75, 3246),

Gene: Tatanka\_2 Start: 1047, Stop: 1454, Start Num: 38

Candidate Starts for Tatanka\_2:

(Start: 24 @1017 has 3 MA's), (Start: 38 @1047 has 90 MA's), (52, 1158), (66, 1284), (67, 1293), (82, 1416),

Gene: Teacup\_3 Start: 1109, Stop: 1516, Start Num: 38

Candidate Starts for Teacup\_3:

(Start: 24 @1079 has 3 MA's), (Start: 38 @1109 has 90 MA's), (52, 1220), (66, 1346), (67, 1355), (82, 1478),

Gene: TenaciousP\_12 Start: 6221, Stop: 6631, Start Num: 37

Candidate Starts for TenaciousP\_12:

(3, 6044), (9, 6095), (12, 6116), (22, 6167), (Start: 26 @6182 has 1 MA's), (Start: 33 @6209 has 1 MA's), (Start: 36 @6218 has 14 MA's), (Start: 37 @6221 has 79 MA's), (Start: 44 @6266 has 1 MA's), (66, 6461), (67, 6470), (69, 6488), (75, 6524),

Gene: Tenney120\_3 Start: 1088, Stop: 1498, Start Num: 37

Candidate Starts for Tenney120\_3:

(11, 992), (12, 995), (17, 1019), (Start: 24 @1055 has 3 MA's), (Start: 33 @1082 has 1 MA's), (Start: 37 @1088 has 79 MA's), (52, 1202), (62, 1298), (66, 1328), (67, 1337),

Gene: Tenno\_3 Start: 2361, Stop: 2768, Start Num: 38

Candidate Starts for Tenno\_3:

(Start: 24 @2331 has 3 MA's), (Start: 38 @2361 has 90 MA's), (52, 2472), (66, 2598), (67, 2607), (82, 2730),

Gene: Thiqqums\_2 Start: 524, Stop: 937, Start Num: 35

Candidate Starts for Thiqqums\_2:

(7, 401), (Start: 24 @491 has 3 MA's), (Start: 35 @524 has 6 MA's), (52, 641), (55, 692), (59, 719), (69, 794),

Gene: TieDye\_2 Start: 485, Stop: 892, Start Num: 37

Candidate Starts for TieDye\_2:

(13, 395), (Start: 37 @485 has 79 MA's), (Start: 49 @563 has 12 MA's),

Gene: Tipton\_2 Start: 969, Stop: 1376, Start Num: 38

Candidate Starts for Tipton\_2:

(Start: 24 @936 has 3 MA's), (31, 957), (Start: 35 @960 has 6 MA's), (Start: 36 @963 has 14 MA's), (Start: 38 @969 has 90 MA's), (50, 1053), (52, 1080), (66, 1206), (67, 1215), (77, 1278),

Gene: Tokki\_2 Start: 969, Stop: 1376, Start Num: 38

Candidate Starts for Tokki\_2:

(Start: 24 @936 has 3 MA's), (31, 957), (Start: 35 @960 has 6 MA's), (Start: 36 @963 has 14 MA's), (Start: 38 @969 has 90 MA's), (50, 1053), (52, 1080), (66, 1206), (67, 1215), (77, 1278),

Gene: Tonaltzin\_13 Start: 6221, Stop: 6631, Start Num: 37

Candidate Starts for Tonaltzin\_13:

(3, 6044), (9, 6095), (12, 6116), (22, 6167), (Start: 26 @6182 has 1 MA's), (Start: 33 @6209 has 1 MA's), (Start: 37 @6221 has 79 MA's), (Start: 44 @6266 has 1 MA's), (66, 6461), (67, 6470), (69, 6488), (75, 6524),

Gene: TonyStarch\_2 Start: 485, Stop: 892, Start Num: 37

Candidate Starts for TonyStarch\_2:

(Start: 37 @485 has 79 MA's), (Start: 49 @563 has 12 MA's),

Gene: Tribby\_4 Start: 1076, Stop: 1483, Start Num: 38

Candidate Starts for Tribby\_4:

(Start: 38 @1076 has 90 MA's), (53, 1226), (66, 1313), (67, 1322), (74, 1367), (77, 1385),

Gene: TrixiePhattel\_3 Start: 1041, Stop: 1451, Start Num: 37

Candidate Starts for TrixiePhattel\_3:

(16, 963), (19, 978), (21, 990), (Start: 24 @1002 has 3 MA's), (32, 1032), (Start: 37 @1041 has 79 MA's), (66, 1281), (67, 1290), (78, 1398),

Gene: Truckee\_2 Start: 990, Stop: 1403, Start Num: 36

Candidate Starts for Truckee\_2:

(Start: 24 @966 has 3 MA's), (31, 987), (Start: 36 @990 has 14 MA's), (Start: 38 @996 has 90 MA's), (52, 1107), (54, 1155), (66, 1233), (67, 1242), (77, 1305),

Gene: Trufflozitus\_8 Start: 3380, Stop: 3787, Start Num: 38

Candidate Starts for Trufflozitus\_8:

(3, 3203), (4, 3215), (17, 3299), (19, 3311), (20, 3317), (Start: 26 @3341 has 1 MA's), (Start: 33 @3368 has 1 MA's), (Start: 34 @3371 has 1 MA's), (Start: 37 @3377 has 79 MA's), (Start: 38 @3380 has 90 MA's), (59, 3569), (66, 3617), (67, 3626), (75, 3680),

Gene: Trustiboi\_2 Start: 1128, Stop: 1535, Start Num: 38

Candidate Starts for Trustiboi\_2:

(Start: 24 @1098 has 3 MA's), (Start: 38 @1128 has 90 MA's), (52, 1239), (66, 1365), (67, 1374), (82, 1497),

Gene: Untouchable\_11 Start: 4944, Stop: 5354, Start Num: 37

Candidate Starts for Untouchable\_11:

(9, 4818), (17, 4863), (19, 4875), (22, 4890), (Start: 26 @4905 has 1 MA's), (Start: 33 @4932 has 1 MA's), (Start: 37 @4944 has 79 MA's), (45, 5007), (66, 5184), (67, 5193), (75, 5247),

Gene: Uzumaki\_3 Start: 1088, Stop: 1498, Start Num: 37

Candidate Starts for Uzumaki\_3:

(12, 995), (17, 1019), (22, 1046), (Start: 24 @1055 has 3 MA's), (Start: 33 @1082 has 1 MA's), (Start: 37 @1088 has 79 MA's), (52, 1202), (62, 1298), (66, 1328), (67, 1337),

Gene: Vardy\_12 Start: 6017, Stop: 6427, Start Num: 37

Candidate Starts for Vardy\_12:

(7, 5882), (9, 5891), (17, 5936), (19, 5948), (22, 5963), (Start: 26 @5978 has 1 MA's), (Start: 33 @6005 has 1 MA's), (Start: 34 @6008 has 1 MA's), (Start: 37 @6017 has 79 MA's), (Start: 44 @6062 has 1 MA's), (57, 6197), (66, 6257), (67, 6266), (75, 6320),

Gene: Westerlin\_3 Start: 2472, Stop: 2768, Start Num: 52

Candidate Starts for Westerlin\_3:

(Start: 24 @2331 has 3 MA's), (Start: 38 @2361 has 90 MA's), (52, 2472), (66, 2598), (67, 2607), (82, 2730),

Gene: Wigberry\_2 Start: 494, Stop: 901, Start Num: 37

Candidate Starts for Wigberry\_2:

(Start: 24 @458 has 3 MA's), (Start: 37 @494 has 79 MA's), (52, 605), (75, 794),

Gene: Xenomorph\_3 Start: 1076, Stop: 1483, Start Num: 38

Candidate Starts for Xenomorph\_3:

(Start: 38 @1076 has 90 MA's), (53, 1226), (66, 1313), (67, 1322), (74, 1367), (77, 1385),

Gene: YoshiYama\_3 Start: 1076, Stop: 1483, Start Num: 38

Candidate Starts for YoshiYama\_3:

(Start: 38 @1076 has 90 MA's), (53, 1226), (66, 1313), (67, 1322), (74, 1367), (77, 1385),

Gene: Yotsuba\_6 Start: 2497, Stop: 2919, Start Num: 37

Candidate Starts for Yotsuba\_6:

(Start: 24 @2455 has 3 MA's), (27, 2467), (Start: 35 @2491 has 6 MA's), (Start: 37 @2497 has 79 MA's), (56, 2668), (59, 2689), (60, 2695), (66, 2737), (67, 2746), (73, 2785), (77, 2809),

Gene: Zeina\_3 Start: 1098, Stop: 1508, Start Num: 37

Candidate Starts for Zeina\_3:

(17, 1029), (22, 1056), (Start: 24 @1065 has 3 MA's), (Start: 33 @1092 has 1 MA's), (Start: 37 @1098 has 79 MA's), (52, 1212), (62, 1308), (66, 1338), (67, 1347),

Gene: Zeph\_11 Start: 5203, Stop: 5613, Start Num: 37

Candidate Starts for Zeph\_11:

(17, 5122), (19, 5134), (22, 5149), (Start: 26 @5164 has 1 MA's), (Start: 33 @5191 has 1 MA's), (Start: 37 @5203 has 79 MA's), (Start: 44 @5248 has 1 MA's), (57, 5383), (66, 5443), (67, 5452), (75, 5506),

Gene: Zippen\_3 Start: 1228, Stop: 1635, Start Num: 38

Candidate Starts for Zippen\_3:

(Start: 24 @1198 has 3 MA's), (Start: 38 @1228 has 90 MA's), (52, 1339), (66, 1465), (67, 1474), (69, 1492),