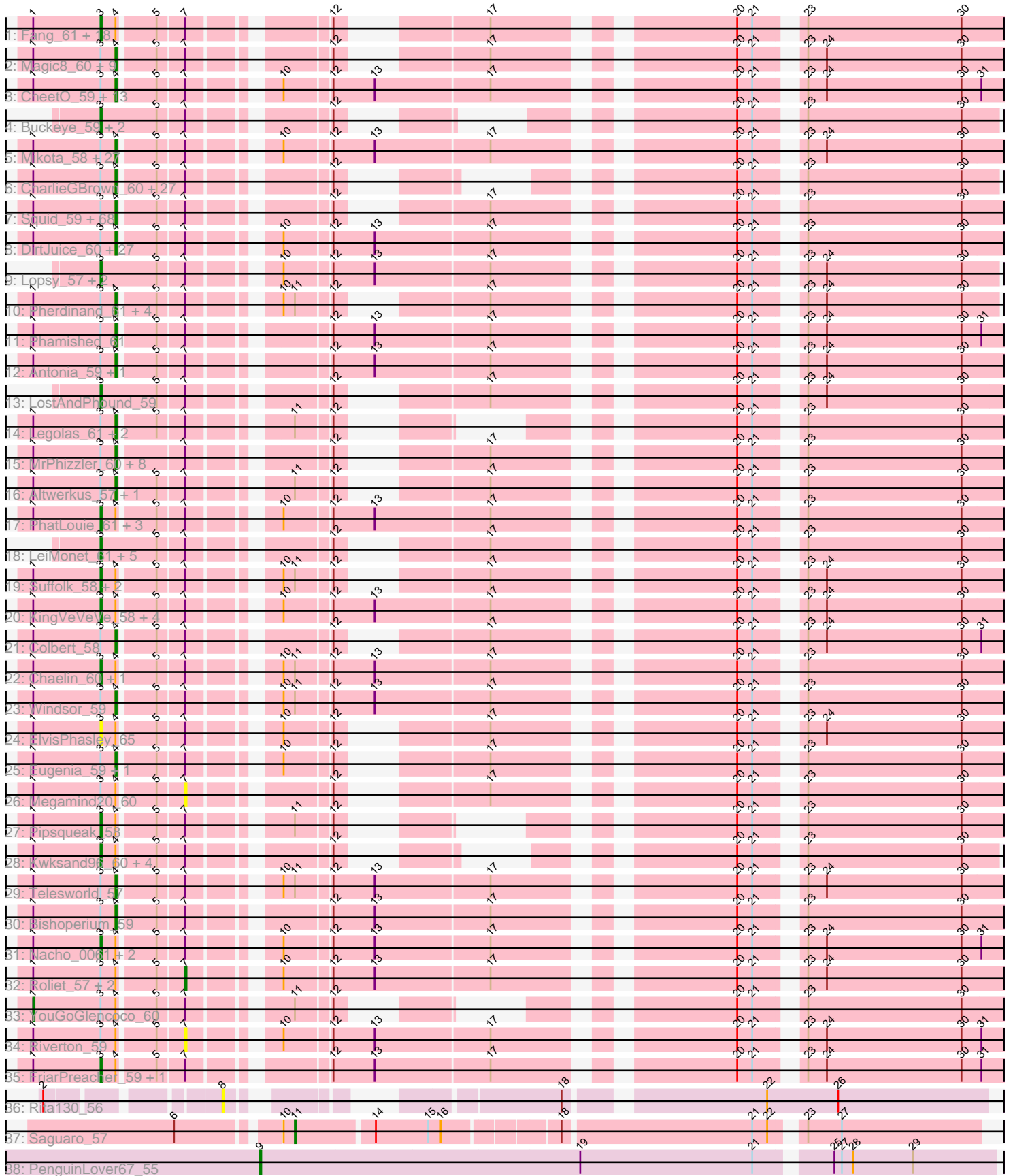


Pham 215780



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 215780 Report

This analysis was run 02/22/25 on database version 588.

Pham number 215780 has 272 members, 22 are drafts.

Phages represented in each track:

- Track 1 : Fang\_61, Piglet\_0059, Durga\_62, Serpentine\_0059, Quisquiliae\_60, Potter\_58, SassyCat97\_58, IsaacEli\_61, PhrodoBaggins\_60, Megatron\_60, Phipps\_59, PG1\_60, Katniss\_60, Gareth\_59, Charles1\_60, ABU\_60, Harvey\_58, DonSanchon\_57, Chorkpop\_59
- Track 2 : Magic8\_60, Apizium\_59, Melc17\_59, Hetaeria\_59, OSmaximus\_61, Weher20\_59, Dati\_59, UAch1\_59, Cornobble\_59, Fozzie\_60
- Track 3 : CheetO\_59, Valjean\_59, AbsoluteMadLad\_60, Eremos\_59, Prickles\_61, Spartan300\_59, Daka\_62, Boehler\_59, Tooj\_58, Chunky\_58, Roscoe\_60, Numberten\_59, Zaider\_60, KLucky39\_58
- Track 4 : Buckeye\_59, Toni\_58, Podrick\_57
- Track 5 : Mikota\_58, Sheila\_57, BlueHusk\_61, Mag7\_60, BatteryCK\_60, KlimbOn\_59, Dingo\_58, Doddsville\_60, Horchata\_58, Basato\_60, Gwilliam\_60, Etaye\_61, RedMaple\_61, Crownjwl\_59, Schadenfreude\_59, Soto\_58, MichaelPhcott\_60, Carthage\_58, DuchessDung\_61, SDcharge11\_59, Phleuron\_60, Pops\_59, Kailash\_60, OliverWalter\_58, Kloppinator\_60, Hartsy\_60, Newman\_58, HSavage\_58
- Track 6 : CharlieGBrown\_60, Oline\_60, PhrankReynolds\_59, Haimas\_58, Hamish\_58, Phergie\_61, MRabcd\_59, JakeO\_60, Wallhey\_60, Jiraiya\_60, Labeouficaum\_60, TyrionL\_60, Jiminy\_60, Duggie\_60, Thunderbird\_59, Trypo\_62, Veritas\_61, Derpp\_59, Caspiroi\_62, Schueller\_60, Zonia\_61, ImtiyazSitla\_61, Maskar\_61, Plata\_60, Gwennie1\_59, Struggle\_60, MelsMeow\_60, Ashraf\_61
- Track 7 : Squid\_59, Zelda\_60, Mosaic\_58, Thora\_59, Held\_59, Daffy\_59, Orion\_61, Childish\_59, Emiris\_62, Chipette\_60, Morgushi\_59, Grand2040\_59, CampRoach\_61, Mulan\_59, Cher\_59, Fringe\_63, Vortex\_59, LeeLot\_60, Sophia\_58, Mana\_58, Kikipoo\_61, Kahve\_59, DelRivs\_58, Usavi\_59, Anderson\_60, Solosis\_58, MitKao\_59, Timmi\_58, Murdoc\_58, LasagnaCat\_61, Cosmolli16\_60, Lulwa\_57, Vista\_59, Serendipity\_59, Xavier\_58, Puhltonio\_59, PinheadLarry\_60, HenryJackson\_59, UncleHowie\_58, Skippy\_60, Oosterbaan\_59, Badfish\_60, DaddyDaniels\_61, Andre\_61, Scoot17C\_60, Brilliant\_62, TomBombadil\_59, Lasso\_60, Inchworm\_61, Maru\_59, TallGrassMM\_59, Giraffe\_60, Chah\_61, Orwigg\_59, Slatt\_60, Hertubise\_59, PhatCats2014\_60, Waterdiva\_59, Mcshane\_58, ThreeOh3D2\_61, JDog\_58, Soile\_60, Surely\_59, Morty\_60, Scrick\_60, Burr\_59, Hocus\_59, Beaglebox\_59, Kwadwo\_58
- Track 8 : DirtJuice\_60, Haleema\_58, Sigman\_60, LuckyMarjie\_57, Frankicide\_58, AltPhacts\_59, Ricotta\_59, Cornbread\_61, Lulumae\_57, Pacifista\_58, MiniBoss\_57, JangoPhett\_59, True\_58, Phunky\_58, Freya\_57, DoesntMatter\_57, Roy17\_58, Lumine\_60, Virapocalypse\_60, Nicole21\_60, Simielle\_59, JacAttac\_61, Mesh1\_61,

- Dione\_57, Riggan\_60, Iridoclysis\_60, Phareon\_58, Plmatters\_58
- Track 9 : Lopsy\_57, Adriana\_60, Orfeu\_57
  - Track 10 : Pherdinand\_61, Swish\_61, Vivaldi\_61, FluffyNinja\_61, Yoshand\_61
  - Track 11 : Phamished\_61
  - Track 12 : Antonia\_59, Aelin\_59
  - Track 13 : LostAndPhound\_59
  - Track 14 : Legolas\_61, LemonSlice\_60, Cobra\_61
  - Track 15 : MrPhizzler\_60, Khan1\_60, HighStump\_61, Mutante\_59, Squiggle\_60, Craff\_62, Rimu\_62, Nathan\_60, Longacauda\_60
  - Track 16 : Altwerkus\_57, Jillium\_59
  - Track 17 : PhatLouie\_61, Swiphy\_63, Chute\_61, Virgeve\_59
  - Track 18 : LeiMonet\_61, KingTut\_51, Placalicious\_59, FugateOSU\_59, Matalotodo\_58, Coletti\_61
  - Track 19 : Suffolk\_58, BlackStallion\_61, Manad\_59
  - Track 20 : KingVeVeVe\_58, AngelCake\_58, Vaishali24\_58, TooFast2Furius\_61, EmpTee\_59
  - Track 21 : Colbert\_58
  - Track 22 : Chaelin\_60, SirBeauregard\_60
  - Track 23 : Windsor\_59
  - Track 24 : ElvisPhasley\_65
  - Track 25 : Eugenia\_59, Iridessa\_61
  - Track 26 : Megamind20\_60
  - Track 27 : Pipsqueak\_58
  - Track 28 : Kwksand96\_60, PhenghisKhan\_60, Gophee\_61, GeneCoco\_60, Pinkman\_59
  - Track 29 : Telesworld\_57
  - Track 30 : Bishoperium\_59
  - Track 31 : Nacho\_0061, Gyarad\_0058, Olive\_59
  - Track 32 : Roliet\_57, Robyn\_59, Inverness\_58
  - Track 33 : YouGoGlencoco\_60
  - Track 34 : Riverton\_59
  - Track 35 : FriarPreacher\_59, SilverBell\_60
  - Track 36 : Rita130\_56
  - Track 37 : Saguaro\_57
  - Track 38 : PenguinLover67\_55

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

The start number called the most often in the published annotations is 4, it was called in 195 of the 250 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AbsoluteMadLad\_60, Aelin\_59, AltPhacts\_59, Altwerkus\_57, Anderson\_60, Andre\_61, Antonia\_59, Apizium\_59, Ashraf\_61, Badfish\_60, Basato\_60, BatteryCK\_60, Beaglebox\_59, Bishoperium\_59, BlueHusk\_61, Boehler\_59, Brilliant\_62, Burr\_59, CampRoach\_61, Carthage\_58, Caspiboi\_62, Chah\_61, CharlieGBrown\_60, CheetO\_59, Cher\_59, Childish\_59, Chipette\_60, Chunky\_58, Cobra\_61, Colbert\_58, Cornbread\_61, Cornobble\_59, Cosmolli16\_60, Craff\_62, Crownjwl\_59, DaddyDaniels\_61, Daffy\_59, Daka\_62, Dati\_59, DelRivs\_58, Derpp\_59, Dingo\_58, Dione\_57, DirtJuice\_60, Doddsville\_60, DoesntMatter\_57,

DuchessDung\_61, Duggie\_60, Emiris\_62, Eremos\_59, Etaye\_61, Eugenia\_59, FluffyNinja\_61, Fozzie\_60, Frankicide\_58, Freya\_57, Fringe\_63, Giraffe\_60, Grand2040\_59, Gwennie1\_59, Gwilliam\_60, HSavage\_58, Haimas\_58, Haleema\_58, Hamish\_58, Hartsy\_60, Held\_59, HenryJackson\_59, Hertubise\_59, Hetaeria\_59, HighStump\_61, Hocus\_59, Horchata\_58, ImtiyazSitla\_61, Inchworm\_61, Iridessa\_61, Iridoclysis\_60, JDog\_58, JacAttac\_61, JakeO\_60, JangoPhett\_59, Jillium\_59, Jiminy\_60, Jiraiya\_60, KLucky39\_58, Kahve\_59, Kailash\_60, Khan1\_60, Kikipoo\_61, KlimbOn\_59, Kloppinator\_60, Kwadwo\_58, Labeouficaum\_60, LasagnaCat\_61, Lasso\_60, LeeLot\_60, Legolas\_61, LemonSlice\_60, Longacauda\_60, LuckyMarjie\_57, Lulumae\_57, Lulwa\_57, Lumine\_60, MRabcd\_59, Mag7\_60, Magic8\_60, Mana\_58, Maru\_59, Maskar\_61, Mcshane\_58, Melc17\_59, MelsMeow\_60, Mesh1\_61, MichaelPhcott\_60, Mikota\_58, MiniBoss\_57, MitKao\_59, Morgushi\_59, Morty\_60, Mosaic\_58, MrPhizzler\_60, Mulan\_59, Murdoc\_58, Mutante\_59, Nathan\_60, Newman\_58, Nicole21\_60, Numberten\_59, OSmaximus\_61, Oline\_60, OliverWalter\_58, Oosterbaan\_59, Orion\_61, Orwigg\_59, Pacifista\_58, Phamished\_61, Phareon\_58, PhatCats2014\_60, Pherdinand\_61, Phergie\_61, Phleuron\_60, PhrankReynolds\_59, Phunky\_58, PinheadLarry\_60, Plata\_60, Plmatters\_58, Pops\_59, Prickles\_61, Puhltonio\_59, RedMaple\_61, Ricotta\_59, Riggan\_60, Rimu\_62, Roscoe\_60, Roy17\_58, SDcharge11\_59, Schadenfreude\_59, Schueller\_60, Scoot17C\_60, Scrick\_60, Serendipity\_59, Sheila\_57, Sigman\_60, Simielle\_59, Skippy\_60, Slatt\_60, Soile\_60, Solosis\_58, Sophia\_58, Soto\_58, Spartan300\_59, Squid\_59, Squiggle\_60, Struggle\_60, Surely\_59, Swish\_61, TallGrassMM\_59, Telesworld\_57, Thora\_59, ThreeOh3D2\_61, Thunderbird\_59, Timmi\_58, TomBombadil\_59, Tooj\_58, True\_58, Trypo\_62, TyrionL\_60, UAch1\_59, UncleHowie\_58, Usavi\_59, Valjean\_59, Veritas\_61, Virapocalypse\_60, Vista\_59, Vivaldi\_61, Vortex\_59, Wallhey\_60, Waterdiva\_59, Weher20\_59, Windsor\_59, Xavier\_58, Yoshand\_61, Zaider\_60, Zelda\_60, Zonia\_61,

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

- ABU\_60, AngelCake\_58, BlackStallion\_61, Chaelin\_60, Charles1\_60, Chorkpop\_59, Chute\_61, DonSanchon\_57, Durga\_62, ElvisPhasley\_65, EmpTee\_59, Fang\_61, FriarPreacher\_59, Gareth\_59, GeneCoco\_60, Gophee\_61, Gyarad\_0058, Harvey\_58, Inverness\_58, IsaacEli\_61, Katniss\_60, KingVeVeVe\_58, Kwksand96\_60, Manad\_59, Megamind20\_60, Megatron\_60, Nacho\_0061, Olive\_59, PG1\_60, PhatLouie\_61, PhenghisKhan\_60, Phipps\_59, PhrodoBaggins\_60, Piglet\_0059, Pinkman\_59, Pipsqueak\_58, Potter\_58, Quisquiliae\_60, Riverton\_59, Robyn\_59, Roliet\_57, SassyCat97\_58, Serpentine\_0059, SilverBell\_60, SirBeauregard\_60, Suffolk\_58, Swiphy\_63, TooFast2Furius\_61, Vaishali24\_58, Virgeve\_59, YouGoGlencoco\_60,

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

- Adriana\_60, Buckeye\_59, Coletti\_61, FugateOSU\_59, KingTut\_51, LeiMonet\_61, Lopsy\_57, LostAndPhound\_59, Matalotodo\_58, Orfeu\_57, PenguinLover67\_55, Placalicious\_59, Podrick\_57, Rita130\_56, Saguaro\_57, Toni\_58,

### Summary by start number:

Start 1:

- Found in 256 of 272 ( 94.1% ) of genes in pham
- Manual Annotations of this start: 1 of 250
- Called 0.4% of time when present
- Phage (with cluster) where this start called: YouGoGlencoco\_60 (B1),

### Start 3:

- Found in 269 of 272 ( 98.9% ) of genes in pham
- Manual Annotations of this start: 49 of 250
- Called 21.6% of time when present
- Phage (with cluster) where this start called: ABU\_60 (B1), Adriana\_60 (B1), AngelCake\_58 (B1), BlackStallion\_61 (B1), Buckeye\_59 (B1), Chaelin\_60 (B1), Charles1\_60 (B1), Chorkpop\_59 (B1), Chute\_61 (B1), Coletti\_61 (B1), DonSancho\_57 (B1), Durga\_62 (B1), ElvisPhasley\_65 (B1), EmpTee\_59 (B1), Fang\_61 (B1), FriarPreacher\_59 (B1), FugateOSU\_59 (B1), Gareth\_59 (B1), GeneCoco\_60 (B1), Gophe\_61 (B1), Gyarad\_0058 (B1), Harvey\_58 (B1), IsaacEli\_61 (B1), Katniss\_60 (B1), KingTut\_51 (B1), KingVeVeVe\_58 (B1), Kwksand96\_60 (B1), LeiMonet\_61 (B1), Lopsy\_57 (B1), LostAndPhound\_59 (B1), Manad\_59 (B1), Matalotodo\_58 (B1), Megatron\_60 (B1), Nacho\_0061 (B1), Olive\_59 (B1), Orfeu\_57 (B1), PG1\_60 (B1), PhatLouie\_61 (B1), PhenghisKhan\_60 (B1), Phipps\_59 (B1), PhrodoBaggins\_60 (B1), Piglet\_0059 (B1), Pinkman\_59 (B1), Pipsqueak\_58 (B1), Placalicious\_59 (B1), Podrick\_57 (B1), Potter\_58 (B1), Quisquillae\_60 (B1), SassyCat97\_58 (B1), Serpentine\_0059 (B1), SilverBell\_60 (B1), SirBeauregard\_60 (B1), Suffolk\_58 (B1), Swiphy\_63 (B1), Toni\_58 (B1), TooFast2Furious\_61 (B1), Vaishali24\_58 (B1), Virgeve\_59 (B1),

### Start 4:

- Found in 256 of 272 ( 94.1% ) of genes in pham
- Manual Annotations of this start: 195 of 250
- Called 80.1% of time when present
- Phage (with cluster) where this start called: AbsoluteMadLad\_60 (B1), Aelin\_59 (B1), AltPhacts\_59 (B1), Altwerkus\_57 (B1), Anderson\_60 (B1), Andre\_61 (B1), Antonia\_59 (B1), Apizium\_59 (B1), Ashraf\_61 (B1), Badfish\_60 (B1), Basato\_60 (B1), BatteryCK\_60 (B1), Beaglebox\_59 (B1), Bishoperium\_59 (B1), BlueHusk\_61 (B1), Boehler\_59 (B1), Brilliant\_62 (B1), Burr\_59 (B1), CampRoach\_61 (B1), Carthage\_58 (B1), Caspiboi\_62 (B1), Chah\_61 (B1), CharlieGBrown\_60 (B1), CheetO\_59 (B1), Cher\_59 (B1), Childish\_59 (B1), Chipette\_60 (B1), Chunky\_58 (B1), Cobra\_61 (B1), Colbert\_58 (B1), Cornbread\_61 (B1), Cornobble\_59 (B1), Cosmoll16\_60 (B1), Craff\_62 (B1), Crownjwl\_59 (B1), DaddyDaniels\_61 (B1), Daffy\_59 (B1), Daka\_62 (B1), Dati\_59 (B1), DelRivs\_58 (B1), Derpp\_59 (B1), Dingo\_58 (B1), Dione\_57 (B1), DirtJuice\_60 (B1), Doddsville\_60 (B1), DoesntMatter\_57 (B1), DuchessDung\_61 (B1), Duggie\_60 (B1), Emiris\_62 (B1), Eremos\_59 (B1), Etaye\_61 (B1), Eugenia\_59 (B1), FluffyNinja\_61 (B1), Fozzie\_60 (B1), Frankicide\_58 (B1), Freya\_57 (B1), Fringe\_63 (B1), Giraffe\_60 (B1), Grand2040\_59 (B1), Gwennie1\_59 (B1), Gwilliam\_60 (B1), HSavage\_58 (B1), Haimas\_58 (B1), Haleema\_58 (B1), Hamish\_58 (B1), Hartsy\_60 (B1), Held\_59 (B1), HenryJackson\_59 (B1), Hertubise\_59 (B1), Hetaeria\_59 (B1), HighStump\_61 (B1), Hocus\_59 (B1), Horchata\_58 (B1), ImtiyazSitla\_61 (B1), Inchworm\_61 (B1), Iridessa\_61 (B1), Iridoclysis\_60 (B1), JDog\_58 (B1), JacAttac\_61 (B1), JakeO\_60 (B1), JangoPhett\_59 (B1), Jillium\_59 (B1), Jiminy\_60 (B1), Jiraiya\_60 (B1), KLucky39\_58 (B1), Kahve\_59 (B1), Kailash\_60 (B1), Khan1\_60 (B1), Kikipoo\_61 (B1), KlimbOn\_59 (B1), Kloppinator\_60 (B1), Kwadwo\_58 (B1), Labeoufcaum\_60 (B1), LasagnaCat\_61 (B1), Lasso\_60 (B1), LeeLot\_60 (B1), Legolas\_61 (B1), LemonSlice\_60 (B1), Longacauda\_60 (B1), LuckyMarjie\_57 (B1), Lulumae\_57 (B1), Lulwa\_57 (B1), Lumine\_60 (B1), MRabcd\_59 (B1), Mag7\_60 (B1), Magic8\_60 (B1), Mana\_58 (B1), Maru\_59 (B1), Maskar\_61 (B1), Mcshane\_58 (B1), Melc17\_59 (B1), MelsMeow\_60 (B1), Mesh1\_61 (B1), MichaelPhcott\_60 (B1), Mikota\_58 (B1), MiniBoss\_57 (B1), MitKao\_59 (B1), Morgushi\_59 (B1), Morty\_60 (B1), Mosaic\_58 (B1), MrPhizzler\_60 (B1), Mulan\_59 (B1), Murdoc\_58 (B1), Mutante\_59 (B1), Nathan\_60 (B1), Newman\_58 (B1), Nicole21\_60 (B1),

Numberten\_59 (B1), OSmaximus\_61 (B1), Oline\_60 (B1), OliverWalter\_58 (B1), Oosterbaan\_59 (B1), Orion\_61 (B1), Orwigg\_59 (B1), Pacifista\_58 (B1), Phamished\_61 (B1), Phareon\_58 (B1), PhatCats2014\_60 (B1), Pherdinand\_61 (B1), Phergie\_61 (B1), Phleuron\_60 (B1), PhrankReynolds\_59 (B1), Phunky\_58 (B1), PinheadLarry\_60 (B1), Plata\_60 (B1), Plmatters\_58 (B1), Pops\_59 (B1), Prickles\_61 (B1), Puhltonio\_59 (B1), RedMaple\_61 (B1), Ricotta\_59 (B1), Riggan\_60 (B1), Rimu\_62 (B1), Roscoe\_60 (B1), Roy17\_58 (B1), SDcharge11\_59 (B1), Schadenfreude\_59 (B1), Schueller\_60 (B1), Scoot17C\_60 (B1), Scrick\_60 (B1), Serendipity\_59 (B1), Sheila\_57 (B1), Sigman\_60 (B1), Simielle\_59 (B1), Skippy\_60 (B1), Slatt\_60 (B1), Soile\_60 (B1), Solosis\_58 (B1), Sophia\_58 (B1), Soto\_58 (B1), Spartan300\_59 (B1), Squid\_59 (B1), Squiggle\_60 (B1), Struggle\_60 (B1), Surely\_59 (B1), Swish\_61 (B1), TallGrassMM\_59 (B1), Telesworld\_57 (B1), Thora\_59 (B1), ThreeOh3D2\_61 (B1), Thunderbird\_59 (B1), Timmi\_58 (B1), TomBombadil\_59 (B1), Tooj\_58 (B1), True\_58 (B1), Trypo\_62 (B1), TyrionL\_60 (B1), UAch1\_59 (B1), UncleHowie\_58 (B1), Usavi\_59 (B1), Valjean\_59 (B1), Veritas\_61 (B1), Virapocalypse\_60 (B1), Vista\_59 (B1), Vivaldi\_61 (B1), Vortex\_59 (B1), Wallhey\_60 (B1), Waterdiva\_59 (B1), Weher20\_59 (B1), Windsor\_59 (B1), Xavier\_58 (B1), Yoshand\_61 (B1), Zaider\_60 (B1), Zelda\_60 (B1), Zonia\_61 (B1),

#### Start 7:

- Found in 269 of 272 ( 98.9% ) of genes in pham
- Manual Annotations of this start: 3 of 250
- Called 1.9% of time when present
- Phage (with cluster) where this start called: Inverness\_58 (B1), Megamind20\_60 (B1), Riverton\_59 (B1), Robyn\_59 (B1), Roliet\_57 (B1),

#### Start 8:

- Found in 1 of 272 ( 0.4% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Rita130\_56 (B5),

#### Start 9:

- Found in 1 of 272 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 250
- Called 100.0% of time when present
- Phage (with cluster) where this start called: PenguinLover67\_55 (B9),

#### Start 11:

- Found in 20 of 272 ( 7.4% ) of genes in pham
- Manual Annotations of this start: 1 of 250
- Called 5.0% of time when present
- Phage (with cluster) where this start called: Saguaro\_57 (B7),

### **Summary by clusters:**

There are 4 clusters represented in this pham: B5, B7, B1, B9,

#### Info for manual annotations of cluster B1:

- Start number 1 was manually annotated 1 time for cluster B1.
- Start number 3 was manually annotated 49 times for cluster B1.
- Start number 4 was manually annotated 195 times for cluster B1.
- Start number 7 was manually annotated 3 times for cluster B1.

Info for manual annotations of cluster B7:

- Start number 11 was manually annotated 1 time for cluster B7.

Info for manual annotations of cluster B9:

- Start number 9 was manually annotated 1 time for cluster B9.

### **Gene Information:**

Gene: ABU\_60 Start: 52688, Stop: 52107, Start Num: 3

Candidate Starts for ABU\_60:

(Start: 1 @52742 has 1 MA's), (Start: 3 @52688 has 49 MA's), (Start: 4 @52676 has 195 MA's), (5, 52649), (Start: 7 @52631 has 3 MA's), (12, 52544), (17, 52463), (20, 52301), (21, 52289), (23, 52262), (30, 52139),

Gene: AbsoluteMadLad\_60 Start: 52630, Stop: 52019, Start Num: 4

Candidate Starts for AbsoluteMadLad\_60:

(Start: 1 @52696 has 1 MA's), (Start: 3 @52642 has 49 MA's), (Start: 4 @52630 has 195 MA's), (5, 52603), (Start: 7 @52585 has 3 MA's), (10, 52531), (12, 52498), (13, 52465), (17, 52375), (20, 52213), (21, 52201), (23, 52174), (24, 52159), (30, 52051), (31, 52036),

Gene: Adriana\_60 Start: 52733, Stop: 52104, Start Num: 3

Candidate Starts for Adriana\_60:

(Start: 3 @52733 has 49 MA's), (5, 52688), (Start: 7 @52670 has 3 MA's), (10, 52616), (12, 52583), (13, 52550), (17, 52460), (20, 52298), (21, 52286), (23, 52259), (24, 52244), (30, 52136),

Gene: Aelin\_59 Start: 52194, Stop: 51583, Start Num: 4

Candidate Starts for Aelin\_59:

(Start: 1 @52260 has 1 MA's), (Start: 3 @52206 has 49 MA's), (Start: 4 @52194 has 195 MA's), (5, 52167), (Start: 7 @52149 has 3 MA's), (12, 52062), (13, 52029), (17, 51939), (20, 51777), (21, 51765), (23, 51738), (24, 51723), (30, 51615),

Gene: AltPhacts\_59 Start: 51743, Stop: 51132, Start Num: 4

Candidate Starts for AltPhacts\_59:

(Start: 1 @51809 has 1 MA's), (Start: 3 @51755 has 49 MA's), (Start: 4 @51743 has 195 MA's), (5, 51716), (Start: 7 @51698 has 3 MA's), (10, 51644), (12, 51611), (13, 51578), (17, 51488), (20, 51326), (21, 51314), (23, 51287), (30, 51164),

Gene: Altwerkus\_57 Start: 51840, Stop: 51271, Start Num: 4

Candidate Starts for Altwerkus\_57:

(Start: 1 @51906 has 1 MA's), (Start: 3 @51852 has 49 MA's), (Start: 4 @51840 has 195 MA's), (5, 51813), (Start: 7 @51795 has 3 MA's), (Start: 11 @51732 has 1 MA's), (12, 51708), (17, 51627), (20, 51465), (21, 51453), (23, 51426), (30, 51303),

Gene: Anderson\_60 Start: 52412, Stop: 51843, Start Num: 4

Candidate Starts for Anderson\_60:

(Start: 1 @52478 has 1 MA's), (Start: 3 @52424 has 49 MA's), (Start: 4 @52412 has 195 MA's), (5, 52385), (Start: 7 @52367 has 3 MA's), (12, 52280), (17, 52199), (20, 52037), (21, 52025), (23, 51998), (30, 51875),

Gene: Andre\_61 Start: 52588, Stop: 52019, Start Num: 4

Candidate Starts for Andre\_61:

(Start: 1 @52654 has 1 MA's), (Start: 3 @52600 has 49 MA's), (Start: 4 @52588 has 195 MA's), (5, 52561), (Start: 7 @52543 has 3 MA's), (12, 52456), (17, 52375), (20, 52213), (21, 52201), (23, 52174), (30, 52051),

Gene: AngelCake\_58 Start: 52527, Stop: 51904, Start Num: 3

Candidate Starts for AngelCake\_58:

(Start: 1 @52581 has 1 MA's), (Start: 3 @52527 has 49 MA's), (Start: 4 @52515 has 195 MA's), (5, 52488), (Start: 7 @52470 has 3 MA's), (10, 52416), (12, 52383), (13, 52350), (17, 52260), (20, 52098), (21, 52086), (23, 52059), (24, 52044), (30, 51936),

Gene: Antonia\_59 Start: 52194, Stop: 51583, Start Num: 4

Candidate Starts for Antonia\_59:

(Start: 1 @52260 has 1 MA's), (Start: 3 @52206 has 49 MA's), (Start: 4 @52194 has 195 MA's), (5, 52167), (Start: 7 @52149 has 3 MA's), (12, 52062), (13, 52029), (17, 51939), (20, 51777), (21, 51765), (23, 51738), (24, 51723), (30, 51615),

Gene: Apizium\_59 Start: 51855, Stop: 51289, Start Num: 4

Candidate Starts for Apizium\_59:

(Start: 1 @51921 has 1 MA's), (Start: 3 @51867 has 49 MA's), (Start: 4 @51855 has 195 MA's), (5, 51828), (Start: 7 @51810 has 3 MA's), (12, 51723), (17, 51642), (20, 51480), (21, 51468), (23, 51441), (24, 51426), (30, 51318),

Gene: Ashraf\_61 Start: 52401, Stop: 51892, Start Num: 4

Candidate Starts for Ashraf\_61:

(Start: 1 @52467 has 1 MA's), (Start: 3 @52413 has 49 MA's), (Start: 4 @52401 has 195 MA's), (5, 52374), (Start: 7 @52356 has 3 MA's), (12, 52269), (20, 52083), (21, 52071), (23, 52044), (30, 51921),

Gene: Badfish\_60 Start: 52698, Stop: 52129, Start Num: 4

Candidate Starts for Badfish\_60:

(Start: 1 @52764 has 1 MA's), (Start: 3 @52710 has 49 MA's), (Start: 4 @52698 has 195 MA's), (5, 52671), (Start: 7 @52653 has 3 MA's), (12, 52566), (17, 52485), (20, 52323), (21, 52311), (23, 52284), (30, 52161),

Gene: Basato\_60 Start: 52461, Stop: 51850, Start Num: 4

Candidate Starts for Basato\_60:

(Start: 1 @52527 has 1 MA's), (Start: 3 @52473 has 49 MA's), (Start: 4 @52461 has 195 MA's), (5, 52434), (Start: 7 @52416 has 3 MA's), (10, 52362), (12, 52329), (13, 52296), (17, 52206), (20, 52044), (21, 52032), (23, 52005), (24, 51990), (30, 51882),

Gene: BatteryCK\_60 Start: 52337, Stop: 51729, Start Num: 4

Candidate Starts for BatteryCK\_60:

(Start: 1 @52403 has 1 MA's), (Start: 3 @52349 has 49 MA's), (Start: 4 @52337 has 195 MA's), (5, 52310), (Start: 7 @52292 has 3 MA's), (10, 52238), (12, 52205), (13, 52172), (17, 52082), (20, 51920), (21, 51908), (23, 51881), (24, 51866), (30, 51758),

Gene: Beaglebox\_59 Start: 52251, Stop: 51682, Start Num: 4

Candidate Starts for Beaglebox\_59:

(Start: 1 @52317 has 1 MA's), (Start: 3 @52263 has 49 MA's), (Start: 4 @52251 has 195 MA's), (5, 52224), (Start: 7 @52206 has 3 MA's), (12, 52119), (17, 52038), (20, 51876), (21, 51864), (23, 51837), (30, 51714),



Gene: Bishoperium\_59 Start: 52726, Stop: 52115, Start Num: 4

Candidate Starts for Bishoperium\_59:

(Start: 1 @52792 has 1 MA's), (Start: 3 @52738 has 49 MA's), (Start: 4 @52726 has 195 MA's), (5, 52699), (Start: 7 @52681 has 3 MA's), (12, 52594), (13, 52561), (17, 52471), (20, 52309), (21, 52297), (23, 52270), (30, 52147),

Gene: BlackStallion\_61 Start: 52467, Stop: 51889, Start Num: 3

Candidate Starts for BlackStallion\_61:

(Start: 1 @52521 has 1 MA's), (Start: 3 @52467 has 49 MA's), (Start: 4 @52455 has 195 MA's), (5, 52428), (Start: 7 @52410 has 3 MA's), (10, 52356), (Start: 11 @52347 has 1 MA's), (12, 52323), (17, 52242), (20, 52080), (21, 52068), (23, 52041), (24, 52026), (30, 51918),

Gene: BlueHusk\_61 Start: 52210, Stop: 51599, Start Num: 4

Candidate Starts for BlueHusk\_61:

(Start: 1 @52276 has 1 MA's), (Start: 3 @52222 has 49 MA's), (Start: 4 @52210 has 195 MA's), (5, 52183), (Start: 7 @52165 has 3 MA's), (10, 52111), (12, 52078), (13, 52045), (17, 51955), (20, 51793), (21, 51781), (23, 51754), (24, 51739), (30, 51631),

Gene: Boehler\_59 Start: 52373, Stop: 51762, Start Num: 4

Candidate Starts for Boehler\_59:

(Start: 1 @52439 has 1 MA's), (Start: 3 @52385 has 49 MA's), (Start: 4 @52373 has 195 MA's), (5, 52346), (Start: 7 @52328 has 3 MA's), (10, 52274), (12, 52241), (13, 52208), (17, 52118), (20, 51956), (21, 51944), (23, 51917), (24, 51902), (30, 51794), (31, 51779),

Gene: Brilliant\_62 Start: 52688, Stop: 52119, Start Num: 4

Candidate Starts for Brilliant\_62:

(Start: 1 @52754 has 1 MA's), (Start: 3 @52700 has 49 MA's), (Start: 4 @52688 has 195 MA's), (5, 52661), (Start: 7 @52643 has 3 MA's), (12, 52556), (17, 52475), (20, 52313), (21, 52301), (23, 52274), (30, 52151),

Gene: Buckeye\_59 Start: 52463, Stop: 51936, Start Num: 3

Candidate Starts for Buckeye\_59:

(Start: 3 @52463 has 49 MA's), (5, 52418), (Start: 7 @52400 has 3 MA's), (12, 52313), (20, 52127), (21, 52115), (23, 52088), (30, 51965),

Gene: Burr\_59 Start: 52162, Stop: 51593, Start Num: 4

Candidate Starts for Burr\_59:

(Start: 1 @52228 has 1 MA's), (Start: 3 @52174 has 49 MA's), (Start: 4 @52162 has 195 MA's), (5, 52135), (Start: 7 @52117 has 3 MA's), (12, 52030), (17, 51949), (20, 51787), (21, 51775), (23, 51748), (30, 51625),

Gene: CampRoach\_61 Start: 52592, Stop: 52023, Start Num: 4

Candidate Starts for CampRoach\_61:

(Start: 1 @52658 has 1 MA's), (Start: 3 @52604 has 49 MA's), (Start: 4 @52592 has 195 MA's), (5, 52565), (Start: 7 @52547 has 3 MA's), (12, 52460), (17, 52379), (20, 52217), (21, 52205), (23, 52178), (30, 52055),

Gene: Carthage\_58 Start: 51673, Stop: 51065, Start Num: 4

Candidate Starts for Carthage\_58:

(Start: 1 @51739 has 1 MA's), (Start: 3 @51685 has 49 MA's), (Start: 4 @51673 has 195 MA's), (5, 51646), (Start: 7 @51628 has 3 MA's), (10, 51574), (12, 51541), (13, 51508), (17, 51418), (20, 51256), (21, 51244), (23, 51217), (24, 51202), (30, 51094),

Gene: Caspiboi\_62 Start: 52414, Stop: 51905, Start Num: 4

Candidate Starts for Caspiboi\_62:

(Start: 1 @52480 has 1 MA's), (Start: 3 @52426 has 49 MA's), (Start: 4 @52414 has 195 MA's), (5, 52387), (Start: 7 @52369 has 3 MA's), (12, 52282), (20, 52096), (21, 52084), (23, 52057), (30, 51934),

Gene: Chaelin\_60 Start: 52736, Stop: 52113, Start Num: 3

Candidate Starts for Chaelin\_60:

(Start: 1 @52790 has 1 MA's), (Start: 3 @52736 has 49 MA's), (Start: 4 @52724 has 195 MA's), (5, 52697), (Start: 7 @52679 has 3 MA's), (10, 52625), (Start: 11 @52616 has 1 MA's), (12, 52592), (13, 52559), (17, 52469), (20, 52307), (21, 52295), (23, 52268), (30, 52145),

Gene: Chah\_61 Start: 52139, Stop: 51570, Start Num: 4

Candidate Starts for Chah\_61:

(Start: 1 @52205 has 1 MA's), (Start: 3 @52151 has 49 MA's), (Start: 4 @52139 has 195 MA's), (5, 52112), (Start: 7 @52094 has 3 MA's), (12, 52007), (17, 51926), (20, 51764), (21, 51752), (23, 51725), (30, 51602),

Gene: Charles1\_60 Start: 52460, Stop: 51879, Start Num: 3

Candidate Starts for Charles1\_60:

(Start: 1 @52514 has 1 MA's), (Start: 3 @52460 has 49 MA's), (Start: 4 @52448 has 195 MA's), (5, 52421), (Start: 7 @52403 has 3 MA's), (12, 52316), (17, 52235), (20, 52073), (21, 52061), (23, 52034), (30, 51911),

Gene: CharlieGBrown\_60 Start: 52287, Stop: 51778, Start Num: 4

Candidate Starts for CharlieGBrown\_60:

(Start: 1 @52353 has 1 MA's), (Start: 3 @52299 has 49 MA's), (Start: 4 @52287 has 195 MA's), (5, 52260), (Start: 7 @52242 has 3 MA's), (12, 52155), (20, 51969), (21, 51957), (23, 51930), (30, 51807),

Gene: CheetO\_59 Start: 52410, Stop: 51799, Start Num: 4

Candidate Starts for CheetO\_59:

(Start: 1 @52476 has 1 MA's), (Start: 3 @52422 has 49 MA's), (Start: 4 @52410 has 195 MA's), (5, 52383), (Start: 7 @52365 has 3 MA's), (10, 52311), (12, 52278), (13, 52245), (17, 52155), (20, 51993), (21, 51981), (23, 51954), (24, 51939), (30, 51831), (31, 51816),

Gene: Cher\_59 Start: 52704, Stop: 52135, Start Num: 4

Candidate Starts for Cher\_59:

(Start: 1 @52770 has 1 MA's), (Start: 3 @52716 has 49 MA's), (Start: 4 @52704 has 195 MA's), (5, 52677), (Start: 7 @52659 has 3 MA's), (12, 52572), (17, 52491), (20, 52329), (21, 52317), (23, 52290), (30, 52167),

Gene: Childish\_59 Start: 52715, Stop: 52149, Start Num: 4

Candidate Starts for Childish\_59:

(Start: 1 @52781 has 1 MA's), (Start: 3 @52727 has 49 MA's), (Start: 4 @52715 has 195 MA's), (5, 52688), (Start: 7 @52670 has 3 MA's), (12, 52583), (17, 52502), (20, 52340), (21, 52328), (23, 52301), (30, 52178),

Gene: Chipette\_60 Start: 52399, Stop: 51830, Start Num: 4

Candidate Starts for Chipette\_60:

(Start: 1 @52465 has 1 MA's), (Start: 3 @52411 has 49 MA's), (Start: 4 @52399 has 195 MA's), (5, 52372), (Start: 7 @52354 has 3 MA's), (12, 52267), (17, 52186), (20, 52024), (21, 52012), (23, 51985), (30, 51862),

Gene: Chorkpop\_59 Start: 52203, Stop: 51622, Start Num: 3

Candidate Starts for Chorkpop\_59:

(Start: 1 @52257 has 1 MA's), (Start: 3 @52203 has 49 MA's), (Start: 4 @52191 has 195 MA's), (5, 52164), (Start: 7 @52146 has 3 MA's), (12, 52059), (17, 51978), (20, 51816), (21, 51804), (23, 51777), (30, 51654),

Gene: Chunky\_58 Start: 51740, Stop: 51129, Start Num: 4

Candidate Starts for Chunky\_58:

(Start: 1 @51806 has 1 MA's), (Start: 3 @51752 has 49 MA's), (Start: 4 @51740 has 195 MA's), (5, 51713), (Start: 7 @51695 has 3 MA's), (10, 51641), (12, 51608), (13, 51575), (17, 51485), (20, 51323), (21, 51311), (23, 51284), (24, 51269), (30, 51161), (31, 51146),

Gene: Chute\_61 Start: 52764, Stop: 52141, Start Num: 3

Candidate Starts for Chute\_61:

(Start: 1 @52818 has 1 MA's), (Start: 3 @52764 has 49 MA's), (Start: 4 @52752 has 195 MA's), (5, 52725), (Start: 7 @52707 has 3 MA's), (10, 52653), (12, 52620), (13, 52587), (17, 52497), (20, 52335), (21, 52323), (23, 52296), (30, 52173),

Gene: Cobra\_61 Start: 52730, Stop: 52221, Start Num: 4

Candidate Starts for Cobra\_61:

(Start: 1 @52796 has 1 MA's), (Start: 3 @52742 has 49 MA's), (Start: 4 @52730 has 195 MA's), (5, 52703), (Start: 7 @52685 has 3 MA's), (Start: 11 @52622 has 1 MA's), (12, 52598), (20, 52412), (21, 52400), (23, 52373), (30, 52250),

Gene: Colbert\_58 Start: 51750, Stop: 51181, Start Num: 4

Candidate Starts for Colbert\_58:

(Start: 1 @51816 has 1 MA's), (Start: 3 @51762 has 49 MA's), (Start: 4 @51750 has 195 MA's), (5, 51723), (Start: 7 @51705 has 3 MA's), (12, 51618), (17, 51537), (20, 51375), (21, 51363), (23, 51336), (24, 51321), (30, 51213), (31, 51198),

Gene: Coletti\_61 Start: 52728, Stop: 52141, Start Num: 3

Candidate Starts for Coletti\_61:

(Start: 3 @52728 has 49 MA's), (5, 52683), (Start: 7 @52665 has 3 MA's), (12, 52578), (17, 52497), (20, 52335), (21, 52323), (23, 52296), (30, 52173),

Gene: Cornbread\_61 Start: 52216, Stop: 51605, Start Num: 4

Candidate Starts for Cornbread\_61:

(Start: 1 @52282 has 1 MA's), (Start: 3 @52228 has 49 MA's), (Start: 4 @52216 has 195 MA's), (5, 52189), (Start: 7 @52171 has 3 MA's), (10, 52117), (12, 52084), (13, 52051), (17, 51961), (20, 51799), (21, 51787), (23, 51760), (30, 51637),

Gene: Cornobble\_59 Start: 52184, Stop: 51618, Start Num: 4

Candidate Starts for Cornobble\_59:

(Start: 1 @52250 has 1 MA's), (Start: 3 @52196 has 49 MA's), (Start: 4 @52184 has 195 MA's), (5, 52157), (Start: 7 @52139 has 3 MA's), (12, 52052), (17, 51971), (20, 51809), (21, 51797), (23, 51770), (24, 51755), (30, 51647),

Gene: Cosmolli16\_60 Start: 52894, Stop: 52325, Start Num: 4

Candidate Starts for Cosmolli16\_60:

(Start: 1 @52960 has 1 MA's), (Start: 3 @52906 has 49 MA's), (Start: 4 @52894 has 195 MA's), (5, 52867), (Start: 7 @52849 has 3 MA's), (12, 52762), (17, 52681), (20, 52519), (21, 52507), (23, 52480), (30, 52357),

Gene: Craff\_62 Start: 53139, Stop: 52570, Start Num: 4

Candidate Starts for Craff\_62:

(Start: 1 @53205 has 1 MA's), (Start: 3 @53151 has 49 MA's), (Start: 4 @53139 has 195 MA's), (Start: 7 @53094 has 3 MA's), (12, 53007), (17, 52926), (20, 52764), (21, 52752), (23, 52725), (30, 52602),

Gene: Crownjwl\_59 Start: 52213, Stop: 51602, Start Num: 4

Candidate Starts for Crownjwl\_59:

(Start: 1 @52279 has 1 MA's), (Start: 3 @52225 has 49 MA's), (Start: 4 @52213 has 195 MA's), (5, 52186), (Start: 7 @52168 has 3 MA's), (10, 52114), (12, 52081), (13, 52048), (17, 51958), (20, 51796), (21, 51784), (23, 51757), (24, 51742), (30, 51634),

Gene: DaddyDaniels\_61 Start: 52672, Stop: 52103, Start Num: 4

Candidate Starts for DaddyDaniels\_61:

(Start: 1 @52738 has 1 MA's), (Start: 3 @52684 has 49 MA's), (Start: 4 @52672 has 195 MA's), (5, 52645), (Start: 7 @52627 has 3 MA's), (12, 52540), (17, 52459), (20, 52297), (21, 52285), (23, 52258), (30, 52135),

Gene: Daffy\_59 Start: 52177, Stop: 51608, Start Num: 4

Candidate Starts for Daffy\_59:

(Start: 1 @52243 has 1 MA's), (Start: 3 @52189 has 49 MA's), (Start: 4 @52177 has 195 MA's), (5, 52150), (Start: 7 @52132 has 3 MA's), (12, 52045), (17, 51964), (20, 51802), (21, 51790), (23, 51763), (30, 51640),

Gene: Daka\_62 Start: 52693, Stop: 52082, Start Num: 4

Candidate Starts for Daka\_62:

(Start: 1 @52759 has 1 MA's), (Start: 3 @52705 has 49 MA's), (Start: 4 @52693 has 195 MA's), (5, 52666), (Start: 7 @52648 has 3 MA's), (10, 52594), (12, 52561), (13, 52528), (17, 52438), (20, 52276), (21, 52264), (23, 52237), (24, 52222), (30, 52114), (31, 52099),

Gene: Dati\_59 Start: 52708, Stop: 52139, Start Num: 4

Candidate Starts for Dati\_59:

(Start: 1 @52774 has 1 MA's), (Start: 3 @52720 has 49 MA's), (Start: 4 @52708 has 195 MA's), (5, 52681), (Start: 7 @52663 has 3 MA's), (12, 52576), (17, 52495), (20, 52333), (21, 52321), (23, 52294), (24, 52279), (30, 52171),

Gene: DelRivs\_58 Start: 52155, Stop: 51586, Start Num: 4

Candidate Starts for DelRivs\_58:

(Start: 1 @52221 has 1 MA's), (Start: 3 @52167 has 49 MA's), (Start: 4 @52155 has 195 MA's), (5, 52128), (Start: 7 @52110 has 3 MA's), (12, 52023), (17, 51942), (20, 51780), (21, 51768), (23, 51741), (30, 51618),

Gene: Derpp\_59 Start: 52275, Stop: 51766, Start Num: 4

Candidate Starts for Derpp\_59:

(Start: 1 @52341 has 1 MA's), (Start: 3 @52287 has 49 MA's), (Start: 4 @52275 has 195 MA's), (5, 52248), (Start: 7 @52230 has 3 MA's), (12, 52143), (20, 51957), (21, 51945), (23, 51918), (30, 51795),

Gene: Dingo\_58 Start: 51719, Stop: 51108, Start Num: 4

Candidate Starts for Dingo\_58:

(Start: 1 @51785 has 1 MA's), (Start: 3 @51731 has 49 MA's), (Start: 4 @51719 has 195 MA's), (5, 51692), (Start: 7 @51674 has 3 MA's), (10, 51620), (12, 51587), (13, 51554), (17, 51464), (20, 51302), (21, 51290), (23, 51263), (24, 51248), (30, 51140),

Gene: Dione\_57 Start: 51891, Stop: 51280, Start Num: 4

Candidate Starts for Dione\_57:

(Start: 1 @51957 has 1 MA's), (Start: 3 @51903 has 49 MA's), (Start: 4 @51891 has 195 MA's), (5, 51864), (Start: 7 @51846 has 3 MA's), (10, 51792), (12, 51759), (13, 51726), (17, 51636), (20, 51474), (21, 51462), (23, 51435), (30, 51312),

Gene: DirtJuice\_60 Start: 52481, Stop: 51870, Start Num: 4

Candidate Starts for DirtJuice\_60:

(Start: 1 @52547 has 1 MA's), (Start: 3 @52493 has 49 MA's), (Start: 4 @52481 has 195 MA's), (5, 52454), (Start: 7 @52436 has 3 MA's), (10, 52382), (12, 52349), (13, 52316), (17, 52226), (20, 52064), (21, 52052), (23, 52025), (30, 51902),

Gene: Doddsville\_60 Start: 52427, Stop: 51819, Start Num: 4

Candidate Starts for Doddsville\_60:

(Start: 1 @52493 has 1 MA's), (Start: 3 @52439 has 49 MA's), (Start: 4 @52427 has 195 MA's), (5, 52400), (Start: 7 @52382 has 3 MA's), (10, 52328), (12, 52295), (13, 52262), (17, 52172), (20, 52010), (21, 51998), (23, 51971), (24, 51956), (30, 51848),

Gene: DoesntMatter\_57 Start: 52184, Stop: 51573, Start Num: 4

Candidate Starts for DoesntMatter\_57:

(Start: 1 @52250 has 1 MA's), (Start: 3 @52196 has 49 MA's), (Start: 4 @52184 has 195 MA's), (5, 52157), (Start: 7 @52139 has 3 MA's), (10, 52085), (12, 52052), (13, 52019), (17, 51929), (20, 51767), (21, 51755), (23, 51728), (30, 51605),

Gene: DonSanchon\_57 Start: 51886, Stop: 51305, Start Num: 3

Candidate Starts for DonSanchon\_57:

(Start: 1 @51940 has 1 MA's), (Start: 3 @51886 has 49 MA's), (Start: 4 @51874 has 195 MA's), (5, 51847), (Start: 7 @51829 has 3 MA's), (12, 51742), (17, 51661), (20, 51499), (21, 51487), (23, 51460), (30, 51337),

Gene: DuchessDung\_61 Start: 51944, Stop: 51336, Start Num: 4

Candidate Starts for DuchessDung\_61:

(Start: 1 @52010 has 1 MA's), (Start: 3 @51956 has 49 MA's), (Start: 4 @51944 has 195 MA's), (5, 51917), (Start: 7 @51899 has 3 MA's), (10, 51845), (12, 51812), (13, 51779), (17, 51689), (20, 51527), (21, 51515), (23, 51488), (24, 51473), (30, 51365),

Gene: Duggie\_60 Start: 52428, Stop: 51919, Start Num: 4

Candidate Starts for Duggie\_60:

(Start: 1 @52494 has 1 MA's), (Start: 3 @52440 has 49 MA's), (Start: 4 @52428 has 195 MA's), (5, 52401), (Start: 7 @52383 has 3 MA's), (12, 52296), (20, 52110), (21, 52098), (23, 52071), (30, 51948),

Gene: Durga\_62 Start: 52936, Stop: 52358, Start Num: 3

Candidate Starts for Durga\_62:

(Start: 1 @52990 has 1 MA's), (Start: 3 @52936 has 49 MA's), (Start: 4 @52924 has 195 MA's), (5, 52897), (Start: 7 @52879 has 3 MA's), (12, 52792), (17, 52711), (20, 52549), (21, 52537), (23, 52510), (30, 52387),

Gene: ElvisPhasley\_65 Start: 52932, Stop: 52351, Start Num: 3

Candidate Starts for ElvisPhasley\_65:

(Start: 1 @52986 has 1 MA's), (Start: 3 @52932 has 49 MA's), (Start: 4 @52920 has 195 MA's), (5, 52893), (Start: 7 @52875 has 3 MA's), (10, 52821), (12, 52788), (17, 52707), (20, 52545), (21, 52533), (23, 52506), (24, 52491), (30, 52383),

Gene: Emiris\_62 Start: 52891, Stop: 52322, Start Num: 4

Candidate Starts for Emiris\_62:

(Start: 1 @52957 has 1 MA's), (Start: 3 @52903 has 49 MA's), (Start: 4 @52891 has 195 MA's), (5, 52864), (Start: 7 @52846 has 3 MA's), (12, 52759), (17, 52678), (20, 52516), (21, 52504), (23, 52477), (30, 52354),

Gene: EmpTee\_59 Start: 52412, Stop: 51792, Start Num: 3

Candidate Starts for EmpTee\_59:

(Start: 1 @52466 has 1 MA's), (Start: 3 @52412 has 49 MA's), (Start: 4 @52400 has 195 MA's), (5, 52373), (Start: 7 @52355 has 3 MA's), (10, 52301), (12, 52268), (13, 52235), (17, 52145), (20, 51983), (21, 51971), (23, 51944), (24, 51929), (30, 51821),

Gene: Eremos\_59 Start: 52390, Stop: 51779, Start Num: 4

Candidate Starts for Eremos\_59:

(Start: 1 @52456 has 1 MA's), (Start: 3 @52402 has 49 MA's), (Start: 4 @52390 has 195 MA's), (5, 52363), (Start: 7 @52345 has 3 MA's), (10, 52291), (12, 52258), (13, 52225), (17, 52135), (20, 51973), (21, 51961), (23, 51934), (24, 51919), (30, 51811), (31, 51796),

Gene: Etaye\_61 Start: 53221, Stop: 52613, Start Num: 4

Candidate Starts for Etaye\_61:

(Start: 1 @53287 has 1 MA's), (Start: 3 @53233 has 49 MA's), (Start: 4 @53221 has 195 MA's), (5, 53194), (Start: 7 @53176 has 3 MA's), (10, 53122), (12, 53089), (13, 53056), (17, 52966), (20, 52804), (21, 52792), (23, 52765), (24, 52750), (30, 52642),

Gene: Eugenia\_59 Start: 52543, Stop: 51974, Start Num: 4

Candidate Starts for Eugenia\_59:

(Start: 1 @52609 has 1 MA's), (Start: 3 @52555 has 49 MA's), (Start: 4 @52543 has 195 MA's), (5, 52516), (Start: 7 @52498 has 3 MA's), (10, 52444), (12, 52411), (17, 52330), (20, 52168), (21, 52156), (23, 52129), (30, 52006),

Gene: Fang\_61 Start: 52448, Stop: 51867, Start Num: 3

Candidate Starts for Fang\_61:

(Start: 1 @52502 has 1 MA's), (Start: 3 @52448 has 49 MA's), (Start: 4 @52436 has 195 MA's), (5, 52409), (Start: 7 @52391 has 3 MA's), (12, 52304), (17, 52223), (20, 52061), (21, 52049), (23, 52022), (30, 51899),

Gene: FluffyNinja\_61 Start: 52456, Stop: 51890, Start Num: 4

Candidate Starts for FluffyNinja\_61:

(Start: 1 @52522 has 1 MA's), (Start: 3 @52468 has 49 MA's), (Start: 4 @52456 has 195 MA's), (5, 52429), (Start: 7 @52411 has 3 MA's), (10, 52357), (Start: 11 @52348 has 1 MA's), (12, 52324), (17, 52243), (20, 52081), (21, 52069), (23, 52042), (24, 52027), (30, 51919),

Gene: Fozzie\_60 Start: 52681, Stop: 52112, Start Num: 4

Candidate Starts for Fozzie\_60:

(Start: 1 @52747 has 1 MA's), (Start: 3 @52693 has 49 MA's), (Start: 4 @52681 has 195 MA's), (5, 52654), (Start: 7 @52636 has 3 MA's), (12, 52549), (17, 52468), (20, 52306), (21, 52294), (23, 52267), (24, 52252), (30, 52144),

Gene: Frankicide\_58 Start: 52221, Stop: 51610, Start Num: 4

Candidate Starts for Frankicide\_58:

(Start: 1 @52287 has 1 MA's), (Start: 3 @52233 has 49 MA's), (Start: 4 @52221 has 195 MA's), (5, 52194), (Start: 7 @52176 has 3 MA's), (10, 52122), (12, 52089), (13, 52056), (17, 51966), (20, 51804), (21, 51792), (23, 51765), (30, 51642),

Gene: Freya\_57 Start: 51882, Stop: 51271, Start Num: 4

Candidate Starts for Freya\_57:

(Start: 1 @51948 has 1 MA's), (Start: 3 @51894 has 49 MA's), (Start: 4 @51882 has 195 MA's), (5, 51855), (Start: 7 @51837 has 3 MA's), (10, 51783), (12, 51750), (13, 51717), (17, 51627), (20, 51465), (21, 51453), (23, 51426), (30, 51303),

Gene: FriarPreacher\_59 Start: 52280, Stop: 51657, Start Num: 3

Candidate Starts for FriarPreacher\_59:

(Start: 1 @52334 has 1 MA's), (Start: 3 @52280 has 49 MA's), (Start: 4 @52268 has 195 MA's), (5, 52241), (Start: 7 @52223 has 3 MA's), (12, 52136), (13, 52103), (17, 52013), (20, 51851), (21, 51839), (23, 51812), (24, 51797), (30, 51689), (31, 51674),

Gene: Fringe\_63 Start: 53058, Stop: 52489, Start Num: 4

Candidate Starts for Fringe\_63:

(Start: 1 @53124 has 1 MA's), (Start: 3 @53070 has 49 MA's), (Start: 4 @53058 has 195 MA's), (5, 53031), (Start: 7 @53013 has 3 MA's), (12, 52926), (17, 52845), (20, 52683), (21, 52671), (23, 52644), (30, 52521),

Gene: FugateOSU\_59 Start: 52703, Stop: 52116, Start Num: 3

Candidate Starts for FugateOSU\_59:

(Start: 3 @52703 has 49 MA's), (5, 52658), (Start: 7 @52640 has 3 MA's), (12, 52553), (17, 52472), (20, 52310), (21, 52298), (23, 52271), (30, 52148),

Gene: Gareth\_59 Start: 52692, Stop: 52111, Start Num: 3

Candidate Starts for Gareth\_59:

(Start: 1 @52746 has 1 MA's), (Start: 3 @52692 has 49 MA's), (Start: 4 @52680 has 195 MA's), (5, 52653), (Start: 7 @52635 has 3 MA's), (12, 52548), (17, 52467), (20, 52305), (21, 52293), (23, 52266), (30, 52143),

Gene: GeneCoco\_60 Start: 52735, Stop: 52214, Start Num: 3

Candidate Starts for GeneCoco\_60:

(Start: 1 @52789 has 1 MA's), (Start: 3 @52735 has 49 MA's), (Start: 4 @52723 has 195 MA's), (5, 52696), (Start: 7 @52678 has 3 MA's), (12, 52591), (20, 52405), (21, 52393), (23, 52366), (30, 52243),

Gene: Giraffe\_60 Start: 52675, Stop: 52106, Start Num: 4

Candidate Starts for Giraffe\_60:

(Start: 1 @52741 has 1 MA's), (Start: 3 @52687 has 49 MA's), (Start: 4 @52675 has 195 MA's), (5, 52648), (Start: 7 @52630 has 3 MA's), (12, 52543), (17, 52462), (20, 52300), (21, 52288), (23, 52261), (30, 52138),

Gene: Gophee\_61 Start: 52678, Stop: 52157, Start Num: 3

Candidate Starts for Gophee\_61:

(Start: 1 @52732 has 1 MA's), (Start: 3 @52678 has 49 MA's), (Start: 4 @52666 has 195 MA's), (5, 52639), (Start: 7 @52621 has 3 MA's), (12, 52534), (20, 52348), (21, 52336), (23, 52309), (30, 52186),

Gene: Grand2040\_59 Start: 52669, Stop: 52100, Start Num: 4

Candidate Starts for Grand2040\_59:

(Start: 1 @52735 has 1 MA's), (Start: 3 @52681 has 49 MA's), (Start: 4 @52669 has 195 MA's), (5, 52642), (Start: 7 @52624 has 3 MA's), (12, 52537), (17, 52456), (20, 52294), (21, 52282), (23, 52255), (30, 52132),

Gene: Gwennie1\_59 Start: 52468, Stop: 51956, Start Num: 4

Candidate Starts for Gwennie1\_59:

(Start: 1 @52534 has 1 MA's), (Start: 3 @52480 has 49 MA's), (Start: 4 @52468 has 195 MA's), (5, 52441), (Start: 7 @52423 has 3 MA's), (12, 52336), (20, 52150), (21, 52138), (23, 52111), (30, 51988),

Gene: Gwilliam\_60 Start: 53074, Stop: 52463, Start Num: 4

Candidate Starts for Gwilliam\_60:

(Start: 1 @53140 has 1 MA's), (Start: 3 @53086 has 49 MA's), (Start: 4 @53074 has 195 MA's), (5, 53047), (Start: 7 @53029 has 3 MA's), (10, 52975), (12, 52942), (13, 52909), (17, 52819), (20, 52657), (21, 52645), (23, 52618), (24, 52603), (30, 52495),

Gene: Gyarad\_0058 Start: 51768, Stop: 51145, Start Num: 3

Candidate Starts for Gyarad\_0058:

(Start: 1 @51822 has 1 MA's), (Start: 3 @51768 has 49 MA's), (Start: 4 @51756 has 195 MA's), (5, 51729), (Start: 7 @51711 has 3 MA's), (10, 51657), (12, 51624), (13, 51591), (17, 51501), (20, 51339), (21, 51327), (23, 51300), (24, 51285), (30, 51177), (31, 51162),

Gene: HSavage\_58 Start: 52200, Stop: 51589, Start Num: 4

Candidate Starts for HSavage\_58:

(Start: 1 @52266 has 1 MA's), (Start: 3 @52212 has 49 MA's), (Start: 4 @52200 has 195 MA's), (5, 52173), (Start: 7 @52155 has 3 MA's), (10, 52101), (12, 52068), (13, 52035), (17, 51945), (20, 51783), (21, 51771), (23, 51744), (24, 51729), (30, 51621),

Gene: Haimas\_58 Start: 52117, Stop: 51605, Start Num: 4

Candidate Starts for Haimas\_58:

(Start: 1 @52183 has 1 MA's), (Start: 3 @52129 has 49 MA's), (Start: 4 @52117 has 195 MA's), (5, 52090), (Start: 7 @52072 has 3 MA's), (12, 51985), (20, 51799), (21, 51787), (23, 51760), (30, 51637),

Gene: Haleema\_58 Start: 52215, Stop: 51604, Start Num: 4

Candidate Starts for Haleema\_58:

(Start: 1 @52281 has 1 MA's), (Start: 3 @52227 has 49 MA's), (Start: 4 @52215 has 195 MA's), (5, 52188), (Start: 7 @52170 has 3 MA's), (10, 52116), (12, 52083), (13, 52050), (17, 51960), (20, 51798), (21, 51786), (23, 51759), (30, 51636),

Gene: Hamish\_58 Start: 52111, Stop: 51599, Start Num: 4

Candidate Starts for Hamish\_58:

(Start: 1 @52177 has 1 MA's), (Start: 3 @52123 has 49 MA's), (Start: 4 @52111 has 195 MA's), (5, 52084), (Start: 7 @52066 has 3 MA's), (12, 51979), (20, 51793), (21, 51781), (23, 51754), (30, 51631),

Gene: Hartsy\_60 Start: 52549, Stop: 51938, Start Num: 4

Candidate Starts for Hartsy\_60:

(Start: 1 @52615 has 1 MA's), (Start: 3 @52561 has 49 MA's), (Start: 4 @52549 has 195 MA's), (5, 52522), (Start: 7 @52504 has 3 MA's), (10, 52450), (12, 52417), (13, 52384), (17, 52294), (20, 52132), (21, 52120), (23, 52093), (24, 52078), (30, 51970),

Gene: Harvey\_58 Start: 52216, Stop: 51635, Start Num: 3

Candidate Starts for Harvey\_58:

(Start: 1 @52270 has 1 MA's), (Start: 3 @52216 has 49 MA's), (Start: 4 @52204 has 195 MA's), (5, 52177), (Start: 7 @52159 has 3 MA's), (12, 52072), (17, 51991), (20, 51829), (21, 51817), (23, 51790), (30, 51667),

Gene: Held\_59 Start: 52178, Stop: 51609, Start Num: 4

Candidate Starts for Held\_59:

(Start: 1 @52244 has 1 MA's), (Start: 3 @52190 has 49 MA's), (Start: 4 @52178 has 195 MA's), (5, 52151), (Start: 7 @52133 has 3 MA's), (12, 52046), (17, 51965), (20, 51803), (21, 51791), (23, 51764),



(30, 51641),

Gene: HenryJackson\_59 Start: 52704, Stop: 52138, Start Num: 4

Candidate Starts for HenryJackson\_59:

(Start: 1 @52770 has 1 MA's), (Start: 3 @52716 has 49 MA's), (Start: 4 @52704 has 195 MA's), (5, 52677), (Start: 7 @52659 has 3 MA's), (12, 52572), (17, 52491), (20, 52329), (21, 52317), (23, 52290), (30, 52167),

Gene: Hertubise\_59 Start: 52470, Stop: 51901, Start Num: 4

Candidate Starts for Hertubise\_59:

(Start: 1 @52536 has 1 MA's), (Start: 3 @52482 has 49 MA's), (Start: 4 @52470 has 195 MA's), (5, 52443), (Start: 7 @52425 has 3 MA's), (12, 52338), (17, 52257), (20, 52095), (21, 52083), (23, 52056), (30, 51933),

Gene: Hetaeria\_59 Start: 52409, Stop: 51843, Start Num: 4

Candidate Starts for Hetaeria\_59:

(Start: 1 @52475 has 1 MA's), (Start: 3 @52421 has 49 MA's), (Start: 4 @52409 has 195 MA's), (5, 52382), (Start: 7 @52364 has 3 MA's), (12, 52277), (17, 52196), (20, 52034), (21, 52022), (23, 51995), (24, 51980), (30, 51872),

Gene: HighStump\_61 Start: 52681, Stop: 52112, Start Num: 4

Candidate Starts for HighStump\_61:

(Start: 1 @52747 has 1 MA's), (Start: 3 @52693 has 49 MA's), (Start: 4 @52681 has 195 MA's), (Start: 7 @52636 has 3 MA's), (12, 52549), (17, 52468), (20, 52306), (21, 52294), (23, 52267), (30, 52144),

Gene: Hocus\_59 Start: 52165, Stop: 51596, Start Num: 4

Candidate Starts for Hocus\_59:

(Start: 1 @52231 has 1 MA's), (Start: 3 @52177 has 49 MA's), (Start: 4 @52165 has 195 MA's), (5, 52138), (Start: 7 @52120 has 3 MA's), (12, 52033), (17, 51952), (20, 51790), (21, 51778), (23, 51751), (30, 51628),

Gene: Horchata\_58 Start: 52200, Stop: 51589, Start Num: 4

Candidate Starts for Horchata\_58:

(Start: 1 @52266 has 1 MA's), (Start: 3 @52212 has 49 MA's), (Start: 4 @52200 has 195 MA's), (5, 52173), (Start: 7 @52155 has 3 MA's), (10, 52101), (12, 52068), (13, 52035), (17, 51945), (20, 51783), (21, 51771), (23, 51744), (24, 51729), (30, 51621),

Gene: ImtiyazSitla\_61 Start: 52401, Stop: 51892, Start Num: 4

Candidate Starts for ImtiyazSitla\_61:

(Start: 1 @52467 has 1 MA's), (Start: 3 @52413 has 49 MA's), (Start: 4 @52401 has 195 MA's), (5, 52374), (Start: 7 @52356 has 3 MA's), (12, 52269), (20, 52083), (21, 52071), (23, 52044), (30, 51921),

Gene: Inchworm\_61 Start: 52552, Stop: 51983, Start Num: 4

Candidate Starts for Inchworm\_61:

(Start: 1 @52618 has 1 MA's), (Start: 3 @52564 has 49 MA's), (Start: 4 @52552 has 195 MA's), (5, 52525), (Start: 7 @52507 has 3 MA's), (12, 52420), (17, 52339), (20, 52177), (21, 52165), (23, 52138), (30, 52015),

Gene: Inverness\_58 Start: 52163, Stop: 51597, Start Num: 7

Candidate Starts for Inverness\_58:

(Start: 1 @52274 has 1 MA's), (Start: 3 @52220 has 49 MA's), (Start: 4 @52208 has 195 MA's), (5, 52181), (Start: 7 @52163 has 3 MA's), (10, 52109), (12, 52076), (13, 52043), (17, 51953), (20, 51791), (21, 51779), (23, 51752), (24, 51737), (30, 51629),

Gene: Iridessa\_61 Start: 52125, Stop: 51556, Start Num: 4

Candidate Starts for Iridessa\_61:

(Start: 1 @52191 has 1 MA's), (Start: 3 @52137 has 49 MA's), (Start: 4 @52125 has 195 MA's), (5, 52098), (Start: 7 @52080 has 3 MA's), (10, 52026), (12, 51993), (17, 51912), (20, 51750), (21, 51738), (23, 51711), (30, 51588),

Gene: Iridoclysis\_60 Start: 52492, Stop: 51881, Start Num: 4

Candidate Starts for Iridoclysis\_60:

(Start: 1 @52558 has 1 MA's), (Start: 3 @52504 has 49 MA's), (Start: 4 @52492 has 195 MA's), (5, 52465), (Start: 7 @52447 has 3 MA's), (10, 52393), (12, 52360), (13, 52327), (17, 52237), (20, 52075), (21, 52063), (23, 52036), (30, 51913),

Gene: IsaacEli\_61 Start: 52703, Stop: 52122, Start Num: 3

Candidate Starts for IsaacEli\_61:

(Start: 1 @52757 has 1 MA's), (Start: 3 @52703 has 49 MA's), (Start: 4 @52691 has 195 MA's), (5, 52664), (Start: 7 @52646 has 3 MA's), (12, 52559), (17, 52478), (20, 52316), (21, 52304), (23, 52277), (30, 52154),

Gene: JDog\_58 Start: 52707, Stop: 52138, Start Num: 4

Candidate Starts for JDog\_58:

(Start: 1 @52773 has 1 MA's), (Start: 3 @52719 has 49 MA's), (Start: 4 @52707 has 195 MA's), (5, 52680), (Start: 7 @52662 has 3 MA's), (12, 52575), (17, 52494), (20, 52332), (21, 52320), (23, 52293), (30, 52170),

Gene: JacAttac\_61 Start: 52154, Stop: 51543, Start Num: 4

Candidate Starts for JacAttac\_61:

(Start: 1 @52220 has 1 MA's), (Start: 3 @52166 has 49 MA's), (Start: 4 @52154 has 195 MA's), (5, 52127), (Start: 7 @52109 has 3 MA's), (10, 52055), (12, 52022), (13, 51989), (17, 51899), (20, 51737), (21, 51725), (23, 51698), (30, 51575),

Gene: JakeO\_60 Start: 52430, Stop: 51921, Start Num: 4

Candidate Starts for JakeO\_60:

(Start: 1 @52496 has 1 MA's), (Start: 3 @52442 has 49 MA's), (Start: 4 @52430 has 195 MA's), (5, 52403), (Start: 7 @52385 has 3 MA's), (12, 52298), (20, 52112), (21, 52100), (23, 52073), (30, 51950),

Gene: JangoPhett\_59 Start: 52495, Stop: 51884, Start Num: 4

Candidate Starts for JangoPhett\_59:

(Start: 1 @52561 has 1 MA's), (Start: 3 @52507 has 49 MA's), (Start: 4 @52495 has 195 MA's), (5, 52468), (Start: 7 @52450 has 3 MA's), (10, 52396), (12, 52363), (13, 52330), (17, 52240), (20, 52078), (21, 52066), (23, 52039), (30, 51916),

Gene: Jillium\_59 Start: 52699, Stop: 52130, Start Num: 4

Candidate Starts for Jillium\_59:

(Start: 1 @52765 has 1 MA's), (Start: 3 @52711 has 49 MA's), (Start: 4 @52699 has 195 MA's), (5, 52672), (Start: 7 @52654 has 3 MA's), (Start: 11 @52591 has 1 MA's), (12, 52567), (17, 52486), (20, 52324), (21, 52312), (23, 52285), (30, 52162),

Gene: Jiminy\_60 Start: 52266, Stop: 51757, Start Num: 4

Candidate Starts for Jiminy\_60:

(Start: 1 @52332 has 1 MA's), (Start: 3 @52278 has 49 MA's), (Start: 4 @52266 has 195 MA's), (5, 52239), (Start: 7 @52221 has 3 MA's), (12, 52134), (20, 51948), (21, 51936), (23, 51909), (30, 51786),

Gene: Jiraiya\_60 Start: 52464, Stop: 51955, Start Num: 4

Candidate Starts for Jiraiya\_60:

(Start: 1 @52530 has 1 MA's), (Start: 3 @52476 has 49 MA's), (Start: 4 @52464 has 195 MA's), (5, 52437), (Start: 7 @52419 has 3 MA's), (12, 52332), (20, 52146), (21, 52134), (23, 52107), (30, 51984),

Gene: KLucky39\_58 Start: 51755, Stop: 51144, Start Num: 4

Candidate Starts for KLucky39\_58:

(Start: 1 @51821 has 1 MA's), (Start: 3 @51767 has 49 MA's), (Start: 4 @51755 has 195 MA's), (5, 51728), (Start: 7 @51710 has 3 MA's), (10, 51656), (12, 51623), (13, 51590), (17, 51500), (20, 51338), (21, 51326), (23, 51299), (24, 51284), (30, 51176), (31, 51161),

Gene: Kahve\_59 Start: 52701, Stop: 52135, Start Num: 4

Candidate Starts for Kahve\_59:

(Start: 1 @52767 has 1 MA's), (Start: 3 @52713 has 49 MA's), (Start: 4 @52701 has 195 MA's), (5, 52674), (Start: 7 @52656 has 3 MA's), (12, 52569), (17, 52488), (20, 52326), (21, 52314), (23, 52287), (30, 52164),

Gene: Kailash\_60 Start: 52781, Stop: 52173, Start Num: 4

Candidate Starts for Kailash\_60:

(Start: 1 @52847 has 1 MA's), (Start: 3 @52793 has 49 MA's), (Start: 4 @52781 has 195 MA's), (5, 52754), (Start: 7 @52736 has 3 MA's), (10, 52682), (12, 52649), (13, 52616), (17, 52526), (20, 52364), (21, 52352), (23, 52325), (24, 52310), (30, 52202),

Gene: Katniss\_60 Start: 52151, Stop: 51570, Start Num: 3

Candidate Starts for Katniss\_60:

(Start: 1 @52205 has 1 MA's), (Start: 3 @52151 has 49 MA's), (Start: 4 @52139 has 195 MA's), (5, 52112), (Start: 7 @52094 has 3 MA's), (12, 52007), (17, 51926), (20, 51764), (21, 51752), (23, 51725), (30, 51602),

Gene: Khan1\_60 Start: 52657, Stop: 52088, Start Num: 4

Candidate Starts for Khan1\_60:

(Start: 1 @52723 has 1 MA's), (Start: 3 @52669 has 49 MA's), (Start: 4 @52657 has 195 MA's), (Start: 7 @52612 has 3 MA's), (12, 52525), (17, 52444), (20, 52282), (21, 52270), (23, 52243), (30, 52120),

Gene: Kikipoo\_61 Start: 52691, Stop: 52122, Start Num: 4

Candidate Starts for Kikipoo\_61:

(Start: 1 @52757 has 1 MA's), (Start: 3 @52703 has 49 MA's), (Start: 4 @52691 has 195 MA's), (5, 52664), (Start: 7 @52646 has 3 MA's), (12, 52559), (17, 52478), (20, 52316), (21, 52304), (23, 52277), (30, 52154),

Gene: KingTut\_51 Start: 48382, Stop: 47795, Start Num: 3

Candidate Starts for KingTut\_51:

(Start: 3 @48382 has 49 MA's), (5, 48337), (Start: 7 @48319 has 3 MA's), (12, 48232), (17, 48151), (20, 47989), (21, 47977), (23, 47950), (30, 47827),

Gene: KingVeVeVe\_58 Start: 51721, Stop: 51098, Start Num: 3

Candidate Starts for KingVeVeVe\_58:

(Start: 1 @51775 has 1 MA's), (Start: 3 @51721 has 49 MA's), (Start: 4 @51709 has 195 MA's), (5, 51682), (Start: 7 @51664 has 3 MA's), (10, 51610), (12, 51577), (13, 51544), (17, 51454), (20, 51292), (21, 51280), (23, 51253), (24, 51238), (30, 51130),

Gene: KlimbOn\_59 Start: 52200, Stop: 51589, Start Num: 4

Candidate Starts for KlimbOn\_59:

(Start: 1 @52266 has 1 MA's), (Start: 3 @52212 has 49 MA's), (Start: 4 @52200 has 195 MA's), (5, 52173), (Start: 7 @52155 has 3 MA's), (10, 52101), (12, 52068), (13, 52035), (17, 51945), (20, 51783), (21, 51771), (23, 51744), (24, 51729), (30, 51621),

Gene: Kloppinator\_60 Start: 52351, Stop: 51743, Start Num: 4

Candidate Starts for Kloppinator\_60:

(Start: 1 @52417 has 1 MA's), (Start: 3 @52363 has 49 MA's), (Start: 4 @52351 has 195 MA's), (5, 52324), (Start: 7 @52306 has 3 MA's), (10, 52252), (12, 52219), (13, 52186), (17, 52096), (20, 51934), (21, 51922), (23, 51895), (24, 51880), (30, 51772),

Gene: Kwadwo\_58 Start: 52152, Stop: 51583, Start Num: 4

Candidate Starts for Kwadwo\_58:

(Start: 1 @52218 has 1 MA's), (Start: 3 @52164 has 49 MA's), (Start: 4 @52152 has 195 MA's), (5, 52125), (Start: 7 @52107 has 3 MA's), (12, 52020), (17, 51939), (20, 51777), (21, 51765), (23, 51738), (30, 51615),

Gene: Kwksand96\_60 Start: 52293, Stop: 51772, Start Num: 3

Candidate Starts for Kwksand96\_60:

(Start: 1 @52347 has 1 MA's), (Start: 3 @52293 has 49 MA's), (Start: 4 @52281 has 195 MA's), (5, 52254), (Start: 7 @52236 has 3 MA's), (12, 52149), (20, 51963), (21, 51951), (23, 51924), (30, 51801),

Gene: Labeouficaum\_60 Start: 52275, Stop: 51766, Start Num: 4

Candidate Starts for Labeouficaum\_60:

(Start: 1 @52341 has 1 MA's), (Start: 3 @52287 has 49 MA's), (Start: 4 @52275 has 195 MA's), (5, 52248), (Start: 7 @52230 has 3 MA's), (12, 52143), (20, 51957), (21, 51945), (23, 51918), (30, 51795),

Gene: LasagnaCat\_61 Start: 52564, Stop: 51995, Start Num: 4

Candidate Starts for LasagnaCat\_61:

(Start: 1 @52630 has 1 MA's), (Start: 3 @52576 has 49 MA's), (Start: 4 @52564 has 195 MA's), (5, 52537), (Start: 7 @52519 has 3 MA's), (12, 52432), (17, 52351), (20, 52189), (21, 52177), (23, 52150), (30, 52027),

Gene: Lasso\_60 Start: 52427, Stop: 51858, Start Num: 4

Candidate Starts for Lasso\_60:

(Start: 1 @52493 has 1 MA's), (Start: 3 @52439 has 49 MA's), (Start: 4 @52427 has 195 MA's), (5, 52400), (Start: 7 @52382 has 3 MA's), (12, 52295), (17, 52214), (20, 52052), (21, 52040), (23, 52013), (30, 51890),

Gene: LeeLot\_60 Start: 52782, Stop: 52213, Start Num: 4

Candidate Starts for LeeLot\_60:

(Start: 1 @52848 has 1 MA's), (Start: 3 @52794 has 49 MA's), (Start: 4 @52782 has 195 MA's), (5, 52755), (Start: 7 @52737 has 3 MA's), (12, 52650), (17, 52569), (20, 52407), (21, 52395), (23, 52368), (30, 52245),

Gene: Legolas\_61 Start: 52521, Stop: 52009, Start Num: 4

Candidate Starts for Legolas\_61:

(Start: 1 @52587 has 1 MA's), (Start: 3 @52533 has 49 MA's), (Start: 4 @52521 has 195 MA's), (5, 52494), (Start: 7 @52476 has 3 MA's), (Start: 11 @52413 has 1 MA's), (12, 52389), (20, 52203), (21, 52191), (23, 52164), (30, 52041),

Gene: LeiMonet\_61 Start: 52114, Stop: 51527, Start Num: 3

Candidate Starts for LeiMonet\_61:

(Start: 3 @52114 has 49 MA's), (5, 52069), (Start: 7 @52051 has 3 MA's), (12, 51964), (17, 51883), (20, 51721), (21, 51709), (23, 51682), (30, 51559),

Gene: LemonSlice\_60 Start: 52112, Stop: 51600, Start Num: 4

Candidate Starts for LemonSlice\_60:

(Start: 1 @52178 has 1 MA's), (Start: 3 @52124 has 49 MA's), (Start: 4 @52112 has 195 MA's), (5, 52085), (Start: 7 @52067 has 3 MA's), (Start: 11 @52004 has 1 MA's), (12, 51980), (20, 51794), (21, 51782), (23, 51755), (30, 51632),

Gene: Longacauda\_60 Start: 52541, Stop: 51972, Start Num: 4

Candidate Starts for Longacauda\_60:

(Start: 1 @52607 has 1 MA's), (Start: 3 @52553 has 49 MA's), (Start: 4 @52541 has 195 MA's), (Start: 7 @52496 has 3 MA's), (12, 52409), (17, 52328), (20, 52166), (21, 52154), (23, 52127), (30, 52004),

Gene: Lopsy\_57 Start: 51316, Stop: 50690, Start Num: 3

Candidate Starts for Lopsy\_57:

(Start: 3 @51316 has 49 MA's), (5, 51271), (Start: 7 @51253 has 3 MA's), (10, 51199), (12, 51166), (13, 51133), (17, 51043), (20, 50881), (21, 50869), (23, 50842), (24, 50827), (30, 50719),

Gene: LostAndPhound\_59 Start: 52202, Stop: 51615, Start Num: 3

Candidate Starts for LostAndPhound\_59:

(Start: 3 @52202 has 49 MA's), (5, 52157), (Start: 7 @52139 has 3 MA's), (12, 52052), (17, 51971), (20, 51809), (21, 51797), (23, 51770), (24, 51755), (30, 51647),

Gene: LuckyMarjie\_57 Start: 51902, Stop: 51291, Start Num: 4

Candidate Starts for LuckyMarjie\_57:

(Start: 1 @51968 has 1 MA's), (Start: 3 @51914 has 49 MA's), (Start: 4 @51902 has 195 MA's), (5, 51875), (Start: 7 @51857 has 3 MA's), (10, 51803), (12, 51770), (13, 51737), (17, 51647), (20, 51485), (21, 51473), (23, 51446), (30, 51323),

Gene: Lulumae\_57 Start: 51887, Stop: 51276, Start Num: 4

Candidate Starts for Lulumae\_57:

(Start: 1 @51953 has 1 MA's), (Start: 3 @51899 has 49 MA's), (Start: 4 @51887 has 195 MA's), (5, 51860), (Start: 7 @51842 has 3 MA's), (10, 51788), (12, 51755), (13, 51722), (17, 51632), (20, 51470), (21, 51458), (23, 51431), (30, 51308),

Gene: Lulwa\_57 Start: 51484, Stop: 50915, Start Num: 4

Candidate Starts for Lulwa\_57:

(Start: 1 @51550 has 1 MA's), (Start: 3 @51496 has 49 MA's), (Start: 4 @51484 has 195 MA's), (5, 51457), (Start: 7 @51439 has 3 MA's), (12, 51352), (17, 51271), (20, 51109), (21, 51097), (23, 51070), (30, 50947),

Gene: Lumine\_60 Start: 52371, Stop: 51760, Start Num: 4

Candidate Starts for Lumine\_60:

(Start: 1 @52437 has 1 MA's), (Start: 3 @52383 has 49 MA's), (Start: 4 @52371 has 195 MA's), (5, 52344), (Start: 7 @52326 has 3 MA's), (10, 52272), (12, 52239), (13, 52206), (17, 52116), (20, 51954), (21, 51942), (23, 51915), (30, 51792),

Gene: MRabcd\_59 Start: 52495, Stop: 51980, Start Num: 4

Candidate Starts for MRabcd\_59:

(Start: 1 @52561 has 1 MA's), (Start: 3 @52507 has 49 MA's), (Start: 4 @52495 has 195 MA's), (5, 52468), (Start: 7 @52450 has 3 MA's), (12, 52363), (20, 52171), (21, 52159), (23, 52132), (30, 52009),

Gene: Mag7\_60 Start: 52331, Stop: 51723, Start Num: 4

Candidate Starts for Mag7\_60:

(Start: 1 @52397 has 1 MA's), (Start: 3 @52343 has 49 MA's), (Start: 4 @52331 has 195 MA's), (5, 52304), (Start: 7 @52286 has 3 MA's), (10, 52232), (12, 52199), (13, 52166), (17, 52076), (20, 51914), (21, 51902), (23, 51875), (24, 51860), (30, 51752),

Gene: Magic8\_60 Start: 52483, Stop: 51914, Start Num: 4

Candidate Starts for Magic8\_60:

(Start: 1 @52549 has 1 MA's), (Start: 3 @52495 has 49 MA's), (Start: 4 @52483 has 195 MA's), (5, 52456), (Start: 7 @52438 has 3 MA's), (12, 52351), (17, 52270), (20, 52108), (21, 52096), (23, 52069), (24, 52054), (30, 51946),

Gene: Mana\_58 Start: 52167, Stop: 51598, Start Num: 4

Candidate Starts for Mana\_58:

(Start: 1 @52233 has 1 MA's), (Start: 3 @52179 has 49 MA's), (Start: 4 @52167 has 195 MA's), (5, 52140), (Start: 7 @52122 has 3 MA's), (12, 52035), (17, 51954), (20, 51792), (21, 51780), (23, 51753), (30, 51630),

Gene: Manad\_59 Start: 52463, Stop: 51885, Start Num: 3

Candidate Starts for Manad\_59:

(Start: 1 @52517 has 1 MA's), (Start: 3 @52463 has 49 MA's), (Start: 4 @52451 has 195 MA's), (5, 52424), (Start: 7 @52406 has 3 MA's), (10, 52352), (Start: 11 @52343 has 1 MA's), (12, 52319), (17, 52238), (20, 52076), (21, 52064), (23, 52037), (24, 52022), (30, 51914),

Gene: Maru\_59 Start: 52606, Stop: 52037, Start Num: 4

Candidate Starts for Maru\_59:

(Start: 1 @52672 has 1 MA's), (Start: 3 @52618 has 49 MA's), (Start: 4 @52606 has 195 MA's), (5, 52579), (Start: 7 @52561 has 3 MA's), (12, 52474), (17, 52393), (20, 52231), (21, 52219), (23, 52192), (30, 52069),

Gene: Maskar\_61 Start: 52401, Stop: 51892, Start Num: 4

Candidate Starts for Maskar\_61:

(Start: 1 @52467 has 1 MA's), (Start: 3 @52413 has 49 MA's), (Start: 4 @52401 has 195 MA's), (5, 52374), (Start: 7 @52356 has 3 MA's), (12, 52269), (20, 52083), (21, 52071), (23, 52044), (30, 51921),

Gene: Matalotodo\_58 Start: 52195, Stop: 51608, Start Num: 3

Candidate Starts for Matalotodo\_58:

(Start: 3 @52195 has 49 MA's), (5, 52150), (Start: 7 @52132 has 3 MA's), (12, 52045), (17, 51964), (20, 51802), (21, 51790), (23, 51763), (30, 51640),

Gene: Mcshane\_58 Start: 52165, Stop: 51596, Start Num: 4

Candidate Starts for Mcshane\_58:

(Start: 1 @52231 has 1 MA's), (Start: 3 @52177 has 49 MA's), (Start: 4 @52165 has 195 MA's), (5, 52138), (Start: 7 @52120 has 3 MA's), (12, 52033), (17, 51952), (20, 51790), (21, 51778), (23, 51751), (30, 51628),

Gene: Megamind20\_60 Start: 52108, Stop: 51584, Start Num: 7

Candidate Starts for Megamind20\_60:

(Start: 1 @52219 has 1 MA's), (Start: 3 @52165 has 49 MA's), (Start: 4 @52153 has 195 MA's), (5, 52126), (Start: 7 @52108 has 3 MA's), (12, 52021), (17, 51940), (20, 51778), (21, 51766), (23, 51739), (30, 51616),

Gene: Megatron\_60 Start: 52691, Stop: 52110, Start Num: 3

Candidate Starts for Megatron\_60:

(Start: 1 @52745 has 1 MA's), (Start: 3 @52691 has 49 MA's), (Start: 4 @52679 has 195 MA's), (5, 52652), (Start: 7 @52634 has 3 MA's), (12, 52547), (17, 52466), (20, 52304), (21, 52292), (23, 52265), (30, 52142),

Gene: Melc17\_59 Start: 52996, Stop: 52427, Start Num: 4

Candidate Starts for Melc17\_59:

(Start: 1 @53062 has 1 MA's), (Start: 3 @53008 has 49 MA's), (Start: 4 @52996 has 195 MA's), (5, 52969), (Start: 7 @52951 has 3 MA's), (12, 52864), (17, 52783), (20, 52621), (21, 52609), (23, 52582), (24, 52567), (30, 52459),

Gene: MelsMeow\_60 Start: 52454, Stop: 51945, Start Num: 4

Candidate Starts for MelsMeow\_60:

(Start: 1 @52520 has 1 MA's), (Start: 3 @52466 has 49 MA's), (Start: 4 @52454 has 195 MA's), (5, 52427), (Start: 7 @52409 has 3 MA's), (12, 52322), (20, 52136), (21, 52124), (23, 52097), (30, 51974),

Gene: Mesh1\_61 Start: 52743, Stop: 52129, Start Num: 4

Candidate Starts for Mesh1\_61:

(Start: 1 @52809 has 1 MA's), (Start: 3 @52755 has 49 MA's), (Start: 4 @52743 has 195 MA's), (5, 52716), (Start: 7 @52698 has 3 MA's), (10, 52644), (12, 52611), (13, 52578), (17, 52485), (20, 52323), (21, 52311), (23, 52284), (30, 52161),

Gene: MichaelPhcott\_60 Start: 52328, Stop: 51720, Start Num: 4

Candidate Starts for MichaelPhcott\_60:

(Start: 1 @52394 has 1 MA's), (Start: 3 @52340 has 49 MA's), (Start: 4 @52328 has 195 MA's), (5, 52301), (Start: 7 @52283 has 3 MA's), (10, 52229), (12, 52196), (13, 52163), (17, 52073), (20, 51911), (21, 51899), (23, 51872), (24, 51857), (30, 51749),

Gene: Mikota\_58 Start: 51706, Stop: 51095, Start Num: 4

Candidate Starts for Mikota\_58:

(Start: 1 @51772 has 1 MA's), (Start: 3 @51718 has 49 MA's), (Start: 4 @51706 has 195 MA's), (5, 51679), (Start: 7 @51661 has 3 MA's), (10, 51607), (12, 51574), (13, 51541), (17, 51451), (20, 51289), (21, 51277), (23, 51250), (24, 51235), (30, 51127),

Gene: MiniBoss\_57 Start: 51512, Stop: 50901, Start Num: 4

Candidate Starts for MiniBoss\_57:

(Start: 1 @51578 has 1 MA's), (Start: 3 @51524 has 49 MA's), (Start: 4 @51512 has 195 MA's), (5, 51485), (Start: 7 @51467 has 3 MA's), (10, 51413), (12, 51380), (13, 51347), (17, 51257), (20, 51095), (21, 51083), (23, 51056), (30, 50933),

Gene: MitKao\_59 Start: 52177, Stop: 51608, Start Num: 4

Candidate Starts for MitKao\_59:

(Start: 1 @52243 has 1 MA's), (Start: 3 @52189 has 49 MA's), (Start: 4 @52177 has 195 MA's), (5, 52150), (Start: 7 @52132 has 3 MA's), (12, 52045), (17, 51964), (20, 51802), (21, 51790), (23, 51763), (30, 51640),

Gene: Morgushi\_59 Start: 52166, Stop: 51597, Start Num: 4

Candidate Starts for Morgushi\_59:

(Start: 1 @52232 has 1 MA's), (Start: 3 @52178 has 49 MA's), (Start: 4 @52166 has 195 MA's), (5, 52139), (Start: 7 @52121 has 3 MA's), (12, 52034), (17, 51953), (20, 51791), (21, 51779), (23, 51752), (30, 51629),

Gene: Morty\_60 Start: 52688, Stop: 52119, Start Num: 4

Candidate Starts for Morty\_60:

(Start: 1 @52754 has 1 MA's), (Start: 3 @52700 has 49 MA's), (Start: 4 @52688 has 195 MA's), (5, 52661), (Start: 7 @52643 has 3 MA's), (12, 52556), (17, 52475), (20, 52313), (21, 52301), (23, 52274), (30, 52151),

Gene: Mosaic\_58 Start: 52171, Stop: 51602, Start Num: 4

Candidate Starts for Mosaic\_58:

(Start: 1 @52237 has 1 MA's), (Start: 3 @52183 has 49 MA's), (Start: 4 @52171 has 195 MA's), (5, 52144), (Start: 7 @52126 has 3 MA's), (12, 52039), (17, 51958), (20, 51796), (21, 51784), (23, 51757), (30, 51634),

Gene: MrPhizzler\_60 Start: 52634, Stop: 52065, Start Num: 4

Candidate Starts for MrPhizzler\_60:

(Start: 1 @52700 has 1 MA's), (Start: 3 @52646 has 49 MA's), (Start: 4 @52634 has 195 MA's), (Start: 7 @52589 has 3 MA's), (12, 52502), (17, 52421), (20, 52259), (21, 52247), (23, 52220), (30, 52097),

Gene: Mulan\_59 Start: 52405, Stop: 51836, Start Num: 4

Candidate Starts for Mulan\_59:

(Start: 1 @52471 has 1 MA's), (Start: 3 @52417 has 49 MA's), (Start: 4 @52405 has 195 MA's), (5, 52378), (Start: 7 @52360 has 3 MA's), (12, 52273), (17, 52192), (20, 52030), (21, 52018), (23, 51991), (30, 51868),

Gene: Murdoc\_58 Start: 52167, Stop: 51598, Start Num: 4

Candidate Starts for Murdoc\_58:

(Start: 1 @52233 has 1 MA's), (Start: 3 @52179 has 49 MA's), (Start: 4 @52167 has 195 MA's), (5, 52140), (Start: 7 @52122 has 3 MA's), (12, 52035), (17, 51954), (20, 51792), (21, 51780), (23, 51753), (30, 51630),

Gene: Mutante\_59 Start: 52177, Stop: 51608, Start Num: 4

Candidate Starts for Mutante\_59:

(Start: 1 @52243 has 1 MA's), (Start: 3 @52189 has 49 MA's), (Start: 4 @52177 has 195 MA's), (Start: 7 @52132 has 3 MA's), (12, 52045), (17, 51964), (20, 51802), (21, 51790), (23, 51763), (30, 51640),

Gene: Nacho\_0061 Start: 52937, Stop: 52314, Start Num: 3

Candidate Starts for Nacho\_0061:

(Start: 1 @52991 has 1 MA's), (Start: 3 @52937 has 49 MA's), (Start: 4 @52925 has 195 MA's), (5, 52898), (Start: 7 @52880 has 3 MA's), (10, 52826), (12, 52793), (13, 52760), (17, 52670), (20, 52508), (21, 52496), (23, 52469), (24, 52454), (30, 52346), (31, 52331),

Gene: Nathan\_60 Start: 52258, Stop: 51689, Start Num: 4

Candidate Starts for Nathan\_60:

(Start: 1 @52324 has 1 MA's), (Start: 3 @52270 has 49 MA's), (Start: 4 @52258 has 195 MA's), (Start: 7 @52213 has 3 MA's), (12, 52126), (17, 52045), (20, 51883), (21, 51871), (23, 51844), (30, 51721),

Gene: Newman\_58 Start: 52203, Stop: 51592, Start Num: 4

Candidate Starts for Newman\_58:

(Start: 1 @52269 has 1 MA's), (Start: 3 @52215 has 49 MA's), (Start: 4 @52203 has 195 MA's), (5, 52176), (Start: 7 @52158 has 3 MA's), (10, 52104), (12, 52071), (13, 52038), (17, 51948), (20, 51786), (21, 51774), (23, 51747), (24, 51732), (30, 51624),

Gene: Nicole21\_60 Start: 52456, Stop: 51845, Start Num: 4

Candidate Starts for Nicole21\_60:



(Start: 1 @52522 has 1 MA's), (Start: 3 @52468 has 49 MA's), (Start: 4 @52456 has 195 MA's), (5, 52429), (Start: 7 @52411 has 3 MA's), (10, 52357), (12, 52324), (13, 52291), (17, 52201), (20, 52039), (21, 52027), (23, 52000), (30, 51877),

Gene: Numberten\_59 Start: 52400, Stop: 51789, Start Num: 4

Candidate Starts for Numberten\_59:

(Start: 1 @52466 has 1 MA's), (Start: 3 @52412 has 49 MA's), (Start: 4 @52400 has 195 MA's), (5, 52373), (Start: 7 @52355 has 3 MA's), (10, 52301), (12, 52268), (13, 52235), (17, 52145), (20, 51983), (21, 51971), (23, 51944), (24, 51929), (30, 51821), (31, 51806),

Gene: OSmaximus\_61 Start: 52921, Stop: 52352, Start Num: 4

Candidate Starts for OSmaximus\_61:

(Start: 1 @52987 has 1 MA's), (Start: 3 @52933 has 49 MA's), (Start: 4 @52921 has 195 MA's), (5, 52894), (Start: 7 @52876 has 3 MA's), (12, 52789), (17, 52708), (20, 52546), (21, 52534), (23, 52507), (24, 52492), (30, 52384),

Gene: Oline\_60 Start: 52279, Stop: 51770, Start Num: 4

Candidate Starts for Oline\_60:

(Start: 1 @52345 has 1 MA's), (Start: 3 @52291 has 49 MA's), (Start: 4 @52279 has 195 MA's), (5, 52252), (Start: 7 @52234 has 3 MA's), (12, 52147), (20, 51961), (21, 51949), (23, 51922), (30, 51799),

Gene: Olive\_59 Start: 52403, Stop: 51780, Start Num: 3

Candidate Starts for Olive\_59:

(Start: 1 @52457 has 1 MA's), (Start: 3 @52403 has 49 MA's), (Start: 4 @52391 has 195 MA's), (5, 52364), (Start: 7 @52346 has 3 MA's), (10, 52292), (12, 52259), (13, 52226), (17, 52136), (20, 51974), (21, 51962), (23, 51935), (24, 51920), (30, 51812), (31, 51797),

Gene: OliverWalter\_58 Start: 52210, Stop: 51599, Start Num: 4

Candidate Starts for OliverWalter\_58:

(Start: 1 @52276 has 1 MA's), (Start: 3 @52222 has 49 MA's), (Start: 4 @52210 has 195 MA's), (5, 52183), (Start: 7 @52165 has 3 MA's), (10, 52111), (12, 52078), (13, 52045), (17, 51955), (20, 51793), (21, 51781), (23, 51754), (24, 51739), (30, 51631),

Gene: Oosterbaan\_59 Start: 52457, Stop: 51888, Start Num: 4

Candidate Starts for Oosterbaan\_59:

(Start: 1 @52523 has 1 MA's), (Start: 3 @52469 has 49 MA's), (Start: 4 @52457 has 195 MA's), (5, 52430), (Start: 7 @52412 has 3 MA's), (12, 52325), (17, 52244), (20, 52082), (21, 52070), (23, 52043), (30, 51920),

Gene: Orfeu\_57 Start: 52190, Stop: 51561, Start Num: 3

Candidate Starts for Orfeu\_57:

(Start: 3 @52190 has 49 MA's), (5, 52145), (Start: 7 @52127 has 3 MA's), (10, 52073), (12, 52040), (13, 52007), (17, 51917), (20, 51755), (21, 51743), (23, 51716), (24, 51701), (30, 51593),

Gene: Orion\_61 Start: 52119, Stop: 51550, Start Num: 4

Candidate Starts for Orion\_61:

(Start: 1 @52185 has 1 MA's), (Start: 3 @52131 has 49 MA's), (Start: 4 @52119 has 195 MA's), (5, 52092), (Start: 7 @52074 has 3 MA's), (12, 51987), (17, 51906), (20, 51744), (21, 51732), (23, 51705), (30, 51582),

Gene: Orwigg\_59 Start: 52099, Stop: 51530, Start Num: 4

Candidate Starts for Orwigg\_59:

(Start: 1 @52165 has 1 MA's), (Start: 3 @52111 has 49 MA's), (Start: 4 @52099 has 195 MA's), (5, 52072), (Start: 7 @52054 has 3 MA's), (12, 51967), (17, 51886), (20, 51724), (21, 51712), (23, 51685), (30, 51562),

Gene: PG1\_60 Start: 52702, Stop: 52121, Start Num: 3

Candidate Starts for PG1\_60:

(Start: 1 @52756 has 1 MA's), (Start: 3 @52702 has 49 MA's), (Start: 4 @52690 has 195 MA's), (5, 52663), (Start: 7 @52645 has 3 MA's), (12, 52558), (17, 52477), (20, 52315), (21, 52303), (23, 52276), (30, 52153),

Gene: Pacifista\_58 Start: 52174, Stop: 51563, Start Num: 4

Candidate Starts for Pacifista\_58:

(Start: 1 @52240 has 1 MA's), (Start: 3 @52186 has 49 MA's), (Start: 4 @52174 has 195 MA's), (5, 52147), (Start: 7 @52129 has 3 MA's), (10, 52075), (12, 52042), (13, 52009), (17, 51919), (20, 51757), (21, 51745), (23, 51718), (30, 51595),

Gene: PenguinLover67\_55 Start: 52752, Stop: 52183, Start Num: 9

Candidate Starts for PenguinLover67\_55:

(Start: 9 @52752 has 1 MA's), (19, 52500), (21, 52362), (25, 52311), (27, 52305), (28, 52296), (29, 52248),

Gene: Phamished\_61 Start: 52381, Stop: 51770, Start Num: 4

Candidate Starts for Phamished\_61:

(Start: 1 @52447 has 1 MA's), (Start: 3 @52393 has 49 MA's), (Start: 4 @52381 has 195 MA's), (5, 52354), (Start: 7 @52336 has 3 MA's), (12, 52249), (13, 52216), (17, 52126), (20, 51964), (21, 51952), (23, 51925), (24, 51910), (30, 51802), (31, 51787),

Gene: Phareon\_58 Start: 51896, Stop: 51285, Start Num: 4

Candidate Starts for Phareon\_58:

(Start: 1 @51962 has 1 MA's), (Start: 3 @51908 has 49 MA's), (Start: 4 @51896 has 195 MA's), (5, 51869), (Start: 7 @51851 has 3 MA's), (10, 51797), (12, 51764), (13, 51731), (17, 51641), (20, 51479), (21, 51467), (23, 51440), (30, 51317),

Gene: PhatCats2014\_60 Start: 52695, Stop: 52129, Start Num: 4

Candidate Starts for PhatCats2014\_60:

(Start: 1 @52761 has 1 MA's), (Start: 3 @52707 has 49 MA's), (Start: 4 @52695 has 195 MA's), (5, 52668), (Start: 7 @52650 has 3 MA's), (12, 52563), (17, 52482), (20, 52320), (21, 52308), (23, 52281), (30, 52158),

Gene: PhatLouie\_61 Start: 52725, Stop: 52102, Start Num: 3

Candidate Starts for PhatLouie\_61:

(Start: 1 @52779 has 1 MA's), (Start: 3 @52725 has 49 MA's), (Start: 4 @52713 has 195 MA's), (5, 52686), (Start: 7 @52668 has 3 MA's), (10, 52614), (12, 52581), (13, 52548), (17, 52458), (20, 52296), (21, 52284), (23, 52257), (30, 52134),

Gene: PhenghisKhan\_60 Start: 52350, Stop: 51829, Start Num: 3

Candidate Starts for PhenghisKhan\_60:

(Start: 1 @52404 has 1 MA's), (Start: 3 @52350 has 49 MA's), (Start: 4 @52338 has 195 MA's), (5, 52311), (Start: 7 @52293 has 3 MA's), (12, 52206), (20, 52020), (21, 52008), (23, 51981), (30, 51858),

Gene: Pherdinand\_61 Start: 52458, Stop: 51892, Start Num: 4

Candidate Starts for Pherdinand\_61:

(Start: 1 @52524 has 1 MA's), (Start: 3 @52470 has 49 MA's), (Start: 4 @52458 has 195 MA's), (5, 52431), (Start: 7 @52413 has 3 MA's), (10, 52359), (Start: 11 @52350 has 1 MA's), (12, 52326), (17, 52245), (20, 52083), (21, 52071), (23, 52044), (24, 52029), (30, 51921),

Gene: Phergie\_61 Start: 52330, Stop: 51821, Start Num: 4

Candidate Starts for Phergie\_61:

(Start: 1 @52396 has 1 MA's), (Start: 3 @52342 has 49 MA's), (Start: 4 @52330 has 195 MA's), (5, 52303), (Start: 7 @52285 has 3 MA's), (12, 52198), (20, 52012), (21, 52000), (23, 51973), (30, 51850),

Gene: Phipps\_59 Start: 51979, Stop: 51398, Start Num: 3

Candidate Starts for Phipps\_59:

(Start: 1 @52033 has 1 MA's), (Start: 3 @51979 has 49 MA's), (Start: 4 @51967 has 195 MA's), (5, 51940), (Start: 7 @51922 has 3 MA's), (12, 51835), (17, 51754), (20, 51592), (21, 51580), (23, 51553), (30, 51430),

Gene: Phleuron\_60 Start: 52331, Stop: 51723, Start Num: 4

Candidate Starts for Phleuron\_60:

(Start: 1 @52397 has 1 MA's), (Start: 3 @52343 has 49 MA's), (Start: 4 @52331 has 195 MA's), (5, 52304), (Start: 7 @52286 has 3 MA's), (10, 52232), (12, 52199), (13, 52166), (17, 52076), (20, 51914), (21, 51902), (23, 51875), (24, 51860), (30, 51752),

Gene: PhrankReynolds\_59 Start: 52335, Stop: 51826, Start Num: 4

Candidate Starts for PhrankReynolds\_59:

(Start: 1 @52401 has 1 MA's), (Start: 3 @52347 has 49 MA's), (Start: 4 @52335 has 195 MA's), (5, 52308), (Start: 7 @52290 has 3 MA's), (12, 52203), (20, 52017), (21, 52005), (23, 51978), (30, 51855),

Gene: PhrodoBaggins\_60 Start: 52567, Stop: 51986, Start Num: 3

Candidate Starts for PhrodoBaggins\_60:

(Start: 1 @52621 has 1 MA's), (Start: 3 @52567 has 49 MA's), (Start: 4 @52555 has 195 MA's), (5, 52528), (Start: 7 @52510 has 3 MA's), (12, 52423), (17, 52342), (20, 52180), (21, 52168), (23, 52141), (30, 52018),

Gene: Phunky\_58 Start: 52193, Stop: 51582, Start Num: 4

Candidate Starts for Phunky\_58:

(Start: 1 @52259 has 1 MA's), (Start: 3 @52205 has 49 MA's), (Start: 4 @52193 has 195 MA's), (5, 52166), (Start: 7 @52148 has 3 MA's), (10, 52094), (12, 52061), (13, 52028), (17, 51938), (20, 51776), (21, 51764), (23, 51737), (30, 51614),

Gene: Piglet\_0059 Start: 52679, Stop: 52098, Start Num: 3

Candidate Starts for Piglet\_0059:

(Start: 1 @52733 has 1 MA's), (Start: 3 @52679 has 49 MA's), (Start: 4 @52667 has 195 MA's), (5, 52640), (Start: 7 @52622 has 3 MA's), (12, 52535), (17, 52454), (20, 52292), (21, 52280), (23, 52253), (30, 52130),

Gene: PinheadLarry\_60 Start: 52692, Stop: 52123, Start Num: 4

Candidate Starts for PinheadLarry\_60:

(Start: 1 @52758 has 1 MA's), (Start: 3 @52704 has 49 MA's), (Start: 4 @52692 has 195 MA's), (5, 52665), (Start: 7 @52647 has 3 MA's), (12, 52560), (17, 52479), (20, 52317), (21, 52305), (23, 52278), (30, 52155),

Gene: Pinkman\_59 Start: 52285, Stop: 51764, Start Num: 3

Candidate Starts for Pinkman\_59:

(Start: 1 @52339 has 1 MA's), (Start: 3 @52285 has 49 MA's), (Start: 4 @52273 has 195 MA's), (5, 52246), (Start: 7 @52228 has 3 MA's), (12, 52141), (20, 51955), (21, 51943), (23, 51916), (30, 51793),

Gene: Pipsqueak\_58 Start: 52135, Stop: 51611, Start Num: 3

Candidate Starts for Pipsqueak\_58:

(Start: 1 @52189 has 1 MA's), (Start: 3 @52135 has 49 MA's), (Start: 4 @52123 has 195 MA's), (5, 52096), (Start: 7 @52078 has 3 MA's), (Start: 11 @52015 has 1 MA's), (12, 51991), (20, 51805), (21, 51793), (23, 51766), (30, 51643),

Gene: Placalicious\_59 Start: 52700, Stop: 52113, Start Num: 3

Candidate Starts for Placalicious\_59:

(Start: 3 @52700 has 49 MA's), (5, 52655), (Start: 7 @52637 has 3 MA's), (12, 52550), (17, 52469), (20, 52307), (21, 52295), (23, 52268), (30, 52145),

Gene: Plata\_60 Start: 52425, Stop: 51916, Start Num: 4

Candidate Starts for Plata\_60:

(Start: 1 @52491 has 1 MA's), (Start: 3 @52437 has 49 MA's), (Start: 4 @52425 has 195 MA's), (5, 52398), (Start: 7 @52380 has 3 MA's), (12, 52293), (20, 52107), (21, 52095), (23, 52068), (30, 51945),

Gene: Plmatters\_58 Start: 52197, Stop: 51586, Start Num: 4

Candidate Starts for Plmatters\_58:

(Start: 1 @52263 has 1 MA's), (Start: 3 @52209 has 49 MA's), (Start: 4 @52197 has 195 MA's), (5, 52170), (Start: 7 @52152 has 3 MA's), (10, 52098), (12, 52065), (13, 52032), (17, 51942), (20, 51780), (21, 51768), (23, 51741), (30, 51618),

Gene: Podrick\_57 Start: 51452, Stop: 50922, Start Num: 3

Candidate Starts for Podrick\_57:

(Start: 3 @51452 has 49 MA's), (5, 51407), (Start: 7 @51389 has 3 MA's), (12, 51302), (20, 51116), (21, 51104), (23, 51077), (30, 50954),

Gene: Pops\_59 Start: 52382, Stop: 51774, Start Num: 4

Candidate Starts for Pops\_59:

(Start: 1 @52448 has 1 MA's), (Start: 3 @52394 has 49 MA's), (Start: 4 @52382 has 195 MA's), (5, 52355), (Start: 7 @52337 has 3 MA's), (10, 52283), (12, 52250), (13, 52217), (17, 52127), (20, 51965), (21, 51953), (23, 51926), (24, 51911), (30, 51803),

Gene: Potter\_58 Start: 52200, Stop: 51619, Start Num: 3

Candidate Starts for Potter\_58:

(Start: 1 @52254 has 1 MA's), (Start: 3 @52200 has 49 MA's), (Start: 4 @52188 has 195 MA's), (5, 52161), (Start: 7 @52143 has 3 MA's), (12, 52056), (17, 51975), (20, 51813), (21, 51801), (23, 51774), (30, 51651),

Gene: Prickles\_61 Start: 52688, Stop: 52077, Start Num: 4

Candidate Starts for Prickles\_61:

(Start: 1 @52754 has 1 MA's), (Start: 3 @52700 has 49 MA's), (Start: 4 @52688 has 195 MA's), (5, 52661), (Start: 7 @52643 has 3 MA's), (10, 52589), (12, 52556), (13, 52523), (17, 52433), (20, 52271), (21, 52259), (23, 52232), (24, 52217), (30, 52109), (31, 52094),

Gene: Puhltonio\_59 Start: 52462, Stop: 51893, Start Num: 4

Candidate Starts for Puhltonio\_59:

(Start: 1 @52528 has 1 MA's), (Start: 3 @52474 has 49 MA's), (Start: 4 @52462 has 195 MA's), (5, 52435), (Start: 7 @52417 has 3 MA's), (12, 52330), (17, 52249), (20, 52087), (21, 52075), (23, 52048), (30, 51925),

Gene: Quisquilliae\_60 Start: 52467, Stop: 51886, Start Num: 3

Candidate Starts for Quisquilliae\_60:

(Start: 1 @52521 has 1 MA's), (Start: 3 @52467 has 49 MA's), (Start: 4 @52455 has 195 MA's), (5, 52428), (Start: 7 @52410 has 3 MA's), (12, 52323), (17, 52242), (20, 52080), (21, 52068), (23, 52041), (30, 51918),

Gene: RedMaple\_61 Start: 52930, Stop: 52319, Start Num: 4

Candidate Starts for RedMaple\_61:

(Start: 1 @52996 has 1 MA's), (Start: 3 @52942 has 49 MA's), (Start: 4 @52930 has 195 MA's), (5, 52903), (Start: 7 @52885 has 3 MA's), (10, 52831), (12, 52798), (13, 52765), (17, 52675), (20, 52513), (21, 52501), (23, 52474), (24, 52459), (30, 52351),

Gene: Ricotta\_59 Start: 52187, Stop: 51576, Start Num: 4

Candidate Starts for Ricotta\_59:

(Start: 1 @52253 has 1 MA's), (Start: 3 @52199 has 49 MA's), (Start: 4 @52187 has 195 MA's), (5, 52160), (Start: 7 @52142 has 3 MA's), (10, 52088), (12, 52055), (13, 52022), (17, 51932), (20, 51770), (21, 51758), (23, 51731), (30, 51608),

Gene: Riggan\_60 Start: 52487, Stop: 51876, Start Num: 4

Candidate Starts for Riggan\_60:

(Start: 1 @52553 has 1 MA's), (Start: 3 @52499 has 49 MA's), (Start: 4 @52487 has 195 MA's), (5, 52460), (Start: 7 @52442 has 3 MA's), (10, 52388), (12, 52355), (13, 52322), (17, 52232), (20, 52070), (21, 52058), (23, 52031), (30, 51908),

Gene: Rimu\_62 Start: 52655, Stop: 52086, Start Num: 4

Candidate Starts for Rimu\_62:

(Start: 1 @52721 has 1 MA's), (Start: 3 @52667 has 49 MA's), (Start: 4 @52655 has 195 MA's), (Start: 7 @52610 has 3 MA's), (12, 52523), (17, 52442), (20, 52280), (21, 52268), (23, 52241), (30, 52118),

Gene: Rita130\_56 Start: 52477, Stop: 51968, Start Num: 8

Candidate Starts for Rita130\_56:

(2, 52594), (8, 52477), (18, 52285), (22, 52144), (26, 52087),

Gene: Riverton\_59 Start: 52370, Stop: 51804, Start Num: 7

Candidate Starts for Riverton\_59:

(Start: 1 @52481 has 1 MA's), (Start: 3 @52427 has 49 MA's), (Start: 4 @52415 has 195 MA's), (5, 52388), (Start: 7 @52370 has 3 MA's), (10, 52316), (12, 52283), (13, 52250), (17, 52160), (20, 51998), (21, 51986), (23, 51959), (24, 51944), (30, 51836), (31, 51821),

Gene: Robyn\_59 Start: 52289, Stop: 51726, Start Num: 7

Candidate Starts for Robyn\_59:

(Start: 1 @52400 has 1 MA's), (Start: 3 @52346 has 49 MA's), (Start: 4 @52334 has 195 MA's), (5, 52307), (Start: 7 @52289 has 3 MA's), (10, 52235), (12, 52202), (13, 52169), (17, 52079), (20, 51917), (21, 51905), (23, 51878), (24, 51863), (30, 51755),

Gene: Roliet\_57 Start: 51484, Stop: 50918, Start Num: 7

Candidate Starts for Roliet\_57:

(Start: 1 @51595 has 1 MA's), (Start: 3 @51541 has 49 MA's), (Start: 4 @51529 has 195 MA's), (5, 51502), (Start: 7 @51484 has 3 MA's), (10, 51430), (12, 51397), (13, 51364), (17, 51274), (20, 51112), (21, 51100), (23, 51073), (24, 51058), (30, 50950),

Gene: Roscoe\_60 Start: 52633, Stop: 52022, Start Num: 4

Candidate Starts for Roscoe\_60:

(Start: 1 @52699 has 1 MA's), (Start: 3 @52645 has 49 MA's), (Start: 4 @52633 has 195 MA's), (5, 52606), (Start: 7 @52588 has 3 MA's), (10, 52534), (12, 52501), (13, 52468), (17, 52378), (20, 52216), (21, 52204), (23, 52177), (24, 52162), (30, 52054), (31, 52039),

Gene: Roy17\_58 Start: 51887, Stop: 51276, Start Num: 4

Candidate Starts for Roy17\_58:

(Start: 1 @51953 has 1 MA's), (Start: 3 @51899 has 49 MA's), (Start: 4 @51887 has 195 MA's), (5, 51860), (Start: 7 @51842 has 3 MA's), (10, 51788), (12, 51755), (13, 51722), (17, 51632), (20, 51470), (21, 51458), (23, 51431), (30, 51308),

Gene: SDcharge11\_59 Start: 51701, Stop: 51090, Start Num: 4

Candidate Starts for SDcharge11\_59:

(Start: 1 @51767 has 1 MA's), (Start: 3 @51713 has 49 MA's), (Start: 4 @51701 has 195 MA's), (5, 51674), (Start: 7 @51656 has 3 MA's), (10, 51602), (12, 51569), (13, 51536), (17, 51446), (20, 51284), (21, 51272), (23, 51245), (24, 51230), (30, 51122),

Gene: Saguaro\_57 Start: 52820, Stop: 52314, Start Num: 11

Candidate Starts for Saguaro\_57:

(6, 52901), (10, 52829), (Start: 11 @52820 has 1 MA's), (14, 52763), (15, 52721), (16, 52712), (18, 52628), (21, 52481), (22, 52469), (23, 52451), (27, 52424),

Gene: SassyCat97\_58 Start: 52191, Stop: 51610, Start Num: 3

Candidate Starts for SassyCat97\_58:

(Start: 1 @52245 has 1 MA's), (Start: 3 @52191 has 49 MA's), (Start: 4 @52179 has 195 MA's), (5, 52152), (Start: 7 @52134 has 3 MA's), (12, 52047), (17, 51966), (20, 51804), (21, 51792), (23, 51765), (30, 51642),

Gene: Schadenfreude\_59 Start: 52059, Stop: 51451, Start Num: 4

Candidate Starts for Schadenfreude\_59:

(Start: 1 @52125 has 1 MA's), (Start: 3 @52071 has 49 MA's), (Start: 4 @52059 has 195 MA's), (5, 52032), (Start: 7 @52014 has 3 MA's), (10, 51960), (12, 51927), (13, 51894), (17, 51804), (20, 51642), (21, 51630), (23, 51603), (24, 51588), (30, 51480),

Gene: Schueller\_60 Start: 52416, Stop: 51907, Start Num: 4

Candidate Starts for Schueller\_60:

(Start: 1 @52482 has 1 MA's), (Start: 3 @52428 has 49 MA's), (Start: 4 @52416 has 195 MA's), (5, 52389), (Start: 7 @52371 has 3 MA's), (12, 52284), (20, 52098), (21, 52086), (23, 52059), (30, 51936),

Gene: Scoot17C\_60 Start: 52121, Stop: 51552, Start Num: 4

Candidate Starts for Scoot17C\_60:

(Start: 1 @52187 has 1 MA's), (Start: 3 @52133 has 49 MA's), (Start: 4 @52121 has 195 MA's), (5, 52094), (Start: 7 @52076 has 3 MA's), (12, 51989), (17, 51908), (20, 51746), (21, 51734), (23, 51707), (30, 51584),

Gene: Scrick\_60 Start: 52193, Stop: 51624, Start Num: 4

Candidate Starts for Scrick\_60:

(Start: 1 @52259 has 1 MA's), (Start: 3 @52205 has 49 MA's), (Start: 4 @52193 has 195 MA's), (5, 52166), (Start: 7 @52148 has 3 MA's), (12, 52061), (17, 51980), (20, 51818), (21, 51806), (23, 51779), (30, 51656),

Gene: Serendipity\_59 Start: 52476, Stop: 51907, Start Num: 4

Candidate Starts for Serendipity\_59:

(Start: 1 @52542 has 1 MA's), (Start: 3 @52488 has 49 MA's), (Start: 4 @52476 has 195 MA's), (5, 52449), (Start: 7 @52431 has 3 MA's), (12, 52344), (17, 52263), (20, 52101), (21, 52089), (23, 52062), (30, 51939),

Gene: Serpentine\_0059 Start: 52571, Stop: 51990, Start Num: 3

Candidate Starts for Serpentine\_0059:

(Start: 1 @52625 has 1 MA's), (Start: 3 @52571 has 49 MA's), (Start: 4 @52559 has 195 MA's), (5, 52532), (Start: 7 @52514 has 3 MA's), (12, 52427), (17, 52346), (20, 52184), (21, 52172), (23, 52145), (30, 52022),

Gene: Sheila\_57 Start: 51561, Stop: 50950, Start Num: 4

Candidate Starts for Sheila\_57:

(Start: 1 @51627 has 1 MA's), (Start: 3 @51573 has 49 MA's), (Start: 4 @51561 has 195 MA's), (5, 51534), (Start: 7 @51516 has 3 MA's), (10, 51462), (12, 51429), (13, 51396), (17, 51306), (20, 51144), (21, 51132), (23, 51105), (24, 51090), (30, 50982),

Gene: Sigman\_60 Start: 52154, Stop: 51543, Start Num: 4

Candidate Starts for Sigman\_60:

(Start: 1 @52220 has 1 MA's), (Start: 3 @52166 has 49 MA's), (Start: 4 @52154 has 195 MA's), (5, 52127), (Start: 7 @52109 has 3 MA's), (10, 52055), (12, 52022), (13, 51989), (17, 51899), (20, 51737), (21, 51725), (23, 51698), (30, 51575),

Gene: SilverBell\_60 Start: 52451, Stop: 51828, Start Num: 3

Candidate Starts for SilverBell\_60:

(Start: 1 @52505 has 1 MA's), (Start: 3 @52451 has 49 MA's), (Start: 4 @52439 has 195 MA's), (5, 52412), (Start: 7 @52394 has 3 MA's), (12, 52307), (13, 52274), (17, 52184), (20, 52022), (21, 52010), (23, 51983), (24, 51968), (30, 51860), (31, 51845),

Gene: Simielle\_59 Start: 52158, Stop: 51547, Start Num: 4

Candidate Starts for Simielle\_59:

(Start: 1 @52224 has 1 MA's), (Start: 3 @52170 has 49 MA's), (Start: 4 @52158 has 195 MA's), (5, 52131), (Start: 7 @52113 has 3 MA's), (10, 52059), (12, 52026), (13, 51993), (17, 51903), (20, 51741), (21, 51729), (23, 51702), (30, 51579),

Gene: SirBeauregard\_60 Start: 52736, Stop: 52113, Start Num: 3

Candidate Starts for SirBeauregard\_60:

(Start: 1 @52790 has 1 MA's), (Start: 3 @52736 has 49 MA's), (Start: 4 @52724 has 195 MA's), (5, 52697), (Start: 7 @52679 has 3 MA's), (10, 52625), (Start: 11 @52616 has 1 MA's), (12, 52592), (13, 52559), (17, 52469), (20, 52307), (21, 52295), (23, 52268), (30, 52145),

Gene: Skippy\_60 Start: 52412, Stop: 51843, Start Num: 4

Candidate Starts for Skippy\_60:

(Start: 1 @52478 has 1 MA's), (Start: 3 @52424 has 49 MA's), (Start: 4 @52412 has 195 MA's), (5, 52385), (Start: 7 @52367 has 3 MA's), (12, 52280), (17, 52199), (20, 52037), (21, 52025), (23, 51998), (30, 51875),

Gene: Slatt\_60 Start: 52477, Stop: 51908, Start Num: 4

Candidate Starts for Slatt\_60:

(Start: 1 @52543 has 1 MA's), (Start: 3 @52489 has 49 MA's), (Start: 4 @52477 has 195 MA's), (5, 52450), (Start: 7 @52432 has 3 MA's), (12, 52345), (17, 52264), (20, 52102), (21, 52090), (23, 52063), (30, 51940),

Gene: Soile\_60 Start: 52701, Stop: 52132, Start Num: 4

Candidate Starts for Soile\_60:

(Start: 1 @52767 has 1 MA's), (Start: 3 @52713 has 49 MA's), (Start: 4 @52701 has 195 MA's), (5, 52674), (Start: 7 @52656 has 3 MA's), (12, 52569), (17, 52488), (20, 52326), (21, 52314), (23, 52287), (30, 52164),

Gene: Solosis\_58 Start: 52173, Stop: 51604, Start Num: 4

Candidate Starts for Solosis\_58:

(Start: 1 @52239 has 1 MA's), (Start: 3 @52185 has 49 MA's), (Start: 4 @52173 has 195 MA's), (5, 52146), (Start: 7 @52128 has 3 MA's), (12, 52041), (17, 51960), (20, 51798), (21, 51786), (23, 51759), (30, 51636),

Gene: Sophia\_58 Start: 52167, Stop: 51598, Start Num: 4

Candidate Starts for Sophia\_58:

(Start: 1 @52233 has 1 MA's), (Start: 3 @52179 has 49 MA's), (Start: 4 @52167 has 195 MA's), (5, 52140), (Start: 7 @52122 has 3 MA's), (12, 52035), (17, 51954), (20, 51792), (21, 51780), (23, 51753), (30, 51630),

Gene: Soto\_58 Start: 51734, Stop: 51123, Start Num: 4

Candidate Starts for Soto\_58:

(Start: 1 @51800 has 1 MA's), (Start: 3 @51746 has 49 MA's), (Start: 4 @51734 has 195 MA's), (5, 51707), (Start: 7 @51689 has 3 MA's), (10, 51635), (12, 51602), (13, 51569), (17, 51479), (20, 51317), (21, 51305), (23, 51278), (24, 51263), (30, 51155),

Gene: Spartan300\_59 Start: 52395, Stop: 51784, Start Num: 4

Candidate Starts for Spartan300\_59:

(Start: 1 @52461 has 1 MA's), (Start: 3 @52407 has 49 MA's), (Start: 4 @52395 has 195 MA's), (5, 52368), (Start: 7 @52350 has 3 MA's), (10, 52296), (12, 52263), (13, 52230), (17, 52140), (20, 51978), (21, 51966), (23, 51939), (24, 51924), (30, 51816), (31, 51801),

Gene: Squid\_59 Start: 52179, Stop: 51610, Start Num: 4

Candidate Starts for Squid\_59:

(Start: 1 @52245 has 1 MA's), (Start: 3 @52191 has 49 MA's), (Start: 4 @52179 has 195 MA's), (5, 52152), (Start: 7 @52134 has 3 MA's), (12, 52047), (17, 51966), (20, 51804), (21, 51792), (23, 51765), (30, 51642),

Gene: Squiggle\_60 Start: 52187, Stop: 51618, Start Num: 4

Candidate Starts for Squiggle\_60:

(Start: 1 @52253 has 1 MA's), (Start: 3 @52199 has 49 MA's), (Start: 4 @52187 has 195 MA's), (Start: 7 @52142 has 3 MA's), (12, 52055), (17, 51974), (20, 51812), (21, 51800), (23, 51773), (30, 51650),

Gene: Struggle\_60 Start: 52264, Stop: 51755, Start Num: 4

Candidate Starts for Struggle\_60:

(Start: 1 @52330 has 1 MA's), (Start: 3 @52276 has 49 MA's), (Start: 4 @52264 has 195 MA's), (5, 52237), (Start: 7 @52219 has 3 MA's), (12, 52132), (20, 51946), (21, 51934), (23, 51907), (30, 51784),

Gene: Suffolk\_58 Start: 51694, Stop: 51113, Start Num: 3

Candidate Starts for Suffolk\_58:

(Start: 1 @51748 has 1 MA's), (Start: 3 @51694 has 49 MA's), (Start: 4 @51682 has 195 MA's), (5, 51655), (Start: 7 @51637 has 3 MA's), (10, 51583), (Start: 11 @51574 has 1 MA's), (12, 51550), (17, 51469), (20, 51307), (21, 51295), (23, 51268), (24, 51253), (30, 51145),

Gene: Surely\_59 Start: 52469, Stop: 51900, Start Num: 4

Candidate Starts for Surely\_59:



(Start: 1 @52535 has 1 MA's), (Start: 3 @52481 has 49 MA's), (Start: 4 @52469 has 195 MA's), (5, 52442), (Start: 7 @52424 has 3 MA's), (12, 52337), (17, 52256), (20, 52094), (21, 52082), (23, 52055), (30, 51932),

Gene: Swiphy\_63 Start: 52725, Stop: 52102, Start Num: 3

Candidate Starts for Swiphy\_63:

(Start: 1 @52779 has 1 MA's), (Start: 3 @52725 has 49 MA's), (Start: 4 @52713 has 195 MA's), (5, 52686), (Start: 7 @52668 has 3 MA's), (10, 52614), (12, 52581), (13, 52548), (17, 52458), (20, 52296), (21, 52284), (23, 52257), (30, 52134),

Gene: Swish\_61 Start: 52443, Stop: 51877, Start Num: 4

Candidate Starts for Swish\_61:

(Start: 1 @52509 has 1 MA's), (Start: 3 @52455 has 49 MA's), (Start: 4 @52443 has 195 MA's), (5, 52416), (Start: 7 @52398 has 3 MA's), (10, 52344), (Start: 11 @52335 has 1 MA's), (12, 52311), (17, 52230), (20, 52068), (21, 52056), (23, 52029), (24, 52014), (30, 51906),

Gene: TallGrassMM\_59 Start: 52083, Stop: 51514, Start Num: 4

Candidate Starts for TallGrassMM\_59:

(Start: 1 @52149 has 1 MA's), (Start: 3 @52095 has 49 MA's), (Start: 4 @52083 has 195 MA's), (5, 52056), (Start: 7 @52038 has 3 MA's), (12, 51951), (17, 51870), (20, 51708), (21, 51696), (23, 51669), (30, 51546),

Gene: Telesworld\_57 Start: 52288, Stop: 51677, Start Num: 4

Candidate Starts for Telesworld\_57:

(Start: 1 @52354 has 1 MA's), (Start: 3 @52300 has 49 MA's), (Start: 4 @52288 has 195 MA's), (5, 52261), (Start: 7 @52243 has 3 MA's), (10, 52189), (Start: 11 @52180 has 1 MA's), (12, 52156), (13, 52123), (17, 52033), (20, 51871), (21, 51859), (23, 51832), (24, 51817), (30, 51709),

Gene: Thora\_59 Start: 52465, Stop: 51896, Start Num: 4

Candidate Starts for Thora\_59:

(Start: 1 @52531 has 1 MA's), (Start: 3 @52477 has 49 MA's), (Start: 4 @52465 has 195 MA's), (5, 52438), (Start: 7 @52420 has 3 MA's), (12, 52333), (17, 52252), (20, 52090), (21, 52078), (23, 52051), (30, 51928),

Gene: ThreeOh3D2\_61 Start: 52686, Stop: 52120, Start Num: 4

Candidate Starts for ThreeOh3D2\_61:

(Start: 1 @52752 has 1 MA's), (Start: 3 @52698 has 49 MA's), (Start: 4 @52686 has 195 MA's), (5, 52659), (Start: 7 @52641 has 3 MA's), (12, 52554), (17, 52473), (20, 52311), (21, 52299), (23, 52272), (30, 52149),

Gene: Thunderbird\_59 Start: 52419, Stop: 51910, Start Num: 4

Candidate Starts for Thunderbird\_59:

(Start: 1 @52485 has 1 MA's), (Start: 3 @52431 has 49 MA's), (Start: 4 @52419 has 195 MA's), (5, 52392), (Start: 7 @52374 has 3 MA's), (12, 52287), (20, 52101), (21, 52089), (23, 52062), (30, 51939),

Gene: Timmi\_58 Start: 52168, Stop: 51599, Start Num: 4

Candidate Starts for Timmi\_58:

(Start: 1 @52234 has 1 MA's), (Start: 3 @52180 has 49 MA's), (Start: 4 @52168 has 195 MA's), (5, 52141), (Start: 7 @52123 has 3 MA's), (12, 52036), (17, 51955), (20, 51793), (21, 51781), (23, 51754), (30, 51631),

Gene: TomBombadil\_59 Start: 52453, Stop: 51884, Start Num: 4

Candidate Starts for TomBombadil\_59:

(Start: 1 @52519 has 1 MA's), (Start: 3 @52465 has 49 MA's), (Start: 4 @52453 has 195 MA's), (5, 52426), (Start: 7 @52408 has 3 MA's), (12, 52321), (17, 52240), (20, 52078), (21, 52066), (23, 52039), (30, 51916),

Gene: Toni\_58 Start: 52091, Stop: 51561, Start Num: 3

Candidate Starts for Toni\_58:

(Start: 3 @52091 has 49 MA's), (5, 52046), (Start: 7 @52028 has 3 MA's), (12, 51941), (20, 51755), (21, 51743), (23, 51716), (30, 51593),

Gene: TooFast2Furius\_61 Start: 52446, Stop: 51823, Start Num: 3

Candidate Starts for TooFast2Furius\_61:

(Start: 1 @52500 has 1 MA's), (Start: 3 @52446 has 49 MA's), (Start: 4 @52434 has 195 MA's), (5, 52407), (Start: 7 @52389 has 3 MA's), (10, 52335), (12, 52302), (13, 52269), (17, 52179), (20, 52017), (21, 52005), (23, 51978), (24, 51963), (30, 51855),

Gene: Tooj\_58 Start: 51838, Stop: 51227, Start Num: 4

Candidate Starts for Tooj\_58:

(Start: 1 @51904 has 1 MA's), (Start: 3 @51850 has 49 MA's), (Start: 4 @51838 has 195 MA's), (5, 51811), (Start: 7 @51793 has 3 MA's), (10, 51739), (12, 51706), (13, 51673), (17, 51583), (20, 51421), (21, 51409), (23, 51382), (24, 51367), (30, 51259), (31, 51244),

Gene: True\_58 Start: 52178, Stop: 51567, Start Num: 4

Candidate Starts for True\_58:

(Start: 1 @52244 has 1 MA's), (Start: 3 @52190 has 49 MA's), (Start: 4 @52178 has 195 MA's), (5, 52151), (Start: 7 @52133 has 3 MA's), (10, 52079), (12, 52046), (13, 52013), (17, 51923), (20, 51761), (21, 51749), (23, 51722), (30, 51599),

Gene: Trypo\_62 Start: 52850, Stop: 52341, Start Num: 4

Candidate Starts for Trypo\_62:

(Start: 1 @52916 has 1 MA's), (Start: 3 @52862 has 49 MA's), (Start: 4 @52850 has 195 MA's), (5, 52823), (Start: 7 @52805 has 3 MA's), (12, 52718), (20, 52532), (21, 52520), (23, 52493), (30, 52370),

Gene: TyrionL\_60 Start: 52275, Stop: 51766, Start Num: 4

Candidate Starts for TyrionL\_60:

(Start: 1 @52341 has 1 MA's), (Start: 3 @52287 has 49 MA's), (Start: 4 @52275 has 195 MA's), (5, 52248), (Start: 7 @52230 has 3 MA's), (12, 52143), (20, 51957), (21, 51945), (23, 51918), (30, 51795),

Gene: UAch1\_59 Start: 52409, Stop: 51843, Start Num: 4

Candidate Starts for UAch1\_59:

(Start: 1 @52475 has 1 MA's), (Start: 3 @52421 has 49 MA's), (Start: 4 @52409 has 195 MA's), (5, 52382), (Start: 7 @52364 has 3 MA's), (12, 52277), (17, 52196), (20, 52034), (21, 52022), (23, 51995), (24, 51980), (30, 51872),

Gene: UncleHowie\_58 Start: 51880, Stop: 51311, Start Num: 4

Candidate Starts for UncleHowie\_58:

(Start: 1 @51946 has 1 MA's), (Start: 3 @51892 has 49 MA's), (Start: 4 @51880 has 195 MA's), (5, 51853), (Start: 7 @51835 has 3 MA's), (12, 51748), (17, 51667), (20, 51505), (21, 51493), (23, 51466), (30, 51343),

Gene: Usavi\_59 Start: 52548, Stop: 51979, Start Num: 4

Candidate Starts for Usavi\_59:

(Start: 1 @52614 has 1 MA's), (Start: 3 @52560 has 49 MA's), (Start: 4 @52548 has 195 MA's), (5, 52521), (Start: 7 @52503 has 3 MA's), (12, 52416), (17, 52335), (20, 52173), (21, 52161), (23, 52134),

(30, 52011),

Gene: Vaishali24\_58 Start: 52095, Stop: 51475, Start Num: 3

Candidate Starts for Vaishali24\_58:

(Start: 1 @52149 has 1 MA's), (Start: 3 @52095 has 49 MA's), (Start: 4 @52083 has 195 MA's), (5, 52056), (Start: 7 @52038 has 3 MA's), (10, 51984), (12, 51951), (13, 51918), (17, 51828), (20, 51666), (21, 51654), (23, 51627), (24, 51612), (30, 51504),

Gene: Valjean\_59 Start: 52405, Stop: 51794, Start Num: 4

Candidate Starts for Valjean\_59:

(Start: 1 @52471 has 1 MA's), (Start: 3 @52417 has 49 MA's), (Start: 4 @52405 has 195 MA's), (5, 52378), (Start: 7 @52360 has 3 MA's), (10, 52306), (12, 52273), (13, 52240), (17, 52150), (20, 51988), (21, 51976), (23, 51949), (24, 51934), (30, 51826), (31, 51811),

Gene: Veritas\_61 Start: 52543, Stop: 52034, Start Num: 4

Candidate Starts for Veritas\_61:

(Start: 1 @52609 has 1 MA's), (Start: 3 @52555 has 49 MA's), (Start: 4 @52543 has 195 MA's), (5, 52516), (Start: 7 @52498 has 3 MA's), (12, 52411), (20, 52225), (21, 52213), (23, 52186), (30, 52063),

Gene: Virapocalypse\_60 Start: 52504, Stop: 51893, Start Num: 4

Candidate Starts for Virapocalypse\_60:

(Start: 1 @52570 has 1 MA's), (Start: 3 @52516 has 49 MA's), (Start: 4 @52504 has 195 MA's), (5, 52477), (Start: 7 @52459 has 3 MA's), (10, 52405), (12, 52372), (13, 52339), (17, 52249), (20, 52087), (21, 52075), (23, 52048), (30, 51925),

Gene: Virgeve\_59 Start: 52153, Stop: 51530, Start Num: 3

Candidate Starts for Virgeve\_59:

(Start: 1 @52207 has 1 MA's), (Start: 3 @52153 has 49 MA's), (Start: 4 @52141 has 195 MA's), (5, 52114), (Start: 7 @52096 has 3 MA's), (10, 52042), (12, 52009), (13, 51976), (17, 51886), (20, 51724), (21, 51712), (23, 51685), (30, 51562),

Gene: Vista\_59 Start: 52181, Stop: 51612, Start Num: 4

Candidate Starts for Vista\_59:

(Start: 1 @52247 has 1 MA's), (Start: 3 @52193 has 49 MA's), (Start: 4 @52181 has 195 MA's), (5, 52154), (Start: 7 @52136 has 3 MA's), (12, 52049), (17, 51968), (20, 51806), (21, 51794), (23, 51767), (30, 51644),

Gene: Vivaldi\_61 Start: 52639, Stop: 52073, Start Num: 4

Candidate Starts for Vivaldi\_61:

(Start: 1 @52705 has 1 MA's), (Start: 3 @52651 has 49 MA's), (Start: 4 @52639 has 195 MA's), (5, 52612), (Start: 7 @52594 has 3 MA's), (10, 52540), (Start: 11 @52531 has 1 MA's), (12, 52507), (17, 52426), (20, 52264), (21, 52252), (23, 52225), (24, 52210), (30, 52102),

Gene: Vortex\_59 Start: 52163, Stop: 51594, Start Num: 4

Candidate Starts for Vortex\_59:

(Start: 1 @52229 has 1 MA's), (Start: 3 @52175 has 49 MA's), (Start: 4 @52163 has 195 MA's), (5, 52136), (Start: 7 @52118 has 3 MA's), (12, 52031), (17, 51950), (20, 51788), (21, 51776), (23, 51749), (30, 51626),

Gene: Wallhey\_60 Start: 52279, Stop: 51770, Start Num: 4

Candidate Starts for Wallhey\_60:

(Start: 1 @52345 has 1 MA's), (Start: 3 @52291 has 49 MA's), (Start: 4 @52279 has 195 MA's), (5, 52252), (Start: 7 @52234 has 3 MA's), (12, 52147), (20, 51961), (21, 51949), (23, 51922), (30, 51799),

Gene: Waterdiva\_59 Start: 52542, Stop: 51973, Start Num: 4

Candidate Starts for Waterdiva\_59:

(Start: 1 @52608 has 1 MA's), (Start: 3 @52554 has 49 MA's), (Start: 4 @52542 has 195 MA's), (5, 52515), (Start: 7 @52497 has 3 MA's), (12, 52410), (17, 52329), (20, 52167), (21, 52155), (23, 52128), (30, 52005),

Gene: Weher20\_59 Start: 52985, Stop: 52416, Start Num: 4

Candidate Starts for Weher20\_59:

(Start: 1 @53051 has 1 MA's), (Start: 3 @52997 has 49 MA's), (Start: 4 @52985 has 195 MA's), (5, 52958), (Start: 7 @52940 has 3 MA's), (12, 52853), (17, 52772), (20, 52610), (21, 52598), (23, 52571), (24, 52556), (30, 52448),

Gene: Windsor\_59 Start: 52728, Stop: 52117, Start Num: 4

Candidate Starts for Windsor\_59:

(Start: 1 @52794 has 1 MA's), (Start: 3 @52740 has 49 MA's), (Start: 4 @52728 has 195 MA's), (5, 52701), (Start: 7 @52683 has 3 MA's), (10, 52629), (Start: 11 @52620 has 1 MA's), (12, 52596), (13, 52563), (17, 52473), (20, 52311), (21, 52299), (23, 52272), (30, 52149),

Gene: Xavier\_58 Start: 52170, Stop: 51601, Start Num: 4

Candidate Starts for Xavier\_58:

(Start: 1 @52236 has 1 MA's), (Start: 3 @52182 has 49 MA's), (Start: 4 @52170 has 195 MA's), (5, 52143), (Start: 7 @52125 has 3 MA's), (12, 52038), (17, 51957), (20, 51795), (21, 51783), (23, 51756), (30, 51633),

Gene: Yoshand\_61 Start: 52456, Stop: 51890, Start Num: 4

Candidate Starts for Yoshand\_61:

(Start: 1 @52522 has 1 MA's), (Start: 3 @52468 has 49 MA's), (Start: 4 @52456 has 195 MA's), (5, 52429), (Start: 7 @52411 has 3 MA's), (10, 52357), (Start: 11 @52348 has 1 MA's), (12, 52324), (17, 52243), (20, 52081), (21, 52069), (23, 52042), (24, 52027), (30, 51919),

Gene: YouGoGlencoco\_60 Start: 52474, Stop: 51896, Start Num: 1

Candidate Starts for YouGoGlencoco\_60:

(Start: 1 @52474 has 1 MA's), (Start: 3 @52420 has 49 MA's), (Start: 4 @52408 has 195 MA's), (5, 52381), (Start: 7 @52363 has 3 MA's), (Start: 11 @52300 has 1 MA's), (12, 52276), (20, 52090), (21, 52078), (23, 52051), (30, 51928),

Gene: Zaider\_60 Start: 52649, Stop: 52038, Start Num: 4

Candidate Starts for Zaider\_60:

(Start: 1 @52715 has 1 MA's), (Start: 3 @52661 has 49 MA's), (Start: 4 @52649 has 195 MA's), (5, 52622), (Start: 7 @52604 has 3 MA's), (10, 52550), (12, 52517), (13, 52484), (17, 52394), (20, 52232), (21, 52220), (23, 52193), (24, 52178), (30, 52070), (31, 52055),

Gene: Zelda\_60 Start: 52810, Stop: 52241, Start Num: 4

Candidate Starts for Zelda\_60:

(Start: 1 @52876 has 1 MA's), (Start: 3 @52822 has 49 MA's), (Start: 4 @52810 has 195 MA's), (5, 52783), (Start: 7 @52765 has 3 MA's), (12, 52678), (17, 52597), (20, 52435), (21, 52423), (23, 52396), (30, 52273),

Gene: Zonia\_61 Start: 52730, Stop: 52221, Start Num: 4

Candidate Starts for Zonia\_61:

(Start: 1 @52796 has 1 MA's), (Start: 3 @52742 has 49 MA's), (Start: 4 @52730 has 195 MA's), (5, 52703), (Start: 7 @52685 has 3 MA's), (12, 52598), (20, 52412), (21, 52400), (23, 52373), (30, 52250),

