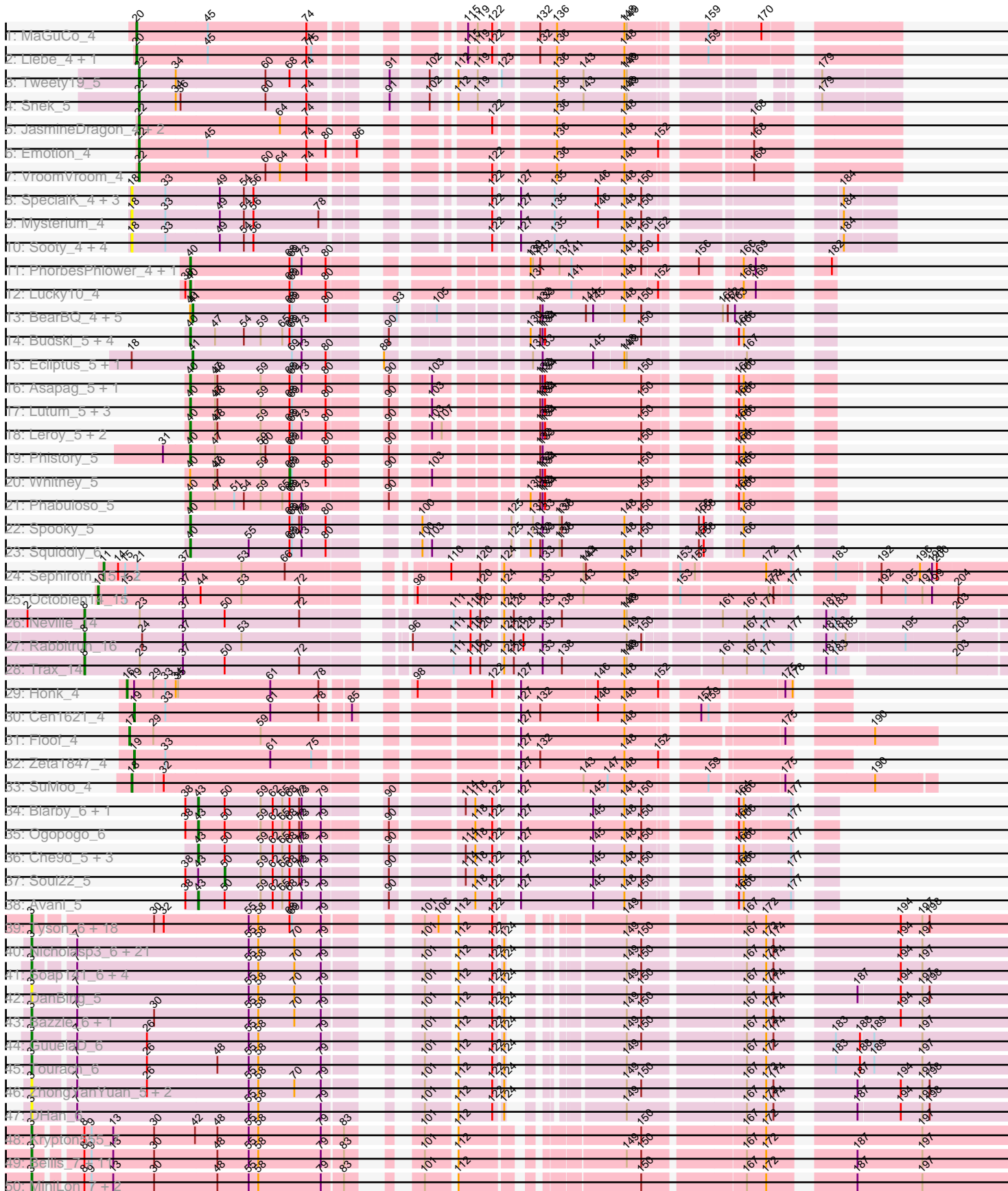
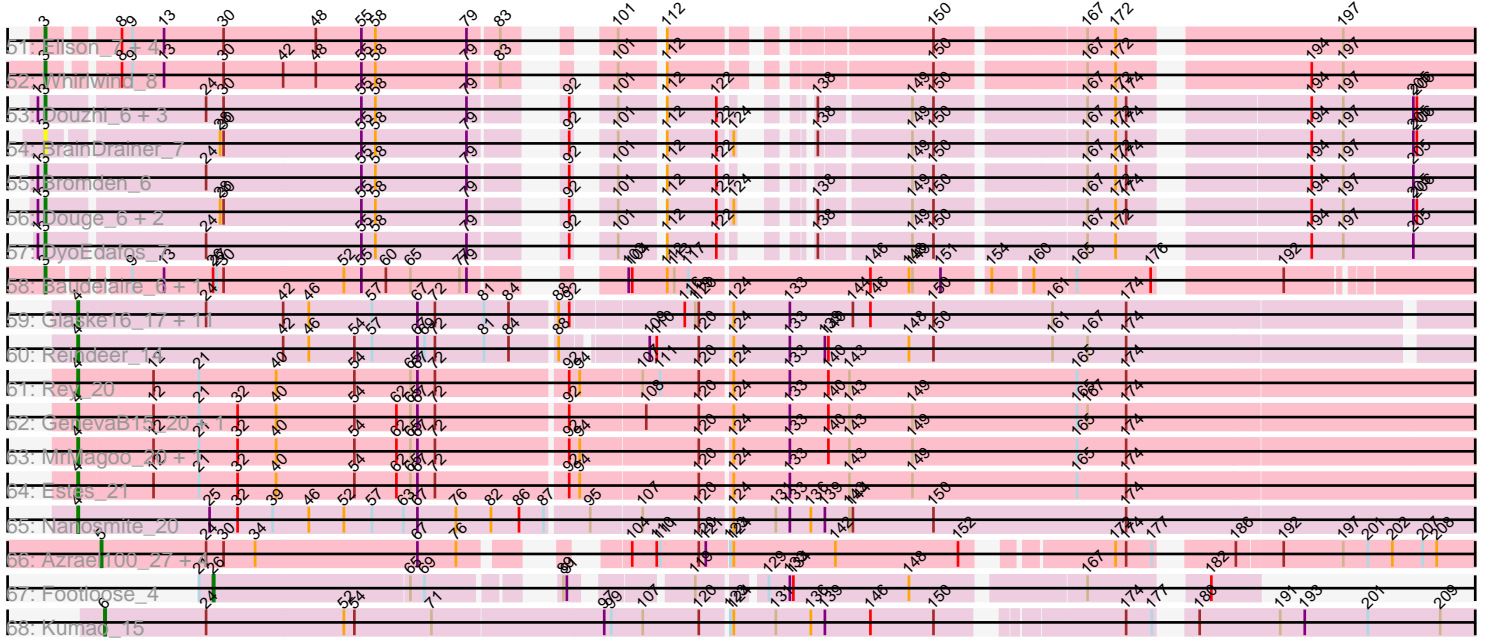


Pham 193762



Pham 193762



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 193762 Report

This analysis was run 11/02/24 on database version 579.

Pham number 193762 has 187 members, 35 are drafts.

Phages represented in each track:

- Track 1 : MaGuCo\_4
- Track 2 : Liebe\_4, Maureen\_4
- Track 3 : Tweety19\_5
- Track 4 : Snek\_5
- Track 5 : JasmineDragon\_4, ShakeltOph\_4, MiniMommy\_4
- Track 6 : Emotion\_4
- Track 7 : VroomVroom\_4
- Track 8 : SpecialK\_4, Halsey\_4, Ashes\_5, Moss\_4
- Track 9 : Mysterium\_4
- Track 10 : Sooty\_4, Gambol\_4, Cappuccino\_4, Donkey\_4, Kalimba\_4
- Track 11 : PhorbessPhlower\_4, Morkie\_4
- Track 12 : Lucky10\_4
- Track 13 : BearBQ\_4, Kuwabara\_4, Crater\_4, Apricot\_4, MortyNRick\_4, Birdsong\_4
- Track 14 : Budski\_5, CheeseTouch\_5, Kamaru\_5, Holliday\_5, LitninMcQueen\_5
- Track 15 : Ecliptus\_5, ODay\_5
- Track 16 : Asapag\_5, BENtherdunthat\_5
- Track 17 : Lutum\_5, Getalong\_5, Periwinkle\_5, Kenna\_5
- Track 18 : Leroy\_5, Horus\_5, Frickyeah\_5
- Track 19 : Phistory\_5
- Track 20 : Whitney\_5
- Track 21 : Phabuloso\_5
- Track 22 : Spooky\_5
- Track 23 : Squiddly\_6
- Track 24 : Sephiroth\_15, Kudefre\_14, Syleon\_15
- Track 25 : Octobien14\_15
- Track 26 : Neville\_14
- Track 27 : Rabbitrun\_16
- Track 28 : Trax\_14
- Track 29 : Honk\_4
- Track 30 : Cen1621\_4
- Track 31 : Floof\_4
- Track 32 : Zeta1847\_4
- Track 33 : SuMoo\_4
- Track 34 : Blarby\_6, Demsculpinboyz\_5
- Track 35 : Ogopogo\_6
- Track 36 : Che9d\_5, Zapner\_6, Jabbawokkie\_6, Yoshi\_5
- Track 37 : Soul22\_5

- Track 38 : Avani\_5
- Track 39 : Tyson\_6, Wyatt2\_6, Zaria\_6, CicholasNage\_6, LeBron\_6, AvadaKedavra\_6, JoeDirt\_6, UPIE\_6, Wamburggrxpress\_6, Appletree2\_6, Rose5\_6, Calm\_6, MAckerman\_6, Enceladus\_6, DirkDirk\_6, Silverleaf\_6, Halena\_6, Acquire49\_6, OhShagHennessy\_6
- Track 40 : Nicholasp3\_6, Vatrix\_6, BobsGarage\_6, Netyap\_6, Miley16\_6, Gabriela\_6, LilDestine\_6, Faith1\_6, Kahlid\_6, Finemlucis\_6, Zakai\_6, Lewan\_6, Gardann\_6, Winky\_6, DrSeegs\_6, Wilder\_6, Breezona\_6, MkaliMitinis3\_6, Itos\_6, BigCheese\_6, Crossroads\_6, Rumpelstiltskin\_6
- Track 41 : Soap141\_6, Sarshaun\_6, Loadrie\_6, Hafay\_6, Wigglewiggles\_6
- Track 42 : DanBing\_5
- Track 43 : Bazzle\_6, Archie\_6
- Track 44 : GuuelaD\_6
- Track 45 : Tourach\_6
- Track 46 : ZhongYanYuan\_5, Claus\_6, Baoshan\_5
- Track 47 : DHan\_6
- Track 48 : Krypton555\_7
- Track 49 : Bellis\_7, Jobypre\_7, Kingsolomon\_7, Lumos\_7, Nicholas\_7, MsGreen\_7, Moostard\_7, Snenia\_7, Finnry\_7, Jubie\_7, Samty\_7, Clautastrophe\_7
- Track 50 : MiniLon\_7, Lolly9\_7, MiniMac\_7
- Track 51 : Ellson\_7, DuncansLeg\_7, KirDoubleO7\_5, LiyuLake\_7, BourbonZero\_6
- Track 52 : Whirlwind\_8
- Track 53 : Douzhi\_6, PYPDinur\_6, Chaser\_6, Sheng711\_6
- Track 54 : BrainDrainer\_7
- Track 55 : Bromden\_6
- Track 56 : Douge\_6, Quby\_6, FarmResident\_6
- Track 57 : DyoEdafos\_7
- Track 58 : Baudelaire\_6, Aegeus\_6
- Track 59 : Glaske16\_17, Auspice\_16, Bricole\_16, Dulcita\_17, IPhane7\_16, Diminimus\_17, Skinny\_17, LilhomieP\_15, PegLeg\_16, TyDawg\_16, Bongo\_16, SlimJimmy\_15
- Track 60 : Reindeer\_14
- Track 61 : Rey\_20
- Track 62 : GenevaB15\_20, Aziz\_20
- Track 63 : MrMagoo\_20, GardenSalsa\_20
- Track 64 : Estes\_21
- Track 65 : Nanosmite\_20
- Track 66 : Azrael100\_27, MaryV\_28, EniyanLRS\_25, Cosmo\_28, Wildcat\_28
- Track 67 : Footloose\_4
- Track 68 : Kumao\_15

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

The start number called the most often in the published annotations is 3, it was called in 69 of the 152 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Acquire49\_6, Aegeus\_6, Appletree2\_6, Archie\_6, AvadaKedavra\_6, Baoshan\_5, Baudelaire\_6, Bazzle\_6, Bellis\_7, BigCheese\_6, BobsGarage\_6, BourbonZero\_6, BrainDrainer\_7, Breezona\_6, Bromden\_6, Calm\_6, Chaser\_6, CicholasNage\_6,

Claus\_6, Clautastrophe\_7, Crossroads\_6, DHan\_6, DanBing\_5, DirkDirk\_6, Douge\_6, Douzhi\_6, DrSeegs\_6, DuncansLeg\_7, DyoEdafos\_7, Ellson\_7, Enceladus\_6, Faith1\_6, FarmResident\_6, Finemlucis\_6, Finnry\_7, Gabriela\_6, Gardann\_6, GuuelaD\_6, Hafay\_6, Halena\_6, Itos\_6, Jobypre\_7, JoeDirt\_6, Jubie\_7, Kahlid\_6, Kingsolomon\_7, KirDoubleO7\_5, Krypton555\_7, LeBron\_6, Lewan\_6, LilDestine\_6, LiyuLake\_7, Loadrie\_6, Lolly9\_7, Lumos\_7, MAckerman\_6, Miley16\_6, MiniLon\_7, MiniMac\_7, MkaliMitinis3\_6, Moostard\_7, MsGreen\_7, Netyap\_6, Nicholas\_7, Nicholasp3\_6, OhShagHennessy\_6, PYPDinur\_6, Quby\_6, Rose5\_6, Rumpelstiltskin\_6, Samty\_7, Sarshaun\_6, Sheng711\_6, Silverleaf\_6, Snenia\_7, Soap141\_6, Tourach\_6, Tyson\_6, UPIE\_6, Vetrix\_6, Wamburgxpress\_6, Whirlwind\_8, Wigglewiggles\_6, Wilder\_6, Winky\_6, Wyatt2\_6, Zakai\_6, Zaria\_6, ZhongYanYuan\_5,

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

- 

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

- Apricot\_4, Asapag\_5, Ashes\_5, Auspice\_16, Avani\_5, Aziz\_20, Azrael100\_27, BENtherdunthat\_5, BearBQ\_4, Birdsong\_4, Blarby\_6, Bongo\_16, Bricole\_16, Budski\_5, Cappuccino\_4, Cen1621\_4, Che9d\_5, CheeseTouch\_5, Cosmo\_28, Crater\_4, Demsculpinboyz\_5, Diminimus\_17, Donkey\_4, Dulcita\_17, Ecliptus\_5, Emotion\_4, EniyanLRS\_25, Estes\_21, Floof\_4, Footloose\_4, Frickyeah\_5, Gambol\_4, GardenSalsa\_20, GenevaB15\_20, Getalong\_5, Glaske16\_17, Halsey\_4, Holliday\_5, Honk\_4, Horus\_5, IPhone7\_16, Jabbawokkie\_6, JasmineDragon\_4, Kalimba\_4, Kamaru\_5, Kenna\_5, Kudrefre\_14, Kumao\_15, Kuwabara\_4, Leroy\_5, Liebe\_4, LilhomieP\_15, LitninMcQueen\_5, Lucky10\_4, Lutum\_5, MaGuCo\_4, MaryV\_28, Maureen\_4, MiniMommy\_4, Morkie\_4, MortyNRick\_4, Moss\_4, MrMagoo\_20, Mysterium\_4, Nanosmite\_20, Neville\_14, ODay\_5, Octobien14\_15, Ogopogo\_6, PegLeg\_16, Periwinkle\_5, Phabuloso\_5, Phistory\_5, PhorbesPhlower\_4, Rabbitrun\_16, Reindeer\_14, Rey\_20, Sephiroth\_15, ShakeltOph\_4, Skinny\_17, SlimJimmy\_15, Snek\_5, Sooty\_4, Soul22\_5, SpecialK\_4, Spooky\_5, Squiddly\_6, SuMoo\_4, Syleon\_15, Trax\_14, Tweety19\_5, TyDawg\_16, VroomVroom\_4, Whitney\_5, Wildcat\_28, Yoshi\_5, Zapner\_6, Zeta1847\_4,

### Summary by start number:

Start 3:

- Found in 89 of 187 ( 47.6% ) of genes in pham
- Manual Annotations of this start: 69 of 152
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Acquire49\_6 (L1), Aegeus\_6 (L5), Appletree2\_6 (L1), Archie\_6 (L2), AvadaKedavra\_6 (L1), Baoshan\_5 (L2), Baudelaire\_6 (L5), Bazzle\_6 (L2), Bellis\_7 (L3), BigCheese\_6 (L2), BobsGarage\_6 (L2), BourbonZero\_6 (L3), BrainDrainer\_7 (L4), Breezona\_6 (L2), Bromden\_6 (L4), Calm\_6 (L1), Chaser\_6 (L4), CicholasNage\_6 (L1), Claus\_6 (L2), Clautastrophe\_7 (L3), Crossroads\_6 (L2), DHan\_6 (L2), DanBing\_5 (L2), DirkDirk\_6 (L1), Douge\_6 (L4), Douzhi\_6 (L4), DrSeegs\_6 (L2), DuncansLeg\_7 (L3), DyoEdafos\_7 (L4), Ellson\_7 (L3), Enceladus\_6 (L1), Faith1\_6 (L2), FarmResident\_6 (L4), Finemlucis\_6 (L2), Finnry\_7 (L3), Gabriela\_6 (L2), Gardann\_6 (L2), GuuelaD\_6 (L2), Hafay\_6 (L2), Halena\_6 (L1), Itos\_6 (L2), Jobypre\_7 (L3), JoeDirt\_6 (L1), Jubie\_7 (L3), Kahlid\_6 (L2), Kingsolomon\_7 (L3), KirDoubleO7\_5 (L3), Krypton555\_7 (L3), LeBron\_6 (L1), Lewan\_6 (L2), LilDestine\_6 (L2), LiyuLake\_7 (L3), Loadrie\_6 (L2), Lolly9\_7 (L3), Lumos\_7 (L3), MAckerman\_6 (L1), Miley16\_6 (L2), MiniLon\_7 (L3), MiniMac\_7 (L3),

MkaliMitinis3\_6 (L2), Moostard\_7 (L3), MsGreen\_7 (L3), Netyap\_6 (L2), Nicholas\_7 (L3), Nicholasp3\_6 (L2), OhShagHennessy\_6 (L1), PYPDinur\_6 (L4), Quby\_6 (L4), Rose5\_6 (L1), Rumpelstiltskin\_6 (L2), Samty\_7 (L3), Sarshaun\_6 (L2), Sheng711\_6 (L4), Silverleaf\_6 (L1), Snenia\_7 (L3), Soap141\_6 (L2), Tourach\_6 (L2), Tyson\_6 (L1), UPIE\_6 (L1), Vetrrix\_6 (L2), Wamburggrxpress\_6 (L1), Whirlwind\_8 (L3), Wigglewiggles\_6 (L2), Wilder\_6 (L2), Winky\_6 (L2), Wyatt2\_6 (L1), Zakai\_6 (L2), Zaria\_6 (L1), ZhongYanYuan\_5 (L2),

#### Start 4:

- Found in 20 of 187 ( 10.7% ) of genes in pham
- Manual Annotations of this start: 20 of 152
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Auspice\_16 (M1), Aziz\_20 (M2), Bongo\_16 (M1), Bricole\_16 (M1), Diminimus\_17 (M1), Dulcita\_17 (M1), Estes\_21 (M2), GardenSalsa\_20 (M2), GenevaB15\_20 (M2), Glaske16\_17 (M1), IPhone7\_16 (M1), LilhomieP\_15 (M1), MrMagoo\_20 (M2), Nanosmite\_20 (M3), PegLeg\_16 (M1), Reindeer\_14 (M1), Rey\_20 (M2), Skinny\_17 (M1), SlimJimmy\_15 (M1), TyDawg\_16 (M1),

#### Start 5:

- Found in 5 of 187 ( 2.7% ) of genes in pham
- Manual Annotations of this start: 5 of 152
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Azrael100\_27 (V), Cosmo\_28 (V), EniyanLRS\_25 (V), MaryV\_28 (V), Wildcat\_28 (V),

#### Start 6:

- Found in 1 of 187 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 152
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kumao\_15 (singleton),

#### Start 8:

- Found in 25 of 187 ( 13.4% ) of genes in pham
- Manual Annotations of this start: 3 of 152
- Called 12.0% of time when present
- Phage (with cluster) where this start called: Neville\_14 (DU2), Rabbitrun\_16 (DU2), Trax\_14 (DU2),

#### Start 10:

- Found in 1 of 187 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 152
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Octobien14\_15 (DU1),

#### Start 11:

- Found in 3 of 187 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 3 of 152
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kudrefre\_14 (DU1), Sephiroth\_15 (DU1), Syleon\_15 (DU1),

#### Start 16:

- Found in 1 of 187 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 152
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Honk\_4 (EH),

Start 17:

- Found in 1 of 187 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 152
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Floof\_4 (EH),

Start 18:

- Found in 13 of 187 ( 7.0% ) of genes in pham
- Manual Annotations of this start: 1 of 152
- Called 84.6% of time when present
- Phage (with cluster) where this start called: Ashes\_5 (AZ5), Cappuccino\_4 (AZ5), Donkey\_4 (AZ5), Gambol\_4 (AZ5), Halsey\_4 (AZ5), Kalimba\_4 (AZ5), Moss\_4 (AZ5), Mysterium\_4 (AZ5), Sooty\_4 (AZ5), SpecialK\_4 (AZ5), SuMoo\_4 (EH),

Start 19:

- Found in 3 of 187 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 2 of 152
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Cen1621\_4 (EH), Zeta1847\_4 (EH),

Start 20:

- Found in 3 of 187 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 3 of 152
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Liebe\_4 (AZ2), MaGuCo\_4 (AZ2), Maureen\_4 (AZ2),

Start 22:

- Found in 7 of 187 ( 3.7% ) of genes in pham
- Manual Annotations of this start: 5 of 152
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Emotion\_4 (AZ4), JasmineDragon\_4 (AZ4), MiniMommy\_4 (AZ4), ShakeltOph\_4 (AZ4), Snek\_5 (AZ3), Tweety19\_5 (AZ3), VroomVroom\_4 (AZ4),

Start 26:

- Found in 8 of 187 ( 4.3% ) of genes in pham
- Manual Annotations of this start: 1 of 152
- Called 12.5% of time when present
- Phage (with cluster) where this start called: Footloose\_4 (singleton),

Start 40:

- Found in 34 of 187 ( 18.2% ) of genes in pham
- Manual Annotations of this start: 20 of 152
- Called 61.8% of time when present
- Phage (with cluster) where this start called: Asapag\_5 (DN1), BENtherdunthat\_5 (DN1), Budski\_5 (DN), CheeseTouch\_5 (DN1), Frickyeh\_5 (DN1), Getalong\_5 (DN1), Holliday\_5 (DN1), Horus\_5 (DN1), Kamaru\_5 (DN1), Kenna\_5 (DN1), Leroy\_5

(DN1), LitninMcQueen\_5 (DN1), Lucky10\_4 (DH), Lutum\_5 (DN1), Morkie\_4 (DH), Periwinkle\_5 (DN1), Phabuloso\_5 (DN1), Phistory\_5 (DN1), PhorbesPhlower\_4 (DH), Spooky\_5 (DN2), Squiddly\_6 (DN2),

Start 41:

- Found in 8 of 187 ( 4.3% ) of genes in pham
- Manual Annotations of this start: 7 of 152
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Apricot\_4 (DN3), BearBQ\_4 (DN), Birdsong\_4 (DN), Crater\_4 (DN3), Ecliptus\_5 (DN), Kuwabara\_4 (DN4), MortyNRick\_4 (DN), ODay\_5 (DN),

Start 43:

- Found in 9 of 187 ( 4.8% ) of genes in pham
- Manual Annotations of this start: 7 of 152
- Called 88.9% of time when present
- Phage (with cluster) where this start called: Avani\_5 (F2), Blarby\_6 (F), Che9d\_5 (F2), Demsculpinboyz\_5 (F2), Jabbawokkie\_6 (F2), Ogopogo\_6 (F1), Yoshi\_5 (F2), Zapner\_6 (F2),

Start 50:

- Found in 11 of 187 ( 5.9% ) of genes in pham
- Manual Annotations of this start: 1 of 152
- Called 9.1% of time when present
- Phage (with cluster) where this start called: Soul22\_5 (F2),

Start 68:

- Found in 57 of 187 ( 30.5% ) of genes in pham
- Manual Annotations of this start: 1 of 152
- Called 1.8% of time when present
- Phage (with cluster) where this start called: Whitney\_5 (DN1),

### **Summary by clusters:**

There are 26 clusters represented in this pham: DN, singleton, DH, V, M1, M3, M2, DN4, DN1, DN3, DN2, DU1, DU2, EH, F, L4, L5, L2, L3, L1, F1, F2, AZ2, AZ3, AZ4, AZ5,

Info for manual annotations of cluster AZ2:

- Start number 20 was manually annotated 3 times for cluster AZ2.

Info for manual annotations of cluster AZ3:

- Start number 22 was manually annotated 2 times for cluster AZ3.

Info for manual annotations of cluster AZ4:

- Start number 22 was manually annotated 3 times for cluster AZ4.

Info for manual annotations of cluster DH:

- Start number 40 was manually annotated 3 times for cluster DH.

Info for manual annotations of cluster DN:

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



- Start number 41 was manually annotated 4 times for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 40 was manually annotated 14 times for cluster DN1.
- Start number 68 was manually annotated 1 time for cluster DN1.

Info for manual annotations of cluster DN2:

- Start number 40 was manually annotated 2 times for cluster DN2.

Info for manual annotations of cluster DN3:

- Start number 41 was manually annotated 2 times for cluster DN3.

Info for manual annotations of cluster DN4:

- Start number 41 was manually annotated 1 time for cluster DN4.

Info for manual annotations of cluster DU1:

- Start number 10 was manually annotated 1 time for cluster DU1.
- Start number 11 was manually annotated 3 times for cluster DU1.

Info for manual annotations of cluster DU2:

- Start number 8 was manually annotated 3 times for cluster DU2.

Info for manual annotations of cluster EH:

- Start number 16 was manually annotated 1 time for cluster EH.
- Start number 17 was manually annotated 1 time for cluster EH.
- Start number 18 was manually annotated 1 time for cluster EH.
- Start number 19 was manually annotated 2 times for cluster EH.

Info for manual annotations of cluster F1:

- Start number 43 was manually annotated 1 time for cluster F1.

Info for manual annotations of cluster F2:

- Start number 43 was manually annotated 6 times for cluster F2.
- Start number 50 was manually annotated 1 time for cluster F2.

Info for manual annotations of cluster L1:

- Start number 3 was manually annotated 19 times for cluster L1.

Info for manual annotations of cluster L2:

- Start number 3 was manually annotated 28 times for cluster L2.

Info for manual annotations of cluster L3:

- Start number 3 was manually annotated 16 times for cluster L3.

Info for manual annotations of cluster L4:

- Start number 3 was manually annotated 4 times for cluster L4.

Info for manual annotations of cluster L5:

- Start number 3 was manually annotated 2 times for cluster L5.

Info for manual annotations of cluster M1:

- Start number 4 was manually annotated 13 times for cluster M1.

Info for manual annotations of cluster M2:

- Start number 4 was manually annotated 6 times for cluster M2.

Info for manual annotations of cluster M3:

- Start number 4 was manually annotated 1 time for cluster M3.

Info for manual annotations of cluster V:

- Start number 5 was manually annotated 5 times for cluster V.

### **Gene Information:**

Gene: Acquire49\_6 Start: 4320, Stop: 5375, Start Num: 3

Candidate Starts for Acquire49\_6:

(Start: 3 @4320 has 69 MA's), (30, 4458), (32, 4470), (55, 4575), (58, 4587), (Start: 68 @4626 has 1 MA's), (69, 4629), (79, 4665), (101, 4731), (106, 4746), (112, 4761), (122, 4803), (149, 4905), (167, 5040), (172, 5064), (194, 5205), (197, 5232), (198, 5241),

Gene: Aegeus\_6 Start: 3860, Stop: 4954, Start Num: 3

Candidate Starts for Aegeus\_6:

(Start: 3 @3860 has 69 MA's), (9, 3914), (13, 3941), (Start: 26 @3983 has 1 MA's), (27, 3986), (30, 3992), (52, 4094), (55, 4109), (60, 4130), (65, 4151), (77, 4193), (79, 4199), (103, 4274), (104, 4277), (112, 4307), (113, 4313), (117, 4325), (146, 4475), (148, 4508), (149, 4511), (151, 4535), (154, 4568), (160, 4598), (165, 4631), (176, 4694), (192, 4781),

Gene: Appletree2\_6 Start: 4294, Stop: 5349, Start Num: 3

Candidate Starts for Appletree2\_6:

(Start: 3 @4294 has 69 MA's), (30, 4432), (32, 4444), (55, 4549), (58, 4561), (Start: 68 @4600 has 1 MA's), (69, 4603), (79, 4639), (101, 4705), (106, 4720), (112, 4735), (122, 4777), (149, 4879), (167, 5014), (172, 5038), (194, 5179), (197, 5206), (198, 5215),

Gene: Apricot\_4 Start: 3576, Stop: 4232, Start Num: 41

Candidate Starts for Apricot\_4:

(Start: 40 @3573 has 20 MA's), (Start: 41 @3576 has 7 MA's), (Start: 68 @3696 has 1 MA's), (69, 3699), (80, 3741), (93, 3792), (105, 3822), (132, 3918), (133, 3921), (144, 3975), (145, 3984), (148, 4020), (150, 4041), (161, 4125), (162, 4128), (163, 4134),

Gene: Archie\_6 Start: 4276, Stop: 5343, Start Num: 3

Candidate Starts for Archie\_6:

(Start: 3 @4276 has 69 MA's), (7, 4333), (30, 4429), (55, 4546), (58, 4558), (70, 4603), (79, 4636), (101, 4702), (112, 4732), (122, 4774), (124, 4783), (149, 4876), (150, 4894), (167, 5011), (172, 5035), (174, 5044), (194, 5176), (197, 5203),

Gene: Asapag\_5 Start: 3599, Stop: 4243, Start Num: 40

Candidate Starts for Asapag\_5:

(Start: 40 @3599 has 20 MA's), (47, 3629), (48, 3632), (59, 3686), (Start: 68 @3722 has 1 MA's), (69, 3725), (73, 3737), (80, 3767), (90, 3809), (103, 3842), (132, 3944), (133, 3947), (134, 3950), (150, 4070), (164, 4154), (166, 4160),

Gene: Ashes\_5 Start: 3879, Stop: 4673, Start Num: 18

Candidate Starts for Ashes\_5:

(Start: 18 @3879 has 1 MA's), (33, 3921), (49, 3987), (54, 4017), (56, 4029), (122, 4248), (127, 4269), (135, 4311), (146, 4365), (148, 4398), (150, 4419), (184, 4611),

Gene: Auspice\_16 Start: 7882, Stop: 9042, Start Num: 4

Candidate Starts for Auspice\_16:

(Start: 4 @7882 has 20 MA's), (24, 7990), (42, 8056), (46, 8077), (57, 8131), (67, 8170), (72, 8185), (81, 8227), (84, 8248), (88, 8284), (92, 8293), (116, 8383), (119, 8392), (120, 8395), (124, 8419), (133, 8467), (144, 8521), (146, 8536), (150, 8590), (161, 8692), (174, 8755),

Gene: AvadaKedavra\_6 Start: 4320, Stop: 5375, Start Num: 3

Candidate Starts for AvadaKedavra\_6:

(Start: 3 @4320 has 69 MA's), (30, 4458), (32, 4470), (55, 4575), (58, 4587), (Start: 68 @4626 has 1 MA's), (69, 4629), (79, 4665), (101, 4731), (106, 4746), (112, 4761), (122, 4803), (149, 4905), (167, 5040), (172, 5064), (194, 5205), (197, 5232), (198, 5241),

Gene: Avani\_5 Start: 3585, Stop: 4229, Start Num: 43

Candidate Starts for Avani\_5:

(38, 3570), (Start: 43 @3585 has 7 MA's), (Start: 50 @3618 has 1 MA's), (59, 3660), (62, 3675), (65, 3687), (Start: 68 @3696 has 1 MA's), (73, 3711), (79, 3735), (90, 3783), (118, 3864), (122, 3885), (127, 3906), (145, 3996), (148, 4035), (150, 4056), (164, 4137), (166, 4143), (177, 4197),

Gene: Aziz\_20 Start: 8460, Stop: 9641, Start Num: 4

Candidate Starts for Aziz\_20:

(Start: 4 @8460 has 20 MA's), (12, 8523), (21, 8562), (32, 8595), (Start: 40 @8628 has 20 MA's), (54, 8694), (62, 8730), (65, 8742), (67, 8748), (72, 8763), (92, 8871), (108, 8934), (120, 8979), (124, 9009), (133, 9057), (140, 9090), (143, 9108), (149, 9162), (165, 9303), (167, 9312), (174, 9345),

Gene: Azrael100\_27 Start: 11178, Stop: 12212, Start Num: 5

Candidate Starts for Azrael100\_27:

(Start: 5 @11178 has 5 MA's), (24, 11268), (30, 11283), (34, 11310), (67, 11448), (76, 11481), (104, 11559), (110, 11580), (111, 11583), (120, 11616), (121, 11622), (123, 11640), (124, 11643), (142, 11730), (152, 11835), (172, 11934), (174, 11943), (177, 11964), (186, 12009), (192, 12045), (197, 12096), (201, 12117), (202, 12138), (207, 12162), (208, 12174),

Gene: BENtherdunthat\_5 Start: 3599, Stop: 4243, Start Num: 40

Candidate Starts for BENtherdunthat\_5:

(Start: 40 @3599 has 20 MA's), (47, 3629), (48, 3632), (59, 3686), (Start: 68 @3722 has 1 MA's), (69, 3725), (73, 3737), (80, 3767), (90, 3809), (103, 3842), (132, 3944), (133, 3947), (134, 3950), (150, 4070), (164, 4154), (166, 4160),

Gene: Baoshan\_5 Start: 4143, Stop: 5198, Start Num: 3

Candidate Starts for Baoshan\_5:

(Start: 3 @4143 has 69 MA's), (7, 4191), (Start: 26 @4278 has 1 MA's), (55, 4404), (58, 4416), (70, 4461), (79, 4494), (101, 4560), (112, 4590), (122, 4632), (124, 4641), (149, 4734), (150, 4752), (167, 4869), (172, 4893), (174, 4902), (187, 4980), (194, 5031), (197, 5058), (198, 5067),

Gene: Baudelaire\_6 Start: 3860, Stop: 4954, Start Num: 3

Candidate Starts for Baudelaire\_6:

(Start: 3 @3860 has 69 MA's), (9, 3914), (13, 3941), (Start: 26 @3983 has 1 MA's), (27, 3986), (30, 3992), (52, 4094), (55, 4109), (60, 4130), (65, 4151), (77, 4193), (79, 4199), (103, 4274), (104, 4277), (112, 4307), (113, 4313), (117, 4325), (146, 4475), (148, 4508), (149, 4511), (151, 4535), (154, 4568), (160, 4598), (165, 4631), (176, 4694), (192, 4781),

Gene: Bazzle\_6 Start: 4252, Stop: 5319, Start Num: 3

Candidate Starts for Bazzle\_6:

(Start: 3 @4252 has 69 MA's), (7, 4309), (30, 4405), (55, 4522), (58, 4534), (70, 4579), (79, 4612), (101, 4678), (112, 4708), (122, 4750), (124, 4759), (149, 4852), (150, 4870), (167, 4987), (172, 5011), (174, 5020), (194, 5152), (197, 5179),

Gene: BearBQ\_4 Start: 3576, Stop: 4232, Start Num: 41

Candidate Starts for BearBQ\_4:

(Start: 40 @3573 has 20 MA's), (Start: 41 @3576 has 7 MA's), (Start: 68 @3696 has 1 MA's), (69, 3699), (80, 3741), (93, 3792), (105, 3822), (132, 3918), (133, 3921), (144, 3975), (145, 3984), (148, 4020), (150, 4041), (161, 4125), (162, 4128), (163, 4134),

Gene: Bellis\_7 Start: 4412, Stop: 5482, Start Num: 3

Candidate Starts for Bellis\_7:

(Start: 3 @4412 has 69 MA's), (Start: 8 @4460 has 3 MA's), (9, 4469), (13, 4496), (30, 4547), (48, 4625), (55, 4664), (58, 4676), (79, 4754), (83, 4778), (101, 4820), (112, 4850), (149, 5018), (150, 5036), (167, 5153), (172, 5177), (187, 5264), (197, 5345),

Gene: BigCheese\_6 Start: 4311, Stop: 5369, Start Num: 3

Candidate Starts for BigCheese\_6:

(Start: 3 @4311 has 69 MA's), (7, 4359), (55, 4572), (58, 4584), (70, 4629), (79, 4662), (101, 4728), (112, 4758), (122, 4800), (124, 4809), (149, 4902), (150, 4920), (167, 5037), (172, 5061), (174, 5070), (194, 5202), (197, 5229),

Gene: Birdsong\_4 Start: 3576, Stop: 4232, Start Num: 41

Candidate Starts for Birdsong\_4:

(Start: 40 @3573 has 20 MA's), (Start: 41 @3576 has 7 MA's), (Start: 68 @3696 has 1 MA's), (69, 3699), (80, 3741), (93, 3792), (105, 3822), (132, 3918), (133, 3921), (144, 3975), (145, 3984), (148, 4020), (150, 4041), (161, 4125), (162, 4128), (163, 4134),

Gene: Blarby\_6 Start: 4110, Stop: 4754, Start Num: 43

Candidate Starts for Blarby\_6:

(38, 4095), (Start: 43 @4110 has 7 MA's), (Start: 50 @4143 has 1 MA's), (59, 4185), (62, 4200), (65, 4212), (Start: 68 @4221 has 1 MA's), (72, 4233), (73, 4236), (79, 4260), (90, 4308), (114, 4377), (118, 4389), (122, 4410), (127, 4431), (145, 4521), (148, 4560), (150, 4581), (164, 4662), (166, 4668), (177, 4722),

Gene: BobsGarage\_6 Start: 4311, Stop: 5369, Start Num: 3

Candidate Starts for BobsGarage\_6:

(Start: 3 @4311 has 69 MA's), (7, 4359), (55, 4572), (58, 4584), (70, 4629), (79, 4662), (101, 4728), (112, 4758), (122, 4800), (124, 4809), (149, 4902), (150, 4920), (167, 5037), (172, 5061), (174, 5070), (194, 5202), (197, 5229),

Gene: Bongo\_16 Start: 7882, Stop: 9042, Start Num: 4

Candidate Starts for Bongo\_16:

(Start: 4 @7882 has 20 MA's), (24, 7990), (42, 8056), (46, 8077), (57, 8131), (67, 8170), (72, 8185), (81, 8227), (84, 8248), (88, 8284), (92, 8293), (116, 8383), (119, 8392), (120, 8395), (124, 8419), (133, 8467), (144, 8521), (146, 8536), (150, 8590), (161, 8692), (174, 8755),

Gene: BourbonZero\_6 Start: 4417, Stop: 5487, Start Num: 3

Candidate Starts for BourbonZero\_6:

(Start: 3 @4417 has 69 MA's), (Start: 8 @4465 has 3 MA's), (9, 4474), (13, 4501), (30, 4552), (48, 4630), (55, 4669), (58, 4681), (79, 4759), (83, 4783), (101, 4825), (112, 4855), (150, 5041), (167,

5158), (172, 5182), (197, 5350),

Gene: BrainDrainer\_7 Start: 4133, Stop: 5182, Start Num: 3

Candidate Starts for BrainDrainer\_7:

(Start: 3 @4133 has 69 MA's), (28, 4268), (30, 4271), (55, 4388), (58, 4400), (79, 4478), (92, 4526), (101, 4544), (112, 4574), (122, 4616), (124, 4625), (138, 4649), (149, 4718), (150, 4736), (167, 4853), (172, 4877), (174, 4886), (194, 5015), (197, 5042), (205, 5102), (206, 5105),

Gene: Breezona\_6 Start: 4311, Stop: 5369, Start Num: 3

Candidate Starts for Breezona\_6:

(Start: 3 @4311 has 69 MA's), (7, 4359), (55, 4572), (58, 4584), (70, 4629), (79, 4662), (101, 4728), (112, 4758), (122, 4800), (124, 4809), (149, 4902), (150, 4920), (167, 5037), (172, 5061), (174, 5070), (194, 5202), (197, 5229),

Gene: Bricole\_16 Start: 7881, Stop: 9041, Start Num: 4

Candidate Starts for Bricole\_16:

(Start: 4 @7881 has 20 MA's), (24, 7989), (42, 8055), (46, 8076), (57, 8130), (67, 8169), (72, 8184), (81, 8226), (84, 8247), (88, 8283), (92, 8292), (116, 8382), (119, 8391), (120, 8394), (124, 8418), (133, 8466), (144, 8520), (146, 8535), (150, 8589), (161, 8691), (174, 8754),

Gene: Bromden\_6 Start: 4032, Stop: 5087, Start Num: 3

Candidate Starts for Bromden\_6:

(1, 4026), (Start: 3 @4032 has 69 MA's), (24, 4161), (55, 4293), (58, 4305), (79, 4383), (92, 4431), (101, 4449), (112, 4479), (122, 4521), (149, 4623), (150, 4641), (167, 4758), (172, 4782), (174, 4791), (194, 4920), (197, 4947), (205, 5007),

Gene: Budski\_5 Start: 3597, Stop: 4241, Start Num: 40

Candidate Starts for Budski\_5:

(Start: 40 @3597 has 20 MA's), (47, 3627), (54, 3663), (59, 3684), (65, 3711), (Start: 68 @3720 has 1 MA's), (69, 3723), (73, 3735), (90, 3807), (130, 3930), (132, 3942), (133, 3945), (134, 3948), (150, 4068), (164, 4152), (166, 4158),

Gene: Calm\_6 Start: 4321, Stop: 5376, Start Num: 3

Candidate Starts for Calm\_6:

(Start: 3 @4321 has 69 MA's), (30, 4459), (32, 4471), (55, 4576), (58, 4588), (Start: 68 @4627 has 1 MA's), (69, 4630), (79, 4666), (101, 4732), (106, 4747), (112, 4762), (122, 4804), (149, 4906), (167, 5041), (172, 5065), (194, 5206), (197, 5233), (198, 5242),

Gene: Cappuccino\_4 Start: 3875, Stop: 4669, Start Num: 18

Candidate Starts for Cappuccino\_4:

(Start: 18 @3875 has 1 MA's), (33, 3917), (49, 3983), (54, 4013), (56, 4025), (122, 4244), (127, 4265), (135, 4307), (148, 4394), (150, 4415), (152, 4433), (184, 4607),

Gene: Cen1621\_4 Start: 3740, Stop: 4483, Start Num: 19

Candidate Starts for Cen1621\_4:

(Start: 19 @3740 has 2 MA's), (33, 3779), (61, 3908), (78, 3968), (85, 3998), (127, 4136), (132, 4160), (146, 4229), (148, 4262), (157, 4337), (159, 4346),

Gene: Chaser\_6 Start: 4033, Stop: 5088, Start Num: 3

Candidate Starts for Chaser\_6:

(1, 4027), (Start: 3 @4033 has 69 MA's), (24, 4162), (30, 4177), (55, 4294), (58, 4306), (79, 4384), (92, 4432), (101, 4450), (112, 4480), (122, 4522), (138, 4555), (149, 4624), (150, 4642), (167, 4759), (172, 4783), (174, 4792), (194, 4921), (197, 4948), (205, 5008), (206, 5011),

Gene: Che9d\_5 Start: 3595, Stop: 4239, Start Num: 43

Candidate Starts for Che9d\_5:

(Start: 43 @3595 has 7 MA's), (Start: 50 @3628 has 1 MA's), (59, 3670), (62, 3685), (65, 3697), (Start: 68 @3706 has 1 MA's), (72, 3718), (73, 3721), (79, 3745), (90, 3793), (114, 3862), (118, 3874), (122, 3895), (127, 3916), (145, 4006), (148, 4045), (150, 4066), (164, 4147), (166, 4153), (177, 4207),

Gene: CheeseTouch\_5 Start: 3597, Stop: 4241, Start Num: 40

Candidate Starts for CheeseTouch\_5:

(Start: 40 @3597 has 20 MA's), (47, 3627), (54, 3663), (59, 3684), (65, 3711), (Start: 68 @3720 has 1 MA's), (69, 3723), (73, 3735), (90, 3807), (130, 3930), (132, 3942), (133, 3945), (134, 3948), (150, 4068), (164, 4152), (166, 4158),

Gene: CicholasNage\_6 Start: 4321, Stop: 5376, Start Num: 3

Candidate Starts for CicholasNage\_6:

(Start: 3 @4321 has 69 MA's), (30, 4459), (32, 4471), (55, 4576), (58, 4588), (Start: 68 @4627 has 1 MA's), (69, 4630), (79, 4666), (101, 4732), (106, 4747), (112, 4762), (122, 4804), (149, 4906), (167, 5041), (172, 5065), (194, 5206), (197, 5233), (198, 5242),

Gene: Claus\_6 Start: 4323, Stop: 5378, Start Num: 3

Candidate Starts for Claus\_6:

(Start: 3 @4323 has 69 MA's), (7, 4371), (Start: 26 @4458 has 1 MA's), (55, 4584), (58, 4596), (70, 4641), (79, 4674), (101, 4740), (112, 4770), (122, 4812), (124, 4821), (149, 4914), (150, 4932), (167, 5049), (172, 5073), (174, 5082), (187, 5160), (194, 5211), (197, 5238), (198, 5247),

Gene: Clautastrophe\_7 Start: 4416, Stop: 5486, Start Num: 3

Candidate Starts for Clautastrophe\_7:

(Start: 3 @4416 has 69 MA's), (Start: 8 @4464 has 3 MA's), (9, 4473), (13, 4500), (30, 4551), (48, 4629), (55, 4668), (58, 4680), (79, 4758), (83, 4782), (101, 4824), (112, 4854), (149, 5022), (150, 5040), (167, 5157), (172, 5181), (187, 5268), (197, 5349),

Gene: Cosmo\_28 Start: 11185, Stop: 12219, Start Num: 5

Candidate Starts for Cosmo\_28:

(Start: 5 @11185 has 5 MA's), (24, 11275), (30, 11290), (34, 11317), (67, 11455), (76, 11488), (104, 11566), (110, 11587), (111, 11590), (120, 11623), (121, 11629), (123, 11647), (124, 11650), (142, 11737), (152, 11842), (172, 11941), (174, 11950), (177, 11971), (186, 12016), (192, 12052), (197, 12103), (201, 12124), (202, 12145), (207, 12169), (208, 12181),

Gene: Crater\_4 Start: 3576, Stop: 4232, Start Num: 41

Candidate Starts for Crater\_4:

(Start: 40 @3573 has 20 MA's), (Start: 41 @3576 has 7 MA's), (Start: 68 @3696 has 1 MA's), (69, 3699), (80, 3741), (93, 3792), (105, 3822), (132, 3918), (133, 3921), (144, 3975), (145, 3984), (148, 4020), (150, 4041), (161, 4125), (162, 4128), (163, 4134),

Gene: Crossroads\_6 Start: 4311, Stop: 5369, Start Num: 3

Candidate Starts for Crossroads\_6:

(Start: 3 @4311 has 69 MA's), (7, 4359), (55, 4572), (58, 4584), (70, 4629), (79, 4662), (101, 4728), (112, 4758), (122, 4800), (124, 4809), (149, 4902), (150, 4920), (167, 5037), (172, 5061), (174, 5070), (194, 5202), (197, 5229),

Gene: DHan\_6 Start: 4259, Stop: 5314, Start Num: 3

Candidate Starts for DHan\_6:

(Start: 3 @4259 has 69 MA's), (7, 4307), (55, 4520), (58, 4532), (79, 4610), (101, 4676), (112, 4706), (122, 4748), (124, 4757), (149, 4850), (167, 4985), (172, 5009), (174, 5018), (187, 5096), (194, 5147), (197, 5174), (198, 5183),

Gene: DanBing\_5 Start: 4143, Stop: 5198, Start Num: 3

Candidate Starts for DanBing\_5:

(Start: 3 @4143 has 69 MA's), (7, 4191), (55, 4404), (58, 4416), (70, 4461), (79, 4494), (101, 4560), (112, 4590), (122, 4632), (124, 4641), (149, 4734), (150, 4752), (167, 4869), (172, 4893), (174, 4902), (187, 4980), (194, 5031), (197, 5058), (198, 5067),

Gene: Demsculpinboyz\_5 Start: 3586, Stop: 4230, Start Num: 43

Candidate Starts for Demsculpinboyz\_5:

(38, 3571), (Start: 43 @3586 has 7 MA's), (Start: 50 @3619 has 1 MA's), (59, 3661), (62, 3676), (65, 3688), (Start: 68 @3697 has 1 MA's), (72, 3709), (73, 3712), (79, 3736), (90, 3784), (114, 3853), (118, 3865), (122, 3886), (127, 3907), (145, 3997), (148, 4036), (150, 4057), (164, 4138), (166, 4144), (177, 4198),

Gene: Diminimus\_17 Start: 7881, Stop: 9041, Start Num: 4

Candidate Starts for Diminimus\_17:

(Start: 4 @7881 has 20 MA's), (24, 7989), (42, 8055), (46, 8076), (57, 8130), (67, 8169), (72, 8184), (81, 8226), (84, 8247), (88, 8283), (92, 8292), (116, 8382), (119, 8391), (120, 8394), (124, 8418), (133, 8466), (144, 8520), (146, 8535), (150, 8589), (161, 8691), (174, 8754),

Gene: DirkDirk\_6 Start: 4322, Stop: 5377, Start Num: 3

Candidate Starts for DirkDirk\_6:

(Start: 3 @4322 has 69 MA's), (30, 4460), (32, 4472), (55, 4577), (58, 4589), (Start: 68 @4628 has 1 MA's), (69, 4631), (79, 4667), (101, 4733), (106, 4748), (112, 4763), (122, 4805), (149, 4907), (167, 5042), (172, 5066), (194, 5207), (197, 5234), (198, 5243),

Gene: Donkey\_4 Start: 3875, Stop: 4669, Start Num: 18

Candidate Starts for Donkey\_4:

(Start: 18 @3875 has 1 MA's), (33, 3917), (49, 3983), (54, 4013), (56, 4025), (122, 4244), (127, 4265), (135, 4307), (148, 4394), (150, 4415), (152, 4433), (184, 4607),

Gene: Douge\_6 Start: 3988, Stop: 5043, Start Num: 3

Candidate Starts for Douge\_6:

(1, 3982), (Start: 3 @3988 has 69 MA's), (28, 4129), (30, 4132), (55, 4249), (58, 4261), (79, 4339), (92, 4387), (101, 4405), (112, 4435), (122, 4477), (124, 4486), (138, 4510), (149, 4579), (150, 4597), (167, 4714), (172, 4738), (174, 4747), (194, 4876), (197, 4903), (205, 4963), (206, 4966),

Gene: Douzhi\_6 Start: 3988, Stop: 5043, Start Num: 3

Candidate Starts for Douzhi\_6:

(1, 3982), (Start: 3 @3988 has 69 MA's), (24, 4117), (30, 4132), (55, 4249), (58, 4261), (79, 4339), (92, 4387), (101, 4405), (112, 4435), (122, 4477), (138, 4510), (149, 4579), (150, 4597), (167, 4714), (172, 4738), (174, 4747), (194, 4876), (197, 4903), (205, 4963), (206, 4966),

Gene: DrSeegs\_6 Start: 4311, Stop: 5369, Start Num: 3

Candidate Starts for DrSeegs\_6:

(Start: 3 @4311 has 69 MA's), (7, 4359), (55, 4572), (58, 4584), (70, 4629), (79, 4662), (101, 4728), (112, 4758), (122, 4800), (124, 4809), (149, 4902), (150, 4920), (167, 5037), (172, 5061), (174, 5070), (194, 5202), (197, 5229),

Gene: Dulcita\_17 Start: 7881, Stop: 9041, Start Num: 4

Candidate Starts for Dulcita\_17:

(Start: 4 @7881 has 20 MA's), (24, 7989), (42, 8055), (46, 8076), (57, 8130), (67, 8169), (72, 8184), (81, 8226), (84, 8247), (88, 8283), (92, 8292), (116, 8382), (119, 8391), (120, 8394), (124, 8418), (133, 8466), (144, 8520), (146, 8535), (150, 8589), (161, 8691), (174, 8754),

Gene: DuncansLeg\_7 Start: 4419, Stop: 5489, Start Num: 3

Candidate Starts for DuncansLeg\_7:

(Start: 3 @4419 has 69 MA's), (Start: 8 @4467 has 3 MA's), (9, 4476), (13, 4503), (30, 4554), (48, 4632), (55, 4671), (58, 4683), (79, 4761), (83, 4785), (101, 4827), (112, 4857), (150, 5043), (167, 5160), (172, 5184), (197, 5352),

Gene: DyoEdafos\_7 Start: 4176, Stop: 5231, Start Num: 3

Candidate Starts for DyoEdafos\_7:

(1, 4170), (Start: 3 @4176 has 69 MA's), (24, 4305), (55, 4437), (58, 4449), (79, 4527), (92, 4575), (101, 4593), (112, 4623), (122, 4665), (138, 4698), (149, 4767), (150, 4785), (167, 4902), (172, 4926), (194, 5064), (197, 5091), (205, 5151),

Gene: Ecliptus\_5 Start: 3608, Stop: 4267, Start Num: 41

Candidate Starts for Ecliptus\_5:

(Start: 18 @3533 has 1 MA's), (Start: 41 @3608 has 7 MA's), (69, 3731), (73, 3743), (80, 3773), (88, 3809), (131, 3944), (133, 3956), (145, 4019), (148, 4055), (149, 4058), (167, 4184),

Gene: Ellson\_7 Start: 4428, Stop: 5498, Start Num: 3

Candidate Starts for Ellson\_7:

(Start: 3 @4428 has 69 MA's), (Start: 8 @4476 has 3 MA's), (9, 4485), (13, 4512), (30, 4563), (48, 4641), (55, 4680), (58, 4692), (79, 4770), (83, 4794), (101, 4836), (112, 4866), (150, 5052), (167, 5169), (172, 5193), (197, 5361),

Gene: Emotion\_4 Start: 3677, Stop: 4474, Start Num: 22

Candidate Starts for Emotion\_4:

(Start: 22 @3677 has 5 MA's), (45, 3761), (74, 3884), (80, 3908), (86, 3935), (136, 4103), (148, 4187), (152, 4226), (168, 4319),

Gene: Enceladus\_6 Start: 4322, Stop: 5377, Start Num: 3

Candidate Starts for Enceladus\_6:

(Start: 3 @4322 has 69 MA's), (30, 4460), (32, 4472), (55, 4577), (58, 4589), (Start: 68 @4628 has 1 MA's), (69, 4631), (79, 4667), (101, 4733), (106, 4748), (112, 4763), (122, 4805), (149, 4907), (167, 5042), (172, 5066), (194, 5207), (197, 5234), (198, 5243),

Gene: EniyanLRS\_25 Start: 10876, Stop: 11910, Start Num: 5

Candidate Starts for EniyanLRS\_25:

(Start: 5 @10876 has 5 MA's), (24, 10966), (30, 10981), (34, 11008), (67, 11146), (76, 11179), (104, 11257), (110, 11278), (111, 11281), (120, 11314), (121, 11320), (123, 11338), (124, 11341), (142, 11428), (152, 11533), (172, 11632), (174, 11641), (177, 11662), (186, 11707), (192, 11743), (197, 11794), (201, 11815), (202, 11836), (207, 11860), (208, 11872),

Gene: Estes\_21 Start: 8605, Stop: 9780, Start Num: 4

Candidate Starts for Estes\_21:

(Start: 4 @8605 has 20 MA's), (12, 8668), (21, 8707), (32, 8740), (Start: 40 @8773 has 20 MA's), (54, 8839), (62, 8875), (65, 8887), (67, 8893), (72, 8908), (92, 9016), (94, 9025), (120, 9124), (124, 9148), (133, 9196), (143, 9247), (149, 9301), (165, 9442), (174, 9484),

Gene: Faith1\_6 Start: 4311, Stop: 5369, Start Num: 3



Candidate Starts for Faith1\_6:

(Start: 3 @4311 has 69 MA's), (7, 4359), (55, 4572), (58, 4584), (70, 4629), (79, 4662), (101, 4728), (112, 4758), (122, 4800), (124, 4809), (149, 4902), (150, 4920), (167, 5037), (172, 5061), (174, 5070), (194, 5202), (197, 5229),

Gene: FarmResident\_6 Start: 4027, Stop: 5082, Start Num: 3

Candidate Starts for FarmResident\_6:

(1, 4021), (Start: 3 @4027 has 69 MA's), (28, 4168), (30, 4171), (55, 4288), (58, 4300), (79, 4378), (92, 4426), (101, 4444), (112, 4474), (122, 4516), (124, 4525), (138, 4549), (149, 4618), (150, 4636), (167, 4753), (172, 4777), (174, 4786), (194, 4915), (197, 4942), (205, 5002), (206, 5005),

Gene: Finemlucis\_6 Start: 4311, Stop: 5369, Start Num: 3

Candidate Starts for Finemlucis\_6:

(Start: 3 @4311 has 69 MA's), (7, 4359), (55, 4572), (58, 4584), (70, 4629), (79, 4662), (101, 4728), (112, 4758), (122, 4800), (124, 4809), (149, 4902), (150, 4920), (167, 5037), (172, 5061), (174, 5070), (194, 5202), (197, 5229),

Gene: Finnry\_7 Start: 4413, Stop: 5483, Start Num: 3

Candidate Starts for Finnry\_7:

(Start: 3 @4413 has 69 MA's), (Start: 8 @4461 has 3 MA's), (9, 4470), (13, 4497), (30, 4548), (48, 4626), (55, 4665), (58, 4677), (79, 4755), (83, 4779), (101, 4821), (112, 4851), (149, 5019), (150, 5037), (167, 5154), (172, 5178), (187, 5265), (197, 5346),

Gene: Floof\_4 Start: 4029, Stop: 4892, Start Num: 17

Candidate Starts for Floof\_4:

(Start: 17 @4029 has 1 MA's), (29, 4059), (59, 4191), (127, 4434), (148, 4563), (175, 4731), (190, 4815),

Gene: Footloose\_4 Start: 3515, Stop: 4273, Start Num: 26

Candidate Starts for Footloose\_4:

(21, 3503), (Start: 26 @3515 has 1 MA's), (65, 3680), (69, 3692), (89, 3767), (91, 3770), (119, 3851), (129, 3899), (133, 3917), (134, 3920), (148, 4019), (167, 4154), (182, 4232),

Gene: Frickyeah\_5 Start: 3599, Stop: 4243, Start Num: 40

Candidate Starts for Frickyeah\_5:

(Start: 40 @3599 has 20 MA's), (47, 3629), (48, 3632), (59, 3686), (Start: 68 @3722 has 1 MA's), (69, 3725), (73, 3737), (80, 3767), (90, 3809), (103, 3842), (107, 3854), (132, 3944), (133, 3947), (134, 3950), (150, 4070), (164, 4154), (166, 4160),

Gene: Gabriela\_6 Start: 4311, Stop: 5369, Start Num: 3

Candidate Starts for Gabriela\_6:

(Start: 3 @4311 has 69 MA's), (7, 4359), (55, 4572), (58, 4584), (70, 4629), (79, 4662), (101, 4728), (112, 4758), (122, 4800), (124, 4809), (149, 4902), (150, 4920), (167, 5037), (172, 5061), (174, 5070), (194, 5202), (197, 5229),

Gene: Gambol\_4 Start: 3875, Stop: 4669, Start Num: 18

Candidate Starts for Gambol\_4:

(Start: 18 @3875 has 1 MA's), (33, 3917), (49, 3983), (54, 4013), (56, 4025), (122, 4244), (127, 4265), (135, 4307), (148, 4394), (150, 4415), (152, 4433), (184, 4607),

Gene: Gardann\_6 Start: 4311, Stop: 5369, Start Num: 3

Candidate Starts for Gardann\_6:

(Start: 3 @4311 has 69 MA's), (7, 4359), (55, 4572), (58, 4584), (70, 4629), (79, 4662), (101, 4728), (112, 4758), (122, 4800), (124, 4809), (149, 4902), (150, 4920), (167, 5037), (172, 5061), (174, 5070), (194, 5202), (197, 5229),

Gene: GardenSalsa\_20 Start: 8439, Stop: 9614, Start Num: 4

Candidate Starts for GardenSalsa\_20:

(Start: 4 @8439 has 20 MA's), (12, 8502), (21, 8541), (32, 8574), (Start: 40 @8607 has 20 MA's), (54, 8673), (62, 8709), (65, 8721), (67, 8727), (72, 8742), (92, 8850), (94, 8859), (120, 8958), (124, 8982), (133, 9030), (140, 9063), (143, 9081), (149, 9135), (165, 9276), (174, 9318),

Gene: GenevaB15\_20 Start: 8460, Stop: 9641, Start Num: 4

Candidate Starts for GenevaB15\_20:

(Start: 4 @8460 has 20 MA's), (12, 8523), (21, 8562), (32, 8595), (Start: 40 @8628 has 20 MA's), (54, 8694), (62, 8730), (65, 8742), (67, 8748), (72, 8763), (92, 8871), (108, 8934), (120, 8979), (124, 9009), (133, 9057), (140, 9090), (143, 9108), (149, 9162), (165, 9303), (167, 9312), (174, 9345),

Gene: Getalong\_5 Start: 3599, Stop: 4243, Start Num: 40

Candidate Starts for Getalong\_5:

(Start: 40 @3599 has 20 MA's), (47, 3629), (48, 3632), (59, 3686), (Start: 68 @3722 has 1 MA's), (69, 3725), (80, 3767), (90, 3809), (103, 3842), (132, 3944), (133, 3947), (134, 3950), (150, 4070), (164, 4154), (166, 4160),

Gene: Glaske16\_17 Start: 7881, Stop: 9041, Start Num: 4

Candidate Starts for Glaske16\_17:

(Start: 4 @7881 has 20 MA's), (24, 7989), (42, 8055), (46, 8076), (57, 8130), (67, 8169), (72, 8184), (81, 8226), (84, 8247), (88, 8283), (92, 8292), (116, 8382), (119, 8391), (120, 8394), (124, 8418), (133, 8466), (144, 8520), (146, 8535), (150, 8589), (161, 8691), (174, 8754),

Gene: GuuelaD\_6 Start: 4356, Stop: 5411, Start Num: 3

Candidate Starts for GuuelaD\_6:

(Start: 3 @4356 has 69 MA's), (7, 4404), (Start: 26 @4491 has 1 MA's), (55, 4617), (58, 4629), (79, 4707), (101, 4773), (112, 4803), (122, 4845), (124, 4854), (149, 4947), (150, 4965), (167, 5082), (172, 5106), (174, 5115), (183, 5166), (188, 5196), (189, 5211), (197, 5271),

Gene: Hafay\_6 Start: 4350, Stop: 5402, Start Num: 3

Candidate Starts for Hafay\_6:

(Start: 3 @4350 has 69 MA's), (7, 4392), (55, 4605), (58, 4617), (70, 4662), (79, 4695), (101, 4761), (112, 4791), (122, 4833), (124, 4842), (149, 4935), (150, 4953), (167, 5070), (172, 5094), (174, 5103), (194, 5235), (197, 5262),

Gene: Halena\_6 Start: 4321, Stop: 5376, Start Num: 3

Candidate Starts for Halena\_6:

(Start: 3 @4321 has 69 MA's), (30, 4459), (32, 4471), (55, 4576), (58, 4588), (Start: 68 @4627 has 1 MA's), (69, 4630), (79, 4666), (101, 4732), (106, 4747), (112, 4762), (122, 4804), (149, 4906), (167, 5041), (172, 5065), (194, 5206), (197, 5233), (198, 5242),

Gene: Halsey\_4 Start: 3879, Stop: 4673, Start Num: 18

Candidate Starts for Halsey\_4:

(Start: 18 @3879 has 1 MA's), (33, 3921), (49, 3987), (54, 4017), (56, 4029), (122, 4248), (127, 4269), (135, 4311), (146, 4365), (148, 4398), (150, 4419), (184, 4611),

Gene: Holliday\_5 Start: 3597, Stop: 4241, Start Num: 40

Candidate Starts for Holliday\_5:

(Start: 40 @3597 has 20 MA's), (47, 3627), (54, 3663), (59, 3684), (65, 3711), (Start: 68 @3720 has 1 MA's), (69, 3723), (73, 3735), (90, 3807), (130, 3930), (132, 3942), (133, 3945), (134, 3948), (150, 4068), (164, 4152), (166, 4158),

Gene: Honk\_4 Start: 3779, Stop: 4525, Start Num: 16

Candidate Starts for Honk\_4:

(Start: 16 @3779 has 1 MA's), (Start: 19 @3788 has 2 MA's), (29, 3812), (33, 3827), (34, 3839), (35, 3842), (61, 3953), (78, 4013), (98, 4076), (122, 4160), (127, 4181), (146, 4274), (148, 4307), (152, 4346), (175, 4469), (178, 4478),

Gene: Horus\_5 Start: 3599, Stop: 4243, Start Num: 40

Candidate Starts for Horus\_5:

(Start: 40 @3599 has 20 MA's), (47, 3629), (48, 3632), (59, 3686), (Start: 68 @3722 has 1 MA's), (69, 3725), (73, 3737), (80, 3767), (90, 3809), (103, 3842), (107, 3854), (132, 3944), (133, 3947), (134, 3950), (150, 4070), (164, 4154), (166, 4160),

Gene: IPhone7\_16 Start: 7882, Stop: 9042, Start Num: 4

Candidate Starts for IPhone7\_16:

(Start: 4 @7882 has 20 MA's), (24, 7990), (42, 8056), (46, 8077), (57, 8131), (67, 8170), (72, 8185), (81, 8227), (84, 8248), (88, 8284), (92, 8293), (116, 8383), (119, 8392), (120, 8395), (124, 8419), (133, 8467), (144, 8521), (146, 8536), (150, 8590), (161, 8692), (174, 8755),

Gene: Itos\_6 Start: 4311, Stop: 5369, Start Num: 3

Candidate Starts for Itos\_6:

(Start: 3 @4311 has 69 MA's), (7, 4359), (55, 4572), (58, 4584), (70, 4629), (79, 4662), (101, 4728), (112, 4758), (122, 4800), (124, 4809), (149, 4902), (150, 4920), (167, 5037), (172, 5061), (174, 5070), (194, 5202), (197, 5229),

Gene: Jabbawokkie\_6 Start: 4109, Stop: 4753, Start Num: 43

Candidate Starts for Jabbawokkie\_6:

(Start: 43 @4109 has 7 MA's), (Start: 50 @4142 has 1 MA's), (59, 4184), (62, 4199), (65, 4211), (Start: 68 @4220 has 1 MA's), (72, 4232), (73, 4235), (79, 4259), (90, 4307), (114, 4376), (118, 4388), (122, 4409), (127, 4430), (145, 4520), (148, 4559), (150, 4580), (164, 4661), (166, 4667), (177, 4721),

Gene: JasmineDragon\_4 Start: 3667, Stop: 4464, Start Num: 22

Candidate Starts for JasmineDragon\_4:

(Start: 22 @3667 has 5 MA's), (64, 3841), (74, 3874), (122, 4027), (136, 4093), (148, 4177), (168, 4309),

Gene: Jobypre\_7 Start: 4416, Stop: 5486, Start Num: 3

Candidate Starts for Jobypre\_7:

(Start: 3 @4416 has 69 MA's), (Start: 8 @4464 has 3 MA's), (9, 4473), (13, 4500), (30, 4551), (48, 4629), (55, 4668), (58, 4680), (79, 4758), (83, 4782), (101, 4824), (112, 4854), (149, 5022), (150, 5040), (167, 5157), (172, 5181), (187, 5268), (197, 5349),

Gene: JoeDirt\_6 Start: 4321, Stop: 5376, Start Num: 3

Candidate Starts for JoeDirt\_6:

(Start: 3 @4321 has 69 MA's), (30, 4459), (32, 4471), (55, 4576), (58, 4588), (Start: 68 @4627 has 1 MA's), (69, 4630), (79, 4666), (101, 4732), (106, 4747), (112, 4762), (122, 4804), (149, 4906), (167, 5041), (172, 5065), (194, 5206), (197, 5233), (198, 5242),

Gene: Jubie\_7 Start: 4416, Stop: 5486, Start Num: 3

Candidate Starts for Jubie\_7:

(Start: 3 @4416 has 69 MA's), (Start: 8 @4464 has 3 MA's), (9, 4473), (13, 4500), (30, 4551), (48, 4629), (55, 4668), (58, 4680), (79, 4758), (83, 4782), (101, 4824), (112, 4854), (149, 5022), (150, 5040), (167, 5157), (172, 5181), (187, 5268), (197, 5349),

Gene: Kahlid\_6 Start: 4311, Stop: 5369, Start Num: 3

Candidate Starts for Kahlid\_6:

(Start: 3 @4311 has 69 MA's), (7, 4359), (55, 4572), (58, 4584), (70, 4629), (79, 4662), (101, 4728), (112, 4758), (122, 4800), (124, 4809), (149, 4902), (150, 4920), (167, 5037), (172, 5061), (174, 5070), (194, 5202), (197, 5229),

Gene: Kalimba\_4 Start: 3875, Stop: 4669, Start Num: 18

Candidate Starts for Kalimba\_4:

(Start: 18 @3875 has 1 MA's), (33, 3917), (49, 3983), (54, 4013), (56, 4025), (122, 4244), (127, 4265), (135, 4307), (148, 4394), (150, 4415), (152, 4433), (184, 4607),

Gene: Kamaru\_5 Start: 3597, Stop: 4241, Start Num: 40

Candidate Starts for Kamaru\_5:

(Start: 40 @3597 has 20 MA's), (47, 3627), (54, 3663), (59, 3684), (65, 3711), (Start: 68 @3720 has 1 MA's), (69, 3723), (73, 3735), (90, 3807), (130, 3930), (132, 3942), (133, 3945), (134, 3948), (150, 4068), (164, 4152), (166, 4158),

Gene: Kenna\_5 Start: 3599, Stop: 4243, Start Num: 40

Candidate Starts for Kenna\_5:

(Start: 40 @3599 has 20 MA's), (47, 3629), (48, 3632), (59, 3686), (Start: 68 @3722 has 1 MA's), (69, 3725), (80, 3767), (90, 3809), (103, 3842), (132, 3944), (133, 3947), (134, 3950), (150, 4070), (164, 4154), (166, 4160),

Gene: Kingsolomon\_7 Start: 4416, Stop: 5486, Start Num: 3

Candidate Starts for Kingsolomon\_7:

(Start: 3 @4416 has 69 MA's), (Start: 8 @4464 has 3 MA's), (9, 4473), (13, 4500), (30, 4551), (48, 4629), (55, 4668), (58, 4680), (79, 4758), (83, 4782), (101, 4824), (112, 4854), (149, 5022), (150, 5040), (167, 5157), (172, 5181), (187, 5268), (197, 5349),

Gene: KirDoubleO7\_5 Start: 4428, Stop: 5498, Start Num: 3

Candidate Starts for KirDoubleO7\_5:

(Start: 3 @4428 has 69 MA's), (Start: 8 @4476 has 3 MA's), (9, 4485), (13, 4512), (30, 4563), (48, 4641), (55, 4680), (58, 4692), (79, 4770), (83, 4794), (101, 4836), (112, 4866), (150, 5052), (167, 5169), (172, 5193), (197, 5361),

Gene: Krypton555\_7 Start: 4408, Stop: 5478, Start Num: 3

Candidate Starts for Krypton555\_7:

(Start: 3 @4408 has 69 MA's), (Start: 8 @4456 has 3 MA's), (9, 4465), (13, 4492), (30, 4543), (42, 4594), (48, 4621), (55, 4660), (58, 4672), (79, 4750), (83, 4774), (101, 4816), (112, 4846), (150, 5032), (167, 5149), (172, 5173), (197, 5341),

Gene: Kudrefre\_14 Start: 7918, Stop: 8928, Start Num: 11

Candidate Starts for Kudrefre\_14:

(Start: 11 @7918 has 3 MA's), (14, 7936), (15, 7945), (21, 7960), (37, 8017), (53, 8089), (66, 8143), (110, 8293), (120, 8329), (124, 8353), (133, 8401), (143, 8452), (144, 8455), (148, 8503), (153, 8566), (155, 8584), (172, 8668), (177, 8698), (183, 8728), (192, 8776), (196, 8824), (199, 8839), (200, 8845),

Gene: Kumao\_15 Start: 7305, Stop: 8408, Start Num: 6

Candidate Starts for Kumao\_15:

(Start: 6 @7305 has 1 MA's), (24, 7392), (52, 7509), (54, 7518), (71, 7584), (97, 7728), (99, 7734), (107, 7761), (120, 7809), (123, 7830), (124, 7833), (131, 7869), (136, 7899), (139, 7911), (146, 7950), (150, 8004), (174, 8133), (177, 8154), (180, 8169), (191, 8238), (193, 8259), (201, 8313), (209, 8373),

Gene: Kuwabara\_4 Start: 3576, Stop: 4232, Start Num: 41

Candidate Starts for Kuwabara\_4:

(Start: 40 @3573 has 20 MA's), (Start: 41 @3576 has 7 MA's), (Start: 68 @3696 has 1 MA's), (69, 3699), (80, 3741), (93, 3792), (105, 3822), (132, 3918), (133, 3921), (144, 3975), (145, 3984), (148, 4020), (150, 4041), (161, 4125), (162, 4128), (163, 4134),

Gene: LeBron\_6 Start: 4321, Stop: 5376, Start Num: 3

Candidate Starts for LeBron\_6:

(Start: 3 @4321 has 69 MA's), (30, 4459), (32, 4471), (55, 4576), (58, 4588), (Start: 68 @4627 has 1 MA's), (69, 4630), (79, 4666), (101, 4732), (106, 4747), (112, 4762), (122, 4804), (149, 4906), (167, 5041), (172, 5065), (194, 5206), (197, 5233), (198, 5242),

Gene: Leroy\_5 Start: 3600, Stop: 4244, Start Num: 40

Candidate Starts for Leroy\_5:

(Start: 40 @3600 has 20 MA's), (47, 3630), (48, 3633), (59, 3687), (Start: 68 @3723 has 1 MA's), (69, 3726), (73, 3738), (80, 3768), (90, 3810), (103, 3843), (107, 3855), (132, 3945), (133, 3948), (134, 3951), (150, 4071), (164, 4155), (166, 4161),

Gene: Lewan\_6 Start: 4311, Stop: 5369, Start Num: 3

Candidate Starts for Lewan\_6:

(Start: 3 @4311 has 69 MA's), (7, 4359), (55, 4572), (58, 4584), (70, 4629), (79, 4662), (101, 4728), (112, 4758), (122, 4800), (124, 4809), (149, 4902), (150, 4920), (167, 5037), (172, 5061), (174, 5070), (194, 5202), (197, 5229),

Gene: Liebe\_4 Start: 3813, Stop: 4607, Start Num: 20

Candidate Starts for Liebe\_4:

(Start: 20 @3813 has 3 MA's), (45, 3897), (74, 4020), (75, 4026), (115, 4143), (119, 4155), (122, 4173), (132, 4218), (136, 4239), (148, 4323), (159, 4407),

Gene: LilDestine\_6 Start: 4311, Stop: 5369, Start Num: 3

Candidate Starts for LilDestine\_6:

(Start: 3 @4311 has 69 MA's), (7, 4359), (55, 4572), (58, 4584), (70, 4629), (79, 4662), (101, 4728), (112, 4758), (122, 4800), (124, 4809), (149, 4902), (150, 4920), (167, 5037), (172, 5061), (174, 5070), (194, 5202), (197, 5229),

Gene: LilhomieP\_15 Start: 7882, Stop: 9042, Start Num: 4

Candidate Starts for LilhomieP\_15:

(Start: 4 @7882 has 20 MA's), (24, 7990), (42, 8056), (46, 8077), (57, 8131), (67, 8170), (72, 8185), (81, 8227), (84, 8248), (88, 8284), (92, 8293), (116, 8383), (119, 8392), (120, 8395), (124, 8419), (133, 8467), (144, 8521), (146, 8536), (150, 8590), (161, 8692), (174, 8755),

Gene: LitninMcQueen\_5 Start: 3597, Stop: 4241, Start Num: 40

Candidate Starts for LitninMcQueen\_5:

(Start: 40 @3597 has 20 MA's), (47, 3627), (54, 3663), (59, 3684), (65, 3711), (Start: 68 @3720 has 1 MA's), (69, 3723), (73, 3735), (90, 3807), (130, 3930), (132, 3942), (133, 3945), (134, 3948), (150, 4068), (164, 4152), (166, 4158),

Gene: LiyuLake\_7 Start: 4419, Stop: 5489, Start Num: 3

Candidate Starts for LiyuLake\_7:

(Start: 3 @4419 has 69 MA's), (Start: 8 @4467 has 3 MA's), (9, 4476), (13, 4503), (30, 4554), (48, 4632), (55, 4671), (58, 4683), (79, 4761), (83, 4785), (101, 4827), (112, 4857), (150, 5043), (167, 5160), (172, 5184), (197, 5352),

Gene: Loadrie\_6 Start: 4350, Stop: 5402, Start Num: 3

Candidate Starts for Loadrie\_6:

(Start: 3 @4350 has 69 MA's), (7, 4392), (55, 4605), (58, 4617), (70, 4662), (79, 4695), (101, 4761), (112, 4791), (122, 4833), (124, 4842), (149, 4935), (150, 4953), (167, 5070), (172, 5094), (174, 5103), (194, 5235), (197, 5262),

Gene: Lolly9\_7 Start: 4422, Stop: 5492, Start Num: 3

Candidate Starts for Lolly9\_7:

(Start: 3 @4422 has 69 MA's), (Start: 8 @4470 has 3 MA's), (9, 4479), (13, 4506), (30, 4557), (48, 4635), (55, 4674), (58, 4686), (79, 4764), (83, 4788), (101, 4830), (112, 4860), (150, 5046), (167, 5163), (172, 5187), (187, 5274), (197, 5355),

Gene: Lucky10\_4 Start: 3151, Stop: 3789, Start Num: 40

Candidate Starts for Lucky10\_4:

(38, 3145), (Start: 40 @3151 has 20 MA's), (Start: 68 @3271 has 1 MA's), (69, 3274), (80, 3316), (131, 3487), (141, 3535), (148, 3598), (152, 3637), (166, 3706), (169, 3721),

Gene: Lumos\_7 Start: 4416, Stop: 5486, Start Num: 3

Candidate Starts for Lumos\_7:

(Start: 3 @4416 has 69 MA's), (Start: 8 @4464 has 3 MA's), (9, 4473), (13, 4500), (30, 4551), (48, 4629), (55, 4668), (58, 4680), (79, 4758), (83, 4782), (101, 4824), (112, 4854), (149, 5022), (150, 5040), (167, 5157), (172, 5181), (187, 5268), (197, 5349),

Gene: Lutum\_5 Start: 3599, Stop: 4243, Start Num: 40

Candidate Starts for Lutum\_5:

(Start: 40 @3599 has 20 MA's), (47, 3629), (48, 3632), (59, 3686), (Start: 68 @3722 has 1 MA's), (69, 3725), (80, 3767), (90, 3809), (103, 3842), (132, 3944), (133, 3947), (134, 3950), (150, 4070), (164, 4154), (166, 4160),

Gene: MAckerman\_6 Start: 4320, Stop: 5375, Start Num: 3

Candidate Starts for MAckerman\_6:

(Start: 3 @4320 has 69 MA's), (30, 4458), (32, 4470), (55, 4575), (58, 4587), (Start: 68 @4626 has 1 MA's), (69, 4629), (79, 4665), (101, 4731), (106, 4746), (112, 4761), (122, 4803), (149, 4905), (167, 5040), (172, 5064), (194, 5205), (197, 5232), (198, 5241),

Gene: MaGuCo\_4 Start: 3672, Stop: 4466, Start Num: 20

Candidate Starts for MaGuCo\_4:

(Start: 20 @3672 has 3 MA's), (45, 3756), (74, 3879), (115, 4002), (119, 4014), (122, 4032), (132, 4077), (136, 4098), (148, 4182), (149, 4185), (159, 4266), (170, 4323),

Gene: MaryV\_28 Start: 11148, Stop: 12182, Start Num: 5

Candidate Starts for MaryV\_28:

(Start: 5 @11148 has 5 MA's), (24, 11238), (30, 11253), (34, 11280), (67, 11418), (76, 11451), (104, 11529), (110, 11550), (111, 11553), (120, 11586), (121, 11592), (123, 11610), (124, 11613), (142, 11700), (152, 11805), (172, 11904), (174, 11913), (177, 11934), (186, 11979), (192, 12015), (197, 12066), (201, 12087), (202, 12108), (207, 12132), (208, 12144),

Gene: Maureen\_4 Start: 3813, Stop: 4607, Start Num: 20

Candidate Starts for Maureen\_4:

(Start: 20 @3813 has 3 MA's), (45, 3897), (74, 4020), (75, 4026), (115, 4143), (119, 4155), (122, 4173), (132, 4218), (136, 4239), (148, 4323), (159, 4407),

Gene: Miley16\_6 Start: 4311, Stop: 5369, Start Num: 3

Candidate Starts for Miley16\_6:

(Start: 3 @4311 has 69 MA's), (7, 4359), (55, 4572), (58, 4584), (70, 4629), (79, 4662), (101, 4728), (112, 4758), (122, 4800), (124, 4809), (149, 4902), (150, 4920), (167, 5037), (172, 5061), (174, 5070), (194, 5202), (197, 5229),

Gene: MiniLon\_7 Start: 4422, Stop: 5492, Start Num: 3

Candidate Starts for MiniLon\_7:

(Start: 3 @4422 has 69 MA's), (Start: 8 @4470 has 3 MA's), (9, 4479), (13, 4506), (30, 4557), (48, 4635), (55, 4674), (58, 4686), (79, 4764), (83, 4788), (101, 4830), (112, 4860), (150, 5046), (167, 5163), (172, 5187), (187, 5274), (197, 5355),

Gene: MiniMac\_7 Start: 4422, Stop: 5492, Start Num: 3

Candidate Starts for MiniMac\_7:

(Start: 3 @4422 has 69 MA's), (Start: 8 @4470 has 3 MA's), (9, 4479), (13, 4506), (30, 4557), (48, 4635), (55, 4674), (58, 4686), (79, 4764), (83, 4788), (101, 4830), (112, 4860), (150, 5046), (167, 5163), (172, 5187), (187, 5274), (197, 5355),

Gene: MiniMommy\_4 Start: 3667, Stop: 4464, Start Num: 22

Candidate Starts for MiniMommy\_4:

(Start: 22 @3667 has 5 MA's), (64, 3841), (74, 3874), (122, 4027), (136, 4093), (148, 4177), (168, 4309),

Gene: MkaliMitinis3\_6 Start: 4311, Stop: 5369, Start Num: 3

Candidate Starts for MkaliMitinis3\_6:

(Start: 3 @4311 has 69 MA's), (7, 4359), (55, 4572), (58, 4584), (70, 4629), (79, 4662), (101, 4728), (112, 4758), (122, 4800), (124, 4809), (149, 4902), (150, 4920), (167, 5037), (172, 5061), (174, 5070), (194, 5202), (197, 5229),

Gene: Moostard\_7 Start: 4412, Stop: 5482, Start Num: 3

Candidate Starts for Moostard\_7:

(Start: 3 @4412 has 69 MA's), (Start: 8 @4460 has 3 MA's), (9, 4469), (13, 4496), (30, 4547), (48, 4625), (55, 4664), (58, 4676), (79, 4754), (83, 4778), (101, 4820), (112, 4850), (149, 5018), (150, 5036), (167, 5153), (172, 5177), (187, 5264), (197, 5345),

Gene: Morkie\_4 Start: 3159, Stop: 3800, Start Num: 40

Candidate Starts for Morkie\_4:

(Start: 40 @3159 has 20 MA's), (Start: 68 @3282 has 1 MA's), (69, 3285), (73, 3297), (80, 3327), (130, 3495), (131, 3498), (132, 3507), (137, 3531), (141, 3546), (148, 3609), (150, 3630), (156, 3681), (166, 3717), (169, 3732), (182, 3795),

Gene: MortyNRick\_4 Start: 3576, Stop: 4232, Start Num: 41

Candidate Starts for MortyNRick\_4:

(Start: 40 @3573 has 20 MA's), (Start: 41 @3576 has 7 MA's), (Start: 68 @3696 has 1 MA's), (69, 3699), (80, 3741), (93, 3792), (105, 3822), (132, 3918), (133, 3921), (144, 3975), (145, 3984), (148, 4020), (150, 4041), (161, 4125), (162, 4128), (163, 4134),

Gene: Moss\_4 Start: 3879, Stop: 4673, Start Num: 18

Candidate Starts for Moss\_4:

(Start: 18 @3879 has 1 MA's), (33, 3921), (49, 3987), (54, 4017), (56, 4029), (122, 4248), (127, 4269), (135, 4311), (146, 4365), (148, 4398), (150, 4419), (184, 4611),

Gene: MrMagoo\_20 Start: 8439, Stop: 9614, Start Num: 4

Candidate Starts for MrMagoo\_20:

(Start: 4 @8439 has 20 MA's), (12, 8502), (21, 8541), (32, 8574), (Start: 40 @8607 has 20 MA's), (54, 8673), (62, 8709), (65, 8721), (67, 8727), (72, 8742), (92, 8850), (94, 8859), (120, 8958), (124, 8982), (133, 9030), (140, 9063), (143, 9081), (149, 9135), (165, 9276), (174, 9318),

Gene: MsGreen\_7 Start: 4416, Stop: 5486, Start Num: 3

Candidate Starts for MsGreen\_7:

(Start: 3 @4416 has 69 MA's), (Start: 8 @4464 has 3 MA's), (9, 4473), (13, 4500), (30, 4551), (48, 4629), (55, 4668), (58, 4680), (79, 4758), (83, 4782), (101, 4824), (112, 4854), (149, 5022), (150, 5040), (167, 5157), (172, 5181), (187, 5268), (197, 5349),

Gene: Mysterium\_4 Start: 3879, Stop: 4673, Start Num: 18

Candidate Starts for Mysterium\_4:

(Start: 18 @3879 has 1 MA's), (33, 3921), (49, 3987), (54, 4017), (56, 4029), (78, 4110), (122, 4248), (127, 4269), (135, 4311), (146, 4365), (148, 4398), (150, 4419), (184, 4611),

Gene: Nanosmite\_20 Start: 8660, Stop: 9835, Start Num: 4

Candidate Starts for Nanosmite\_20:

(Start: 4 @8660 has 20 MA's), (25, 8771), (32, 8795), (39, 8825), (46, 8855), (52, 8885), (57, 8909), (63, 8936), (67, 8948), (76, 8981), (82, 9011), (86, 9035), (87, 9056), (95, 9089), (107, 9131), (120, 9179), (124, 9203), (131, 9239), (133, 9251), (136, 9269), (139, 9281), (143, 9302), (144, 9305), (150, 9374), (174, 9539),

Gene: Netyap\_6 Start: 4311, Stop: 5369, Start Num: 3

Candidate Starts for Netyap\_6:

(Start: 3 @4311 has 69 MA's), (7, 4359), (55, 4572), (58, 4584), (70, 4629), (79, 4662), (101, 4728), (112, 4758), (122, 4800), (124, 4809), (149, 4902), (150, 4920), (167, 5037), (172, 5061), (174, 5070), (194, 5202), (197, 5229),

Gene: Neville\_14 Start: 7752, Stop: 8771, Start Num: 8

Candidate Starts for Neville\_14:

(2, 7683), (Start: 8 @7752 has 3 MA's), (23, 7821), (37, 7875), (Start: 50 @7926 has 1 MA's), (72, 8019), (111, 8166), (116, 8187), (120, 8199), (124, 8223), (126, 8235), (133, 8271), (138, 8295), (148, 8373), (149, 8376), (161, 8481), (167, 8511), (171, 8532), (181, 8583), (183, 8595), (203, 8718),

Gene: Nicholas\_7 Start: 4416, Stop: 5486, Start Num: 3

Candidate Starts for Nicholas\_7:

(Start: 3 @4416 has 69 MA's), (Start: 8 @4464 has 3 MA's), (9, 4473), (13, 4500), (30, 4551), (48, 4629), (55, 4668), (58, 4680), (79, 4758), (83, 4782), (101, 4824), (112, 4854), (149, 5022), (150, 5040), (167, 5157), (172, 5181), (187, 5268), (197, 5349),

Gene: Nicholasp3\_6 Start: 4311, Stop: 5369, Start Num: 3

Candidate Starts for Nicholasp3\_6:

(Start: 3 @4311 has 69 MA's), (7, 4359), (55, 4572), (58, 4584), (70, 4629), (79, 4662), (101, 4728), (112, 4758), (122, 4800), (124, 4809), (149, 4902), (150, 4920), (167, 5037), (172, 5061), (174, 5070), (194, 5202), (197, 5229),

Gene: ODay\_5 Start: 3606, Stop: 4265, Start Num: 41

Candidate Starts for ODay\_5:



(Start: 18 @3531 has 1 MA's), (Start: 41 @3606 has 7 MA's), (69, 3729), (73, 3741), (80, 3771), (88, 3807), (131, 3942), (133, 3954), (145, 4017), (148, 4053), (149, 4056), (167, 4182),

Gene: Octobien14\_15 Start: 8989, Stop: 9996, Start Num: 10

Candidate Starts for Octobien14\_15:

(Start: 10 @8989 has 1 MA's), (15, 9022), (37, 9094), (44, 9115), (53, 9166), (72, 9238), (98, 9331), (120, 9406), (124, 9430), (133, 9478), (143, 9529), (149, 9583), (153, 9643), (173, 9748), (174, 9754), (177, 9772), (192, 9844), (195, 9874), (197, 9895), (199, 9907), (204, 9937),

Gene: Ogotopogo\_6 Start: 3847, Stop: 4491, Start Num: 43

Candidate Starts for Ogotopogo\_6:

(38, 3832), (Start: 43 @3847 has 7 MA's), (Start: 50 @3880 has 1 MA's), (59, 3922), (62, 3937), (65, 3949), (Start: 68 @3958 has 1 MA's), (72, 3970), (73, 3973), (79, 3997), (90, 4045), (118, 4126), (122, 4147), (127, 4168), (145, 4258), (148, 4297), (150, 4318), (164, 4399), (166, 4405), (177, 4459),

Gene: OhShagHennessy\_6 Start: 4294, Stop: 5349, Start Num: 3

Candidate Starts for OhShagHennessy\_6:

(Start: 3 @4294 has 69 MA's), (30, 4432), (32, 4444), (55, 4549), (58, 4561), (Start: 68 @4600 has 1 MA's), (69, 4603), (79, 4639), (101, 4705), (106, 4720), (112, 4735), (122, 4777), (149, 4879), (167, 5014), (172, 5038), (194, 5179), (197, 5206), (198, 5215),

Gene: PYPDinur\_6 Start: 3988, Stop: 5043, Start Num: 3

Candidate Starts for PYPDinur\_6:

(1, 3982), (Start: 3 @3988 has 69 MA's), (24, 4117), (30, 4132), (55, 4249), (58, 4261), (79, 4339), (92, 4387), (101, 4405), (112, 4435), (122, 4477), (138, 4510), (149, 4579), (150, 4597), (167, 4714), (172, 4738), (174, 4747), (194, 4876), (197, 4903), (205, 4963), (206, 4966),

Gene: PegLeg\_16 Start: 7881, Stop: 9041, Start Num: 4

Candidate Starts for PegLeg\_16:

(Start: 4 @7881 has 20 MA's), (24, 7989), (42, 8055), (46, 8076), (57, 8130), (67, 8169), (72, 8184), (81, 8226), (84, 8247), (88, 8283), (92, 8292), (116, 8382), (119, 8391), (120, 8394), (124, 8418), (133, 8466), (144, 8520), (146, 8535), (150, 8589), (161, 8691), (174, 8754),

Gene: Periwinkle\_5 Start: 3599, Stop: 4243, Start Num: 40

Candidate Starts for Periwinkle\_5:

(Start: 40 @3599 has 20 MA's), (47, 3629), (48, 3632), (59, 3686), (Start: 68 @3722 has 1 MA's), (69, 3725), (80, 3767), (90, 3809), (103, 3842), (132, 3944), (133, 3947), (134, 3950), (150, 4070), (164, 4154), (166, 4160),

Gene: Phabuloso\_5 Start: 3597, Stop: 4241, Start Num: 40

Candidate Starts for Phabuloso\_5:

(Start: 40 @3597 has 20 MA's), (47, 3627), (51, 3651), (54, 3663), (59, 3684), (65, 3711), (Start: 68 @3720 has 1 MA's), (69, 3723), (73, 3735), (90, 3807), (130, 3930), (132, 3942), (133, 3945), (134, 3948), (150, 4068), (164, 4152), (166, 4158),

Gene: Phistory\_5 Start: 3598, Stop: 4242, Start Num: 40

Candidate Starts for Phistory\_5:

(31, 3565), (Start: 40 @3598 has 20 MA's), (47, 3628), (59, 3685), (60, 3691), (Start: 68 @3721 has 1 MA's), (69, 3724), (80, 3766), (90, 3808), (132, 3943), (133, 3946), (150, 4069), (164, 4153), (166, 4159),

Gene: PhorbesPhlower\_4 Start: 3159, Stop: 3800, Start Num: 40

Candidate Starts for PhorbesPhlower\_4:

(Start: 40 @3159 has 20 MA's), (Start: 68 @3282 has 1 MA's), (69, 3285), (73, 3297), (80, 3327), (130, 3495), (131, 3498), (132, 3507), (137, 3531), (141, 3546), (148, 3609), (150, 3630), (156, 3681), (166, 3717), (169, 3732), (182, 3795),

Gene: Quby\_6 Start: 3988, Stop: 5043, Start Num: 3

Candidate Starts for Quby\_6:

(1, 3982), (Start: 3 @3988 has 69 MA's), (28, 4129), (30, 4132), (55, 4249), (58, 4261), (79, 4339), (92, 4387), (101, 4405), (112, 4435), (122, 4477), (124, 4486), (138, 4510), (149, 4579), (150, 4597), (167, 4714), (172, 4738), (174, 4747), (194, 4876), (197, 4903), (205, 4963), (206, 4966),

Gene: Rabbitrun\_16 Start: 8261, Stop: 9289, Start Num: 8

Candidate Starts for Rabbitrun\_16:

(Start: 8 @8261 has 3 MA's), (24, 8333), (37, 8384), (53, 8456), (96, 8621), (111, 8672), (116, 8693), (120, 8705), (124, 8729), (126, 8741), (128, 8753), (133, 8777), (149, 8882), (150, 8900), (167, 9011), (171, 9032), (177, 9065), (181, 9083), (183, 9095), (185, 9107), (195, 9176), (203, 9236),

Gene: Reindeer\_14 Start: 7753, Stop: 8904, Start Num: 4

Candidate Starts for Reindeer\_14:

(Start: 4 @7753 has 20 MA's), (42, 7927), (46, 7948), (54, 7987), (57, 8002), (67, 8041), (69, 8047), (72, 8056), (81, 8098), (84, 8119), (88, 8155), (109, 8215), (110, 8221), (120, 8257), (124, 8281), (133, 8329), (139, 8359), (140, 8362), (148, 8431), (150, 8452), (161, 8554), (167, 8584), (174, 8617),

Gene: Rey\_20 Start: 8671, Stop: 9846, Start Num: 4

Candidate Starts for Rey\_20:

(Start: 4 @8671 has 20 MA's), (12, 8734), (21, 8773), (Start: 40 @8839 has 20 MA's), (54, 8905), (65, 8953), (67, 8959), (72, 8974), (92, 9082), (94, 9091), (107, 9142), (111, 9157), (120, 9190), (124, 9214), (133, 9262), (140, 9295), (143, 9313), (165, 9508), (174, 9550),

Gene: Rose5\_6 Start: 4320, Stop: 5375, Start Num: 3

Candidate Starts for Rose5\_6:

(Start: 3 @4320 has 69 MA's), (30, 4458), (32, 4470), (55, 4575), (58, 4587), (Start: 68 @4626 has 1 MA's), (69, 4629), (79, 4665), (101, 4731), (106, 4746), (112, 4761), (122, 4803), (149, 4905), (167, 5040), (172, 5064), (194, 5205), (197, 5232), (198, 5241),

Gene: Rumpelstiltskin\_6 Start: 4311, Stop: 5369, Start Num: 3

Candidate Starts for Rumpelstiltskin\_6:

(Start: 3 @4311 has 69 MA's), (7, 4359), (55, 4572), (58, 4584), (70, 4629), (79, 4662), (101, 4728), (112, 4758), (122, 4800), (124, 4809), (149, 4902), (150, 4920), (167, 5037), (172, 5061), (174, 5070), (194, 5202), (197, 5229),

Gene: Samty\_7 Start: 4412, Stop: 5482, Start Num: 3

Candidate Starts for Samty\_7:

(Start: 3 @4412 has 69 MA's), (Start: 8 @4460 has 3 MA's), (9, 4469), (13, 4496), (30, 4547), (48, 4625), (55, 4664), (58, 4676), (79, 4754), (83, 4778), (101, 4820), (112, 4850), (149, 5018), (150, 5036), (167, 5153), (172, 5177), (187, 5264), (197, 5345),

Gene: Sarshaun\_6 Start: 4350, Stop: 5402, Start Num: 3

Candidate Starts for Sarshaun\_6:

(Start: 3 @4350 has 69 MA's), (7, 4392), (55, 4605), (58, 4617), (70, 4662), (79, 4695), (101, 4761), (112, 4791), (122, 4833), (124, 4842), (149, 4935), (150, 4953), (167, 5070), (172, 5094), (174, 5103), (194, 5235), (197, 5262),

Gene: Sephiroth\_15 Start: 8089, Stop: 9099, Start Num: 11

Candidate Starts for Sephiroth\_15:

(Start: 11 @8089 has 3 MA's), (14, 8107), (15, 8116), (21, 8131), (37, 8188), (53, 8260), (66, 8314), (110, 8464), (120, 8500), (124, 8524), (133, 8572), (143, 8623), (144, 8626), (148, 8674), (153, 8737), (155, 8755), (172, 8839), (177, 8869), (183, 8899), (192, 8947), (196, 8995), (199, 9010), (200, 9016),

Gene: ShakeltOph\_4 Start: 3667, Stop: 4464, Start Num: 22

Candidate Starts for ShakeltOph\_4:

(Start: 22 @3667 has 5 MA's), (64, 3841), (74, 3874), (122, 4027), (136, 4093), (148, 4177), (168, 4309),

Gene: Sheng711\_6 Start: 3988, Stop: 5043, Start Num: 3

Candidate Starts for Sheng711\_6:

(1, 3982), (Start: 3 @3988 has 69 MA's), (24, 4117), (30, 4132), (55, 4249), (58, 4261), (79, 4339), (92, 4387), (101, 4405), (112, 4435), (122, 4477), (138, 4510), (149, 4579), (150, 4597), (167, 4714), (172, 4738), (174, 4747), (194, 4876), (197, 4903), (205, 4963), (206, 4966),

Gene: Silverleaf\_6 Start: 4320, Stop: 5375, Start Num: 3

Candidate Starts for Silverleaf\_6:

(Start: 3 @4320 has 69 MA's), (30, 4458), (32, 4470), (55, 4575), (58, 4587), (Start: 68 @4626 has 1 MA's), (69, 4629), (79, 4665), (101, 4731), (106, 4746), (112, 4761), (122, 4803), (149, 4905), (167, 5040), (172, 5064), (194, 5205), (197, 5232), (198, 5241),

Gene: Skinny\_17 Start: 7881, Stop: 9041, Start Num: 4

Candidate Starts for Skinny\_17:

(Start: 4 @7881 has 20 MA's), (24, 7989), (42, 8055), (46, 8076), (57, 8130), (67, 8169), (72, 8184), (81, 8226), (84, 8247), (88, 8283), (92, 8292), (116, 8382), (119, 8391), (120, 8394), (124, 8418), (133, 8466), (144, 8520), (146, 8535), (150, 8589), (161, 8691), (174, 8754),

Gene: SlimJimmy\_15 Start: 7881, Stop: 9041, Start Num: 4

Candidate Starts for SlimJimmy\_15:

(Start: 4 @7881 has 20 MA's), (24, 7989), (42, 8055), (46, 8076), (57, 8130), (67, 8169), (72, 8184), (81, 8226), (84, 8247), (88, 8283), (92, 8292), (116, 8382), (119, 8391), (120, 8394), (124, 8418), (133, 8466), (144, 8520), (146, 8535), (150, 8589), (161, 8691), (174, 8754),

Gene: Snek\_5 Start: 4503, Stop: 5270, Start Num: 22

Candidate Starts for Snek\_5:

(Start: 22 @4503 has 5 MA's), (34, 4548), (36, 4554), (60, 4659), (74, 4710), (91, 4770), (102, 4803), (112, 4821), (119, 4845), (136, 4929), (143, 4962), (148, 5013), (149, 5016), (179, 5175),

Gene: Snenia\_7 Start: 4416, Stop: 5486, Start Num: 3

Candidate Starts for Snenia\_7:

(Start: 3 @4416 has 69 MA's), (Start: 8 @4464 has 3 MA's), (9, 4473), (13, 4500), (30, 4551), (48, 4629), (55, 4668), (58, 4680), (79, 4758), (83, 4782), (101, 4824), (112, 4854), (149, 5022), (150, 5040), (167, 5157), (172, 5181), (187, 5268), (197, 5349),

Gene: Soap141\_6 Start: 4350, Stop: 5402, Start Num: 3

Candidate Starts for Soap141\_6:

(Start: 3 @4350 has 69 MA's), (7, 4392), (55, 4605), (58, 4617), (70, 4662), (79, 4695), (101, 4761), (112, 4791), (122, 4833), (124, 4842), (149, 4935), (150, 4953), (167, 5070), (172, 5094), (174, 5103), (194, 5235), (197, 5262),

Gene: Sooty\_4 Start: 3875, Stop: 4669, Start Num: 18

Candidate Starts for Sooty\_4:

(Start: 18 @3875 has 1 MA's), (33, 3917), (49, 3983), (54, 4013), (56, 4025), (122, 4244), (127, 4265), (135, 4307), (148, 4394), (150, 4415), (152, 4433), (184, 4607),

Gene: Soul22\_5 Start: 3618, Stop: 4229, Start Num: 50

Candidate Starts for Soul22\_5:

(38, 3570), (Start: 43 @3585 has 7 MA's), (Start: 50 @3618 has 1 MA's), (59, 3660), (62, 3675), (65, 3687), (Start: 68 @3696 has 1 MA's), (72, 3708), (73, 3711), (79, 3735), (90, 3783), (114, 3852), (118, 3864), (122, 3885), (127, 3906), (145, 3996), (148, 4035), (150, 4056), (164, 4137), (166, 4143), (177, 4197),

Gene: SpecialK\_4 Start: 3879, Stop: 4673, Start Num: 18

Candidate Starts for SpecialK\_4:

(Start: 18 @3879 has 1 MA's), (33, 3921), (49, 3987), (54, 4017), (56, 4029), (122, 4248), (127, 4269), (135, 4311), (146, 4365), (148, 4398), (150, 4419), (184, 4611),

Gene: Spooky\_5 Start: 3598, Stop: 4242, Start Num: 40

Candidate Starts for Spooky\_5:

(Start: 40 @3598 has 20 MA's), (Start: 68 @3721 has 1 MA's), (69, 3724), (72, 3733), (73, 3736), (80, 3766), (100, 3832), (125, 3916), (131, 3934), (133, 3946), (137, 3967), (138, 3970), (148, 4048), (150, 4069), (156, 4123), (158, 4129), (166, 4159),

Gene: Squiddly\_6 Start: 4291, Stop: 4935, Start Num: 40

Candidate Starts for Squiddly\_6:

(Start: 40 @4291 has 20 MA's), (55, 4363), (Start: 68 @4414 has 1 MA's), (69, 4417), (73, 4429), (80, 4459), (100, 4525), (103, 4534), (125, 4609), (130, 4624), (132, 4636), (133, 4639), (137, 4660), (138, 4663), (148, 4741), (150, 4762), (156, 4816), (158, 4822), (166, 4852),

Gene: SuMoo\_4 Start: 3785, Stop: 4639, Start Num: 18

Candidate Starts for SuMoo\_4:

(Start: 18 @3785 has 1 MA's), (32, 3821), (127, 4187), (143, 4265), (147, 4295), (148, 4316), (159, 4400), (175, 4484), (190, 4568),

Gene: Syleon\_15 Start: 8011, Stop: 9021, Start Num: 11

Candidate Starts for Syleon\_15:

(Start: 11 @8011 has 3 MA's), (14, 8029), (15, 8038), (21, 8053), (37, 8110), (53, 8182), (66, 8236), (110, 8386), (120, 8422), (124, 8446), (133, 8494), (143, 8545), (144, 8548), (148, 8596), (153, 8659), (155, 8677), (172, 8761), (177, 8791), (183, 8821), (192, 8869), (196, 8917), (199, 8932), (200, 8938),

Gene: Tourach\_6 Start: 4327, Stop: 5382, Start Num: 3

Candidate Starts for Tourach\_6:

(Start: 3 @4327 has 69 MA's), (7, 4375), (Start: 26 @4462 has 1 MA's), (48, 4549), (55, 4588), (58, 4600), (79, 4678), (101, 4744), (112, 4774), (122, 4816), (124, 4825), (149, 4918), (167, 5053), (172, 5077), (183, 5137), (188, 5167), (189, 5182), (197, 5242),

Gene: Trax\_14 Start: 7752, Stop: 8771, Start Num: 8

Candidate Starts for Trax\_14:

(Start: 8 @7752 has 3 MA's), (23, 7821), (37, 7875), (Start: 50 @7926 has 1 MA's), (72, 8019), (111, 8166), (116, 8187), (120, 8199), (124, 8223), (126, 8235), (133, 8271), (138, 8295), (148, 8373), (149, 8376), (161, 8481), (167, 8511), (171, 8532), (181, 8583), (183, 8595), (203, 8718),

Gene: Tweety19\_5 Start: 4503, Stop: 5270, Start Num: 22

Candidate Starts for Tweety19\_5:

(Start: 22 @4503 has 5 MA's), (34, 4548), (60, 4659), (Start: 68 @4689 has 1 MA's), (74, 4710), (91, 4770), (102, 4803), (112, 4821), (119, 4845), (123, 4869), (136, 4929), (143, 4962), (148, 5013), (149, 5016), (179, 5175),

Gene: TyDawg\_16 Start: 7882, Stop: 9042, Start Num: 4

Candidate Starts for TyDawg\_16:

(Start: 4 @7882 has 20 MA's), (24, 7990), (42, 8056), (46, 8077), (57, 8131), (67, 8170), (72, 8185), (81, 8227), (84, 8248), (88, 8284), (92, 8293), (116, 8383), (119, 8392), (120, 8395), (124, 8419), (133, 8467), (144, 8521), (146, 8536), (150, 8590), (161, 8692), (174, 8755),

Gene: Tyson\_6 Start: 4320, Stop: 5375, Start Num: 3

Candidate Starts for Tyson\_6:

(Start: 3 @4320 has 69 MA's), (30, 4458), (32, 4470), (55, 4575), (58, 4587), (Start: 68 @4626 has 1 MA's), (69, 4629), (79, 4665), (101, 4731), (106, 4746), (112, 4761), (122, 4803), (149, 4905), (167, 5040), (172, 5064), (194, 5205), (197, 5232), (198, 5241),

Gene: UPIE\_6 Start: 4318, Stop: 5373, Start Num: 3

Candidate Starts for UPIE\_6:

(Start: 3 @4318 has 69 MA's), (30, 4456), (32, 4468), (55, 4573), (58, 4585), (Start: 68 @4624 has 1 MA's), (69, 4627), (79, 4663), (101, 4729), (106, 4744), (112, 4759), (122, 4801), (149, 4903), (167, 5038), (172, 5062), (194, 5203), (197, 5230), (198, 5239),

Gene: Vetrix\_6 Start: 4311, Stop: 5369, Start Num: 3

Candidate Starts for Vetrix\_6:

(Start: 3 @4311 has 69 MA's), (7, 4359), (55, 4572), (58, 4584), (70, 4629), (79, 4662), (101, 4728), (112, 4758), (122, 4800), (124, 4809), (149, 4902), (150, 4920), (167, 5037), (172, 5061), (174, 5070), (194, 5202), (197, 5229),

Gene: VroomVroom\_4 Start: 3676, Stop: 4473, Start Num: 22

Candidate Starts for VroomVroom\_4:

(Start: 22 @3676 has 5 MA's), (60, 3832), (64, 3850), (74, 3883), (122, 4036), (136, 4102), (148, 4186), (168, 4318),

Gene: Wamburgexpress\_6 Start: 4320, Stop: 5375, Start Num: 3

Candidate Starts for Wamburgexpress\_6:

(Start: 3 @4320 has 69 MA's), (30, 4458), (32, 4470), (55, 4575), (58, 4587), (Start: 68 @4626 has 1 MA's), (69, 4629), (79, 4665), (101, 4731), (106, 4746), (112, 4761), (122, 4803), (149, 4905), (167, 5040), (172, 5064), (194, 5205), (197, 5232), (198, 5241),

Gene: Whirlwind\_8 Start: 4408, Stop: 5478, Start Num: 3

Candidate Starts for Whirlwind\_8:

(Start: 3 @4408 has 69 MA's), (Start: 8 @4456 has 3 MA's), (9, 4465), (13, 4492), (30, 4543), (42, 4594), (48, 4621), (55, 4660), (58, 4672), (79, 4750), (83, 4774), (101, 4816), (112, 4846), (150, 5032), (167, 5149), (172, 5173), (194, 5314), (197, 5341),

Gene: Whitney\_5 Start: 3722, Stop: 4243, Start Num: 68

Candidate Starts for Whitney\_5:

(Start: 40 @3599 has 20 MA's), (47, 3629), (48, 3632), (59, 3686), (Start: 68 @3722 has 1 MA's), (69, 3725), (80, 3767), (90, 3809), (103, 3842), (132, 3944), (133, 3947), (134, 3950), (150, 4070), (164, 4154), (166, 4160),

Gene: Wigglewigggle\_6 Start: 4350, Stop: 5402, Start Num: 3

Candidate Starts for Wigglewigggle\_6:

(Start: 3 @4350 has 69 MA's), (7, 4392), (55, 4605), (58, 4617), (70, 4662), (79, 4695), (101, 4761), (112, 4791), (122, 4833), (124, 4842), (149, 4935), (150, 4953), (167, 5070), (172, 5094), (174, 5103), (194, 5235), (197, 5262),

Gene: Wildcat\_28 Start: 11158, Stop: 12192, Start Num: 5

Candidate Starts for Wildcat\_28:

(Start: 5 @11158 has 5 MA's), (24, 11248), (30, 11263), (34, 11290), (67, 11428), (76, 11461), (104, 11539), (110, 11560), (111, 11563), (120, 11596), (121, 11602), (123, 11620), (124, 11623), (142, 11710), (152, 11815), (172, 11914), (174, 11923), (177, 11944), (186, 11989), (192, 12025), (197, 12076), (201, 12097), (202, 12118), (207, 12142), (208, 12154),

Gene: Wilder\_6 Start: 4311, Stop: 5369, Start Num: 3

Candidate Starts for Wilder\_6:

(Start: 3 @4311 has 69 MA's), (7, 4359), (55, 4572), (58, 4584), (70, 4629), (79, 4662), (101, 4728), (112, 4758), (122, 4800), (124, 4809), (149, 4902), (150, 4920), (167, 5037), (172, 5061), (174, 5070), (194, 5202), (197, 5229),

Gene: Winky\_6 Start: 4311, Stop: 5369, Start Num: 3

Candidate Starts for Winky\_6:

(Start: 3 @4311 has 69 MA's), (7, 4359), (55, 4572), (58, 4584), (70, 4629), (79, 4662), (101, 4728), (112, 4758), (122, 4800), (124, 4809), (149, 4902), (150, 4920), (167, 5037), (172, 5061), (174, 5070), (194, 5202), (197, 5229),

Gene: Wyatt2\_6 Start: 4320, Stop: 5375, Start Num: 3

Candidate Starts for Wyatt2\_6:

(Start: 3 @4320 has 69 MA's), (30, 4458), (32, 4470), (55, 4575), (58, 4587), (Start: 68 @4626 has 1 MA's), (69, 4629), (79, 4665), (101, 4731), (106, 4746), (112, 4761), (122, 4803), (149, 4905), (167, 5040), (172, 5064), (194, 5205), (197, 5232), (198, 5241),

Gene: Yoshi\_5 Start: 3585, Stop: 4229, Start Num: 43

Candidate Starts for Yoshi\_5:

(Start: 43 @3585 has 7 MA's), (Start: 50 @3618 has 1 MA's), (59, 3660), (62, 3675), (65, 3687), (Start: 68 @3696 has 1 MA's), (72, 3708), (73, 3711), (79, 3735), (90, 3783), (114, 3852), (118, 3864), (122, 3885), (127, 3906), (145, 3996), (148, 4035), (150, 4056), (164, 4137), (166, 4143), (177, 4197),

Gene: Zakai\_6 Start: 4299, Stop: 5357, Start Num: 3

Candidate Starts for Zakai\_6:

(Start: 3 @4299 has 69 MA's), (7, 4347), (55, 4560), (58, 4572), (70, 4617), (79, 4650), (101, 4716), (112, 4746), (122, 4788), (124, 4797), (149, 4890), (150, 4908), (167, 5025), (172, 5049), (174, 5058), (194, 5190), (197, 5217),

Gene: Zapner\_6 Start: 4110, Stop: 4754, Start Num: 43

Candidate Starts for Zapner\_6:

(Start: 43 @4110 has 7 MA's), (Start: 50 @4143 has 1 MA's), (59, 4185), (62, 4200), (65, 4212), (Start: 68 @4221 has 1 MA's), (72, 4233), (73, 4236), (79, 4260), (90, 4308), (114, 4377), (118, 4389), (122, 4410), (127, 4431), (145, 4521), (148, 4560), (150, 4581), (164, 4662), (166, 4668), (177, 4722),

Gene: Zaria\_6 Start: 4321, Stop: 5376, Start Num: 3

Candidate Starts for Zaria\_6:

(Start: 3 @4321 has 69 MA's), (30, 4459), (32, 4471), (55, 4576), (58, 4588), (Start: 68 @4627 has 1 MA's), (69, 4630), (79, 4666), (101, 4732), (106, 4747), (112, 4762), (122, 4804), (149, 4906), (167, 5041), (172, 5065), (194, 5206), (197, 5233), (198, 5242),

Gene: Zeta1847\_4 Start: 3665, Stop: 4408, Start Num: 19

Candidate Starts for Zeta1847\_4:

(Start: 19 @3665 has 2 MA's), (33, 3704), (61, 3833), (75, 3884), (127, 4061), (132, 4085), (148, 4187), (152, 4226),

Gene: ZhongYanYuan\_5 Start: 4143, Stop: 5198, Start Num: 3

Candidate Starts for ZhongYanYuan\_5:

(Start: 3 @4143 has 69 MA's), (7, 4191), (Start: 26 @4278 has 1 MA's), (55, 4404), (58, 4416), (70, 4461), (79, 4494), (101, 4560), (112, 4590), (122, 4632), (124, 4641), (149, 4734), (150, 4752), (167, 4869), (172, 4893), (174, 4902), (187, 4980), (194, 5031), (197, 5058), (198, 5067),