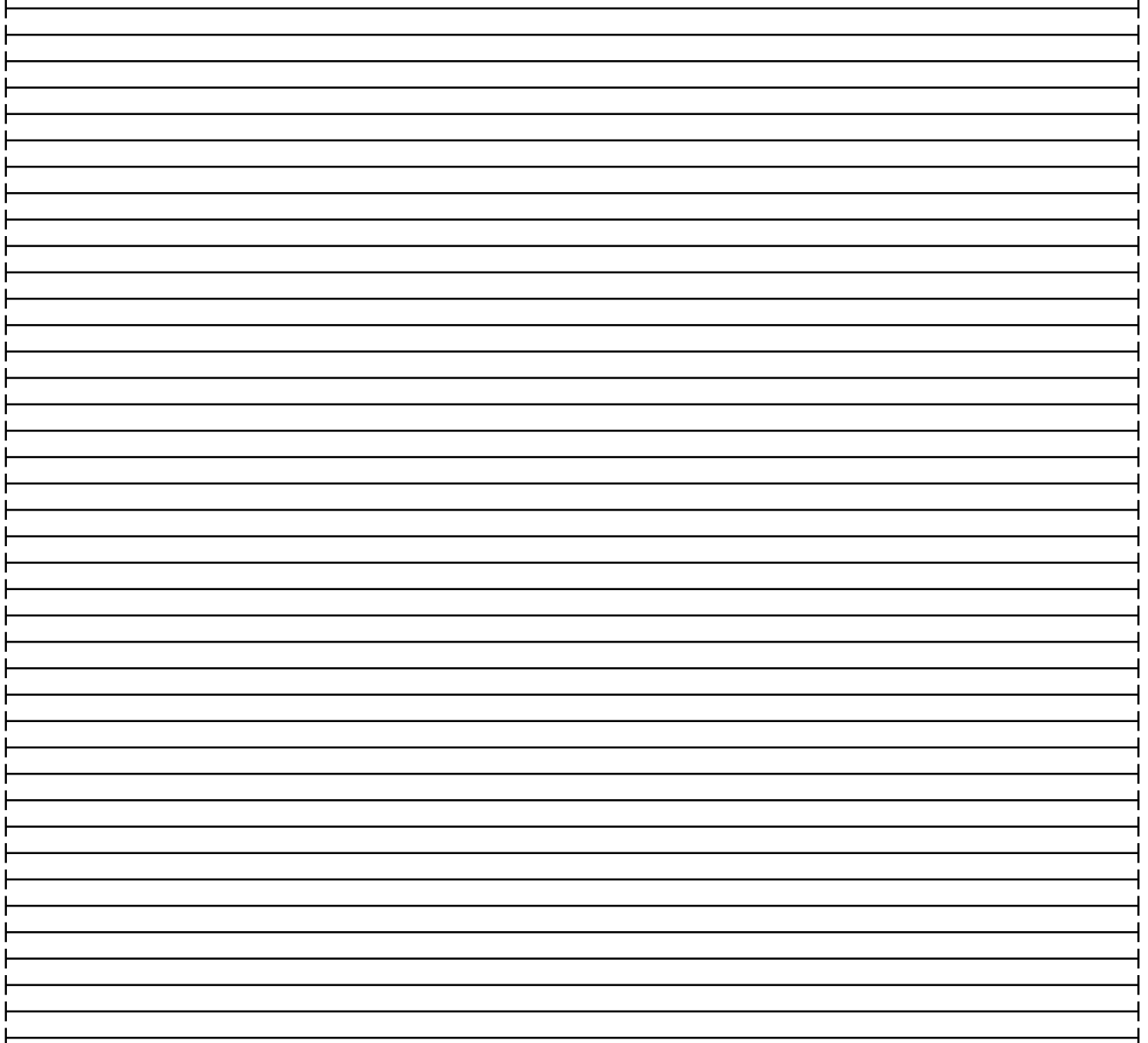
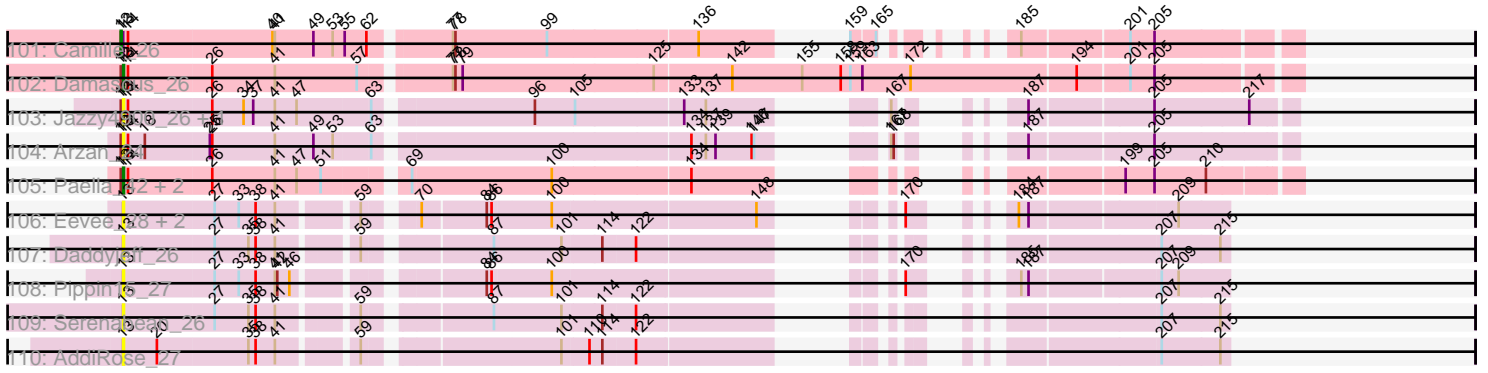


Pham 196309



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 196309 Report

This analysis was run 12/09/24 on database version 580.

Pham number 196309 has 192 members, 33 are drafts.

Phages represented in each track:

- Track 1 : Elsa\_24, NapoleonB\_23, Arcadia\_24, Dynamite\_23, Nason\_24
- Track 2 : Xenomorph\_22
- Track 3 : Mooshroom\_23, KeaneyLin\_22, GoCrazy\_22, Kardesai\_22
- Track 4 : Benllo\_22, BenitoAntonio\_24, Circum\_24, JEGGS\_23, Cheesy\_24, Mudcat\_23, Heisenberger\_23
- Track 5 : Hankly\_22
- Track 6 : Correa\_23
- Track 7 : Tribby\_24
- Track 8 : Inked\_30
- Track 9 : MiniBagel\_28, CapnMurica\_28, Tenno\_29
- Track 10 : CastorTray\_30
- Track 11 : Synopsis\_27, Trustiboi\_29
- Track 12 : ElephantMan\_28, Niktson\_28
- Track 13 : AreFloNak\_28, Tatanka\_28, Nivinsha\_28
- Track 14 : Brunswick\_28
- Track 15 : Issa\_28, Nightmare\_29
- Track 16 : Teacup\_28
- Track 17 : ScienceWizSam\_30
- Track 18 : Gordon\_28
- Track 19 : Breylor17\_29, Darby\_28
- Track 20 : DevitoJr\_28
- Track 21 : LilHuddy\_29
- Track 22 : Shepard\_29
- Track 23 : Tokki\_29
- Track 24 : Phaby\_29
- Track 25 : Giantsbane\_29
- Track 26 : Ingrid\_28, Loretta\_28
- Track 27 : MediumFry\_26
- Track 28 : Caterpillar\_26
- Track 29 : Makai\_28
- Track 30 : Truckee\_27
- Track 31 : Lewando\_31
- Track 32 : TrixiePhattel\_29
- Track 33 : Argan\_27
- Track 34 : Renaldo\_33
- Track 35 : Phaila\_27, Zeina\_28
- Track 36 : BarbieDoll\_31

- Track 37 : Leathea\_28
- Track 38 : Uzumaki\_28, GantcherGoblin\_27
- Track 39 : ProfFrink\_25, Stayer\_25, StarLord\_25, Salk\_25, Raunak\_25, Egad\_25, BronxBay\_25, Shiba\_25, MrAaronian\_25, Linda\_25, Michelle\_25, Sloopyjoe\_25, Djungelskog\_25
- Track 40 : DoctorPepper\_25
- Track 41 : Sporto\_26
- Track 42 : Indigenous\_25, Maya\_25, Jaylociraptor\_25, Meibysrarus\_25, Hoshi\_25, TonyStarch\_25, Namu\_25, Spectropatronm\_25, TieDye\_24, IceWarrior\_25, FidgetOrca\_25
- Track 43 : TaidaOne\_25, CherryBlossom\_25
- Track 44 : FrodoSwaggins\_25, Popy\_25, Soshi\_25, DrGrey\_25
- Track 45 : Rima\_25, Esketit\_25, OlympicHelado\_25
- Track 46 : Madamato\_25
- Track 47 : GirlPower\_24
- Track 48 : Bilo\_21
- Track 49 : RavenPuff\_20
- Track 50 : Scap1\_21
- Track 51 : HotFries\_20
- Track 52 : Annihilus\_21, Moozy\_21
- Track 53 : GoblinVoyage\_21, Doxi13\_21
- Track 54 : PherryCruz\_20
- Track 55 : RosaAsantewaa\_21
- Track 56 : SheRa\_21
- Track 57 : LibertyBell\_23
- Track 58 : CricKo\_23, Thiqqums\_23, FromIndy\_24, Regigigas\_24, Rainydai\_23
- Track 59 : Miek\_23, SendItCS\_22
- Track 60 : Bing\_26
- Track 61 : Kardashian\_24
- Track 62 : ClubPenguin\_24
- Track 63 : Pepy6\_037
- Track 64 : Poco6\_038
- Track 65 : Figliar\_34
- Track 66 : JulesRay\_33
- Track 67 : Madvan\_34, Zeph\_35, Hydrus\_35, Crocheter\_34, Nadmeg\_35
- Track 68 : Vardy\_34
- Track 69 : Hortihabitatio\_35
- Track 70 : Phepper\_34
- Track 71 : Perkunas\_33
- Track 72 : AlainaMarie\_34
- Track 73 : Runhaar\_34, Burley\_34
- Track 74 : Rickmore\_33
- Track 75 : Chikenjars\_34
- Track 76 : Duffington\_34
- Track 77 : TenaciousP\_35, BluerMoon\_37, Aflac\_34
- Track 78 : Nithya\_34, EndAve\_34
- Track 79 : Kenosha\_34
- Track 80 : Tanis\_31, Capybara\_31, Gravy\_31, Kerry\_31, NoPickles\_31, Odesza\_31, Magel\_32
- Track 81 : Pherobrine\_33
- Track 82 : Arataki\_32
- Track 83 : Gill\_31, Roney\_31
- Track 84 : FortCran\_31, Artorias\_31

- Track 85 : Gusicorn\_37, ShaggyRogers\_37
- Track 86 : Jodelie19\_35
- Track 87 : Mysticmoon\_34
- Track 88 : OhMyWard\_34
- Track 89 : Avazak\_31, Captrips\_31
- Track 90 : Fazel\_32
- Track 91 : Conley\_32
- Track 92 : Secretariat\_32
- Track 93 : Petite\_33
- Track 94 : Schwartz33\_35
- Track 95 : Eddiemania\_35
- Track 96 : Mossy\_35
- Track 97 : OlgasClover\_34
- Track 98 : Untouchable\_34
- Track 99 : Count\_32
- Track 100 : DizzyRudy\_26
- Track 101 : Camille\_26
- Track 102 : Damascus\_26
- Track 103 : Jazzy4900\_26, Sunny4976\_25
- Track 104 : Arzan\_24
- Track 105 : Paella\_42, Qui\_42, Elver\_41
- Track 106 : Eevee\_28, JoyLin\_28, Yotsuba\_28
- Track 107 : Daddyjeff\_26
- Track 108 : Pippin15\_27
- Track 109 : Serenabean\_26
- Track 110 : AddiRose\_27

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

The start number called the most often in the published annotations is 13, it was called in 87 of the 159 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

• AddiRose\_27, Annihilus\_21, AreFloNak\_28, Argan\_27, Arzan\_24, BarbieDoll\_31, Bilo\_21, Bing\_26, Breylor17\_29, BronxBay\_25, Brunswick\_28, CapnMurica\_28, CastorTray\_30, Caterpillar\_26, CherryBlossom\_25, ClubPenguin\_24, Count\_32, CricKo\_23, Daddyjeff\_26, Damascus\_26, Darby\_28, DevitoJr\_28, DizzyRudy\_26, Djungelskog\_25, DoctorPepper\_25, Doxi13\_21, DrGrey\_25, Eevee\_28, Egad\_25, Elver\_41, FidgetOrca\_25, FrodoSwaggins\_25, FromIndy\_24, GantcherGoblin\_27, Giantsbane\_29, GirlPower\_24, GoblinVoyage\_21, Gordon\_28, Hoshi\_25, HotFries\_20, IceWarrior\_25, Indigenous\_25, Ingrid\_28, Inked\_30, Issa\_28, Jaylociraptor\_25, Jazzy4900\_26, JoyLin\_28, Kardashian\_24, Leatheia\_28, Lewando\_31, LibertyBell\_23, LilHuddy\_29, Linda\_25, Loretta\_28, Madamato\_25, Makai\_28, Maya\_25, MediumFry\_26, Meibysrarus\_25, Michelle\_25, Miek\_23, MiniBagel\_28, Moozy\_21, MrAaronian\_25, Namo\_25, Nightmare\_29, Nivinsha\_28, Paella\_42, Phaby\_29, Phaila\_27, Pippin15\_27, Popy\_25, ProfFrink\_25, Qui\_42, Rainydai\_23, Raunak\_25, RavenPuff\_20, Regigigas\_24, Renaldo\_33, RosaAsantewaa\_21, Salk\_25, Scap1\_21, ScienceWizSam\_30, SendItCS\_22, Serenabean\_26, SheRa\_21, Shepard\_29, Shiba\_25, Sloopyjoe\_25, Soshi\_25, Spectropatronm\_25, Sporto\_26, StarLord\_25, Stayer\_25, Sunny4976\_25,

TaidaOne\_25, Tatanka\_28, Teacup\_28, Tenno\_29, Thiqqums\_23, TieDye\_24, Tokki\_29, TonyStarch\_25, Truckee\_27, Uzumaki\_28, Yotsuba\_28, Zeina\_28,

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

• Camille\_26, ElephantMan\_28, Esketit\_25, Niktson\_28, OlympicHelado\_25, PherryCruz\_20, Rima\_25, Synopsis\_27, TrixiePhattel\_29, Trustiboi\_29,

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

• Aflac\_34, AlainaMarie\_34, Arataki\_32, Arcadia\_24, Artorias\_31, Avazak\_31, BenitoAntonio\_24, Benllo\_22, BluerMoon\_37, Burley\_34, Captrips\_31, Capybara\_31, Cheesy\_24, Chikenjars\_34, Circum\_24, Conley\_32, Correa\_23, Crocheter\_34, Duffington\_34, Dynamite\_23, Eddiemania\_35, Elsa\_24, EndAve\_34, Fazel\_32, Figliar\_34, FortCran\_31, Gill\_31, GoCrazy\_22, Gravy\_31, Gusicorn\_37, Hankly\_22, Heisenberger\_23, Hortihabitatio\_35, Hydrus\_35, JEGGS\_23, Jodelie19\_35, JulesRay\_33, Kardesai\_22, KeaneyLin\_22, Kenosha\_34, Kerry\_31, Madvan\_34, Magel\_32, Mooshroom\_23, Mossy\_35, Mudcat\_23, Mysticmoon\_34, Nadmeg\_35, NapoleonB\_23, Nason\_24, Nithya\_34, NoPickles\_31, Odesza\_31, OhMyWard\_34, OlgasClover\_34, Pepy6\_037, Perkunas\_33, Petito\_33, Phepper\_34, Pherobrine\_33, Poco6\_038, Rickmore\_33, Roney\_31, Runhaar\_34, Schwartz33\_35, Secretariat\_32, ShaggyRogers\_37, Tanis\_31, TenaciousP\_35, Tribby\_24, Untouchable\_34, Vardy\_34, Xenomorph\_22, Zeph\_35,

### Summary by start number:

Start 3:

- Found in 54 of 192 ( 28.1% ) of genes in pham
- Manual Annotations of this start: 44 of 159
- Called 98.1% of time when present
- Phage (with cluster) where this start called: Aflac\_34 (DJ), AlainaMarie\_34 (DJ), Arataki\_32 (DJ), Artorias\_31 (DJ), Avazak\_31 (DJ), BluerMoon\_37 (DJ), Burley\_34 (DJ), Captrips\_31 (DJ), Capybara\_31 (DJ), Chikenjars\_34 (DJ), Conley\_32 (DJ), Crocheter\_34 (DJ), Duffington\_34 (DJ), Eddiemania\_35 (DJ), EndAve\_34 (DJ), Fazel\_32 (DJ), Figliar\_34 (DJ), FortCran\_31 (DJ), Gill\_31 (DJ), Gravy\_31 (DJ), Gusicorn\_37 (DJ), Hortihabitatio\_35 (DJ), Hydrus\_35 (DJ), Jodelie19\_35 (DJ), JulesRay\_33 (DJ), Kenosha\_34 (DJ), Kerry\_31 (DJ), Madvan\_34 (DJ), Magel\_32 (DJ), Mossy\_35 (DJ), Nadmeg\_35 (DJ), Nithya\_34 (DJ), NoPickles\_31 (DJ), Odesza\_31 (DJ), OhMyWard\_34 (DJ), OlgasClover\_34 (DJ), Pepy6\_037 (CC), Perkunas\_33 (DJ), Petito\_33 (DJ), Phepper\_34 (DJ), Pherobrine\_33 (DJ), Poco6\_038 (CC), Rickmore\_33 (DJ), Roney\_31 (DJ), Runhaar\_34 (DJ), Schwartz33\_35 (DJ), Secretariat\_32 (DJ), ShaggyRogers\_37 (DJ), Tanis\_31 (DJ), TenaciousP\_35 (DJ), Untouchable\_34 (DJ), Vardy\_34 (DJ), Zeph\_35 (DJ),

Start 4:

- Found in 5 of 192 ( 2.6% ) of genes in pham
- No Manual Annotations of this start.
- Called 20.0% of time when present
- Phage (with cluster) where this start called: Mysticmoon\_34 (DJ),

Start 10:

- Found in 20 of 192 ( 10.4% ) of genes in pham
- Manual Annotations of this start: 19 of 159
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Arcadia\_24 (AM), BenitoAntonio\_24 (AM), Benllo\_22 (AM), Cheesy\_24 (AM), Circum\_24 (AM), Correa\_23 (AM), Dynamite\_23 (AM), Elsa\_24 (AM), GoCrazy\_22 (AM), Hankly\_22 (AM), Heisenberger\_23 (AM), JEGGS\_23 (AM), Kardesai\_22 (AM), KeaneyLin\_22 (AM), Mooshroom\_23 (AM), Mudcat\_23 (AM), NapoleonB\_23 (AM), Nason\_24 (AM), Tribby\_24 (AM), Xenomorph\_22 (AM),

#### Start 12:

- Found in 68 of 192 ( 35.4% ) of genes in pham
- Manual Annotations of this start: 9 of 159
- Called 13.2% of time when present
- Phage (with cluster) where this start called: Camille\_26 (EL), ElephantMan\_28 (AU1), Esketit\_25 (BI1), Niktson\_28 (AU1), OlympicHelado\_25 (BI1), PherryCruz\_20 (BI2), Rima\_25 (BI1), Synepsis\_27 (AU1), Trustiboi\_29 (AU1),

#### Start 13:

- Found in 118 of 192 ( 61.5% ) of genes in pham
- Manual Annotations of this start: 87 of 159
- Called 91.5% of time when present
- Phage (with cluster) where this start called: AddiRose\_27 (JA), Annihilus\_21 (BI2), AreFloNak\_28 (AU1), Argan\_27 (AU6), Arzan\_24 (FI), BarbieDoll\_31 (AU6), Bilo\_21 (BI2), Bing\_26 (BI5), Breylor17\_29 (AU1), BronxBay\_25 (AW), Brunswick\_28 (AU1), CapnMurica\_28 (AU1), CastorTray\_30 (AU1), Caterpillar\_26 (AU4), CherryBlossom\_25 (BI1), ClubPenguin\_24 (BI7), Count\_32 (EL), CricKo\_23 (BI4), Daddyjeff\_26 (JA), Damascus\_26 (EL), Darby\_28 (AU1), DevitoJr\_28 (AU1), DizzyRudy\_26 (EL), Djungelskog\_25 (AW), DoctorPepper\_25 (AW), Doxi13\_21 (BI2), DrGrey\_25 (BI1), Eevee\_28 (JA), Egad\_25 (AW), Elver\_41 (FK), FidgetOrca\_25 (BI1), FrodoSwaggins\_25 (BI1), FromIndy\_24 (BI4), GantcherGoblin\_27 (AU6), Giantsbane\_29 (AU2), GirlPower\_24 (BI1), GoblinVoyage\_21 (BI2), Gordon\_28 (AU1), Hoshi\_25 (BI1), HotFries\_20 (BI2), IceWarrior\_25 (BI1), Indigenous\_25 (BI1), Ingrid\_28 (AU3), Inked\_30 (AU), Issa\_28 (AU1), Jaylociraptor\_25 (BI1), Jazzy4900\_26 (FI), JoyLin\_28 (JA), Kardashian\_24 (BI6), Leathea\_28 (AU6), Lewando\_31 (AU6), LibertyBell\_23 (BI3), LilHuddy\_29 (AU2), Linda\_25 (AW), Loretta\_28 (AU3), Madamato\_25 (BI1), Makai\_28 (AU5), Maya\_25 (BI1), MediumFry\_26 (AU4), Meibysrarus\_25 (BI1), Michelle\_25 (AW), Miek\_23 (BI4), MiniBagel\_28 (AU1), Moozy\_21 (BI2), MrAaronian\_25 (AW), Namo\_25 (BI1), Nightmare\_29 (AU1), Nivinsha\_28 (AU1), Paella\_42 (FK), Phaby\_29 (AU2), Phaila\_27 (AU6), Pippin15\_27 (JA), Popy\_25 (BI1), ProfFrink\_25 (AW), Qui\_42 (FK), Rainydai\_23 (BI4), Raunak\_25 (AW), RavenPuff\_20 (BI2), Regigigas\_24 (BI4), Renaldo\_33 (AU6), RosaAsantewaa\_21 (BI2), Salk\_25 (AW), Scap1\_21 (BI2), ScienceWizSam\_30 (AU1), SendItCS\_22 (BI4), Serenabean\_26 (JA), SheRa\_21 (BI2), Shepard\_29 (AU2), Shiba\_25 (AW), Sloopyjoe\_25 (AW), Soshi\_25 (BI1), Spectropatronm\_25 (BI1), Sporto\_26 (AW), StarLord\_25 (AW), Stayer\_25 (AW), Sunny4976\_25 (FI), TaidaOne\_25 (BI1), Tatanka\_28 (AU1), Teacup\_28 (AU1), Tenno\_29 (AU1), Thiqqums\_23 (BI4), TieDye\_24 (BI1), Tokki\_29 (AU2), TonyStarch\_25 (BI1), Truckee\_27 (AU5), Uzumaki\_28 (AU6), Yotsuba\_28 (JA), Zeina\_28 (AU6),

#### Start 41:

- Found in 124 of 192 ( 64.6% ) of genes in pham
- No Manual Annotations of this start.
- Called 0.8% of time when present
- Phage (with cluster) where this start called: TrixiePhattel\_29 (AU6),



## 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 10 was manually annotated 19 times for cluster AM.

Info for manual annotations of cluster AU:

- Start number 13 was manually annotated 1 time for cluster AU.

Info for manual annotations of cluster AU1:

- Start number 12 was manually annotated 4 times for cluster AU1.
- Start number 13 was manually annotated 13 times for cluster AU1.

Info for manual annotations of cluster AU2:

- Start number 13 was manually annotated 5 times for cluster AU2.

Info for manual annotations of cluster AU3:

- Start number 13 was manually annotated 2 times for cluster AU3.

Info for manual annotations of cluster AU4:

- Start number 13 was manually annotated 2 times for cluster AU4.

Info for manual annotations of cluster AU5:

- Start number 13 was manually annotated 2 times for cluster AU5.

Info for manual annotations of cluster AU6:

- Start number 13 was manually annotated 5 times for cluster AU6.

Info for manual annotations of cluster AW:

- Start number 13 was manually annotated 14 times for cluster AW.

Info for manual annotations of cluster BI1:

- Start number 12 was manually annotated 3 times for cluster BI1.
- Start number 13 was manually annotated 19 times for cluster BI1.

Info for manual annotations of cluster BI2:

- Start number 12 was manually annotated 1 time for cluster BI2.
- Start number 13 was manually annotated 10 times for cluster BI2.

Info for manual annotations of cluster BI3:

- Start number 13 was manually annotated 1 time for cluster BI3.

Info for manual annotations of cluster BI4:

- Start number 13 was manually annotated 5 times for cluster BI4.

Info for manual annotations of cluster BI5:

- Start number 13 was manually annotated 1 time for cluster BI5.

Info for manual annotations of cluster BI6:

- Start number 13 was manually annotated 1 time for cluster BI6.

Info for manual annotations of cluster BI7:

- Start number 13 was manually annotated 1 time for cluster BI7.

Info for manual annotations of cluster DJ:

- Start number 3 was manually annotated 44 times for cluster DJ.

Info for manual annotations of cluster EL:

- Start number 12 was manually annotated 1 time for cluster EL.
- Start number 13 was manually annotated 3 times for cluster EL.

Info for manual annotations of cluster FK:

- Start number 13 was manually annotated 2 times for cluster FK.

### **Gene Information:**

Gene: AddiRose\_27 Start: 23970, Stop: 25037, Start Num: 13

Candidate Starts for AddiRose\_27:

(Start: 13 @23970 has 87 MA's), (20, 24012), (35, 24123), (38, 24132), (41, 24156), (59, 24237), (101, 24450), (110, 24480), (114, 24495), (122, 24534), (207, 24954), (215, 25026),

Gene: Aflac\_34 Start: 29477, Stop: 30910, Start Num: 3

Candidate Starts for Aflac\_34:

(Start: 3 @29477 has 44 MA's), (25, 29687), (33, 29723), (43, 29774), (55, 29855), (65, 29918), (67, 29927), (71, 29948), (73, 29960), (86, 30032), (90, 30044), (136, 30284), (137, 30293), (140, 30311), (144, 30335), (153, 30404), (178, 30578), (179, 30605), (182, 30623), (192, 30698), (199, 30767), (200, 30770), (205, 30803), (210, 30863),

Gene: AlainaMarie\_34 Start: 29461, Stop: 30894, Start Num: 3

Candidate Starts for AlainaMarie\_34:

(Start: 3 @29461 has 44 MA's), (7, 29512), (8, 29524), (15, 29578), (25, 29671), (33, 29707), (43, 29758), (55, 29839), (65, 29902), (67, 29911), (71, 29932), (73, 29944), (86, 30016), (136, 30268), (137, 30277), (140, 30295), (144, 30319), (153, 30388), (178, 30562), (179, 30589), (182, 30607), (192, 30682), (199, 30751), (200, 30754), (205, 30787),

Gene: Annihilus\_21 Start: 19555, Stop: 20718, Start Num: 13

Candidate Starts for Annihilus\_21:

(Start: 12 @19552 has 9 MA's), (Start: 13 @19555 has 87 MA's), (25, 19660), (32, 19693), (39, 19720), (41, 19741), (42, 19744), (43, 19747), (49, 19789), (55, 19825), (56, 19837), (79, 19945), (108, 20095), (112, 20107), (121, 20152), (134, 20221), (150, 20317), (170, 20359), (188, 20422), (197, 20500), (201, 20530), (205, 20557), (207, 20563), (208, 20581),

Gene: Arataki\_32 Start: 28570, Stop: 30003, Start Num: 3

Candidate Starts for Arataki\_32:

(1, 28564), (Start: 3 @28570 has 44 MA's), (15, 28687), (17, 28699), (25, 28780), (33, 28816), (43, 28867), (55, 28948), (65, 29011), (71, 29041), (73, 29053), (86, 29125), (88, 29131), (90, 29137), (127, 29329), (136, 29377), (137, 29386), (144, 29428), (153, 29497), (160, 29560), (161, 29563), (178, 29671), (179, 29698), (182, 29716), (192, 29791), (199, 29860), (200, 29863), (201, 29866),

(205, 29896), (210, 29956),

Gene: Arcadia\_24 Start: 23000, Stop: 24061, Start Num: 10

Candidate Starts for Arcadia\_24:

(Start: 10 @23000 has 19 MA's), (16, 23030), (20, 23057), (41, 23201), (101, 23486), (133, 23615), (134, 23624), (189, 23843), (190, 23864),

Gene: AreFloNak\_28 Start: 25471, Stop: 26631, Start Num: 13

Candidate Starts for AreFloNak\_28:

(Start: 12 @25468 has 9 MA's), (Start: 13 @25471 has 87 MA's), (14, 25477), (22, 25522), (32, 25609), (33, 25612), (41, 25657), (53, 25729), (64, 25777), (80, 25864), (89, 25906), (98, 25963), (106, 26002), (133, 26128), (137, 26155), (143, 26191), (170, 26275), (185, 26326), (191, 26368), (201, 26449), (205, 26479), (212, 26545),

Gene: Argan\_27 Start: 24421, Stop: 25584, Start Num: 13

Candidate Starts for Argan\_27:

(Start: 13 @24421 has 87 MA's), (25, 24526), (27, 24532), (41, 24607), (43, 24613), (49, 24652), (81, 24817), (84, 24838), (108, 24958), (123, 25033), (129, 25057), (143, 25138), (145, 25156), (162, 25192), (167, 25216), (168, 25219), (199, 25390), (201, 25396), (205, 25426),

Gene: Artorias\_31 Start: 26462, Stop: 27889, Start Num: 3

Candidate Starts for Artorias\_31:

(Start: 3 @26462 has 44 MA's), (11, 26555), (20, 26609), (34, 26714), (40, 26750), (50, 26804), (65, 26903), (67, 26912), (73, 26945), (76, 26960), (86, 27017), (94, 27056), (111, 27140), (135, 27269), (137, 27281), (146, 27335), (153, 27392), (166, 27491), (178, 27566), (179, 27593), (191, 27680), (192, 27686), (193, 27689), (198, 27752), (199, 27755), (200, 27758), (201, 27761), (205, 27791), (213, 27863),

Gene: Arzan\_24 Start: 23144, Stop: 24307, Start Num: 13

Candidate Starts for Arzan\_24:

(Start: 12 @23141 has 9 MA's), (Start: 13 @23144 has 87 MA's), (14, 23150), (18, 23171), (25, 23249), (26, 23252), (41, 23330), (49, 23378), (53, 23402), (63, 23444), (134, 23810), (137, 23828), (139, 23840), (146, 23885), (147, 23888), (167, 23942), (168, 23945), (187, 24002), (205, 24146),

Gene: Avazak\_31 Start: 26469, Stop: 27896, Start Num: 3

Candidate Starts for Avazak\_31:

(Start: 3 @26469 has 44 MA's), (11, 26562), (34, 26721), (40, 26757), (50, 26811), (65, 26910), (67, 26919), (73, 26952), (76, 26967), (86, 27024), (94, 27063), (111, 27147), (135, 27276), (137, 27288), (146, 27342), (153, 27399), (166, 27498), (178, 27573), (179, 27600), (191, 27687), (192, 27693), (193, 27696), (198, 27759), (199, 27762), (200, 27765), (201, 27768), (205, 27798), (213, 27870),

Gene: BarbieDoll\_31 Start: 26396, Stop: 27559, Start Num: 13

Candidate Starts for BarbieDoll\_31:

(2, 26288), (Start: 13 @26396 has 87 MA's), (27, 26507), (32, 26534), (40, 26579), (41, 26582), (49, 26627), (74, 26756), (134, 27059), (138, 27080), (185, 27248), (199, 27365), (201, 27371), (205, 27401), (208, 27425), (212, 27467),

Gene: BenitoAntonio\_24 Start: 22616, Stop: 23677, Start Num: 10

Candidate Starts for BenitoAntonio\_24:

(Start: 10 @22616 has 19 MA's), (16, 22646), (20, 22673), (41, 22817), (101, 23102), (133, 23231), (134, 23240), (137, 23258), (189, 23459), (190, 23480),

Gene: Benllo\_22 Start: 22900, Stop: 23961, Start Num: 10

Candidate Starts for Benllo\_22:

(Start: 10 @22900 has 19 MA's), (16, 22930), (20, 22957), (41, 23101), (101, 23386), (133, 23515), (134, 23524), (137, 23542), (189, 23743), (190, 23764),

Gene: Bilo\_21 Start: 20046, Stop: 21209, Start Num: 13

Candidate Starts for Bilo\_21:

(Start: 12 @20043 has 9 MA's), (Start: 13 @20046 has 87 MA's), (25, 20151), (32, 20184), (34, 20193), (39, 20211), (40, 20229), (41, 20232), (42, 20235), (43, 20238), (49, 20280), (55, 20316), (56, 20328), (79, 20436), (108, 20586), (112, 20598), (121, 20643), (134, 20712), (150, 20808), (170, 20850), (188, 20913), (197, 20991), (201, 21021), (205, 21048), (207, 21054), (208, 21072),

Gene: Bing\_26 Start: 22320, Stop: 23492, Start Num: 13

Candidate Starts for Bing\_26:

(Start: 12 @22317 has 9 MA's), (Start: 13 @22320 has 87 MA's), (36, 22476), (39, 22485), (41, 22506), (43, 22512), (45, 22521), (49, 22554), (83, 22728), (90, 22758), (92, 22776), (96, 22800), (134, 22986), (147, 23064), (149, 23076), (150, 23082), (183, 23160), (201, 23295), (205, 23325), (208, 23349), (217, 23430),

Gene: BluerMoon\_37 Start: 29474, Stop: 30907, Start Num: 3

Candidate Starts for BluerMoon\_37:

(Start: 3 @29474 has 44 MA's), (25, 29684), (33, 29720), (43, 29771), (55, 29852), (65, 29915), (67, 29924), (71, 29945), (73, 29957), (86, 30029), (90, 30041), (136, 30281), (137, 30290), (140, 30308), (144, 30332), (153, 30401), (178, 30575), (179, 30602), (182, 30620), (192, 30695), (199, 30764), (200, 30767), (205, 30800), (210, 30860),

Gene: Breylor17\_29 Start: 26077, Stop: 27237, Start Num: 13

Candidate Starts for Breylor17\_29:

(Start: 12 @26074 has 9 MA's), (Start: 13 @26077 has 87 MA's), (14, 26083), (22, 26128), (32, 26215), (33, 26218), (41, 26263), (53, 26335), (64, 26383), (80, 26470), (89, 26512), (98, 26569), (106, 26608), (133, 26734), (137, 26761), (143, 26797), (185, 26932), (191, 26974), (201, 27055), (205, 27085), (212, 27151),

Gene: BronxBay\_25 Start: 22608, Stop: 23774, Start Num: 13

Candidate Starts for BronxBay\_25:

(Start: 13 @22608 has 87 MA's), (14, 22614), (25, 22713), (27, 22719), (38, 22770), (49, 22842), (84, 23028), (128, 23238), (129, 23247), (141, 23319), (146, 23349), (148, 23355), (174, 23427), (188, 23478), (199, 23580), (201, 23586), (203, 23604), (204, 23613), (205, 23616), (208, 23640), (210, 23676),

Gene: Brunswick\_28 Start: 25543, Stop: 26703, Start Num: 13

Candidate Starts for Brunswick\_28:

(Start: 12 @25540 has 9 MA's), (Start: 13 @25543 has 87 MA's), (14, 25549), (32, 25681), (33, 25684), (41, 25729), (54, 25810), (80, 25936), (98, 26035), (106, 26074), (133, 26200), (137, 26227), (170, 26347), (185, 26398), (191, 26440), (196, 26488), (201, 26521), (205, 26551), (208, 26575), (212, 26617),

Gene: Burley\_34 Start: 29212, Stop: 30645, Start Num: 3

Candidate Starts for Burley\_34:

(1, 29206), (Start: 3 @29212 has 44 MA's), (17, 29341), (25, 29422), (33, 29458), (43, 29509), (55, 29590), (65, 29653), (67, 29662), (71, 29683), (73, 29695), (86, 29767), (88, 29773), (109, 29884), (111, 29887), (127, 29971), (135, 30016), (140, 30046), (144, 30070), (153, 30139), (176, 30304), (178, 30313), (179, 30340), (192, 30433), (199, 30502), (200, 30505), (201, 30508), (205, 30538),

Gene: Camille\_26 Start: 21265, Stop: 22443, Start Num: 12

Candidate Starts for Camille\_26:

(Start: 12 @21265 has 9 MA's), (Start: 13 @21268 has 87 MA's), (14, 21274), (40, 21451), (41, 21454), (49, 21502), (53, 21526), (55, 21541), (62, 21568), (77, 21652), (78, 21655), (99, 21769), (136, 21949), (159, 22042), (165, 22069), (185, 22129), (201, 22252), (205, 22282),

Gene: CapnMurica\_28 Start: 26632, Stop: 27792, Start Num: 13

Candidate Starts for CapnMurica\_28:

(Start: 12 @26629 has 9 MA's), (Start: 13 @26632 has 87 MA's), (14, 26638), (32, 26770), (33, 26773), (41, 26818), (54, 26899), (79, 27022), (80, 27025), (89, 27067), (98, 27124), (106, 27163), (133, 27289), (137, 27316), (170, 27436), (185, 27487), (191, 27529), (201, 27610), (205, 27640), (212, 27706),

Gene: Captrips\_31 Start: 26498, Stop: 27925, Start Num: 3

Candidate Starts for Captrips\_31:

(Start: 3 @26498 has 44 MA's), (11, 26591), (34, 26750), (40, 26786), (50, 26840), (65, 26939), (67, 26948), (73, 26981), (76, 26996), (86, 27053), (94, 27092), (111, 27176), (135, 27305), (137, 27317), (146, 27371), (153, 27428), (166, 27527), (178, 27602), (179, 27629), (191, 27716), (192, 27722), (193, 27725), (198, 27788), (199, 27791), (200, 27794), (201, 27797), (205, 27827), (213, 27899),

Gene: Capybara\_31 Start: 26573, Stop: 28000, Start Num: 3

Candidate Starts for Capybara\_31:

(Start: 3 @26573 has 44 MA's), (11, 26666), (34, 26825), (43, 26870), (50, 26915), (65, 27014), (67, 27023), (73, 27056), (76, 27071), (86, 27128), (94, 27167), (111, 27251), (135, 27380), (137, 27392), (141, 27416), (146, 27446), (178, 27677), (179, 27704), (185, 27749), (191, 27791), (192, 27797), (193, 27800), (198, 27863), (199, 27866), (200, 27869), (201, 27872), (205, 27902), (213, 27974),

Gene: CastorTray\_30 Start: 25935, Stop: 27095, Start Num: 13

Candidate Starts for CastorTray\_30:

(Start: 12 @25932 has 9 MA's), (Start: 13 @25935 has 87 MA's), (14, 25941), (22, 25986), (32, 26073), (33, 26076), (41, 26121), (53, 26193), (64, 26241), (80, 26328), (89, 26370), (93, 26397), (98, 26427), (106, 26466), (133, 26592), (137, 26619), (185, 26790), (191, 26832), (201, 26913), (205, 26943), (212, 27009),

Gene: Caterpillar\_26 Start: 24715, Stop: 25878, Start Num: 13

Candidate Starts for Caterpillar\_26:

(Start: 12 @24712 has 9 MA's), (Start: 13 @24715 has 87 MA's), (14, 24721), (41, 24901), (53, 24973), (54, 24982), (64, 25021), (80, 25108), (95, 25186), (101, 25228), (106, 25246), (133, 25372), (137, 25399), (141, 25426), (184, 25567), (185, 25570), (196, 25660), (201, 25693), (205, 25723), (208, 25747),

Gene: Cheesy\_24 Start: 22715, Stop: 23776, Start Num: 10

Candidate Starts for Cheesy\_24:

(Start: 10 @22715 has 19 MA's), (16, 22745), (20, 22772), (41, 22916), (101, 23201), (133, 23330), (134, 23339), (137, 23357), (189, 23558), (190, 23579),

Gene: CherryBlossom\_25 Start: 22462, Stop: 23634, Start Num: 13

Candidate Starts for CherryBlossom\_25:

(Start: 12 @22459 has 9 MA's), (Start: 13 @22462 has 87 MA's), (25, 22567), (39, 22627), (41, 22648), (43, 22654), (49, 22696), (72, 22813), (82, 22864), (90, 22900), (96, 22942), (112, 23014), (113, 23017), (119, 23053), (148, 23209), (149, 23218), (168, 23263), (170, 23266), (201, 23437), (205, 23467), (207, 23473), (208, 23491), (212, 23533), (217, 23572),

Gene: Chikenjars\_34 Start: 29464, Stop: 30897, Start Num: 3

Candidate Starts for Chikenjars\_34:

(Start: 3 @29464 has 44 MA's), (7, 29515), (8, 29527), (25, 29674), (33, 29710), (43, 29761), (55, 29842), (65, 29905), (67, 29914), (71, 29935), (73, 29947), (86, 30019), (136, 30271), (137, 30280), (140, 30298), (144, 30322), (153, 30391), (178, 30565), (179, 30592), (182, 30610), (192, 30685), (199, 30754), (200, 30757), (205, 30790), (210, 30850),

Gene: Circum\_24 Start: 22722, Stop: 23783, Start Num: 10

Candidate Starts for Circum\_24:

(Start: 10 @22722 has 19 MA's), (16, 22752), (20, 22779), (41, 22923), (101, 23208), (133, 23337), (134, 23346), (137, 23364), (189, 23565), (190, 23586),

Gene: ClubPenguin\_24 Start: 22046, Stop: 23248, Start Num: 13

Candidate Starts for ClubPenguin\_24:

(Start: 12 @22043 has 9 MA's), (Start: 13 @22046 has 87 MA's), (20, 22088), (37, 22205), (40, 22229), (41, 22232), (60, 22337), (72, 22421), (83, 22478), (90, 22508), (116, 22640), (129, 22709), (133, 22727), (134, 22736), (138, 22757), (147, 22814), (185, 22925), (198, 23039), (202, 23057), (205, 23078), (207, 23084), (208, 23102),

Gene: Conley\_32 Start: 27539, Stop: 28963, Start Num: 3

Candidate Starts for Conley\_32:

(Start: 3 @27539 has 44 MA's), (6, 27566), (20, 27686), (33, 27785), (34, 27791), (37, 27803), (43, 27836), (50, 27881), (67, 27989), (73, 28022), (86, 28094), (91, 28121), (94, 28133), (111, 28217), (116, 28241), (136, 28349), (146, 28412), (153, 28469), (157, 28514), (166, 28568), (178, 28643), (179, 28670), (185, 28715), (192, 28763), (193, 28766), (198, 28829), (199, 28832), (200, 28835), (205, 28868), (210, 28928),

Gene: Correa\_23 Start: 22230, Stop: 23291, Start Num: 10

Candidate Starts for Correa\_23:

(Start: 10 @22230 has 19 MA's), (16, 22260), (20, 22287), (41, 22431), (54, 22509), (75, 22581), (101, 22716), (133, 22845), (134, 22854), (137, 22872), (189, 23073), (190, 23094),

Gene: Count\_32 Start: 28485, Stop: 29882, Start Num: 13

Candidate Starts for Count\_32:

(Start: 13 @28485 has 87 MA's), (19, 28521), (23, 28548), (30, 28614), (39, 28650), (40, 28668), (41, 28671), (44, 28683), (45, 28686), (84, 28905), (129, 29124), (141, 29196), (161, 29259), (168, 29286), (170, 29289), (214, 29562), (216, 29574), (219, 29616), (220, 29691), (221, 29697), (222, 29727), (223, 29793), (224, 29853),

Gene: CricKo\_23 Start: 21363, Stop: 22529, Start Num: 13

Candidate Starts for CricKo\_23:

(Start: 13 @21363 has 87 MA's), (24, 21447), (27, 21474), (39, 21528), (41, 21549), (43, 21555), (49, 21597), (53, 21621), (83, 21771), (85, 21786), (90, 21801), (96, 21843), (97, 21849), (112, 21915), (147, 22107), (150, 22125), (186, 22218), (205, 22368), (207, 22374), (208, 22392),

Gene: Crocheter\_34 Start: 29604, Stop: 31037, Start Num: 3

Candidate Starts for Crocheter\_34:

(Start: 3 @29604 has 44 MA's), (15, 29721), (17, 29733), (25, 29814), (33, 29850), (43, 29901), (55, 29982), (65, 30045), (67, 30054), (71, 30075), (73, 30087), (86, 30159), (88, 30165), (109, 30276), (111, 30279), (135, 30408), (137, 30420), (144, 30462), (153, 30531), (156, 30552), (173, 30672), (178, 30705), (179, 30732), (182, 30750), (192, 30825), (199, 30894), (200, 30897), (201, 30900), (205, 30930), (210, 30990),

Gene: Daddyjeff\_26 Start: 23942, Stop: 25009, Start Num: 13

Candidate Starts for Daddyjeff\_26:

(Start: 13 @23942 has 87 MA's), (27, 24053), (35, 24095), (38, 24104), (41, 24128), (59, 24209), (87, 24341), (101, 24422), (114, 24467), (122, 24506), (207, 24926), (215, 24998),

Gene: Damascus\_26 Start: 21950, Stop: 23347, Start Num: 13

Candidate Starts for Damascus\_26:

(Start: 12 @21947 has 9 MA's), (Start: 13 @21950 has 87 MA's), (14, 21956), (26, 22058), (41, 22136), (57, 22238), (77, 22334), (78, 22337), (79, 22346), (125, 22580), (142, 22673), (155, 22760), (158, 22808), (159, 22820), (163, 22835), (172, 22895), (194, 23096), (201, 23156), (205, 23186),

Gene: Darby\_28 Start: 25381, Stop: 26541, Start Num: 13

Candidate Starts for Darby\_28:

(Start: 12 @25378 has 9 MA's), (Start: 13 @25381 has 87 MA's), (14, 25387), (22, 25432), (32, 25519), (33, 25522), (41, 25567), (53, 25639), (64, 25687), (80, 25774), (89, 25816), (98, 25873), (106, 25912), (133, 26038), (137, 26065), (143, 26101), (185, 26236), (191, 26278), (201, 26359), (205, 26389), (212, 26455),

Gene: DevitoJr\_28 Start: 25552, Stop: 26712, Start Num: 13

Candidate Starts for DevitoJr\_28:

(Start: 12 @25549 has 9 MA's), (Start: 13 @25552 has 87 MA's), (14, 25558), (22, 25603), (32, 25690), (33, 25693), (39, 25717), (41, 25738), (54, 25819), (89, 25987), (98, 26044), (106, 26083), (118, 26131), (133, 26209), (137, 26236), (170, 26356), (185, 26407), (191, 26449), (201, 26530), (205, 26560), (212, 26626),

Gene: DizzyRudy\_26 Start: 21879, Stop: 23276, Start Num: 13

Candidate Starts for DizzyRudy\_26:

(Start: 12 @21876 has 9 MA's), (Start: 13 @21879 has 87 MA's), (14, 21885), (26, 21987), (41, 22065), (57, 22167), (77, 22263), (78, 22266), (125, 22509), (142, 22602), (151, 22653), (155, 22689), (158, 22737), (159, 22749), (163, 22764), (172, 22824), (194, 23025), (201, 23085), (205, 23115),

Gene: Djungelskog\_25 Start: 22608, Stop: 23774, Start Num: 13

Candidate Starts for Djungelskog\_25:

(Start: 13 @22608 has 87 MA's), (14, 22614), (25, 22713), (27, 22719), (38, 22770), (49, 22842), (84, 23028), (128, 23238), (129, 23247), (141, 23319), (146, 23349), (148, 23355), (174, 23427), (188, 23478), (199, 23580), (201, 23586), (203, 23604), (204, 23613), (205, 23616), (208, 23640), (210, 23676),

Gene: DoctorPepper\_25 Start: 22608, Stop: 23774, Start Num: 13

Candidate Starts for DoctorPepper\_25:

(Start: 13 @22608 has 87 MA's), (14, 22614), (25, 22713), (27, 22719), (38, 22770), (49, 22842), (84, 23028), (128, 23238), (141, 23319), (146, 23349), (148, 23355), (174, 23427), (188, 23478), (199, 23580), (201, 23586), (203, 23604), (204, 23613), (205, 23616), (208, 23640), (210, 23676),

Gene: Doxi13\_21 Start: 19527, Stop: 20690, Start Num: 13

Candidate Starts for Doxi13\_21:

(Start: 12 @19524 has 9 MA's), (Start: 13 @19527 has 87 MA's), (25, 19632), (32, 19665), (39, 19692), (40, 19710), (41, 19713), (42, 19716), (43, 19719), (49, 19761), (55, 19797), (56, 19809), (79, 19917), (108, 20067), (121, 20124), (134, 20193), (150, 20289), (170, 20331), (188, 20394), (197, 20472), (201, 20502), (205, 20529), (207, 20535), (208, 20553),

Gene: DrGrey\_25 Start: 22958, Stop: 24130, Start Num: 13

Candidate Starts for DrGrey\_25:

(Start: 12 @22955 has 9 MA's), (Start: 13 @22958 has 87 MA's), (25, 23063), (36, 23114), (39, 23123), (41, 23144), (43, 23150), (45, 23159), (49, 23192), (82, 23360), (83, 23366), (90, 23396), (96, 23438), (97, 23444), (112, 23510), (119, 23549), (128, 23588), (148, 23705), (149, 23714), (168, 23759), (170, 23762), (197, 23903), (201, 23933), (205, 23963), (207, 23969), (208, 23987), (217, 24068),

Gene: Duffington\_34 Start: 29452, Stop: 30885, Start Num: 3

Candidate Starts for Duffington\_34:

(Start: 3 @29452 has 44 MA's), (7, 29503), (8, 29515), (25, 29662), (43, 29749), (55, 29830), (65, 29893), (67, 29902), (71, 29923), (73, 29935), (86, 30007), (136, 30259), (137, 30268), (140, 30286), (144, 30310), (153, 30379), (178, 30553), (179, 30580), (182, 30598), (192, 30673), (195, 30697), (199, 30742), (200, 30745), (205, 30778), (210, 30838),

Gene: Dynamite\_23 Start: 22523, Stop: 23584, Start Num: 10

Candidate Starts for Dynamite\_23:

(Start: 10 @22523 has 19 MA's), (16, 22553), (20, 22580), (41, 22724), (101, 23009), (133, 23138), (134, 23147), (189, 23366), (190, 23387),

Gene: Eddiemania\_35 Start: 30113, Stop: 31546, Start Num: 3

Candidate Starts for Eddiemania\_35:

(Start: 3 @30113 has 44 MA's), (15, 30230), (17, 30242), (25, 30323), (33, 30359), (43, 30410), (55, 30491), (65, 30554), (67, 30563), (71, 30584), (73, 30596), (86, 30668), (88, 30674), (109, 30785), (111, 30788), (127, 30872), (135, 30917), (137, 30929), (144, 30971), (153, 31040), (156, 31061), (178, 31214), (179, 31241), (192, 31334), (199, 31403), (200, 31406), (201, 31409), (205, 31439),

Gene: Eevee\_28 Start: 25982, Stop: 27049, Start Num: 13

Candidate Starts for Eevee\_28:

(Start: 13 @25982 has 87 MA's), (27, 26093), (33, 26123), (38, 26144), (41, 26168), (59, 26252), (70, 26300), (84, 26375), (86, 26381), (100, 26450), (148, 26693), (170, 26750), (184, 26804), (187, 26816), (209, 26987),

Gene: Egad\_25 Start: 22609, Stop: 23775, Start Num: 13

Candidate Starts for Egad\_25:

(Start: 13 @22609 has 87 MA's), (14, 22615), (25, 22714), (27, 22720), (38, 22771), (49, 22843), (84, 23029), (128, 23239), (129, 23248), (141, 23320), (146, 23350), (148, 23356), (174, 23428), (188, 23479), (199, 23581), (201, 23587), (203, 23605), (204, 23614), (205, 23617), (208, 23641), (210, 23677),

Gene: ElephantMan\_28 Start: 26080, Stop: 27243, Start Num: 12

Candidate Starts for ElephantMan\_28:

(Start: 12 @26080 has 9 MA's), (Start: 13 @26083 has 87 MA's), (14, 26089), (29, 26200), (32, 26221), (33, 26224), (41, 26269), (54, 26350), (80, 26476), (89, 26518), (98, 26575), (106, 26614), (137, 26767), (170, 26887), (185, 26938), (191, 26980), (196, 27028), (201, 27061), (205, 27091), (208, 27115), (212, 27157),

Gene: Elsa\_24 Start: 23000, Stop: 24061, Start Num: 10

Candidate Starts for Elsa\_24:

(Start: 10 @23000 has 19 MA's), (16, 23030), (20, 23057), (41, 23201), (101, 23486), (133, 23615), (134, 23624), (189, 23843), (190, 23864),

Gene: Elver\_41 Start: 34608, Stop: 35774, Start Num: 13

Candidate Starts for Elver\_41:



(Start: 12 @34605 has 9 MA's), (Start: 13 @34608 has 87 MA's), (14, 34614), (26, 34716), (41, 34794), (47, 34821), (51, 34851), (69, 34938), (100, 35109), (134, 35274), (199, 35577), (205, 35613), (210, 35673),

Gene: EndAve\_34 Start: 29464, Stop: 30897, Start Num: 3

Candidate Starts for EndAve\_34:

(Start: 3 @29464 has 44 MA's), (7, 29515), (8, 29527), (25, 29674), (43, 29761), (55, 29842), (65, 29905), (67, 29914), (71, 29935), (73, 29947), (86, 30019), (136, 30271), (137, 30280), (140, 30298), (144, 30322), (153, 30391), (178, 30565), (179, 30592), (182, 30610), (192, 30685), (199, 30754), (200, 30757), (205, 30790),

Gene: Esketit\_25 Start: 22442, Stop: 23617, Start Num: 12

Candidate Starts for Esketit\_25:

(Start: 12 @22442 has 9 MA's), (Start: 13 @22445 has 87 MA's), (25, 22550), (39, 22610), (41, 22631), (43, 22637), (49, 22679), (72, 22796), (82, 22847), (90, 22883), (96, 22925), (112, 22997), (119, 23036), (148, 23192), (149, 23201), (168, 23246), (170, 23249), (201, 23420), (205, 23450), (207, 23456), (208, 23474), (212, 23516), (217, 23555),

Gene: Fazel\_32 Start: 28489, Stop: 29928, Start Num: 3

Candidate Starts for Fazel\_32:

(Start: 3 @28489 has 44 MA's), (4, 28495), (7, 28540), (9, 28567), (21, 28639), (25, 28699), (32, 28732), (42, 28783), (53, 28852), (65, 28930), (67, 28939), (72, 28969), (73, 28972), (86, 29044), (88, 29050), (107, 29152), (112, 29170), (120, 29212), (127, 29248), (137, 29305), (156, 29437), (157, 29461), (160, 29479), (161, 29482), (178, 29590), (179, 29617), (185, 29662), (192, 29710), (201, 29785), (203, 29803), (205, 29815), (210, 29875),

Gene: FidgetOrca\_25 Start: 22451, Stop: 23623, Start Num: 13

Candidate Starts for FidgetOrca\_25:

(Start: 12 @22448 has 9 MA's), (Start: 13 @22451 has 87 MA's), (25, 22556), (39, 22616), (41, 22637), (43, 22643), (49, 22685), (72, 22802), (82, 22853), (90, 22889), (96, 22931), (112, 23003), (119, 23042), (148, 23198), (149, 23207), (168, 23252), (170, 23255), (201, 23426), (205, 23456), (207, 23462), (208, 23480), (212, 23522), (217, 23561),

Gene: Figliar\_34 Start: 29462, Stop: 30895, Start Num: 3

Candidate Starts for Figliar\_34:

(Start: 3 @29462 has 44 MA's), (25, 29672), (33, 29708), (43, 29759), (55, 29840), (65, 29903), (67, 29912), (71, 29933), (73, 29945), (86, 30017), (90, 30029), (136, 30269), (137, 30278), (140, 30296), (144, 30320), (153, 30389), (156, 30410), (178, 30563), (179, 30590), (182, 30608), (192, 30683), (199, 30752), (200, 30755), (205, 30788), (210, 30848),

Gene: FortCran\_31 Start: 26462, Stop: 27889, Start Num: 3

Candidate Starts for FortCran\_31:

(Start: 3 @26462 has 44 MA's), (11, 26555), (20, 26609), (34, 26714), (40, 26750), (50, 26804), (65, 26903), (67, 26912), (73, 26945), (76, 26960), (86, 27017), (94, 27056), (111, 27140), (135, 27269), (137, 27281), (146, 27335), (153, 27392), (166, 27491), (178, 27566), (179, 27593), (191, 27680), (192, 27686), (193, 27689), (198, 27752), (199, 27755), (200, 27758), (201, 27761), (205, 27791), (213, 27863),

Gene: FrodoSwaggins\_25 Start: 22958, Stop: 24130, Start Num: 13

Candidate Starts for FrodoSwaggins\_25:

(Start: 12 @22955 has 9 MA's), (Start: 13 @22958 has 87 MA's), (25, 23063), (36, 23114), (39, 23123), (41, 23144), (43, 23150), (45, 23159), (49, 23192), (82, 23360), (83, 23366), (90, 23396), (96, 23438), (97, 23444), (112, 23510), (119, 23549), (128, 23588), (148, 23705), (149, 23714), (168,

23759), (170, 23762), (197, 23903), (201, 23933), (205, 23963), (207, 23969), (208, 23987), (217, 24068),

Gene: FromIndy\_24 Start: 21351, Stop: 22517, Start Num: 13

Candidate Starts for FromIndy\_24:

(Start: 13 @21351 has 87 MA's), (24, 21435), (27, 21462), (39, 21516), (41, 21537), (43, 21543), (49, 21585), (53, 21609), (83, 21759), (85, 21774), (90, 21789), (96, 21831), (97, 21837), (112, 21903), (147, 22095), (150, 22113), (186, 22206), (205, 22356), (207, 22362), (208, 22380),

Gene: GantcherGoblin\_27 Start: 24460, Stop: 25623, Start Num: 13

Candidate Starts for GantcherGoblin\_27:

(Start: 13 @24460 has 87 MA's), (25, 24565), (27, 24571), (41, 24646), (43, 24652), (49, 24691), (81, 24856), (84, 24877), (108, 24997), (162, 25231), (167, 25255), (168, 25258), (201, 25435), (205, 25465),

Gene: Giantsbane\_29 Start: 24546, Stop: 25709, Start Num: 13

Candidate Starts for Giantsbane\_29:

(Start: 13 @24546 has 87 MA's), (14, 24552), (22, 24597), (25, 24651), (41, 24732), (53, 24804), (54, 24813), (80, 24939), (101, 25059), (106, 25077), (126, 25173), (133, 25203), (137, 25230), (185, 25401), (191, 25443), (201, 25524), (205, 25554), (208, 25578), (212, 25620),

Gene: Gill\_31 Start: 26585, Stop: 28012, Start Num: 3

Candidate Starts for Gill\_31:

(Start: 3 @26585 has 44 MA's), (11, 26678), (34, 26837), (43, 26882), (50, 26927), (65, 27026), (67, 27035), (73, 27068), (76, 27083), (86, 27140), (94, 27179), (111, 27263), (135, 27392), (137, 27404), (146, 27458), (178, 27689), (179, 27716), (185, 27761), (191, 27803), (192, 27809), (193, 27812), (198, 27875), (199, 27878), (200, 27881), (201, 27884), (205, 27914), (213, 27986),

Gene: GirlPower\_24 Start: 23929, Stop: 25101, Start Num: 13

Candidate Starts for GirlPower\_24:

(Start: 12 @23926 has 9 MA's), (Start: 13 @23929 has 87 MA's), (25, 24034), (36, 24085), (39, 24094), (41, 24115), (43, 24121), (49, 24163), (72, 24280), (82, 24331), (90, 24367), (96, 24409), (97, 24415), (112, 24481), (119, 24520), (128, 24559), (148, 24676), (149, 24685), (168, 24730), (170, 24733), (201, 24904), (205, 24934), (207, 24940), (208, 24958), (217, 25039),

Gene: GoCrazy\_22 Start: 22523, Stop: 23584, Start Num: 10

Candidate Starts for GoCrazy\_22:

(Start: 10 @22523 has 19 MA's), (16, 22553), (20, 22580), (41, 22724), (101, 23009), (133, 23138), (134, 23147), (137, 23165), (189, 23366), (190, 23387), (194, 23411),

Gene: GoblinVoyage\_21 Start: 19527, Stop: 20690, Start Num: 13

Candidate Starts for GoblinVoyage\_21:

(Start: 12 @19524 has 9 MA's), (Start: 13 @19527 has 87 MA's), (25, 19632), (32, 19665), (39, 19692), (40, 19710), (41, 19713), (42, 19716), (43, 19719), (49, 19761), (55, 19797), (56, 19809), (79, 19917), (108, 20067), (121, 20124), (134, 20193), (150, 20289), (170, 20331), (188, 20394), (197, 20472), (201, 20502), (205, 20529), (207, 20535), (208, 20553),

Gene: Gordon\_28 Start: 26657, Stop: 27817, Start Num: 13

Candidate Starts for Gordon\_28:

(Start: 12 @26654 has 9 MA's), (Start: 13 @26657 has 87 MA's), (14, 26663), (22, 26708), (32, 26795), (33, 26798), (41, 26843), (64, 26963), (80, 27050), (89, 27092), (98, 27149), (106, 27188), (137, 27341), (143, 27377), (185, 27512), (191, 27554), (201, 27635), (205, 27665), (212, 27731),

Gene: Gravy\_31 Start: 26585, Stop: 28012, Start Num: 3

Candidate Starts for Gravy\_31:

(Start: 3 @26585 has 44 MA's), (11, 26678), (34, 26837), (43, 26882), (50, 26927), (65, 27026), (67, 27035), (73, 27068), (76, 27083), (86, 27140), (94, 27179), (111, 27263), (135, 27392), (137, 27404), (141, 27428), (146, 27458), (178, 27689), (179, 27716), (185, 27761), (191, 27803), (192, 27809), (193, 27812), (198, 27875), (199, 27878), (200, 27881), (201, 27884), (205, 27914), (213, 27986),

Gene: Gusicorn\_37 Start: 29251, Stop: 30684, Start Num: 3

Candidate Starts for Gusicorn\_37:

(1, 29245), (Start: 3 @29251 has 44 MA's), (17, 29380), (25, 29461), (33, 29497), (43, 29548), (55, 29629), (65, 29692), (67, 29701), (71, 29722), (73, 29734), (86, 29806), (88, 29812), (90, 29818), (127, 30010), (136, 30058), (137, 30067), (144, 30109), (153, 30178), (156, 30199), (160, 30241), (161, 30244), (178, 30352), (179, 30379), (192, 30472), (199, 30541), (201, 30547), (205, 30577), (210, 30637),

Gene: Hankly\_22 Start: 21745, Stop: 22806, Start Num: 10

Candidate Starts for Hankly\_22:

(Start: 10 @21745 has 19 MA's), (16, 21775), (20, 21802), (41, 21946), (54, 22024), (75, 22096), (101, 22231), (133, 22360), (134, 22369), (137, 22387), (189, 22588), (190, 22609), (194, 22633),

Gene: Heisenberger\_23 Start: 22393, Stop: 23454, Start Num: 10

Candidate Starts for Heisenberger\_23:

(Start: 10 @22393 has 19 MA's), (16, 22423), (20, 22450), (41, 22594), (101, 22879), (133, 23008), (134, 23017), (137, 23035), (189, 23236), (190, 23257),

Gene: Hortihabitatio\_35 Start: 28881, Stop: 30320, Start Num: 3

Candidate Starts for Hortihabitatio\_35:

(Start: 3 @28881 has 44 MA's), (9, 28959), (15, 28998), (21, 29031), (25, 29091), (31, 29118), (49, 29220), (53, 29244), (65, 29322), (67, 29331), (76, 29379), (84, 29430), (86, 29436), (107, 29544), (112, 29562), (120, 29604), (127, 29640), (137, 29697), (153, 29808), (157, 29853), (160, 29871), (161, 29874), (178, 29982), (179, 30009), (192, 30102), (201, 30177), (203, 30195), (205, 30207), (210, 30267),

Gene: Hoshi\_25 Start: 22445, Stop: 23617, Start Num: 13

Candidate Starts for Hoshi\_25:

(Start: 12 @22442 has 9 MA's), (Start: 13 @22445 has 87 MA's), (25, 22550), (39, 22610), (41, 22631), (43, 22637), (49, 22679), (72, 22796), (82, 22847), (90, 22883), (96, 22925), (112, 22997), (119, 23036), (148, 23192), (149, 23201), (168, 23246), (170, 23249), (201, 23420), (205, 23450), (207, 23456), (208, 23474), (212, 23516), (217, 23555),

Gene: HotFries\_20 Start: 19525, Stop: 20688, Start Num: 13

Candidate Starts for HotFries\_20:

(Start: 12 @19522 has 9 MA's), (Start: 13 @19525 has 87 MA's), (25, 19630), (32, 19663), (34, 19672), (39, 19690), (41, 19711), (42, 19714), (43, 19717), (47, 19738), (49, 19759), (55, 19795), (56, 19807), (79, 19915), (108, 20065), (112, 20077), (121, 20122), (134, 20191), (150, 20287), (188, 20392), (197, 20470), (201, 20500), (205, 20527), (207, 20533), (208, 20551),

Gene: Hydrus\_35 Start: 29979, Stop: 31412, Start Num: 3

Candidate Starts for Hydrus\_35:

(Start: 3 @29979 has 44 MA's), (15, 30096), (17, 30108), (25, 30189), (33, 30225), (43, 30276), (55, 30357), (65, 30420), (67, 30429), (71, 30450), (73, 30462), (86, 30534), (88, 30540), (109, 30651), (111, 30654), (135, 30783), (137, 30795), (144, 30837), (153, 30906), (156, 30927), (173, 31047), (178, 31080), (179, 31107), (182, 31125), (192, 31200), (199, 31269), (200, 31272), (201, 31275),

(205, 31305), (210, 31365),

Gene: IceWarrior\_25 Start: 22445, Stop: 23617, Start Num: 13

Candidate Starts for IceWarrior\_25:

(Start: 12 @22442 has 9 MA's), (Start: 13 @22445 has 87 MA's), (25, 22550), (39, 22610), (41, 22631), (43, 22637), (49, 22679), (72, 22796), (82, 22847), (90, 22883), (96, 22925), (112, 22997), (119, 23036), (148, 23192), (149, 23201), (168, 23246), (170, 23249), (201, 23420), (205, 23450), (207, 23456), (208, 23474), (212, 23516), (217, 23555),

Gene: Indigenous\_25 Start: 22445, Stop: 23617, Start Num: 13

Candidate Starts for Indigenous\_25:

(Start: 12 @22442 has 9 MA's), (Start: 13 @22445 has 87 MA's), (25, 22550), (39, 22610), (41, 22631), (43, 22637), (49, 22679), (72, 22796), (82, 22847), (90, 22883), (96, 22925), (112, 22997), (119, 23036), (148, 23192), (149, 23201), (168, 23246), (170, 23249), (201, 23420), (205, 23450), (207, 23456), (208, 23474), (212, 23516), (217, 23555),

Gene: Ingrid\_28 Start: 25271, Stop: 26431, Start Num: 13

Candidate Starts for Ingrid\_28:

(Start: 12 @25268 has 9 MA's), (Start: 13 @25271 has 87 MA's), (14, 25277), (22, 25322), (33, 25412), (41, 25457), (53, 25529), (54, 25538), (55, 25541), (64, 25577), (100, 25772), (106, 25802), (108, 25811), (134, 25937), (137, 25955), (165, 26066), (185, 26126), (186, 26129), (188, 26141), (196, 26216), (205, 26279),

Gene: Inked\_30 Start: 26288, Stop: 27448, Start Num: 13

Candidate Starts for Inked\_30:

(Start: 12 @26285 has 9 MA's), (Start: 13 @26288 has 87 MA's), (14, 26294), (41, 26474), (54, 26555), (64, 26594), (79, 26678), (98, 26780), (106, 26819), (112, 26840), (133, 26945), (137, 26972), (141, 26999), (167, 27086), (185, 27143), (196, 27233), (201, 27266), (205, 27296), (208, 27320),

Gene: Issa\_28 Start: 25361, Stop: 26521, Start Num: 13

Candidate Starts for Issa\_28:

(Start: 12 @25358 has 9 MA's), (Start: 13 @25361 has 87 MA's), (14, 25367), (22, 25412), (32, 25499), (33, 25502), (39, 25526), (41, 25547), (54, 25628), (89, 25796), (98, 25853), (106, 25892), (118, 25940), (133, 26018), (137, 26045), (170, 26165), (185, 26216), (191, 26258), (193, 26267), (196, 26306), (201, 26339), (205, 26369), (208, 26393), (212, 26435),

Gene: JEGGS\_23 Start: 22447, Stop: 23508, Start Num: 10

Candidate Starts for JEGGS\_23:

(Start: 10 @22447 has 19 MA's), (16, 22477), (20, 22504), (41, 22648), (101, 22933), (133, 23062), (134, 23071), (137, 23089), (189, 23290), (190, 23311),

Gene: Jaylociraptor\_25 Start: 22445, Stop: 23617, Start Num: 13

Candidate Starts for Jaylociraptor\_25:

(Start: 12 @22442 has 9 MA's), (Start: 13 @22445 has 87 MA's), (25, 22550), (39, 22610), (41, 22631), (43, 22637), (49, 22679), (72, 22796), (82, 22847), (90, 22883), (96, 22925), (112, 22997), (119, 23036), (148, 23192), (149, 23201), (168, 23246), (170, 23249), (201, 23420), (205, 23450), (207, 23456), (208, 23474), (212, 23516), (217, 23555),

Gene: Jazzy4900\_26 Start: 24396, Stop: 25559, Start Num: 13

Candidate Starts for Jazzy4900\_26:

(Start: 12 @24393 has 9 MA's), (Start: 13 @24396 has 87 MA's), (14, 24402), (26, 24504), (34, 24543), (37, 24555), (41, 24582), (47, 24609), (63, 24696), (96, 24876), (105, 24924), (133, 25053), (137, 25080), (167, 25194), (187, 25254), (205, 25398), (217, 25509),

Gene: Jodelie19\_35 Start: 30901, Stop: 32334, Start Num: 3

Candidate Starts for Jodelie19\_35:

(Start: 3 @30901 has 44 MA's), (7, 30952), (25, 31111), (33, 31147), (43, 31198), (55, 31279), (65, 31342), (67, 31351), (71, 31372), (73, 31384), (86, 31456), (90, 31468), (136, 31708), (137, 31717), (140, 31735), (144, 31759), (153, 31828), (178, 32002), (179, 32029), (192, 32122), (199, 32191), (200, 32194), (205, 32227), (210, 32287),

Gene: JoyLin\_28 Start: 25973, Stop: 27040, Start Num: 13

Candidate Starts for JoyLin\_28:

(Start: 13 @25973 has 87 MA's), (27, 26084), (33, 26114), (38, 26135), (41, 26159), (59, 26243), (70, 26291), (84, 26366), (86, 26372), (100, 26441), (148, 26684), (170, 26741), (184, 26795), (187, 26807), (209, 26978),

Gene: JulesRay\_33 Start: 26492, Stop: 27919, Start Num: 3

Candidate Starts for JulesRay\_33:

(Start: 3 @26492 has 44 MA's), (11, 26585), (20, 26639), (34, 26744), (50, 26834), (65, 26933), (73, 26975), (76, 26990), (84, 27041), (86, 27047), (94, 27086), (111, 27170), (135, 27299), (137, 27311), (146, 27365), (153, 27422), (166, 27521), (178, 27596), (179, 27623), (191, 27710), (192, 27716), (193, 27719), (198, 27782), (199, 27785), (200, 27788), (201, 27791), (205, 27821), (213, 27893),

Gene: Kardashian\_24 Start: 22402, Stop: 23568, Start Num: 13

Candidate Starts for Kardashian\_24:

(Start: 13 @22402 has 87 MA's), (37, 22561), (39, 22567), (41, 22588), (49, 22636), (61, 22696), (73, 22756), (85, 22825), (96, 22882), (112, 22954), (134, 23068), (141, 23113), (147, 23146), (150, 23164), (186, 23257), (198, 23368), (199, 23371), (201, 23377), (205, 23407), (207, 23413), (208, 23431),

Gene: Kardesai\_22 Start: 22126, Stop: 23187, Start Num: 10

Candidate Starts for Kardesai\_22:

(Start: 10 @22126 has 19 MA's), (16, 22156), (20, 22183), (41, 22327), (101, 22612), (133, 22741), (134, 22750), (137, 22768), (189, 22969), (190, 22990), (194, 23014),

Gene: KeaneyLin\_22 Start: 22523, Stop: 23584, Start Num: 10

Candidate Starts for KeaneyLin\_22:

(Start: 10 @22523 has 19 MA's), (16, 22553), (20, 22580), (41, 22724), (101, 23009), (133, 23138), (134, 23147), (137, 23165), (189, 23366), (190, 23387), (194, 23411),

Gene: Kenosha\_34 Start: 30014, Stop: 31447, Start Num: 3

Candidate Starts for Kenosha\_34:

(Start: 3 @30014 has 44 MA's), (15, 30131), (25, 30224), (33, 30260), (43, 30311), (55, 30392), (65, 30455), (67, 30464), (71, 30485), (73, 30497), (86, 30569), (88, 30575), (109, 30686), (111, 30689), (135, 30818), (137, 30830), (144, 30872), (153, 30941), (156, 30962), (178, 31115), (179, 31142), (182, 31160), (192, 31235), (199, 31304), (200, 31307), (201, 31310), (205, 31340), (210, 31400),

Gene: Kerry\_31 Start: 26585, Stop: 28012, Start Num: 3

Candidate Starts for Kerry\_31:

(Start: 3 @26585 has 44 MA's), (11, 26678), (34, 26837), (43, 26882), (50, 26927), (65, 27026), (67, 27035), (73, 27068), (76, 27083), (86, 27140), (94, 27179), (111, 27263), (135, 27392), (137, 27404), (141, 27428), (146, 27458), (178, 27689), (179, 27716), (185, 27761), (191, 27803), (192, 27809), (193, 27812), (198, 27875), (199, 27878), (200, 27881), (201, 27884), (205, 27914), (213, 27986),

Gene: Leatheia\_28 Start: 24353, Stop: 25516, Start Num: 13

Candidate Starts for Leathea\_28:

(Start: 13 @24353 has 87 MA's), (14, 24359), (34, 24500), (41, 24539), (49, 24584), (58, 24638), (64, 24656), (74, 24713), (78, 24731), (82, 24752), (123, 24965), (167, 25148), (171, 25157), (185, 25205), (189, 25229), (201, 25328), (205, 25358),

Gene: Lewando\_31 Start: 26378, Stop: 27541, Start Num: 13

Candidate Starts for Lewando\_31:

(2, 26270), (Start: 13 @26378 has 87 MA's), (27, 26489), (32, 26516), (40, 26561), (41, 26564), (47, 26591), (49, 26609), (74, 26738), (96, 26855), (134, 27041), (138, 27062), (199, 27347), (201, 27353), (205, 27383), (208, 27407), (212, 27449),

Gene: LibertyBell\_23 Start: 21306, Stop: 22475, Start Num: 13

Candidate Starts for LibertyBell\_23:

(Start: 12 @21303 has 9 MA's), (Start: 13 @21306 has 87 MA's), (25, 21411), (39, 21471), (41, 21492), (43, 21498), (49, 21540), (55, 21576), (56, 21588), (68, 21633), (90, 21744), (97, 21792), (118, 21885), (129, 21945), (201, 22281), (203, 22299), (205, 22311), (208, 22335), (211, 22374), (218, 22428),

Gene: LilHuddy\_29 Start: 25729, Stop: 26892, Start Num: 13

Candidate Starts for LilHuddy\_29:

(Start: 13 @25729 has 87 MA's), (14, 25735), (25, 25834), (41, 25915), (53, 25987), (80, 26122), (106, 26260), (133, 26386), (137, 26413), (143, 26449), (185, 26584), (191, 26626), (201, 26707), (205, 26737), (208, 26761), (212, 26803),

Gene: Linda\_25 Start: 22608, Stop: 23774, Start Num: 13

Candidate Starts for Linda\_25:

(Start: 13 @22608 has 87 MA's), (14, 22614), (25, 22713), (27, 22719), (38, 22770), (49, 22842), (84, 23028), (128, 23238), (129, 23247), (141, 23319), (146, 23349), (148, 23355), (174, 23427), (188, 23478), (199, 23580), (201, 23586), (203, 23604), (204, 23613), (205, 23616), (208, 23640), (210, 23676),

Gene: Loretta\_28 Start: 25271, Stop: 26431, Start Num: 13

Candidate Starts for Loretta\_28:

(Start: 12 @25268 has 9 MA's), (Start: 13 @25271 has 87 MA's), (14, 25277), (22, 25322), (33, 25412), (41, 25457), (53, 25529), (54, 25538), (55, 25541), (64, 25577), (100, 25772), (106, 25802), (108, 25811), (134, 25937), (137, 25955), (165, 26066), (185, 26126), (186, 26129), (188, 26141), (196, 26216), (205, 26279),

Gene: Madamoto\_25 Start: 22421, Stop: 23593, Start Num: 13

Candidate Starts for Madamoto\_25:

(Start: 12 @22418 has 9 MA's), (Start: 13 @22421 has 87 MA's), (25, 22526), (36, 22577), (39, 22586), (41, 22607), (43, 22613), (49, 22655), (82, 22823), (83, 22829), (90, 22859), (96, 22901), (112, 22973), (119, 23012), (128, 23051), (148, 23168), (149, 23177), (168, 23222), (170, 23225), (201, 23396), (205, 23426), (207, 23432), (217, 23531),

Gene: Madvan\_34 Start: 29246, Stop: 30679, Start Num: 3

Candidate Starts for Madvan\_34:

(Start: 3 @29246 has 44 MA's), (15, 29363), (17, 29375), (25, 29456), (33, 29492), (43, 29543), (55, 29624), (65, 29687), (67, 29696), (71, 29717), (73, 29729), (86, 29801), (88, 29807), (109, 29918), (111, 29921), (135, 30050), (137, 30062), (144, 30104), (153, 30173), (156, 30194), (173, 30314), (178, 30347), (179, 30374), (182, 30392), (192, 30467), (199, 30536), (200, 30539), (201, 30542), (205, 30572), (210, 30632),

Gene: Magel\_32 Start: 26493, Stop: 27920, Start Num: 3

Candidate Starts for Magel\_32:

(Start: 3 @26493 has 44 MA's), (11, 26586), (34, 26745), (43, 26790), (50, 26835), (65, 26934), (67, 26943), (73, 26976), (76, 26991), (86, 27048), (94, 27087), (111, 27171), (135, 27300), (137, 27312), (141, 27336), (146, 27366), (178, 27597), (179, 27624), (185, 27669), (191, 27711), (192, 27717), (193, 27720), (198, 27783), (199, 27786), (200, 27789), (201, 27792), (205, 27822), (213, 27894),

Gene: Makai\_28 Start: 25518, Stop: 26678, Start Num: 13

Candidate Starts for Makai\_28:

(Start: 13 @25518 has 87 MA's), (14, 25524), (22, 25569), (25, 25623), (41, 25704), (54, 25785), (55, 25788), (64, 25824), (80, 25911), (100, 26019), (101, 26031), (106, 26049), (118, 26097), (133, 26175), (137, 26202), (143, 26238), (146, 26259), (170, 26322), (185, 26373), (186, 26376), (191, 26415), (196, 26463), (201, 26496), (205, 26526), (212, 26592),

Gene: Maya\_25 Start: 22459, Stop: 23631, Start Num: 13

Candidate Starts for Maya\_25:

(Start: 12 @22456 has 9 MA's), (Start: 13 @22459 has 87 MA's), (25, 22564), (39, 22624), (41, 22645), (43, 22651), (49, 22693), (72, 22810), (82, 22861), (90, 22897), (96, 22939), (112, 23011), (119, 23050), (148, 23206), (149, 23215), (168, 23260), (170, 23263), (201, 23434), (205, 23464), (207, 23470), (208, 23488), (212, 23530), (217, 23569),

Gene: MediumFry\_26 Start: 24717, Stop: 25880, Start Num: 13

Candidate Starts for MediumFry\_26:

(Start: 12 @24714 has 9 MA's), (Start: 13 @24717 has 87 MA's), (14, 24723), (41, 24903), (53, 24975), (54, 24984), (64, 25023), (101, 25230), (106, 25248), (133, 25374), (137, 25401), (141, 25428), (184, 25569), (185, 25572), (196, 25662), (201, 25695), (205, 25725), (208, 25749),

Gene: Meibysrarus\_25 Start: 22445, Stop: 23617, Start Num: 13

Candidate Starts for Meibysrarus\_25:

(Start: 12 @22442 has 9 MA's), (Start: 13 @22445 has 87 MA's), (25, 22550), (39, 22610), (41, 22631), (43, 22637), (49, 22679), (72, 22796), (82, 22847), (90, 22883), (96, 22925), (112, 22997), (119, 23036), (148, 23192), (149, 23201), (168, 23246), (170, 23249), (201, 23420), (205, 23450), (207, 23456), (208, 23474), (212, 23516), (217, 23555),

Gene: Michelle\_25 Start: 22608, Stop: 23774, Start Num: 13

Candidate Starts for Michelle\_25:

(Start: 13 @22608 has 87 MA's), (14, 22614), (25, 22713), (27, 22719), (38, 22770), (49, 22842), (84, 23028), (128, 23238), (129, 23247), (141, 23319), (146, 23349), (148, 23355), (174, 23427), (188, 23478), (199, 23580), (201, 23586), (203, 23604), (204, 23613), (205, 23616), (208, 23640), (210, 23676),

Gene: Miek\_23 Start: 21363, Stop: 22529, Start Num: 13

Candidate Starts for Miek\_23:

(Start: 13 @21363 has 87 MA's), (24, 21447), (27, 21474), (39, 21528), (41, 21549), (43, 21555), (49, 21597), (53, 21621), (85, 21786), (90, 21801), (96, 21843), (97, 21849), (112, 21915), (147, 22107), (150, 22125), (186, 22218), (205, 22368), (207, 22374), (208, 22392),

Gene: MiniBagel\_28 Start: 26611, Stop: 27771, Start Num: 13

Candidate Starts for MiniBagel\_28:

(Start: 12 @26608 has 9 MA's), (Start: 13 @26611 has 87 MA's), (14, 26617), (32, 26749), (33, 26752), (41, 26797), (54, 26878), (79, 27001), (80, 27004), (89, 27046), (98, 27103), (106, 27142), (133, 27268), (137, 27295), (170, 27415), (185, 27466), (191, 27508), (201, 27589), (205, 27619), (212, 27685),

Gene: Mooshroom\_23 Start: 22126, Stop: 23187, Start Num: 10

Candidate Starts for Mooshroom\_23:

(Start: 10 @22126 has 19 MA's), (16, 22156), (20, 22183), (41, 22327), (101, 22612), (133, 22741), (134, 22750), (137, 22768), (189, 22969), (190, 22990), (194, 23014),

Gene: Moozy\_21 Start: 19542, Stop: 20705, Start Num: 13

Candidate Starts for Moozy\_21:

(Start: 12 @19539 has 9 MA's), (Start: 13 @19542 has 87 MA's), (25, 19647), (32, 19680), (39, 19707), (41, 19728), (42, 19731), (43, 19734), (49, 19776), (55, 19812), (56, 19824), (79, 19932), (108, 20082), (112, 20094), (121, 20139), (134, 20208), (150, 20304), (170, 20346), (188, 20409), (197, 20487), (201, 20517), (205, 20544), (207, 20550), (208, 20568),

Gene: Mossy\_35 Start: 30659, Stop: 32098, Start Num: 3

Candidate Starts for Mossy\_35:

(Start: 3 @30659 has 44 MA's), (9, 30737), (15, 30776), (21, 30809), (25, 30869), (31, 30896), (65, 31100), (67, 31109), (76, 31157), (84, 31208), (86, 31214), (88, 31220), (107, 31322), (111, 31334), (112, 31340), (120, 31382), (127, 31418), (137, 31475), (156, 31607), (157, 31631), (160, 31649), (161, 31652), (178, 31760), (179, 31787), (192, 31880), (201, 31955), (203, 31973), (205, 31985),

Gene: MrAaronian\_25 Start: 22608, Stop: 23774, Start Num: 13

Candidate Starts for MrAaronian\_25:

(Start: 13 @22608 has 87 MA's), (14, 22614), (25, 22713), (27, 22719), (38, 22770), (49, 22842), (84, 23028), (128, 23238), (129, 23247), (141, 23319), (146, 23349), (148, 23355), (174, 23427), (188, 23478), (199, 23580), (201, 23586), (203, 23604), (204, 23613), (205, 23616), (208, 23640), (210, 23676),

Gene: Mudcat\_23 Start: 24424, Stop: 25485, Start Num: 10

Candidate Starts for Mudcat\_23:

(Start: 10 @24424 has 19 MA's), (16, 24454), (20, 24481), (41, 24625), (101, 24910), (133, 25039), (134, 25048), (137, 25066), (189, 25267), (190, 25288),

Gene: Mysticmoon\_34 Start: 29286, Stop: 30719, Start Num: 4

Candidate Starts for Mysticmoon\_34:

(1, 29274), (Start: 3 @29280 has 44 MA's), (4, 29286), (9, 29358), (21, 29430), (25, 29490), (32, 29523), (43, 29577), (53, 29643), (65, 29721), (86, 29835), (88, 29841), (107, 29943), (112, 29961), (120, 30003), (127, 30039), (137, 30096), (156, 30228), (157, 30252), (160, 30270), (161, 30273), (178, 30381), (179, 30408), (185, 30453), (192, 30501), (201, 30576), (203, 30594), (205, 30606),

Gene: Nadmeg\_35 Start: 30677, Stop: 32110, Start Num: 3

Candidate Starts for Nadmeg\_35:

(Start: 3 @30677 has 44 MA's), (15, 30794), (17, 30806), (25, 30887), (33, 30923), (43, 30974), (55, 31055), (65, 31118), (67, 31127), (71, 31148), (73, 31160), (86, 31232), (88, 31238), (109, 31349), (111, 31352), (135, 31481), (137, 31493), (144, 31535), (153, 31604), (156, 31625), (173, 31745), (178, 31778), (179, 31805), (182, 31823), (192, 31898), (199, 31967), (200, 31970), (201, 31973), (205, 32003), (210, 32063),

Gene: Namo\_25 Start: 22451, Stop: 23623, Start Num: 13

Candidate Starts for Namo\_25:

(Start: 12 @22448 has 9 MA's), (Start: 13 @22451 has 87 MA's), (25, 22556), (39, 22616), (41, 22637), (43, 22643), (49, 22685), (72, 22802), (82, 22853), (90, 22889), (96, 22931), (112, 23003), (119, 23042), (148, 23198), (149, 23207), (168, 23252), (170, 23255), (201, 23426), (205, 23456), (207, 23462), (208, 23480), (212, 23522), (217, 23561),



Gene: NapoleonB\_23 Start: 22523, Stop: 23584, Start Num: 10

Candidate Starts for NapoleonB\_23:

(Start: 10 @22523 has 19 MA's), (16, 22553), (20, 22580), (41, 22724), (101, 23009), (133, 23138), (134, 23147), (189, 23366), (190, 23387),

Gene: Nason\_24 Start: 23000, Stop: 24061, Start Num: 10

Candidate Starts for Nason\_24:

(Start: 10 @23000 has 19 MA's), (16, 23030), (20, 23057), (41, 23201), (101, 23486), (133, 23615), (134, 23624), (189, 23843), (190, 23864),

Gene: Nightmare\_29 Start: 25921, Stop: 27081, Start Num: 13

Candidate Starts for Nightmare\_29:

(Start: 12 @25918 has 9 MA's), (Start: 13 @25921 has 87 MA's), (14, 25927), (22, 25972), (32, 26059), (33, 26062), (39, 26086), (41, 26107), (54, 26188), (89, 26356), (98, 26413), (106, 26452), (118, 26500), (133, 26578), (137, 26605), (170, 26725), (185, 26776), (191, 26818), (193, 26827), (196, 26866), (201, 26899), (205, 26929), (208, 26953), (212, 26995),

Gene: Niktson\_28 Start: 26080, Stop: 27243, Start Num: 12

Candidate Starts for Niktson\_28:

(Start: 12 @26080 has 9 MA's), (Start: 13 @26083 has 87 MA's), (14, 26089), (29, 26200), (32, 26221), (33, 26224), (41, 26269), (54, 26350), (80, 26476), (89, 26518), (98, 26575), (106, 26614), (137, 26767), (170, 26887), (185, 26938), (191, 26980), (196, 27028), (201, 27061), (205, 27091), (208, 27115), (212, 27157),

Gene: Nithya\_34 Start: 29461, Stop: 30894, Start Num: 3

Candidate Starts for Nithya\_34:

(Start: 3 @29461 has 44 MA's), (7, 29512), (8, 29524), (25, 29671), (43, 29758), (55, 29839), (65, 29902), (67, 29911), (71, 29932), (73, 29944), (86, 30016), (136, 30268), (137, 30277), (140, 30295), (144, 30319), (153, 30388), (178, 30562), (179, 30589), (182, 30607), (192, 30682), (199, 30751), (200, 30754), (205, 30787),

Gene: Nivinsha\_28 Start: 25471, Stop: 26631, Start Num: 13

Candidate Starts for Nivinsha\_28:

(Start: 12 @25468 has 9 MA's), (Start: 13 @25471 has 87 MA's), (14, 25477), (22, 25522), (32, 25609), (33, 25612), (41, 25657), (53, 25729), (64, 25777), (80, 25864), (89, 25906), (98, 25963), (106, 26002), (133, 26128), (137, 26155), (143, 26191), (170, 26275), (185, 26326), (191, 26368), (201, 26449), (205, 26479), (212, 26545),

Gene: NoPickles\_31 Start: 26217, Stop: 27644, Start Num: 3

Candidate Starts for NoPickles\_31:

(Start: 3 @26217 has 44 MA's), (11, 26310), (34, 26469), (43, 26514), (50, 26559), (65, 26658), (67, 26667), (73, 26700), (76, 26715), (86, 26772), (94, 26811), (111, 26895), (135, 27024), (137, 27036), (141, 27060), (146, 27090), (178, 27321), (179, 27348), (185, 27393), (191, 27435), (192, 27441), (193, 27444), (198, 27507), (199, 27510), (200, 27513), (201, 27516), (205, 27546), (213, 27618),

Gene: Odesza\_31 Start: 26585, Stop: 28012, Start Num: 3

Candidate Starts for Odesza\_31:

(Start: 3 @26585 has 44 MA's), (11, 26678), (34, 26837), (43, 26882), (50, 26927), (65, 27026), (67, 27035), (73, 27068), (76, 27083), (86, 27140), (94, 27179), (111, 27263), (135, 27392), (137, 27404), (141, 27428), (146, 27458), (178, 27689), (179, 27716), (185, 27761), (191, 27803), (192, 27809), (193, 27812), (198, 27875), (199, 27878), (200, 27881), (201, 27884), (205, 27914), (213, 27986),

Gene: OhMyWard\_34 Start: 29999, Stop: 31438, Start Num: 3

Candidate Starts for OhMyWard\_34:

(Start: 3 @29999 has 44 MA's), (9, 30077), (21, 30149), (25, 30209), (31, 30236), (33, 30245), (40, 30287), (65, 30440), (66, 30446), (67, 30449), (76, 30497), (84, 30548), (86, 30554), (88, 30560), (107, 30662), (111, 30674), (112, 30680), (120, 30722), (127, 30758), (137, 30815), (156, 30947), (157, 30971), (160, 30989), (161, 30992), (178, 31100), (179, 31127), (192, 31220), (201, 31295), (203, 31313), (205, 31325),

Gene: OlgasClover\_34 Start: 30185, Stop: 31618, Start Num: 3

Candidate Starts for OlgasClover\_34:

(Start: 3 @30185 has 44 MA's), (7, 30236), (25, 30395), (33, 30431), (43, 30482), (55, 30563), (65, 30626), (67, 30635), (71, 30656), (73, 30668), (86, 30740), (90, 30752), (136, 30992), (137, 31001), (140, 31019), (144, 31043), (153, 31112), (156, 31133), (178, 31286), (179, 31313), (182, 31331), (192, 31406), (199, 31475), (200, 31478), (205, 31511), (210, 31571),

Gene: OlympicHelado\_25 Start: 22448, Stop: 23623, Start Num: 12

Candidate Starts for OlympicHelado\_25:

(Start: 12 @22448 has 9 MA's), (Start: 13 @22451 has 87 MA's), (25, 22556), (39, 22616), (41, 22637), (43, 22643), (49, 22685), (72, 22802), (82, 22853), (90, 22889), (96, 22931), (112, 23003), (119, 23042), (148, 23198), (149, 23207), (168, 23252), (170, 23255), (201, 23426), (205, 23456), (207, 23462), (208, 23480), (212, 23522), (217, 23561),

Gene: Paella\_42 Start: 34610, Stop: 35776, Start Num: 13

Candidate Starts for Paella\_42:

(Start: 12 @34607 has 9 MA's), (Start: 13 @34610 has 87 MA's), (14, 34616), (26, 34718), (41, 34796), (47, 34823), (51, 34853), (69, 34940), (100, 35111), (134, 35276), (199, 35579), (205, 35615), (210, 35675),

Gene: Pepy6\_037 Start: 36697, Stop: 38091, Start Num: 3

Candidate Starts for Pepy6\_037:

(Start: 3 @36697 has 44 MA's), (48, 37033), (52, 37057), (65, 37141), (66, 37147), (73, 37183), (91, 37279), (111, 37375), (112, 37381), (124, 37450), (131, 37483), (132, 37486), (135, 37507), (144, 37564), (152, 37606), (154, 37636), (160, 37684), (169, 37726), (177, 37774), (178, 37777), (180, 37804), (185, 37843), (192, 37891), (193, 37894), (197, 37936), (201, 37966), (205, 37996), (206, 37999),

Gene: Perkunas\_33 Start: 26981, Stop: 28405, Start Num: 3

Candidate Starts for Perkunas\_33:

(Start: 3 @26981 has 44 MA's), (6, 27008), (20, 27128), (33, 27227), (34, 27233), (37, 27245), (43, 27278), (50, 27323), (67, 27431), (73, 27464), (86, 27536), (91, 27563), (94, 27575), (111, 27659), (136, 27791), (146, 27854), (153, 27911), (166, 28010), (178, 28085), (179, 28112), (185, 28157), (192, 28205), (193, 28208), (198, 28271), (199, 28274), (200, 28277), (205, 28310), (210, 28370),

Gene: Petito\_33 Start: 27745, Stop: 29172, Start Num: 3

Candidate Starts for Petito\_33:

(Start: 3 @27745 has 44 MA's), (4, 27751), (21, 27895), (25, 27955), (32, 27988), (65, 28186), (67, 28195), (71, 28216), (72, 28225), (86, 28300), (102, 28387), (107, 28408), (120, 28468), (135, 28549), (137, 28561), (144, 28603), (153, 28672), (164, 28750), (166, 28771), (178, 28846), (192, 28966), (199, 29035), (200, 29038), (201, 29041), (205, 29071),

Gene: Phaby\_29 Start: 25658, Stop: 26821, Start Num: 13

Candidate Starts for Phaby\_29:

(Start: 13 @25658 has 87 MA's), (14, 25664), (22, 25709), (25, 25763), (41, 25844), (53, 25916), (54, 25925), (64, 25964), (80, 26051), (101, 26171), (106, 26189), (117, 26234), (133, 26315), (137, 26342), (143, 26378), (185, 26513), (186, 26516), (201, 26636), (205, 26666), (212, 26732),

Gene: Phaila\_27 Start: 24038, Stop: 25201, Start Num: 13

Candidate Starts for Phaila\_27:

(Start: 13 @24038 has 87 MA's), (25, 24143), (27, 24149), (41, 24224), (43, 24230), (49, 24269), (81, 24434), (84, 24455), (108, 24575), (129, 24674), (162, 24809), (167, 24833), (168, 24836), (201, 25013), (205, 25043),

Gene: Phepper\_34 Start: 29244, Stop: 30677, Start Num: 3

Candidate Starts for Phepper\_34:

(Start: 3 @29244 has 44 MA's), (15, 29361), (17, 29373), (25, 29454), (33, 29490), (43, 29541), (55, 29622), (65, 29685), (67, 29694), (71, 29715), (73, 29727), (86, 29799), (88, 29805), (109, 29916), (111, 29919), (127, 30003), (135, 30048), (140, 30078), (144, 30102), (153, 30171), (176, 30336), (178, 30345), (179, 30372), (192, 30465), (199, 30534), (200, 30537), (201, 30540), (205, 30570), (210, 30630),

Gene: Pherobrine\_33 Start: 29278, Stop: 30717, Start Num: 3

Candidate Starts for Pherobrine\_33:

(1, 29272), (Start: 3 @29278 has 44 MA's), (4, 29284), (9, 29356), (21, 29428), (25, 29488), (32, 29521), (43, 29575), (53, 29641), (65, 29719), (86, 29833), (88, 29839), (107, 29941), (112, 29959), (120, 30001), (127, 30037), (137, 30094), (156, 30226), (160, 30268), (161, 30271), (178, 30379), (179, 30406), (185, 30451), (192, 30499), (201, 30574), (203, 30592), (205, 30604),

Gene: PherryCruz\_20 Start: 19524, Stop: 20690, Start Num: 12

Candidate Starts for PherryCruz\_20:

(Start: 12 @19524 has 9 MA's), (Start: 13 @19527 has 87 MA's), (25, 19632), (32, 19665), (34, 19674), (39, 19692), (41, 19713), (42, 19716), (43, 19719), (47, 19740), (49, 19761), (55, 19797), (56, 19809), (79, 19917), (108, 20067), (121, 20124), (150, 20289), (188, 20394), (197, 20472), (201, 20502), (205, 20529), (207, 20535), (208, 20553),

Gene: Pippin15\_27 Start: 23621, Stop: 24688, Start Num: 13

Candidate Starts for Pippin15\_27:

(Start: 13 @23621 has 87 MA's), (27, 23732), (33, 23762), (38, 23783), (41, 23807), (42, 23810), (46, 23825), (84, 24014), (86, 24020), (100, 24089), (170, 24389), (185, 24446), (187, 24455), (207, 24605), (209, 24626),

Gene: POCO6\_038 Start: 38719, Stop: 40113, Start Num: 3

Candidate Starts for POCO6\_038:

(Start: 3 @38719 has 44 MA's), (6, 38746), (48, 39055), (52, 39079), (65, 39163), (71, 39193), (73, 39205), (76, 39220), (94, 39313), (111, 39397), (112, 39403), (124, 39472), (131, 39505), (132, 39508), (135, 39529), (136, 39532), (142, 39574), (144, 39586), (152, 39628), (156, 39676), (160, 39706), (169, 39748), (175, 39775), (177, 39796), (178, 39799), (180, 39826), (185, 39865), (192, 39913), (197, 39958), (201, 39988), (205, 40018),

Gene: Popy\_25 Start: 22958, Stop: 24130, Start Num: 13

Candidate Starts for Popy\_25:

(Start: 12 @22955 has 9 MA's), (Start: 13 @22958 has 87 MA's), (25, 23063), (36, 23114), (39, 23123), (41, 23144), (43, 23150), (45, 23159), (49, 23192), (82, 23360), (83, 23366), (90, 23396), (96, 23438), (97, 23444), (112, 23510), (119, 23549), (128, 23588), (148, 23705), (149, 23714), (168, 23759), (170, 23762), (197, 23903), (201, 23933), (205, 23963), (207, 23969), (208, 23987), (217, 24068),

Gene: ProfFrink\_25 Start: 22608, Stop: 23774, Start Num: 13

Candidate Starts for ProfFrink\_25:

(Start: 13 @22608 has 87 MA's), (14, 22614), (25, 22713), (27, 22719), (38, 22770), (49, 22842), (84, 23028), (128, 23238), (129, 23247), (141, 23319), (146, 23349), (148, 23355), (174, 23427), (188, 23478), (199, 23580), (201, 23586), (203, 23604), (204, 23613), (205, 23616), (208, 23640), (210, 23676),

Gene: Qui\_42 Start: 34610, Stop: 35776, Start Num: 13

Candidate Starts for Qui\_42:

(Start: 12 @34607 has 9 MA's), (Start: 13 @34610 has 87 MA's), (14, 34616), (26, 34718), (41, 34796), (47, 34823), (51, 34853), (69, 34940), (100, 35111), (134, 35276), (199, 35579), (205, 35615), (210, 35675),

Gene: Rainydai\_23 Start: 21363, Stop: 22529, Start Num: 13

Candidate Starts for Rainydai\_23:

(Start: 13 @21363 has 87 MA's), (24, 21447), (27, 21474), (39, 21528), (41, 21549), (43, 21555), (49, 21597), (53, 21621), (83, 21771), (85, 21786), (90, 21801), (96, 21843), (97, 21849), (112, 21915), (147, 22107), (150, 22125), (186, 22218), (205, 22368), (207, 22374), (208, 22392),

Gene: Raunak\_25 Start: 22608, Stop: 23774, Start Num: 13

Candidate Starts for Raunak\_25:

(Start: 13 @22608 has 87 MA's), (14, 22614), (25, 22713), (27, 22719), (38, 22770), (49, 22842), (84, 23028), (128, 23238), (129, 23247), (141, 23319), (146, 23349), (148, 23355), (174, 23427), (188, 23478), (199, 23580), (201, 23586), (203, 23604), (204, 23613), (205, 23616), (208, 23640), (210, 23676),

Gene: RavenPuff\_20 Start: 19527, Stop: 20690, Start Num: 13

Candidate Starts for RavenPuff\_20:

(Start: 12 @19524 has 9 MA's), (Start: 13 @19527 has 87 MA's), (25, 19632), (32, 19665), (34, 19674), (39, 19692), (41, 19713), (42, 19716), (43, 19719), (47, 19740), (49, 19761), (55, 19797), (56, 19809), (79, 19917), (108, 20067), (121, 20124), (150, 20289), (188, 20394), (197, 20472), (201, 20502), (205, 20529), (207, 20535), (208, 20553),

Gene: Regigigas\_24 Start: 21363, Stop: 22529, Start Num: 13

Candidate Starts for Regigigas\_24:

(Start: 13 @21363 has 87 MA's), (24, 21447), (27, 21474), (39, 21528), (41, 21549), (43, 21555), (49, 21597), (53, 21621), (83, 21771), (85, 21786), (90, 21801), (96, 21843), (97, 21849), (112, 21915), (147, 22107), (150, 22125), (186, 22218), (205, 22368), (207, 22374), (208, 22392),

Gene: Renaldo\_33 Start: 26387, Stop: 27550, Start Num: 13

Candidate Starts for Renaldo\_33:

(Start: 13 @26387 has 87 MA's), (27, 26498), (32, 26525), (40, 26570), (41, 26573), (47, 26600), (49, 26618), (74, 26747), (96, 26864), (134, 27050), (138, 27071), (199, 27356), (201, 27362), (205, 27392), (208, 27416), (212, 27458),

Gene: Rickmore\_33 Start: 27895, Stop: 29328, Start Num: 3

Candidate Starts for Rickmore\_33:

(Start: 3 @27895 has 44 MA's), (7, 27946), (15, 28012), (17, 28024), (25, 28105), (33, 28141), (43, 28192), (55, 28273), (65, 28336), (67, 28345), (71, 28366), (73, 28378), (86, 28450), (90, 28462), (111, 28570), (127, 28654), (135, 28699), (144, 28753), (153, 28822), (178, 28996), (181, 29035), (192, 29116), (195, 29140), (200, 29188), (205, 29221), (210, 29281), (211, 29284),

Gene: Rima\_25 Start: 22448, Stop: 23623, Start Num: 12

Candidate Starts for Rima\_25:

(Start: 12 @22448 has 9 MA's), (Start: 13 @22451 has 87 MA's), (25, 22556), (39, 22616), (41, 22637), (43, 22643), (49, 22685), (72, 22802), (82, 22853), (90, 22889), (96, 22931), (112, 23003), (119, 23042), (148, 23198), (149, 23207), (168, 23252), (170, 23255), (201, 23426), (205, 23456), (207, 23462), (208, 23480), (212, 23522), (217, 23561),

Gene: Roney\_31 Start: 26585, Stop: 28012, Start Num: 3

Candidate Starts for Roney\_31:

(Start: 3 @26585 has 44 MA's), (11, 26678), (34, 26837), (43, 26882), (50, 26927), (65, 27026), (67, 27035), (73, 27068), (76, 27083), (86, 27140), (94, 27179), (111, 27263), (135, 27392), (137, 27404), (146, 27458), (178, 27689), (179, 27716), (185, 27761), (191, 27803), (192, 27809), (193, 27812), (198, 27875), (199, 27878), (200, 27881), (201, 27884), (205, 27914), (213, 27986),

Gene: RosaAsantewaa\_21 Start: 19335, Stop: 20507, Start Num: 13

Candidate Starts for RosaAsantewaa\_21:

(Start: 13 @19335 has 87 MA's), (19, 19371), (39, 19500), (40, 19518), (41, 19521), (43, 19527), (56, 19617), (92, 19791), (96, 19815), (97, 19821), (106, 19866), (112, 19887), (185, 20187), (201, 20310), (203, 20328), (205, 20340), (207, 20346), (208, 20364), (210, 20400),

Gene: Runhaar\_34 Start: 29247, Stop: 30680, Start Num: 3

Candidate Starts for Runhaar\_34:

(1, 29241), (Start: 3 @29247 has 44 MA's), (17, 29376), (25, 29457), (33, 29493), (43, 29544), (55, 29625), (65, 29688), (67, 29697), (71, 29718), (73, 29730), (86, 29802), (88, 29808), (109, 29919), (111, 29922), (127, 30006), (135, 30051), (140, 30081), (144, 30105), (153, 30174), (176, 30339), (178, 30348), (179, 30375), (192, 30468), (199, 30537), (200, 30540), (201, 30543), (205, 30573),

Gene: Salk\_25 Start: 22608, Stop: 23774, Start Num: 13

Candidate Starts for Salk\_25:

(Start: 13 @22608 has 87 MA's), (14, 22614), (25, 22713), (27, 22719), (38, 22770), (49, 22842), (84, 23028), (128, 23238), (129, 23247), (141, 23319), (146, 23349), (148, 23355), (174, 23427), (188, 23478), (199, 23580), (201, 23586), (203, 23604), (204, 23613), (205, 23616), (208, 23640), (210, 23676),

Gene: Scap1\_21 Start: 19479, Stop: 20642, Start Num: 13

Candidate Starts for Scap1\_21:

(Start: 13 @19479 has 87 MA's), (25, 19584), (28, 19593), (30, 19608), (33, 19620), (39, 19644), (41, 19665), (43, 19671), (49, 19713), (55, 19749), (56, 19761), (68, 19806), (72, 19830), (92, 19935), (96, 19959), (108, 20019), (113, 20034), (119, 20070), (126, 20106), (133, 20136), (141, 20190), (188, 20346), (197, 20424), (201, 20454), (205, 20481), (207, 20487), (208, 20505),

Gene: Schwartz33\_35 Start: 29578, Stop: 31017, Start Num: 3

Candidate Starts for Schwartz33\_35:

(Start: 3 @29578 has 44 MA's), (5, 29587), (8, 29641), (15, 29695), (17, 29707), (34, 29830), (36, 29839), (40, 29866), (42, 29872), (49, 29917), (53, 29941), (65, 30019), (71, 30049), (76, 30076), (84, 30127), (86, 30133), (90, 30145), (111, 30253), (112, 30259), (135, 30382), (136, 30385), (137, 30394), (144, 30436), (157, 30550), (160, 30568), (161, 30571), (166, 30604), (173, 30646), (178, 30679), (179, 30706), (188, 30766), (192, 30799), (205, 30904),

Gene: ScienceWizSam\_30 Start: 25872, Stop: 27032, Start Num: 13

Candidate Starts for ScienceWizSam\_30:

(Start: 12 @25869 has 9 MA's), (Start: 13 @25872 has 87 MA's), (14, 25878), (22, 25923), (32, 26010), (33, 26013), (41, 26058), (53, 26130), (64, 26178), (80, 26265), (89, 26307), (98, 26364),

(106, 26403), (133, 26529), (137, 26556), (185, 26727), (191, 26769), (201, 26850), (205, 26880), (212, 26946),

Gene: Secretariat\_32 Start: 28312, Stop: 29748, Start Num: 3

Candidate Starts for Secretariat\_32:

(Start: 3 @28312 has 44 MA's), (4, 28318), (7, 28363), (21, 28462), (25, 28522), (33, 28558), (34, 28564), (53, 28675), (67, 28762), (71, 28783), (73, 28795), (76, 28810), (86, 28867), (104, 28966), (107, 28975), (127, 29071), (135, 29116), (137, 29128), (144, 29170), (160, 29302), (161, 29305), (173, 29380), (178, 29413), (192, 29533), (201, 29608), (203, 29626), (205, 29638), (210, 29698),

Gene: SendItCS\_22 Start: 21363, Stop: 22529, Start Num: 13

Candidate Starts for SendItCS\_22:

(Start: 13 @21363 has 87 MA's), (24, 21447), (27, 21474), (39, 21528), (41, 21549), (43, 21555), (49, 21597), (53, 21621), (85, 21786), (90, 21801), (96, 21843), (97, 21849), (112, 21915), (147, 22107), (150, 22125), (186, 22218), (205, 22368), (207, 22374), (208, 22392),

Gene: Serenabean\_26 Start: 23971, Stop: 25038, Start Num: 13

Candidate Starts for Serenabean\_26:

(Start: 13 @23971 has 87 MA's), (27, 24082), (35, 24124), (38, 24133), (41, 24157), (59, 24238), (87, 24370), (101, 24451), (114, 24496), (122, 24535), (207, 24955), (215, 25027),

Gene: ShaggyRogers\_37 Start: 29250, Stop: 30683, Start Num: 3

Candidate Starts for ShaggyRogers\_37:

(1, 29244), (Start: 3 @29250 has 44 MA's), (17, 29379), (25, 29460), (33, 29496), (43, 29547), (55, 29628), (65, 29691), (67, 29700), (71, 29721), (73, 29733), (86, 29805), (88, 29811), (90, 29817), (127, 30009), (136, 30057), (137, 30066), (144, 30108), (153, 30177), (156, 30198), (160, 30240), (161, 30243), (178, 30351), (179, 30378), (192, 30471), (199, 30540), (201, 30546), (205, 30576), (210, 30636),

Gene: SheRa\_21 Start: 19526, Stop: 20689, Start Num: 13

Candidate Starts for SheRa\_21:

(Start: 12 @19523 has 9 MA's), (Start: 13 @19526 has 87 MA's), (25, 19631), (32, 19664), (34, 19673), (39, 19691), (41, 19712), (42, 19715), (43, 19718), (47, 19739), (49, 19760), (55, 19796), (56, 19808), (108, 20066), (112, 20078), (121, 20123), (134, 20192), (150, 20288), (188, 20393), (197, 20471), (201, 20501), (205, 20528), (207, 20534), (208, 20552),

Gene: Shepard\_29 Start: 25726, Stop: 26889, Start Num: 13

Candidate Starts for Shepard\_29:

(Start: 13 @25726 has 87 MA's), (14, 25732), (25, 25831), (41, 25912), (53, 25984), (54, 25993), (80, 26119), (106, 26257), (133, 26383), (137, 26410), (143, 26446), (185, 26581), (191, 26623), (201, 26704), (205, 26734), (208, 26758), (212, 26800),

Gene: Shiba\_25 Start: 22608, Stop: 23774, Start Num: 13

Candidate Starts for Shiba\_25:

(Start: 13 @22608 has 87 MA's), (14, 22614), (25, 22713), (27, 22719), (38, 22770), (49, 22842), (84, 23028), (128, 23238), (129, 23247), (141, 23319), (146, 23349), (148, 23355), (174, 23427), (188, 23478), (199, 23580), (201, 23586), (203, 23604), (204, 23613), (205, 23616), (208, 23640), (210, 23676),

Gene: Sloopyjoe\_25 Start: 22609, Stop: 23775, Start Num: 13

Candidate Starts for Sloopyjoe\_25:

(Start: 13 @22609 has 87 MA's), (14, 22615), (25, 22714), (27, 22720), (38, 22771), (49, 22843), (84, 23029), (128, 23239), (129, 23248), (141, 23320), (146, 23350), (148, 23356), (174, 23428), (188,

23479), (199, 23581), (201, 23587), (203, 23605), (204, 23614), (205, 23617), (208, 23641), (210, 23677),

Gene: Soshi\_25 Start: 22964, Stop: 24136, Start Num: 13

Candidate Starts for Soshi\_25:

(Start: 12 @22961 has 9 MA's), (Start: 13 @22964 has 87 MA's), (25, 23069), (36, 23120), (39, 23129), (41, 23150), (43, 23156), (45, 23165), (49, 23198), (82, 23366), (83, 23372), (90, 23402), (96, 23444), (97, 23450), (112, 23516), (119, 23555), (128, 23594), (148, 23711), (149, 23720), (168, 23765), (170, 23768), (197, 23909), (201, 23939), (205, 23969), (207, 23975), (208, 23993), (217, 24074),

Gene: Spectropatronm\_25 Start: 22445, Stop: 23617, Start Num: 13

Candidate Starts for Spectropatronm\_25:

(Start: 12 @22442 has 9 MA's), (Start: 13 @22445 has 87 MA's), (25, 22550), (39, 22610), (41, 22631), (43, 22637), (49, 22679), (72, 22796), (82, 22847), (90, 22883), (96, 22925), (112, 22997), (119, 23036), (148, 23192), (149, 23201), (168, 23246), (170, 23249), (201, 23420), (205, 23450), (207, 23456), (208, 23474), (212, 23516), (217, 23555),

Gene: Sporto\_26 Start: 23819, Stop: 24985, Start Num: 13

Candidate Starts for Sporto\_26:

(Start: 13 @23819 has 87 MA's), (14, 23825), (25, 23924), (27, 23930), (38, 23981), (39, 23984), (41, 24005), (49, 24053), (62, 24116), (85, 24242), (103, 24341), (115, 24383), (130, 24461), (146, 24560), (189, 24698), (204, 24824), (205, 24827),

Gene: StarLord\_25 Start: 22609, Stop: 23775, Start Num: 13

Candidate Starts for StarLord\_25:

(Start: 13 @22609 has 87 MA's), (14, 22615), (25, 22714), (27, 22720), (38, 22771), (49, 22843), (84, 23029), (128, 23239), (129, 23248), (141, 23320), (146, 23350), (148, 23356), (174, 23428), (188, 23479), (199, 23581), (201, 23587), (203, 23605), (204, 23614), (205, 23617), (208, 23641), (210, 23677),

Gene: Stayer\_25 Start: 22608, Stop: 23774, Start Num: 13

Candidate Starts for Stayer\_25:

(Start: 13 @22608 has 87 MA's), (14, 22614), (25, 22713), (27, 22719), (38, 22770), (49, 22842), (84, 23028), (128, 23238), (129, 23247), (141, 23319), (146, 23349), (148, 23355), (174, 23427), (188, 23478), (199, 23580), (201, 23586), (203, 23604), (204, 23613), (205, 23616), (208, 23640), (210, 23676),

Gene: Sunny4976\_25 Start: 24396, Stop: 25559, Start Num: 13

Candidate Starts for Sunny4976\_25:

(Start: 12 @24393 has 9 MA's), (Start: 13 @24396 has 87 MA's), (14, 24402), (26, 24504), (34, 24543), (37, 24555), (41, 24582), (47, 24609), (63, 24696), (96, 24876), (105, 24924), (133, 25053), (137, 25080), (167, 25194), (187, 25254), (205, 25398), (217, 25509),

Gene: Synopsis\_27 Start: 25532, Stop: 26695, Start Num: 12

Candidate Starts for Synopsis\_27:

(Start: 12 @25532 has 9 MA's), (Start: 13 @25535 has 87 MA's), (14, 25541), (22, 25586), (32, 25673), (33, 25676), (41, 25721), (53, 25793), (64, 25841), (80, 25928), (89, 25970), (98, 26027), (106, 26066), (133, 26192), (137, 26219), (143, 26255), (185, 26390), (191, 26432), (201, 26513), (205, 26543), (212, 26609),

Gene: TaidaOne\_25 Start: 23093, Stop: 24265, Start Num: 13

Candidate Starts for TaidaOne\_25:

(Start: 12 @23090 has 9 MA's), (Start: 13 @23093 has 87 MA's), (25, 23198), (39, 23258), (41, 23279), (43, 23285), (49, 23327), (72, 23444), (82, 23495), (90, 23531), (96, 23573), (112, 23645), (113, 23648), (119, 23684), (148, 23840), (149, 23849), (168, 23894), (170, 23897), (201, 24068), (205, 24098), (207, 24104), (208, 24122), (212, 24164), (217, 24203),

Gene: Tanis\_31 Start: 26435, Stop: 27862, Start Num: 3

Candidate Starts for Tanis\_31:

(Start: 3 @26435 has 44 MA's), (11, 26528), (34, 26687), (43, 26732), (50, 26777), (65, 26876), (67, 26885), (73, 26918), (76, 26933), (86, 26990), (94, 27029), (111, 27113), (135, 27242), (137, 27254), (141, 27278), (146, 27308), (178, 27539), (179, 27566), (185, 27611), (191, 27653), (192, 27659), (193, 27662), (198, 27725), (199, 27728), (200, 27731), (201, 27734), (205, 27764), (213, 27836),

Gene: Tatanka\_28 Start: 26019, Stop: 27179, Start Num: 13

Candidate Starts for Tatanka\_28:

(Start: 12 @26016 has 9 MA's), (Start: 13 @26019 has 87 MA's), (14, 26025), (22, 26070), (32, 26157), (33, 26160), (41, 26205), (53, 26277), (64, 26325), (80, 26412), (89, 26454), (98, 26511), (106, 26550), (133, 26676), (137, 26703), (143, 26739), (170, 26823), (185, 26874), (191, 26916), (201, 26997), (205, 27027), (212, 27093),

Gene: Teacup\_28 Start: 25391, Stop: 26551, Start Num: 13

Candidate Starts for Teacup\_28:

(Start: 12 @25388 has 9 MA's), (Start: 13 @25391 has 87 MA's), (14, 25397), (32, 25529), (33, 25532), (41, 25577), (54, 25658), (64, 25697), (79, 25781), (89, 25826), (98, 25883), (106, 25922), (133, 26048), (137, 26075), (143, 26111), (170, 26195), (185, 26246), (191, 26288), (193, 26297), (196, 26336), (201, 26369), (205, 26399), (208, 26423), (212, 26465),

Gene: TenaciousP\_35 Start: 30901, Stop: 32334, Start Num: 3

Candidate Starts for TenaciousP\_35:

(Start: 3 @30901 has 44 MA's), (25, 31111), (33, 31147), (43, 31198), (55, 31279), (65, 31342), (67, 31351), (71, 31372), (73, 31384), (86, 31456), (90, 31468), (136, 31708), (137, 31717), (140, 31735), (144, 31759), (153, 31828), (178, 32002), (179, 32029), (182, 32047), (192, 32122), (199, 32191), (200, 32194), (205, 32227), (210, 32287),

Gene: Tenno\_29 Start: 26620, Stop: 27780, Start Num: 13

Candidate Starts for Tenno\_29:

(Start: 12 @26617 has 9 MA's), (Start: 13 @26620 has 87 MA's), (14, 26626), (32, 26758), (33, 26761), (41, 26806), (54, 26887), (79, 27010), (80, 27013), (89, 27055), (98, 27112), (106, 27151), (133, 27277), (137, 27304), (170, 27424), (185, 27475), (191, 27517), (201, 27598), (205, 27628), (212, 27694),

Gene: Thiqqums\_23 Start: 21363, Stop: 22529, Start Num: 13

Candidate Starts for Thiqqums\_23:

(Start: 13 @21363 has 87 MA's), (24, 21447), (27, 21474), (39, 21528), (41, 21549), (43, 21555), (49, 21597), (53, 21621), (83, 21771), (85, 21786), (90, 21801), (96, 21843), (97, 21849), (112, 21915), (147, 22107), (150, 22125), (186, 22218), (205, 22368), (207, 22374), (208, 22392),

Gene: TieDye\_24 Start: 22137, Stop: 23309, Start Num: 13

Candidate Starts for TieDye\_24:

(Start: 12 @22134 has 9 MA's), (Start: 13 @22137 has 87 MA's), (25, 22242), (39, 22302), (41, 22323), (43, 22329), (49, 22371), (72, 22488), (82, 22539), (90, 22575), (96, 22617), (112, 22689), (119, 22728), (148, 22884), (149, 22893), (168, 22938), (170, 22941), (201, 23112), (205, 23142), (207, 23148), (208, 23166), (212, 23208), (217, 23247),



Gene: Tokki\_29 Start: 25674, Stop: 26837, Start Num: 13

Candidate Starts for Tokki\_29:

(Start: 13 @25674 has 87 MA's), (14, 25680), (22, 25725), (25, 25779), (41, 25860), (53, 25932), (54, 25941), (64, 25980), (80, 26067), (101, 26187), (106, 26205), (116, 26244), (117, 26250), (118, 26253), (133, 26331), (137, 26358), (143, 26394), (185, 26529), (186, 26532), (201, 26652), (205, 26682), (212, 26748),

Gene: TonyStarch\_25 Start: 22451, Stop: 23623, Start Num: 13

Candidate Starts for TonyStarch\_25:

(Start: 12 @22448 has 9 MA's), (Start: 13 @22451 has 87 MA's), (25, 22556), (39, 22616), (41, 22637), (43, 22643), (49, 22685), (72, 22802), (82, 22853), (90, 22889), (96, 22931), (112, 23003), (119, 23042), (148, 23198), (149, 23207), (168, 23252), (170, 23255), (201, 23426), (205, 23456), (207, 23462), (208, 23480), (212, 23522), (217, 23561),

Gene: Tribby\_24 Start: 22715, Stop: 23776, Start Num: 10

Candidate Starts for Tribby\_24:

(Start: 10 @22715 has 19 MA's), (16, 22745), (20, 22772), (39, 22895), (41, 22916), (46, 22934), (74, 23063), (101, 23201), (133, 23330), (137, 23357), (189, 23558), (190, 23579),

Gene: TrixiePhattel\_29 Start: 24770, Stop: 25747, Start Num: 41

Candidate Starts for TrixiePhattel\_29:

(Start: 13 @24584 has 87 MA's), (25, 24689), (27, 24695), (38, 24746), (41, 24770), (43, 24776), (49, 24815), (81, 24980), (84, 25001), (108, 25121), (129, 25220), (133, 25238), (145, 25319), (162, 25355), (165, 25376), (167, 25379), (168, 25382), (199, 25553), (201, 25559), (205, 25589),

Gene: Truckee\_27 Start: 25563, Stop: 26723, Start Num: 13

Candidate Starts for Truckee\_27:

(Start: 13 @25563 has 87 MA's), (14, 25569), (22, 25614), (25, 25668), (41, 25749), (54, 25830), (55, 25833), (80, 25956), (95, 26034), (100, 26064), (101, 26076), (106, 26094), (118, 26142), (133, 26220), (137, 26247), (143, 26283), (146, 26304), (170, 26367), (185, 26418), (186, 26421), (191, 26460), (196, 26508), (201, 26541), (205, 26571), (212, 26637),

Gene: Trustiboi\_29 Start: 26085, Stop: 27248, Start Num: 12

Candidate Starts for Trustiboi\_29:

(Start: 12 @26085 has 9 MA's), (Start: 13 @26088 has 87 MA's), (14, 26094), (22, 26139), (32, 26226), (33, 26229), (41, 26274), (53, 26346), (64, 26394), (80, 26481), (89, 26523), (98, 26580), (106, 26619), (133, 26745), (137, 26772), (143, 26808), (185, 26943), (191, 26985), (201, 27066), (205, 27096), (212, 27162),

Gene: Untouchable\_34 Start: 29603, Stop: 31036, Start Num: 3

Candidate Starts for Untouchable\_34:

(Start: 3 @29603 has 44 MA's), (15, 29720), (17, 29732), (25, 29813), (33, 29849), (43, 29900), (55, 29981), (65, 30044), (67, 30053), (71, 30074), (73, 30086), (86, 30158), (88, 30164), (109, 30275), (111, 30278), (135, 30407), (137, 30419), (144, 30461), (153, 30530), (156, 30551), (178, 30704), (179, 30731), (182, 30749), (192, 30824), (199, 30893), (200, 30896), (201, 30899), (205, 30929), (210, 30989),

Gene: Uzumaki\_28 Start: 25279, Stop: 26442, Start Num: 13

Candidate Starts for Uzumaki\_28:

(Start: 13 @25279 has 87 MA's), (25, 25384), (27, 25390), (41, 25465), (43, 25471), (49, 25510), (81, 25675), (84, 25696), (108, 25816), (162, 26050), (167, 26074), (168, 26077), (201, 26254), (205, 26284),

Gene: Vardy\_34 Start: 29212, Stop: 30645, Start Num: 3

Candidate Starts for Vardy\_34:

(1, 29206), (Start: 3 @29212 has 44 MA's), (17, 29341), (25, 29422), (33, 29458), (43, 29509), (55, 29590), (65, 29653), (67, 29662), (71, 29683), (73, 29695), (86, 29767), (88, 29773), (109, 29884), (111, 29887), (127, 29971), (135, 30016), (140, 30046), (144, 30070), (153, 30139), (176, 30304), (178, 30313), (179, 30340), (192, 30433), (199, 30502), (200, 30505), (201, 30508), (205, 30538), (210, 30598),

Gene: Xenomorph\_22 Start: 22733, Stop: 23794, Start Num: 10

Candidate Starts for Xenomorph\_22:

(Start: 10 @22733 has 19 MA's), (14, 22754), (16, 22763), (20, 22790), (41, 22934), (54, 23012), (75, 23084), (93, 23168), (101, 23219), (133, 23348), (134, 23357), (137, 23375), (189, 23576),

Gene: Yotsuba\_28 Start: 25982, Stop: 27049, Start Num: 13

Candidate Starts for Yotsuba\_28:

(Start: 13 @25982 has 87 MA's), (27, 26093), (33, 26123), (38, 26144), (41, 26168), (59, 26252), (70, 26300), (84, 26375), (86, 26381), (100, 26450), (148, 26693), (170, 26750), (184, 26804), (187, 26816), (209, 26987),

Gene: Zeina\_28 Start: 24660, Stop: 25823, Start Num: 13

Candidate Starts for Zeina\_28:

(Start: 13 @24660 has 87 MA's), (25, 24765), (27, 24771), (41, 24846), (43, 24852), (49, 24891), (81, 25056), (84, 25077), (108, 25197), (129, 25296), (162, 25431), (167, 25455), (168, 25458), (201, 25635), (205, 25665),

Gene: Zeph\_35 Start: 29961, Stop: 31394, Start Num: 3

Candidate Starts for Zeph\_35:

(Start: 3 @29961 has 44 MA's), (15, 30078), (17, 30090), (25, 30171), (33, 30207), (43, 30258), (55, 30339), (65, 30402), (67, 30411), (71, 30432), (73, 30444), (86, 30516), (88, 30522), (109, 30633), (111, 30636), (135, 30765), (137, 30777), (144, 30819), (153, 30888), (156, 30909), (173, 31029), (178, 31062), (179, 31089), (182, 31107), (192, 31182), (199, 31251), (200, 31254), (201, 31257), (205, 31287), (210, 31347),