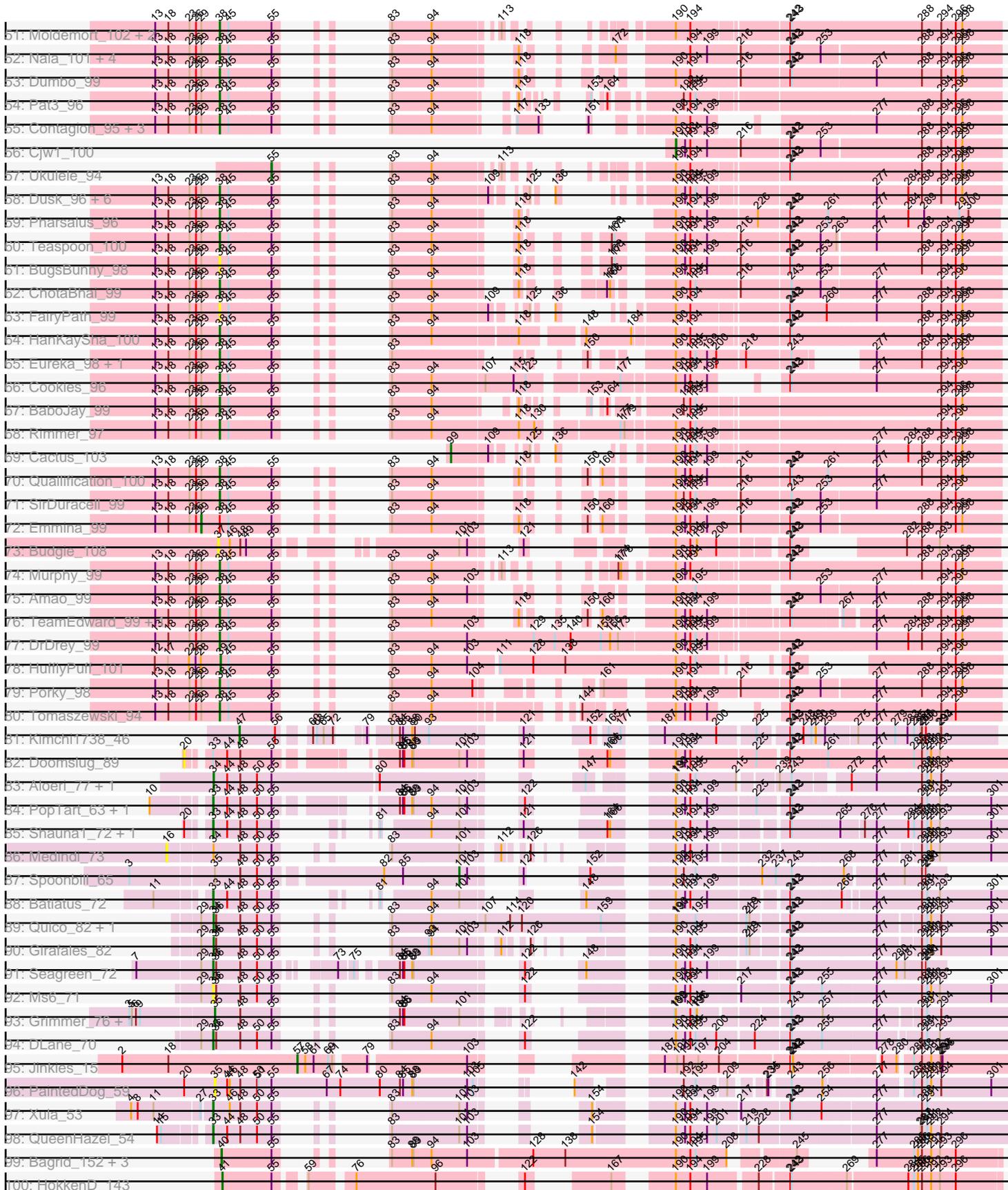
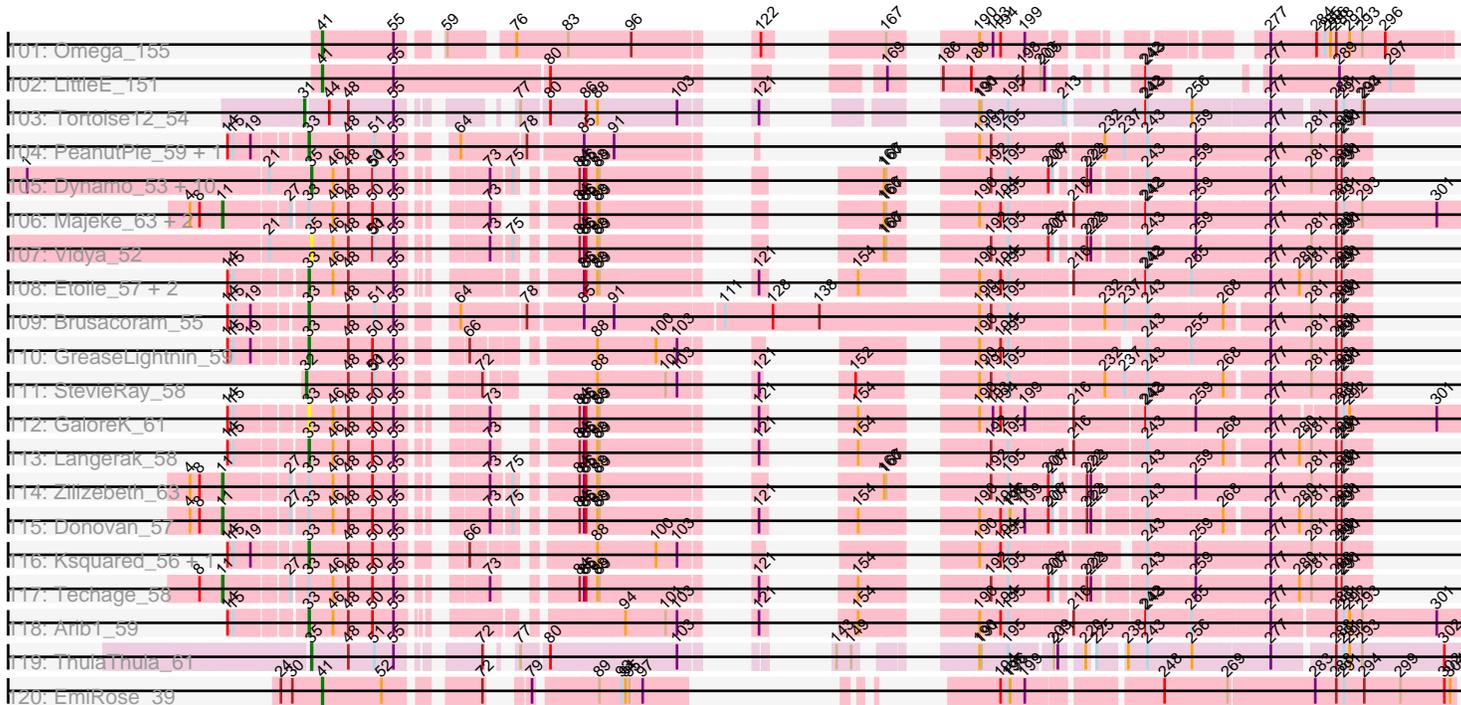




Pham 290863





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 290863 Report

This analysis was run 03/28/26 on database version 641.

Pham number 290863 has 200 members, 18 are drafts.

Phages represented in each track:

- Track 1 : Jerm2\_60, HermioneGrange\_60, Rohr\_60, Bob3\_58, BigMau\_61
- Track 2 : Smeagol\_61
- Track 3 : Aeneas\_62
- Track 4 : Monet\_62, Treddle\_60, Edtherson\_58
- Track 5 : Gachnar\_58
- Track 6 : Paphu\_58
- Track 7 : Kykar\_59
- Track 8 : Swole\_60, Tote\_55
- Track 9 : Sagefire\_61
- Track 10 : JuliaChild\_60
- Track 11 : Rufus\_60
- Track 12 : Smairt\_62
- Track 13 : Perseus\_59, Hami1\_54, Mule\_57, PhrostyMug\_59
- Track 14 : Carlyle\_58
- Track 15 : Oogway\_58
- Track 16 : Dulcie\_59
- Track 17 : Doom\_57
- Track 18 : Slagathor\_61
- Track 19 : Tripl3t\_61
- Track 20 : Acme\_60
- Track 21 : Museum\_60
- Track 22 : Burton\_59
- Track 23 : Puppet\_58
- Track 24 : Rajelicia\_60
- Track 25 : Parliament\_59
- Track 26 : Eyeball\_60
- Track 27 : Arlo\_57
- Track 28 : Target\_60
- Track 29 : Bigchunggi\_59
- Track 30 : Gompeii16\_58, Bircsak\_58
- Track 31 : Pelly\_59
- Track 32 : Petp2012\_60
- Track 33 : Makemake\_60
- Track 34 : Zeuska\_58
- Track 35 : Adahisdi\_59
- Track 36 : Nerujay\_61
- Track 37 : Norz\_60

- Track 38 : BaconJack\_64
- Track 39 : Marsha\_58
- Track 40 : HarryOW\_58
- Track 41 : ShortQueendom\_52
- Track 42 : PattyP\_61
- Track 43 : Abrogate\_580
- Track 44 : Arcanine\_61
- Track 45 : Clown\_11
- Track 46 : Bench\_102, Lilizi\_100
- Track 47 : Greep\_103, Miniwave\_94, BilboSwaggins\_97, Hopey\_100, Stark\_100, CrystalP\_98, Phaux\_101, Thresher\_101, ShamWow\_99, SophKB\_96, Henry\_96, Maxxinista\_101, RiverMonster\_99, Paperbeatsrock\_98, Hoonter\_102, Policronamos\_101, Filch\_101, Elph10\_99, PaddyBaddy\_99, Toto\_97, OrionPax\_98, NoSleep\_100, Phrux\_96
- Track 48 : Bruin\_96, Misfit\_100, Terminus\_102
- Track 49 : Lilpickle\_98, ChosenOne\_99, Elite2014\_98
- Track 50 : ShereKhan\_97, Kanye\_96
- Track 51 : Moldemort\_102, Simpliphy\_98, MadamMonkfish\_99
- Track 52 : Nala\_101, PhatBacter\_102, FireRed\_102, MPhalcon\_100, Palpatine\_100
- Track 53 : Dumbo\_99
- Track 54 : Pat3\_96
- Track 55 : Contagion\_95, Mosby\_95, Sassay\_94, Willez\_94
- Track 56 : Cjw1\_100
- Track 57 : Ukulele\_94
- Track 58 : Dusk\_96, Mindy\_98, Sotrice96\_100, ABCat\_96, TeardropMSU\_95, Tuco\_100, BadStone\_96
- Track 59 : Pharsalus\_96
- Track 60 : Teaspoon\_100
- Track 61 : BugsBunny\_98
- Track 62 : ChotaBhai\_99
- Track 63 : FairyPath\_99
- Track 64 : HanKaySha\_100
- Track 65 : Eureka\_98, Goku\_98
- Track 66 : Cookies\_96
- Track 67 : BaboJay\_99
- Track 68 : Rimmer\_97
- Track 69 : Cactus\_103
- Track 70 : Quallification\_100
- Track 71 : SirDuracell\_99
- Track 72 : Emmina\_99
- Track 73 : Budgie\_108
- Track 74 : Murphy\_99
- Track 75 : Amao\_99
- Track 76 : TeamEdward\_99, Buck\_100
- Track 77 : DrDrey\_99
- Track 78 : HufflyPuff\_101
- Track 79 : Porky\_98
- Track 80 : Tomaszewski\_94
- Track 81 : Kimchi1738\_46
- Track 82 : Doomslug\_89
- Track 83 : Aloeri\_77, ChickenDinner\_76
- Track 84 : PopTart\_63, SassyB\_63
- Track 85 : Shauna1\_72, Phanphagia\_71

- Track 86 : Medindi\_73
- Track 87 : Spoonbill\_65
- Track 88 : Batiatus\_72
- Track 89 : Quico\_82, Florinda\_85
- Track 90 : Girafales\_82
- Track 91 : Seagreen\_72
- Track 92 : Ms6\_71
- Track 93 : Grimmer\_76, Mahavrat\_63
- Track 94 : DLane\_70
- Track 95 : Jinkies\_15
- Track 96 : PaintedDog\_59
- Track 97 : Xula\_53
- Track 98 : QueenHazel\_54
- Track 99 : Bagrid\_152, Duke13\_147, BAKA\_151, EricMillard\_143
- Track 100 : HokkenD\_143
- Track 101 : Omega\_155
- Track 102 : LittleE\_151
- Track 103 : Tortoise12\_54
- Track 104 : PeanutPie\_59, Bhagsy\_59
- Track 105 : Dynamo\_53, Malithi\_53, Camster\_54, Pygmy\_57, Phineas\_55, Bogie\_57, HUHilltop\_55, Jebeks\_54, Necropolis\_52, Sonah\_54, Shipwreck\_57
- Track 106 : Majeke\_63, Phegasus\_63, Mangethe\_63
- Track 107 : Vidya\_52
- Track 108 : Etoile\_57, Kari\_57, Fishburne\_57
- Track 109 : Brusacoram\_55
- Track 110 : GreaseLightnin\_59
- Track 111 : StevieRay\_58
- Track 112 : GaloreK\_61
- Track 113 : Langerak\_58
- Track 114 : Zilizebeth\_63
- Track 115 : Donovan\_57
- Track 116 : Ksquared\_56, Bunnies\_58
- Track 117 : Techage\_58
- Track 118 : Arib1\_59
- Track 119 : ThulaThula\_61
- Track 120 : EmiRose\_39

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

The start number called the most often in the published annotations is 38, it was called in 69 of the 182 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

• ABCat\_96, Amao\_99, BaboJay\_99, BadStone\_96, Bench\_102, BilboSwaggins\_97, Bruin\_96, Buck\_100, BugsBunny\_98, ChosenOne\_99, ChotaBhai\_99, Contagion\_95, Cookies\_96, CrystalP\_98, DrDrey\_99, Dumbo\_99, Dusk\_96, Elite2014\_98, Elph10\_99, Eureka\_98, FairyPath\_99, Filch\_101, FireRed\_102, Goku\_98, Greep\_103, HanKaySha\_100, Henry\_96, Hoonter\_102, Hopey\_100, Kanye\_96, Lilizi\_100, Lilpickle\_98, MPhalcon\_100, MadamMonkfish\_99, Maxxinista\_101, Mindy\_98, Miniwave\_94, Misfit\_100, Moldemort\_102, Mosby\_95, Murphy\_99,

Nala\_101, NoSleep\_100, OrionPax\_98, PaddyBaddy\_99, Palpatine\_100, Paperbeatsrock\_98, Pat3\_96, Pharsalus\_96, PhatBacter\_102, Phaux\_101, Phrux\_96, Policronamos\_101, Porky\_98, Quallification\_100, Rimmer\_97, RiverMonster\_99, Sassay\_94, ShamWow\_99, ShereKhan\_97, Simpliphy\_98, SirDuracell\_99, SophKB\_96, Sotrice96\_100, Stark\_100, TeamEdward\_99, TeardropMSU\_95, Teaspoon\_100, Terminus\_102, Thresher\_101, Tomaszewski\_94, Toto\_97, Tucu\_100, Willez\_94,

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

- Emmina\_99,

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

- Abrogate\_580, Acme\_60, Adahisdi\_59, Aeneas\_62, Aloeri\_77, Arcanine\_61, Arib1\_59, Arlo\_57, BAKA\_151, BaconJack\_64, Bagrid\_152, Batiatus\_72, Bhagsy\_59, BigMau\_61, Bigchungji\_59, Bircsak\_58, Bob3\_58, Bogie\_57, Brusacoram\_55, Budgie\_108, Bunnies\_58, Burton\_59, Cactus\_103, Camster\_54, Carlyle\_58, ChickenDinner\_76, Cjw1\_100, Clown\_11, DLane\_70, Donovan\_57, Doom\_57, Doomslug\_89, Duke13\_147, Dulcie\_59, Dynamo\_53, Edtherson\_58, EmiRose\_39, EricMillard\_143, Etoile\_57, Eyeball\_60, Fishburne\_57, Florinda\_85, Gachnar\_58, GaloreK\_61, Girafales\_82, Gompeii16\_58, GreaseLightnin\_59, Grimmer\_76, HUHilltop\_55, Hami1\_54, HarryOW\_58, HermioneGrange\_60, HokkenD\_143, HufflyPuff\_101, Jebeks\_54, Jerm2\_60, Jinkies\_15, JuliaChild\_60, Kari\_57, Kimchi1738\_46, Ksquared\_56, Kykar\_59, Langerak\_58, LittleE\_151, Mahavrat\_63, Majeke\_63, Makemake\_60, Malithi\_53, Mangethe\_63, Marsha\_58, Medindi\_73, Monet\_62, Ms6\_71, Mule\_57, Museum\_60, Necropolis\_52, Nerujay\_61, Norz\_60, Omega\_155, Oogway\_58, PaintedDog\_59, Paphu\_58, Parliament\_59, PattyP\_61, PeanutPie\_59, Pelly\_59, Perseus\_59, Petp2012\_60, Phanphagia\_71, Phegasus\_63, Phineas\_55, PhrostyMug\_59, PopTart\_63, Puppet\_58, Pygmy\_57, QueenHazel\_54, Quico\_82, Rajelicia\_60, Rohr\_60, Rufus\_60, Sagefire\_61, SassyB\_63, Seagreen\_72, Shauna1\_72, Shipwreck\_57, ShortQueendom\_52, Slagathor\_61, Smairt\_62, Smeagol\_61, Sonah\_54, Spoonbill\_65, StevieRay\_58, Swole\_60, Target\_60, Techage\_58, ThulaThula\_61, Tortoise12\_54, Tote\_55, Treddle\_60, Trip13t\_61, Ukulele\_94, Vidya\_52, Xula\_53, Zeuska\_58, Zilizebeth\_63,

### Summary by start number:

Start 11:

- Found in 8 of 200 ( 4.0% ) of genes in pham
- Manual Annotations of this start: 6 of 182
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Donovan\_57 (P1), Majeke\_63 (P1), Mangethe\_63 (P1), Phegasus\_63 (P1), Techage\_58 (P1), Zilizebeth\_63 (P1),

Start 16:

- Found in 1 of 200 ( 0.5% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Medindi\_73 (F1),

Start 20:

- Found in 4 of 200 ( 2.0% ) of genes in pham
- No Manual Annotations of this start.
- Called 25.0% of time when present

- Phage (with cluster) where this start called: Doomslug\_89 (F),

#### Start 29:

- Found in 81 of 200 ( 40.5% ) of genes in pham
- Manual Annotations of this start: 1 of 182
- Called 1.2% of time when present
- Phage (with cluster) where this start called: Emmina\_99 (E),

#### Start 31:

- Found in 1 of 200 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 182
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Tortoise12\_54 (N),

#### Start 32:

- Found in 1 of 200 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 182
- Called 100.0% of time when present
- Phage (with cluster) where this start called: StevieRay\_58 (P1),

#### Start 33:

- Found in 29 of 200 ( 14.5% ) of genes in pham
- Manual Annotations of this start: 19 of 182
- Called 75.9% of time when present
- Phage (with cluster) where this start called: Arib1\_59 (P1), Batiatus\_72 (F1), Bhagsy\_59 (P1), Brusacoram\_55 (P1), Bunnies\_58 (P1), DLane\_70 (F1), Etoile\_57 (P1), Fishburne\_57 (P1), GaloreK\_61 (P1), GreaseLightnin\_59 (P1), Kari\_57 (P1), Ksquared\_56 (P1), Langerak\_58 (P1), Ms6\_71 (F1), PeanutPie\_59 (P1), Phanphagia\_71 (F1), PopTart\_63 (F1), QueenHazel\_54 (I1), SassyB\_63 (F1), Seagreen\_72 (F1), Shauna1\_72 (F1), Xula\_53 (I1),

#### Start 34:

- Found in 6 of 200 ( 3.0% ) of genes in pham
- Manual Annotations of this start: 5 of 182
- Called 83.3% of time when present
- Phage (with cluster) where this start called: Aloeri\_77 (F1), ChickenDinner\_76 (F1), Florinda\_85 (F1), Girafales\_82 (F1), Quico\_82 (F1),

#### Start 35:

- Found in 17 of 200 ( 8.5% ) of genes in pham
- Manual Annotations of this start: 13 of 182
- Called 94.1% of time when present
- Phage (with cluster) where this start called: Bogie\_57 (P1), Camster\_54 (P1), Dynamo\_53 (P1), Grimmer\_76 (F1), HUHilltop\_55 (P1), Jebeks\_54 (P1), Mahavrat\_63 (F1), Malithi\_53 (P1), Necropolis\_52 (P1), PaintedDog\_59 (I1), Phineas\_55 (P1), Pygmy\_57 (P1), Shipwreck\_57 (P1), Sonah\_54 (P1), ThulaThula\_61 (P5), Vidya\_52 (P1),

#### Start 37:

- Found in 1 of 200 ( 0.5% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Budgie\_108 (E),

Start 38:

- Found in 75 of 200 ( 37.5% ) of genes in pham
- Manual Annotations of this start: 69 of 182
- Called 98.7% of time when present
- Phage (with cluster) where this start called: ABCat\_96 (E), Amao\_99 (E), BaboJay\_99 (E), BadStone\_96 (E), Bench\_102 (E), BilboSwaggins\_97 (E), Bruin\_96 (E), Buck\_100 (E), BugsBunny\_98 (E), ChosenOne\_99 (E), ChotaBhai\_99 (E), Contagion\_95 (E), Cookies\_96 (E), CrystalP\_98 (E), DrDrey\_99 (E), Dumbo\_99 (E), Dusk\_96 (E), Elite2014\_98 (E), Elph10\_99 (E), Eureka\_98 (E), FairyPath\_99 (E), Filch\_101 (E), FireRed\_102 (E), Goku\_98 (E), Greep\_103 (E), HanKaySha\_100 (E), Henry\_96 (E), Hoonter\_102 (E), Hopey\_100 (E), Kanye\_96 (E), Lilizi\_100 (E), Lilpickle\_98 (E), MPhalcon\_100 (E), MadamMonkfish\_99 (E), Maxxinista\_101 (E), Mindy\_98 (E), Miniwave\_94 (E), Misfit\_100 (E), Moldemort\_102 (E), Mosby\_95 (E), Murphy\_99 (E), Nala\_101 (E), NoSleep\_100 (E), OrionPax\_98 (E), PaddyBaddy\_99 (E), Palpatine\_100 (E), Paperbeatsrock\_98 (E), Pat3\_96 (E), Pharsalus\_96 (E), PhatBacter\_102 (E), Phaux\_101 (E), Phrux\_96 (E), Policronamos\_101 (E), Porky\_98 (E), Quallification\_100 (E), Rimmer\_97 (E), RiverMonster\_99 (E), Sassay\_94 (E), ShamWow\_99 (E), ShereKhan\_97 (E), Simpliphy\_98 (E), SirDuracell\_99 (E), SophKB\_96 (E), Sotrice96\_100 (E), Stark\_100 (E), TeamEdward\_99 (E), TeardropMSU\_95 (E), Teaspoon\_100 (E), Terminus\_102 (E), Thresher\_101 (E), Tomaszewski\_94 (E), Toto\_97 (E), Tuco\_100 (E), Willez\_94 (E),

Start 39:

- Found in 1 of 200 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 182
- Called 100.0% of time when present
- Phage (with cluster) where this start called: HufflyPuff\_101 (E),

Start 40:

- Found in 44 of 200 ( 22.0% ) of genes in pham
- Manual Annotations of this start: 41 of 182
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abrogate\_580 (A1), Acme\_60 (A1), Adahisdi\_59 (A1), Aeneas\_62 (A1), Arcanine\_61 (A1), Arlo\_57 (A1), BAKA\_151 (J), Bagrid\_152 (J), BigMau\_61 (A1), Bigchungi\_59 (A1), Bircsak\_58 (A1), Bob3\_58 (A1), Burton\_59 (A1), Duke13\_147 (J), Dulcie\_59 (A1), Edtherson\_58 (A1), EricMillard\_143 (J), Eyeball\_60 (A1), Gompeii16\_58 (A1), HarryOW\_58 (A1), HermioneGrange\_60 (A1), Jerm2\_60 (A1), JuliaChild\_60 (A1), Kykar\_59 (A1), Marsha\_58 (A1), Monet\_62 (A1), Nerujay\_61 (A1), Norz\_60 (A1), Oogway\_58 (A1), Pelly\_59 (A1), Petp2012\_60 (A1), Puppet\_58 (A1), Rajelicia\_60 (A1), Rohr\_60 (A1), Rufus\_60 (A1), Sagefire\_61 (A1), ShortQueendom\_52 (A1), Smeagol\_61 (A1), Swole\_60 (A1), Target\_60 (A1), Tote\_55 (A1), Treddle\_60 (A1), Tripl3t\_61 (A1), Zeuska\_58 (A1),

Start 41:

- Found in 16 of 200 ( 8.0% ) of genes in pham
- Manual Annotations of this start: 16 of 182
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BaconJack\_64 (A1), EmiRose\_39 (singleton), Hami1\_54 (A1), HokkenD\_143 (J), LittleE\_151 (J), Makemake\_60 (A1), Mule\_57 (A1), Museum\_60 (A1), Omega\_155 (J), Paphu\_58 (A1), Parliament\_59 (A1), PattyP\_61 (A1), Perseus\_59 (A1), PhrostyMug\_59 (A1), Slagathor\_61 (A1), Smairt\_62 (A1),

Start 42:

- Found in 1 of 200 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 182
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Carlyle\_58 (A1),

Start 43:

- Found in 2 of 200 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 1 of 182
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Doom\_57 (A1),

Start 47:

- Found in 1 of 200 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 182
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kimchi1738\_46 (EN),

Start 53:

- Found in 1 of 200 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 182
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Clown\_11 (DC2),

Start 55:

- Found in 194 of 200 ( 97.0% ) of genes in pham
- Manual Annotations of this start: 1 of 182
- Called 0.5% of time when present
- Phage (with cluster) where this start called: Ukulele\_94 (E),

Start 57:

- Found in 1 of 200 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 182
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Jinkies\_15 (FL),

Start 85:

- Found in 37 of 200 ( 18.5% ) of genes in pham
- No Manual Annotations of this start.
- Called 2.7% of time when present
- Phage (with cluster) where this start called: Gachnar\_58 (A1),

Start 99:

- Found in 1 of 200 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 182
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cactus\_103 (E),

Start 101:

- Found in 16 of 200 ( 8.0% ) of genes in pham
- Manual Annotations of this start: 1 of 182
- Called 6.2% of time when present

- Phage (with cluster) where this start called: Spoonbill\_65 (F1),

Start 190:

- Found in 166 of 200 ( 83.0% ) of genes in pham
- Manual Annotations of this start: 1 of 182
- Called 0.6% of time when present
- Phage (with cluster) where this start called: Cjw1\_100 (E),

### **Summary by clusters:**

There are 13 clusters represented in this pham: F1, singleton, P1, E, F, I1, FL, J, N, A1, EN, DC2, P5,

Info for manual annotations of cluster A1:

- Start number 40 was manually annotated 38 times for cluster A1.
- Start number 41 was manually annotated 12 times for cluster A1.
- Start number 42 was manually annotated 1 time for cluster A1.
- Start number 43 was manually annotated 1 time for cluster A1.

Info for manual annotations of cluster DC2:

- Start number 53 was manually annotated 1 time for cluster DC2.

Info for manual annotations of cluster E:

- Start number 29 was manually annotated 1 time for cluster E.
- Start number 38 was manually annotated 69 times for cluster E.
- Start number 39 was manually annotated 1 time for cluster E.
- Start number 55 was manually annotated 1 time for cluster E.
- Start number 99 was manually annotated 1 time for cluster E.
- Start number 190 was manually annotated 1 time for cluster E.

Info for manual annotations of cluster EN:

- Start number 47 was manually annotated 1 time for cluster EN.

Info for manual annotations of cluster F1:

- Start number 33 was manually annotated 7 times for cluster F1.
- Start number 34 was manually annotated 5 times for cluster F1.
- Start number 35 was manually annotated 1 time for cluster F1.
- Start number 101 was manually annotated 1 time for cluster F1.

Info for manual annotations of cluster FL:

- Start number 57 was manually annotated 1 time for cluster FL.

Info for manual annotations of cluster I1:

- Start number 33 was manually annotated 2 times for cluster I1.

Info for manual annotations of cluster J:

- Start number 40 was manually annotated 3 times for cluster J.
- Start number 41 was manually annotated 3 times for cluster J.

Info for manual annotations of cluster N:

- Start number 31 was manually annotated 1 time for cluster N.

Info for manual annotations of cluster P1:

- Start number 11 was manually annotated 6 times for cluster P1.
- Start number 32 was manually annotated 1 time for cluster P1.
- Start number 33 was manually annotated 10 times for cluster P1.
- Start number 35 was manually annotated 11 times for cluster P1.

Info for manual annotations of cluster P5:

- Start number 35 was manually annotated 1 time for cluster P5.

### **Gene Information:**

Gene: ABCat\_96 Start: 59011, Stop: 60231, Start Num: 38

Candidate Starts for ABCat\_96:

(13, 58864), (18, 58894), (23, 58942), (26, 58957), (Start: 29 @58969 has 1 MA's), (Start: 38 @59011 has 69 MA's), (45, 59029), (Start: 55 @59125 has 1 MA's), (83, 59170), (94, 59254), (109, 59377), (125, 59422), (136, 59434), (Start: 190 @59539 has 1 MA's), (193, 59560), (194, 59569), (195, 59581), (199, 59605), (277, 59950), (284, 60022), (288, 60052), (294, 60094), (296, 60127), (298, 60142),

Gene: Abrogate\_580 Start: 41848, Stop: 40691, Start Num: 40

Candidate Starts for Abrogate\_580:

(Start: 40 @41848 has 41 MA's), (Start: 55 @41740 has 1 MA's), (83, 41695), (94, 41611), (133, 41470), (Start: 190 @41263 has 1 MA's), (193, 41242), (194, 41233), (195, 41221), (274, 41011), (285, 40885), (286, 40876), (288, 40867), (292, 40846), (293, 40828), (296, 40792),

Gene: Acme\_60 Start: 40412, Stop: 39288, Start Num: 40

Candidate Starts for Acme\_60:

(Start: 40 @40412 has 41 MA's), (Start: 55 @40304 has 1 MA's), (83, 40259), (104, 40082), (155, 39965), (Start: 190 @39854 has 1 MA's), (193, 39833), (194, 39824), (195, 39812), (216, 39725), (242, 39623), (243, 39620), (277, 39566), (285, 39482), (286, 39473), (288, 39464), (292, 39443), (293, 39425), (296, 39389),

Gene: Adahisdi\_59 Start: 41482, Stop: 40421, Start Num: 40

Candidate Starts for Adahisdi\_59:

(Start: 40 @41482 has 41 MA's), (Start: 55 @41374 has 1 MA's), (83, 41329), (94, 41245), (110, 41122), (128, 41077), (146, 41065), (Start: 190 @40960 has 1 MA's), (193, 40939), (194, 40930), (199, 40894), (214, 40852), (243, 40753), (245, 40741), (277, 40699), (285, 40615), (286, 40606), (288, 40597), (292, 40576), (293, 40558),

Gene: Aeneas\_62 Start: 42219, Stop: 41128, Start Num: 40

Candidate Starts for Aeneas\_62:

(Start: 40 @42219 has 41 MA's), (Start: 55 @42111 has 1 MA's), (83, 42066), (88, 42024), (89, 42021), (94, 41982), (Start: 190 @41694 has 1 MA's), (193, 41673), (194, 41664), (199, 41628), (225, 41526), (243, 41460), (277, 41406), (285, 41322), (286, 41313), (288, 41304), (292, 41283), (293, 41265), (296, 41229),

Gene: Aloeri\_77 Start: 46995, Stop: 48449, Start Num: 34

Candidate Starts for Aloeri\_77:

(Start: 34 @46995 has 5 MA's), (44, 47025), (48, 47055), (50, 47091), (Start: 55 @47124 has 1 MA's), (80, 47355), (147, 47634), (Start: 190 @47754 has 1 MA's), (191, 47757), (194, 47784), (195, 47796), (215, 47886), (239, 47958), (243, 47985), (272, 48087), (277, 48144), (288, 48246), (291, 48258), (292, 48267), (294, 48288),

Gene: Amao\_99 Start: 58453, Stop: 59655, Start Num: 38

Candidate Starts for Amao\_99:

(13, 58306), (18, 58336), (23, 58384), (26, 58399), (Start: 29 @58411 has 1 MA's), (Start: 38 @58453 has 69 MA's), (45, 58471), (Start: 55 @58567 has 1 MA's), (83, 58612), (94, 58696), (103, 58777), (Start: 190 @58984 has 1 MA's), (195, 59026), (253, 59260), (277, 59374), (294, 59518), (296, 59551),

Gene: Arcanine\_61 Start: 41436, Stop: 40348, Start Num: 40

Candidate Starts for Arcanine\_61:

(Start: 40 @41436 has 41 MA's), (Start: 55 @41328 has 1 MA's), (102, 41283), (134, 41199), (185, 41076), (Start: 190 @41022 has 1 MA's), (194, 40992), (195, 40980), (199, 40956), (242, 40815), (243, 40812), (261, 40734), (277, 40626), (285, 40542), (286, 40533), (288, 40524), (292, 40503), (293, 40485), (296, 40449),

Gene: Arib1\_59 Start: 37790, Stop: 39160, Start Num: 33

Candidate Starts for Arib1\_59:

(14, 37688), (15, 37697), (Start: 33 @37790 has 19 MA's), (46, 37826), (48, 37850), (50, 37886), (Start: 55 @37919 has 1 MA's), (94, 38165), (Start: 101 @38228 has 1 MA's), (103, 38246), (121, 38288), (154, 38330), (Start: 190 @38453 has 1 MA's), (194, 38483), (195, 38495), (216, 38582), (242, 38684), (243, 38687), (255, 38750), (277, 38867), (288, 38954), (291, 38966), (292, 38975), (293, 38993), (301, 39110),

Gene: Arlo\_57 Start: 39819, Stop: 38818, Start Num: 40

Candidate Starts for Arlo\_57:

(Start: 40 @39819 has 41 MA's), (Start: 55 @39711 has 1 MA's), (102, 39666), (134, 39582), (185, 39459), (Start: 190 @39405 has 1 MA's), (194, 39375), (199, 39339), (261, 39204), (277, 39096), (285, 39012), (286, 39003), (292, 38973), (293, 38955), (296, 38919),

Gene: BAKA\_151 Start: 79379, Stop: 80692, Start Num: 40

Candidate Starts for BAKA\_151:

(Start: 40 @79379 has 41 MA's), (Start: 55 @79487 has 1 MA's), (83, 79532), (88, 79574), (89, 79577), (94, 79616), (103, 79697), (128, 79835), (138, 79907), (Start: 190 @80153 has 1 MA's), (194, 80183), (195, 80195), (208, 80261), (245, 80372), (277, 80414), (285, 80498), (286, 80507), (288, 80516), (292, 80537), (293, 80555), (296, 80591),

Gene: BaboJay\_99 Start: 59202, Stop: 60419, Start Num: 38

Candidate Starts for BaboJay\_99:

(13, 59055), (18, 59085), (23, 59133), (26, 59148), (Start: 29 @59160 has 1 MA's), (Start: 38 @59202 has 69 MA's), (45, 59220), (Start: 55 @59316 has 1 MA's), (83, 59361), (94, 59445), (118, 59568), (153, 59613), (164, 59625), (192, 59748), (194, 59760), (195, 59772), (294, 60282), (296, 60315), (298, 60330),

Gene: BaconJack\_64 Start: 43186, Stop: 41879, Start Num: 41

Candidate Starts for BaconJack\_64:

(Start: 41 @43186 has 16 MA's), (Start: 55 @43078 has 1 MA's), (59, 43033), (76, 42949), (96, 42769), (122, 42652), (167, 42550), (Start: 190 @42463 has 1 MA's), (194, 42433), (208, 42364), (233, 42316), (246, 42265), (262, 42214), (264, 42211), (277, 42157), (285, 42073), (286, 42064), (288, 42055), (292, 42034), (293, 42016), (296, 41980),

Gene: BadStone\_96 Start: 58580, Stop: 59800, Start Num: 38

Candidate Starts for BadStone\_96:

(13, 58433), (18, 58463), (23, 58511), (26, 58526), (Start: 29 @58538 has 1 MA's), (Start: 38 @58580 has 69 MA's), (45, 58598), (Start: 55 @58694 has 1 MA's), (83, 58739), (94, 58823), (109, 58946),

(125, 58991), (136, 59003), (Start: 190 @59108 has 1 MA's), (193, 59129), (194, 59138), (195, 59150), (199, 59174), (277, 59519), (284, 59591), (288, 59621), (294, 59663), (296, 59696), (298, 59711),

Gene: Bagrid\_152 Start: 80074, Stop: 81387, Start Num: 40

Candidate Starts for Bagrid\_152:

(Start: 40 @80074 has 41 MA's), (Start: 55 @80182 has 1 MA's), (83, 80227), (88, 80269), (89, 80272), (94, 80311), (103, 80392), (128, 80530), (138, 80602), (Start: 190 @80848 has 1 MA's), (194, 80878), (195, 80890), (208, 80956), (245, 81067), (277, 81109), (285, 81193), (286, 81202), (288, 81211), (292, 81232), (293, 81250), (296, 81286),

Gene: Batiatus\_72 Start: 45517, Stop: 46752, Start Num: 33

Candidate Starts for Batiatus\_72:

(Start: 11 @45418 has 6 MA's), (Start: 33 @45517 has 19 MA's), (44, 45547), (48, 45577), (50, 45613), (Start: 55 @45646 has 1 MA's), (81, 45691), (94, 45775), (Start: 101 @45838 has 1 MA's), (148, 45931), (Start: 190 @46072 has 1 MA's), (193, 46093), (194, 46102), (199, 46138), (242, 46282), (243, 46285), (266, 46387), (277, 46444), (288, 46546), (291, 46558), (293, 46585), (301, 46702),

Gene: Bench\_102 Start: 58996, Stop: 60420, Start Num: 38

Candidate Starts for Bench\_102:

(13, 58849), (18, 58879), (23, 58927), (26, 58942), (Start: 29 @58954 has 1 MA's), (Start: 38 @58996 has 69 MA's), (45, 59014), (Start: 55 @59110 has 1 MA's), (83, 59155), (94, 59239), (103, 59320), (118, 59419), (145, 59536), (184, 59638), (Start: 190 @59725 has 1 MA's), (193, 59746), (194, 59755), (199, 59791), (216, 59854), (242, 59956), (243, 59959), (253, 60022), (288, 60241), (294, 60283), (296, 60316), (298, 60331),

Gene: Bhagsy\_59 Start: 38487, Stop: 39632, Start Num: 33

Candidate Starts for Bhagsy\_59:

(14, 38385), (15, 38394), (19, 38421), (Start: 33 @38487 has 19 MA's), (48, 38547), (51, 38586), (Start: 55 @38616 has 1 MA's), (64, 38673), (78, 38760), (85, 38838), (91, 38883), (Start: 190 @39069 has 1 MA's), (192, 39087), (195, 39111), (232, 39246), (237, 39276), (243, 39312), (259, 39375), (277, 39489), (281, 39549), (288, 39582), (290, 39591), (291, 39594),

Gene: BigMau\_61 Start: 40528, Stop: 39233, Start Num: 40

Candidate Starts for BigMau\_61:

(Start: 40 @40528 has 41 MA's), (Start: 55 @40420 has 1 MA's), (106, 40198), (112, 40156), (134, 40093), (185, 39970), (Start: 190 @39916 has 1 MA's), (193, 39895), (194, 39886), (229, 39748), (242, 39685), (243, 39682), (261, 39604), (277, 39496), (288, 39409), (294, 39367), (296, 39334),

Gene: Bigchungji\_59 Start: 40164, Stop: 39178, Start Num: 40

Candidate Starts for Bigchungji\_59:

(Start: 40 @40164 has 41 MA's), (Start: 55 @40056 has 1 MA's), (83, 40011), (94, 39927), (181, 39804), (Start: 190 @39750 has 1 MA's), (193, 39729), (194, 39720), (199, 39684), (219, 39606), (227, 39579), (231, 39573), (242, 39513), (243, 39510), (277, 39456), (284, 39384), (285, 39372), (286, 39363), (288, 39354), (292, 39333), (293, 39315), (296, 39279),

Gene: BilboSwaggins\_97 Start: 58977, Stop: 60200, Start Num: 38

Candidate Starts for BilboSwaggins\_97:

(13, 58830), (18, 58860), (23, 58908), (26, 58923), (Start: 29 @58935 has 1 MA's), (Start: 38 @58977 has 69 MA's), (45, 58995), (Start: 55 @59091 has 1 MA's), (83, 59136), (94, 59220), (118, 59343), (150, 59388), (160, 59400), (Start: 190 @59505 has 1 MA's), (193, 59526), (194, 59535), (199, 59571), (216, 59634), (242, 59736), (243, 59739), (253, 59802), (288, 60021), (294, 60063), (296, 60096), (298, 60111),

Gene: Bircsak\_58 Start: 41982, Stop: 40606, Start Num: 40

Candidate Starts for Bircsak\_58:

(Start: 40 @41982 has 41 MA's), (Start: 55 @41874 has 1 MA's), (83, 41829), (94, 41745), (103, 41664), (116, 41559), (131, 41523), (139, 41454), (157, 41406), (175, 41373), (183, 41346), (191, 41250), (194, 41223), (195, 41211), (242, 41046), (243, 41043), (271, 40941), (277, 40884), (285, 40800), (286, 40791), (288, 40782), (292, 40761), (293, 40743), (296, 40707),

Gene: Bob3\_58 Start: 39785, Stop: 38499, Start Num: 40

Candidate Starts for Bob3\_58:

(Start: 40 @39785 has 41 MA's), (Start: 55 @39677 has 1 MA's), (106, 39455), (112, 39413), (134, 39350), (185, 39227), (Start: 190 @39173 has 1 MA's), (193, 39152), (194, 39143), (229, 39014), (242, 38951), (243, 38948), (261, 38870), (277, 38762), (288, 38675), (294, 38633), (296, 38600),

Gene: Bogie\_57 Start: 38391, Stop: 39584, Start Num: 35

Candidate Starts for Bogie\_57:

(1, 37956), (21, 38328), (Start: 35 @38391 has 13 MA's), (46, 38424), (48, 38448), (50, 38484), (51, 38487), (Start: 55 @38517 has 1 MA's), (73, 38607), (75, 38634), (84, 38697), (85, 38703), (86, 38706), (88, 38724), (89, 38727), (166, 38970), (167, 38973), (192, 39075), (195, 39099), (206, 39156), (207, 39162), (222, 39192), (223, 39198), (243, 39264), (259, 39327), (277, 39441), (281, 39501), (288, 39534), (290, 39543), (291, 39546),

Gene: Bruin\_96 Start: 57875, Stop: 58906, Start Num: 38

Candidate Starts for Bruin\_96:

(13, 57728), (18, 57758), (23, 57806), (26, 57821), (Start: 29 @57833 has 1 MA's), (Start: 38 @57875 has 69 MA's), (45, 57893), (Start: 55 @57989 has 1 MA's), (83, 58034), (94, 58118), (Start: 190 @58322 has 1 MA's), (194, 58352), (199, 58388), (277, 58625), (288, 58727), (294, 58769), (296, 58802), (298, 58817),

Gene: Brusacoram\_55 Start: 36850, Stop: 38346, Start Num: 33

Candidate Starts for Brusacoram\_55:

(14, 36748), (15, 36757), (19, 36784), (Start: 33 @36850 has 19 MA's), (48, 36910), (51, 36949), (Start: 55 @36979 has 1 MA's), (64, 37036), (78, 37123), (85, 37201), (91, 37246), (111, 37408), (128, 37483), (138, 37555), (Start: 190 @37801 has 1 MA's), (192, 37819), (195, 37843), (232, 37978), (237, 38008), (243, 38044), (268, 38146), (277, 38203), (281, 38263), (288, 38296), (290, 38305), (291, 38308),

Gene: Buck\_100 Start: 59565, Stop: 60743, Start Num: 38

Candidate Starts for Buck\_100:

(13, 59418), (18, 59448), (23, 59496), (26, 59511), (Start: 29 @59523 has 1 MA's), (Start: 38 @59565 has 69 MA's), (45, 59583), (Start: 55 @59679 has 1 MA's), (83, 59724), (94, 59808), (118, 59931), (150, 59976), (160, 59988), (Start: 190 @60093 has 1 MA's), (193, 60114), (194, 60123), (199, 60159), (242, 60300), (243, 60303), (267, 60405), (277, 60462), (288, 60564), (294, 60606), (296, 60639), (298, 60654),

Gene: Budgie\_108 Start: 58862, Stop: 60100, Start Num: 37

Candidate Starts for Budgie\_108:

(37, 58862), (46, 58886), (48, 58910), (49, 58922), (Start: 55 @58979 has 1 MA's), (Start: 101 @59288 has 1 MA's), (103, 59306), (121, 59348), (Start: 190 @59513 has 1 MA's), (194, 59546), (196, 59561), (200, 59603), (242, 59738), (243, 59741), (282, 59891), (288, 59924), (293, 59963),

Gene: BugsBunny\_98 Start: 58975, Stop: 60219, Start Num: 38

Candidate Starts for BugsBunny\_98:

(13, 58828), (18, 58858), (23, 58906), (26, 58921), (Start: 29 @58933 has 1 MA's), (Start: 38 @58975 has 69 MA's), (45, 58993), (Start: 55 @59089 has 1 MA's), (83, 59134), (94, 59218), (118, 59341), (168, 59428), (171, 59434), (Start: 190 @59524 has 1 MA's), (193, 59545), (194, 59554), (199, 59590), (216, 59653), (242, 59755), (243, 59758), (253, 59821), (288, 60040), (294, 60082), (296, 60115), (298, 60130),

Gene: Bunnies\_58 Start: 38503, Stop: 39714, Start Num: 33

Candidate Starts for Bunnies\_58:

(14, 38401), (15, 38410), (19, 38437), (Start: 33 @38503 has 19 MA's), (48, 38563), (50, 38599), (Start: 55 @38632 has 1 MA's), (66, 38698), (88, 38848), (100, 38938), (103, 38971), (Start: 190 @39178 has 1 MA's), (194, 39208), (195, 39220), (243, 39394), (259, 39457), (277, 39571), (281, 39631), (288, 39664), (290, 39673), (291, 39676),

Gene: Burton\_59 Start: 41590, Stop: 40172, Start Num: 40

Candidate Starts for Burton\_59:

(Start: 40 @41590 has 41 MA's), (Start: 55 @41482 has 1 MA's), (83, 41437), (94, 41353), (103, 41272), (108, 41242), (119, 41173), (132, 41140), (180, 40978), (182, 40969), (194, 40840), (199, 40804), (229, 40702), (242, 40639), (243, 40636), (261, 40558), (277, 40450), (285, 40366), (286, 40357), (288, 40348), (292, 40327), (293, 40309), (296, 40273),

Gene: Cactus\_103 Start: 58228, Stop: 59160, Start Num: 99

Candidate Starts for Cactus\_103:

(Start: 99 @58228 has 1 MA's), (109, 58306), (125, 58351), (136, 58363), (Start: 190 @58468 has 1 MA's), (193, 58489), (194, 58498), (195, 58510), (199, 58534), (277, 58879), (284, 58951), (288, 58981), (294, 59023), (296, 59056), (298, 59071),

Gene: Camster\_54 Start: 36147, Stop: 37340, Start Num: 35

Candidate Starts for Camster\_54:

(1, 35712), (21, 36084), (Start: 35 @36147 has 13 MA's), (46, 36180), (48, 36204), (50, 36240), (51, 36243), (Start: 55 @36273 has 1 MA's), (73, 36363), (75, 36390), (84, 36453), (85, 36459), (86, 36462), (88, 36480), (89, 36483), (166, 36726), (167, 36729), (192, 36831), (195, 36855), (206, 36912), (207, 36918), (222, 36948), (223, 36954), (243, 37020), (259, 37083), (277, 37197), (281, 37257), (288, 37290), (290, 37299), (291, 37302),

Gene: Carlyle\_58 Start: 38683, Stop: 37388, Start Num: 42

Candidate Starts for Carlyle\_58:

(Start: 42 @38683 has 1 MA's), (44, 38677), (49, 38635), (Start: 55 @38578 has 1 MA's), (59, 38533), (83, 38368), (87, 38338), (96, 38269), (98, 38236), (158, 38074), (162, 38065), (194, 37936), (195, 37924), (230, 37822), (238, 37795), (262, 37729), (264, 37726), (282, 37603), (285, 37588), (287, 37573), (288, 37570), (293, 37531), (302, 37402),

Gene: ChickenDinner\_76 Start: 46995, Stop: 48449, Start Num: 34

Candidate Starts for ChickenDinner\_76:

(Start: 34 @46995 has 5 MA's), (44, 47025), (48, 47055), (50, 47091), (Start: 55 @47124 has 1 MA's), (80, 47355), (147, 47634), (Start: 190 @47754 has 1 MA's), (191, 47757), (194, 47784), (195, 47796), (215, 47886), (239, 47958), (243, 47985), (272, 48087), (277, 48144), (288, 48246), (291, 48258), (292, 48267), (294, 48288),

Gene: ChosenOne\_99 Start: 58035, Stop: 59108, Start Num: 38

Candidate Starts for ChosenOne\_99:

(13, 57888), (18, 57918), (23, 57966), (26, 57981), (Start: 29 @57993 has 1 MA's), (Start: 38 @58035 has 69 MA's), (45, 58053), (Start: 55 @58149 has 1 MA's), (83, 58194), (94, 58278), (118, 58401), (Start: 190 @58455 has 1 MA's), (194, 58485), (199, 58521), (243, 58668), (267, 58770), (288, 58929),

(294, 58971), (296, 59004), (298, 59019),

Gene: ChotaBhai\_99 Start: 58278, Stop: 59519, Start Num: 38

Candidate Starts for ChotaBhai\_99:

(13, 58131), (18, 58161), (23, 58209), (26, 58224), (Start: 29 @58236 has 1 MA's), (Start: 38 @58278 has 69 MA's), (45, 58296), (Start: 55 @58392 has 1 MA's), (83, 58437), (94, 58521), (118, 58644), (163, 58731), (166, 58737), (Start: 190 @58827 has 1 MA's), (194, 58857), (195, 58869), (216, 58956), (243, 59061), (253, 59124), (277, 59238), (294, 59382), (296, 59415),

Gene: Cjw1\_100 Start: 60418, Stop: 61113, Start Num: 190

Candidate Starts for Cjw1\_100:

(Start: 190 @60418 has 1 MA's), (193, 60439), (194, 60448), (199, 60484), (216, 60547), (242, 60649), (243, 60652), (253, 60715), (288, 60934), (294, 60976), (296, 61009), (298, 61024),

Gene: Clown\_11 Start: 6462, Stop: 7739, Start Num: 53

Candidate Starts for Clown\_11:

(Start: 53 @6462 has 1 MA's), (62, 6525), (79, 6591), (100, 6762), (103, 6795), (170, 6921), (198, 7068), (200, 7092), (236, 7215), (247, 7284), (251, 7317), (258, 7329), (273, 7404), (282, 7503), (285, 7518), (288, 7536), (294, 7578), (303, 7710),

Gene: Contagion\_95 Start: 58156, Stop: 59268, Start Num: 38

Candidate Starts for Contagion\_95:

(13, 58009), (18, 58039), (23, 58087), (26, 58102), (Start: 29 @58114 has 1 MA's), (Start: 38 @58156 has 69 MA's), (45, 58174), (Start: 55 @58270 has 1 MA's), (83, 58315), (94, 58399), (117, 58522), (133, 58567), (151, 58579), (Start: 190 @58684 has 1 MA's), (194, 58714), (199, 58750), (277, 58987), (288, 59089), (294, 59131), (296, 59164), (298, 59179),

Gene: Cookies\_96 Start: 58135, Stop: 59445, Start Num: 38

Candidate Starts for Cookies\_96:

(13, 57988), (18, 58018), (23, 58066), (26, 58081), (Start: 29 @58093 has 1 MA's), (Start: 38 @58135 has 69 MA's), (45, 58153), (Start: 55 @58249 has 1 MA's), (83, 58294), (94, 58378), (107, 58495), (115, 58549), (123, 58576), (177, 58753), (Start: 190 @58861 has 1 MA's), (193, 58882), (194, 58891), (199, 58927), (242, 58981), (243, 58984), (277, 59164), (294, 59308), (296, 59341),

Gene: CrystalP\_98 Start: 58977, Stop: 60200, Start Num: 38

Candidate Starts for CrystalP\_98:

(13, 58830), (18, 58860), (23, 58908), (26, 58923), (Start: 29 @58935 has 1 MA's), (Start: 38 @58977 has 69 MA's), (45, 58995), (Start: 55 @59091 has 1 MA's), (83, 59136), (94, 59220), (118, 59343), (150, 59388), (160, 59400), (Start: 190 @59505 has 1 MA's), (193, 59526), (194, 59535), (199, 59571), (216, 59634), (242, 59736), (243, 59739), (253, 59802), (288, 60021), (294, 60063), (296, 60096), (298, 60111),

Gene: DLane\_70 Start: 45071, Stop: 46330, Start Num: 33

Candidate Starts for DLane\_70:

(Start: 29 @45047 has 1 MA's), (Start: 33 @45071 has 19 MA's), (36, 45077), (48, 45131), (50, 45167), (Start: 55 @45200 has 1 MA's), (83, 45245), (94, 45329), (122, 45455), (Start: 190 @45626 has 1 MA's), (193, 45647), (194, 45656), (195, 45668), (200, 45713), (224, 45785), (242, 45854), (243, 45857), (255, 45920), (277, 46037), (288, 46124), (291, 46136), (293, 46163),

Gene: Donovan\_57 Start: 37840, Stop: 39126, Start Num: 11

Candidate Starts for Donovan\_57:

(4, 37789), (8, 37804), (Start: 11 @37840 has 6 MA's), (27, 37933), (Start: 33 @37951 has 19 MA's), (46, 37987), (48, 38011), (50, 38047), (Start: 55 @38080 has 1 MA's), (73, 38170), (75, 38197), (84,

38260), (85, 38266), (86, 38269), (88, 38287), (89, 38290), (121, 38452), (154, 38494), (Start: 190 @38617 has 1 MA's), (194, 38647), (195, 38659), (196, 38662), (199, 38683), (206, 38716), (207, 38722), (222, 38752), (223, 38758), (243, 38824), (268, 38926), (277, 38983), (280, 39028), (281, 39043), (288, 39076), (290, 39085), (291, 39088),

Gene: Doom\_57 Start: 40834, Stop: 39845, Start Num: 43

Candidate Starts for Doom\_57:

(Start: 43 @40834 has 1 MA's), (44, 40828), (48, 40798), (49, 40786), (Start: 55 @40729 has 1 MA's), (69, 40645), (103, 40408), (Start: 190 @40312 has 1 MA's), (194, 40282), (195, 40270), (200, 40225), (212, 40213), (243, 40183), (282, 40060), (285, 40045), (287, 40030), (288, 40027), (293, 39988), (302, 39859),

Gene: Doomslug\_89 Start: 47748, Stop: 49190, Start Num: 20

Candidate Starts for Doomslug\_89:

(20, 47748), (Start: 33 @47781 has 19 MA's), (44, 47811), (48, 47841), (Start: 55 @47910 has 1 MA's), (84, 48087), (85, 48093), (86, 48096), (88, 48114), (89, 48117), (Start: 101 @48219 has 1 MA's), (103, 48237), (121, 48279), (164, 48366), (166, 48372), (Start: 190 @48462 has 1 MA's), (193, 48483), (194, 48492), (225, 48630), (242, 48693), (243, 48696), (261, 48774), (277, 48882), (285, 48966), (288, 48984), (291, 48996), (292, 49005), (293, 49023),

Gene: DrDrey\_99 Start: 59457, Stop: 60938, Start Num: 38

Candidate Starts for DrDrey\_99:

(13, 59310), (18, 59340), (23, 59388), (26, 59403), (Start: 29 @59415 has 1 MA's), (Start: 38 @59457 has 69 MA's), (45, 59475), (Start: 55 @59571 has 1 MA's), (83, 59616), (103, 59781), (129, 59931), (135, 59979), (140, 60015), (159, 60084), (166, 60105), (173, 60123), (Start: 190 @60246 has 1 MA's), (193, 60267), (194, 60276), (195, 60288), (199, 60312), (277, 60657), (284, 60729), (288, 60759), (294, 60801), (296, 60834), (298, 60849),

Gene: Duke13\_147 Start: 77664, Stop: 78977, Start Num: 40

Candidate Starts for Duke13\_147:

(Start: 40 @77664 has 41 MA's), (Start: 55 @77772 has 1 MA's), (83, 77817), (88, 77859), (89, 77862), (94, 77901), (103, 77982), (128, 78120), (138, 78192), (Start: 190 @78438 has 1 MA's), (194, 78468), (195, 78480), (208, 78546), (245, 78657), (277, 78699), (285, 78783), (286, 78792), (288, 78801), (292, 78822), (293, 78840), (296, 78876),

Gene: Dulcie\_59 Start: 40714, Stop: 39728, Start Num: 40

Candidate Starts for Dulcie\_59:

(Start: 40 @40714 has 41 MA's), (Start: 55 @40606 has 1 MA's), (83, 40561), (94, 40477), (103, 40396), (181, 40354), (Start: 190 @40300 has 1 MA's), (193, 40279), (194, 40270), (199, 40234), (277, 39991), (288, 39904), (294, 39862), (296, 39829),

Gene: Dumbo\_99 Start: 58258, Stop: 59496, Start Num: 38

Candidate Starts for Dumbo\_99:

(13, 58111), (18, 58141), (23, 58189), (26, 58204), (Start: 29 @58216 has 1 MA's), (Start: 38 @58258 has 69 MA's), (45, 58276), (Start: 55 @58372 has 1 MA's), (83, 58417), (94, 58501), (118, 58624), (Start: 190 @58795 has 1 MA's), (194, 58825), (216, 58924), (242, 59026), (243, 59029), (277, 59215), (288, 59317), (294, 59359), (296, 59392), (298, 59407),

Gene: Dusk\_96 Start: 58240, Stop: 59460, Start Num: 38

Candidate Starts for Dusk\_96:

(13, 58093), (18, 58123), (23, 58171), (26, 58186), (Start: 29 @58198 has 1 MA's), (Start: 38 @58240 has 69 MA's), (45, 58258), (Start: 55 @58354 has 1 MA's), (83, 58399), (94, 58483), (109, 58606), (125, 58651), (136, 58663), (Start: 190 @58768 has 1 MA's), (193, 58789), (194, 58798), (195, 58810),

(199, 58834), (277, 59179), (284, 59251), (288, 59281), (294, 59323), (296, 59356), (298, 59371),

Gene: Dynamo\_53 Start: 36425, Stop: 37618, Start Num: 35

Candidate Starts for Dynamo\_53:

(1, 35990), (21, 36362), (Start: 35 @36425 has 13 MA's), (46, 36458), (48, 36482), (50, 36518), (51, 36521), (Start: 55 @36551 has 1 MA's), (73, 36641), (75, 36668), (84, 36731), (85, 36737), (86, 36740), (88, 36758), (89, 36761), (166, 37004), (167, 37007), (192, 37109), (195, 37133), (206, 37190), (207, 37196), (222, 37226), (223, 37232), (243, 37298), (259, 37361), (277, 37475), (281, 37535), (288, 37568), (290, 37577), (291, 37580),

Gene: Edtherson\_58 Start: 40825, Stop: 39680, Start Num: 40

Candidate Starts for Edtherson\_58:

(Start: 40 @40825 has 41 MA's), (Start: 55 @40717 has 1 MA's), (83, 40672), (94, 40588), (103, 40507), (119, 40429), (127, 40405), (158, 40354), (Start: 190 @40240 has 1 MA's), (193, 40219), (194, 40210), (199, 40174), (242, 40015), (243, 40012), (277, 39958), (285, 39874), (286, 39865), (288, 39856), (292, 39835),

Gene: Elite2014\_98 Start: 58034, Stop: 59107, Start Num: 38

Candidate Starts for Elite2014\_98:

(13, 57887), (18, 57917), (23, 57965), (26, 57980), (Start: 29 @57992 has 1 MA's), (Start: 38 @58034 has 69 MA's), (45, 58052), (Start: 55 @58148 has 1 MA's), (83, 58193), (94, 58277), (118, 58400), (Start: 190 @58454 has 1 MA's), (194, 58484), (199, 58520), (243, 58667), (267, 58769), (288, 58928), (294, 58970), (296, 59003), (298, 59018),

Gene: Elph10\_99 Start: 57919, Stop: 59142, Start Num: 38

Candidate Starts for Elph10\_99:

(13, 57772), (18, 57802), (23, 57850), (26, 57865), (Start: 29 @57877 has 1 MA's), (Start: 38 @57919 has 69 MA's), (45, 57937), (Start: 55 @58033 has 1 MA's), (83, 58078), (94, 58162), (118, 58285), (150, 58330), (160, 58342), (Start: 190 @58447 has 1 MA's), (193, 58468), (194, 58477), (199, 58513), (216, 58576), (242, 58678), (243, 58681), (253, 58744), (288, 58963), (294, 59005), (296, 59038), (298, 59053),

Gene: EmiRose\_39 Start: 33923, Stop: 32721, Start Num: 41

Candidate Starts for EmiRose\_39:

(24, 33983), (30, 33965), (Start: 41 @33923 has 16 MA's), (52, 33830), (72, 33713), (79, 33692), (89, 33608), (93, 33575), (94, 33569), (95, 33563), (97, 33542), (194, 33368), (195, 33356), (196, 33353), (199, 33332), (248, 33152), (269, 33065), (283, 32939), (288, 32906), (291, 32894), (294, 32864), (299, 32807), (302, 32738), (304, 32729),

Gene: Emmina\_99 Start: 57618, Stop: 58883, Start Num: 29

Candidate Starts for Emmina\_99:

(13, 57513), (18, 57543), (23, 57591), (26, 57606), (Start: 29 @57618 has 1 MA's), (Start: 38 @57660 has 69 MA's), (45, 57678), (Start: 55 @57774 has 1 MA's), (83, 57819), (94, 57903), (118, 58026), (150, 58071), (160, 58083), (Start: 190 @58188 has 1 MA's), (193, 58209), (194, 58218), (199, 58254), (216, 58317), (242, 58419), (243, 58422), (253, 58485), (288, 58704), (294, 58746), (296, 58779), (298, 58794),

Gene: EricMillard\_143 Start: 79016, Stop: 80329, Start Num: 40

Candidate Starts for EricMillard\_143:

(Start: 40 @79016 has 41 MA's), (Start: 55 @79124 has 1 MA's), (83, 79169), (88, 79211), (89, 79214), (94, 79253), (103, 79334), (128, 79472), (138, 79544), (Start: 190 @79790 has 1 MA's), (194, 79820), (195, 79832), (208, 79898), (245, 80009), (277, 80051), (285, 80135), (286, 80144), (288, 80153), (292, 80174), (293, 80192), (296, 80228),

Gene: Etoile\_57 Start: 37732, Stop: 38952, Start Num: 33

Candidate Starts for Etoile\_57:

(14, 37630), (15, 37639), (Start: 33 @37732 has 19 MA's), (46, 37768), (48, 37792), (Start: 55 @37861 has 1 MA's), (85, 38044), (86, 38047), (88, 38065), (89, 38068), (121, 38230), (154, 38272), (Start: 190 @38395 has 1 MA's), (194, 38425), (195, 38437), (216, 38524), (242, 38626), (243, 38629), (255, 38692), (277, 38809), (280, 38854), (281, 38869), (288, 38902), (290, 38911), (291, 38914),

Gene: Eureka\_98 Start: 58947, Stop: 60071, Start Num: 38

Candidate Starts for Eureka\_98:

(13, 58800), (18, 58830), (23, 58878), (26, 58893), (Start: 29 @58905 has 1 MA's), (Start: 38 @58947 has 69 MA's), (45, 58965), (Start: 55 @59061 has 1 MA's), (83, 59106), (150, 59355), (Start: 190 @59475 has 1 MA's), (194, 59505), (195, 59517), (199, 59541), (200, 59562), (218, 59619), (243, 59709), (277, 59790), (288, 59892), (294, 59934), (296, 59967), (298, 59982),

Gene: Eyeball\_60 Start: 40995, Stop: 39775, Start Num: 40

Candidate Starts for Eyeball\_60:

(Start: 40 @40995 has 41 MA's), (Start: 55 @40887 has 1 MA's), (83, 40842), (93, 40764), (94, 40758), (110, 40635), (139, 40599), (Start: 190 @40452 has 1 MA's), (194, 40422), (199, 40386), (219, 40308), (227, 40281), (231, 40275), (242, 40215), (271, 40110), (277, 40053), (285, 39969), (286, 39960), (288, 39951), (292, 39930), (293, 39912), (296, 39876),

Gene: FairyPath\_99 Start: 59153, Stop: 60376, Start Num: 38

Candidate Starts for FairyPath\_99:

(13, 59006), (18, 59036), (23, 59084), (26, 59099), (Start: 29 @59111 has 1 MA's), (Start: 38 @59153 has 69 MA's), (45, 59171), (Start: 55 @59267 has 1 MA's), (83, 59312), (94, 59396), (109, 59519), (125, 59564), (136, 59576), (Start: 190 @59681 has 1 MA's), (194, 59711), (242, 59906), (243, 59909), (260, 59987), (277, 60095), (288, 60197), (294, 60239), (296, 60272), (298, 60287),

Gene: Filch\_101 Start: 58232, Stop: 59455, Start Num: 38

Candidate Starts for Filch\_101:

(13, 58085), (18, 58115), (23, 58163), (26, 58178), (Start: 29 @58190 has 1 MA's), (Start: 38 @58232 has 69 MA's), (45, 58250), (Start: 55 @58346 has 1 MA's), (83, 58391), (94, 58475), (118, 58598), (150, 58643), (160, 58655), (Start: 190 @58760 has 1 MA's), (193, 58781), (194, 58790), (199, 58826), (216, 58889), (242, 58991), (243, 58994), (253, 59057), (288, 59276), (294, 59318), (296, 59351), (298, 59366),

Gene: FireRed\_102 Start: 59115, Stop: 60347, Start Num: 38

Candidate Starts for FireRed\_102:

(13, 58968), (18, 58998), (23, 59046), (26, 59061), (Start: 29 @59073 has 1 MA's), (Start: 38 @59115 has 69 MA's), (45, 59133), (Start: 55 @59229 has 1 MA's), (83, 59274), (94, 59358), (118, 59481), (172, 59565), (194, 59682), (199, 59718), (216, 59781), (242, 59883), (243, 59886), (253, 59949), (288, 60168), (294, 60210), (296, 60243), (298, 60258),

Gene: Fishburne\_57 Start: 37732, Stop: 38952, Start Num: 33

Candidate Starts for Fishburne\_57:

(14, 37630), (15, 37639), (Start: 33 @37732 has 19 MA's), (46, 37768), (48, 37792), (Start: 55 @37861 has 1 MA's), (85, 38044), (86, 38047), (88, 38065), (89, 38068), (121, 38230), (154, 38272), (Start: 190 @38395 has 1 MA's), (194, 38425), (195, 38437), (216, 38524), (242, 38626), (243, 38629), (255, 38692), (277, 38809), (280, 38854), (281, 38869), (288, 38902), (290, 38911), (291, 38914),

Gene: Florinda\_85 Start: 47777, Stop: 49225, Start Num: 34

Candidate Starts for Florinda\_85:

(Start: 29 @47753 has 1 MA's), (Start: 34 @47777 has 5 MA's), (36, 47783), (48, 47837), (50, 47873), (Start: 55 @47906 has 1 MA's), (83, 47951), (94, 48035), (107, 48152), (114, 48206), (120, 48233), (159, 48410), (Start: 190 @48518 has 1 MA's), (191, 48521), (195, 48560), (219, 48662), (221, 48668), (242, 48743), (243, 48746), (277, 48932), (288, 49019), (291, 49031), (292, 49040), (294, 49061), (301, 49175),

Gene: Gachnar\_58 Start: 39952, Stop: 39239, Start Num: 85

Candidate Starts for Gachnar\_58:

(Start: 43 @40234 has 1 MA's), (44, 40228), (48, 40198), (49, 40186), (Start: 55 @40129 has 1 MA's), (69, 40045), (85, 39952), (88, 39931), (95, 39883), (103, 39808), (195, 39670), (242, 39580), (243, 39577), (282, 39454), (285, 39439), (287, 39424), (288, 39421), (293, 39382), (302, 39253),

Gene: GaloreK\_61 Start: 39256, Stop: 40605, Start Num: 33

Candidate Starts for GaloreK\_61:

(14, 39154), (15, 39163), (Start: 33 @39256 has 19 MA's), (46, 39292), (48, 39316), (50, 39352), (Start: 55 @39385 has 1 MA's), (73, 39475), (84, 39544), (85, 39550), (86, 39553), (88, 39571), (89, 39574), (121, 39736), (154, 39778), (Start: 190 @39901 has 1 MA's), (193, 39922), (194, 39931), (199, 39967), (216, 40030), (242, 40132), (243, 40135), (259, 40198), (277, 40312), (288, 40399), (291, 40411), (292, 40420), (301, 40555),

Gene: Girafales\_82 Start: 47568, Stop: 48830, Start Num: 34

Candidate Starts for Girafales\_82:

(Start: 29 @47544 has 1 MA's), (Start: 34 @47568 has 5 MA's), (36, 47574), (48, 47628), (50, 47664), (Start: 55 @47697 has 1 MA's), (83, 47742), (93, 47820), (94, 47826), (Start: 101 @47889 has 1 MA's), (103, 47907), (112, 47952), (126, 47982), (Start: 190 @48123 has 1 MA's), (194, 48153), (195, 48165), (219, 48267), (221, 48273), (242, 48348), (243, 48351), (277, 48537), (288, 48624), (291, 48636), (292, 48645), (294, 48666), (301, 48780),

Gene: Goku\_98 Start: 58676, Stop: 59800, Start Num: 38

Candidate Starts for Goku\_98:

(13, 58529), (18, 58559), (23, 58607), (26, 58622), (Start: 29 @58634 has 1 MA's), (Start: 38 @58676 has 69 MA's), (45, 58694), (Start: 55 @58790 has 1 MA's), (83, 58835), (150, 59084), (Start: 190 @59204 has 1 MA's), (194, 59234), (195, 59246), (199, 59270), (200, 59291), (218, 59348), (243, 59438), (277, 59519), (288, 59621), (294, 59663), (296, 59696), (298, 59711),

Gene: Gompeii16\_58 Start: 41983, Stop: 40607, Start Num: 40

Candidate Starts for Gompeii16\_58:

(Start: 40 @41983 has 41 MA's), (Start: 55 @41875 has 1 MA's), (83, 41830), (94, 41746), (103, 41665), (116, 41560), (131, 41524), (139, 41455), (157, 41407), (175, 41374), (183, 41347), (191, 41251), (194, 41224), (195, 41212), (242, 41047), (243, 41044), (271, 40942), (277, 40885), (285, 40801), (286, 40792), (288, 40783), (292, 40762), (293, 40744), (296, 40708),

Gene: GreaseLightnin\_59 Start: 38734, Stop: 39948, Start Num: 33

Candidate Starts for GreaseLightnin\_59:

(14, 38632), (15, 38641), (19, 38668), (Start: 33 @38734 has 19 MA's), (48, 38794), (50, 38830), (Start: 55 @38863 has 1 MA's), (66, 38929), (88, 39079), (100, 39169), (103, 39202), (Start: 190 @39409 has 1 MA's), (194, 39439), (195, 39451), (243, 39625), (255, 39688), (277, 39805), (281, 39865), (288, 39898), (290, 39907), (291, 39910),

Gene: Greep\_103 Start: 59814, Stop: 61037, Start Num: 38

Candidate Starts for Greep\_103:

(13, 59667), (18, 59697), (23, 59745), (26, 59760), (Start: 29 @59772 has 1 MA's), (Start: 38 @59814 has 69 MA's), (45, 59832), (Start: 55 @59928 has 1 MA's), (83, 59973), (94, 60057), (118, 60180),

(150, 60225), (160, 60237), (Start: 190 @60342 has 1 MA's), (193, 60363), (194, 60372), (199, 60408), (216, 60471), (242, 60573), (243, 60576), (253, 60639), (288, 60858), (294, 60900), (296, 60933), (298, 60948),

Gene: Grimmer\_76 Start: 44215, Stop: 45450, Start Num: 35

Candidate Starts for Grimmer\_76:

(3, 44038), (5, 44044), (6, 44053), (9, 44062), (Start: 35 @44215 has 13 MA's), (48, 44272), (Start: 55 @44341 has 1 MA's), (84, 44401), (85, 44407), (86, 44410), (Start: 101 @44533 has 1 MA's), (189, 44755), (Start: 190 @44758 has 1 MA's), (194, 44788), (195, 44800), (196, 44803), (243, 44974), (257, 45040), (277, 45160), (288, 45247), (291, 45259), (294, 45289),

Gene: HUHilltop\_55 Start: 36648, Stop: 37841, Start Num: 35

Candidate Starts for HUHilltop\_55:

(1, 36213), (21, 36585), (Start: 35 @36648 has 13 MA's), (46, 36681), (48, 36705), (50, 36741), (51, 36744), (Start: 55 @36774 has 1 MA's), (73, 36864), (75, 36891), (84, 36954), (85, 36960), (86, 36963), (88, 36981), (89, 36984), (166, 37227), (167, 37230), (192, 37332), (195, 37356), (206, 37413), (207, 37419), (222, 37449), (223, 37455), (243, 37521), (259, 37584), (277, 37698), (281, 37758), (288, 37791), (290, 37800), (291, 37803),

Gene: Hami1\_54 Start: 36085, Stop: 34859, Start Num: 41

Candidate Starts for Hami1\_54:

(Start: 41 @36085 has 16 MA's), (Start: 55 @35977 has 1 MA's), (80, 35746), (Start: 190 @35344 has 1 MA's), (194, 35314), (199, 35278), (243, 35191), (277, 35137), (288, 35035), (294, 34993), (296, 34960),

Gene: HanKaySha\_100 Start: 58428, Stop: 59852, Start Num: 38

Candidate Starts for HanKaySha\_100:

(13, 58281), (18, 58311), (23, 58359), (26, 58374), (Start: 29 @58386 has 1 MA's), (Start: 38 @58428 has 69 MA's), (45, 58446), (Start: 55 @58542 has 1 MA's), (83, 58587), (94, 58671), (118, 58851), (148, 58968), (184, 59070), (Start: 190 @59157 has 1 MA's), (194, 59187), (242, 59382), (243, 59385), (288, 59673), (294, 59715), (296, 59748), (298, 59763),

Gene: HarryOW\_58 Start: 40127, Stop: 39003, Start Num: 40

Candidate Starts for HarryOW\_58:

(Start: 40 @40127 has 41 MA's), (Start: 55 @40019 has 1 MA's), (83, 39974), (85, 39953), (86, 39950), (94, 39890), (104, 39797), (155, 39680), (Start: 190 @39569 has 1 MA's), (193, 39548), (194, 39539), (216, 39440), (277, 39281), (285, 39197), (286, 39188), (288, 39179), (292, 39158), (293, 39140), (296, 39104),

Gene: Henry\_96 Start: 58282, Stop: 59505, Start Num: 38

Candidate Starts for Henry\_96:

(13, 58135), (18, 58165), (23, 58213), (26, 58228), (Start: 29 @58240 has 1 MA's), (Start: 38 @58282 has 69 MA's), (45, 58300), (Start: 55 @58396 has 1 MA's), (83, 58441), (94, 58525), (118, 58648), (150, 58693), (160, 58705), (Start: 190 @58810 has 1 MA's), (193, 58831), (194, 58840), (199, 58876), (216, 58939), (242, 59041), (243, 59044), (253, 59107), (288, 59326), (294, 59368), (296, 59401), (298, 59416),

Gene: HermioneGrange\_60 Start: 41022, Stop: 39727, Start Num: 40

Candidate Starts for HermioneGrange\_60:

(Start: 40 @41022 has 41 MA's), (Start: 55 @40914 has 1 MA's), (106, 40692), (112, 40650), (134, 40587), (185, 40464), (Start: 190 @40410 has 1 MA's), (193, 40389), (194, 40380), (229, 40242), (242, 40179), (243, 40176), (261, 40098), (277, 39990), (288, 39903), (294, 39861), (296, 39828),

Gene: HokkenD\_143 Start: 79820, Stop: 81232, Start Num: 41

Candidate Starts for HokkenD\_143:

(Start: 41 @79820 has 16 MA's), (Start: 55 @79928 has 1 MA's), (59, 79973), (76, 80057), (96, 80237), (122, 80354), (167, 80456), (Start: 190 @80543 has 1 MA's), (194, 80573), (199, 80609), (228, 80711), (242, 80774), (243, 80777), (269, 80894), (284, 81026), (285, 81038), (286, 81047), (288, 81056), (292, 81077), (293, 81095), (296, 81131),

Gene: Hoonter\_102 Start: 58733, Stop: 59956, Start Num: 38

Candidate Starts for Hoonter\_102:

(13, 58586), (18, 58616), (23, 58664), (26, 58679), (Start: 29 @58691 has 1 MA's), (Start: 38 @58733 has 69 MA's), (45, 58751), (Start: 55 @58847 has 1 MA's), (83, 58892), (94, 58976), (118, 59099), (150, 59144), (160, 59156), (Start: 190 @59261 has 1 MA's), (193, 59282), (194, 59291), (199, 59327), (216, 59390), (242, 59492), (243, 59495), (253, 59558), (288, 59777), (294, 59819), (296, 59852), (298, 59867),

Gene: Hokey\_100 Start: 59239, Stop: 60462, Start Num: 38

Candidate Starts for Hokey\_100:

(13, 59092), (18, 59122), (23, 59170), (26, 59185), (Start: 29 @59197 has 1 MA's), (Start: 38 @59239 has 69 MA's), (45, 59257), (Start: 55 @59353 has 1 MA's), (83, 59398), (94, 59482), (118, 59605), (150, 59650), (160, 59662), (Start: 190 @59767 has 1 MA's), (193, 59788), (194, 59797), (199, 59833), (216, 59896), (242, 59998), (243, 60001), (253, 60064), (288, 60283), (294, 60325), (296, 60358), (298, 60373),

Gene: HufflyPuff\_101 Start: 59323, Stop: 60573, Start Num: 39

Candidate Starts for HufflyPuff\_101:

(12, 59176), (17, 59206), (22, 59254), (25, 59269), (28, 59281), (Start: 39 @59323 has 1 MA's), (45, 59341), (Start: 55 @59437 has 1 MA's), (83, 59482), (94, 59566), (103, 59647), (111, 59710), (128, 59785), (138, 59857), (Start: 190 @60103 has 1 MA's), (194, 60133), (195, 60145), (242, 60235), (243, 60238), (294, 60436), (296, 60469),

Gene: Jebeks\_54 Start: 35945, Stop: 37138, Start Num: 35

Candidate Starts for Jebeks\_54:

(1, 35510), (21, 35882), (Start: 35 @35945 has 13 MA's), (46, 35978), (48, 36002), (50, 36038), (51, 36041), (Start: 55 @36071 has 1 MA's), (73, 36161), (75, 36188), (84, 36251), (85, 36257), (86, 36260), (88, 36278), (89, 36281), (166, 36524), (167, 36527), (192, 36629), (195, 36653), (206, 36710), (207, 36716), (222, 36746), (223, 36752), (243, 36818), (259, 36881), (277, 36995), (281, 37055), (288, 37088), (290, 37097), (291, 37100),

Gene: Jerm2\_60 Start: 41277, Stop: 39982, Start Num: 40

Candidate Starts for Jerm2\_60:

(Start: 40 @41277 has 41 MA's), (Start: 55 @41169 has 1 MA's), (106, 40947), (112, 40905), (134, 40842), (185, 40719), (Start: 190 @40665 has 1 MA's), (193, 40644), (194, 40635), (229, 40497), (242, 40434), (243, 40431), (261, 40353), (277, 40245), (288, 40158), (294, 40116), (296, 40083),

Gene: Jinkies\_15 Start: 10934, Stop: 12199, Start Num: 57

Candidate Starts for Jinkies\_15:

(2, 10538), (18, 10643), (Start: 57 @10934 has 1 MA's), (58, 10952), (61, 10967), (69, 11000), (71, 11009), (79, 11066), (103, 11270), (187, 11486), (191, 11513), (192, 11528), (197, 11558), (204, 11603), (242, 11747), (243, 11750), (244, 11753), (278, 11930), (280, 11963), (285, 11987), (288, 12005), (292, 12026), (293, 12044), (294, 12047), (295, 12050),

Gene: JuliaChild\_60 Start: 40762, Stop: 39722, Start Num: 40

Candidate Starts for JuliaChild\_60:

(Start: 40 @40762 has 41 MA's), (Start: 55 @40654 has 1 MA's), (102, 40609), (123, 40567), (126, 40564), (134, 40525), (185, 40402), (Start: 190 @40348 has 1 MA's), (193, 40327), (194, 40318), (229, 40180), (242, 40117), (243, 40114), (261, 40036), (277, 39928), (288, 39841), (297, 39757),

Gene: Kanye\_96 Start: 58485, Stop: 59714, Start Num: 38

Candidate Starts for Kanye\_96:

(13, 58338), (18, 58368), (23, 58416), (26, 58431), (Start: 29 @58443 has 1 MA's), (Start: 38 @58485 has 69 MA's), (45, 58503), (Start: 55 @58599 has 1 MA's), (83, 58644), (94, 58728), (118, 58851), (150, 58896), (160, 58908), (Start: 190 @59013 has 1 MA's), (193, 59034), (194, 59043), (199, 59079), (226, 59181), (242, 59244), (243, 59247), (261, 59325), (277, 59433), (288, 59535), (294, 59577), (296, 59610), (298, 59625),

Gene: Kari\_57 Start: 37729, Stop: 38949, Start Num: 33

Candidate Starts for Kari\_57:

(14, 37627), (15, 37636), (Start: 33 @37729 has 19 MA's), (46, 37765), (48, 37789), (Start: 55 @37858 has 1 MA's), (85, 38041), (86, 38044), (88, 38062), (89, 38065), (121, 38227), (154, 38269), (Start: 190 @38392 has 1 MA's), (194, 38422), (195, 38434), (216, 38521), (242, 38623), (243, 38626), (255, 38689), (277, 38806), (280, 38851), (281, 38866), (288, 38899), (290, 38908), (291, 38911),

Gene: Kimchi1738\_46 Start: 42717, Stop: 41416, Start Num: 47

Candidate Starts for Kimchi1738\_46:

(Start: 47 @42717 has 1 MA's), (56, 42636), (60, 42591), (63, 42582), (65, 42567), (72, 42546), (79, 42522), (83, 42483), (84, 42468), (85, 42462), (88, 42441), (90, 42435), (93, 42405), (121, 42276), (152, 42213), (165, 42186), (177, 42159), (187, 42117), (200, 42006), (225, 41928), (242, 41868), (243, 41865), (248, 41838), (249, 41820), (250, 41814), (259, 41796), (275, 41727), (277, 41685), (279, 41643), (283, 41616), (285, 41601), (287, 41586), (288, 41583), (290, 41574), (293, 41544), (294, 41541),

Gene: Ksquared\_56 Start: 38503, Stop: 39714, Start Num: 33

Candidate Starts for Ksquared\_56:

(14, 38401), (15, 38410), (19, 38437), (Start: 33 @38503 has 19 MA's), (48, 38563), (50, 38599), (Start: 55 @38632 has 1 MA's), (66, 38698), (88, 38848), (100, 38938), (103, 38971), (Start: 190 @39178 has 1 MA's), (194, 39208), (195, 39220), (243, 39394), (259, 39457), (277, 39571), (281, 39631), (288, 39664), (290, 39673), (291, 39676),

Gene: Kykar\_59 Start: 40569, Stop: 39463, Start Num: 40

Candidate Starts for Kykar\_59:

(Start: 40 @40569 has 41 MA's), (Start: 55 @40461 has 1 MA's), (83, 40416), (94, 40332), (110, 40209), (115, 40194), (160, 40101), (Start: 190 @40008 has 1 MA's), (194, 39978), (200, 39921), (245, 39768), (277, 39726), (282, 39672), (288, 39639), (296, 39564),

Gene: Langerak\_58 Start: 37748, Stop: 38929, Start Num: 33

Candidate Starts for Langerak\_58:

(14, 37646), (15, 37655), (Start: 33 @37748 has 19 MA's), (46, 37784), (48, 37808), (50, 37844), (Start: 55 @37877 has 1 MA's), (73, 37967), (84, 38036), (85, 38042), (86, 38045), (88, 38063), (89, 38066), (121, 38228), (154, 38270), (192, 38411), (195, 38435), (216, 38522), (243, 38627), (268, 38729), (277, 38786), (280, 38831), (281, 38846), (288, 38879), (290, 38888), (291, 38891),

Gene: Lilizi\_100 Start: 58467, Stop: 59891, Start Num: 38

Candidate Starts for Lilizi\_100:

(13, 58320), (18, 58350), (23, 58398), (26, 58413), (Start: 29 @58425 has 1 MA's), (Start: 38 @58467 has 69 MA's), (45, 58485), (Start: 55 @58581 has 1 MA's), (83, 58626), (94, 58710), (103, 58791), (118, 58890), (145, 59007), (184, 59109), (Start: 190 @59196 has 1 MA's), (193, 59217), (194, 59226),

(199, 59262), (216, 59325), (242, 59427), (243, 59430), (253, 59493), (288, 59712), (294, 59754), (296, 59787), (298, 59802),

Gene: Lilpickle\_98 Start: 58034, Stop: 59107, Start Num: 38

Candidate Starts for Lilpickle\_98:

(13, 57887), (18, 57917), (23, 57965), (26, 57980), (Start: 29 @57992 has 1 MA's), (Start: 38 @58034 has 69 MA's), (45, 58052), (Start: 55 @58148 has 1 MA's), (83, 58193), (94, 58277), (118, 58400), (Start: 190 @58454 has 1 MA's), (194, 58484), (199, 58520), (243, 58667), (267, 58769), (288, 58928), (294, 58970), (296, 59003), (298, 59018),

Gene: LittleE\_151 Start: 79162, Stop: 80334, Start Num: 41

Candidate Starts for LittleE\_151:

(Start: 41 @79162 has 16 MA's), (Start: 55 @79270 has 1 MA's), (80, 79501), (169, 79819), (186, 79849), (188, 79885), (198, 79963), (203, 79990), (205, 79996), (242, 80056), (243, 80059), (277, 80113), (289, 80221), (297, 80299),

Gene: MPhalcon\_100 Start: 58576, Stop: 59808, Start Num: 38

Candidate Starts for MPhalcon\_100:

(13, 58429), (18, 58459), (23, 58507), (26, 58522), (Start: 29 @58534 has 1 MA's), (Start: 38 @58576 has 69 MA's), (45, 58594), (Start: 55 @58690 has 1 MA's), (83, 58735), (94, 58819), (118, 58942), (172, 59026), (194, 59143), (199, 59179), (216, 59242), (242, 59344), (243, 59347), (253, 59410), (288, 59629), (294, 59671), (296, 59704), (298, 59719),

Gene: MadamMonkfish\_99 Start: 58082, Stop: 59314, Start Num: 38

Candidate Starts for MadamMonkfish\_99:

(13, 57935), (18, 57965), (23, 58013), (26, 58028), (Start: 29 @58040 has 1 MA's), (Start: 38 @58082 has 69 MA's), (45, 58100), (Start: 55 @58196 has 1 MA's), (83, 58241), (94, 58325), (113, 58448), (Start: 190 @58619 has 1 MA's), (194, 58649), (242, 58844), (243, 58847), (288, 59135), (294, 59177), (296, 59210), (298, 59225),

Gene: Mahavrat\_63 Start: 41784, Stop: 43019, Start Num: 35

Candidate Starts for Mahavrat\_63:

(3, 41607), (5, 41613), (6, 41622), (9, 41631), (Start: 35 @41784 has 13 MA's), (48, 41841), (Start: 55 @41910 has 1 MA's), (84, 41970), (85, 41976), (86, 41979), (Start: 101 @42102 has 1 MA's), (189, 42324), (Start: 190 @42327 has 1 MA's), (194, 42357), (195, 42369), (196, 42372), (243, 42543), (257, 42609), (277, 42729), (288, 42816), (291, 42828), (294, 42858),

Gene: Majeke\_63 Start: 39197, Stop: 40675, Start Num: 11

Candidate Starts for Majeke\_63:

(4, 39146), (8, 39161), (Start: 11 @39197 has 6 MA's), (27, 39290), (Start: 33 @39308 has 19 MA's), (46, 39344), (48, 39368), (50, 39404), (Start: 55 @39437 has 1 MA's), (73, 39527), (84, 39596), (85, 39602), (86, 39605), (88, 39623), (89, 39626), (166, 39869), (167, 39872), (Start: 190 @39956 has 1 MA's), (194, 39986), (195, 39998), (216, 40085), (242, 40187), (243, 40190), (259, 40253), (277, 40367), (288, 40469), (291, 40481), (293, 40508), (301, 40625),

Gene: Makemake\_60 Start: 41383, Stop: 40385, Start Num: 41

Candidate Starts for Makemake\_60:

(Start: 41 @41383 has 16 MA's), (54, 41284), (Start: 55 @41275 has 1 MA's), (59, 41230), (76, 41146), (92, 41023), (124, 40981), (195, 40816), (262, 40726), (264, 40723), (282, 40600), (285, 40585), (287, 40570), (288, 40567), (293, 40528), (302, 40399),

Gene: Malithi\_53 Start: 35858, Stop: 37051, Start Num: 35

Candidate Starts for Malithi\_53:

(1, 35423), (21, 35795), (Start: 35 @35858 has 13 MA's), (46, 35891), (48, 35915), (50, 35951), (51, 35954), (Start: 55 @35984 has 1 MA's), (73, 36074), (75, 36101), (84, 36164), (85, 36170), (86, 36173), (88, 36191), (89, 36194), (166, 36437), (167, 36440), (192, 36542), (195, 36566), (206, 36623), (207, 36629), (222, 36659), (223, 36665), (243, 36731), (259, 36794), (277, 36908), (281, 36968), (288, 37001), (290, 37010), (291, 37013),

Gene: Mangethe\_63 Start: 39197, Stop: 40675, Start Num: 11

Candidate Starts for Mangethe\_63:

(4, 39146), (8, 39161), (Start: 11 @39197 has 6 MA's), (27, 39290), (Start: 33 @39308 has 19 MA's), (46, 39344), (48, 39368), (50, 39404), (Start: 55 @39437 has 1 MA's), (73, 39527), (84, 39596), (85, 39602), (86, 39605), (88, 39623), (89, 39626), (166, 39869), (167, 39872), (Start: 190 @39956 has 1 MA's), (194, 39986), (195, 39998), (216, 40085), (242, 40187), (243, 40190), (259, 40253), (277, 40367), (288, 40469), (291, 40481), (293, 40508), (301, 40625),

Gene: Marsha\_58 Start: 41423, Stop: 40422, Start Num: 40

Candidate Starts for Marsha\_58:

(Start: 40 @41423 has 41 MA's), (Start: 55 @41315 has 1 MA's), (83, 41270), (94, 41186), (181, 41063), (Start: 190 @41009 has 1 MA's), (193, 40988), (194, 40979), (199, 40943), (277, 40700), (284, 40628), (285, 40616), (286, 40607), (288, 40598), (292, 40577), (293, 40559), (296, 40523),

Gene: Maxxinista\_101 Start: 58568, Stop: 59791, Start Num: 38

Candidate Starts for Maxxinista\_101:

(13, 58421), (18, 58451), (23, 58499), (26, 58514), (Start: 29 @58526 has 1 MA's), (Start: 38 @58568 has 69 MA's), (45, 58586), (Start: 55 @58682 has 1 MA's), (83, 58727), (94, 58811), (118, 58934), (150, 58979), (160, 58991), (Start: 190 @59096 has 1 MA's), (193, 59117), (194, 59126), (199, 59162), (216, 59225), (242, 59327), (243, 59330), (253, 59393), (288, 59612), (294, 59654), (296, 59687), (298, 59702),

Gene: Medindi\_73 Start: 44798, Stop: 46135, Start Num: 16

Candidate Starts for Medindi\_73:

(16, 44798), (Start: 34 @44891 has 5 MA's), (48, 44951), (50, 44987), (Start: 55 @45020 has 1 MA's), (83, 45065), (Start: 101 @45212 has 1 MA's), (112, 45275), (126, 45305), (Start: 190 @45446 has 1 MA's), (193, 45467), (194, 45476), (199, 45512), (277, 45842), (288, 45929), (291, 45941), (292, 45950), (293, 45968), (301, 46085),

Gene: Mindy\_98 Start: 57904, Stop: 59124, Start Num: 38

Candidate Starts for Mindy\_98:

(13, 57757), (18, 57787), (23, 57835), (26, 57850), (Start: 29 @57862 has 1 MA's), (Start: 38 @57904 has 69 MA's), (45, 57922), (Start: 55 @58018 has 1 MA's), (83, 58063), (94, 58147), (109, 58270), (125, 58315), (136, 58327), (Start: 190 @58432 has 1 MA's), (193, 58453), (194, 58462), (195, 58474), (199, 58498), (277, 58843), (284, 58915), (288, 58945), (294, 58987), (296, 59020), (298, 59035),

Gene: Miniwave\_94 Start: 58078, Stop: 59301, Start Num: 38

Candidate Starts for Miniwave\_94:

(13, 57931), (18, 57961), (23, 58009), (26, 58024), (Start: 29 @58036 has 1 MA's), (Start: 38 @58078 has 69 MA's), (45, 58096), (Start: 55 @58192 has 1 MA's), (83, 58237), (94, 58321), (118, 58444), (150, 58489), (160, 58501), (Start: 190 @58606 has 1 MA's), (193, 58627), (194, 58636), (199, 58672), (216, 58735), (242, 58837), (243, 58840), (253, 58903), (288, 59122), (294, 59164), (296, 59197), (298, 59212),

Gene: Misfit\_100 Start: 59873, Stop: 60904, Start Num: 38

Candidate Starts for Misfit\_100:

(13, 59726), (18, 59756), (23, 59804), (26, 59819), (Start: 29 @59831 has 1 MA's), (Start: 38 @59873 has 69 MA's), (45, 59891), (Start: 55 @59987 has 1 MA's), (83, 60032), (94, 60116), (Start: 190 @60320 has 1 MA's), (194, 60350), (199, 60386), (277, 60623), (288, 60725), (294, 60767), (296, 60800), (298, 60815),

Gene: Moldemort\_102 Start: 58540, Stop: 59772, Start Num: 38

Candidate Starts for Moldemort\_102:

(13, 58393), (18, 58423), (23, 58471), (26, 58486), (Start: 29 @58498 has 1 MA's), (Start: 38 @58540 has 69 MA's), (45, 58558), (Start: 55 @58654 has 1 MA's), (83, 58699), (94, 58783), (113, 58906), (Start: 190 @59077 has 1 MA's), (194, 59107), (242, 59302), (243, 59305), (288, 59593), (294, 59635), (296, 59668), (298, 59683),

Gene: Monet\_62 Start: 42192, Stop: 41047, Start Num: 40

Candidate Starts for Monet\_62:

(Start: 40 @42192 has 41 MA's), (Start: 55 @42084 has 1 MA's), (83, 42039), (94, 41955), (103, 41874), (119, 41796), (127, 41772), (158, 41721), (Start: 190 @41607 has 1 MA's), (193, 41586), (194, 41577), (199, 41541), (242, 41382), (243, 41379), (277, 41325), (285, 41241), (286, 41232), (288, 41223), (292, 41202),

Gene: Mosby\_95 Start: 58156, Stop: 59268, Start Num: 38

Candidate Starts for Mosby\_95:

(13, 58009), (18, 58039), (23, 58087), (26, 58102), (Start: 29 @58114 has 1 MA's), (Start: 38 @58156 has 69 MA's), (45, 58174), (Start: 55 @58270 has 1 MA's), (83, 58315), (94, 58399), (117, 58522), (133, 58567), (151, 58579), (Start: 190 @58684 has 1 MA's), (194, 58714), (199, 58750), (277, 58987), (288, 59089), (294, 59131), (296, 59164), (298, 59179),

Gene: Ms6\_71 Start: 41300, Stop: 42577, Start Num: 33

Candidate Starts for Ms6\_71:

(Start: 29 @41276 has 1 MA's), (Start: 33 @41300 has 19 MA's), (36, 41306), (48, 41360), (50, 41396), (Start: 55 @41429 has 1 MA's), (83, 41474), (94, 41558), (122, 41684), (Start: 190 @41855 has 1 MA's), (193, 41876), (194, 41885), (217, 41984), (242, 42086), (243, 42089), (255, 42152), (277, 42269), (288, 42371), (291, 42383), (292, 42392), (293, 42410), (301, 42527),

Gene: Mule\_57 Start: 39640, Stop: 38414, Start Num: 41

Candidate Starts for Mule\_57:

(Start: 41 @39640 has 16 MA's), (Start: 55 @39532 has 1 MA's), (80, 39301), (Start: 190 @38899 has 1 MA's), (194, 38869), (199, 38833), (243, 38746), (277, 38692), (288, 38590), (294, 38548), (296, 38515),

Gene: Murphy\_99 Start: 58919, Stop: 60163, Start Num: 38

Candidate Starts for Murphy\_99:

(13, 58772), (18, 58802), (23, 58850), (26, 58865), (Start: 29 @58877 has 1 MA's), (Start: 38 @58919 has 69 MA's), (45, 58937), (Start: 55 @59033 has 1 MA's), (83, 59078), (94, 59162), (113, 59285), (174, 59372), (178, 59378), (Start: 190 @59468 has 1 MA's), (193, 59489), (194, 59498), (242, 59693), (243, 59696), (288, 59984), (294, 60026), (296, 60059), (298, 60074),

Gene: Museum\_60 Start: 41508, Stop: 40111, Start Num: 41

Candidate Starts for Museum\_60:

(Start: 41 @41508 has 16 MA's), (Start: 55 @41400 has 1 MA's), (59, 41355), (68, 41313), (70, 41310), (76, 41271), (96, 41091), (122, 40974), (167, 40872), (Start: 190 @40785 has 1 MA's), (193, 40764), (194, 40755), (199, 40719), (240, 40578), (241, 40575), (252, 40497), (277, 40389), (285, 40305), (286, 40296), (288, 40287), (292, 40266), (293, 40248), (296, 40212),

Gene: Nala\_101 Start: 59085, Stop: 60317, Start Num: 38

Candidate Starts for Nala\_101:

(13, 58938), (18, 58968), (23, 59016), (26, 59031), (Start: 29 @59043 has 1 MA's), (Start: 38 @59085 has 69 MA's), (45, 59103), (Start: 55 @59199 has 1 MA's), (83, 59244), (94, 59328), (118, 59451), (172, 59535), (194, 59652), (199, 59688), (216, 59751), (242, 59853), (243, 59856), (253, 59919), (288, 60138), (294, 60180), (296, 60213), (298, 60228),

Gene: Necropolis\_52 Start: 36014, Stop: 37207, Start Num: 35

Candidate Starts for Necropolis\_52:

(1, 35579), (21, 35951), (Start: 35 @36014 has 13 MA's), (46, 36047), (48, 36071), (50, 36107), (51, 36110), (Start: 55 @36140 has 1 MA's), (73, 36230), (75, 36257), (84, 36320), (85, 36326), (86, 36329), (88, 36347), (89, 36350), (166, 36593), (167, 36596), (192, 36698), (195, 36722), (206, 36779), (207, 36785), (222, 36815), (223, 36821), (243, 36887), (259, 36950), (277, 37064), (281, 37124), (288, 37157), (290, 37166), (291, 37169),

Gene: Nerujay\_61 Start: 41557, Stop: 40460, Start Num: 40

Candidate Starts for Nerujay\_61:

(Start: 40 @41557 has 41 MA's), (Start: 55 @41449 has 1 MA's), (83, 41404), (88, 41362), (89, 41359), (94, 41320), (181, 41197), (Start: 190 @41143 has 1 MA's), (193, 41122), (194, 41113), (199, 41077), (229, 40975), (242, 40912), (243, 40909), (277, 40723), (288, 40636), (294, 40594), (296, 40561),

Gene: NoSleep\_100 Start: 58101, Stop: 59324, Start Num: 38

Candidate Starts for NoSleep\_100:

(13, 57954), (18, 57984), (23, 58032), (26, 58047), (Start: 29 @58059 has 1 MA's), (Start: 38 @58101 has 69 MA's), (45, 58119), (Start: 55 @58215 has 1 MA's), (83, 58260), (94, 58344), (118, 58467), (150, 58512), (160, 58524), (Start: 190 @58629 has 1 MA's), (193, 58650), (194, 58659), (199, 58695), (216, 58758), (242, 58860), (243, 58863), (253, 58926), (288, 59145), (294, 59187), (296, 59220), (298, 59235),

Gene: Norz\_60 Start: 42653, Stop: 41406, Start Num: 40

Candidate Starts for Norz\_60:

(Start: 40 @42653 has 41 MA's), (Start: 55 @42545 has 1 MA's), (83, 42500), (94, 42416), (103, 42335), (128, 42197), (138, 42125), (Start: 190 @41879 has 1 MA's), (194, 41849), (195, 41837), (242, 41747), (243, 41744), (282, 41621), (285, 41606), (287, 41591), (288, 41588), (293, 41549), (302, 41420),

Gene: Omega\_155 Start: 80246, Stop: 81556, Start Num: 41

Candidate Starts for Omega\_155:

(Start: 41 @80246 has 16 MA's), (Start: 55 @80354 has 1 MA's), (59, 80399), (76, 80483), (83, 80564), (96, 80663), (122, 80780), (167, 80882), (Start: 190 @80969 has 1 MA's), (193, 80990), (194, 80999), (199, 81035), (277, 81278), (284, 81350), (285, 81362), (286, 81371), (288, 81380), (292, 81401), (293, 81419), (296, 81455),

Gene: Oogway\_58 Start: 41069, Stop: 39816, Start Num: 40

Candidate Starts for Oogway\_58:

(Start: 40 @41069 has 41 MA's), (Start: 55 @40961 has 1 MA's), (83, 40916), (133, 40691), (Start: 190 @40499 has 1 MA's), (193, 40478), (194, 40469), (199, 40433), (200, 40412), (243, 40265), (261, 40187), (277, 40079), (288, 39992), (294, 39950),

Gene: OrionPax\_98 Start: 58173, Stop: 59396, Start Num: 38

Candidate Starts for OrionPax\_98:

(13, 58026), (18, 58056), (23, 58104), (26, 58119), (Start: 29 @58131 has 1 MA's), (Start: 38 @58173 has 69 MA's), (45, 58191), (Start: 55 @58287 has 1 MA's), (83, 58332), (94, 58416), (118, 58539),

(150, 58584), (160, 58596), (Start: 190 @58701 has 1 MA's), (193, 58722), (194, 58731), (199, 58767), (216, 58830), (242, 58932), (243, 58935), (253, 58998), (288, 59217), (294, 59259), (296, 59292), (298, 59307),

Gene: PaddyBaddy\_99 Start: 58292, Stop: 59515, Start Num: 38

Candidate Starts for PaddyBaddy\_99:

(13, 58145), (18, 58175), (23, 58223), (26, 58238), (Start: 29 @58250 has 1 MA's), (Start: 38 @58292 has 69 MA's), (45, 58310), (Start: 55 @58406 has 1 MA's), (83, 58451), (94, 58535), (118, 58658), (150, 58703), (160, 58715), (Start: 190 @58820 has 1 MA's), (193, 58841), (194, 58850), (199, 58886), (216, 58949), (242, 59051), (243, 59054), (253, 59117), (288, 59336), (294, 59378), (296, 59411), (298, 59426),

Gene: PaintedDog\_59 Start: 38691, Stop: 40103, Start Num: 35

Candidate Starts for PaintedDog\_59:

(20, 38622), (Start: 35 @38691 has 13 MA's), (44, 38718), (46, 38724), (48, 38748), (50, 38784), (51, 38787), (Start: 55 @38817 has 1 MA's), (67, 38943), (74, 38973), (80, 39063), (84, 39108), (85, 39114), (88, 39135), (89, 39138), (103, 39258), (105, 39270), (142, 39306), (192, 39456), (195, 39480), (209, 39537), (234, 39594), (235, 39597), (243, 39636), (256, 39699), (277, 39813), (285, 39882), (288, 39900), (291, 39912), (292, 39921), (294, 39942), (301, 40056),

Gene: Palpatine\_100 Start: 59370, Stop: 60602, Start Num: 38

Candidate Starts for Palpatine\_100:

(13, 59223), (18, 59253), (23, 59301), (26, 59316), (Start: 29 @59328 has 1 MA's), (Start: 38 @59370 has 69 MA's), (45, 59388), (Start: 55 @59484 has 1 MA's), (83, 59529), (94, 59613), (118, 59736), (172, 59820), (194, 59937), (199, 59973), (216, 60036), (242, 60138), (243, 60141), (253, 60204), (288, 60423), (294, 60465), (296, 60498), (298, 60513),

Gene: Paperbeatsrock\_98 Start: 58756, Stop: 59979, Start Num: 38

Candidate Starts for Paperbeatsrock\_98:

(13, 58609), (18, 58639), (23, 58687), (26, 58702), (Start: 29 @58714 has 1 MA's), (Start: 38 @58756 has 69 MA's), (45, 58774), (Start: 55 @58870 has 1 MA's), (83, 58915), (94, 58999), (118, 59122), (150, 59167), (160, 59179), (Start: 190 @59284 has 1 MA's), (193, 59305), (194, 59314), (199, 59350), (216, 59413), (242, 59515), (243, 59518), (253, 59581), (288, 59800), (294, 59842), (296, 59875), (298, 59890),

Gene: Paphu\_58 Start: 40715, Stop: 39447, Start Num: 41

Candidate Starts for Paphu\_58:

(Start: 41 @40715 has 16 MA's), (Start: 55 @40607 has 1 MA's), (59, 40562), (76, 40478), (83, 40397), (96, 40298), (122, 40181), (167, 40079), (Start: 190 @39992 has 1 MA's), (193, 39971), (194, 39962), (202, 39905), (270, 39752), (277, 39710), (282, 39656), (288, 39623), (296, 39548),

Gene: Parliament\_59 Start: 41358, Stop: 40075, Start Num: 41

Candidate Starts for Parliament\_59:

(Start: 41 @41358 has 16 MA's), (Start: 55 @41250 has 1 MA's), (59, 41205), (64, 41184), (68, 41163), (70, 41160), (83, 41040), (96, 40941), (122, 40824), (167, 40722), (Start: 190 @40635 has 1 MA's), (193, 40614), (194, 40605), (202, 40548), (262, 40410), (264, 40407), (277, 40353), (285, 40269), (286, 40260), (288, 40251), (292, 40230), (293, 40212), (296, 40176),

Gene: Pat3\_96 Start: 57279, Stop: 58496, Start Num: 38

Candidate Starts for Pat3\_96:

(13, 57132), (18, 57162), (23, 57210), (26, 57225), (Start: 29 @57237 has 1 MA's), (Start: 38 @57279 has 69 MA's), (45, 57297), (Start: 55 @57393 has 1 MA's), (83, 57438), (94, 57522), (118, 57645), (153, 57690), (164, 57702), (192, 57825), (194, 57837), (195, 57849), (294, 58359), (296, 58392),

Gene: PattyP\_61 Start: 41484, Stop: 40504, Start Num: 41

Candidate Starts for PattyP\_61:

(Start: 41 @41484 has 16 MA's), (51, 41406), (Start: 55 @41376 has 1 MA's), (103, 41055), (186, 41013), (Start: 190 @40959 has 1 MA's), (193, 40938), (194, 40929), (199, 40893), (277, 40782), (285, 40698), (286, 40689), (288, 40680), (292, 40659), (293, 40641), (296, 40605),

Gene: PeanutPie\_59 Start: 38490, Stop: 39635, Start Num: 33

Candidate Starts for PeanutPie\_59:

(14, 38388), (15, 38397), (19, 38424), (Start: 33 @38490 has 19 MA's), (48, 38550), (51, 38589), (Start: 55 @38619 has 1 MA's), (64, 38676), (78, 38763), (85, 38841), (91, 38886), (Start: 190 @39072 has 1 MA's), (192, 39090), (195, 39114), (232, 39249), (237, 39279), (243, 39315), (259, 39378), (277, 39492), (281, 39552), (288, 39585), (290, 39594), (291, 39597),

Gene: Pelly\_59 Start: 41496, Stop: 40015, Start Num: 40

Candidate Starts for Pelly\_59:

(Start: 40 @41496 has 41 MA's), (54, 41397), (Start: 55 @41388 has 1 MA's), (83, 41343), (94, 41259), (131, 41028), (137, 40980), (141, 40944), (167, 40854), (176, 40836), (Start: 190 @40713 has 1 MA's), (194, 40683), (199, 40647), (219, 40569), (227, 40542), (231, 40536), (242, 40476), (254, 40410), (285, 40209), (286, 40200), (288, 40191), (292, 40170), (293, 40152), (296, 40116),

Gene: Perseus\_59 Start: 42045, Stop: 40819, Start Num: 41

Candidate Starts for Perseus\_59:

(Start: 41 @42045 has 16 MA's), (Start: 55 @41937 has 1 MA's), (80, 41706), (Start: 190 @41304 has 1 MA's), (194, 41274), (199, 41238), (243, 41151), (277, 41097), (288, 40995), (294, 40953), (296, 40920),

Gene: Petp2012\_60 Start: 41977, Stop: 40853, Start Num: 40

Candidate Starts for Petp2012\_60:

(Start: 40 @41977 has 41 MA's), (Start: 55 @41869 has 1 MA's), (102, 41824), (134, 41740), (Start: 190 @41536 has 1 MA's), (194, 41506), (199, 41470), (229, 41368), (242, 41305), (243, 41302), (261, 41224), (277, 41116), (288, 41029), (294, 40987), (296, 40954),

Gene: Phanphagia\_71 Start: 45375, Stop: 46631, Start Num: 33

Candidate Starts for Phanphagia\_71:

(20, 45342), (Start: 33 @45375 has 19 MA's), (44, 45405), (48, 45435), (50, 45471), (Start: 55 @45504 has 1 MA's), (81, 45549), (94, 45633), (Start: 101 @45696 has 1 MA's), (121, 45756), (164, 45843), (166, 45849), (Start: 190 @45939 has 1 MA's), (194, 45969), (199, 46005), (242, 46149), (243, 46152), (265, 46254), (276, 46296), (277, 46323), (284, 46395), (285, 46407), (288, 46425), (291, 46437), (292, 46446), (293, 46464), (301, 46581),

Gene: Pharsalus\_96 Start: 58556, Stop: 59674, Start Num: 38

Candidate Starts for Pharsalus\_96:

(13, 58409), (18, 58439), (23, 58487), (26, 58502), (Start: 29 @58514 has 1 MA's), (Start: 38 @58556 has 69 MA's), (45, 58574), (Start: 55 @58670 has 1 MA's), (83, 58715), (94, 58799), (118, 58922), (Start: 190 @58976 has 1 MA's), (194, 59006), (199, 59042), (226, 59144), (242, 59207), (243, 59210), (261, 59288), (277, 59396), (284, 59468), (289, 59504), (297, 59582), (300, 59603),

Gene: PhatBacter\_102 Start: 59115, Stop: 60347, Start Num: 38

Candidate Starts for PhatBacter\_102:

(13, 58968), (18, 58998), (23, 59046), (26, 59061), (Start: 29 @59073 has 1 MA's), (Start: 38 @59115 has 69 MA's), (45, 59133), (Start: 55 @59229 has 1 MA's), (83, 59274), (94, 59358), (118, 59481), (172, 59565), (194, 59682), (199, 59718), (216, 59781), (242, 59883), (243, 59886), (253, 59949),

(288, 60168), (294, 60210), (296, 60243), (298, 60258),

Gene: Phaux\_101 Start: 59684, Stop: 60907, Start Num: 38

Candidate Starts for Phaux\_101:

(13, 59537), (18, 59567), (23, 59615), (26, 59630), (Start: 29 @59642 has 1 MA's), (Start: 38 @59684 has 69 MA's), (45, 59702), (Start: 55 @59798 has 1 MA's), (83, 59843), (94, 59927), (118, 60050), (150, 60095), (160, 60107), (Start: 190 @60212 has 1 MA's), (193, 60233), (194, 60242), (199, 60278), (216, 60341), (242, 60443), (243, 60446), (253, 60509), (288, 60728), (294, 60770), (296, 60803), (298, 60818),

Gene: Phegasus\_63 Start: 39164, Stop: 40642, Start Num: 11

Candidate Starts for Phegasus\_63:

(4, 39113), (8, 39128), (Start: 11 @39164 has 6 MA's), (27, 39257), (Start: 33 @39275 has 19 MA's), (46, 39311), (48, 39335), (50, 39371), (Start: 55 @39404 has 1 MA's), (73, 39494), (84, 39563), (85, 39569), (86, 39572), (88, 39590), (89, 39593), (166, 39836), (167, 39839), (Start: 190 @39923 has 1 MA's), (194, 39953), (195, 39965), (216, 40052), (242, 40154), (243, 40157), (259, 40220), (277, 40334), (288, 40436), (291, 40448), (293, 40475), (301, 40592),

Gene: Phineas\_55 Start: 36983, Stop: 38176, Start Num: 35

Candidate Starts for Phineas\_55:

(1, 36548), (21, 36920), (Start: 35 @36983 has 13 MA's), (46, 37016), (48, 37040), (50, 37076), (51, 37079), (Start: 55 @37109 has 1 MA's), (73, 37199), (75, 37226), (84, 37289), (85, 37295), (86, 37298), (88, 37316), (89, 37319), (166, 37562), (167, 37565), (192, 37667), (195, 37691), (206, 37748), (207, 37754), (222, 37784), (223, 37790), (243, 37856), (259, 37919), (277, 38033), (281, 38093), (288, 38126), (290, 38135), (291, 38138),

Gene: PhrostyMug\_59 Start: 41814, Stop: 40588, Start Num: 41

Candidate Starts for PhrostyMug\_59:

(Start: 41 @41814 has 16 MA's), (Start: 55 @41706 has 1 MA's), (80, 41475), (Start: 190 @41073 has 1 MA's), (194, 41043), (199, 41007), (243, 40920), (277, 40866), (288, 40764), (294, 40722), (296, 40689),

Gene: Phrux\_96 Start: 57960, Stop: 59183, Start Num: 38

Candidate Starts for Phrux\_96:

(13, 57813), (18, 57843), (23, 57891), (26, 57906), (Start: 29 @57918 has 1 MA's), (Start: 38 @57960 has 69 MA's), (45, 57978), (Start: 55 @58074 has 1 MA's), (83, 58119), (94, 58203), (118, 58326), (150, 58371), (160, 58383), (Start: 190 @58488 has 1 MA's), (193, 58509), (194, 58518), (199, 58554), (216, 58617), (242, 58719), (243, 58722), (253, 58785), (288, 59004), (294, 59046), (296, 59079), (298, 59094),

Gene: Policronamos\_101 Start: 59388, Stop: 60611, Start Num: 38

Candidate Starts for Policronamos\_101:

(13, 59241), (18, 59271), (23, 59319), (26, 59334), (Start: 29 @59346 has 1 MA's), (Start: 38 @59388 has 69 MA's), (45, 59406), (Start: 55 @59502 has 1 MA's), (83, 59547), (94, 59631), (118, 59754), (150, 59799), (160, 59811), (Start: 190 @59916 has 1 MA's), (193, 59937), (194, 59946), (199, 59982), (216, 60045), (242, 60147), (243, 60150), (253, 60213), (288, 60432), (294, 60474), (296, 60507), (298, 60522),

Gene: PopTart\_63 Start: 42020, Stop: 43417, Start Num: 33

Candidate Starts for PopTart\_63:

(10, 41912), (Start: 33 @42020 has 19 MA's), (44, 42050), (48, 42080), (50, 42116), (Start: 55 @42149 has 1 MA's), (84, 42326), (85, 42332), (86, 42335), (88, 42353), (89, 42356), (94, 42395), (Start: 101 @42458 has 1 MA's), (103, 42476), (122, 42521), (Start: 190 @42692 has 1 MA's), (193, 42713), (194,

42722), (199, 42758), (225, 42860), (242, 42923), (243, 42926), (288, 43211), (291, 43223), (293, 43250), (301, 43367),

Gene: Porky\_98 Start: 57668, Stop: 58927, Start Num: 38

Candidate Starts for Porky\_98:

(13, 57521), (18, 57551), (23, 57599), (26, 57614), (Start: 29 @57626 has 1 MA's), (Start: 38 @57668 has 69 MA's), (45, 57686), (Start: 55 @57782 has 1 MA's), (83, 57827), (94, 57911), (104, 58004), (161, 58121), (Start: 190 @58232 has 1 MA's), (194, 58262), (216, 58361), (242, 58463), (243, 58466), (253, 58529), (277, 58646), (288, 58748), (294, 58790), (296, 58823), (298, 58838),

Gene: Puppet\_58 Start: 41751, Stop: 40291, Start Num: 40

Candidate Starts for Puppet\_58:

(Start: 40 @41751 has 41 MA's), (Start: 55 @41643 has 1 MA's), (83, 41598), (131, 41283), (137, 41235), (141, 41199), (167, 41109), (176, 41091), (Start: 190 @40968 has 1 MA's), (194, 40938), (199, 40902), (219, 40824), (227, 40797), (231, 40791), (242, 40731), (271, 40626), (277, 40569), (285, 40485), (286, 40476), (288, 40467), (292, 40446), (293, 40428), (296, 40392),

Gene: Pygmy\_57 Start: 38447, Stop: 39640, Start Num: 35

Candidate Starts for Pygmy\_57:

(1, 38012), (21, 38384), (Start: 35 @38447 has 13 MA's), (46, 38480), (48, 38504), (50, 38540), (51, 38543), (Start: 55 @38573 has 1 MA's), (73, 38663), (75, 38690), (84, 38753), (85, 38759), (86, 38762), (88, 38780), (89, 38783), (166, 39026), (167, 39029), (192, 39131), (195, 39155), (206, 39212), (207, 39218), (222, 39248), (223, 39254), (243, 39320), (259, 39383), (277, 39497), (281, 39557), (288, 39590), (290, 39599), (291, 39602),

Gene: Quallification\_100 Start: 59164, Stop: 60393, Start Num: 38

Candidate Starts for Quallification\_100:

(13, 59017), (18, 59047), (23, 59095), (26, 59110), (Start: 29 @59122 has 1 MA's), (Start: 38 @59164 has 69 MA's), (45, 59182), (Start: 55 @59278 has 1 MA's), (83, 59323), (94, 59407), (118, 59530), (150, 59575), (160, 59587), (Start: 190 @59692 has 1 MA's), (193, 59713), (194, 59722), (199, 59758), (216, 59821), (242, 59923), (243, 59926), (261, 60004), (277, 60112), (288, 60214), (294, 60256), (296, 60289), (298, 60304),

Gene: QueenHazel\_54 Start: 37190, Stop: 38452, Start Num: 33

Candidate Starts for QueenHazel\_54:

(14, 37100), (15, 37109), (Start: 33 @37190 has 19 MA's), (44, 37220), (48, 37250), (50, 37286), (Start: 55 @37319 has 1 MA's), (83, 37364), (Start: 101 @37511 has 1 MA's), (103, 37529), (154, 37613), (Start: 190 @37733 has 1 MA's), (193, 37754), (194, 37763), (199, 37799), (201, 37820), (219, 37874), (228, 37901), (277, 38147), (287, 38246), (288, 38249), (291, 38261), (292, 38270), (294, 38291),

Gene: Quico\_82 Start: 47597, Stop: 49045, Start Num: 34

Candidate Starts for Quico\_82:

(Start: 29 @47573 has 1 MA's), (Start: 34 @47597 has 5 MA's), (36, 47603), (48, 47657), (50, 47693), (Start: 55 @47726 has 1 MA's), (83, 47771), (94, 47855), (107, 47972), (114, 48026), (120, 48053), (159, 48230), (Start: 190 @48338 has 1 MA's), (191, 48341), (195, 48380), (219, 48482), (221, 48488), (242, 48563), (243, 48566), (277, 48752), (288, 48839), (291, 48851), (292, 48860), (294, 48881), (301, 48995),

Gene: Rajelicia\_60 Start: 41970, Stop: 40882, Start Num: 40

Candidate Starts for Rajelicia\_60:

(Start: 40 @41970 has 41 MA's), (Start: 55 @41862 has 1 MA's), (102, 41817), (134, 41733), (185, 41610), (Start: 190 @41556 has 1 MA's), (194, 41526), (199, 41490), (242, 41349), (243, 41346), (261,

41268), (277, 41160), (285, 41076), (286, 41067), (288, 41058), (292, 41037), (293, 41019), (296, 40983),

Gene: Rimmer\_97 Start: 58390, Stop: 59805, Start Num: 38

Candidate Starts for Rimmer\_97:

(13, 58243), (18, 58273), (23, 58321), (26, 58336), (Start: 29 @58348 has 1 MA's), (Start: 38 @58390 has 69 MA's), (45, 58408), (Start: 55 @58504 has 1 MA's), (83, 58549), (94, 58633), (118, 58813), (130, 58846), (177, 59008), (179, 59017), (Start: 190 @59116 has 1 MA's), (194, 59146), (195, 59158), (294, 59668), (296, 59701),

Gene: RiverMonster\_99 Start: 58856, Stop: 60079, Start Num: 38

Candidate Starts for RiverMonster\_99:

(13, 58709), (18, 58739), (23, 58787), (26, 58802), (Start: 29 @58814 has 1 MA's), (Start: 38 @58856 has 69 MA's), (45, 58874), (Start: 55 @58970 has 1 MA's), (83, 59015), (94, 59099), (118, 59222), (150, 59267), (160, 59279), (Start: 190 @59384 has 1 MA's), (193, 59405), (194, 59414), (199, 59450), (216, 59513), (242, 59615), (243, 59618), (253, 59681), (288, 59900), (294, 59942), (296, 59975), (298, 59990),

Gene: Rohr\_60 Start: 41323, Stop: 40028, Start Num: 40

Candidate Starts for Rohr\_60:

(Start: 40 @41323 has 41 MA's), (Start: 55 @41215 has 1 MA's), (106, 40993), (112, 40951), (134, 40888), (185, 40765), (Start: 190 @40711 has 1 MA's), (193, 40690), (194, 40681), (229, 40543), (242, 40480), (243, 40477), (261, 40399), (277, 40291), (288, 40204), (294, 40162), (296, 40129),

Gene: Rufus\_60 Start: 40606, Stop: 39494, Start Num: 40

Candidate Starts for Rufus\_60:

(Start: 40 @40606 has 41 MA's), (Start: 55 @40498 has 1 MA's), (83, 40453), (94, 40369), (185, 40246), (Start: 190 @40192 has 1 MA's), (194, 40162), (199, 40126), (229, 40024), (242, 39961), (243, 39958), (261, 39880), (277, 39772), (285, 39688), (286, 39679), (288, 39670), (292, 39649), (293, 39631), (296, 39595),

Gene: Sagefire\_61 Start: 42000, Stop: 40702, Start Num: 40

Candidate Starts for Sagefire\_61:

(Start: 40 @42000 has 41 MA's), (Start: 55 @41892 has 1 MA's), (83, 41847), (94, 41763), (103, 41682), (128, 41544), (138, 41472), (Start: 190 @41226 has 1 MA's), (193, 41205), (194, 41196), (199, 41160), (208, 41118), (243, 41019), (277, 40965), (288, 40878), (294, 40836), (296, 40803),

Gene: Sassay\_94 Start: 57118, Stop: 58230, Start Num: 38

Candidate Starts for Sassay\_94:

(13, 56971), (18, 57001), (23, 57049), (26, 57064), (Start: 29 @57076 has 1 MA's), (Start: 38 @57118 has 69 MA's), (45, 57136), (Start: 55 @57232 has 1 MA's), (83, 57277), (94, 57361), (117, 57484), (133, 57529), (151, 57541), (Start: 190 @57646 has 1 MA's), (194, 57676), (199, 57712), (277, 57949), (288, 58051), (294, 58093), (296, 58126), (298, 58141),

Gene: SassyB\_63 Start: 42020, Stop: 43417, Start Num: 33

Candidate Starts for SassyB\_63:

(10, 41912), (Start: 33 @42020 has 19 MA's), (44, 42050), (48, 42080), (50, 42116), (Start: 55 @42149 has 1 MA's), (84, 42326), (85, 42332), (86, 42335), (88, 42353), (89, 42356), (94, 42395), (Start: 101 @42458 has 1 MA's), (103, 42476), (122, 42521), (Start: 190 @42692 has 1 MA's), (193, 42713), (194, 42722), (199, 42758), (225, 42860), (242, 42923), (243, 42926), (288, 43211), (291, 43223), (293, 43250), (301, 43367),

Gene: Seagreen\_72 Start: 45196, Stop: 46428, Start Num: 33

Candidate Starts for Seagreen\_72:

(7, 45031), (Start: 29 @45172 has 1 MA's), (Start: 33 @45196 has 19 MA's), (36, 45202), (48, 45256), (50, 45292), (Start: 55 @45325 has 1 MA's), (73, 45415), (75, 45442), (84, 45505), (85, 45511), (86, 45514), (88, 45532), (89, 45535), (122, 45700), (148, 45730), (Start: 190 @45871 has 1 MA's), (193, 45892), (194, 45901), (199, 45937), (242, 46096), (243, 46099), (277, 46285), (280, 46330), (281, 46345), (288, 46378), (290, 46387), (291, 46390),

Gene: ShamWow\_99 Start: 58977, Stop: 60200, Start Num: 38

Candidate Starts for ShamWow\_99:

(13, 58830), (18, 58860), (23, 58908), (26, 58923), (Start: 29 @58935 has 1 MA's), (Start: 38 @58977 has 69 MA's), (45, 58995), (Start: 55 @59091 has 1 MA's), (83, 59136), (94, 59220), (118, 59343), (150, 59388), (160, 59400), (Start: 190 @59505 has 1 MA's), (193, 59526), (194, 59535), (199, 59571), (216, 59634), (242, 59736), (243, 59739), (253, 59802), (288, 60021), (294, 60063), (296, 60096), (298, 60111),

Gene: Shauna1\_72 Start: 45625, Stop: 46881, Start Num: 33

Candidate Starts for Shauna1\_72:

(20, 45592), (Start: 33 @45625 has 19 MA's), (44, 45655), (48, 45685), (50, 45721), (Start: 55 @45754 has 1 MA's), (81, 45799), (94, 45883), (Start: 101 @45946 has 1 MA's), (121, 46006), (164, 46093), (166, 46099), (Start: 190 @46189 has 1 MA's), (194, 46219), (199, 46255), (242, 46399), (243, 46402), (265, 46504), (276, 46546), (277, 46573), (284, 46645), (285, 46657), (288, 46675), (291, 46687), (292, 46696), (293, 46714), (301, 46831),

Gene: ShereKhan\_97 Start: 59410, Stop: 60639, Start Num: 38

Candidate Starts for ShereKhan\_97:

(13, 59263), (18, 59293), (23, 59341), (26, 59356), (Start: 29 @59368 has 1 MA's), (Start: 38 @59410 has 69 MA's), (45, 59428), (Start: 55 @59524 has 1 MA's), (83, 59569), (94, 59653), (118, 59776), (150, 59821), (160, 59833), (Start: 190 @59938 has 1 MA's), (193, 59959), (194, 59968), (199, 60004), (226, 60106), (242, 60169), (243, 60172), (261, 60250), (277, 60358), (288, 60460), (294, 60502), (296, 60535), (298, 60550),

Gene: Shipwreck\_57 Start: 38422, Stop: 39615, Start Num: 35

Candidate Starts for Shipwreck\_57:

(1, 37987), (21, 38359), (Start: 35 @38422 has 13 MA's), (46, 38455), (48, 38479), (50, 38515), (51, 38518), (Start: 55 @38548 has 1 MA's), (73, 38638), (75, 38665), (84, 38728), (85, 38734), (86, 38737), (88, 38755), (89, 38758), (166, 39001), (167, 39004), (192, 39106), (195, 39130), (206, 39187), (207, 39193), (222, 39223), (223, 39229), (243, 39295), (259, 39358), (277, 39472), (281, 39532), (288, 39565), (290, 39574), (291, 39577),

Gene: ShortQueendom\_52 Start: 37970, Stop: 36855, Start Num: 40

Candidate Starts for ShortQueendom\_52:

(Start: 40 @37970 has 41 MA's), (Start: 55 @37862 has 1 MA's), (83, 37817), (94, 37733), (110, 37610), (139, 37574), (Start: 190 @37427 has 1 MA's), (194, 37397), (199, 37361), (219, 37283), (227, 37256), (231, 37250), (242, 37190), (243, 37187), (277, 37133), (284, 37061), (285, 37049), (286, 37040), (288, 37031), (292, 37010), (293, 36992), (296, 36956),

Gene: Simpliphy\_98 Start: 58418, Stop: 59650, Start Num: 38

Candidate Starts for Simpliphy\_98:

(13, 58271), (18, 58301), (23, 58349), (26, 58364), (Start: 29 @58376 has 1 MA's), (Start: 38 @58418 has 69 MA's), (45, 58436), (Start: 55 @58532 has 1 MA's), (83, 58577), (94, 58661), (113, 58784), (Start: 190 @58955 has 1 MA's), (194, 58985), (242, 59180), (243, 59183), (288, 59471), (294, 59513), (296, 59546), (298, 59561),

Gene: SirDuracell\_99 Start: 57794, Stop: 59017, Start Num: 38

Candidate Starts for SirDuracell\_99:

(13, 57647), (18, 57677), (23, 57725), (26, 57740), (Start: 29 @57752 has 1 MA's), (Start: 38 @57794 has 69 MA's), (45, 57812), (Start: 55 @57908 has 1 MA's), (83, 57953), (94, 58037), (Start: 190 @58325 has 1 MA's), (192, 58343), (194, 58355), (195, 58367), (216, 58454), (243, 58559), (253, 58622), (277, 58736), (294, 58880), (296, 58913),

Gene: Slagathor\_61 Start: 42332, Stop: 40935, Start Num: 41

Candidate Starts for Slagathor\_61:

(Start: 41 @42332 has 16 MA's), (Start: 55 @42224 has 1 MA's), (59, 42179), (68, 42137), (70, 42134), (76, 42095), (96, 41915), (122, 41798), (167, 41696), (Start: 190 @41609 has 1 MA's), (194, 41579), (195, 41567), (199, 41543), (240, 41402), (241, 41399), (252, 41321), (277, 41213), (285, 41129), (286, 41120), (288, 41111), (292, 41090), (293, 41072), (296, 41036),

Gene: Smairt\_62 Start: 42808, Stop: 41627, Start Num: 41

Candidate Starts for Smairt\_62:

(Start: 41 @42808 has 16 MA's), (Start: 55 @42700 has 1 MA's), (80, 42469), (Start: 190 @42067 has 1 MA's), (194, 42037), (199, 42001), (243, 41914), (277, 41860), (288, 41758), (297, 41674),

Gene: Smeagol\_61 Start: 42155, Stop: 41085, Start Num: 40

Candidate Starts for Smeagol\_61:

(Start: 40 @42155 has 41 MA's), (Start: 55 @42047 has 1 MA's), (83, 42002), (94, 41918), (181, 41795), (Start: 190 @41741 has 1 MA's), (193, 41720), (194, 41711), (199, 41675), (210, 41633), (243, 41534), (275, 41405), (277, 41363), (288, 41261), (296, 41186),

Gene: Sonah\_54 Start: 36119, Stop: 37312, Start Num: 35

Candidate Starts for Sonah\_54:

(1, 35684), (21, 36056), (Start: 35 @36119 has 13 MA's), (46, 36152), (48, 36176), (50, 36212), (51, 36215), (Start: 55 @36245 has 1 MA's), (73, 36335), (75, 36362), (84, 36425), (85, 36431), (86, 36434), (88, 36452), (89, 36455), (166, 36698), (167, 36701), (192, 36803), (195, 36827), (206, 36884), (207, 36890), (222, 36920), (223, 36926), (243, 36992), (259, 37055), (277, 37169), (281, 37229), (288, 37262), (290, 37271), (291, 37274),

Gene: SophKB\_96 Start: 57775, Stop: 58998, Start Num: 38

Candidate Starts for SophKB\_96:

(13, 57628), (18, 57658), (23, 57706), (26, 57721), (Start: 29 @57733 has 1 MA's), (Start: 38 @57775 has 69 MA's), (45, 57793), (Start: 55 @57889 has 1 MA's), (83, 57934), (94, 58018), (118, 58141), (150, 58186), (160, 58198), (Start: 190 @58303 has 1 MA's), (193, 58324), (194, 58333), (199, 58369), (216, 58432), (242, 58534), (243, 58537), (253, 58600), (288, 58819), (294, 58861), (296, 58894), (298, 58909),

Gene: Sotrice96\_100 Start: 58684, Stop: 59904, Start Num: 38

Candidate Starts for Sotrice96\_100:

(13, 58537), (18, 58567), (23, 58615), (26, 58630), (Start: 29 @58642 has 1 MA's), (Start: 38 @58684 has 69 MA's), (45, 58702), (Start: 55 @58798 has 1 MA's), (83, 58843), (94, 58927), (109, 59050), (125, 59095), (136, 59107), (Start: 190 @59212 has 1 MA's), (193, 59233), (194, 59242), (195, 59254), (199, 59278), (277, 59623), (284, 59695), (288, 59725), (294, 59767), (296, 59800), (298, 59815),

Gene: Spoonbill\_65 Start: 42447, Stop: 43211, Start Num: 101

Candidate Starts for Spoonbill\_65:

(3, 41754), (Start: 35 @41931 has 13 MA's), (48, 41988), (50, 42024), (Start: 55 @42057 has 1 MA's), (82, 42279), (85, 42321), (Start: 101 @42447 has 1 MA's), (103, 42465), (121, 42507), (152, 42537), (Start: 190 @42666 has 1 MA's), (192, 42684), (195, 42708), (232, 42843), (237, 42873), (243, 42909),

(268, 43011), (277, 43068), (281, 43128), (288, 43161), (290, 43170), (291, 43173),

Gene: Stark\_100 Start: 58739, Stop: 59962, Start Num: 38

Candidate Starts for Stark\_100:

(13, 58592), (18, 58622), (23, 58670), (26, 58685), (Start: 29 @58697 has 1 MA's), (Start: 38 @58739 has 69 MA's), (45, 58757), (Start: 55 @58853 has 1 MA's), (83, 58898), (94, 58982), (118, 59105), (150, 59150), (160, 59162), (Start: 190 @59267 has 1 MA's), (193, 59288), (194, 59297), (199, 59333), (216, 59396), (242, 59498), (243, 59501), (253, 59564), (288, 59783), (294, 59825), (296, 59858), (298, 59873),

Gene: StevieRay\_58 Start: 38434, Stop: 39633, Start Num: 32

Candidate Starts for StevieRay\_58:

(Start: 32 @38434 has 1 MA's), (48, 38497), (50, 38533), (51, 38536), (Start: 55 @38566 has 1 MA's), (72, 38650), (88, 38764), (Start: 101 @38869 has 1 MA's), (103, 38887), (121, 38929), (152, 38959), (Start: 190 @39088 has 1 MA's), (192, 39106), (195, 39130), (232, 39265), (237, 39295), (243, 39331), (268, 39433), (277, 39490), (281, 39550), (288, 39583), (290, 39592), (291, 39595),

Gene: Swole\_60 Start: 40236, Stop: 39139, Start Num: 40

Candidate Starts for Swole\_60:

(Start: 40 @40236 has 41 MA's), (Start: 55 @40128 has 1 MA's), (102, 40083), (123, 40041), (126, 40038), (134, 39999), (185, 39876), (Start: 190 @39822 has 1 MA's), (193, 39801), (194, 39792), (229, 39654), (242, 39591), (243, 39588), (261, 39510), (277, 39402), (288, 39315), (294, 39273), (296, 39240),

Gene: Target\_60 Start: 39423, Stop: 38428, Start Num: 40

Candidate Starts for Target\_60:

(Start: 40 @39423 has 41 MA's), (Start: 55 @39315 has 1 MA's), (83, 39270), (94, 39186), (181, 39063), (Start: 190 @39009 has 1 MA's), (194, 38979), (243, 38886), (245, 38874), (277, 38706), (285, 38622), (286, 38613), (288, 38604), (292, 38583), (293, 38565), (296, 38529),

Gene: TeamEdward\_99 Start: 58988, Stop: 60166, Start Num: 38

Candidate Starts for TeamEdward\_99:

(13, 58841), (18, 58871), (23, 58919), (26, 58934), (Start: 29 @58946 has 1 MA's), (Start: 38 @58988 has 69 MA's), (45, 59006), (Start: 55 @59102 has 1 MA's), (83, 59147), (94, 59231), (118, 59354), (150, 59399), (160, 59411), (Start: 190 @59516 has 1 MA's), (193, 59537), (194, 59546), (199, 59582), (242, 59723), (243, 59726), (267, 59828), (277, 59885), (288, 59987), (294, 60029), (296, 60062), (298, 60077),

Gene: TeardropMSU\_95 Start: 57765, Stop: 58985, Start Num: 38

Candidate Starts for TeardropMSU\_95:

(13, 57618), (18, 57648), (23, 57696), (26, 57711), (Start: 29 @57723 has 1 MA's), (Start: 38 @57765 has 69 MA's), (45, 57783), (Start: 55 @57879 has 1 MA's), (83, 57924), (94, 58008), (109, 58131), (125, 58176), (136, 58188), (Start: 190 @58293 has 1 MA's), (193, 58314), (194, 58323), (195, 58335), (199, 58359), (277, 58704), (284, 58776), (288, 58806), (294, 58848), (296, 58881), (298, 58896),

Gene: Teaspoon\_100 Start: 58617, Stop: 59861, Start Num: 38

Candidate Starts for Teaspoon\_100:

(13, 58470), (18, 58500), (23, 58548), (26, 58563), (Start: 29 @58575 has 1 MA's), (Start: 38 @58617 has 69 MA's), (45, 58635), (Start: 55 @58731 has 1 MA's), (83, 58776), (94, 58860), (118, 58983), (168, 59070), (171, 59076), (Start: 190 @59166 has 1 MA's), (193, 59187), (194, 59196), (199, 59232), (216, 59295), (242, 59397), (243, 59400), (253, 59463), (263, 59499), (277, 59580), (288, 59682), (294, 59724), (296, 59757), (298, 59772),

Gene: Techage\_58 Start: 37733, Stop: 39016, Start Num: 11

Candidate Starts for Techage\_58:

(8, 37697), (Start: 11 @37733 has 6 MA's), (27, 37826), (Start: 33 @37844 has 19 MA's), (46, 37880), (48, 37904), (50, 37940), (Start: 55 @37973 has 1 MA's), (73, 38063), (84, 38132), (85, 38138), (86, 38141), (88, 38159), (89, 38162), (121, 38324), (154, 38366), (192, 38507), (195, 38531), (206, 38588), (207, 38594), (222, 38624), (223, 38630), (243, 38696), (259, 38759), (277, 38873), (280, 38918), (281, 38933), (288, 38966), (290, 38975), (291, 38978),

Gene: Terminus\_102 Start: 59873, Stop: 60904, Start Num: 38

Candidate Starts for Terminus\_102:

(13, 59726), (18, 59756), (23, 59804), (26, 59819), (Start: 29 @59831 has 1 MA's), (Start: 38 @59873 has 69 MA's), (45, 59891), (Start: 55 @59987 has 1 MA's), (83, 60032), (94, 60116), (Start: 190 @60320 has 1 MA's), (194, 60350), (199, 60386), (277, 60623), (288, 60725), (294, 60767), (296, 60800), (298, 60815),

Gene: Thresher\_101 Start: 59519, Stop: 60742, Start Num: 38

Candidate Starts for Thresher\_101:

(13, 59372), (18, 59402), (23, 59450), (26, 59465), (Start: 29 @59477 has 1 MA's), (Start: 38 @59519 has 69 MA's), (45, 59537), (Start: 55 @59633 has 1 MA's), (83, 59678), (94, 59762), (118, 59885), (150, 59930), (160, 59942), (Start: 190 @60047 has 1 MA's), (193, 60068), (194, 60077), (199, 60113), (216, 60176), (242, 60278), (243, 60281), (253, 60344), (288, 60563), (294, 60605), (296, 60638), (298, 60653),

Gene: ThulaThula\_61 Start: 41045, Stop: 42361, Start Num: 35

Candidate Starts for ThulaThula\_61:

(Start: 35 @41045 has 13 MA's), (48, 41102), (51, 41141), (Start: 55 @41171 has 1 MA's), (72, 41258), (77, 41270), (80, 41306), (103, 41501), (143, 41555), (149, 41576), (Start: 190 @41684 has 1 MA's), (191, 41687), (195, 41726), (209, 41783), (211, 41789), (220, 41819), (225, 41825), (238, 41861), (243, 41891), (256, 41954), (277, 42071), (288, 42158), (291, 42170), (292, 42179), (293, 42197), (302, 42326),

Gene: Tomaszewski\_94 Start: 58249, Stop: 59442, Start Num: 38

Candidate Starts for Tomaszewski\_94:

(13, 58102), (18, 58132), (23, 58180), (26, 58195), (Start: 29 @58207 has 1 MA's), (Start: 38 @58249 has 69 MA's), (45, 58267), (Start: 55 @58363 has 1 MA's), (83, 58408), (94, 58492), (144, 58732), (Start: 190 @58858 has 1 MA's), (193, 58879), (194, 58888), (199, 58924), (242, 58978), (243, 58981), (277, 59161), (294, 59305), (296, 59338),

Gene: Tortoise12\_54 Start: 34860, Stop: 36236, Start Num: 31

Candidate Starts for Tortoise12\_54:

(Start: 31 @34860 has 1 MA's), (44, 34890), (48, 34920), (Start: 55 @34989 has 1 MA's), (77, 35088), (80, 35124), (86, 35178), (88, 35196), (103, 35319), (121, 35361), (Start: 190 @35529 has 1 MA's), (191, 35532), (195, 35571), (213, 35652), (242, 35763), (243, 35766), (256, 35829), (277, 35946), (288, 36033), (291, 36045), (293, 36072), (294, 36075),

Gene: Tote\_55 Start: 37503, Stop: 36406, Start Num: 40

Candidate Starts for Tote\_55:

(Start: 40 @37503 has 41 MA's), (Start: 55 @37395 has 1 MA's), (102, 37350), (123, 37308), (126, 37305), (134, 37266), (185, 37143), (Start: 190 @37089 has 1 MA's), (193, 37068), (194, 37059), (229, 36921), (242, 36858), (243, 36855), (261, 36777), (277, 36669), (288, 36582), (294, 36540), (296, 36507),

Gene: Toto\_97 Start: 58977, Stop: 60200, Start Num: 38

Candidate Starts for Toto\_97:

(13, 58830), (18, 58860), (23, 58908), (26, 58923), (Start: 29 @58935 has 1 MA's), (Start: 38 @58977 has 69 MA's), (45, 58995), (Start: 55 @59091 has 1 MA's), (83, 59136), (94, 59220), (118, 59343), (150, 59388), (160, 59400), (Start: 190 @59505 has 1 MA's), (193, 59526), (194, 59535), (199, 59571), (216, 59634), (242, 59736), (243, 59739), (253, 59802), (288, 60021), (294, 60063), (296, 60096), (298, 60111),

Gene: Treddle\_60 Start: 41704, Stop: 40559, Start Num: 40

Candidate Starts for Treddle\_60:

(Start: 40 @41704 has 41 MA's), (Start: 55 @41596 has 1 MA's), (83, 41551), (94, 41467), (103, 41386), (119, 41308), (127, 41284), (158, 41233), (Start: 190 @41119 has 1 MA's), (193, 41098), (194, 41089), (199, 41053), (242, 40894), (243, 40891), (277, 40837), (285, 40753), (286, 40744), (288, 40735), (292, 40714),

Gene: Tripl3t\_61 Start: 42636, Stop: 41530, Start Num: 40

Candidate Starts for Tripl3t\_61:

(Start: 40 @42636 has 41 MA's), (Start: 55 @42525 has 1 MA's), (83, 42480), (94, 42396), (181, 42273), (Start: 190 @42219 has 1 MA's), (193, 42198), (194, 42189), (199, 42153), (219, 42075), (227, 42048), (231, 42042), (242, 41982), (243, 41979), (275, 41850), (277, 41808), (284, 41736), (285, 41724), (286, 41715), (288, 41706), (292, 41685), (293, 41667), (296, 41631),

Gene: Tuco\_100 Start: 59845, Stop: 61065, Start Num: 38

Candidate Starts for Tuco\_100:

(13, 59698), (18, 59728), (23, 59776), (26, 59791), (Start: 29 @59803 has 1 MA's), (Start: 38 @59845 has 69 MA's), (45, 59863), (Start: 55 @59959 has 1 MA's), (83, 60004), (94, 60088), (109, 60211), (125, 60256), (136, 60268), (Start: 190 @60373 has 1 MA's), (193, 60394), (194, 60403), (195, 60415), (199, 60439), (277, 60784), (284, 60856), (288, 60886), (294, 60928), (296, 60961), (298, 60976),

Gene: Ukulele\_94 Start: 58344, Stop: 59462, Start Num: 55

Candidate Starts for Ukulele\_94:

(Start: 55 @58344 has 1 MA's), (83, 58389), (94, 58473), (113, 58596), (Start: 190 @58767 has 1 MA's), (194, 58797), (242, 58992), (243, 58995), (288, 59283), (294, 59325), (296, 59358), (298, 59373),

Gene: Vidya\_52 Start: 35918, Stop: 37111, Start Num: 35

Candidate Starts for Vidya\_52:

(21, 35855), (Start: 35 @35918 has 13 MA's), (46, 35951), (48, 35975), (50, 36011), (51, 36014), (Start: 55 @36044 has 1 MA's), (73, 36134), (75, 36161), (84, 36224), (85, 36230), (86, 36233), (88, 36251), (89, 36254), (166, 36497), (167, 36500), (192, 36602), (195, 36626), (206, 36683), (207, 36689), (222, 36719), (223, 36725), (243, 36791), (259, 36854), (277, 36968), (281, 37028), (288, 37061), (290, 37070), (291, 37073),

Gene: Willez\_94 Start: 57118, Stop: 58230, Start Num: 38

Candidate Starts for Willez\_94:

(13, 56971), (18, 57001), (23, 57049), (26, 57064), (Start: 29 @57076 has 1 MA's), (Start: 38 @57118 has 69 MA's), (45, 57136), (Start: 55 @57232 has 1 MA's), (83, 57277), (94, 57361), (117, 57484), (133, 57529), (151, 57541), (Start: 190 @57646 has 1 MA's), (194, 57676), (199, 57712), (277, 57949), (288, 58051), (294, 58093), (296, 58126), (298, 58141),

Gene: Xula\_53 Start: 36811, Stop: 38073, Start Num: 33

Candidate Starts for Xula\_53:

(4, 36643), (8, 36658), (Start: 11 @36694 has 6 MA's), (27, 36793), (Start: 33 @36811 has 19 MA's), (46, 36847), (48, 36871), (50, 36907), (Start: 55 @36940 has 1 MA's), (83, 36985), (Start: 101 @37132

has 1 MA's), (103, 37150), (154, 37234), (Start: 190 @37354 has 1 MA's), (193, 37375), (194, 37384), (199, 37420), (217, 37483), (242, 37585), (243, 37588), (254, 37651), (277, 37768), (288, 37870), (291, 37882),

Gene: Zeuska\_58 Start: 41282, Stop: 40221, Start Num: 40

Candidate Starts for Zeuska\_58:

(Start: 40 @41282 has 41 MA's), (Start: 55 @41174 has 1 MA's), (83, 41129), (94, 41045), (156, 40922), (Start: 190 @40868 has 1 MA's), (193, 40847), (194, 40838), (199, 40802), (243, 40658), (271, 40556), (277, 40499), (284, 40427), (285, 40415), (286, 40406), (288, 40397), (292, 40376), (293, 40358), (296, 40322),

Gene: Zilizebeth\_63 Start: 39188, Stop: 40495, Start Num: 11

Candidate Starts for Zilizebeth\_63:

(4, 39137), (8, 39152), (Start: 11 @39188 has 6 MA's), (27, 39281), (Start: 33 @39299 has 19 MA's), (46, 39335), (48, 39359), (50, 39395), (Start: 55 @39428 has 1 MA's), (73, 39518), (75, 39545), (84, 39608), (85, 39614), (86, 39617), (88, 39635), (89, 39638), (166, 39881), (167, 39884), (192, 39986), (195, 40010), (206, 40067), (207, 40073), (222, 40103), (223, 40109), (243, 40175), (259, 40238), (277, 40352), (281, 40412), (288, 40445), (290, 40454), (291, 40457),