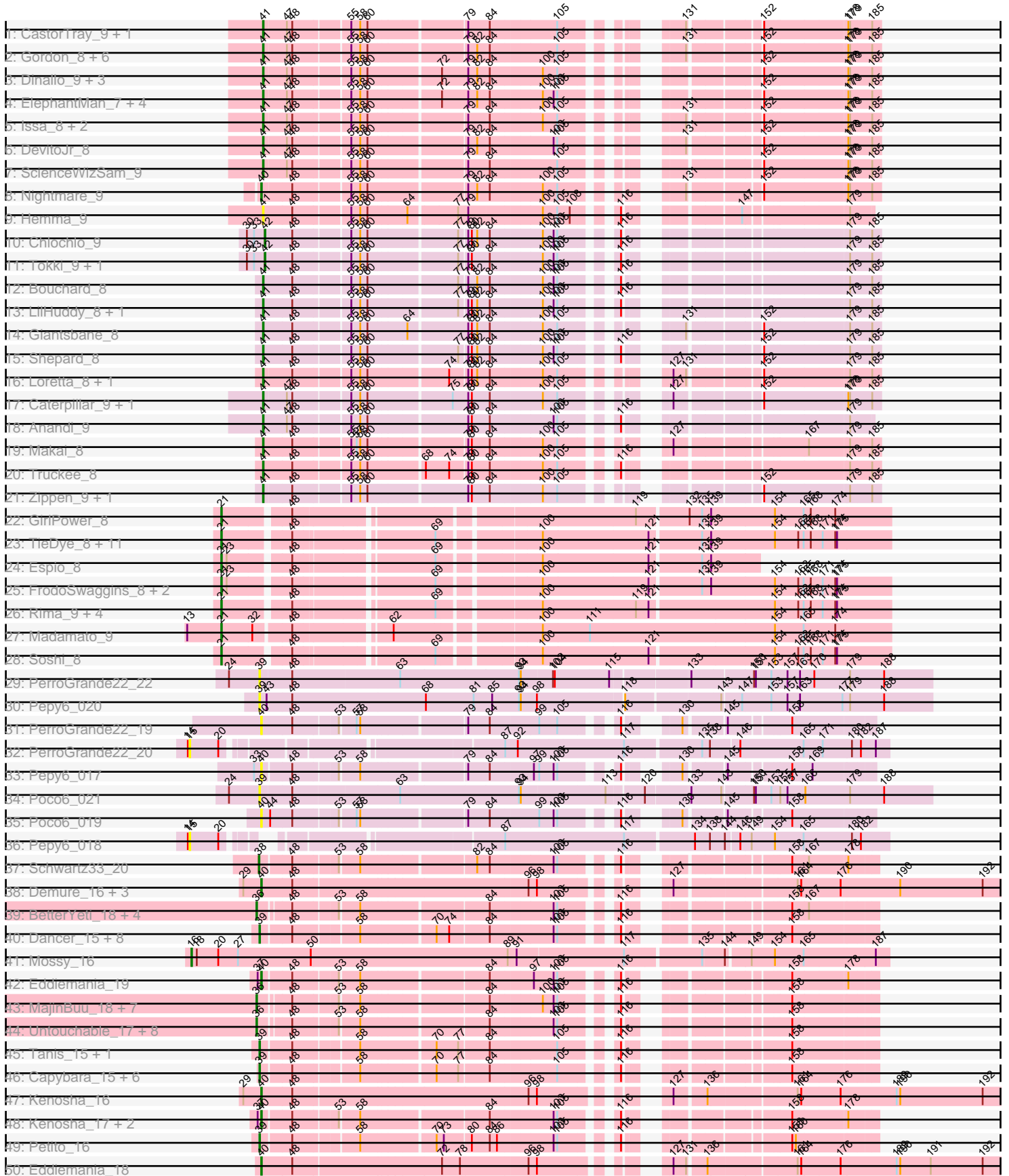
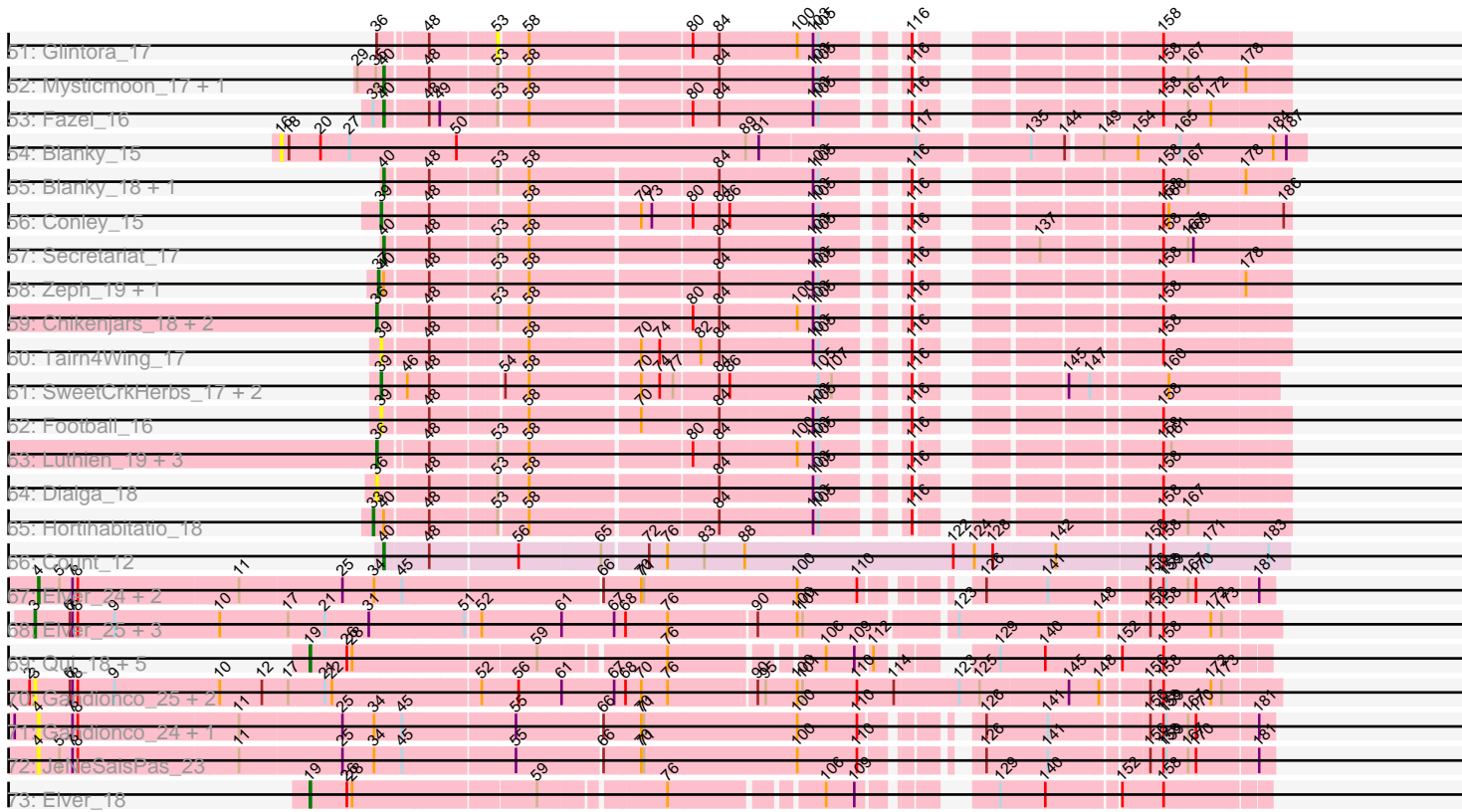


Pham 308152



Pham 308152



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 308152 Report

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

Pham number 308152 has 173 members, 41 are drafts.

Phages represented in each track:

- Track 1 : CastorTray\_9, Trustiboi\_8
- Track 2 : Gordon\_8, AreFloNak\_8, Tatanka\_7, Westerlin\_8, Darby\_8, Nivinsha\_8, Synopsis\_7
- Track 3 : Dinallo\_9, Tenno\_9, CapnMurica\_8, MiniBagel\_8
- Track 4 : ElephantMan\_7, Niktson\_7, Acai\_8, Teacup\_8, Brunswick\_8
- Track 5 : Issa\_8, LucySwiss\_8, Breylor17\_8
- Track 6 : DevitoJr\_8
- Track 7 : ScienceWizSam\_9
- Track 8 : Nightmare\_9
- Track 9 : Hemma\_9
- Track 10 : Chlochlo\_9
- Track 11 : Tokki\_9, Tipton\_9
- Track 12 : Bouchard\_8
- Track 13 : LilHuddy\_8, Phaby\_8
- Track 14 : Giantsbane\_8
- Track 15 : Shepard\_8
- Track 16 : Loretta\_8, Ingrid\_8
- Track 17 : Caterpillar\_9, MediumFry\_9
- Track 18 : Anandi\_9
- Track 19 : Makai\_8
- Track 20 : Truckee\_8
- Track 21 : Zippen\_9, Inked\_9
- Track 22 : GirlPower\_8
- Track 23 : TieDye\_8, Esketit\_9, Hoshi\_9, Jaylociraptor\_9, FidgetOrca\_9, Indigenous\_9, CherryBlossom\_9, Meibysrarus\_9, Spectropatronm\_9, IceWarrior\_9, TaidaOne\_9, Maya\_9
- Track 24 : Espio\_8
- Track 25 : FrodoSwaggins\_8, Popy\_8, DrGrey\_8
- Track 26 : Rima\_9, HazuAndZazu\_8, TonyStarch\_9, OlympicHelado\_9, Namu\_9
- Track 27 : Madamato\_9
- Track 28 : Soshi\_8
- Track 29 : PerroGrande22\_22
- Track 30 : Pepy6\_020
- Track 31 : PerroGrande22\_19
- Track 32 : PerroGrande22\_20
- Track 33 : Pepy6\_017
- Track 34 : POCO6\_021

- Track 35 : Poco6\_019
- Track 36 : Pepy6\_018
- Track 37 : Schwartz33\_20
- Track 38 : Demure\_16, Arataki\_16, Hydrus\_18, Zeph\_18
- Track 39 : BetterYeti\_18, PestoPenguin\_20, Gusicorn\_18, Aloe25\_20, ShaggyRogers\_18
- Track 40 : Dancer\_15, FortCran\_15, ChickyNuggy\_16, Bugg\_17, Avazak\_15, Artorias\_15, JulesRay\_15, Trufflozitus\_15, Captrips\_15
- Track 41 : Mossy\_16
- Track 42 : Eddiemania\_19
- Track 43 : MajinBuu\_18, Aflac\_18, Jodelie19\_18, BluerMoon\_18, Figliar\_18, Tonaltzin\_20, Rickmore\_17, TenaciousP\_18
- Track 44 : Untouchable\_17, ArtetaBall\_18, Nadmeg\_18, Vardy\_18, Crocheter\_17, Runhaar\_18, Burley\_18, Madvan\_18, Phepper\_18
- Track 45 : Tanis\_15, Gill\_15
- Track 46 : Capybara\_15, NoPickles\_15, Magel\_15, Kerry\_15, Roney\_15, Gravy\_15, Odesza\_15
- Track 47 : Kenosha\_16
- Track 48 : Kenosha\_17, Arataki\_17, Demure\_17
- Track 49 : Petite\_16
- Track 50 : Eddiemania\_18
- Track 51 : Glintora\_17
- Track 52 : Mysticmoon\_17, Pherobrine\_17
- Track 53 : Fazel\_16
- Track 54 : Blanky\_15
- Track 55 : Blanky\_18, Mossy\_19
- Track 56 : Conley\_15
- Track 57 : Secretariat\_17
- Track 58 : Zeph\_19, Hydrus\_19
- Track 59 : Chikenjars\_18, Duffington\_18, Citrus\_17
- Track 60 : Tairn4Wing\_17
- Track 61 : SweetCrkHerbs\_17, Talon44\_16, Perkunas\_17
- Track 62 : Football\_16
- Track 63 : Luthien\_19, Nithya\_18, EndAve\_18, AlainaMarie\_18
- Track 64 : Dialga\_18
- Track 65 : Hortihabitatio\_18
- Track 66 : Count\_12
- Track 67 : Elver\_24, Paella\_24, Qui\_24
- Track 68 : Elver\_25, JeNeSaisPas\_24, Paella\_25, Qui\_25
- Track 69 : Qui\_18, Kureo\_19, JeNeSaisPas\_17, Gandionco\_17, Paella\_18, Marianna39\_18
- Track 70 : Gandionco\_25, Kureo\_26, Marianna39\_26
- Track 71 : Gandionco\_24, Marianna39\_25
- Track 72 : JeNeSaisPas\_23
- Track 73 : Elver\_18

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

The start number called the most often in the published annotations is 41, it was called in 32 of the 132 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Acai\_8, Anandi\_9, AreFloNak\_8, Bouchard\_8, Breylor17\_8, Brunswick\_8, CapnMurica\_8, CastorTray\_9, Caterpillar\_9, Darby\_8, DevitoJr\_8, Dinallo\_9, ElephantMan\_7, Giantsbane\_8, Gordon\_8, Hemma\_9, Ingrid\_8, Inked\_9, Issa\_8, LilHuddy\_8, Loretta\_8, LucySwiss\_8, Makai\_8, MediumFry\_9, MiniBagel\_8, Niktson\_7, Nivinsha\_8, Phaby\_8, ScienceWizSam\_9, Shepard\_8, Synepsis\_7, Tatanka\_7, Teacup\_8, Tenno\_9, Truckee\_8, Trustiboi\_8, Westerlin\_8, Zippen\_9,

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

- 

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

- Aflac\_18, AlainaMarie\_18, Aloe25\_20, Arataki\_16, Arataki\_17, ArtetaBall\_18, Artorias\_15, Avazak\_15, BetterYeti\_18, Blanky\_15, Blanky\_18, BluerMoon\_18, Bugg\_17, Burley\_18, Captrips\_15, Copybara\_15, CherryBlossom\_9, ChickyNuggy\_16, Chikenjars\_18, Chlochlo\_9, Citrus\_17, Conley\_15, Count\_12, Crocheter\_17, Dancer\_15, Demure\_16, Demure\_17, Dialga\_18, DrGrey\_8, Duffington\_18, Eddiemania\_18, Eddiemania\_19, Elver\_18, Elver\_24, Elver\_25, EndAve\_18, Esketit\_9, Espio\_8, Fazel\_16, FidgetOrca\_9, Figliar\_18, Football\_16, FortCran\_15, FrodoSwaggins\_8, Gandionco\_17, Gandionco\_24, Gandionco\_25, Gill\_15, GirlPower\_8, Glintora\_17, Gravy\_15, Gusicorn\_18, HazuAndZazu\_8, Hortihabitatio\_18, Hoshi\_9, Hydrus\_18, Hydrus\_19, IceWarrior\_9, Indigenous\_9, Jaylociraptor\_9, JeNeSaisPas\_17, JeNeSaisPas\_23, JeNeSaisPas\_24, Jodelie19\_18, JulesRay\_15, Kenosha\_16, Kenosha\_17, Kerry\_15, Kureo\_19, Kureo\_26, Luthien\_19, Madamato\_9, Madvan\_18, Magel\_15, MajinBuu\_18, Marianna39\_18, Marianna39\_25, Marianna39\_26, Maya\_9, Meibysrarus\_9, Mossy\_16, Mossy\_19, Mysticmoon\_17, Nadmeg\_18, Namu\_9, Nightmare\_9, Nithya\_18, NoPickles\_15, Odesza\_15, OlympicHelado\_9, Paella\_18, Paella\_24, Paella\_25, Pepy6\_017, Pepy6\_018, Pepy6\_020, Perkunas\_17, PerroGrande22\_19, PerroGrande22\_20, PerroGrande22\_22, PestoPenguin\_20, Petit\_16, Phepper\_18, Pherobrine\_17, Poco6\_019, Poco6\_021, Popy\_8, Qui\_18, Qui\_24, Qui\_25, Rickmore\_17, Rima\_9, Roney\_15, Runhaar\_18, Schwartz33\_20, Secretariat\_17, ShaggyRogers\_18, Soshi\_8, Spectropatronm\_9, SweetCrkHerbs\_17, TaidaOne\_9, Tairn4Wing\_17, Talon44\_16, Tanis\_15, TenaciousP\_18, TieDye\_8, Tipton\_9, Tokki\_9, Tonaltzin\_20, TonyStarch\_9, Trufflozitus\_15, Untouchable\_17, Vardy\_18, Zeph\_18, Zeph\_19,

### Summary by start number:

Start 3:

- Found in 7 of 173 ( 4.0% ) of genes in pham
- Manual Annotations of this start: 3 of 132
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Elver\_25 (FK), Gandionco\_25 (FK), JeNeSaisPas\_24 (FK), Kureo\_26 (FK), Marianna39\_26 (FK), Paella\_25 (FK), Qui\_25 (FK),

Start 4:

- Found in 6 of 173 ( 3.5% ) of genes in pham
- Manual Annotations of this start: 3 of 132
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Elver\_24 (FK), Gandionco\_24 (FK), JeNeSaisPas\_23 (FK), Marianna39\_25 (FK), Paella\_24 (FK), Qui\_24 (FK),

#### Start 15:

- Found in 2 of 173 ( 1.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Pepy6\_018 (CC), PerroGrande22\_20 (CC),

#### Start 16:

- Found in 2 of 173 ( 1.2% ) of genes in pham
- Manual Annotations of this start: 1 of 132
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Blanky\_15 (DJ), Mossy\_16 (DJ),

#### Start 19:

- Found in 7 of 173 ( 4.0% ) of genes in pham
- Manual Annotations of this start: 3 of 132
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Elver\_18 (FK), Gandionco\_17 (FK), JeNeSaisPas\_17 (FK), Kureo\_19 (FK), Marianna39\_18 (FK), Paella\_18 (FK), Qui\_18 (FK),

#### Start 21:

- Found in 31 of 173 ( 17.9% ) of genes in pham
- Manual Annotations of this start: 24 of 132
- Called 77.4% of time when present
- Phage (with cluster) where this start called: CherryBlossom\_9 (BI1), DrGrey\_8 (BI1), Esketit\_9 (BI1), Espio\_8 (BI1), FidgetOrca\_9 (BI1), FrodoSwaggins\_8 (BI1), GirlPower\_8 (BI1), HazuAndZazu\_8 (BI1), Hoshi\_9 (BI1), IceWarrior\_9 (BI1), Indigenous\_9 (BI1), Jaylociraptor\_9 (BI1), Madamato\_9 (BI1), Maya\_9 (BI1), Meibysrarus\_9 (BI1), Namu\_9 (BI1), OlympicHelado\_9 (BI1), Popy\_8 (BI1), Rima\_9 (BI1), Soshi\_8 (BI1), Spectropatronm\_9 (BI1), TaidaOne\_9 (BI1), TieDye\_8 (BI1), TonyStarch\_9 (BI1),

#### Start 33:

- Found in 6 of 173 ( 3.5% ) of genes in pham
- Manual Annotations of this start: 1 of 132
- Called 16.7% of time when present
- Phage (with cluster) where this start called: Hortihabitatio\_18 (DJ),

#### Start 36:

- Found in 31 of 173 ( 17.9% ) of genes in pham
- Manual Annotations of this start: 24 of 132
- Called 96.8% of time when present
- Phage (with cluster) where this start called: Aflac\_18 (DJ), AlainaMarie\_18 (DJ), Aloe25\_20 (DJ), ArtetaBall\_18 (DJ), BetterYeti\_18 (DJ), BluerMoon\_18 (DJ), Burley\_18 (DJ), Chikenjars\_18 (DJ), Citrus\_17 (DJ), Crocheter\_17 (DJ), Dialga\_18 (DJ), Duffington\_18 (DJ), EndAve\_18 (DJ), Figliar\_18 (DJ), Gusicorn\_18 (DJ), Jodelie19\_18 (DJ), Luthien\_19 (DJ), Madvan\_18 (DJ), MajinBuu\_18 (DJ), Nadmeg\_18 (DJ), Nithya\_18 (DJ), PestoPenguin\_20 (DJ), Phepper\_18 (DJ), Rickmore\_17 (DJ), Runhaar\_18 (DJ), ShaggyRogers\_18 (DJ), TenaciousP\_18 (DJ),

Tonaltzin\_20 (DJ), Untouchable\_17 (DJ), Vardy\_18 (DJ),

Start 37:

- Found in 6 of 173 ( 3.5% ) of genes in pham
- Manual Annotations of this start: 2 of 132
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Hydrus\_19 (DJ), Zeph\_19 (DJ),

Start 38:

- Found in 1 of 173 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 1 of 132
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Schwartz33\_20 (DJ),

Start 39:

- Found in 28 of 173 ( 16.2% ) of genes in pham
- Manual Annotations of this start: 20 of 132
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Artorias\_15 (DJ), Avazak\_15 (DJ), Bugg\_17 (DJ), Captrips\_15 (DJ), Copybara\_15 (DJ), ChickyNuggy\_16 (DJ), Conley\_15 (DJ), Dancer\_15 (DJ), Football\_16 (DJ), FortCran\_15 (DJ), Gill\_15 (DJ), Gravy\_15 (DJ), JulesRay\_15 (DJ), Kerry\_15 (DJ), Magel\_15 (DJ), NoPickles\_15 (DJ), Odesza\_15 (DJ), Pepy6\_020 (CC), Perkunas\_17 (DJ), PerroGrande22\_22 (CC), Petite\_16 (DJ), Poco6\_021 (CC), Roney\_15 (DJ), SweetCrkHerbs\_17 (DJ), Tairn4Wing\_17 (DJ), Talon44\_16 (DJ), Tanis\_15 (DJ), Trufflozitus\_15 (DJ),

Start 40:

- Found in 24 of 173 ( 13.9% ) of genes in pham
- Manual Annotations of this start: 15 of 132
- Called 87.5% of time when present
- Phage (with cluster) where this start called: Arataki\_16 (DJ), Arataki\_17 (DJ), Blanky\_18 (DJ), Count\_12 (EL), Demure\_16 (DJ), Demure\_17 (DJ), Eddiemania\_18 (DJ), Eddiemania\_19 (DJ), Fazel\_16 (DJ), Hydrus\_18 (DJ), Kenosha\_16 (DJ), Kenosha\_17 (DJ), Mossy\_19 (DJ), Mysticmoon\_17 (DJ), Nightmare\_9 (AU1), Pepy6\_017 (CC), PerroGrande22\_19 (CC), Pherobrine\_17 (DJ), Poco6\_019 (CC), Secretariat\_17 (DJ), Zeph\_18 (DJ),

Start 41:

- Found in 38 of 173 ( 22.0% ) of genes in pham
- Manual Annotations of this start: 32 of 132
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Acai\_8 (AU1), Anandi\_9 (AU4), AreFloNak\_8 (AU1), Bouchard\_8 (AU2), Breylor17\_8 (AU1), Brunswick\_8 (AU1), CapnMurica\_8 (AU1), CastorTray\_9 (AU1), Caterpillar\_9 (AU4), Darby\_8 (AU1), DevitoJr\_8 (AU1), Dinallo\_9 (AU1), ElephantMan\_7 (AU1), Giantsbane\_8 (AU2), Gordon\_8 (AU1), Hemma\_9 (AU1), Ingrid\_8 (AU3), Inked\_9 (AU7), Issa\_8 (AU1), LilHuddy\_8 (AU2), Loretta\_8 (AU3), LucySwiss\_8 (AU1), Makai\_8 (AU5), MediumFry\_9 (AU4), MiniBagel\_8 (AU1), Niktson\_7 (AU1), Nivinsha\_8 (AU1), Phaby\_8 (AU2), ScienceWizSam\_9 (AU1), Shepard\_8 (AU2), Synopsis\_7 (AU1), Tatanka\_7 (AU1), Teacup\_8 (AU1), Tenno\_9 (AU1), Truckee\_8 (AU5), Trustiboi\_8 (AU1), Westerlin\_8 (AU1), Zippen\_9 (AU7),

Start 42:

- Found in 3 of 173 ( 1.7% ) of genes in pham
- Manual Annotations of this start: 3 of 132
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Chlochlo\_9 (AU2), Tipton\_9 (AU2), Tokki\_9 (AU2),

Start 53:

- Found in 48 of 173 ( 27.7% ) of genes in pham
- No Manual Annotations of this start.
- Called 2.1% of time when present
- Phage (with cluster) where this start called: Glintora\_17 (DJ),

### **Summary by clusters:**

There are 11 clusters represented in this pham: EL, DJ, CC, AU1, AU3, AU2, AU5, AU4, AU7, FK, BI1,

Info for manual annotations of cluster AU1:

- Start number 40 was manually annotated 1 time for cluster AU1.
- Start number 41 was manually annotated 18 times for cluster AU1.

Info for manual annotations of cluster AU2:

- Start number 41 was manually annotated 5 times for cluster AU2.
- Start number 42 was manually annotated 3 times for cluster AU2.

Info for manual annotations of cluster AU3:

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

Info for manual annotations of cluster AU4:

- Start number 41 was manually annotated 3 times for cluster AU4.

Info for manual annotations of cluster AU5:

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

Info for manual annotations of cluster AU7:

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

Info for manual annotations of cluster BI1:

- Start number 21 was manually annotated 24 times for cluster BI1.

Info for manual annotations of cluster DJ:

- Start number 16 was manually annotated 1 time for cluster DJ.
- Start number 33 was manually annotated 1 time for cluster DJ.
- Start number 36 was manually annotated 24 times for cluster DJ.
- Start number 37 was manually annotated 2 times for cluster DJ.
- Start number 38 was manually annotated 1 time for cluster DJ.
- Start number 39 was manually annotated 20 times for cluster DJ.
- Start number 40 was manually annotated 13 times for cluster DJ.

Info for manual annotations of cluster EL:

- Start number 40 was manually annotated 1 time for cluster EL.

Info for manual annotations of cluster FK:

- Start number 3 was manually annotated 3 times for cluster FK.
- Start number 4 was manually annotated 3 times for cluster FK.
- Start number 19 was manually annotated 3 times for cluster FK.

**Gene Information:**

Gene: Acai\_8 Start: 5443, Stop: 6294, Start Num: 41

Candidate Starts for Acai\_8:

(Start: 41 @5443 has 32 MA's), (47, 5479), (48, 5488), (55, 5575), (58, 5590), (60, 5602), (72, 5710), (79, 5752), (82, 5767), (84, 5785), (100, 5866), (103, 5884), (105, 5890), (152, 6115), (178, 6244), (179, 6247), (185, 6280),

Gene: Aflac\_18 Start: 12253, Stop: 13095, Start Num: 36

Candidate Starts for Aflac\_18:

(Start: 36 @12253 has 24 MA's), (48, 12301), (53, 12370), (58, 12400), (84, 12592), (100, 12673), (103, 12691), (105, 12697), (116, 12766), (158, 12964),

Gene: AlainaMarie\_18 Start: 12243, Stop: 13085, Start Num: 36

Candidate Starts for AlainaMarie\_18:

(Start: 36 @12243 has 24 MA's), (48, 12291), (53, 12360), (58, 12390), (80, 12555), (84, 12582), (100, 12663), (103, 12681), (105, 12687), (116, 12756), (158, 12954), (161, 12963),

Gene: Aloe25\_20 Start: 12043, Stop: 12885, Start Num: 36

Candidate Starts for Aloe25\_20:

(Start: 36 @12043 has 24 MA's), (48, 12091), (53, 12160), (58, 12190), (84, 12382), (103, 12481), (105, 12487), (116, 12556), (158, 12754), (167, 12781),

Gene: Anandi\_9 Start: 5512, Stop: 6351, Start Num: 41

Candidate Starts for Anandi\_9:

(Start: 41 @5512 has 32 MA's), (47, 5551), (48, 5560), (55, 5647), (58, 5662), (60, 5674), (79, 5821), (80, 5827), (84, 5854), (103, 5953), (105, 5959), (116, 6028), (179, 6316),

Gene: Arataki\_16 Start: 10224, Stop: 11393, Start Num: 40

Candidate Starts for Arataki\_16:

(29, 10194), (Start: 40 @10224 has 15 MA's), (48, 10275), (96, 10650), (98, 10662), (127, 10809), (161, 10995), (164, 11001), (176, 11064), (190, 11163), (192, 11301),

Gene: Arataki\_17 Start: 11412, Stop: 12251, Start Num: 40

Candidate Starts for Arataki\_17:

(Start: 37 @11406 has 2 MA's), (Start: 40 @11412 has 15 MA's), (48, 11457), (53, 11526), (58, 11556), (84, 11748), (103, 11847), (105, 11853), (116, 11922), (158, 12120), (178, 12207),

Gene: AreFloNak\_8 Start: 5330, Stop: 6178, Start Num: 41

Candidate Starts for AreFloNak\_8:

(Start: 41 @5330 has 32 MA's), (47, 5366), (48, 5375), (55, 5462), (58, 5477), (60, 5489), (79, 5636), (82, 5651), (84, 5669), (105, 5774), (131, 5900), (152, 5999), (178, 6128), (179, 6131), (185, 6164),

Gene: ArtetaBall\_18 Start: 10971, Stop: 11813, Start Num: 36

Candidate Starts for ArtetaBall\_18:

(Start: 36 @10971 has 24 MA's), (48, 11019), (53, 11088), (58, 11118), (84, 11310), (103, 11409), (105, 11415), (116, 11484), (158, 11682),

Gene: Artorias\_15 Start: 9651, Stop: 10493, Start Num: 39

Candidate Starts for Artorias\_15:

(Start: 39 @9651 has 20 MA's), (48, 9699), (58, 9798), (70, 9909), (74, 9930), (84, 9990), (103, 10089), (105, 10095), (116, 10164), (158, 10362),

Gene: Avazak\_15 Start: 9658, Stop: 10500, Start Num: 39

Candidate Starts for Avazak\_15:

(Start: 39 @9658 has 20 MA's), (48, 9706), (58, 9805), (70, 9916), (74, 9937), (84, 9997), (103, 10096), (105, 10102), (116, 10171), (158, 10369),

Gene: BetterYeti\_18 Start: 12043, Stop: 12885, Start Num: 36

Candidate Starts for BetterYeti\_18:

(Start: 36 @12043 has 24 MA's), (48, 12091), (53, 12160), (58, 12190), (84, 12382), (103, 12481), (105, 12487), (116, 12556), (158, 12754), (167, 12781),

Gene: Blanky\_15 Start: 10313, Stop: 11437, Start Num: 16

Candidate Starts for Blanky\_15:

(Start: 16 @10313 has 1 MA's), (18, 10322), (20, 10358), (27, 10391), (50, 10511), (89, 10838), (91, 10853), (117, 11024), (135, 11144), (144, 11177), (149, 11213), (154, 11252), (165, 11300), (184, 11402), (187, 11417),

Gene: Blanky\_18 Start: 13246, Stop: 14085, Start Num: 40

Candidate Starts for Blanky\_18:

(Start: 40 @13246 has 15 MA's), (48, 13291), (53, 13360), (58, 13390), (84, 13582), (103, 13681), (105, 13687), (116, 13756), (158, 13954), (167, 13981), (178, 14041),

Gene: BluerMoon\_18 Start: 12247, Stop: 13089, Start Num: 36

Candidate Starts for BluerMoon\_18:

(Start: 36 @12247 has 24 MA's), (48, 12295), (53, 12364), (58, 12394), (84, 12586), (100, 12667), (103, 12685), (105, 12691), (116, 12760), (158, 12958),

Gene: Bouchard\_8 Start: 5260, Stop: 6111, Start Num: 41

Candidate Starts for Bouchard\_8:

(Start: 41 @5260 has 32 MA's), (48, 5308), (55, 5395), (58, 5410), (60, 5422), (77, 5557), (79, 5569), (82, 5584), (84, 5602), (100, 5683), (103, 5701), (105, 5707), (116, 5776), (179, 6064), (185, 6097),

Gene: Breylor17\_8 Start: 5455, Stop: 6303, Start Num: 41

Candidate Starts for Breylor17\_8:

(Start: 41 @5455 has 32 MA's), (47, 5491), (48, 5500), (55, 5587), (58, 5602), (60, 5614), (79, 5761), (84, 5794), (100, 5875), (105, 5899), (131, 6025), (152, 6124), (178, 6253), (179, 6256), (185, 6289),

Gene: Brunswick\_8 Start: 5440, Stop: 6291, Start Num: 41

Candidate Starts for Brunswick\_8:

(Start: 41 @5440 has 32 MA's), (47, 5476), (48, 5485), (55, 5572), (58, 5587), (60, 5599), (72, 5707), (79, 5749), (82, 5764), (84, 5782), (100, 5863), (103, 5881), (105, 5887), (152, 6112), (178, 6241), (179, 6244), (185, 6277),

Gene: Bugg\_17 Start: 9664, Stop: 10506, Start Num: 39

Candidate Starts for Bugg\_17:

(Start: 39 @9664 has 20 MA's), (48, 9712), (58, 9811), (70, 9922), (74, 9943), (84, 10003), (103, 10102), (105, 10108), (116, 10177), (158, 10375),

Gene: Burley\_18 Start: 12011, Stop: 12853, Start Num: 36

Candidate Starts for Burley\_18:

(Start: 36 @12011 has 24 MA's), (48, 12059), (53, 12128), (58, 12158), (84, 12350), (103, 12449), (105, 12455), (116, 12524), (158, 12722),

Gene: CapnMurica\_8 Start: 6536, Stop: 7387, Start Num: 41

Candidate Starts for CapnMurica\_8:

(Start: 41 @6536 has 32 MA's), (47, 6572), (48, 6581), (55, 6668), (58, 6683), (60, 6695), (72, 6803), (79, 6845), (82, 6860), (84, 6878), (100, 6959), (105, 6983), (152, 7208), (178, 7337), (179, 7340), (185, 7373),

Gene: Captrips\_15 Start: 9658, Stop: 10500, Start Num: 39

Candidate Starts for Captrips\_15:

(Start: 39 @9658 has 20 MA's), (48, 9706), (58, 9805), (70, 9916), (74, 9937), (84, 9997), (103, 10096), (105, 10102), (116, 10171), (158, 10369),

Gene: Capybara\_15 Start: 9377, Stop: 10219, Start Num: 39

Candidate Starts for Capybara\_15:

(Start: 39 @9377 has 20 MA's), (48, 9425), (58, 9524), (70, 9635), (77, 9671), (84, 9716), (105, 9821), (116, 9890), (158, 10088),

Gene: CastorTray\_9 Start: 5309, Stop: 6157, Start Num: 41

Candidate Starts for CastorTray\_9:

(Start: 41 @5309 has 32 MA's), (47, 5345), (48, 5354), (55, 5441), (58, 5456), (60, 5468), (79, 5615), (84, 5648), (105, 5753), (131, 5879), (152, 5978), (178, 6107), (179, 6110), (185, 6143),

Gene: Caterpillar\_9 Start: 5548, Stop: 6399, Start Num: 41

Candidate Starts for Caterpillar\_9:

(Start: 41 @5548 has 32 MA's), (47, 5584), (48, 5593), (55, 5680), (58, 5695), (60, 5707), (75, 5833), (79, 5857), (80, 5863), (84, 5890), (100, 5971), (105, 5995), (127, 6100), (152, 6220), (178, 6349), (179, 6352), (185, 6385),

Gene: CherryBlossom\_9 Start: 4921, Stop: 5949, Start Num: 21

Candidate Starts for CherryBlossom\_9:

(Start: 21 @4921 has 24 MA's), (48, 5023), (69, 5233), (100, 5383), (121, 5557), (135, 5638), (139, 5653), (154, 5758), (162, 5797), (165, 5806), (168, 5818), (171, 5836), (174, 5857), (175, 5860),

Gene: ChickyNuggy\_16 Start: 9369, Stop: 10211, Start Num: 39

Candidate Starts for ChickyNuggy\_16:

(Start: 39 @9369 has 20 MA's), (48, 9417), (58, 9516), (70, 9627), (74, 9648), (84, 9708), (103, 9807), (105, 9813), (116, 9882), (158, 10080),

Gene: Chikenjars\_18 Start: 12243, Stop: 13085, Start Num: 36

Candidate Starts for Chikenjars\_18:

(Start: 36 @12243 has 24 MA's), (48, 12291), (53, 12360), (58, 12390), (80, 12555), (84, 12582), (100, 12663), (103, 12681), (105, 12687), (116, 12756), (158, 12954),

Gene: Chlochlo\_9 Start: 5868, Stop: 6716, Start Num: 42

Candidate Starts for Chlochlo\_9:

(30, 5838), (Start: 33 @5850 has 1 MA's), (Start: 42 @5868 has 3 MA's), (48, 5913), (55, 6000), (58, 6015), (60, 6027), (77, 6162), (79, 6174), (80, 6180), (82, 6189), (84, 6207), (100, 6288), (103, 6306), (105, 6312), (116, 6381), (179, 6669), (185, 6702),

Gene: Citrus\_17 Start: 12250, Stop: 13092, Start Num: 36

Candidate Starts for Citrus\_17:

(Start: 36 @12250 has 24 MA's), (48, 12298), (53, 12367), (58, 12397), (80, 12562), (84, 12589), (100, 12670), (103, 12688), (105, 12694), (116, 12763), (158, 12961),

Gene: Conley\_15 Start: 9685, Stop: 10524, Start Num: 39

Candidate Starts for Conley\_15:

(Start: 39 @9685 has 20 MA's), (48, 9730), (58, 9829), (70, 9940), (73, 9952), (80, 9994), (84, 10021), (86, 10033), (103, 10120), (105, 10126), (116, 10195), (158, 10393), (160, 10399), (186, 10516),

Gene: Count\_12 Start: 6180, Stop: 7169, Start Num: 40

Candidate Starts for Count\_12:

(Start: 40 @6180 has 15 MA's), (48, 6228), (56, 6324), (65, 6414), (72, 6462), (76, 6483), (83, 6525), (88, 6570), (122, 6798), (124, 6822), (128, 6843), (142, 6912), (156, 7011), (158, 7026), (171, 7077), (183, 7146),

Gene: Crocheter\_17 Start: 10971, Stop: 11813, Start Num: 36

Candidate Starts for Crocheter\_17:

(Start: 36 @10971 has 24 MA's), (48, 11019), (53, 11088), (58, 11118), (84, 11310), (103, 11409), (105, 11415), (116, 11484), (158, 11682),

Gene: Dancer\_15 Start: 9357, Stop: 10199, Start Num: 39

Candidate Starts for Dancer\_15:

(Start: 39 @9357 has 20 MA's), (48, 9405), (58, 9504), (70, 9615), (74, 9636), (84, 9696), (103, 9795), (105, 9801), (116, 9870), (158, 10068),

Gene: Darby\_8 Start: 5312, Stop: 6160, Start Num: 41

Candidate Starts for Darby\_8:

(Start: 41 @5312 has 32 MA's), (47, 5348), (48, 5357), (55, 5444), (58, 5459), (60, 5471), (79, 5618), (82, 5633), (84, 5651), (105, 5756), (131, 5882), (152, 5981), (178, 6110), (179, 6113), (185, 6146),

Gene: Demure\_16 Start: 10224, Stop: 11393, Start Num: 40

Candidate Starts for Demure\_16:

(29, 10194), (Start: 40 @10224 has 15 MA's), (48, 10275), (96, 10650), (98, 10662), (127, 10809), (161, 10995), (164, 11001), (176, 11064), (190, 11163), (192, 11301),

Gene: Demure\_17 Start: 11412, Stop: 12251, Start Num: 40

Candidate Starts for Demure\_17:

(Start: 37 @11406 has 2 MA's), (Start: 40 @11412 has 15 MA's), (48, 11457), (53, 11526), (58, 11556), (84, 11748), (103, 11847), (105, 11853), (116, 11922), (158, 12120), (178, 12207),

Gene: DevitoJr\_8 Start: 5454, Stop: 6302, Start Num: 41

Candidate Starts for DevitoJr\_8:

(Start: 41 @5454 has 32 MA's), (47, 5490), (48, 5499), (55, 5586), (58, 5601), (60, 5613), (79, 5760), (82, 5775), (84, 5793), (103, 5892), (105, 5898), (131, 6024), (152, 6123), (178, 6252), (179, 6255), (185, 6288),

Gene: Dialga\_18 Start: 10990, Stop: 11835, Start Num: 36

Candidate Starts for Dialga\_18:

(Start: 36 @10990 has 24 MA's), (48, 11041), (53, 11110), (58, 11140), (84, 11332), (103, 11431), (105, 11437), (116, 11506), (158, 11704),

Gene: Dinallo\_9 Start: 6536, Stop: 7387, Start Num: 41

Candidate Starts for Dinallo\_9:

(Start: 41 @6536 has 32 MA's), (47, 6572), (48, 6581), (55, 6668), (58, 6683), (60, 6695), (72, 6803), (79, 6845), (82, 6860), (84, 6878), (100, 6959), (105, 6983), (152, 7208), (178, 7337), (179, 7340), (185, 7373),

Gene: DrGrey\_8 Start: 4608, Stop: 5636, Start Num: 21

Candidate Starts for DrGrey\_8:

(Start: 21 @4608 has 24 MA's), (23, 4617), (48, 4710), (69, 4920), (100, 5070), (121, 5244), (135, 5325), (139, 5340), (154, 5445), (162, 5484), (165, 5493), (168, 5505), (171, 5523), (174, 5544), (175, 5547),

Gene: Duffington\_18 Start: 12228, Stop: 13070, Start Num: 36

Candidate Starts for Duffington\_18:

(Start: 36 @12228 has 24 MA's), (48, 12276), (53, 12345), (58, 12375), (80, 12540), (84, 12567), (100, 12648), (103, 12666), (105, 12672), (116, 12741), (158, 12939),

Gene: Eddiemania\_19 Start: 13011, Stop: 13850, Start Num: 40

Candidate Starts for Eddiemania\_19:

(Start: 37 @13005 has 2 MA's), (Start: 40 @13011 has 15 MA's), (48, 13056), (53, 13125), (58, 13155), (84, 13347), (97, 13413), (103, 13446), (105, 13452), (116, 13521), (158, 13719), (178, 13806),

Gene: Eddiemania\_18 Start: 11823, Stop: 12992, Start Num: 40

Candidate Starts for Eddiemania\_18:

(Start: 40 @11823 has 15 MA's), (48, 11874), (72, 12111), (78, 12141), (96, 12249), (98, 12261), (127, 12408), (131, 12429), (136, 12456), (161, 12594), (164, 12600), (176, 12663), (189, 12756), (190, 12762), (191, 12813), (192, 12900),

Gene: ElephantMan\_7 Start: 5470, Stop: 6321, Start Num: 41

Candidate Starts for ElephantMan\_7:

(Start: 41 @5470 has 32 MA's), (47, 5506), (48, 5515), (55, 5602), (58, 5617), (60, 5629), (72, 5737), (79, 5779), (82, 5794), (84, 5812), (100, 5893), (103, 5911), (105, 5917), (152, 6142), (178, 6271), (179, 6274), (185, 6307),

Gene: Elver\_24 Start: 13529, Stop: 14797, Start Num: 4

Candidate Starts for Elver\_24:

(Start: 4 @13529 has 3 MA's), (5, 13553), (7, 13568), (8, 13574), (11, 13751), (25, 13862), (34, 13898), (45, 13928), (66, 14135), (70, 14177), (71, 14180), (100, 14354), (110, 14420), (126, 14501), (141, 14570), (156, 14669), (158, 14684), (159, 14687), (167, 14711), (170, 14720), (181, 14780),

Gene: Elver\_25 Start: 14826, Stop: 16160, Start Num: 3

Candidate Starts for Elver\_25:

(Start: 3 @14826 has 3 MA's), (6, 14865), (7, 14868), (8, 14874), (9, 14916), (10, 15036), (17, 15114), (Start: 21 @15156 has 24 MA's), (31, 15204), (51, 15309), (52, 15324), (61, 15411), (67, 15468), (68, 15480), (76, 15528), (90, 15621), (100, 15666), (101, 15672), (123, 15825), (148, 15978), (156, 16020), (158, 16035), (172, 16086), (173, 16098),

Gene: Elver\_18 Start: 9747, Stop: 10661, Start Num: 19

Candidate Starts for Elver\_18:

(Start: 19 @9747 has 3 MA's), (26, 9789), (28, 9795), (59, 9990), (76, 10110), (106, 10260), (109, 10290), (129, 10386), (140, 10434), (152, 10509), (158, 10554),

Gene: EndAve\_18 Start: 12243, Stop: 13085, Start Num: 36

Candidate Starts for EndAve\_18:

(Start: 36 @12243 has 24 MA's), (48, 12291), (53, 12360), (58, 12390), (80, 12555), (84, 12582), (100, 12663), (103, 12681), (105, 12687), (116, 12756), (158, 12954), (161, 12963),

Gene: Esketit\_9 Start: 4904, Stop: 5932, Start Num: 21

Candidate Starts for Esketit\_9:

(Start: 21 @4904 has 24 MA's), (48, 5006), (69, 5216), (100, 5366), (121, 5540), (135, 5621), (139, 5636), (154, 5741), (162, 5780), (165, 5789), (168, 5801), (171, 5819), (174, 5840), (175, 5843),

Gene: Espio\_8 Start: 4608, Stop: 5420, Start Num: 21

Candidate Starts for Espio\_8:

(Start: 21 @4608 has 24 MA's), (23, 4617), (48, 4710), (69, 4920), (100, 5070), (121, 5244), (135, 5325), (139, 5340),

Gene: Fazel\_16 Start: 11367, Stop: 12203, Start Num: 40

Candidate Starts for Fazel\_16:

(Start: 33 @11355 has 1 MA's), (Start: 40 @11367 has 15 MA's), (48, 11409), (49, 11421), (53, 11478), (58, 11508), (80, 11673), (84, 11700), (103, 11799), (105, 11805), (116, 11874), (158, 12072), (167, 12099), (172, 12123),

Gene: FidgetOrca\_9 Start: 4904, Stop: 5932, Start Num: 21

Candidate Starts for FidgetOrca\_9:

(Start: 21 @4904 has 24 MA's), (48, 5006), (69, 5216), (100, 5366), (121, 5540), (135, 5621), (139, 5636), (154, 5741), (162, 5780), (165, 5789), (168, 5801), (171, 5819), (174, 5840), (175, 5843),

Gene: Figliar\_18 Start: 12253, Stop: 13095, Start Num: 36

Candidate Starts for Figliar\_18:

(Start: 36 @12253 has 24 MA's), (48, 12301), (53, 12370), (58, 12400), (84, 12592), (100, 12673), (103, 12691), (105, 12697), (116, 12766), (158, 12964),

Gene: Football\_16 Start: 9369, Stop: 10211, Start Num: 39

Candidate Starts for Football\_16:

(Start: 39 @9369 has 20 MA's), (48, 9417), (58, 9516), (70, 9627), (84, 9708), (103, 9807), (105, 9813), (116, 9882), (158, 10080),

Gene: FortCran\_15 Start: 9651, Stop: 10493, Start Num: 39

Candidate Starts for FortCran\_15:

(Start: 39 @9651 has 20 MA's), (48, 9699), (58, 9798), (70, 9909), (74, 9930), (84, 9990), (103, 10089), (105, 10095), (116, 10164), (158, 10362),

Gene: FrodoSwaggins\_8 Start: 4608, Stop: 5636, Start Num: 21

Candidate Starts for FrodoSwaggins\_8:

(Start: 21 @4608 has 24 MA's), (23, 4617), (48, 4710), (69, 4920), (100, 5070), (121, 5244), (135, 5325), (139, 5340), (154, 5445), (162, 5484), (165, 5493), (168, 5505), (171, 5523), (174, 5544), (175, 5547),

Gene: Gandionco\_25 Start: 15330, Stop: 16682, Start Num: 3

Candidate Starts for Gandionco\_25:

(2, 15324), (Start: 3 @15330 has 3 MA's), (6, 15369), (7, 15372), (8, 15378), (9, 15420), (10, 15540), (12, 15588), (17, 15618), (Start: 21 @15660 has 24 MA's), (22, 15666), (52, 15828), (56, 15867), (61, 15915), (67, 15972), (68, 15984), (70, 16002), (76, 16032), (90, 16125), (95, 16134), (100, 16170), (101, 16176), (110, 16236), (114, 16278), (123, 16350), (125, 16371), (145, 16467), (148, 16500), (156, 16542), (158, 16557), (172, 16608), (173, 16620),

Gene: Gandionco\_24 Start: 14031, Stop: 15299, Start Num: 4

Candidate Starts for Gandionco\_24:

(1, 14004), (Start: 4 @14031 has 3 MA's), (7, 14070), (8, 14076), (11, 14253), (25, 14364), (34, 14400), (45, 14430), (55, 14550), (66, 14637), (70, 14679), (71, 14682), (100, 14856), (110, 14922), (126, 15003), (141, 15072), (156, 15171), (158, 15186), (159, 15189), (167, 15213), (170, 15222), (181, 15282),

Gene: Gandionco\_17 Start: 9707, Stop: 10621, Start Num: 19

Candidate Starts for Gandionco\_17:

(Start: 19 @9707 has 3 MA's), (26, 9749), (28, 9755), (59, 9950), (76, 10070), (106, 10220), (109, 10250), (112, 10265), (129, 10346), (140, 10394), (152, 10469), (158, 10514),

Gene: Giantsbane\_8 Start: 5270, Stop: 6124, Start Num: 41

Candidate Starts for Giantsbane\_8:

(Start: 41 @5270 has 32 MA's), (48, 5318), (55, 5405), (58, 5420), (60, 5432), (64, 5492), (79, 5582), (80, 5588), (82, 5597), (84, 5615), (100, 5696), (105, 5720), (131, 5846), (152, 5945), (179, 6077), (185, 6110),

Gene: Gill\_15 Start: 9377, Stop: 10219, Start Num: 39

Candidate Starts for Gill\_15:

(Start: 39 @9377 has 20 MA's), (48, 9425), (58, 9524), (70, 9635), (77, 9671), (84, 9716), (105, 9821), (116, 9890), (158, 10088),

Gene: GirlPower\_8 Start: 5473, Stop: 6504, Start Num: 21

Candidate Starts for GirlPower\_8:

(Start: 21 @5473 has 24 MA's), (48, 5575), (119, 6091), (132, 6172), (135, 6193), (139, 6208), (154, 6313), (165, 6361), (168, 6373), (174, 6412),

Gene: Glintora\_17 Start: 12336, Stop: 13061, Start Num: 53

Candidate Starts for Glintora\_17:

(Start: 36 @12219 has 24 MA's), (48, 12267), (53, 12336), (58, 12366), (80, 12531), (84, 12558), (100, 12639), (103, 12657), (105, 12663), (116, 12732), (158, 12930),

Gene: Gordon\_8 Start: 6578, Stop: 7426, Start Num: 41

Candidate Starts for Gordon\_8:

(Start: 41 @6578 has 32 MA's), (47, 6614), (48, 6623), (55, 6710), (58, 6725), (60, 6737), (79, 6884), (82, 6899), (84, 6917), (105, 7022), (131, 7148), (152, 7247), (178, 7376), (179, 7379), (185, 7412),

Gene: Gravy\_15 Start: 9377, Stop: 10219, Start Num: 39

Candidate Starts for Gravy\_15:

(Start: 39 @9377 has 20 MA's), (48, 9425), (58, 9524), (70, 9635), (77, 9671), (84, 9716), (105, 9821), (116, 9890), (158, 10088),

Gene: Gusicorn\_18 Start: 12043, Stop: 12885, Start Num: 36

Candidate Starts for Gusicorn\_18:

(Start: 36 @12043 has 24 MA's), (48, 12091), (53, 12160), (58, 12190), (84, 12382), (103, 12481), (105, 12487), (116, 12556), (158, 12754), (167, 12781),

Gene: HazuAndZazu\_8 Start: 4608, Stop: 5636, Start Num: 21

Candidate Starts for HazuAndZazu\_8:

(Start: 21 @4608 has 24 MA's), (48, 4710), (69, 4920), (100, 5070), (119, 5223), (121, 5244), (154, 5445), (162, 5484), (165, 5493), (168, 5505), (171, 5523), (174, 5544), (175, 5547),

Gene: Hemma\_9 Start: 5090, Stop: 5932, Start Num: 41

Candidate Starts for Hemma\_9:

(Start: 41 @5090 has 32 MA's), (48, 5138), (55, 5225), (58, 5240), (60, 5252), (64, 5312), (77, 5387), (79, 5402), (100, 5516), (105, 5540), (108, 5561), (116, 5609), (147, 5741), (179, 5897),

Gene: Hortihabitatio\_18 Start: 11726, Stop: 12574, Start Num: 33

Candidate Starts for Hortihabitatio\_18:

(Start: 33 @11726 has 1 MA's), (Start: 40 @11738 has 15 MA's), (48, 11780), (53, 11849), (58, 11879), (84, 12071), (103, 12170), (105, 12176), (116, 12245), (158, 12443), (167, 12470),

Gene: Hoshi\_9 Start: 4904, Stop: 5932, Start Num: 21

Candidate Starts for Hoshi\_9:

(Start: 21 @4904 has 24 MA's), (48, 5006), (69, 5216), (100, 5366), (121, 5540), (135, 5621), (139, 5636), (154, 5741), (162, 5780), (165, 5789), (168, 5801), (171, 5819), (174, 5840), (175, 5843),

Gene: Hydrus\_19 Start: 12821, Stop: 13666, Start Num: 37

Candidate Starts for Hydrus\_19:

(Start: 37 @12821 has 2 MA's), (Start: 40 @12827 has 15 MA's), (48, 12872), (53, 12941), (58, 12971), (84, 13163), (103, 13262), (105, 13268), (116, 13337), (158, 13535), (178, 13622),

Gene: Hydrus\_18 Start: 11639, Stop: 12808, Start Num: 40

Candidate Starts for Hydrus\_18:

(29, 11609), (Start: 40 @11639 has 15 MA's), (48, 11690), (96, 12065), (98, 12077), (127, 12224), (161, 12410), (164, 12416), (176, 12479), (190, 12578), (192, 12716),

Gene: IceWarrior\_9 Start: 4904, Stop: 5932, Start Num: 21

Candidate Starts for IceWarrior\_9:

(Start: 21 @4904 has 24 MA's), (48, 5006), (69, 5216), (100, 5366), (121, 5540), (135, 5621), (139, 5636), (154, 5741), (162, 5780), (165, 5789), (168, 5801), (171, 5819), (174, 5840), (175, 5843),

Gene: Indigenous\_9 Start: 4904, Stop: 5932, Start Num: 21

Candidate Starts for Indigenous\_9:

(Start: 21 @4904 has 24 MA's), (48, 5006), (69, 5216), (100, 5366), (121, 5540), (135, 5621), (139, 5636), (154, 5741), (162, 5780), (165, 5789), (168, 5801), (171, 5819), (174, 5840), (175, 5843),

Gene: Ingrid\_8 Start: 5356, Stop: 6204, Start Num: 41

Candidate Starts for Ingrid\_8:

(Start: 41 @5356 has 32 MA's), (48, 5401), (55, 5488), (58, 5503), (60, 5515), (74, 5635), (79, 5662), (80, 5668), (82, 5677), (84, 5695), (100, 5776), (105, 5800), (127, 5905), (131, 5926), (152, 6025), (179, 6157), (185, 6190),

Gene: Inked\_9 Start: 5530, Stop: 6381, Start Num: 41

Candidate Starts for Inked\_9:

(Start: 41 @5530 has 32 MA's), (48, 5575), (55, 5662), (58, 5677), (60, 5689), (79, 5839), (80, 5845), (84, 5872), (100, 5953), (105, 5977), (152, 6202), (179, 6334), (185, 6367),

Gene: Issa\_8 Start: 5285, Stop: 6133, Start Num: 41

Candidate Starts for Issa\_8:

(Start: 41 @5285 has 32 MA's), (47, 5321), (48, 5330), (55, 5417), (58, 5432), (60, 5444), (79, 5591), (84, 5624), (100, 5705), (105, 5729), (131, 5855), (152, 5954), (178, 6083), (179, 6086), (185, 6119),

Gene: Jaylociraptor\_9 Start: 4904, Stop: 5932, Start Num: 21

Candidate Starts for Jaylociraptor\_9:

(Start: 21 @4904 has 24 MA's), (48, 5006), (69, 5216), (100, 5366), (121, 5540), (135, 5621), (139, 5636), (154, 5741), (162, 5780), (165, 5789), (168, 5801), (171, 5819), (174, 5840), (175, 5843),

Gene: JeNeSaisPas\_17 Start: 10279, Stop: 11193, Start Num: 19

Candidate Starts for JeNeSaisPas\_17:

(Start: 19 @10279 has 3 MA's), (26, 10321), (28, 10327), (59, 10522), (76, 10642), (106, 10792), (109, 10822), (112, 10837), (129, 10918), (140, 10966), (152, 11041), (158, 11086),

Gene: JeNeSaisPas\_23 Start: 14064, Stop: 15332, Start Num: 4

Candidate Starts for JeNeSaisPas\_23:

(Start: 4 @14064 has 3 MA's), (5, 14088), (7, 14103), (8, 14109), (11, 14286), (25, 14397), (34, 14433), (45, 14463), (55, 14583), (66, 14670), (70, 14712), (71, 14715), (100, 14889), (110, 14955), (126, 15036), (141, 15105), (156, 15204), (158, 15219), (159, 15222), (167, 15246), (170, 15255), (181, 15315),

Gene: JeNeSaisPas\_24 Start: 15361, Stop: 16695, Start Num: 3

Candidate Starts for JeNeSaisPas\_24:

(Start: 3 @15361 has 3 MA's), (6, 15400), (7, 15403), (8, 15409), (9, 15451), (10, 15571), (17, 15649), (Start: 21 @15691 has 24 MA's), (31, 15739), (51, 15844), (52, 15859), (61, 15946), (67, 16003), (68, 16015), (76, 16063), (90, 16156), (100, 16201), (101, 16207), (123, 16360), (148, 16513), (156, 16555), (158, 16570), (172, 16621), (173, 16633),

Gene: Jodelie19\_18 Start: 12247, Stop: 13089, Start Num: 36

Candidate Starts for Jodelie19\_18:

(Start: 36 @12247 has 24 MA's), (48, 12295), (53, 12364), (58, 12394), (84, 12586), (100, 12667), (103, 12685), (105, 12691), (116, 12760), (158, 12958),

Gene: JulesRay\_15 Start: 9651, Stop: 10493, Start Num: 39

Candidate Starts for JulesRay\_15:

(Start: 39 @9651 has 20 MA's), (48, 9699), (58, 9798), (70, 9909), (74, 9930), (84, 9990), (103, 10089), (105, 10095), (116, 10164), (158, 10362),

Gene: Kenosha\_16 Start: 10240, Stop: 11409, Start Num: 40

Candidate Starts for Kenosha\_16:

(29, 10210), (Start: 40 @10240 has 15 MA's), (48, 10291), (96, 10666), (98, 10678), (127, 10825), (136, 10873), (161, 11011), (164, 11017), (176, 11080), (189, 11173), (190, 11179), (192, 11317),

Gene: Kenosha\_17 Start: 11428, Stop: 12267, Start Num: 40

Candidate Starts for Kenosha\_17:

(Start: 37 @11422 has 2 MA's), (Start: 40 @11428 has 15 MA's), (48, 11473), (53, 11542), (58, 11572), (84, 11764), (103, 11863), (105, 11869), (116, 11938), (158, 12136), (178, 12223),

Gene: Kerry\_15 Start: 9377, Stop: 10219, Start Num: 39

Candidate Starts for Kerry\_15:

(Start: 39 @9377 has 20 MA's), (48, 9425), (58, 9524), (70, 9635), (77, 9671), (84, 9716), (105, 9821), (116, 9890), (158, 10088),

Gene: Kureo\_26 Start: 14153, Stop: 15505, Start Num: 3

Candidate Starts for Kureo\_26:

(2, 14147), (Start: 3 @14153 has 3 MA's), (6, 14192), (7, 14195), (8, 14201), (9, 14243), (10, 14363), (12, 14411), (17, 14441), (Start: 21 @14483 has 24 MA's), (22, 14489), (52, 14651), (56, 14690), (61, 14738), (67, 14795), (68, 14807), (70, 14825), (76, 14855), (90, 14948), (95, 14957), (100, 14993), (101, 14999), (110, 15059), (114, 15101), (123, 15173), (125, 15194), (145, 15290), (148, 15323), (156, 15365), (158, 15380), (172, 15431), (173, 15443),

Gene: Kureo\_19 Start: 10111, Stop: 11025, Start Num: 19

Candidate Starts for Kureo\_19:

(Start: 19 @10111 has 3 MA's), (26, 10153), (28, 10159), (59, 10354), (76, 10474), (106, 10624), (109, 10654), (112, 10669), (129, 10750), (140, 10798), (152, 10873), (158, 10918),

Gene: LilHuddy\_8 Start: 5267, Stop: 6118, Start Num: 41

Candidate Starts for LilHuddy\_8:

(Start: 41 @5267 has 32 MA's), (48, 5315), (55, 5402), (58, 5417), (60, 5429), (77, 5564), (79, 5576), (80, 5582), (82, 5591), (84, 5609), (100, 5690), (103, 5708), (105, 5714), (116, 5783), (179, 6071), (185, 6104),

Gene: Loretta\_8 Start: 5356, Stop: 6204, Start Num: 41

Candidate Starts for Loretta\_8:

(Start: 41 @5356 has 32 MA's), (48, 5401), (55, 5488), (58, 5503), (60, 5515), (74, 5635), (79, 5662), (80, 5668), (82, 5677), (84, 5695), (100, 5776), (105, 5800), (127, 5905), (131, 5926), (152, 6025), (179, 6157), (185, 6190),

Gene: LucySwiss\_8 Start: 5304, Stop: 6152, Start Num: 41

Candidate Starts for LucySwiss\_8:

(Start: 41 @5304 has 32 MA's), (47, 5340), (48, 5349), (55, 5436), (58, 5451), (60, 5463), (79, 5610), (84, 5643), (100, 5724), (105, 5748), (131, 5874), (152, 5973), (178, 6102), (179, 6105), (185, 6138),

Gene: Luthien\_19 Start: 12244, Stop: 13086, Start Num: 36

Candidate Starts for Luthien\_19:

(Start: 36 @12244 has 24 MA's), (48, 12292), (53, 12361), (58, 12391), (80, 12556), (84, 12583), (100, 12664), (103, 12682), (105, 12688), (116, 12757), (158, 12955), (161, 12964),

Gene: Madamoto\_9 Start: 4879, Stop: 5925, Start Num: 21

Candidate Starts for Madamoto\_9:

(13, 4822), (Start: 21 @4879 has 24 MA's), (32, 4930), (48, 4987), (62, 5131), (100, 5350), (111, 5428), (154, 5734), (165, 5782), (174, 5833),

Gene: Madvan\_18 Start: 12044, Stop: 12886, Start Num: 36

Candidate Starts for Madvan\_18:

(Start: 36 @12044 has 24 MA's), (48, 12092), (53, 12161), (58, 12191), (84, 12383), (103, 12482), (105, 12488), (116, 12557), (158, 12755),

Gene: Magel\_15 Start: 9377, Stop: 10219, Start Num: 39

Candidate Starts for Magel\_15:

(Start: 39 @9377 has 20 MA's), (48, 9425), (58, 9524), (70, 9635), (77, 9671), (84, 9716), (105, 9821), (116, 9890), (158, 10088),

Gene: MajinBuu\_18 Start: 12248, Stop: 13090, Start Num: 36

Candidate Starts for MajinBuu\_18:

(Start: 36 @12248 has 24 MA's), (48, 12296), (53, 12365), (58, 12395), (84, 12587), (100, 12668), (103, 12686), (105, 12692), (116, 12761), (158, 12959),

Gene: Makai\_8 Start: 5396, Stop: 6247, Start Num: 41

Candidate Starts for Makai\_8:

(Start: 41 @5396 has 32 MA's), (48, 5444), (55, 5531), (57, 5540), (58, 5546), (60, 5558), (79, 5705), (80, 5711), (84, 5738), (100, 5819), (105, 5843), (127, 5948), (167, 6137), (179, 6200), (185, 6233),

Gene: Marianna39\_26 Start: 15330, Stop: 16682, Start Num: 3

Candidate Starts for Marianna39\_26:

(2, 15324), (Start: 3 @15330 has 3 MA's), (6, 15369), (7, 15372), (8, 15378), (9, 15420), (10, 15540), (12, 15588), (17, 15618), (Start: 21 @15660 has 24 MA's), (22, 15666), (52, 15828), (56, 15867), (61, 15915), (67, 15972), (68, 15984), (70, 16002), (76, 16032), (90, 16125), (95, 16134), (100, 16170), (101, 16176), (110, 16236), (114, 16278), (123, 16350), (125, 16371), (145, 16467), (148, 16500), (156, 16542), (158, 16557), (172, 16608), (173, 16620),

Gene: Marianna39\_25 Start: 14031, Stop: 15299, Start Num: 4

Candidate Starts for Marianna39\_25:

(1, 14004), (Start: 4 @14031 has 3 MA's), (7, 14070), (8, 14076), (11, 14253), (25, 14364), (34, 14400), (45, 14430), (55, 14550), (66, 14637), (70, 14679), (71, 14682), (100, 14856), (110, 14922), (126, 15003), (141, 15072), (156, 15171), (158, 15186), (159, 15189), (167, 15213), (170, 15222), (181, 15282),

Gene: Marianna39\_18 Start: 9707, Stop: 10621, Start Num: 19

Candidate Starts for Marianna39\_18:

(Start: 19 @9707 has 3 MA's), (26, 9749), (28, 9755), (59, 9950), (76, 10070), (106, 10220), (109, 10250), (112, 10265), (129, 10346), (140, 10394), (152, 10469), (158, 10514),

Gene: Maya\_9 Start: 4912, Stop: 5940, Start Num: 21

Candidate Starts for Maya\_9:

(Start: 21 @4912 has 24 MA's), (48, 5014), (69, 5224), (100, 5374), (121, 5548), (135, 5629), (139, 5644), (154, 5749), (162, 5788), (165, 5797), (168, 5809), (171, 5827), (174, 5848), (175, 5851),

Gene: MediumFry\_9 Start: 5577, Stop: 6428, Start Num: 41

Candidate Starts for MediumFry\_9:

(Start: 41 @5577 has 32 MA's), (47, 5613), (48, 5622), (55, 5709), (58, 5724), (60, 5736), (75, 5862), (79, 5886), (80, 5892), (84, 5919), (100, 6000), (105, 6024), (127, 6129), (152, 6249), (178, 6378), (179, 6381), (185, 6414),

Gene: Meibysrarus\_9 Start: 4904, Stop: 5932, Start Num: 21

Candidate Starts for Meibysrarus\_9:

(Start: 21 @4904 has 24 MA's), (48, 5006), (69, 5216), (100, 5366), (121, 5540), (135, 5621), (139, 5636), (154, 5741), (162, 5780), (165, 5789), (168, 5801), (171, 5819), (174, 5840), (175, 5843),

Gene: MiniBagel\_8 Start: 6536, Stop: 7387, Start Num: 41

Candidate Starts for MiniBagel\_8:

(Start: 41 @6536 has 32 MA's), (47, 6572), (48, 6581), (55, 6668), (58, 6683), (60, 6695), (72, 6803), (79, 6845), (82, 6860), (84, 6878), (100, 6959), (105, 6983), (152, 7208), (178, 7337), (179, 7340), (185, 7373),

Gene: Mossy\_16 Start: 10528, Stop: 11652, Start Num: 16

Candidate Starts for Mossy\_16:

(Start: 16 @10528 has 1 MA's), (18, 10537), (20, 10573), (27, 10606), (50, 10726), (89, 11053), (91, 11068), (117, 11239), (135, 11359), (144, 11392), (149, 11428), (154, 11467), (165, 11515), (187, 11632),

Gene: Mossy\_19 Start: 13461, Stop: 14300, Start Num: 40

Candidate Starts for Mossy\_19:

(Start: 40 @13461 has 15 MA's), (48, 13506), (53, 13575), (58, 13605), (84, 13797), (103, 13896), (105, 13902), (116, 13971), (158, 14169), (167, 14196), (178, 14256),

Gene: Mysticmoon\_17 Start: 12102, Stop: 12941, Start Num: 40

Candidate Starts for Mysticmoon\_17:

(29, 12072), (35, 12093), (Start: 40 @12102 has 15 MA's), (48, 12147), (53, 12216), (58, 12246), (84, 12438), (103, 12537), (105, 12543), (116, 12612), (158, 12810), (167, 12837), (178, 12897),

Gene: Nadmeg\_18 Start: 12045, Stop: 12887, Start Num: 36

Candidate Starts for Nadmeg\_18:

(Start: 36 @12045 has 24 MA's), (48, 12093), (53, 12162), (58, 12192), (84, 12384), (103, 12483), (105, 12489), (116, 12558), (158, 12756),

Gene: Namo\_9 Start: 4904, Stop: 5932, Start Num: 21

Candidate Starts for Namo\_9:

(Start: 21 @4904 has 24 MA's), (48, 5006), (69, 5216), (100, 5366), (119, 5519), (121, 5540), (154, 5741), (162, 5780), (165, 5789), (168, 5801), (171, 5819), (174, 5840), (175, 5843),

Gene: Nightmare\_9 Start: 5909, Stop: 6760, Start Num: 40

Candidate Starts for Nightmare\_9:

(Start: 40 @5909 has 15 MA's), (48, 5957), (55, 6044), (58, 6059), (60, 6071), (79, 6218), (82, 6233), (84, 6251), (100, 6332), (105, 6356), (131, 6482), (152, 6581), (178, 6710), (179, 6713), (185, 6746),

Gene: Niktson\_7 Start: 5470, Stop: 6321, Start Num: 41

Candidate Starts for Niktson\_7:

(Start: 41 @5470 has 32 MA's), (47, 5506), (48, 5515), (55, 5602), (58, 5617), (60, 5629), (72, 5737), (79, 5779), (82, 5794), (84, 5812), (100, 5893), (103, 5911), (105, 5917), (152, 6142), (178, 6271), (179, 6274), (185, 6307),

Gene: Nithya\_18 Start: 12243, Stop: 13085, Start Num: 36

Candidate Starts for Nithya\_18:

(Start: 36 @12243 has 24 MA's), (48, 12291), (53, 12360), (58, 12390), (80, 12555), (84, 12582), (100, 12663), (103, 12681), (105, 12687), (116, 12756), (158, 12954), (161, 12963),

Gene: Nivinsha\_8 Start: 5330, Stop: 6178, Start Num: 41

Candidate Starts for Nivinsha\_8:

(Start: 41 @5330 has 32 MA's), (47, 5366), (48, 5375), (55, 5462), (58, 5477), (60, 5489), (79, 5636), (82, 5651), (84, 5669), (105, 5774), (131, 5900), (152, 5999), (178, 6128), (179, 6131), (185, 6164),

Gene: NoPickles\_15 Start: 9377, Stop: 10219, Start Num: 39

Candidate Starts for NoPickles\_15:

(Start: 39 @9377 has 20 MA's), (48, 9425), (58, 9524), (70, 9635), (77, 9671), (84, 9716), (105, 9821), (116, 9890), (158, 10088),

Gene: Odesza\_15 Start: 9377, Stop: 10219, Start Num: 39

Candidate Starts for Odesza\_15:

(Start: 39 @9377 has 20 MA's), (48, 9425), (58, 9524), (70, 9635), (77, 9671), (84, 9716), (105, 9821), (116, 9890), (158, 10088),

Gene: OlympicHelado\_9 Start: 4904, Stop: 5932, Start Num: 21

Candidate Starts for OlympicHelado\_9:

(Start: 21 @4904 has 24 MA's), (48, 5006), (69, 5216), (100, 5366), (119, 5519), (121, 5540), (154, 5741), (162, 5780), (165, 5789), (168, 5801), (171, 5819), (174, 5840), (175, 5843),

Gene: Paella\_24 Start: 13531, Stop: 14799, Start Num: 4

Candidate Starts for Paella\_24:

(Start: 4 @13531 has 3 MA's), (5, 13555), (7, 13570), (8, 13576), (11, 13753), (25, 13864), (34, 13900), (45, 13930), (66, 14137), (70, 14179), (71, 14182), (100, 14356), (110, 14422), (126, 14503), (141, 14572), (156, 14671), (158, 14686), (159, 14689), (167, 14713), (170, 14722), (181, 14782),

Gene: Paella\_25 Start: 14828, Stop: 16162, Start Num: 3

Candidate Starts for Paella\_25:

(Start: 3 @14828 has 3 MA's), (6, 14867), (7, 14870), (8, 14876), (9, 14918), (10, 15038), (17, 15116), (Start: 21 @15158 has 24 MA's), (31, 15206), (51, 15311), (52, 15326), (61, 15413), (67, 15470), (68, 15482), (76, 15530), (90, 15623), (100, 15668), (101, 15674), (123, 15827), (148, 15980), (156, 16022), (158, 16037), (172, 16088), (173, 16100),

Gene: Paella\_18 Start: 9746, Stop: 10660, Start Num: 19

Candidate Starts for Paella\_18:

(Start: 19 @9746 has 3 MA's), (26, 9788), (28, 9794), (59, 9989), (76, 10109), (106, 10259), (109, 10289), (112, 10304), (129, 10385), (140, 10433), (152, 10508), (158, 10553),

Gene: Pepy6\_020 Start: 18201, Stop: 19283, Start Num: 39

Candidate Starts for Pepy6\_020:

(Start: 39 @18201 has 20 MA's), (43, 18213), (48, 18255), (68, 18477), (81, 18555), (85, 18585), (93, 18630), (94, 18633), (98, 18660), (118, 18795), (143, 18942), (147, 18972), (153, 19017), (157, 19044), (163, 19065), (177, 19134), (179, 19146), (188, 19203),

Gene: Pepy6\_017 Start: 15271, Stop: 16104, Start Num: 40

Candidate Starts for Pepy6\_017:

(Start: 33 @15259 has 1 MA's), (Start: 40 @15271 has 15 MA's), (48, 15316), (53, 15385), (58, 15415), (79, 15574), (84, 15607), (97, 15673), (99, 15682), (103, 15706), (105, 15712), (116, 15781), (130, 15832), (145, 15889), (158, 15979), (169, 16012),

Gene: Pepy6\_018 Start: 16104, Stop: 17147, Start Num: 15

Candidate Starts for Pepy6\_018:

(14, 16101), (15, 16104), (20, 16152), (87, 16536), (117, 16728), (134, 16836), (138, 16860), (144, 16884), (146, 16905), (149, 16923), (154, 16962), (165, 17010), (180, 17088), (182, 17103),

Gene: Perkunas\_17 Start: 10170, Stop: 11000, Start Num: 39

Candidate Starts for Perkunas\_17:

(Start: 39 @10170 has 20 MA's), (46, 10194), (48, 10218), (54, 10290), (58, 10317), (70, 10428), (74, 10449), (77, 10464), (84, 10509), (86, 10521), (105, 10614), (107, 10629), (116, 10683), (145, 10791), (147, 10815), (160, 10887),

Gene: PerroGrande22\_22 Start: 19153, Stop: 20229, Start Num: 39

Candidate Starts for PerroGrande22\_22:

(24, 19102), (Start: 39 @19153 has 20 MA's), (48, 19204), (63, 19381), (93, 19576), (94, 19579), (102, 19630), (104, 19633), (115, 19720), (133, 19840), (150, 19936), (151, 19939), (153, 19963), (157,

19990), (163, 20011), (170, 20035), (179, 20092), (188, 20149),

Gene: PerroGrande22\_19 Start: 16196, Stop: 17035, Start Num: 40

Candidate Starts for PerroGrande22\_19:

(Start: 40 @16196 has 15 MA's), (48, 16247), (53, 16316), (57, 16340), (58, 16346), (79, 16505), (84, 16538), (99, 16613), (105, 16643), (116, 16712), (130, 16763), (145, 16820), (158, 16910),

Gene: PerroGrande22\_20 Start: 17035, Stop: 18111, Start Num: 15

Candidate Starts for PerroGrande22\_20:

(14, 17032), (15, 17035), (20, 17083), (87, 17500), (92, 17521), (117, 17692), (135, 17812), (138, 17824), (146, 17869), (165, 17974), (171, 18004), (180, 18052), (182, 18067), (187, 18091),

Gene: PestoPenguin\_20 Start: 12043, Stop: 12885, Start Num: 36

Candidate Starts for PestoPenguin\_20:

(Start: 36 @12043 has 24 MA's), (48, 12091), (53, 12160), (58, 12190), (84, 12382), (103, 12481), (105, 12487), (116, 12556), (158, 12754), (167, 12781),

Gene: Petito\_16 Start: 9875, Stop: 10717, Start Num: 39

Candidate Starts for Petito\_16:

(Start: 39 @9875 has 20 MA's), (48, 9923), (58, 10022), (70, 10133), (73, 10145), (80, 10187), (84, 10214), (86, 10226), (103, 10313), (105, 10319), (116, 10388), (158, 10586), (160, 10592),

Gene: Phaby\_8 Start: 5257, Stop: 6108, Start Num: 41

Candidate Starts for Phaby\_8:

(Start: 41 @5257 has 32 MA's), (48, 5305), (55, 5392), (58, 5407), (60, 5419), (77, 5554), (79, 5566), (80, 5572), (82, 5581), (84, 5599), (100, 5680), (103, 5698), (105, 5704), (116, 5773), (179, 6061), (185, 6094),

Gene: Phepper\_18 Start: 12043, Stop: 12885, Start Num: 36

Candidate Starts for Phepper\_18:

(Start: 36 @12043 has 24 MA's), (48, 12091), (53, 12160), (58, 12190), (84, 12382), (103, 12481), (105, 12487), (116, 12556), (158, 12754),

Gene: Pherobrine\_17 Start: 12100, Stop: 12939, Start Num: 40

Candidate Starts for Pherobrine\_17:

(29, 12070), (35, 12091), (Start: 40 @12100 has 15 MA's), (48, 12145), (53, 12214), (58, 12244), (84, 12436), (103, 12535), (105, 12541), (116, 12610), (158, 12808), (167, 12835), (178, 12895),

Gene: Poco6\_021 Start: 19849, Stop: 20922, Start Num: 39

Candidate Starts for Poco6\_021:

(24, 19798), (Start: 39 @19849 has 20 MA's), (48, 19900), (63, 20074), (93, 20269), (94, 20272), (113, 20407), (120, 20464), (133, 20533), (143, 20581), (150, 20629), (151, 20632), (153, 20656), (155, 20671), (157, 20683), (166, 20713), (179, 20785), (188, 20842),

Gene: Poco6\_019 Start: 18028, Stop: 18864, Start Num: 40

Candidate Starts for Poco6\_019:

(Start: 40 @18028 has 15 MA's), (44, 18040), (48, 18076), (53, 18145), (57, 18169), (58, 18175), (79, 18334), (84, 18367), (99, 18442), (103, 18466), (105, 18472), (116, 18541), (130, 18592), (145, 18649), (158, 18739),

Gene: Popy\_8 Start: 4608, Stop: 5636, Start Num: 21

Candidate Starts for Popy\_8:

(Start: 21 @4608 has 24 MA's), (23, 4617), (48, 4710), (69, 4920), (100, 5070), (121, 5244), (135, 5325), (139, 5340), (154, 5445), (162, 5484), (165, 5493), (168, 5505), (171, 5523), (174, 5544), (175, 5547),

Gene: Qui\_18 Start: 9746, Stop: 10660, Start Num: 19

Candidate Starts for Qui\_18:

(Start: 19 @9746 has 3 MA's), (26, 9788), (28, 9794), (59, 9989), (76, 10109), (106, 10259), (109, 10289), (112, 10304), (129, 10385), (140, 10433), (152, 10508), (158, 10553),

Gene: Qui\_24 Start: 13531, Stop: 14799, Start Num: 4

Candidate Starts for Qui\_24:

(Start: 4 @13531 has 3 MA's), (5, 13555), (7, 13570), (8, 13576), (11, 13753), (25, 13864), (34, 13900), (45, 13930), (66, 14137), (70, 14179), (71, 14182), (100, 14356), (110, 14422), (126, 14503), (141, 14572), (156, 14671), (158, 14686), (159, 14689), (167, 14713), (170, 14722), (181, 14782),

Gene: Qui\_25 Start: 14828, Stop: 16162, Start Num: 3

Candidate Starts for Qui\_25:

(Start: 3 @14828 has 3 MA's), (6, 14867), (7, 14870), (8, 14876), (9, 14918), (10, 15038), (17, 15116), (Start: 21 @15158 has 24 MA's), (31, 15206), (51, 15311), (52, 15326), (61, 15413), (67, 15470), (68, 15482), (76, 15530), (90, 15623), (100, 15668), (101, 15674), (123, 15827), (148, 15980), (156, 16022), (158, 16037), (172, 16088), (173, 16100),

Gene: Rickmore\_17 Start: 10813, Stop: 11655, Start Num: 36

Candidate Starts for Rickmore\_17:

(Start: 36 @10813 has 24 MA's), (48, 10861), (53, 10930), (58, 10960), (84, 11152), (100, 11233), (103, 11251), (105, 11257), (116, 11326), (158, 11524),

Gene: Rima\_9 Start: 4904, Stop: 5932, Start Num: 21

Candidate Starts for Rima\_9:

(Start: 21 @4904 has 24 MA's), (48, 5006), (69, 5216), (100, 5366), (119, 5519), (121, 5540), (154, 5741), (162, 5780), (165, 5789), (168, 5801), (171, 5819), (174, 5840), (175, 5843),

Gene: Roney\_15 Start: 9377, Stop: 10219, Start Num: 39

Candidate Starts for Roney\_15:

(Start: 39 @9377 has 20 MA's), (48, 9425), (58, 9524), (70, 9635), (77, 9671), (84, 9716), (105, 9821), (116, 9890), (158, 10088),

Gene: Runhaar\_18 Start: 12045, Stop: 12887, Start Num: 36

Candidate Starts for Runhaar\_18:

(Start: 36 @12045 has 24 MA's), (48, 12093), (53, 12162), (58, 12192), (84, 12384), (103, 12483), (105, 12489), (116, 12558), (158, 12756),

Gene: Schwartz33\_20 Start: 12921, Stop: 13763, Start Num: 38

Candidate Starts for Schwartz33\_20:

(Start: 38 @12921 has 1 MA's), (48, 12969), (53, 13038), (58, 13068), (82, 13242), (84, 13260), (103, 13359), (105, 13365), (116, 13434), (158, 13632), (167, 13659), (178, 13719),

Gene: ScienceWizSam\_9 Start: 5285, Stop: 6133, Start Num: 41

Candidate Starts for ScienceWizSam\_9:

(Start: 41 @5285 has 32 MA's), (47, 5321), (48, 5330), (55, 5417), (58, 5432), (60, 5444), (79, 5591), (84, 5624), (105, 5729), (152, 5954), (178, 6083), (179, 6086), (185, 6119),

Gene: Secretariat\_17 Start: 11631, Stop: 12470, Start Num: 40

Candidate Starts for Secretariat\_17:

(Start: 40 @11631 has 15 MA's), (48, 11676), (53, 11745), (58, 11775), (84, 11967), (103, 12066), (105, 12072), (116, 12141), (137, 12225), (158, 12339), (167, 12366), (169, 12372),

Gene: ShaggyRogers\_18 Start: 12042, Stop: 12884, Start Num: 36

Candidate Starts for ShaggyRogers\_18:

(Start: 36 @12042 has 24 MA's), (48, 12090), (53, 12159), (58, 12189), (84, 12381), (103, 12480), (105, 12486), (116, 12555), (158, 12753), (167, 12780),

Gene: Shepard\_8 Start: 5267, Stop: 6118, Start Num: 41

Candidate Starts for Shepard\_8:

(Start: 41 @5267 has 32 MA's), (48, 5315), (55, 5402), (58, 5417), (60, 5429), (77, 5564), (79, 5576), (80, 5582), (82, 5591), (84, 5609), (100, 5690), (103, 5708), (105, 5714), (116, 5783), (152, 5939), (179, 6071), (185, 6104),

Gene: Soshi\_8 Start: 4608, Stop: 5636, Start Num: 21

Candidate Starts for Soshi\_8:

(Start: 21 @4608 has 24 MA's), (48, 4710), (69, 4920), (100, 5070), (121, 5244), (154, 5445), (162, 5484), (165, 5493), (168, 5505), (171, 5523), (174, 5544), (175, 5547),

Gene: Spectropatronm\_9 Start: 4904, Stop: 5932, Start Num: 21

Candidate Starts for Spectropatronm\_9:

(Start: 21 @4904 has 24 MA's), (48, 5006), (69, 5216), (100, 5366), (121, 5540), (135, 5621), (139, 5636), (154, 5741), (162, 5780), (165, 5789), (168, 5801), (171, 5819), (174, 5840), (175, 5843),

Gene: SweetCrkHerbs\_17 Start: 9846, Stop: 10676, Start Num: 39

Candidate Starts for SweetCrkHerbs\_17:

(Start: 39 @9846 has 20 MA's), (46, 9870), (48, 9894), (54, 9966), (58, 9993), (70, 10104), (74, 10125), (77, 10140), (84, 10185), (86, 10197), (105, 10290), (107, 10305), (116, 10359), (145, 10467), (147, 10491), (160, 10563),

Gene: Synopsis\_7 Start: 5450, Stop: 6298, Start Num: 41

Candidate Starts for Synopsis\_7:

(Start: 41 @5450 has 32 MA's), (47, 5486), (48, 5495), (55, 5582), (58, 5597), (60, 5609), (79, 5756), (82, 5771), (84, 5789), (105, 5894), (131, 6020), (152, 6119), (178, 6248), (179, 6251), (185, 6284),

Gene: TaidaOne\_9 Start: 4904, Stop: 5932, Start Num: 21

Candidate Starts for TaidaOne\_9:

(Start: 21 @4904 has 24 MA's), (48, 5006), (69, 5216), (100, 5366), (121, 5540), (135, 5621), (139, 5636), (154, 5741), (162, 5780), (165, 5789), (168, 5801), (171, 5819), (174, 5840), (175, 5843),

Gene: Tairn4Wing\_17 Start: 9650, Stop: 10492, Start Num: 39

Candidate Starts for Tairn4Wing\_17:

(Start: 39 @9650 has 20 MA's), (48, 9698), (58, 9797), (70, 9908), (74, 9929), (82, 9971), (84, 9989), (103, 10088), (105, 10094), (116, 10163), (158, 10361),

Gene: Talon44\_16 Start: 9846, Stop: 10676, Start Num: 39

Candidate Starts for Talon44\_16:

(Start: 39 @9846 has 20 MA's), (46, 9870), (48, 9894), (54, 9966), (58, 9993), (70, 10104), (74, 10125), (77, 10140), (84, 10185), (86, 10197), (105, 10290), (107, 10305), (116, 10359), (145, 10467), (147, 10491), (160, 10563),

Gene: Tanis\_15 Start: 9227, Stop: 10069, Start Num: 39

Candidate Starts for Tanis\_15:

(Start: 39 @9227 has 20 MA's), (48, 9275), (58, 9374), (70, 9485), (77, 9521), (84, 9566), (105, 9671), (116, 9740), (158, 9938),

Gene: Tatanka\_7 Start: 5390, Stop: 6238, Start Num: 41

Candidate Starts for Tatanka\_7:

(Start: 41 @5390 has 32 MA's), (47, 5426), (48, 5435), (55, 5522), (58, 5537), (60, 5549), (79, 5696), (82, 5711), (84, 5729), (105, 5834), (131, 5960), (152, 6059), (178, 6188), (179, 6191), (185, 6224),

Gene: Teacup\_8 Start: 5285, Stop: 6136, Start Num: 41

Candidate Starts for Teacup\_8:

(Start: 41 @5285 has 32 MA's), (47, 5321), (48, 5330), (55, 5417), (58, 5432), (60, 5444), (72, 5552), (79, 5594), (82, 5609), (84, 5627), (100, 5708), (103, 5726), (105, 5732), (152, 5957), (178, 6086), (179, 6089), (185, 6122),

Gene: TenaciousP\_18 Start: 12247, Stop: 13089, Start Num: 36

Candidate Starts for TenaciousP\_18:

(Start: 36 @12247 has 24 MA's), (48, 12295), (53, 12364), (58, 12394), (84, 12586), (100, 12667), (103, 12685), (105, 12691), (116, 12760), (158, 12958),

Gene: Tenno\_9 Start: 6536, Stop: 7387, Start Num: 41

Candidate Starts for Tenno\_9:

(Start: 41 @6536 has 32 MA's), (47, 6572), (48, 6581), (55, 6668), (58, 6683), (60, 6695), (72, 6803), (79, 6845), (82, 6860), (84, 6878), (100, 6959), (105, 6983), (152, 7208), (178, 7337), (179, 7340), (185, 7373),

Gene: TieDye\_8 Start: 4614, Stop: 5642, Start Num: 21

Candidate Starts for TieDye\_8:

(Start: 21 @4614 has 24 MA's), (48, 4716), (69, 4926), (100, 5076), (121, 5250), (135, 5331), (139, 5346), (154, 5451), (162, 5490), (165, 5499), (168, 5511), (171, 5529), (174, 5550), (175, 5553),

Gene: Tipton\_9 Start: 5868, Stop: 6716, Start Num: 42

Candidate Starts for Tipton\_9:

(30, 5838), (Start: 33 @5850 has 1 MA's), (Start: 42 @5868 has 3 MA's), (48, 5913), (55, 6000), (58, 6015), (60, 6027), (77, 6162), (79, 6174), (80, 6180), (84, 6207), (100, 6288), (103, 6306), (105, 6312), (116, 6381), (179, 6669), (185, 6702),

Gene: Tokki\_9 Start: 5877, Stop: 6725, Start Num: 42

Candidate Starts for Tokki\_9:

(30, 5847), (Start: 33 @5859 has 1 MA's), (Start: 42 @5877 has 3 MA's), (48, 5922), (55, 6009), (58, 6024), (60, 6036), (77, 6171), (79, 6183), (80, 6189), (84, 6216), (100, 6297), (103, 6315), (105, 6321), (116, 6390), (179, 6678), (185, 6711),

Gene: Tonaltzin\_20 Start: 12247, Stop: 13089, Start Num: 36

Candidate Starts for Tonaltzin\_20:

(Start: 36 @12247 has 24 MA's), (48, 12295), (53, 12364), (58, 12394), (84, 12586), (100, 12667), (103, 12685), (105, 12691), (116, 12760), (158, 12958),

Gene: TonyStarch\_9 Start: 4904, Stop: 5932, Start Num: 21

Candidate Starts for TonyStarch\_9:

(Start: 21 @4904 has 24 MA's), (48, 5006), (69, 5216), (100, 5366), (119, 5519), (121, 5540), (154, 5741), (162, 5780), (165, 5789), (168, 5801), (171, 5819), (174, 5840), (175, 5843),

Gene: Truckee\_8 Start: 5343, Stop: 6194, Start Num: 41

Candidate Starts for Truckee\_8:

(Start: 41 @5343 has 32 MA's), (48, 5391), (55, 5478), (58, 5493), (60, 5505), (68, 5586), (74, 5625), (79, 5652), (80, 5658), (84, 5685), (100, 5766), (105, 5790), (116, 5859), (179, 6147), (185, 6180),

Gene: Trufflozitus\_15 Start: 9651, Stop: 10493, Start Num: 39

Candidate Starts for Trufflozitus\_15:

(Start: 39 @9651 has 20 MA's), (48, 9699), (58, 9798), (70, 9909), (74, 9930), (84, 9990), (103, 10089), (105, 10095), (116, 10164), (158, 10362),

Gene: Trustiboi\_8 Start: 5474, Stop: 6322, Start Num: 41

Candidate Starts for Trustiboi\_8:

(Start: 41 @5474 has 32 MA's), (47, 5510), (48, 5519), (55, 5606), (58, 5621), (60, 5633), (79, 5780), (84, 5813), (105, 5918), (131, 6044), (152, 6143), (178, 6272), (179, 6275), (185, 6308),

Gene: Untouchable\_17 Start: 10970, Stop: 11812, Start Num: 36

Candidate Starts for Untouchable\_17:

(Start: 36 @10970 has 24 MA's), (48, 11018), (53, 11087), (58, 11117), (84, 11309), (103, 11408), (105, 11414), (116, 11483), (158, 11681),

Gene: Vardy\_18 Start: 12010, Stop: 12852, Start Num: 36

Candidate Starts for Vardy\_18:

(Start: 36 @12010 has 24 MA's), (48, 12058), (53, 12127), (58, 12157), (84, 12349), (103, 12448), (105, 12454), (116, 12523), (158, 12721),

Gene: Westerlin\_8 Start: 6536, Stop: 7384, Start Num: 41

Candidate Starts for Westerlin\_8:

(Start: 41 @6536 has 32 MA's), (47, 6572), (48, 6581), (55, 6668), (58, 6683), (60, 6695), (79, 6842), (82, 6857), (84, 6875), (105, 6980), (131, 7106), (152, 7205), (178, 7334), (179, 7337), (185, 7370),

Gene: Zeph\_19 Start: 12803, Stop: 13648, Start Num: 37

Candidate Starts for Zeph\_19:

(Start: 37 @12803 has 2 MA's), (Start: 40 @12809 has 15 MA's), (48, 12854), (53, 12923), (58, 12953), (84, 13145), (103, 13244), (105, 13250), (116, 13319), (158, 13517), (178, 13604),

Gene: Zeph\_18 Start: 11621, Stop: 12790, Start Num: 40

Candidate Starts for Zeph\_18:

(29, 11591), (Start: 40 @11621 has 15 MA's), (48, 11672), (96, 12047), (98, 12059), (127, 12206), (161, 12392), (164, 12398), (176, 12461), (190, 12560), (192, 12698),

Gene: Zippen\_9 Start: 5561, Stop: 6412, Start Num: 41

Candidate Starts for Zippen\_9:

(Start: 41 @5561 has 32 MA's), (48, 5606), (55, 5693), (58, 5708), (60, 5720), (79, 5870), (80, 5876), (84, 5903), (100, 5984), (105, 6008), (152, 6233), (179, 6365), (185, 6398),