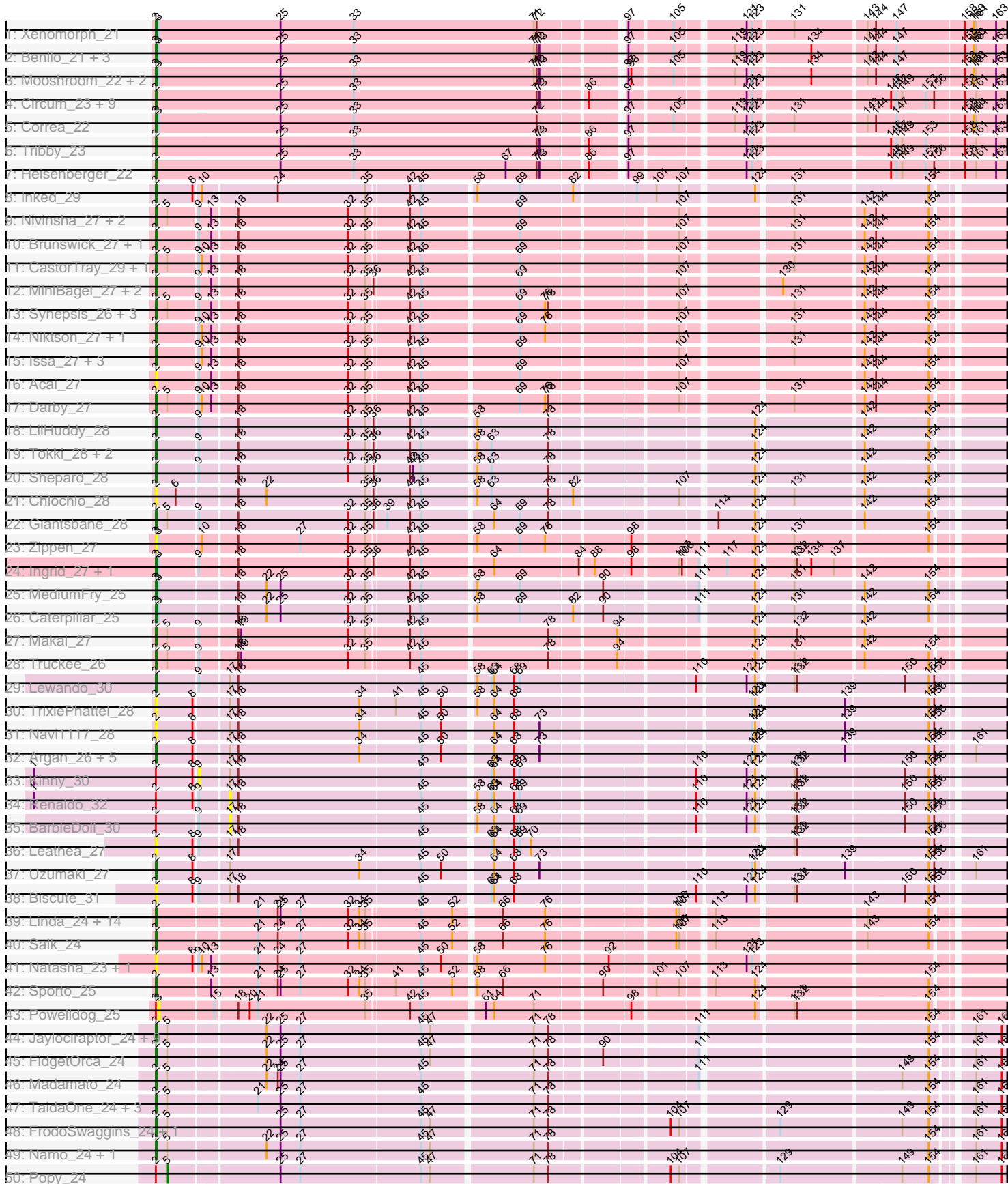
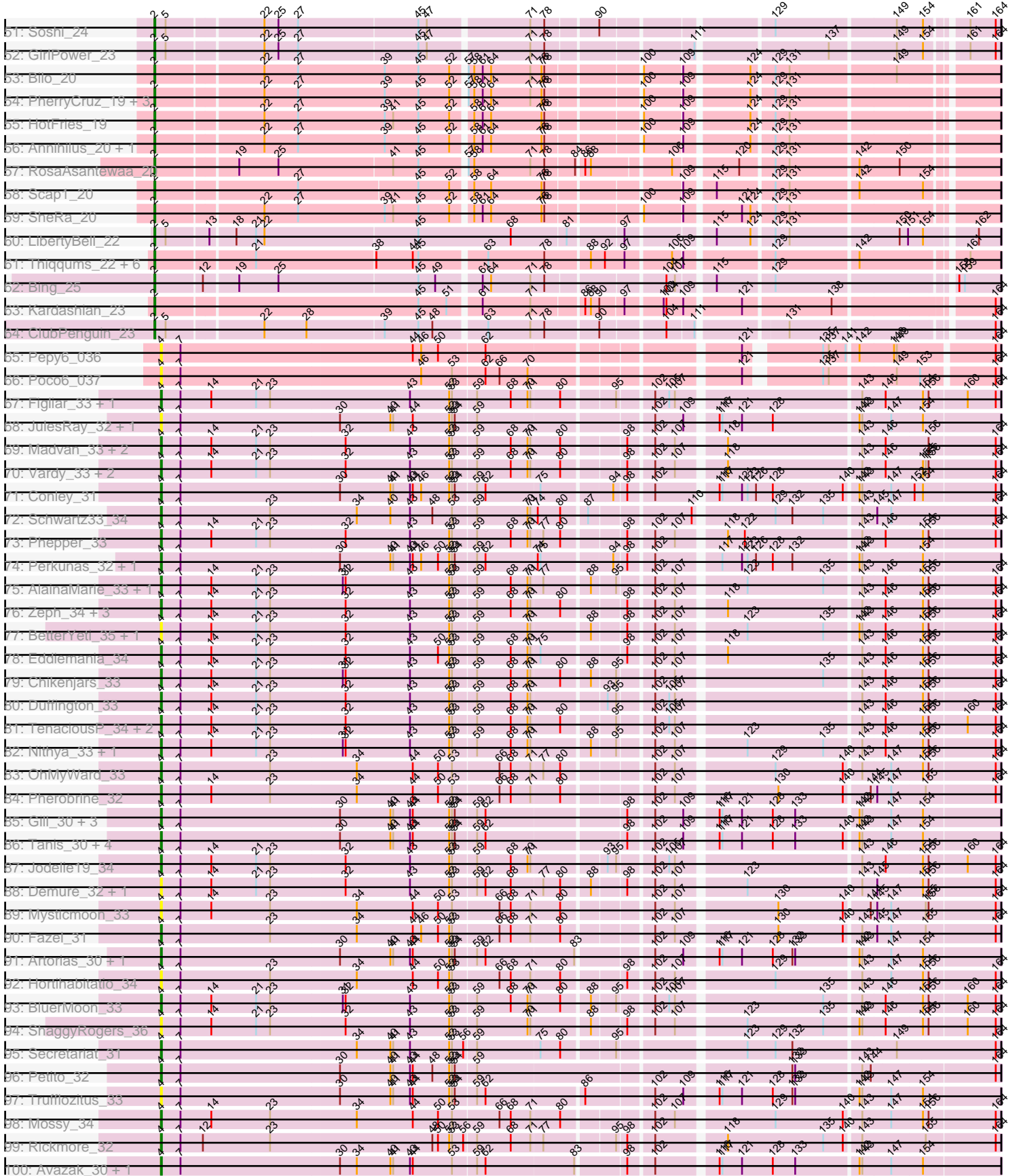


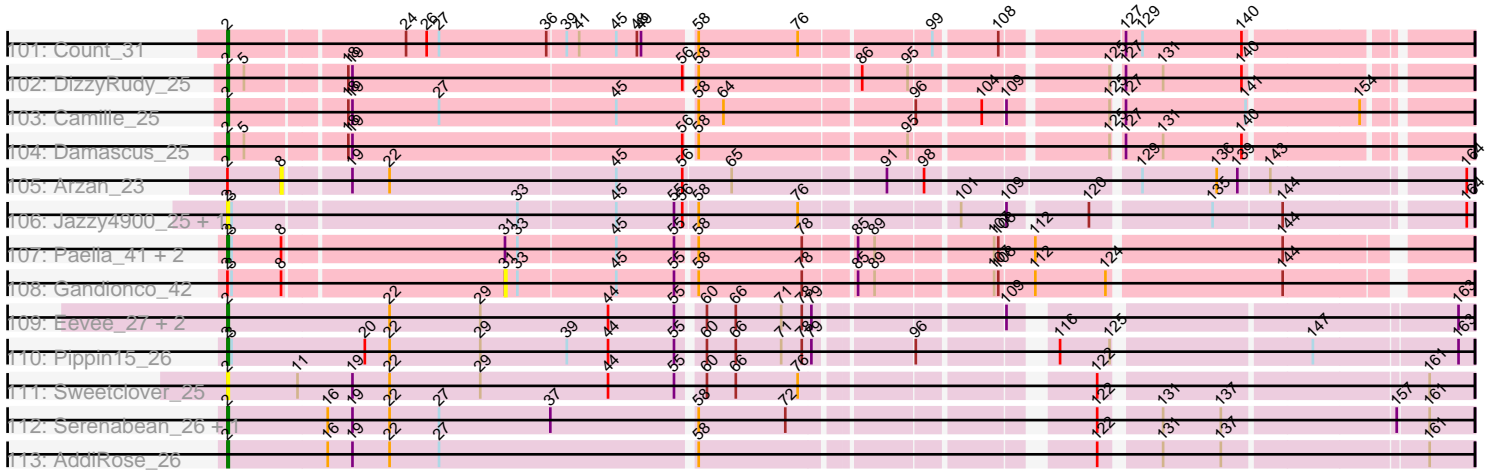
Pham 219403



Pham 219403



Pham 219403



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 219403 Report

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

Pham number 219403 has 218 members, 50 are drafts.

Phages represented in each track:

- Track 1 : Xenomorph\_21
- Track 2 : Benllo\_21, KeaneyLin\_21, GoCrazy\_21, Hankly\_21
- Track 3 : Mooshroom\_22, Kardesai\_21, Cheesy\_23
- Track 4 : Circum\_23, Elsa\_23, BenitoAntonio\_23, Bowling\_22, Arcadia\_23, Dynamite\_22, NapoleonB\_22, Nason\_23, JEGGS\_22, Mudcat\_22
- Track 5 : Correa\_22
- Track 6 : Tribby\_23
- Track 7 : Heisenberger\_22
- Track 8 : Inked\_29
- Track 9 : Nivinsha\_27, AreFloNak\_27, Breylor17\_28
- Track 10 : Brunswick\_27, Teacup\_27
- Track 11 : CastorTray\_29, Trustiboi\_28
- Track 12 : MiniBagel\_27, CapnMurica\_27, Tenno\_28
- Track 13 : Synopsis\_26, Gordon\_27, ScienceWizSam\_29, Tatanka\_27
- Track 14 : Niktson\_27, ElephantMan\_27
- Track 15 : Issa\_27, LucySwiss\_27, DevitoJr\_27, Nightmare\_28
- Track 16 : Acai\_27
- Track 17 : Darby\_27
- Track 18 : LilHuddy\_28
- Track 19 : Tokki\_28, Bouchard\_28, Phaby\_28
- Track 20 : Shepard\_28
- Track 21 : Chlochlo\_28
- Track 22 : Giantsbane\_28
- Track 23 : Zippen\_27
- Track 24 : Ingrid\_27, Loretta\_27
- Track 25 : MediumFry\_25
- Track 26 : Caterpillar\_25
- Track 27 : Makai\_27
- Track 28 : Truckee\_26
- Track 29 : Lewando\_30
- Track 30 : TrixiePhattel\_28
- Track 31 : Navi1117\_28
- Track 32 : Argan\_26, KevinMinion\_27, Phaila\_26, Tenney120\_28, Zeina\_27, GantcherGoblin\_26
- Track 33 : Kinny\_30
- Track 34 : Renaldo\_32
- Track 35 : BarbieDoll\_30

- Track 36 : Leathea\_27
- Track 37 : Uzumaki\_27
- Track 38 : Biscute\_31
- Track 39 : Linda\_24, Raunak\_24, ProfFrink\_24, Stayer\_24, StarLord\_24, DoctorPepper\_24, Egad\_24, Boog\_23, BronxBay\_24, Shiba\_24, MrAaronian\_24, HerbBucket\_23, Djungelskog\_24, Michelle\_24, Sloopyjoe\_24
- Track 40 : Salk\_24
- Track 41 : Natasha\_23, RustyBoy\_23
- Track 42 : Sporto\_25
- Track 43 : PowellDog\_25
- Track 44 : Jaylociraptor\_24, Meibysrarus\_24, Hoshi\_24, HazuAndZazu\_24, Indigenous\_24, CherryBlossom\_24, Esketit\_24, Spectropatronm\_24, IceWarrior\_24, Maya\_24
- Track 45 : FidgetOrca\_24
- Track 46 : Madamoto\_24
- Track 47 : TaidaOne\_24, TonyStarch\_24, TieDye\_23, OlympicHelado\_24
- Track 48 : FrodoSwaggins\_24, DrGrey\_24
- Track 49 : Namu\_24, Rima\_24
- Track 50 : Popy\_24
- Track 51 : Soshi\_24
- Track 52 : GirlPower\_23
- Track 53 : Bilo\_20
- Track 54 : PherryCruz\_19, GoblinVoyage\_20, Doxi13\_20, RavenPuff\_19
- Track 55 : HotFries\_19
- Track 56 : Annihilus\_20, Moozy\_20
- Track 57 : RosaAsantewaa\_20
- Track 58 : Scap1\_20
- Track 59 : SheRa\_20
- Track 60 : LibertyBell\_22
- Track 61 : Thiqqums\_22, SendItCS\_21, FromIndy\_23, CricKo\_22, Miek\_22, Regigigas\_23, Rainydai\_22
- Track 62 : Bing\_25
- Track 63 : Kardashian\_23
- Track 64 : ClubPenguin\_23
- Track 65 : Pepy6\_036
- Track 66 : Poco6\_037
- Track 67 : Figliar\_33, Aflac\_33
- Track 68 : JulesRay\_32, Dancer\_32
- Track 69 : Madvan\_33, Untouchable\_33, Nadmeg\_34
- Track 70 : Vardy\_33, Runhaar\_33, Burley\_33
- Track 71 : Conley\_31
- Track 72 : Schwartz33\_34
- Track 73 : Phepper\_33
- Track 74 : Perkunas\_32, Talon44\_32
- Track 75 : AlainaMarie\_33, EndAve\_33
- Track 76 : Zeph\_34, Hydrus\_34, Kenosha\_33, Crocheter\_33
- Track 77 : BetterYeti\_35, Gusicorn\_36
- Track 78 : Eddiemania\_34
- Track 79 : Chikenjars\_33
- Track 80 : Duffington\_33
- Track 81 : TenaciousP\_34, MajinBuu\_34, OlgasClover\_33
- Track 82 : Nithya\_33, Citrus\_32
- Track 83 : OhMyWard\_33

- Track 84 : Pherobrine\_32
- Track 85 : Gill\_30, Roney\_30, Capybara\_30, Odesza\_30
- Track 86 : Tanis\_30, Kerry\_30, NoPickles\_30, Gravy\_30, Magel\_31
- Track 87 : Jodelie19\_34
- Track 88 : Demure\_32, Arataki\_31
- Track 89 : Mysticmoon\_33
- Track 90 : Fazel\_31
- Track 91 : Artorias\_30, FortCran\_30
- Track 92 : Hortihabitatio\_34
- Track 93 : BluerMoon\_33
- Track 94 : ShaggyRogers\_36
- Track 95 : Secretariat\_31
- Track 96 : Petite\_32
- Track 97 : Trufflozitus\_33
- Track 98 : Mossy\_34
- Track 99 : Rickmore\_32
- Track 100 : Avazak\_30, Captrips\_30
- Track 101 : Count\_31
- Track 102 : DizzyRudy\_25
- Track 103 : Camille\_25
- Track 104 : Damascus\_25
- Track 105 : Arzan\_23
- Track 106 : Jazzy4900\_25, Sunny4976\_24
- Track 107 : Paella\_41, Qui\_41, Elver\_40
- Track 108 : Gandionco\_42
- Track 109 : Eevee\_27, Yotsuba\_27, JoyLin\_27
- Track 110 : Pippin15\_26
- Track 111 : Sweetclover\_25
- Track 112 : Serenabean\_26, Daddyjeff\_26
- Track 113 : AddiRose\_26

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

The start number called the most often in the published annotations is 2, it was called in 122 of the 168 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Acai\_27, AddiRose\_26, Annihilus\_20, Arcadia\_23, AreFloNak\_27, Argan\_26, BenitoAntonio\_23, Benllo\_21, Bilo\_20, Bing\_25, Biscute\_31, Boog\_23, Bouchard\_28, Bowling\_22, Breylor17\_28, BronxBay\_24, Brunswick\_27, Camille\_25, CapnMurica\_27, CastorTray\_29, Caterpillar\_25, Cheesy\_23, CherryBlossom\_24, Chlochlo\_28, Circum\_23, ClubPenguin\_23, Correa\_22, Count\_31, CricKo\_22, Daddyjeff\_26, Damascus\_25, Darby\_27, DevitoJr\_27, DizzyRudy\_25, Djungelskog\_24, DoctorPepper\_24, Doxi13\_20, DrGrey\_24, Dynamite\_22, Eevee\_27, Egad\_24, ElephantMan\_27, Elsa\_23, Elver\_40, Esketit\_24, FidgetOrca\_24, FrodoSwaggins\_24, FromIndy\_23, GantcherGoblin\_26, Giantsbane\_28, GirlPower\_23, GoCrazy\_21, GoblinVoyage\_20, Gordon\_27, Hankly\_21, HazuAndZazu\_24, Heisenberger\_22, HerbBucket\_23, Hoshi\_24, HotFries\_19, IceWarrior\_24, Indigenous\_24, Ingrid\_27, Inked\_29, Issa\_27, JEGGS\_22, Jaylociraptor\_24, Jazzy4900\_25, JoyLin\_27, Kardashian\_23,

Kardesai\_21, KeaneyLin\_21, KevinMinion\_27, Leathea\_27, Lewando\_30, LibertyBell\_22, LilHuddy\_28, Linda\_24, Loretta\_27, LucySwiss\_27, Madamoto\_24, Makai\_27, Maya\_24, MediumFry\_25, Meibysrarus\_24, Michelle\_24, Miek\_22, MiniBagel\_27, Mooshroom\_22, Moozy\_20, MrAaronian\_24, Mudcat\_22, Namu\_24, NapoleonB\_22, Nason\_23, Natasha\_23, Navi1117\_28, Nightmare\_28, Niktson\_27, Nivinsha\_27, OlympicHelado\_24, Paella\_41, Phaby\_28, Phaila\_26, PherryCruz\_19, Pippin15\_26, ProfFrink\_24, Qui\_41, Rainydai\_22, Raunak\_24, RavenPuff\_19, Regigigas\_23, Rima\_24, RosaAsantewaa\_20, RustyBoy\_23, Salk\_24, Scap1\_20, ScienceWizSam\_29, SendItCS\_21, Serenabean\_26, SheRa\_20, Shepard\_28, Shiba\_24, Sloopyjoe\_24, Soshi\_24, Spectropatronm\_24, Sporto\_25, StarLord\_24, Stayer\_24, Sunny4976\_24, Sweetclover\_25, Synopsis\_26, TaidaOne\_24, Tatanka\_27, Teacup\_27, Tenney120\_28, Tenno\_28, Thiqqums\_22, TieDye\_23, Tokki\_28, TonyStarch\_24, Tribby\_23, TrixiePhattel\_28, Truckee\_26, Trustiboi\_28, Uzumaki\_27, Xenomorph\_21, Yotsuba\_27, Zeina\_27, Zippen\_27,

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

- Arzan\_23, BarbieDoll\_30, Gandionco\_42, Kinny\_30, Popy\_24, PowellDog\_25, Renaldo\_32,

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

- Aflac\_33, AlainaMarie\_33, Arataki\_31, Artorias\_30, Avazak\_30, BetterYeti\_35, BluerMoon\_33, Burley\_33, Captrips\_30, Copybara\_30, Chikenjars\_33, Citrus\_32, Conley\_31, Crocheter\_33, Dancer\_32, Demure\_32, Duffington\_33, Eddiemania\_34, EndAve\_33, Fazel\_31, Figliar\_33, FortCran\_30, Gill\_30, Gravy\_30, Gusicorn\_36, Hortihabitatio\_34, Hydrus\_34, Jodelie19\_34, JulesRay\_32, Kenosha\_33, Kerry\_30, Madvan\_33, Magel\_31, MajinBuu\_34, Mossy\_34, Mysticmoon\_33, Nadmeg\_34, Nithya\_33, NoPickles\_30, Odesza\_30, OhMyWard\_33, OlgasClover\_33, Pepy6\_036, Perkunas\_32, Petite\_32, Phepper\_33, Pherobrine\_32, Poco6\_037, Rickmore\_32, Roney\_30, Runhaar\_33, Schwartz33\_34, Secretariat\_31, ShaggyRogers\_36, Talon44\_32, Tanis\_30, TenaciousP\_34, Trufflozitus\_33, Untouchable\_33, Vardy\_33, Zeph\_34,

### Summary by start number:

Start 2:

- Found in 157 of 218 ( 72.0% ) of genes in pham
- Manual Annotations of this start: 122 of 168
- Called 95.5% of time when present
- Phage (with cluster) where this start called: Acai\_27 (AU1), AddiRose\_26 (JA), Annihilus\_20 (BI2), Arcadia\_23 (AM), AreFloNak\_27 (AU1), Argan\_26 (AU6), BenitoAntonio\_23 (AM), Benllo\_21 (AM), Bilo\_20 (BI2), Bing\_25 (BI5), Biscute\_31 (AU6), Boog\_23 (AW), Bouchard\_28 (AU2), Bowling\_22 (AM), Breylor17\_28 (AU1), BronxBay\_24 (AW), Brunswick\_27 (AU1), Camille\_25 (EL), CapnMurica\_27 (AU1), CastorTray\_29 (AU1), Caterpillar\_25 (AU4), Cheesy\_23 (AM), CherryBlossom\_24 (BI1), Chlochlo\_28 (AU2), Circum\_23 (AM), ClubPenguin\_23 (BI7), Correa\_22 (AM), Count\_31 (EL), CricKo\_22 (BI4), Daddyjeff\_26 (JA), Damascus\_25 (EL), Darby\_27 (AU1), DevitoJr\_27 (AU1), DizzyRudy\_25 (EL), Djungelskog\_24 (AW), DoctorPepper\_24 (AW), Doxi13\_20 (BI2), DrGrey\_24 (BI1), Dynamite\_22 (AM), Eevee\_27 (JA), Egad\_24 (AW), ElephantMan\_27 (AU1), Elsa\_23 (AM), Elver\_40 (FK), Esketit\_24 (BI1), FidgetOrca\_24 (BI1), FrodoSwaggins\_24 (BI1), FromIndy\_23 (BI4), GantcherGoblin\_26 (AU6), Giantsbane\_28 (AU2), GirlPower\_23 (BI1), GoCrazy\_21 (AM), GoblinVoyage\_20 (BI2), Gordon\_27 (AU1), Hankly\_21 (AM), HazuAndZazu\_24 (BI1), Heisenberger\_22 (AM), HerbBucket\_23 (AW), Hoshi\_24

(BI1), HotFries\_19 (BI2), IceWarrior\_24 (BI1), Indigenous\_24 (BI1), Ingrid\_27 (AU3), Inked\_29 (AU), Issa\_27 (AU1), JEGGS\_22 (AM), Jaylociraptor\_24 (BI1), Jazzy4900\_25 (FI), JoyLin\_27 (JA), Kardashian\_23 (BI6), Kardesai\_21 (AM), KeaneyLin\_21 (AM), KevinMinion\_27 (AU6), Leathea\_27 (AU6), Lewando\_30 (AU6), LibertyBell\_22 (BI3), LilHuddy\_28 (AU2), Linda\_24 (AW), Loretta\_27 (AU3), LucySwiss\_27 (AU1), Madamoto\_24 (BI1), Makai\_27 (AU5), Maya\_24 (BI1), MediumFry\_25 (AU4), Meibysrarus\_24 (BI1), Michelle\_24 (AW), Miek\_22 (BI4), MiniBagel\_27 (AU1), Mooshroom\_22 (AM), Moozy\_20 (BI2), MrAaronian\_24 (AW), Mudcat\_22 (AM), Namu\_24 (BI1), NapoleonB\_22 (AM), Nason\_23 (AM), Natasha\_23 (AW), Navi1117\_28 (AU6), Nightmare\_28 (AU1), Niktson\_27 (AU1), Nivinsha\_27 (AU1), OlympicHelado\_24 (BI1), Paella\_41 (FK), Phaby\_28 (AU2), Phaila\_26 (AU6), PherryCruz\_19 (BI2), Pippin15\_26 (JA), ProfFrink\_24 (AW), Qui\_41 (FK), Rainydai\_22 (BI4), Raunak\_24 (AW), RavenPuff\_19 (BI2), Regigigas\_23 (BI4), Rima\_24 (BI1), RosaAsantewaa\_20 (BI2), RustyBoy\_23 (AW), Salk\_24 (AW), Scap1\_20 (BI2), ScienceWizSam\_29 (AU1), SendItCS\_21 (BI4), Serenabean\_26 (JA), SheRa\_20 (BI2), Shepard\_28 (AU2), Shiba\_24 (AW), Sloopyjoe\_24 (AW), Soshi\_24 (BI1), Spectropatronm\_24 (BI1), Sporto\_25 (AW), StarLord\_24 (AW), Stayer\_24 (AW), Sunny4976\_24 (FI), Sweetclover\_25 (JA), Synopsis\_26 (AU1), TaidaOne\_24 (BI1), Tatanka\_27 (AU1), Teacup\_27 (AU1), Tenney120\_28 (AU6), Tenno\_28 (AU1), Thiqqums\_22 (BI4), TieDye\_23 (BI1), Tokki\_28 (AU2), TonyStarch\_24 (BI1), Tribby\_23 (AM), TrixiePhattel\_28 (AU6), Truckee\_26 (AU5), Trustiboi\_28 (AU1), Uzumaki\_27 (AU6), Xenomorph\_21 (AM), Yotsuba\_27 (JA), Zeina\_27 (AU6), Zippen\_27 (AU3),

#### Start 3:

- Found in 22 of 218 ( 10.1% ) of genes in pham
- No Manual Annotations of this start.
- Called 4.5% of time when present
- Phage (with cluster) where this start called: PowellDog\_25 (AW),

#### Start 4:

- Found in 61 of 218 ( 28.0% ) of genes in pham
- Manual Annotations of this start: 45 of 168
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aflac\_33 (DJ), AlainaMarie\_33 (DJ), Arataki\_31 (DJ), Artorias\_30 (DJ), Avazak\_30 (DJ), BetterYeti\_35 (DJ), BluerMoon\_33 (DJ), Burley\_33 (DJ), Captrips\_30 (DJ), Capybara\_30 (DJ), Chickenjars\_33 (DJ), Citrus\_32 (DJ), Conley\_31 (DJ), Crocheter\_33 (DJ), Dancer\_32 (DJ), Demure\_32 (DJ), Duffington\_33 (DJ), Eddiemania\_34 (DJ), EndAve\_33 (DJ), Fazel\_31 (DJ), Figliar\_33 (DJ), FortCran\_30 (DJ), Gill\_30 (DJ), Gravy\_30 (DJ), Gusicorn\_36 (DJ), Hortihabitatio\_34 (DJ), Hydrus\_34 (DJ), Jodelie19\_34 (DJ), JulesRay\_32 (DJ), Kenosha\_33 (DJ), Kerry\_30 (DJ), Madvan\_33 (DJ), Magel\_31 (DJ), MajinBuu\_34 (DJ), Mossy\_34 (DJ), Mysticmoon\_33 (DJ), Nadmeg\_34 (DJ), Nithya\_33 (DJ), NoPickles\_30 (DJ), Odesza\_30 (DJ), OhMyWard\_33 (DJ), OlgasClover\_33 (DJ), Pepy6\_036 (CC), Perkunas\_32 (DJ), Petite\_32 (DJ), Phepper\_33 (DJ), Pherobrine\_32 (DJ), Poco6\_037 (CC), Rickmore\_32 (DJ), Roney\_30 (DJ), Runhaar\_33 (DJ), Schwartz33\_34 (DJ), Secretariat\_31 (DJ), ShaggyRogers\_36 (DJ), Talon44\_32 (DJ), Tanis\_30 (DJ), TenaciousP\_34 (DJ), Trufflozitus\_33 (DJ), Untouchable\_33 (DJ), Vardy\_33 (DJ), Zeph\_34 (DJ),

#### Start 5:

- Found in 40 of 218 ( 18.3% ) of genes in pham
- Manual Annotations of this start: 1 of 168



- Called 2.5% of time when present
- Phage (with cluster) where this start called: Popy\_24 (BI1),

Start 8:

- Found in 21 of 218 ( 9.6% ) of genes in pham
- No Manual Annotations of this start.
- Called 4.8% of time when present
- Phage (with cluster) where this start called: Arzan\_23 (FI),

Start 9:

- Found in 40 of 218 ( 18.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 2.5% of time when present
- Phage (with cluster) where this start called: Kinny\_30 (AU6),

Start 17:

- Found in 15 of 218 ( 6.9% ) of genes in pham
- No Manual Annotations of this start.
- Called 13.3% of time when present
- Phage (with cluster) where this start called: BarbieDoll\_30 (AU6), Renaldo\_32 (AU6),

Start 31:

- Found in 10 of 218 ( 4.6% ) of genes in pham
- No Manual Annotations of this start.
- Called 10.0% of time when present
- Phage (with cluster) where this start called: Gandionco\_42 (FK),

### **Summary by clusters:**

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

Info for manual annotations of cluster AM:

- Start number 2 was manually annotated 19 times for cluster AM.

Info for manual annotations of cluster AU:

- Start number 2 was manually annotated 1 time for cluster AU.

Info for manual annotations of cluster AU1:

- Start number 2 was manually annotated 17 times for cluster AU1.

Info for manual annotations of cluster AU2:

- Start number 2 was manually annotated 5 times for cluster AU2.

Info for manual annotations of cluster AU3:

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

Info for manual annotations of cluster AU4:

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

Info for manual annotations of cluster AU5:

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

Info for manual annotations of cluster AU6:

- Start number 2 was manually annotated 5 times for cluster AU6.

Info for manual annotations of cluster AW:

- Start number 2 was manually annotated 14 times for cluster AW.

Info for manual annotations of cluster BI1:

- Start number 2 was manually annotated 22 times for cluster BI1.
- Start number 5 was manually annotated 1 time for cluster BI1.

Info for manual annotations of cluster BI2:

- Start number 2 was manually annotated 11 times for cluster BI2.

Info for manual annotations of cluster BI3:

- Start number 2 was manually annotated 1 time for cluster BI3.

Info for manual annotations of cluster BI4:

- Start number 2 was manually annotated 5 times for cluster BI4.

Info for manual annotations of cluster BI5:

- Start number 2 was manually annotated 1 time for cluster BI5.

Info for manual annotations of cluster BI6:

- Start number 2 was manually annotated 1 time for cluster BI6.

Info for manual annotations of cluster BI7:

- Start number 2 was manually annotated 1 time for cluster BI7.

Info for manual annotations of cluster DJ:

- Start number 4 was manually annotated 45 times for cluster DJ.

Info for manual annotations of cluster EL:

- Start number 2 was manually annotated 4 times for cluster EL.

Info for manual annotations of cluster FK:

- Start number 2 was manually annotated 2 times for cluster FK.

Info for manual annotations of cluster JA:

- Start number 2 was manually annotated 7 times for cluster JA.

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

Gene: Acai\_27 Start: 24692, Stop: 25510, Start Num: 2

Candidate Starts for Acai\_27:

(Start: 2 @24692 has 122 MA's), (9, 24734), (13, 24746), (18, 24770), (32, 24887), (35, 24905), (42, 24947), (45, 24959), (69, 25055), (107, 25208), (142, 25379), (144, 25391), (154, 25445),

Gene: AddiRose\_26 Start: 23143, Stop: 23970, Start Num: 2

Candidate Starts for AddiRose\_26:

(Start: 2 @23143 has 122 MA's), (16, 23215), (19, 23233), (22, 23260), (27, 23296), (58, 23476), (122, 23722), (131, 23758), (137, 23800), (161, 23938),

Gene: Aflac\_33 Start: 28623, Stop: 29474, Start Num: 4

Candidate Starts for Aflac\_33:

(Start: 4 @28623 has 45 MA's), (7, 28644), (14, 28677), (21, 28725), (23, 28740), (43, 28887), (52, 28929), (53, 28932), (59, 28956), (68, 28992), (70, 29010), (71, 29013), (80, 29043), (95, 29094), (102, 29127), (105, 29142), (107, 29148), (143, 29331), (146, 29355), (154, 29394), (156, 29400), (160, 29439), (164, 29469),

Gene: AlainaMarie\_33 Start: 28607, Stop: 29458, Start Num: 4

Candidate Starts for AlainaMarie\_33:

(Start: 4 @28607 has 45 MA's), (7, 28628), (14, 28661), (21, 28709), (23, 28724), (31, 28799), (32, 28802), (43, 28871), (52, 28913), (53, 28916), (59, 28940), (68, 28976), (70, 28994), (71, 28997), (77, 29009), (88, 29054), (95, 29078), (102, 29111), (107, 29132), (123, 29198), (135, 29279), (143, 29315), (146, 29339), (154, 29378), (156, 29384), (164, 29453),

Gene: Annihilus\_20 Start: 18728, Stop: 19555, Start Num: 2

Candidate Starts for Annihilus\_20:

(Start: 2 @18728 has 122 MA's), (22, 18836), (27, 18872), (39, 18965), (45, 19001), (52, 19034), (58, 19052), (61, 19061), (64, 19070), (76, 19124), (78, 19127), (100, 19217), (109, 19256), (124, 19319), (129, 19340), (131, 19355),

Gene: Arataki\_31 Start: 27716, Stop: 28567, Start Num: 4

Candidate Starts for Arataki\_31:

(Start: 4 @27716 has 45 MA's), (7, 27737), (14, 27770), (21, 27818), (23, 27833), (32, 27911), (43, 27980), (52, 28022), (53, 28025), (59, 28049), (62, 28058), (68, 28085), (77, 28118), (80, 28136), (88, 28163), (98, 28196), (102, 28220), (107, 28241), (123, 28307), (143, 28424), (145, 28439), (154, 28487), (156, 28493), (164, 28562),

Gene: Arcadia\_23 Start: 22148, Stop: 22999, Start Num: 2

Candidate Starts for Arcadia\_23:

(Start: 2 @22148 has 122 MA's), (25, 22280), (33, 22358), (72, 22553), (73, 22556), (86, 22601), (97, 22631), (121, 22739), (123, 22745), (146, 22880), (147, 22886), (149, 22892), (153, 22916), (156, 22925), (158, 22955), (161, 22967), (163, 22988),

Gene: AreFloNak\_27 Start: 24653, Stop: 25471, Start Num: 2

Candidate Starts for AreFloNak\_27:

(Start: 2 @24653 has 122 MA's), (Start: 5 @24665 has 1 MA's), (9, 24695), (13, 24707), (18, 24731), (32, 24848), (35, 24866), (42, 24908), (45, 24920), (69, 25016), (107, 25169), (131, 25271), (142, 25340), (144, 25352), (154, 25406),

Gene: Argan\_26 Start: 23584, Stop: 24420, Start Num: 2

Candidate Starts for Argan\_26:

(Start: 2 @23584 has 122 MA's), (8, 23623), (17, 23653), (18, 23662), (34, 23791), (45, 23854), (50, 23875), (64, 23923), (68, 23944), (73, 23971), (123, 24175), (124, 24178), (139, 24265), (154, 24349), (156, 24355), (161, 24388),

Gene: Artorias\_30 Start: 25604, Stop: 26458, Start Num: 4

Candidate Starts for Artorias\_30:

(Start: 4 @25604 has 45 MA's), (7, 25625), (30, 25793), (40, 25847), (41, 25850), (43, 25868), (44, 25871), (52, 25910), (53, 25913), (54, 25916), (59, 25937), (62, 25946), (83, 26039), (102, 26111),

(109, 26141), (116, 26168), (117, 26171), (121, 26192), (128, 26225), (132, 26246), (133, 26249), (142, 26312), (143, 26315), (147, 26345), (154, 26378),

Gene: Arzan\_23 Start: 22341, Stop: 23144, Start Num: 8

Candidate Starts for Arzan\_23:

(Start: 2 @22302 has 122 MA's), (8, 22341), (19, 22383), (22, 22410), (45, 22572), (56, 22620), (65, 22653), (91, 22758), (98, 22782), (129, 22920), (136, 22974), (139, 22989), (143, 23010), (164, 23139),

Gene: Avazak\_30 Start: 25611, Stop: 26465, Start Num: 4

Candidate Starts for Avazak\_30:

(Start: 4 @25611 has 45 MA's), (7, 25632), (30, 25800), (34, 25818), (40, 25854), (41, 25857), (43, 25875), (44, 25878), (53, 25920), (59, 25944), (62, 25953), (83, 26046), (98, 26094), (102, 26118), (116, 26175), (117, 26178), (121, 26199), (128, 26232), (133, 26256), (142, 26319), (143, 26322), (147, 26352), (154, 26385),

Gene: BarbieDoll\_30 Start: 25632, Stop: 26396, Start Num: 17

Candidate Starts for BarbieDoll\_30:

(Start: 2 @25563 has 122 MA's), (9, 25605), (17, 25632), (18, 25641), (45, 25833), (58, 25884), (64, 25902), (68, 25923), (69, 25929), (110, 26097), (121, 26145), (124, 26154), (131, 26187), (132, 26190), (150, 26301), (154, 26325), (156, 26331),

Gene: BenitoAntonio\_23 Start: 21764, Stop: 22615, Start Num: 2

Candidate Starts for BenitoAntonio\_23:

(Start: 2 @21764 has 122 MA's), (25, 21896), (33, 21974), (72, 22169), (73, 22172), (86, 22217), (97, 22247), (121, 22355), (123, 22361), (146, 22496), (147, 22502), (149, 22508), (153, 22532), (156, 22541), (158, 22571), (161, 22583), (163, 22604),

Gene: Benllo\_21 Start: 22048, Stop: 22899, Start Num: 2

Candidate Starts for Benllo\_21:

(Start: 2 @22048 has 122 MA's), (3, 22051), (25, 22180), (33, 22258), (71, 22450), (72, 22453), (73, 22456), (97, 22531), (105, 22573), (119, 22627), (121, 22639), (123, 22645), (134, 22702), (143, 22756), (144, 22765), (147, 22786), (158, 22855), (160, 22864), (161, 22867), (163, 22888),

Gene: BetterYeti\_35 Start: 28397, Stop: 29248, Start Num: 4

Candidate Starts for BetterYeti\_35:

(Start: 4 @28397 has 45 MA's), (7, 28418), (14, 28451), (21, 28499), (23, 28514), (32, 28592), (43, 28661), (52, 28703), (53, 28706), (59, 28730), (70, 28784), (71, 28787), (88, 28844), (98, 28877), (102, 28901), (107, 28922), (123, 28988), (135, 29069), (142, 29102), (143, 29105), (146, 29129), (154, 29168), (156, 29174), (164, 29243),

Gene: Bilo\_20 Start: 19219, Stop: 20046, Start Num: 2

Candidate Starts for Bilo\_20:

(Start: 2 @19219 has 122 MA's), (22, 19327), (27, 19363), (39, 19456), (45, 19492), (52, 19525), (57, 19537), (58, 19543), (61, 19552), (64, 19561), (71, 19603), (76, 19615), (78, 19618), (100, 19708), (109, 19747), (124, 19810), (129, 19831), (131, 19846), (149, 19954),

Gene: Bing\_25 Start: 21496, Stop: 22320, Start Num: 2

Candidate Starts for Bing\_25:

(Start: 2 @21496 has 122 MA's), (12, 21544), (19, 21577), (25, 21619), (45, 21766), (49, 21784), (61, 21826), (64, 21835), (71, 21877), (78, 21892), (104, 22006), (107, 22015), (115, 22048), (129, 22105), (158, 22276), (159, 22282),

Gene: Biscute\_31 Start: 25209, Stop: 26042, Start Num: 2

Candidate Starts for Biscute\_31:

(Start: 2 @25209 has 122 MA's), (8, 25248), (9, 25251), (17, 25278), (18, 25287), (45, 25479), (63, 25545), (64, 25548), (68, 25569), (110, 25743), (121, 25791), (124, 25800), (131, 25833), (132, 25836), (150, 25947), (154, 25971), (156, 25977),

Gene: BluerMoon\_33 Start: 28620, Stop: 29471, Start Num: 4

Candidate Starts for BluerMoon\_33:

(Start: 4 @28620 has 45 MA's), (7, 28641), (14, 28674), (21, 28722), (23, 28737), (31, 28812), (32, 28815), (43, 28884), (52, 28926), (53, 28929), (59, 28953), (68, 28989), (70, 29007), (71, 29010), (80, 29040), (88, 29067), (95, 29091), (102, 29124), (105, 29139), (107, 29145), (135, 29292), (143, 29328), (146, 29352), (154, 29391), (156, 29397), (160, 29436), (164, 29466),

Gene: Boog\_23 Start: 21791, Stop: 22609, Start Num: 2

Candidate Starts for Boog\_23:

(Start: 2 @21791 has 122 MA's), (21, 21890), (24, 21911), (25, 21914), (27, 21935), (32, 21986), (34, 21998), (35, 22004), (45, 22058), (52, 22091), (66, 22136), (76, 22181), (106, 22304), (107, 22307), (113, 22334), (143, 22481), (154, 22544),

Gene: Bouchard\_28 Start: 24829, Stop: 25647, Start Num: 2

Candidate Starts for Bouchard\_28:

(Start: 2 @24829 has 122 MA's), (9, 24871), (18, 24907), (32, 25024), (35, 25042), (36, 25048), (42, 25084), (45, 25096), (58, 25147), (63, 25162), (78, 25222), (124, 25414), (142, 25516), (154, 25582),

Gene: Bowling\_22 Start: 21862, Stop: 22713, Start Num: 2

Candidate Starts for Bowling\_22:

(Start: 2 @21862 has 122 MA's), (25, 21994), (33, 22072), (72, 22267), (73, 22270), (86, 22315), (97, 22345), (121, 22453), (123, 22459), (146, 22594), (147, 22600), (149, 22606), (153, 22630), (156, 22639), (158, 22669), (161, 22681), (163, 22702),

Gene: Breylor17\_28 Start: 25259, Stop: 26077, Start Num: 2

Candidate Starts for Breylor17\_28:

(Start: 2 @25259 has 122 MA's), (Start: 5 @25271 has 1 MA's), (9, 25301), (13, 25313), (18, 25337), (32, 25454), (35, 25472), (42, 25514), (45, 25526), (69, 25622), (107, 25775), (131, 25877), (142, 25946), (144, 25958), (154, 26012),

Gene: BronxBay\_24 Start: 21790, Stop: 22608, Start Num: 2

Candidate Starts for BronxBay\_24:

(Start: 2 @21790 has 122 MA's), (21, 21889), (24, 21910), (25, 21913), (27, 21934), (32, 21985), (34, 21997), (35, 22003), (45, 22057), (52, 22090), (66, 22135), (76, 22180), (106, 22303), (107, 22306), (113, 22333), (143, 22480), (154, 22543),

Gene: Brunswick\_27 Start: 24725, Stop: 25543, Start Num: 2

Candidate Starts for Brunswick\_27:

(Start: 2 @24725 has 122 MA's), (9, 24767), (13, 24779), (18, 24803), (32, 24920), (35, 24938), (42, 24980), (45, 24992), (69, 25088), (107, 25241), (131, 25343), (142, 25412), (144, 25424), (154, 25478),

Gene: Burley\_33 Start: 28358, Stop: 29209, Start Num: 4

Candidate Starts for Burley\_33:

(Start: 4 @28358 has 45 MA's), (7, 28379), (14, 28412), (21, 28460), (23, 28475), (32, 28553), (43, 28622), (52, 28664), (53, 28667), (59, 28691), (68, 28727), (70, 28745), (71, 28748), (80, 28778), (98, 28838), (102, 28862), (107, 28883), (118, 28928), (143, 29066), (146, 29090), (154, 29129), (155,

29132), (156, 29135), (164, 29204),

Gene: Camille\_25 Start: 20447, Stop: 21268, Start Num: 2

Candidate Starts for Camille\_25:

(Start: 2 @20447 has 122 MA's), (18, 20525), (19, 20528), (27, 20591), (45, 20717), (58, 20768), (64, 20786), (96, 20915), (104, 20957), (109, 20972), (125, 21038), (127, 21041), (141, 21128), (154, 21203),

Gene: CapnMurica\_27 Start: 25814, Stop: 26632, Start Num: 2

Candidate Starts for CapnMurica\_27:

(Start: 2 @25814 has 122 MA's), (9, 25856), (13, 25868), (18, 25892), (32, 26009), (35, 26027), (36, 26033), (42, 26069), (45, 26081), (69, 26177), (107, 26330), (130, 26420), (142, 26501), (144, 26513), (154, 26567),

Gene: Captrips\_30 Start: 25640, Stop: 26494, Start Num: 4

Candidate Starts for Captrips\_30:

(Start: 4 @25640 has 45 MA's), (7, 25661), (30, 25829), (34, 25847), (40, 25883), (41, 25886), (43, 25904), (44, 25907), (53, 25949), (59, 25973), (62, 25982), (83, 26075), (98, 26123), (102, 26147), (116, 26204), (117, 26207), (121, 26228), (128, 26261), (133, 26285), (142, 26348), (143, 26351), (147, 26381), (154, 26414),

Gene: Capybara\_30 Start: 25715, Stop: 26569, Start Num: 4

Candidate Starts for Capybara\_30:

(Start: 4 @25715 has 45 MA's), (7, 25736), (30, 25904), (40, 25958), (41, 25961), (43, 25979), (44, 25982), (52, 26021), (53, 26024), (54, 26027), (59, 26048), (62, 26057), (98, 26198), (102, 26222), (109, 26252), (116, 26279), (117, 26282), (121, 26303), (128, 26336), (133, 26360), (142, 26423), (143, 26426), (147, 26456), (154, 26489),

Gene: CastorTray\_29 Start: 25117, Stop: 25935, Start Num: 2

Candidate Starts for CastorTray\_29:

(Start: 2 @25117 has 122 MA's), (Start: 5 @25129 has 1 MA's), (9, 25159), (10, 25162), (13, 25171), (18, 25195), (32, 25312), (35, 25330), (42, 25372), (45, 25384), (69, 25480), (107, 25633), (131, 25735), (142, 25804), (144, 25816), (154, 25870),

Gene: Caterpillar\_25 Start: 23897, Stop: 24715, Start Num: 2

Candidate Starts for Caterpillar\_25:

(Start: 2 @23897 has 122 MA's), (3, 23900), (18, 23975), (22, 24005), (25, 24020), (32, 24092), (35, 24110), (42, 24152), (45, 24164), (58, 24215), (69, 24260), (82, 24314), (90, 24341), (111, 24431), (124, 24482), (131, 24515), (142, 24584), (154, 24650),

Gene: Cheesy\_23 Start: 21863, Stop: 22714, Start Num: 2

Candidate Starts for Cheesy\_23:

(Start: 2 @21863 has 122 MA's), (3, 21866), (25, 21995), (33, 22073), (71, 22265), (72, 22268), (73, 22271), (97, 22346), (98, 22349), (105, 22388), (119, 22442), (121, 22454), (123, 22460), (134, 22517), (143, 22571), (144, 22580), (147, 22601), (158, 22670), (160, 22679), (161, 22682), (163, 22703),

Gene: CherryBlossom\_24 Start: 21638, Stop: 22462, Start Num: 2

Candidate Starts for CherryBlossom\_24:

(Start: 2 @21638 has 122 MA's), (Start: 5 @21650 has 1 MA's), (22, 21746), (25, 21761), (27, 21782), (45, 21908), (47, 21917), (71, 22019), (78, 22034), (111, 22175), (154, 22397), (161, 22430), (164, 22457),

Gene: Chikenjars\_33 Start: 28610, Stop: 29461, Start Num: 4

Candidate Starts for Chikenjars\_33:

(Start: 4 @28610 has 45 MA's), (7, 28631), (14, 28664), (21, 28712), (23, 28727), (31, 28802), (32, 28805), (43, 28874), (52, 28916), (53, 28919), (59, 28943), (68, 28979), (70, 28997), (71, 29000), (80, 29030), (88, 29057), (95, 29081), (102, 29114), (107, 29135), (135, 29282), (143, 29318), (146, 29342), (154, 29381), (156, 29387), (164, 29456),

Gene: Chlochlo\_28 Start: 24868, Stop: 25686, Start Num: 2

Candidate Starts for Chlochlo\_28:

(Start: 2 @24868 has 122 MA's), (6, 24889), (18, 24946), (22, 24976), (35, 25081), (36, 25087), (42, 25123), (45, 25135), (58, 25186), (63, 25201), (78, 25261), (82, 25285), (107, 25384), (124, 25453), (131, 25486), (142, 25555), (154, 25621),

Gene: Circum\_23 Start: 21870, Stop: 22721, Start Num: 2

Candidate Starts for Circum\_23:

(Start: 2 @21870 has 122 MA's), (25, 22002), (33, 22080), (72, 22275), (73, 22278), (86, 22323), (97, 22353), (121, 22461), (123, 22467), (146, 22602), (147, 22608), (149, 22614), (153, 22638), (156, 22647), (158, 22677), (161, 22689), (163, 22710),

Gene: Citrus\_32 Start: 28614, Stop: 29465, Start Num: 4

Candidate Starts for Citrus\_32:

(Start: 4 @28614 has 45 MA's), (7, 28635), (14, 28668), (21, 28716), (23, 28731), (31, 28806), (32, 28809), (43, 28878), (52, 28920), (53, 28923), (59, 28947), (68, 28983), (70, 29001), (71, 29004), (88, 29061), (95, 29085), (102, 29118), (107, 29139), (123, 29205), (135, 29286), (143, 29322), (146, 29346), (154, 29385), (156, 29391), (164, 29460),

Gene: ClubPenguin\_23 Start: 21222, Stop: 22046, Start Num: 2

Candidate Starts for ClubPenguin\_23:

(Start: 2 @21222 has 122 MA's), (Start: 5 @21234 has 1 MA's), (22, 21330), (28, 21375), (39, 21456), (45, 21492), (48, 21507), (63, 21558), (71, 21603), (78, 21618), (90, 21672), (104, 21735), (111, 21762), (131, 21846), (164, 22041),

Gene: Conley\_31 Start: 26684, Stop: 27535, Start Num: 4

Candidate Starts for Conley\_31:

(Start: 4 @26684 has 45 MA's), (7, 26705), (30, 26873), (40, 26927), (41, 26930), (43, 26948), (44, 26951), (46, 26960), (52, 26990), (53, 26993), (54, 26996), (59, 27017), (62, 27026), (75, 27083), (94, 27152), (98, 27164), (102, 27188), (116, 27245), (117, 27248), (121, 27269), (123, 27275), (126, 27284), (128, 27302), (140, 27377), (142, 27389), (143, 27392), (147, 27422), (152, 27446), (154, 27455), (164, 27530),

Gene: Correa\_22 Start: 21378, Stop: 22229, Start Num: 2

Candidate Starts for Correa\_22:

(Start: 2 @21378 has 122 MA's), (3, 21381), (25, 21510), (33, 21588), (72, 21783), (97, 21861), (105, 21903), (119, 21957), (121, 21969), (123, 21975), (131, 22014), (143, 22086), (144, 22095), (147, 22116), (158, 22185), (160, 22194), (161, 22197), (163, 22218),

Gene: Count\_31 Start: 27657, Stop: 28484, Start Num: 2

Candidate Starts for Count\_31:

(Start: 2 @27657 has 122 MA's), (24, 27777), (26, 27792), (27, 27801), (36, 27879), (39, 27891), (41, 27900), (45, 27927), (48, 27942), (49, 27945), (58, 27978), (76, 28050), (99, 28137), (108, 28179), (127, 28257), (129, 28269), (140, 28341),

Gene: CricKo\_22 Start: 20533, Stop: 21363, Start Num: 2

Candidate Starts for CricKo\_22:

(Start: 2 @20533 has 122 MA's), (21, 20632), (38, 20758), (44, 20797), (45, 20803), (63, 20869), (78, 20929), (88, 20974), (92, 20989), (97, 21010), (106, 21055), (109, 21064), (129, 21148), (142, 21232), (161, 21331),

Gene: Crocheter\_33 Start: 28750, Stop: 29601, Start Num: 4

Candidate Starts for Crocheter\_33:

(Start: 4 @28750 has 45 MA's), (7, 28771), (14, 28804), (21, 28852), (23, 28867), (32, 28945), (43, 29014), (52, 29056), (53, 29059), (59, 29083), (68, 29119), (70, 29137), (71, 29140), (80, 29170), (98, 29230), (102, 29254), (107, 29275), (118, 29320), (143, 29458), (146, 29482), (154, 29521), (156, 29527), (164, 29596),

Gene: Daddyjeff\_26 Start: 23115, Stop: 23942, Start Num: 2

Candidate Starts for Daddyjeff\_26:

(Start: 2 @23115 has 122 MA's), (16, 23187), (19, 23205), (22, 23232), (27, 23268), (37, 23349), (58, 23448), (72, 23511), (122, 23694), (131, 23730), (137, 23772), (157, 23889), (161, 23910),

Gene: Damascus\_25 Start: 21129, Stop: 21950, Start Num: 2

Candidate Starts for Damascus\_25:

(Start: 2 @21129 has 122 MA's), (Start: 5 @21141 has 1 MA's), (18, 21207), (19, 21210), (56, 21447), (58, 21450), (95, 21594), (125, 21720), (127, 21723), (131, 21750), (140, 21807),

Gene: Dancer\_32 Start: 25340, Stop: 26194, Start Num: 4

Candidate Starts for Dancer\_32:

(Start: 4 @25340 has 45 MA's), (7, 25361), (30, 25529), (40, 25583), (41, 25586), (44, 25607), (52, 25646), (53, 25649), (54, 25652), (59, 25673), (102, 25847), (109, 25877), (116, 25904), (117, 25907), (121, 25928), (128, 25961), (142, 26048), (143, 26051), (147, 26081), (154, 26114),

Gene: Darby\_27 Start: 24563, Stop: 25381, Start Num: 2

Candidate Starts for Darby\_27:

(Start: 2 @24563 has 122 MA's), (Start: 5 @24575 has 1 MA's), (9, 24605), (10, 24608), (13, 24617), (18, 24641), (32, 24758), (35, 24776), (42, 24818), (45, 24830), (69, 24926), (76, 24953), (78, 24956), (107, 25079), (131, 25181), (142, 25250), (144, 25262), (154, 25316),

Gene: Demure\_32 Start: 27716, Stop: 28567, Start Num: 4

Candidate Starts for Demure\_32:

(Start: 4 @27716 has 45 MA's), (7, 27737), (14, 27770), (21, 27818), (23, 27833), (32, 27911), (43, 27980), (52, 28022), (53, 28025), (59, 28049), (62, 28058), (68, 28085), (77, 28118), (80, 28136), (88, 28163), (98, 28196), (102, 28220), (107, 28241), (123, 28307), (143, 28424), (145, 28439), (154, 28487), (156, 28493), (164, 28562),

Gene: DevitoJr\_27 Start: 24734, Stop: 25552, Start Num: 2

Candidate Starts for DevitoJr\_27:

(Start: 2 @24734 has 122 MA's), (9, 24776), (10, 24779), (13, 24788), (18, 24812), (32, 24929), (35, 24947), (42, 24989), (45, 25001), (69, 25097), (107, 25250), (131, 25352), (142, 25421), (144, 25433), (154, 25487),

Gene: DizzyRudy\_25 Start: 21058, Stop: 21879, Start Num: 2

Candidate Starts for DizzyRudy\_25:

(Start: 2 @21058 has 122 MA's), (Start: 5 @21070 has 1 MA's), (18, 21136), (19, 21139), (56, 21376), (58, 21379), (86, 21490), (95, 21523), (125, 21649), (127, 21652), (131, 21679), (140, 21736),

Gene: Djungelskog\_24 Start: 21790, Stop: 22608, Start Num: 2



Candidate Starts for Djungelskog\_24:

(Start: 2 @21790 has 122 MA's), (21, 21889), (24, 21910), (25, 21913), (27, 21934), (32, 21985), (34, 21997), (35, 22003), (45, 22057), (52, 22090), (66, 22135), (76, 22180), (106, 22303), (107, 22306), (113, 22333), (143, 22480), (154, 22543),

Gene: DoctorPepper\_24 Start: 21790, Stop: 22608, Start Num: 2

Candidate Starts for DoctorPepper\_24:

(Start: 2 @21790 has 122 MA's), (21, 21889), (24, 21910), (25, 21913), (27, 21934), (32, 21985), (34, 21997), (35, 22003), (45, 22057), (52, 22090), (66, 22135), (76, 22180), (106, 22303), (107, 22306), (113, 22333), (143, 22480), (154, 22543),

Gene: Doxi13\_20 Start: 18700, Stop: 19527, Start Num: 2

Candidate Starts for Doxi13\_20:

(Start: 2 @18700 has 122 MA's), (22, 18808), (27, 18844), (39, 18937), (45, 18973), (52, 19006), (57, 19018), (58, 19024), (61, 19033), (64, 19042), (71, 19084), (76, 19096), (78, 19099), (100, 19189), (109, 19228), (124, 19291), (129, 19312), (131, 19327),

Gene: DrGrey\_24 Start: 22131, Stop: 22958, Start Num: 2

Candidate Starts for DrGrey\_24:

(Start: 2 @22131 has 122 MA's), (Start: 5 @22143 has 1 MA's), (25, 22254), (27, 22275), (45, 22401), (47, 22410), (71, 22512), (78, 22527), (104, 22644), (107, 22653), (129, 22743), (149, 22866), (154, 22893), (161, 22926), (164, 22953),

Gene: Duffington\_33 Start: 28598, Stop: 29449, Start Num: 4

Candidate Starts for Duffington\_33:

(Start: 4 @28598 has 45 MA's), (7, 28619), (14, 28652), (21, 28700), (23, 28715), (32, 28793), (43, 28862), (52, 28904), (53, 28907), (59, 28931), (68, 28967), (70, 28985), (71, 28988), (93, 29060), (95, 29069), (102, 29102), (105, 29117), (107, 29123), (143, 29306), (146, 29330), (154, 29369), (156, 29375), (164, 29444),

Gene: Dynamite\_22 Start: 21671, Stop: 22522, Start Num: 2

Candidate Starts for Dynamite\_22:

(Start: 2 @21671 has 122 MA's), (25, 21803), (33, 21881), (72, 22076), (73, 22079), (86, 22124), (97, 22154), (121, 22262), (123, 22268), (146, 22403), (147, 22409), (149, 22415), (153, 22439), (156, 22448), (158, 22478), (161, 22490), (163, 22511),

Gene: Eddiemania\_34 Start: 29259, Stop: 30110, Start Num: 4

Candidate Starts for Eddiemania\_34:

(Start: 4 @29259 has 45 MA's), (7, 29280), (14, 29313), (21, 29361), (23, 29376), (32, 29454), (43, 29523), (50, 29553), (52, 29565), (53, 29568), (59, 29592), (68, 29628), (70, 29646), (71, 29649), (75, 29658), (98, 29739), (102, 29763), (107, 29784), (118, 29829), (143, 29967), (146, 29991), (154, 30030), (156, 30036), (164, 30105),

Gene: Eevee\_27 Start: 25155, Stop: 25982, Start Num: 2

Candidate Starts for Eevee\_27:

(Start: 2 @25155 has 122 MA's), (22, 25272), (29, 25338), (44, 25431), (55, 25479), (60, 25494), (66, 25515), (71, 25548), (78, 25563), (79, 25569), (109, 25686), (163, 25971),

Gene: Egad\_24 Start: 21791, Stop: 22609, Start Num: 2

Candidate Starts for Egad\_24:

(Start: 2 @21791 has 122 MA's), (21, 21890), (24, 21911), (25, 21914), (27, 21935), (32, 21986), (34, 21998), (35, 22004), (45, 22058), (52, 22091), (66, 22136), (76, 22181), (106, 22304), (107, 22307), (113, 22334), (143, 22481), (154, 22544),

Gene: ElephantMan\_27 Start: 25265, Stop: 26083, Start Num: 2

Candidate Starts for ElephantMan\_27:

(Start: 2 @25265 has 122 MA's), (9, 25307), (10, 25310), (13, 25319), (18, 25343), (32, 25460), (35, 25478), (42, 25520), (45, 25532), (69, 25628), (76, 25655), (107, 25781), (131, 25883), (142, 25952), (144, 25964), (154, 26018),

Gene: Elsa\_23 Start: 22148, Stop: 22999, Start Num: 2

Candidate Starts for Elsa\_23:

(Start: 2 @22148 has 122 MA's), (25, 22280), (33, 22358), (72, 22553), (73, 22556), (86, 22601), (97, 22631), (121, 22739), (123, 22745), (146, 22880), (147, 22886), (149, 22892), (153, 22916), (156, 22925), (158, 22955), (161, 22967), (163, 22988),

Gene: Elver\_40 Start: 33769, Stop: 34608, Start Num: 2

Candidate Starts for Elver\_40:

(Start: 2 @33769 has 122 MA's), (3, 33772), (8, 33808), (31, 33961), (33, 33970), (45, 34039), (55, 34081), (58, 34093), (78, 34168), (85, 34201), (89, 34213), (107, 34291), (108, 34294), (112, 34318), (144, 34489),

Gene: EndAve\_33 Start: 28610, Stop: 29461, Start Num: 4

Candidate Starts for EndAve\_33:

(Start: 4 @28610 has 45 MA's), (7, 28631), (14, 28664), (21, 28712), (23, 28727), (31, 28802), (32, 28805), (43, 28874), (52, 28916), (53, 28919), (59, 28943), (68, 28979), (70, 28997), (71, 29000), (77, 29012), (88, 29057), (95, 29081), (102, 29114), (107, 29135), (123, 29201), (135, 29282), (143, 29318), (146, 29342), (154, 29381), (156, 29387), (164, 29456),

Gene: Esketit\_24 Start: 21621, Stop: 22445, Start Num: 2

Candidate Starts for Esketit\_24:

(Start: 2 @21621 has 122 MA's), (Start: 5 @21633 has 1 MA's), (22, 21729), (25, 21744), (27, 21765), (45, 21891), (47, 21900), (71, 22002), (78, 22017), (111, 22158), (154, 22380), (161, 22413), (164, 22440),

Gene: Fazel\_31 Start: 27635, Stop: 28486, Start Num: 4

Candidate Starts for Fazel\_31:

(Start: 4 @27635 has 45 MA's), (7, 27656), (23, 27752), (34, 27842), (44, 27902), (46, 27911), (50, 27929), (52, 27941), (53, 27944), (66, 27992), (68, 28004), (71, 28025), (80, 28055), (102, 28139), (107, 28160), (130, 28259), (140, 28328), (143, 28343), (145, 28358), (147, 28373), (155, 28409), (164, 28481),

Gene: FidgetOrca\_24 Start: 21627, Stop: 22451, Start Num: 2

Candidate Starts for FidgetOrca\_24:

(Start: 2 @21627 has 122 MA's), (Start: 5 @21639 has 1 MA's), (22, 21735), (25, 21750), (27, 21771), (45, 21897), (47, 21906), (71, 22008), (78, 22023), (90, 22074), (111, 22164), (154, 22386), (161, 22419), (164, 22446),

Gene: Figliar\_33 Start: 28608, Stop: 29459, Start Num: 4

Candidate Starts for Figliar\_33:

(Start: 4 @28608 has 45 MA's), (7, 28629), (14, 28662), (21, 28710), (23, 28725), (43, 28872), (52, 28914), (53, 28917), (59, 28941), (68, 28977), (70, 28995), (71, 28998), (80, 29028), (95, 29079), (102, 29112), (105, 29127), (107, 29133), (143, 29316), (146, 29340), (154, 29379), (156, 29385), (160, 29424), (164, 29454),

Gene: FortCran\_30 Start: 25604, Stop: 26458, Start Num: 4

Candidate Starts for FortCran\_30:

(Start: 4 @25604 has 45 MA's), (7, 25625), (30, 25793), (40, 25847), (41, 25850), (43, 25868), (44, 25871), (52, 25910), (53, 25913), (54, 25916), (59, 25937), (62, 25946), (83, 26039), (102, 26111), (109, 26141), (116, 26168), (117, 26171), (121, 26192), (128, 26225), (132, 26246), (133, 26249), (142, 26312), (143, 26315), (147, 26345), (154, 26378),

Gene: FrodoSwaggins\_24 Start: 22131, Stop: 22958, Start Num: 2

Candidate Starts for FrodoSwaggins\_24:

(Start: 2 @22131 has 122 MA's), (Start: 5 @22143 has 1 MA's), (25, 22254), (27, 22275), (45, 22401), (47, 22410), (71, 22512), (78, 22527), (104, 22644), (107, 22653), (129, 22743), (149, 22866), (154, 22893), (161, 22926), (164, 22953),

Gene: FromIndy\_23 Start: 20521, Stop: 21351, Start Num: 2

Candidate Starts for FromIndy\_23:

(Start: 2 @20521 has 122 MA's), (21, 20620), (38, 20746), (44, 20785), (45, 20791), (63, 20857), (78, 20917), (88, 20962), (92, 20977), (97, 20998), (106, 21043), (109, 21052), (129, 21136), (142, 21220), (161, 21319),

Gene: Gandionco\_42 Start: 34483, Stop: 35130, Start Num: 31

Candidate Starts for Gandionco\_42:

(Start: 2 @34291 has 122 MA's), (3, 34294), (8, 34330), (31, 34483), (33, 34492), (45, 34561), (55, 34603), (58, 34615), (78, 34690), (85, 34723), (89, 34735), (107, 34813), (108, 34816), (112, 34840), (124, 34891), (144, 35011),

Gene: GantcherGoblin\_26 Start: 23623, Stop: 24459, Start Num: 2

Candidate Starts for GantcherGoblin\_26:

(Start: 2 @23623 has 122 MA's), (8, 23662), (17, 23692), (18, 23701), (34, 23830), (45, 23893), (50, 23914), (64, 23962), (68, 23983), (73, 24010), (123, 24214), (124, 24217), (139, 24304), (154, 24388), (156, 24394), (161, 24427),

Gene: Giantsbane\_28 Start: 23728, Stop: 24546, Start Num: 2

Candidate Starts for Giantsbane\_28:

(Start: 2 @23728 has 122 MA's), (Start: 5 @23740 has 1 MA's), (9, 23770), (18, 23806), (32, 23923), (35, 23941), (36, 23947), (39, 23959), (42, 23983), (45, 23995), (64, 24064), (69, 24091), (78, 24121), (114, 24274), (124, 24313), (142, 24415), (154, 24481),

Gene: Gill\_30 Start: 25727, Stop: 26581, Start Num: 4

Candidate Starts for Gill\_30:

(Start: 4 @25727 has 45 MA's), (7, 25748), (30, 25916), (40, 25970), (41, 25973), (43, 25991), (44, 25994), (52, 26033), (53, 26036), (54, 26039), (59, 26060), (62, 26069), (98, 26210), (102, 26234), (109, 26264), (116, 26291), (117, 26294), (121, 26315), (128, 26348), (133, 26372), (142, 26435), (143, 26438), (147, 26468), (154, 26501),

Gene: GirlPower\_23 Start: 23105, Stop: 23929, Start Num: 2

Candidate Starts for GirlPower\_23:

(Start: 2 @23105 has 122 MA's), (Start: 5 @23117 has 1 MA's), (22, 23213), (25, 23228), (27, 23249), (45, 23375), (47, 23384), (71, 23486), (78, 23501), (111, 23642), (137, 23771), (149, 23837), (154, 23864), (161, 23897), (164, 23924),

Gene: GoCrazy\_21 Start: 21671, Stop: 22522, Start Num: 2

Candidate Starts for GoCrazy\_21:

(Start: 2 @21671 has 122 MA's), (3, 21674), (25, 21803), (33, 21881), (71, 22073), (72, 22076), (73, 22079), (97, 22154), (105, 22196), (119, 22250), (121, 22262), (123, 22268), (134, 22325), (143,

22379), (144, 22388), (147, 22409), (158, 22478), (160, 22487), (161, 22490), (163, 22511),

Gene: GoblinVoyage\_20 Start: 18700, Stop: 19527, Start Num: 2

Candidate Starts for GoblinVoyage\_20:

(Start: 2 @18700 has 122 MA's), (22, 18808), (27, 18844), (39, 18937), (45, 18973), (52, 19006), (57, 19018), (58, 19024), (61, 19033), (64, 19042), (71, 19084), (76, 19096), (78, 19099), (100, 19189), (109, 19228), (124, 19291), (129, 19312), (131, 19327),

Gene: Gordon\_27 Start: 25839, Stop: 26657, Start Num: 2

Candidate Starts for Gordon\_27:

(Start: 2 @25839 has 122 MA's), (Start: 5 @25851 has 1 MA's), (9, 25881), (13, 25893), (18, 25917), (32, 26034), (35, 26052), (42, 26094), (45, 26106), (69, 26202), (76, 26229), (78, 26232), (107, 26355), (131, 26457), (142, 26526), (144, 26538), (154, 26592),

Gene: Gravy\_30 Start: 25727, Stop: 26581, Start Num: 4

Candidate Starts for Gravy\_30:

(Start: 4 @25727 has 45 MA's), (7, 25748), (30, 25916), (40, 25970), (41, 25973), (43, 25991), (44, 25994), (52, 26033), (53, 26036), (54, 26039), (59, 26060), (62, 26069), (98, 26210), (102, 26234), (109, 26264), (116, 26291), (117, 26294), (121, 26315), (128, 26348), (133, 26372), (140, 26423), (142, 26435), (143, 26438), (147, 26468), (154, 26501),

Gene: Gusicorn\_36 Start: 28397, Stop: 29248, Start Num: 4

Candidate Starts for Gusicorn\_36:

(Start: 4 @28397 has 45 MA's), (7, 28418), (14, 28451), (21, 28499), (23, 28514), (32, 28592), (43, 28661), (52, 28703), (53, 28706), (59, 28730), (70, 28784), (71, 28787), (88, 28844), (98, 28877), (102, 28901), (107, 28922), (123, 28988), (135, 29069), (142, 29102), (143, 29105), (146, 29129), (154, 29168), (156, 29174), (164, 29243),

Gene: Hankly\_21 Start: 20893, Stop: 21744, Start Num: 2

Candidate Starts for Hankly\_21:

(Start: 2 @20893 has 122 MA's), (3, 20896), (25, 21025), (33, 21103), (71, 21295), (72, 21298), (73, 21301), (97, 21376), (105, 21418), (119, 21472), (121, 21484), (123, 21490), (134, 21547), (143, 21601), (144, 21610), (147, 21631), (158, 21700), (160, 21709), (161, 21712), (163, 21733),

Gene: HazuAndZazu\_24 Start: 22138, Stop: 22962, Start Num: 2

Candidate Starts for HazuAndZazu\_24:

(Start: 2 @22138 has 122 MA's), (Start: 5 @22150 has 1 MA's), (22, 22246), (25, 22261), (27, 22282), (45, 22408), (47, 22417), (71, 22519), (78, 22534), (111, 22675), (154, 22897), (161, 22930), (164, 22957),

Gene: Heisenberger\_22 Start: 21541, Stop: 22392, Start Num: 2

Candidate Starts for Heisenberger\_22:

(Start: 2 @21541 has 122 MA's), (25, 21673), (33, 21751), (67, 21913), (72, 21946), (73, 21949), (86, 21994), (97, 22024), (121, 22132), (123, 22138), (146, 22273), (147, 22279), (149, 22285), (153, 22309), (156, 22318), (158, 22348), (161, 22360), (163, 22381),

Gene: HerbBucket\_23 Start: 21791, Stop: 22609, Start Num: 2

Candidate Starts for HerbBucket\_23:

(Start: 2 @21791 has 122 MA's), (21, 21890), (24, 21911), (25, 21914), (27, 21935), (32, 21986), (34, 21998), (35, 22004), (45, 22058), (52, 22091), (66, 22136), (76, 22181), (106, 22304), (107, 22307), (113, 22334), (143, 22481), (154, 22544),

Gene: Hortihabitatio\_34 Start: 28027, Stop: 28878, Start Num: 4

Candidate Starts for Hortihabitatio\_34:

(Start: 4 @28027 has 45 MA's), (7, 28048), (23, 28144), (34, 28234), (44, 28294), (50, 28321), (52, 28333), (53, 28336), (66, 28384), (68, 28396), (71, 28417), (80, 28447), (98, 28507), (102, 28531), (107, 28552), (129, 28648), (143, 28735), (147, 28765), (154, 28798), (156, 28804), (164, 28873),

Gene: Hoshi\_24 Start: 21621, Stop: 22445, Start Num: 2

Candidate Starts for Hoshi\_24:

(Start: 2 @21621 has 122 MA's), (Start: 5 @21633 has 1 MA's), (22, 21729), (25, 21744), (27, 21765), (45, 21891), (47, 21900), (71, 22002), (78, 22017), (111, 22158), (154, 22380), (161, 22413), (164, 22440),

Gene: HotFries\_19 Start: 18698, Stop: 19525, Start Num: 2

Candidate Starts for HotFries\_19:

(Start: 2 @18698 has 122 MA's), (22, 18806), (27, 18842), (39, 18935), (41, 18944), (45, 18971), (52, 19004), (58, 19022), (61, 19031), (64, 19040), (76, 19094), (78, 19097), (100, 19187), (109, 19226), (124, 19289), (129, 19310), (131, 19325),

Gene: Hydrus\_34 Start: 29125, Stop: 29976, Start Num: 4

Candidate Starts for Hydrus\_34:

(Start: 4 @29125 has 45 MA's), (7, 29146), (14, 29179), (21, 29227), (23, 29242), (32, 29320), (43, 29389), (52, 29431), (53, 29434), (59, 29458), (68, 29494), (70, 29512), (71, 29515), (80, 29545), (98, 29605), (102, 29629), (107, 29650), (118, 29695), (143, 29833), (146, 29857), (154, 29896), (156, 29902), (164, 29971),

Gene: IceWarrior\_24 Start: 21621, Stop: 22445, Start Num: 2

Candidate Starts for IceWarrior\_24:

(Start: 2 @21621 has 122 MA's), (Start: 5 @21633 has 1 MA's), (22, 21729), (25, 21744), (27, 21765), (45, 21891), (47, 21900), (71, 22002), (78, 22017), (111, 22158), (154, 22380), (161, 22413), (164, 22440),

Gene: Indigenous\_24 Start: 21621, Stop: 22445, Start Num: 2

Candidate Starts for Indigenous\_24:

(Start: 2 @21621 has 122 MA's), (Start: 5 @21633 has 1 MA's), (22, 21729), (25, 21744), (27, 21765), (45, 21891), (47, 21900), (71, 22002), (78, 22017), (111, 22158), (154, 22380), (161, 22413), (164, 22440),

Gene: Ingrid\_27 Start: 24453, Stop: 25271, Start Num: 2

Candidate Starts for Ingrid\_27:

(Start: 2 @24453 has 122 MA's), (3, 24456), (9, 24495), (18, 24531), (32, 24648), (35, 24666), (36, 24672), (42, 24708), (45, 24720), (64, 24789), (84, 24876), (88, 24888), (98, 24924), (107, 24969), (108, 24972), (111, 24987), (117, 25008), (124, 25038), (131, 25071), (132, 25074), (134, 25089), (137, 25113),

Gene: Inked\_29 Start: 25464, Stop: 26288, Start Num: 2

Candidate Starts for Inked\_29:

(Start: 2 @25464 has 122 MA's), (8, 25503), (10, 25509), (24, 25584), (35, 25677), (42, 25719), (45, 25731), (58, 25782), (69, 25827), (82, 25881), (99, 25941), (101, 25962), (107, 25986), (124, 26055), (131, 26088), (154, 26223),

Gene: Issa\_27 Start: 24543, Stop: 25361, Start Num: 2

Candidate Starts for Issa\_27:

(Start: 2 @24543 has 122 MA's), (9, 24585), (10, 24588), (13, 24597), (18, 24621), (32, 24738), (35, 24756), (42, 24798), (45, 24810), (69, 24906), (107, 25059), (131, 25161), (142, 25230), (144, 25242),

(154, 25296),

Gene: JEGGS\_22 Start: 21595, Stop: 22446, Start Num: 2

Candidate Starts for JEGGS\_22:

(Start: 2 @21595 has 122 MA's), (25, 21727), (33, 21805), (72, 22000), (73, 22003), (86, 22048), (97, 22078), (121, 22186), (123, 22192), (146, 22327), (147, 22333), (149, 22339), (153, 22363), (156, 22372), (158, 22402), (161, 22414), (163, 22435),

Gene: Jaylociraptor\_24 Start: 21621, Stop: 22445, Start Num: 2

Candidate Starts for Jaylociraptor\_24:

(Start: 2 @21621 has 122 MA's), (Start: 5 @21633 has 1 MA's), (22, 21729), (25, 21744), (27, 21765), (45, 21891), (47, 21900), (71, 22002), (78, 22017), (111, 22158), (154, 22380), (161, 22413), (164, 22440),

Gene: Jazzy4900\_25 Start: 23560, Stop: 24396, Start Num: 2

Candidate Starts for Jazzy4900\_25:

(Start: 2 @23560 has 122 MA's), (3, 23563), (33, 23761), (45, 23830), (55, 23872), (56, 23878), (58, 23887), (76, 23959), (101, 24061), (109, 24091), (120, 24142), (135, 24223), (144, 24271), (164, 24391),

Gene: Jodelie19\_34 Start: 30047, Stop: 30898, Start Num: 4

Candidate Starts for Jodelie19\_34:

(Start: 4 @30047 has 45 MA's), (7, 30068), (14, 30101), (21, 30149), (23, 30164), (32, 30242), (43, 30311), (52, 30353), (53, 30356), (59, 30380), (68, 30416), (70, 30434), (71, 30437), (93, 30509), (95, 30518), (102, 30551), (105, 30566), (107, 30572), (143, 30755), (146, 30779), (154, 30818), (156, 30824), (160, 30863), (164, 30893),

Gene: JoyLin\_27 Start: 25146, Stop: 25973, Start Num: 2

Candidate Starts for JoyLin\_27:

(Start: 2 @25146 has 122 MA's), (22, 25263), (29, 25329), (44, 25422), (55, 25470), (60, 25485), (66, 25506), (71, 25539), (78, 25554), (79, 25560), (109, 25677), (163, 25962),

Gene: JulesRay\_32 Start: 25634, Stop: 26488, Start Num: 4

Candidate Starts for JulesRay\_32:

(Start: 4 @25634 has 45 MA's), (7, 25655), (30, 25823), (40, 25877), (41, 25880), (44, 25901), (52, 25940), (53, 25943), (54, 25946), (59, 25967), (102, 26141), (109, 26171), (116, 26198), (117, 26201), (121, 26222), (128, 26255), (142, 26342), (143, 26345), (147, 26375), (154, 26408),

Gene: Kardashian\_23 Start: 21569, Stop: 22402, Start Num: 2

Candidate Starts for Kardashian\_23:

(Start: 2 @21569 has 122 MA's), (45, 21842), (51, 21872), (61, 21902), (71, 21953), (86, 22004), (88, 22010), (90, 22019), (97, 22043), (103, 22079), (104, 22082), (109, 22100), (121, 22154), (138, 22244), (164, 22397),

Gene: Kardesai\_21 Start: 21274, Stop: 22125, Start Num: 2

Candidate Starts for Kardesai\_21:

(Start: 2 @21274 has 122 MA's), (3, 21277), (25, 21406), (33, 21484), (71, 21676), (72, 21679), (73, 21682), (97, 21757), (98, 21760), (105, 21799), (119, 21853), (121, 21865), (123, 21871), (134, 21928), (143, 21982), (144, 21991), (147, 22012), (158, 22081), (160, 22090), (161, 22093), (163, 22114),

Gene: KeaneyLin\_21 Start: 21671, Stop: 22522, Start Num: 2

Candidate Starts for KeaneyLin\_21:

(Start: 2 @21671 has 122 MA's), (3, 21674), (25, 21803), (33, 21881), (71, 22073), (72, 22076), (73, 22079), (97, 22154), (105, 22196), (119, 22250), (121, 22262), (123, 22268), (134, 22325), (143, 22379), (144, 22388), (147, 22409), (158, 22478), (160, 22487), (161, 22490), (163, 22511),

Gene: Kenosha\_33 Start: 29160, Stop: 30011, Start Num: 4

Candidate Starts for Kenosha\_33:

(Start: 4 @29160 has 45 MA's), (7, 29181), (14, 29214), (21, 29262), (23, 29277), (32, 29355), (43, 29424), (52, 29466), (53, 29469), (59, 29493), (68, 29529), (70, 29547), (71, 29550), (80, 29580), (98, 29640), (102, 29664), (107, 29685), (118, 29730), (143, 29868), (146, 29892), (154, 29931), (156, 29937), (164, 30006),

Gene: Kerry\_30 Start: 25727, Stop: 26581, Start Num: 4

Candidate Starts for Kerry\_30:

(Start: 4 @25727 has 45 MA's), (7, 25748), (30, 25916), (40, 25970), (41, 25973), (43, 25991), (44, 25994), (52, 26033), (53, 26036), (54, 26039), (59, 26060), (62, 26069), (98, 26210), (102, 26234), (109, 26264), (116, 26291), (117, 26294), (121, 26315), (128, 26348), (133, 26372), (140, 26423), (142, 26435), (143, 26438), (147, 26468), (154, 26501),

Gene: KevinMinion\_27 Start: 24717, Stop: 25553, Start Num: 2

Candidate Starts for KevinMinion\_27:

(Start: 2 @24717 has 122 MA's), (8, 24756), (17, 24786), (18, 24795), (34, 24924), (45, 24987), (50, 25008), (64, 25056), (68, 25077), (73, 25104), (123, 25308), (124, 25311), (139, 25398), (154, 25482), (156, 25488), (161, 25521),

Gene: Kinny\_30 Start: 25518, Stop: 26309, Start Num: 9

Candidate Starts for Kinny\_30:

(1, 25347), (Start: 2 @25476 has 122 MA's), (8, 25515), (9, 25518), (17, 25545), (18, 25554), (45, 25746), (63, 25812), (64, 25815), (68, 25836), (69, 25842), (110, 26010), (121, 26058), (124, 26067), (131, 26100), (132, 26103), (150, 26214), (154, 26238), (156, 26244),

Gene: Leathea\_27 Start: 23520, Stop: 24353, Start Num: 2

Candidate Starts for Leathea\_27:

(Start: 2 @23520 has 122 MA's), (8, 23559), (9, 23562), (17, 23589), (18, 23598), (45, 23790), (63, 23856), (64, 23859), (68, 23880), (69, 23886), (70, 23898), (131, 24144), (132, 24147), (154, 24282), (156, 24288),

Gene: Lewando\_30 Start: 25545, Stop: 26378, Start Num: 2

Candidate Starts for Lewando\_30:

(Start: 2 @25545 has 122 MA's), (9, 25587), (17, 25614), (18, 25623), (45, 25815), (58, 25866), (63, 25881), (64, 25884), (68, 25905), (69, 25911), (110, 26079), (121, 26127), (124, 26136), (131, 26169), (132, 26172), (150, 26283), (154, 26307), (156, 26313),

Gene: LibertyBell\_22 Start: 20467, Stop: 21306, Start Num: 2

Candidate Starts for LibertyBell\_22:

(Start: 2 @20467 has 122 MA's), (Start: 5 @20479 has 1 MA's), (13, 20521), (18, 20545), (21, 20566), (22, 20575), (45, 20737), (68, 20836), (81, 20893), (97, 20947), (115, 21028), (124, 21064), (129, 21085), (131, 21100), (150, 21211), (151, 21220), (154, 21235), (162, 21283),

Gene: LilHuddy\_28 Start: 24911, Stop: 25729, Start Num: 2

Candidate Starts for LilHuddy\_28:

(Start: 2 @24911 has 122 MA's), (9, 24953), (18, 24989), (32, 25106), (35, 25124), (36, 25130), (42, 25166), (45, 25178), (58, 25229), (78, 25304), (124, 25496), (142, 25598), (154, 25664),

Gene: Linda\_24 Start: 21790, Stop: 22608, Start Num: 2

Candidate Starts for Linda\_24:

(Start: 2 @21790 has 122 MA's), (21, 21889), (24, 21910), (25, 21913), (27, 21934), (32, 21985), (34, 21997), (35, 22003), (45, 22057), (52, 22090), (66, 22135), (76, 22180), (106, 22303), (107, 22306), (113, 22333), (143, 22480), (154, 22543),

Gene: Loretta\_27 Start: 24453, Stop: 25271, Start Num: 2

Candidate Starts for Loretta\_27:

(Start: 2 @24453 has 122 MA's), (3, 24456), (9, 24495), (18, 24531), (32, 24648), (35, 24666), (36, 24672), (42, 24708), (45, 24720), (64, 24789), (84, 24876), (88, 24888), (98, 24924), (107, 24969), (108, 24972), (111, 24987), (117, 25008), (124, 25038), (131, 25071), (132, 25074), (134, 25089), (137, 25113),

Gene: LucySwiss\_27 Start: 24568, Stop: 25386, Start Num: 2

Candidate Starts for LucySwiss\_27:

(Start: 2 @24568 has 122 MA's), (9, 24610), (10, 24613), (13, 24622), (18, 24646), (32, 24763), (35, 24781), (42, 24823), (45, 24835), (69, 24931), (107, 25084), (131, 25186), (142, 25255), (144, 25267), (154, 25321),

Gene: Madamoto\_24 Start: 21597, Stop: 22421, Start Num: 2

Candidate Starts for Madamoto\_24:

(Start: 2 @21597 has 122 MA's), (Start: 5 @21609 has 1 MA's), (22, 21705), (24, 21717), (25, 21720), (27, 21741), (45, 21867), (71, 21978), (78, 21993), (111, 22134), (149, 22329), (154, 22356), (161, 22389), (164, 22416),

Gene: Madvan\_33 Start: 28392, Stop: 29243, Start Num: 4

Candidate Starts for Madvan\_33:

(Start: 4 @28392 has 45 MA's), (7, 28413), (14, 28446), (21, 28494), (23, 28509), (32, 28587), (43, 28656), (52, 28698), (53, 28701), (59, 28725), (68, 28761), (70, 28779), (71, 28782), (80, 28812), (98, 28872), (102, 28896), (107, 28917), (118, 28962), (143, 29100), (146, 29124), (156, 29169), (164, 29238),

Gene: Magel\_31 Start: 25635, Stop: 26489, Start Num: 4

Candidate Starts for Magel\_31:

(Start: 4 @25635 has 45 MA's), (7, 25656), (30, 25824), (40, 25878), (41, 25881), (43, 25899), (44, 25902), (52, 25941), (53, 25944), (54, 25947), (59, 25968), (62, 25977), (98, 26118), (102, 26142), (109, 26172), (116, 26199), (117, 26202), (121, 26223), (128, 26256), (133, 26280), (140, 26331), (142, 26343), (143, 26346), (147, 26376), (154, 26409),

Gene: MajinBuu\_34 Start: 28618, Stop: 29469, Start Num: 4

Candidate Starts for MajinBuu\_34:

(Start: 4 @28618 has 45 MA's), (7, 28639), (14, 28672), (21, 28720), (23, 28735), (32, 28813), (43, 28882), (52, 28924), (53, 28927), (59, 28951), (68, 28987), (70, 29005), (71, 29008), (80, 29038), (95, 29089), (102, 29122), (105, 29137), (107, 29143), (143, 29326), (146, 29350), (154, 29389), (156, 29395), (160, 29434), (164, 29464),

Gene: Makai\_27 Start: 24700, Stop: 25518, Start Num: 2

Candidate Starts for Makai\_27:

(Start: 2 @24700 has 122 MA's), (Start: 5 @24712 has 1 MA's), (9, 24742), (18, 24778), (19, 24781), (32, 24895), (35, 24913), (42, 24955), (45, 24967), (78, 25093), (94, 25159), (124, 25285), (132, 25321), (142, 25387),

Gene: Maya\_24 Start: 21635, Stop: 22459, Start Num: 2



Candidate Starts for Maya\_24:

(Start: 2 @21635 has 122 MA's), (Start: 5 @21647 has 1 MA's), (22, 21743), (25, 21758), (27, 21779), (45, 21905), (47, 21914), (71, 22016), (78, 22031), (111, 22172), (154, 22394), (161, 22427), (164, 22454),

Gene: MediumFry\_25 Start: 23899, Stop: 24717, Start Num: 2

Candidate Starts for MediumFry\_25:

(Start: 2 @23899 has 122 MA's), (3, 23902), (18, 23977), (22, 24007), (25, 24022), (32, 24094), (35, 24112), (42, 24154), (45, 24166), (58, 24217), (69, 24262), (90, 24343), (111, 24433), (124, 24484), (131, 24517), (142, 24586), (154, 24652),

Gene: Meibysrarus\_24 Start: 21621, Stop: 22445, Start Num: 2

Candidate Starts for Meibysrarus\_24:

(Start: 2 @21621 has 122 MA's), (Start: 5 @21633 has 1 MA's), (22, 21729), (25, 21744), (27, 21765), (45, 21891), (47, 21900), (71, 22002), (78, 22017), (111, 22158), (154, 22380), (161, 22413), (164, 22440),

Gene: Michelle\_24 Start: 21790, Stop: 22608, Start Num: 2

Candidate Starts for Michelle\_24:

(Start: 2 @21790 has 122 MA's), (21, 21889), (24, 21910), (25, 21913), (27, 21934), (32, 21985), (34, 21997), (35, 22003), (45, 22057), (52, 22090), (66, 22135), (76, 22180), (106, 22303), (107, 22306), (113, 22333), (143, 22480), (154, 22543),

Gene: Miek\_22 Start: 20533, Stop: 21363, Start Num: 2

Candidate Starts for Miek\_22:

(Start: 2 @20533 has 122 MA's), (21, 20632), (38, 20758), (44, 20797), (45, 20803), (63, 20869), (78, 20929), (88, 20974), (92, 20989), (97, 21010), (106, 21055), (109, 21064), (129, 21148), (142, 21232), (161, 21331),

Gene: MiniBagel\_27 Start: 25793, Stop: 26611, Start Num: 2

Candidate Starts for MiniBagel\_27:

(Start: 2 @25793 has 122 MA's), (9, 25835), (13, 25847), (18, 25871), (32, 25988), (35, 26006), (36, 26012), (42, 26048), (45, 26060), (69, 26156), (107, 26309), (130, 26399), (142, 26480), (144, 26492), (154, 26546),

Gene: Mooshroom\_22 Start: 21274, Stop: 22125, Start Num: 2

Candidate Starts for Mooshroom\_22:

(Start: 2 @21274 has 122 MA's), (3, 21277), (25, 21406), (33, 21484), (71, 21676), (72, 21679), (73, 21682), (97, 21757), (98, 21760), (105, 21799), (119, 21853), (121, 21865), (123, 21871), (134, 21928), (143, 21982), (144, 21991), (147, 22012), (158, 22081), (160, 22090), (161, 22093), (163, 22114),

Gene: Moozy\_20 Start: 18715, Stop: 19542, Start Num: 2

Candidate Starts for Moozy\_20:

(Start: 2 @18715 has 122 MA's), (22, 18823), (27, 18859), (39, 18952), (45, 18988), (52, 19021), (58, 19039), (61, 19048), (64, 19057), (76, 19111), (78, 19114), (100, 19204), (109, 19243), (124, 19306), (129, 19327), (131, 19342),

Gene: Mossy\_34 Start: 29805, Stop: 30656, Start Num: 4

Candidate Starts for Mossy\_34:

(Start: 4 @29805 has 45 MA's), (7, 29826), (14, 29859), (23, 29922), (34, 30012), (44, 30072), (50, 30099), (53, 30114), (66, 30162), (68, 30174), (71, 30195), (80, 30225), (102, 30309), (107, 30330), (129, 30426), (140, 30498), (143, 30513), (147, 30543), (154, 30576), (156, 30582), (164, 30651),

Gene: MrAaronian\_24 Start: 21790, Stop: 22608, Start Num: 2

Candidate Starts for MrAaronian\_24:

(Start: 2 @21790 has 122 MA's), (21, 21889), (24, 21910), (25, 21913), (27, 21934), (32, 21985), (34, 21997), (35, 22003), (45, 22057), (52, 22090), (66, 22135), (76, 22180), (106, 22303), (107, 22306), (113, 22333), (143, 22480), (154, 22543),

Gene: Mudcat\_22 Start: 23572, Stop: 24423, Start Num: 2

Candidate Starts for Mudcat\_22:

(Start: 2 @23572 has 122 MA's), (25, 23704), (33, 23782), (72, 23977), (73, 23980), (86, 24025), (97, 24055), (121, 24163), (123, 24169), (146, 24304), (147, 24310), (149, 24316), (153, 24340), (156, 24349), (158, 24379), (161, 24391), (163, 24412),

Gene: Mysticmoon\_33 Start: 28426, Stop: 29277, Start Num: 4

Candidate Starts for Mysticmoon\_33:

(Start: 4 @28426 has 45 MA's), (7, 28447), (14, 28480), (23, 28543), (34, 28633), (44, 28693), (50, 28720), (53, 28735), (66, 28783), (68, 28795), (71, 28816), (80, 28846), (102, 28930), (107, 28951), (130, 29050), (140, 29119), (144, 29143), (145, 29149), (147, 29164), (155, 29200), (156, 29203), (164, 29272),

Gene: Nadmeg\_34 Start: 29823, Stop: 30674, Start Num: 4

Candidate Starts for Nadmeg\_34:

(Start: 4 @29823 has 45 MA's), (7, 29844), (14, 29877), (21, 29925), (23, 29940), (32, 30018), (43, 30087), (52, 30129), (53, 30132), (59, 30156), (68, 30192), (70, 30210), (71, 30213), (80, 30243), (98, 30303), (102, 30327), (107, 30348), (118, 30393), (143, 30531), (146, 30555), (156, 30600), (164, 30669),

Gene: Namo\_24 Start: 21627, Stop: 22451, Start Num: 2

Candidate Starts for Namo\_24:

(Start: 2 @21627 has 122 MA's), (Start: 5 @21639 has 1 MA's), (22, 21735), (25, 21750), (27, 21771), (45, 21897), (47, 21906), (71, 22008), (78, 22023), (154, 22386), (161, 22419), (164, 22446),

Gene: NapoleonB\_22 Start: 21671, Stop: 22522, Start Num: 2

Candidate Starts for NapoleonB\_22:

(Start: 2 @21671 has 122 MA's), (25, 21803), (33, 21881), (72, 22076), (73, 22079), (86, 22124), (97, 22154), (121, 22262), (123, 22268), (146, 22403), (147, 22409), (149, 22415), (153, 22439), (156, 22448), (158, 22478), (161, 22490), (163, 22511),

Gene: Nason\_23 Start: 22148, Stop: 22999, Start Num: 2

Candidate Starts for Nason\_23:

(Start: 2 @22148 has 122 MA's), (25, 22280), (33, 22358), (72, 22553), (73, 22556), (86, 22601), (97, 22631), (121, 22739), (123, 22745), (146, 22880), (147, 22886), (149, 22892), (153, 22916), (156, 22925), (158, 22955), (161, 22967), (163, 22988),

Gene: Natasha\_23 Start: 21195, Stop: 22016, Start Num: 2

Candidate Starts for Natasha\_23:

(Start: 2 @21195 has 122 MA's), (8, 21234), (9, 21237), (10, 21240), (13, 21249), (21, 21294), (24, 21315), (27, 21339), (45, 21465), (50, 21486), (58, 21516), (76, 21588), (92, 21648), (121, 21774), (123, 21780),

Gene: Navi1117\_28 Start: 23790, Stop: 24626, Start Num: 2

Candidate Starts for Navi1117\_28:

(Start: 2 @23790 has 122 MA's), (8, 23829), (17, 23859), (18, 23868), (34, 23997), (45, 24060), (50, 24081), (64, 24129), (68, 24150), (73, 24177), (123, 24381), (124, 24384), (139, 24471), (154, 24555), (156, 24561),

Gene: Nightmare\_28 Start: 25103, Stop: 25921, Start Num: 2

Candidate Starts for Nightmare\_28:

(Start: 2 @25103 has 122 MA's), (9, 25145), (10, 25148), (13, 25157), (18, 25181), (32, 25298), (35, 25316), (42, 25358), (45, 25370), (69, 25466), (107, 25619), (131, 25721), (142, 25790), (144, 25802), (154, 25856),

Gene: Niktson\_27 Start: 25265, Stop: 26083, Start Num: 2

Candidate Starts for Niktson\_27:

(Start: 2 @25265 has 122 MA's), (9, 25307), (10, 25310), (13, 25319), (18, 25343), (32, 25460), (35, 25478), (42, 25520), (45, 25532), (69, 25628), (76, 25655), (107, 25781), (131, 25883), (142, 25952), (144, 25964), (154, 26018),

Gene: Nithya\_33 Start: 28607, Stop: 29458, Start Num: 4

Candidate Starts for Nithya\_33:

(Start: 4 @28607 has 45 MA's), (7, 28628), (14, 28661), (21, 28709), (23, 28724), (31, 28799), (32, 28802), (43, 28871), (52, 28913), (53, 28916), (59, 28940), (68, 28976), (70, 28994), (71, 28997), (88, 29054), (95, 29078), (102, 29111), (107, 29132), (123, 29198), (135, 29279), (143, 29315), (146, 29339), (154, 29378), (156, 29384), (164, 29453),

Gene: Nivinsha\_27 Start: 24653, Stop: 25471, Start Num: 2

Candidate Starts for Nivinsha\_27:

(Start: 2 @24653 has 122 MA's), (Start: 5 @24665 has 1 MA's), (9, 24695), (13, 24707), (18, 24731), (32, 24848), (35, 24866), (42, 24908), (45, 24920), (69, 25016), (107, 25169), (131, 25271), (142, 25340), (144, 25352), (154, 25406),

Gene: NoPickles\_30 Start: 25359, Stop: 26213, Start Num: 4

Candidate Starts for NoPickles\_30:

(Start: 4 @25359 has 45 MA's), (7, 25380), (30, 25548), (40, 25602), (41, 25605), (43, 25623), (44, 25626), (52, 25665), (53, 25668), (54, 25671), (59, 25692), (62, 25701), (98, 25842), (102, 25866), (109, 25896), (116, 25923), (117, 25926), (121, 25947), (128, 25980), (133, 26004), (140, 26055), (142, 26067), (143, 26070), (147, 26100), (154, 26133),

Gene: Odesza\_30 Start: 25727, Stop: 26581, Start Num: 4

Candidate Starts for Odesza\_30:

(Start: 4 @25727 has 45 MA's), (7, 25748), (30, 25916), (40, 25970), (41, 25973), (43, 25991), (44, 25994), (52, 26033), (53, 26036), (54, 26039), (59, 26060), (62, 26069), (98, 26210), (102, 26234), (109, 26264), (116, 26291), (117, 26294), (121, 26315), (128, 26348), (133, 26372), (142, 26435), (143, 26438), (147, 26468), (154, 26501),

Gene: OhMyWard\_33 Start: 29145, Stop: 29996, Start Num: 4

Candidate Starts for OhMyWard\_33:

(Start: 4 @29145 has 45 MA's), (7, 29166), (23, 29262), (34, 29352), (44, 29412), (50, 29439), (53, 29454), (66, 29502), (68, 29514), (71, 29535), (77, 29547), (80, 29565), (102, 29649), (107, 29670), (129, 29766), (140, 29838), (143, 29853), (147, 29883), (154, 29916), (156, 29922), (164, 29991),

Gene: OlgasClover\_33 Start: 29331, Stop: 30182, Start Num: 4

Candidate Starts for OlgasClover\_33:

(Start: 4 @29331 has 45 MA's), (7, 29352), (14, 29385), (21, 29433), (23, 29448), (32, 29526), (43, 29595), (52, 29637), (53, 29640), (59, 29664), (68, 29700), (70, 29718), (71, 29721), (80, 29751), (95,

29802), (102, 29835), (105, 29850), (107, 29856), (143, 30039), (146, 30063), (154, 30102), (156, 30108), (160, 30147), (164, 30177),

Gene: OlympicHelado\_24 Start: 21627, Stop: 22451, Start Num: 2

Candidate Starts for OlympicHelado\_24:

(Start: 2 @21627 has 122 MA's), (Start: 5 @21639 has 1 MA's), (21, 21726), (25, 21750), (27, 21771), (45, 21897), (71, 22008), (78, 22023), (154, 22386), (161, 22419), (164, 22446),

Gene: Paella\_41 Start: 33771, Stop: 34610, Start Num: 2

Candidate Starts for Paella\_41:

(Start: 2 @33771 has 122 MA's), (3, 33774), (8, 33810), (31, 33963), (33, 33972), (45, 34041), (55, 34083), (58, 34095), (78, 34170), (85, 34203), (89, 34215), (107, 34293), (108, 34296), (112, 34320), (144, 34491),

Gene: Pepy6\_036 Start: 35866, Stop: 36693, Start Num: 4

Candidate Starts for Pepy6\_036:

(Start: 4 @35866 has 45 MA's), (7, 35887), (44, 36133), (46, 36142), (50, 36160), (62, 36208), (121, 36451), (135, 36520), (137, 36526), (141, 36544), (142, 36553), (148, 36589), (149, 36592), (164, 36688),

Gene: Perkunas\_32 Start: 26126, Stop: 26977, Start Num: 4

Candidate Starts for Perkunas\_32:

(Start: 4 @26126 has 45 MA's), (7, 26147), (30, 26315), (40, 26369), (41, 26372), (43, 26390), (44, 26393), (46, 26402), (50, 26420), (52, 26432), (53, 26435), (54, 26438), (59, 26459), (62, 26468), (74, 26522), (75, 26525), (94, 26594), (98, 26606), (102, 26630), (117, 26690), (121, 26711), (123, 26717), (126, 26726), (128, 26744), (132, 26765), (142, 26831), (143, 26834), (154, 26897),

Gene: Petito\_32 Start: 26881, Stop: 27741, Start Num: 4

Candidate Starts for Petito\_32:

(Start: 4 @26881 has 45 MA's), (7, 26902), (30, 27070), (40, 27124), (41, 27127), (43, 27145), (44, 27148), (48, 27169), (52, 27187), (53, 27190), (54, 27193), (59, 27214), (132, 27529), (133, 27532), (143, 27598), (144, 27607), (164, 27736),

Gene: Phaby\_28 Start: 24840, Stop: 25658, Start Num: 2

Candidate Starts for Phaby\_28:

(Start: 2 @24840 has 122 MA's), (9, 24882), (18, 24918), (32, 25035), (35, 25053), (36, 25059), (42, 25095), (45, 25107), (58, 25158), (63, 25173), (78, 25233), (124, 25425), (142, 25527), (154, 25593),

Gene: Phaila\_26 Start: 23201, Stop: 24037, Start Num: 2

Candidate Starts for Phaila\_26:

(Start: 2 @23201 has 122 MA's), (8, 23240), (17, 23270), (18, 23279), (34, 23408), (45, 23471), (50, 23492), (64, 23540), (68, 23561), (73, 23588), (123, 23792), (124, 23795), (139, 23882), (154, 23966), (156, 23972), (161, 24005),

Gene: Phepper\_33 Start: 28390, Stop: 29241, Start Num: 4

Candidate Starts for Phepper\_33:

(Start: 4 @28390 has 45 MA's), (7, 28411), (14, 28444), (21, 28492), (23, 28507), (32, 28585), (43, 28654), (52, 28696), (53, 28699), (59, 28723), (68, 28759), (70, 28777), (71, 28780), (77, 28792), (80, 28810), (98, 28870), (102, 28894), (107, 28915), (118, 28960), (122, 28978), (143, 29098), (146, 29122), (154, 29161), (156, 29167), (164, 29236),

Gene: Pherobrine\_32 Start: 28424, Stop: 29275, Start Num: 4

Candidate Starts for Pherobrine\_32:

(Start: 4 @28424 has 45 MA's), (7, 28445), (14, 28478), (23, 28541), (34, 28631), (44, 28691), (50, 28718), (53, 28733), (66, 28781), (68, 28793), (71, 28814), (80, 28844), (102, 28928), (107, 28949), (130, 29048), (140, 29117), (144, 29141), (145, 29147), (147, 29162), (155, 29198), (164, 29270),

Gene: PherryCruz\_19 Start: 18700, Stop: 19527, Start Num: 2

Candidate Starts for PherryCruz\_19:

(Start: 2 @18700 has 122 MA's), (22, 18808), (27, 18844), (39, 18937), (45, 18973), (52, 19006), (57, 19018), (58, 19024), (61, 19033), (64, 19042), (71, 19084), (76, 19096), (78, 19099), (100, 19189), (109, 19228), (124, 19291), (129, 19312), (131, 19327),

Gene: Pippin15\_26 Start: 22794, Stop: 23621, Start Num: 2

Candidate Starts for Pippin15\_26:

(Start: 2 @22794 has 122 MA's), (3, 22797), (20, 22893), (22, 22911), (29, 22977), (39, 23040), (44, 23070), (55, 23118), (60, 23133), (66, 23154), (71, 23187), (78, 23202), (79, 23208), (96, 23268), (116, 23346), (125, 23382), (147, 23511), (163, 23610),

Gene: POCO6\_037 Start: 37888, Stop: 38715, Start Num: 4

Candidate Starts for POCO6\_037:

(Start: 4 @37888 has 45 MA's), (7, 37909), (46, 38164), (53, 38197), (62, 38230), (66, 38245), (70, 38275), (121, 38473), (135, 38542), (137, 38548), (149, 38614), (153, 38638), (164, 38710),

Gene: Popy\_24 Start: 22143, Stop: 22958, Start Num: 5

Candidate Starts for Popy\_24:

(Start: 2 @22131 has 122 MA's), (Start: 5 @22143 has 1 MA's), (25, 22254), (27, 22275), (45, 22401), (47, 22410), (71, 22512), (78, 22527), (104, 22644), (107, 22653), (129, 22743), (149, 22866), (154, 22893), (161, 22926), (164, 22953),

Gene: Powelldog\_25 Start: 21517, Stop: 22332, Start Num: 3

Candidate Starts for Powelldog\_25:

(Start: 2 @21514 has 122 MA's), (3, 21517), (15, 21571), (18, 21592), (20, 21604), (21, 21613), (35, 21727), (42, 21769), (45, 21781), (61, 21841), (64, 21850), (71, 21892), (98, 21985), (124, 22099), (131, 22132), (132, 22135), (154, 22267),

Gene: ProfFrink\_24 Start: 21790, Stop: 22608, Start Num: 2

Candidate Starts for ProfFrink\_24:

(Start: 2 @21790 has 122 MA's), (21, 21889), (24, 21910), (25, 21913), (27, 21934), (32, 21985), (34, 21997), (35, 22003), (45, 22057), (52, 22090), (66, 22135), (76, 22180), (106, 22303), (107, 22306), (113, 22333), (143, 22480), (154, 22543),

Gene: Qui\_41 Start: 33771, Stop: 34610, Start Num: 2

Candidate Starts for Qui\_41:

(Start: 2 @33771 has 122 MA's), (3, 33774), (8, 33810), (31, 33963), (33, 33972), (45, 34041), (55, 34083), (58, 34095), (78, 34170), (85, 34203), (89, 34215), (107, 34293), (108, 34296), (112, 34320), (144, 34491),

Gene: Rainydai\_22 Start: 20533, Stop: 21363, Start Num: 2

Candidate Starts for Rainydai\_22:

(Start: 2 @20533 has 122 MA's), (21, 20632), (38, 20758), (44, 20797), (45, 20803), (63, 20869), (78, 20929), (88, 20974), (92, 20989), (97, 21010), (106, 21055), (109, 21064), (129, 21148), (142, 21232), (161, 21331),

Gene: Raunak\_24 Start: 21790, Stop: 22608, Start Num: 2

Candidate Starts for Raunak\_24:

(Start: 2 @21790 has 122 MA's), (21, 21889), (24, 21910), (25, 21913), (27, 21934), (32, 21985), (34, 21997), (35, 22003), (45, 22057), (52, 22090), (66, 22135), (76, 22180), (106, 22303), (107, 22306), (113, 22333), (143, 22480), (154, 22543),

Gene: RavenPuff\_19 Start: 18700, Stop: 19527, Start Num: 2

Candidate Starts for RavenPuff\_19:

(Start: 2 @18700 has 122 MA's), (22, 18808), (27, 18844), (39, 18937), (45, 18973), (52, 19006), (57, 19018), (58, 19024), (61, 19033), (64, 19042), (71, 19084), (76, 19096), (78, 19099), (100, 19189), (109, 19228), (124, 19291), (129, 19312), (131, 19327),

Gene: Regigigas\_23 Start: 20533, Stop: 21363, Start Num: 2

Candidate Starts for Regigigas\_23:

(Start: 2 @20533 has 122 MA's), (21, 20632), (38, 20758), (44, 20797), (45, 20803), (63, 20869), (78, 20929), (88, 20974), (92, 20989), (97, 21010), (106, 21055), (109, 21064), (129, 21148), (142, 21232), (161, 21331),

Gene: Renaldo\_32 Start: 25623, Stop: 26387, Start Num: 17

Candidate Starts for Renaldo\_32:

(1, 25425), (Start: 2 @25554 has 122 MA's), (8, 25593), (9, 25596), (17, 25623), (18, 25632), (45, 25824), (58, 25875), (63, 25890), (64, 25893), (68, 25914), (69, 25920), (110, 26088), (121, 26136), (124, 26145), (131, 26178), (132, 26181), (150, 26292), (154, 26316), (156, 26322),

Gene: Rickmore\_32 Start: 27041, Stop: 27892, Start Num: 4

Candidate Starts for Rickmore\_32:

(Start: 4 @27041 has 45 MA's), (7, 27062), (12, 27086), (23, 27158), (48, 27329), (50, 27335), (52, 27347), (53, 27350), (56, 27362), (59, 27374), (68, 27410), (71, 27431), (77, 27443), (95, 27512), (98, 27521), (102, 27545), (118, 27611), (135, 27713), (140, 27734), (143, 27749), (155, 27815), (164, 27887),

Gene: Rima\_24 Start: 21627, Stop: 22451, Start Num: 2

Candidate Starts for Rima\_24:

(Start: 2 @21627 has 122 MA's), (Start: 5 @21639 has 1 MA's), (22, 21735), (25, 21750), (27, 21771), (45, 21897), (47, 21906), (71, 22008), (78, 22023), (154, 22386), (161, 22419), (164, 22446),

Gene: Roney\_30 Start: 25727, Stop: 26581, Start Num: 4

Candidate Starts for Roney\_30:

(Start: 4 @25727 has 45 MA's), (7, 25748), (30, 25916), (40, 25970), (41, 25973), (43, 25991), (44, 25994), (52, 26033), (53, 26036), (54, 26039), (59, 26060), (62, 26069), (98, 26210), (102, 26234), (109, 26264), (116, 26291), (117, 26294), (121, 26315), (128, 26348), (133, 26372), (142, 26435), (143, 26438), (147, 26468), (154, 26501),

Gene: RosaAsantewaa\_20 Start: 18511, Stop: 19335, Start Num: 2

Candidate Starts for RosaAsantewaa\_20:

(Start: 2 @18511 has 122 MA's), (19, 18592), (25, 18634), (41, 18754), (45, 18781), (57, 18826), (58, 18832), (71, 18892), (78, 18907), (84, 18937), (86, 18943), (88, 18949), (106, 19027), (120, 19087), (129, 19120), (131, 19135), (142, 19204), (150, 19246),

Gene: Runhaar\_33 Start: 28393, Stop: 29244, Start Num: 4

Candidate Starts for Runhaar\_33:

(Start: 4 @28393 has 45 MA's), (7, 28414), (14, 28447), (21, 28495), (23, 28510), (32, 28588), (43, 28657), (52, 28699), (53, 28702), (59, 28726), (68, 28762), (70, 28780), (71, 28783), (80, 28813), (98, 28873), (102, 28897), (107, 28918), (118, 28963), (143, 29101), (146, 29125), (154, 29164), (155, 29167), (156, 29170), (164, 29239),

Gene: RustyBoy\_23 Start: 21177, Stop: 21998, Start Num: 2

Candidate Starts for RustyBoy\_23:

(Start: 2 @21177 has 122 MA's), (8, 21216), (9, 21219), (10, 21222), (13, 21231), (21, 21276), (24, 21297), (27, 21321), (45, 21447), (50, 21468), (58, 21498), (76, 21570), (92, 21630), (121, 21756), (123, 21762),

Gene: Salk\_24 Start: 21790, Stop: 22608, Start Num: 2

Candidate Starts for Salk\_24:

(Start: 2 @21790 has 122 MA's), (21, 21889), (24, 21910), (27, 21934), (32, 21985), (34, 21997), (35, 22003), (45, 22057), (52, 22090), (66, 22135), (76, 22180), (106, 22303), (107, 22306), (113, 22333), (143, 22480), (154, 22543),

Gene: Scap1\_20 Start: 18655, Stop: 19479, Start Num: 2

Candidate Starts for Scap1\_20:

(Start: 2 @18655 has 122 MA's), (27, 18799), (45, 18925), (52, 18958), (58, 18976), (64, 18994), (76, 19048), (78, 19051), (109, 19180), (115, 19207), (129, 19264), (131, 19279), (142, 19348), (154, 19414),

Gene: Schwartz33\_34 Start: 28724, Stop: 29578, Start Num: 4

Candidate Starts for Schwartz33\_34:

(Start: 4 @28724 has 45 MA's), (7, 28745), (23, 28841), (34, 28931), (40, 28967), (43, 28988), (48, 29012), (53, 29033), (59, 29057), (70, 29111), (71, 29114), (74, 29120), (80, 29144), (87, 29168), (110, 29267), (129, 29345), (132, 29363), (135, 29396), (143, 29432), (145, 29447), (147, 29462), (164, 29573),

Gene: ScienceWizSam\_29 Start: 25054, Stop: 25872, Start Num: 2

Candidate Starts for ScienceWizSam\_29:

(Start: 2 @25054 has 122 MA's), (Start: 5 @25066 has 1 MA's), (9, 25096), (13, 25108), (18, 25132), (32, 25249), (35, 25267), (42, 25309), (45, 25321), (69, 25417), (76, 25444), (78, 25447), (107, 25570), (131, 25672), (142, 25741), (144, 25753), (154, 25807),

Gene: Secretariat\_31 Start: 27455, Stop: 28309, Start Num: 4

Candidate Starts for Secretariat\_31:

(Start: 4 @27455 has 45 MA's), (7, 27476), (34, 27662), (40, 27698), (41, 27701), (43, 27719), (52, 27761), (53, 27764), (56, 27776), (59, 27788), (75, 27854), (80, 27875), (95, 27926), (123, 28046), (129, 28076), (132, 28094), (149, 28199), (164, 28304),

Gene: SendItCS\_21 Start: 20533, Stop: 21363, Start Num: 2

Candidate Starts for SendItCS\_21:

(Start: 2 @20533 has 122 MA's), (21, 20632), (38, 20758), (44, 20797), (45, 20803), (63, 20869), (78, 20929), (88, 20974), (92, 20989), (97, 21010), (106, 21055), (109, 21064), (129, 21148), (142, 21232), (161, 21331),

Gene: Serenabean\_26 Start: 23144, Stop: 23971, Start Num: 2

Candidate Starts for Serenabean\_26:

(Start: 2 @23144 has 122 MA's), (16, 23216), (19, 23234), (22, 23261), (27, 23297), (37, 23378), (58, 23477), (72, 23540), (122, 23723), (131, 23759), (137, 23801), (157, 23918), (161, 23939),

Gene: ShaggyRogers\_36 Start: 28396, Stop: 29247, Start Num: 4

Candidate Starts for ShaggyRogers\_36:

(Start: 4 @28396 has 45 MA's), (7, 28417), (14, 28450), (21, 28498), (23, 28513), (32, 28591), (43, 28660), (52, 28702), (53, 28705), (59, 28729), (70, 28783), (71, 28786), (88, 28843), (98, 28876), (102,

28900), (107, 28921), (123, 28987), (135, 29068), (142, 29101), (143, 29104), (146, 29128), (154, 29167), (156, 29173), (160, 29212), (164, 29242),

Gene: SheRa\_20 Start: 18699, Stop: 19526, Start Num: 2

Candidate Starts for SheRa\_20:

(Start: 2 @18699 has 122 MA's), (22, 18807), (27, 18843), (39, 18936), (41, 18945), (45, 18972), (52, 19005), (58, 19023), (61, 19032), (64, 19041), (76, 19095), (78, 19098), (100, 19188), (109, 19227), (121, 19281), (124, 19290), (129, 19311), (131, 19326),

Gene: Shepard\_28 Start: 24908, Stop: 25726, Start Num: 2

Candidate Starts for Shepard\_28:

(Start: 2 @24908 has 122 MA's), (9, 24950), (18, 24986), (32, 25103), (35, 25121), (36, 25127), (42, 25163), (43, 25166), (45, 25175), (58, 25226), (63, 25241), (78, 25301), (124, 25493), (142, 25595), (154, 25661),

Gene: Shiba\_24 Start: 21790, Stop: 22608, Start Num: 2

Candidate Starts for Shiba\_24:

(Start: 2 @21790 has 122 MA's), (21, 21889), (24, 21910), (25, 21913), (27, 21934), (32, 21985), (34, 21997), (35, 22003), (45, 22057), (52, 22090), (66, 22135), (76, 22180), (106, 22303), (107, 22306), (113, 22333), (143, 22480), (154, 22543),

Gene: Sloopyjoe\_24 Start: 21791, Stop: 22609, Start Num: 2

Candidate Starts for Sloopyjoe\_24:

(Start: 2 @21791 has 122 MA's), (21, 21890), (24, 21911), (25, 21914), (27, 21935), (32, 21986), (34, 21998), (35, 22004), (45, 22058), (52, 22091), (66, 22136), (76, 22181), (106, 22304), (107, 22307), (113, 22334), (143, 22481), (154, 22544),

Gene: Soshi\_24 Start: 22140, Stop: 22964, Start Num: 2

Candidate Starts for Soshi\_24:

(Start: 2 @22140 has 122 MA's), (Start: 5 @22152 has 1 MA's), (22, 22248), (25, 22263), (27, 22284), (45, 22410), (47, 22419), (71, 22521), (78, 22536), (90, 22587), (129, 22749), (149, 22872), (154, 22899), (161, 22932), (164, 22959),

Gene: Spectropatronm\_24 Start: 21621, Stop: 22445, Start Num: 2

Candidate Starts for Spectropatronm\_24:

(Start: 2 @21621 has 122 MA's), (Start: 5 @21633 has 1 MA's), (22, 21729), (25, 21744), (27, 21765), (45, 21891), (47, 21900), (71, 22002), (78, 22017), (111, 22158), (154, 22380), (161, 22413), (164, 22440),

Gene: Sporto\_25 Start: 23001, Stop: 23819, Start Num: 2

Candidate Starts for Sporto\_25:

(Start: 2 @23001 has 122 MA's), (13, 23055), (21, 23100), (24, 23121), (25, 23124), (27, 23145), (32, 23196), (34, 23208), (35, 23214), (41, 23241), (45, 23268), (52, 23301), (58, 23319), (66, 23346), (90, 23445), (101, 23493), (107, 23517), (113, 23544), (124, 23586), (154, 23754),

Gene: StarLord\_24 Start: 21791, Stop: 22609, Start Num: 2

Candidate Starts for StarLord\_24:

(Start: 2 @21791 has 122 MA's), (21, 21890), (24, 21911), (25, 21914), (27, 21935), (32, 21986), (34, 21998), (35, 22004), (45, 22058), (52, 22091), (66, 22136), (76, 22181), (106, 22304), (107, 22307), (113, 22334), (143, 22481), (154, 22544),

Gene: Stayer\_24 Start: 21790, Stop: 22608, Start Num: 2

Candidate Starts for Stayer\_24:



(Start: 2 @21790 has 122 MA's), (21, 21889), (24, 21910), (25, 21913), (27, 21934), (32, 21985), (34, 21997), (35, 22003), (45, 22057), (52, 22090), (66, 22135), (76, 22180), (106, 22303), (107, 22306), (113, 22333), (143, 22480), (154, 22543),

Gene: Sunny4976\_24 Start: 23560, Stop: 24396, Start Num: 2

Candidate Starts for Sunny4976\_24:

(Start: 2 @23560 has 122 MA's), (3, 23563), (33, 23761), (45, 23830), (55, 23872), (56, 23878), (58, 23887), (76, 23959), (101, 24061), (109, 24091), (120, 24142), (135, 24223), (144, 24271), (164, 24391),

Gene: Sweetclover\_25 Start: 22585, Stop: 23412, Start Num: 2

Candidate Starts for Sweetclover\_25:

(Start: 2 @22585 has 122 MA's), (11, 22636), (19, 22675), (22, 22702), (29, 22768), (44, 22861), (55, 22909), (60, 22924), (66, 22945), (76, 22990), (122, 23164), (161, 23380),

Gene: Synopsis\_26 Start: 24717, Stop: 25535, Start Num: 2

Candidate Starts for Synopsis\_26:

(Start: 2 @24717 has 122 MA's), (Start: 5 @24729 has 1 MA's), (9, 24759), (13, 24771), (18, 24795), (32, 24912), (35, 24930), (42, 24972), (45, 24984), (69, 25080), (76, 25107), (78, 25110), (107, 25233), (131, 25335), (142, 25404), (144, 25416), (154, 25470),

Gene: TaidaOne\_24 Start: 22269, Stop: 23093, Start Num: 2

Candidate Starts for TaidaOne\_24:

(Start: 2 @22269 has 122 MA's), (Start: 5 @22281 has 1 MA's), (21, 22368), (25, 22392), (27, 22413), (45, 22539), (71, 22650), (78, 22665), (154, 23028), (161, 23061), (164, 23088),

Gene: Talon44\_32 Start: 25799, Stop: 26650, Start Num: 4

Candidate Starts for Talon44\_32:

(Start: 4 @25799 has 45 MA's), (7, 25820), (30, 25988), (40, 26042), (41, 26045), (43, 26063), (44, 26066), (46, 26075), (50, 26093), (52, 26105), (53, 26108), (54, 26111), (59, 26132), (62, 26141), (74, 26195), (75, 26198), (94, 26267), (98, 26279), (102, 26303), (117, 26363), (121, 26384), (123, 26390), (126, 26399), (128, 26417), (132, 26438), (142, 26504), (143, 26507), (154, 26570),

Gene: Tanis\_30 Start: 25577, Stop: 26431, Start Num: 4

Candidate Starts for Tanis\_30:

(Start: 4 @25577 has 45 MA's), (7, 25598), (30, 25766), (40, 25820), (41, 25823), (43, 25841), (44, 25844), (52, 25883), (53, 25886), (54, 25889), (59, 25910), (62, 25919), (98, 26060), (102, 26084), (109, 26114), (116, 26141), (117, 26144), (121, 26165), (128, 26198), (133, 26222), (140, 26273), (142, 26285), (143, 26288), (147, 26318), (154, 26351),

Gene: Tatanka\_27 Start: 25201, Stop: 26019, Start Num: 2

Candidate Starts for Tatanka\_27:

(Start: 2 @25201 has 122 MA's), (Start: 5 @25213 has 1 MA's), (9, 25243), (13, 25255), (18, 25279), (32, 25396), (35, 25414), (42, 25456), (45, 25468), (69, 25564), (76, 25591), (78, 25594), (107, 25717), (131, 25819), (142, 25888), (144, 25900), (154, 25954),

Gene: Teacup\_27 Start: 24573, Stop: 25391, Start Num: 2

Candidate Starts for Teacup\_27:

(Start: 2 @24573 has 122 MA's), (9, 24615), (13, 24627), (18, 24651), (32, 24768), (35, 24786), (42, 24828), (45, 24840), (69, 24936), (107, 25089), (131, 25191), (142, 25260), (144, 25272), (154, 25326),

Gene: TenaciousP\_34 Start: 30047, Stop: 30898, Start Num: 4

Candidate Starts for TenaciousP\_34:

(Start: 4 @30047 has 45 MA's), (7, 30068), (14, 30101), (21, 30149), (23, 30164), (32, 30242), (43, 30311), (52, 30353), (53, 30356), (59, 30380), (68, 30416), (70, 30434), (71, 30437), (80, 30467), (95, 30518), (102, 30551), (105, 30566), (107, 30572), (143, 30755), (146, 30779), (154, 30818), (156, 30824), (160, 30863), (164, 30893),

Gene: Tenney120\_28 Start: 23912, Stop: 24748, Start Num: 2

Candidate Starts for Tenney120\_28:

(Start: 2 @23912 has 122 MA's), (8, 23951), (17, 23981), (18, 23990), (34, 24119), (45, 24182), (50, 24203), (64, 24251), (68, 24272), (73, 24299), (123, 24503), (124, 24506), (139, 24593), (154, 24677), (156, 24683), (161, 24716),

Gene: Tenno\_28 Start: 25802, Stop: 26620, Start Num: 2

Candidate Starts for Tenno\_28:

(Start: 2 @25802 has 122 MA's), (9, 25844), (13, 25856), (18, 25880), (32, 25997), (35, 26015), (36, 26021), (42, 26057), (45, 26069), (69, 26165), (107, 26318), (130, 26408), (142, 26489), (144, 26501), (154, 26555),

Gene: Thiqqums\_22 Start: 20533, Stop: 21363, Start Num: 2

Candidate Starts for Thiqqums\_22:

(Start: 2 @20533 has 122 MA's), (21, 20632), (38, 20758), (44, 20797), (45, 20803), (63, 20869), (78, 20929), (88, 20974), (92, 20989), (97, 21010), (106, 21055), (109, 21064), (129, 21148), (142, 21232), (161, 21331),

Gene: TieDye\_23 Start: 21313, Stop: 22137, Start Num: 2

Candidate Starts for TieDye\_23:

(Start: 2 @21313 has 122 MA's), (Start: 5 @21325 has 1 MA's), (21, 21412), (25, 21436), (27, 21457), (45, 21583), (71, 21694), (78, 21709), (154, 22072), (161, 22105), (164, 22132),

Gene: Tokki\_28 Start: 24856, Stop: 25674, Start Num: 2

Candidate Starts for Tokki\_28:

(Start: 2 @24856 has 122 MA's), (9, 24898), (18, 24934), (32, 25051), (35, 25069), (36, 25075), (42, 25111), (45, 25123), (58, 25174), (63, 25189), (78, 25249), (124, 25441), (142, 25543), (154, 25609),

Gene: TonyStarch\_24 Start: 21627, Stop: 22451, Start Num: 2

Candidate Starts for TonyStarch\_24:

(Start: 2 @21627 has 122 MA's), (Start: 5 @21639 has 1 MA's), (21, 21726), (25, 21750), (27, 21771), (45, 21897), (71, 22008), (78, 22023), (154, 22386), (161, 22419), (164, 22446),

Gene: Tribby\_23 Start: 21863, Stop: 22714, Start Num: 2

Candidate Starts for Tribby\_23:

(Start: 2 @21863 has 122 MA's), (25, 21995), (33, 22073), (72, 22268), (73, 22271), (86, 22316), (97, 22346), (121, 22454), (123, 22460), (146, 22595), (147, 22601), (149, 22607), (153, 22631), (158, 22670), (161, 22682), (163, 22703),

Gene: TrixiePhattel\_28 Start: 23747, Stop: 24583, Start Num: 2

Candidate Starts for TrixiePhattel\_28:

(Start: 2 @23747 has 122 MA's), (8, 23786), (17, 23816), (18, 23825), (34, 23954), (41, 23990), (45, 24017), (50, 24038), (58, 24068), (64, 24086), (68, 24107), (123, 24338), (124, 24341), (139, 24428), (154, 24512), (156, 24518),

Gene: Truckee\_26 Start: 24745, Stop: 25563, Start Num: 2

Candidate Starts for Truckee\_26:

(Start: 2 @24745 has 122 MA's), (Start: 5 @24757 has 1 MA's), (9, 24787), (18, 24823), (19, 24826), (32, 24940), (35, 24958), (42, 25000), (45, 25012), (78, 25138), (94, 25204), (124, 25330), (131, 25363), (142, 25432), (154, 25498),

Gene: Trufflozitus\_33 Start: 25633, Stop: 26487, Start Num: 4

Candidate Starts for Trufflozitus\_33:

(Start: 4 @25633 has 45 MA's), (7, 25654), (30, 25822), (40, 25876), (41, 25879), (43, 25897), (44, 25900), (52, 25939), (53, 25942), (54, 25945), (59, 25966), (62, 25975), (86, 26074), (102, 26140), (109, 26170), (116, 26197), (117, 26200), (121, 26221), (128, 26254), (132, 26275), (133, 26278), (142, 26341), (143, 26344), (147, 26374), (154, 26407),

Gene: Trustiboi\_28 Start: 25270, Stop: 26088, Start Num: 2

Candidate Starts for Trustiboi\_28:

(Start: 2 @25270 has 122 MA's), (Start: 5 @25282 has 1 MA's), (9, 25312), (10, 25315), (13, 25324), (18, 25348), (32, 25465), (35, 25483), (42, 25525), (45, 25537), (69, 25633), (107, 25786), (131, 25888), (142, 25957), (144, 25969), (154, 26023),

Gene: Untouchable\_33 Start: 28749, Stop: 29600, Start Num: 4

Candidate Starts for Untouchable\_33:

(Start: 4 @28749 has 45 MA's), (7, 28770), (14, 28803), (21, 28851), (23, 28866), (32, 28944), (43, 29013), (52, 29055), (53, 29058), (59, 29082), (68, 29118), (70, 29136), (71, 29139), (80, 29169), (98, 29229), (102, 29253), (107, 29274), (118, 29319), (143, 29457), (146, 29481), (156, 29526), (164, 29595),

Gene: Uzumaki\_27 Start: 24442, Stop: 25278, Start Num: 2

Candidate Starts for Uzumaki\_27:

(Start: 2 @24442 has 122 MA's), (8, 24481), (17, 24511), (34, 24649), (45, 24712), (50, 24733), (64, 24781), (68, 24802), (73, 24829), (123, 25033), (124, 25036), (139, 25123), (154, 25207), (156, 25213), (161, 25246),

Gene: Vardy\_33 Start: 28358, Stop: 29209, Start Num: 4

Candidate Starts for Vardy\_33:

(Start: 4 @28358 has 45 MA's), (7, 28379), (14, 28412), (21, 28460), (23, 28475), (32, 28553), (43, 28622), (52, 28664), (53, 28667), (59, 28691), (68, 28727), (70, 28745), (71, 28748), (80, 28778), (98, 28838), (102, 28862), (107, 28883), (118, 28928), (143, 29066), (146, 29090), (154, 29129), (155, 29132), (156, 29135), (164, 29204),

Gene: Xenomorph\_21 Start: 21881, Stop: 22732, Start Num: 2

Candidate Starts for Xenomorph\_21:

(Start: 2 @21881 has 122 MA's), (3, 21884), (25, 22013), (33, 22091), (71, 22283), (72, 22286), (97, 22364), (105, 22406), (121, 22472), (123, 22478), (131, 22517), (143, 22589), (144, 22598), (147, 22619), (158, 22688), (160, 22697), (161, 22700), (163, 22721),

Gene: Yotsuba\_27 Start: 25155, Stop: 25982, Start Num: 2

Candidate Starts for Yotsuba\_27:

(Start: 2 @25155 has 122 MA's), (22, 25272), (29, 25338), (44, 25431), (55, 25479), (60, 25494), (66, 25515), (71, 25548), (78, 25563), (79, 25569), (109, 25686), (163, 25971),

Gene: Zeina\_27 Start: 23823, Stop: 24659, Start Num: 2

Candidate Starts for Zeina\_27:

(Start: 2 @23823 has 122 MA's), (8, 23862), (17, 23892), (18, 23901), (34, 24030), (45, 24093), (50, 24114), (64, 24162), (68, 24183), (73, 24210), (123, 24414), (124, 24417), (139, 24504), (154, 24588), (156, 24594), (161, 24627),

Gene: Zeph\_34 Start: 29107, Stop: 29958, Start Num: 4

Candidate Starts for Zeph\_34:

(Start: 4 @29107 has 45 MA's), (7, 29128), (14, 29161), (21, 29209), (23, 29224), (32, 29302), (43, 29371), (52, 29413), (53, 29416), (59, 29440), (68, 29476), (70, 29494), (71, 29497), (80, 29527), (98, 29587), (102, 29611), (107, 29632), (118, 29677), (143, 29815), (146, 29839), (154, 29878), (156, 29884), (164, 29953),

Gene: Zippen\_27 Start: 25049, Stop: 25867, Start Num: 2

Candidate Starts for Zippen\_27:

(Start: 2 @25049 has 122 MA's), (3, 25052), (10, 25094), (18, 25127), (27, 25193), (32, 25244), (35, 25262), (42, 25304), (45, 25316), (58, 25367), (69, 25412), (76, 25439), (98, 25520), (124, 25634), (131, 25667), (154, 25802),