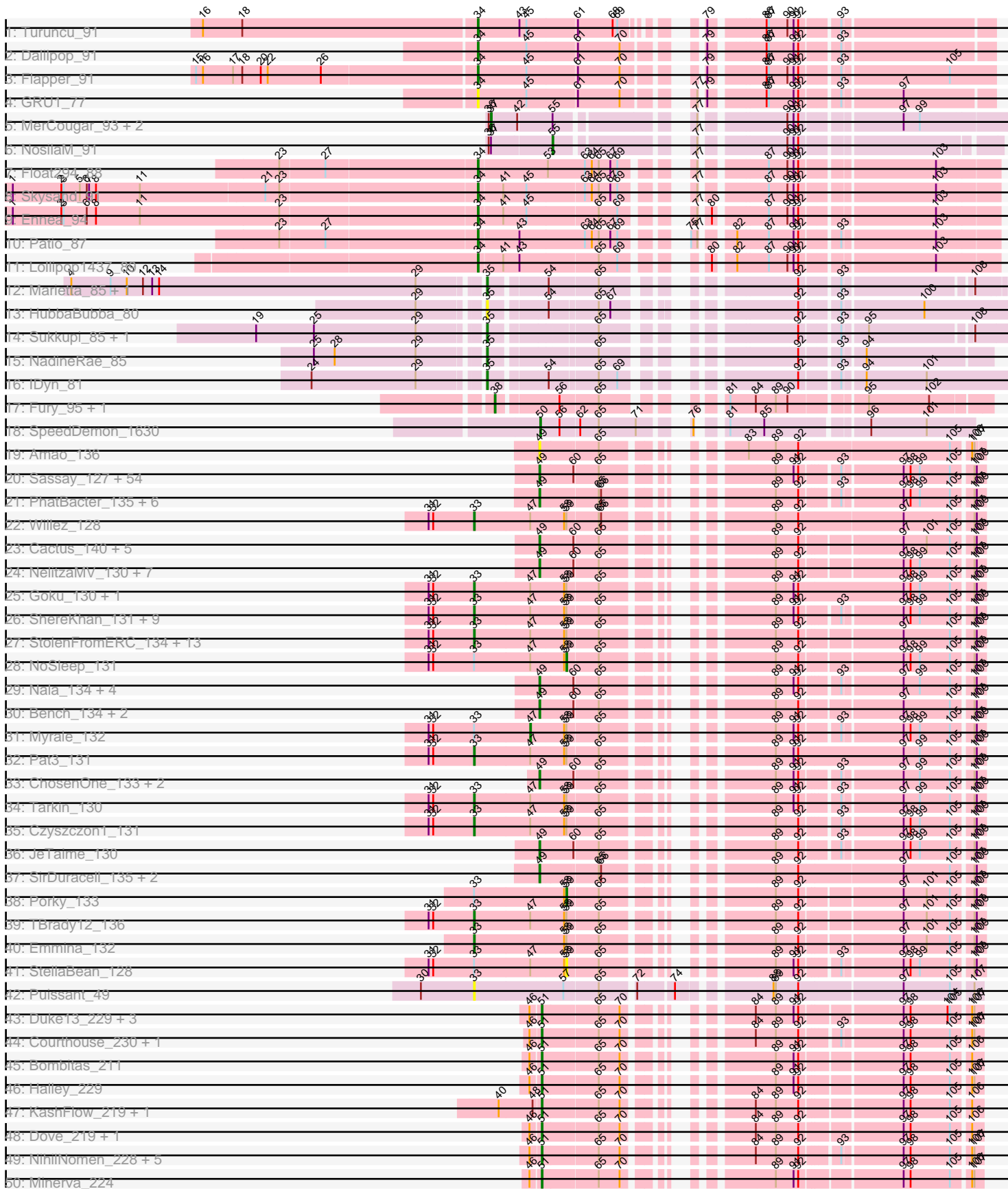
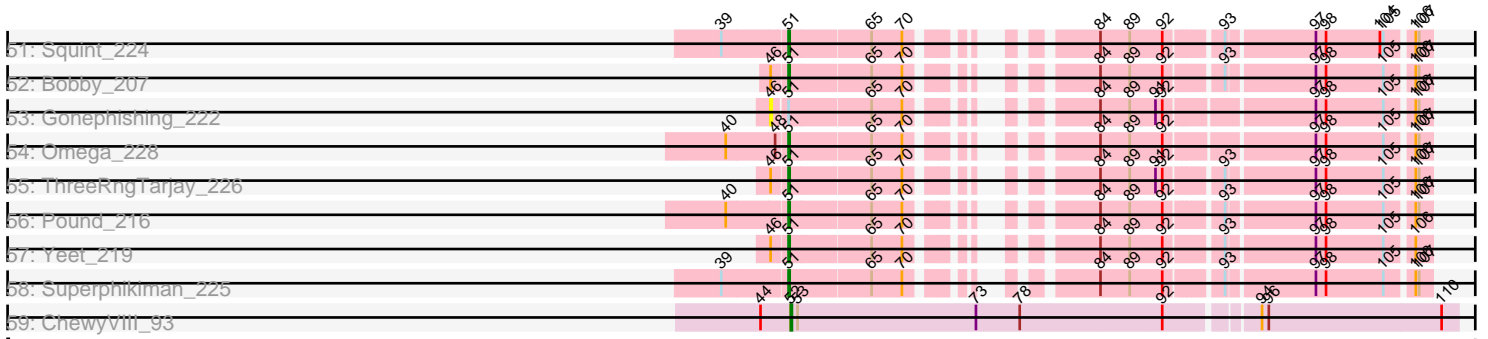


Pham 161633



Pham 161633



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 161633 Report

This analysis was run 04/28/24 on database version 559.

Pham number 161633 has 180 members, 16 are drafts.

Phages represented in each track:

- Track 1 : Turuncu\_91
- Track 2 : Dalilpop\_91
- Track 3 : Flapper\_91
- Track 4 : GRU1\_77
- Track 5 : MerCougar\_93, Outis\_91, StarStruck\_91
- Track 6 : NosilaM\_91
- Track 7 : Float294\_88
- Track 8 : Skysand\_91
- Track 9 : Ennea\_94
- Track 10 : Patio\_87
- Track 11 : Lollipop1437\_89
- Track 12 : Marietta\_85, WhoseManz\_85
- Track 13 : HubbaBubba\_80
- Track 14 : Sukkupi\_85, Yndexa\_85
- Track 15 : NadineRae\_85
- Track 16 : IDyn\_81
- Track 17 : Fury\_95, Pleakley\_95
- Track 18 : SpeedDemon\_1630
- Track 19 : Amao\_136
- Track 20 : Sassay\_127, TeardropMSU\_133, IHOP\_136, SophKB\_130, ABCat\_133, Harella\_138, MISSy\_134, DoctorDiddles\_130, Phrux\_128, DrDrey\_135, Tomaszewski\_126, Contagion\_128, BaboJay\_131, BadStone\_133, Misfit\_132, Murphy\_131, Phaja\_136, Henry\_134, Gator\_134, Youngblood\_136, Bask21\_137, Mosby\_129, Petra64142\_134, Inca\_131, Asriel\_129, Filch\_134, OrionPax\_128, Palpatine\_132, CrystalP\_132, Dusk\_133, 244\_133, Barbarian\_132, BugsBunny\_131, BilboSwaggins\_130, ChotaBhai\_136, Tuco\_138, Marshmallow\_133, Flypotenuse\_127, Ukulele\_127, Terminus\_135, Kostya\_133, Maxxinista\_134, Toto\_130, Simpliphy\_131, ShamWow\_132, Icee\_137, MPhalcon\_133, RiverMonster\_131, Traaww1\_128, MadamMonkfish\_132, Glexan\_136, Nimrod\_132, Hopey\_131, Pumpkin\_132, Bruin\_129
- Track 21 : PhatBacter\_135, FireRed\_135, HufflyPuff\_134, YassJohnny\_128, Phaux\_134, Murica\_136, Policronamos\_135
- Track 22 : Willez\_128
- Track 23 : Cactus\_140, Sotrice96\_137, Wiggin\_135, Highbury\_128, Saints25\_128, Hoonter\_135
- Track 24 : NelitzaMV\_130, Command613\_134, Daikon\_134, Mindy\_135, Thresher\_134, Elph10\_130, Balomoji\_133, Rakim\_133

- Track 25 : Goku\_130, Eureka\_131
- Track 26 : ShereKhan\_131, Pharsalus\_129, xkcd\_135, Miniwave\_125, Kanye\_128, Quallification\_132, Buck\_132, Paperbeatsrock\_130, HanKaySha\_131, BigBubba\_134
- Track 27 : StolenFromERC\_134, Stank\_135, GooberAzure\_134, Adnama\_136, Argent26\_136, GoldenSpark\_136, Xandras\_132, Moldemort\_134, Easy2Say\_133, Gemini\_137, AmericanBeauty\_139, Lilizi\_132, Kimchi\_137, Goldilocks\_137
- Track 28 : NoSleep\_131
- Track 29 : Nala\_134, Dumbo\_133, Rimmer\_129, Stark\_130, Cjw1\_130
- Track 30 : Bench\_134, Lilac\_130, Cookies\_133
- Track 31 : Myrale\_132
- Track 32 : Pat3\_131
- Track 33 : ChosenOne\_133, Lilpickle\_132, Elite2014\_132
- Track 34 : Tarkin\_130
- Track 35 : Czyszczone1\_131
- Track 36 : JeTaime\_130
- Track 37 : SirDuracell\_135, Holt\_138, Manda\_133
- Track 38 : Porky\_133
- Track 39 : TBrady12\_136
- Track 40 : Emmina\_132
- Track 41 : StellaBean\_128
- Track 42 : Puissant\_49
- Track 43 : Duke13\_229, Hughesyang\_227, EricMillard\_223, Bagrid\_233
- Track 44 : Courthouse\_230, DmpstrDiver\_226
- Track 45 : Bombitas\_211
- Track 46 : Halley\_229
- Track 47 : KashFlow\_219, Hannaconda\_217
- Track 48 : Dove\_219, Schatzie\_217
- Track 49 : NihilNomen\_228, HokkenD\_217, Phoebus\_224, Ariel\_233, Beem\_228, JuicyJay\_221
- Track 50 : Minerva\_224
- Track 51 : Squint\_224
- Track 52 : Bobby\_207
- Track 53 : Gonephishing\_222
- Track 54 : Omega\_228
- Track 55 : ThreeRngTarjay\_226
- Track 56 : Pound\_216
- Track 57 : Yeet\_219
- Track 58 : Superphikiman\_225
- Track 59 : ChewyVIII\_93

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

The start number called the most often in the published annotations is 49, it was called in 84 of the 164 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 244\_133, ABCat\_133, Amao\_136, Asriel\_129, BaboJay\_131, BadStone\_133, Balomoji\_133, Barbarian\_132, Bask21\_137, Bench\_134, BilboSwaggins\_130, Bruin\_129, BugsBunny\_131, Cactus\_140, ChosenOne\_133, ChotaBhai\_136, Cjw1\_130, Command613\_134, Contagion\_128, Cookies\_133, CrystalP\_132,

Daikon\_134, DoctorDiddles\_130, DrDrey\_135, Dumbo\_133, Dusk\_133, Elite2014\_132, Elph10\_130, Filch\_134, FireRed\_135, Flypotenuse\_127, Gator\_134, Glexan\_136, Harella\_138, Henry\_134, Highbury\_128, Holt\_138, Hoonter\_135, Hopey\_131, HuffyPuff\_134, IHOP\_136, Icee\_137, Inca\_131, JeTaime\_130, Kostya\_133, Lilac\_130, Lilpickle\_132, MISSy\_134, MPhalcon\_133, MadamMonkfish\_132, Manda\_133, Marshmallow\_133, Maxxinista\_134, Mindy\_135, Misfit\_132, Mosby\_129, Murica\_136, Murphy\_131, Nala\_134, NelitzaMV\_130, Nimrod\_132, OrionPax\_128, Palpatine\_132, Petra64142\_134, Phaja\_136, PhatBacter\_135, Phaux\_134, Phrux\_128, Policronamos\_135, Pumpkin\_132, Rakim\_133, Rimmer\_129, RiverMonster\_131, Saints25\_128, Sassay\_127, ShamWow\_132, Simpliphy\_131, SirDuracell\_135, SophKB\_130, Sotrice96\_137, Stark\_130, TeardropMSU\_133, Terminus\_135, Thresher\_134, Tomaszewski\_126, Toto\_130, Traaww1\_128, Tuco\_138, Ukulele\_127, Wiggin\_135, YassJohnny\_128, Youngblood\_136,

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

- 

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

- Adnama\_136, AmericanBeauty\_139, Argent26\_136, Ariel\_233, Bagrid\_233, Beem\_228, BigBubba\_134, Bobby\_207, Bombitas\_211, Buck\_132, ChewyVIII\_93, Courthouse\_230, Czyszczon1\_131, Dalilpop\_91, DmpstrDiver\_226, Dove\_219, Duke13\_229, Easy2Say\_133, Emmina\_132, Ennea\_94, EricMillard\_223, Eureka\_131, Flapper\_91, Float294\_88, Fury\_95, GRU1\_77, Gemini\_137, Goku\_130, GoldenSpark\_136, Goldilocks\_137, Gonephishing\_222, GooberAzure\_134, Halley\_229, HanKaySha\_131, Hannaconda\_217, HokkenD\_217, HubbaBubba\_80, Hughesyang\_227, IDyn\_81, JuicyJay\_221, Kanye\_128, KashFlow\_219, Kimchi\_137, Lilizi\_132, Lollipop1437\_89, Marietta\_85, MerCougar\_93, Minerva\_224, Miniwave\_125, Moldemort\_134, Myrale\_132, NadineRae\_85, NihilNomen\_228, NoSleep\_131, NosilaM\_91, Omega\_228, Outis\_91, Paperbeatsrock\_130, Pat3\_131, Patio\_87, Pharsalus\_129, Phoebus\_224, Pleakley\_95, Porky\_133, Pound\_216, Puissant\_49, Quallification\_132, Schatzie\_217, ShereKhan\_131, Skysand\_91, SpeedDemon\_1630, Squint\_224, Stank\_135, StarStruck\_91, StellaBean\_128, StolenFromERC\_134, Sukkupi\_85, Superphikiman\_225, TBrady12\_136, Tarkin\_130, ThreeRngTarjay\_226, Turuncu\_91, WhoseManz\_85, Willez\_128, Xandras\_132, Yeet\_219, Yndexa\_85, xkcd\_135,

### Summary by start number:

Start 33:

- Found in 37 of 180 ( 20.6% ) of genes in pham
- Manual Annotations of this start: 31 of 164
- Called 89.2% of time when present
- Phage (with cluster) where this start called: Adnama\_136 (E), AmericanBeauty\_139 (E), Argent26\_136 (E), BigBubba\_134 (E), Buck\_132 (E), Czyszczon1\_131 (E), Easy2Say\_133 (E), Emmina\_132 (E), Eureka\_131 (E), Gemini\_137 (E), Goku\_130 (E), GoldenSpark\_136 (E), Goldilocks\_137 (E), GooberAzure\_134 (E), HanKaySha\_131 (E), Kanye\_128 (E), Kimchi\_137 (E), Lilizi\_132 (E), Miniwave\_125 (E), Moldemort\_134 (E), Paperbeatsrock\_130 (E), Pat3\_131 (E), Pharsalus\_129 (E), Puissant\_49 (H1), Quallification\_132 (E), ShereKhan\_131 (E), Stank\_135 (E), StolenFromERC\_134 (E), TBrady12\_136 (E), Tarkin\_130 (E), Willez\_128 (E), Xandras\_132 (E), xkcd\_135 (E),

Start 34:

- Found in 9 of 180 ( 5.0% ) of genes in pham
- Manual Annotations of this start: 8 of 164
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Dalilpop\_91 (CR1), Ennea\_94 (CR3), Flapper\_91 (CR1), Float294\_88 (CR3), GRU1\_77 (CR1), Lollipop1437\_89 (CR3), Patio\_87 (CR3), Skysand\_91 (CR3), Turuncu\_91 (CR1),

Start 35:

- Found in 7 of 180 ( 3.9% ) of genes in pham
- Manual Annotations of this start: 6 of 164
- Called 100.0% of time when present
- Phage (with cluster) where this start called: HubbaBubba\_80 (CR4), IDyn\_81 (CR4), Marietta\_85 (CR4), NadineRae\_85 (CR4), Sukkupi\_85 (CR4), WhoseManz\_85 (CR4), Yndexa\_85 (CR4),

Start 37:

- Found in 4 of 180 ( 2.2% ) of genes in pham
- Manual Annotations of this start: 3 of 164
- Called 75.0% of time when present
- Phage (with cluster) where this start called: MerCougar\_93 (CR2), Outis\_91 (CR2), StarStruck\_91 (CR2),

Start 38:

- Found in 2 of 180 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 2 of 164
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Fury\_95 (CR5), Pleakley\_95 (CR5),

Start 46:

- Found in 21 of 180 ( 11.7% ) of genes in pham
- No Manual Annotations of this start.
- Called 4.8% of time when present
- Phage (with cluster) where this start called: Gonephishing\_222 (J),

Start 47:

- Found in 34 of 180 ( 18.9% ) of genes in pham
- Manual Annotations of this start: 1 of 164
- Called 2.9% of time when present
- Phage (with cluster) where this start called: Myrale\_132 (E),

Start 49:

- Found in 92 of 180 ( 51.1% ) of genes in pham
- Manual Annotations of this start: 84 of 164
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 244\_133 (E), ABCat\_133 (E), Amao\_136 (E), Asriel\_129 (E), BaboJay\_131 (E), BadStone\_133 (E), Balomoji\_133 (E), Barbarian\_132 (E), Bask21\_137 (E), Bench\_134 (E), BilboSwaggins\_130 (E), Bruin\_129 (E), BugsBunny\_131 (E), Cactus\_140 (E), ChosenOne\_133 (E), ChotaBhai\_136 (E), Cjw1\_130 (E), Command613\_134 (E), Contagion\_128 (E), Cookies\_133 (E), CrystalP\_132 (E), Daikon\_134 (E), DoctorDiddles\_130 (E), DrDrey\_135 (E), Dumbo\_133 (E), Dusk\_133 (E), Elite2014\_132 (E), Elph10\_130 (E), Filch\_134 (E), FireRed\_135 (E), Flypotenuse\_127 (E), Gator\_134 (E), Glexan\_136

(E), Harella\_138 (E), Henry\_134 (E), Highbury\_128 (E), Holt\_138 (E), Hoonter\_135 (E), Hokey\_131 (E), HufflyPuff\_134 (E), IHOP\_136 (E), Icee\_137 (E), Inca\_131 (E), JeTaima\_130 (E), Kostya\_133 (E), Lilac\_130 (E), Lilpickle\_132 (E), MISSy\_134 (E), MPhalcon\_133 (E), MadamMonkfish\_132 (E), Manda\_133 (E), Marshmallow\_133 (E), Maxxinsta\_134 (E), Mindy\_135 (E), Misfit\_132 (E), Mosby\_129 (E), Murica\_136 (E), Murphy\_131 (E), Nala\_134 (E), NelitzaMV\_130 (E), Nimrod\_132 (E), OrionPax\_128 (E), Palpatine\_132 (E), Petra64142\_134 (E), Phaja\_136 (E), PhatBacter\_135 (E), Phaux\_134 (E), Phrux\_128 (E), Policronamos\_135 (E), Pumpkin\_132 (E), Rakim\_133 (E), Rimmer\_129 (E), RiverMonster\_131 (E), Saints25\_128 (E), Sassay\_127 (E), ShamWow\_132 (E), Simpliphy\_131 (E), SirDuracell\_135 (E), SophKB\_130 (E), Sotrice96\_137 (E), Stark\_130 (E), TeardropMSU\_133 (E), Terminus\_135 (E), Thresher\_134 (E), Tomaszewski\_126 (E), Toto\_130 (E), Traaww1\_128 (E), Tuco\_138 (E), Ukulele\_127 (E), Wiggins\_135 (E), YassJohnny\_128 (E), Youngblood\_136 (E),

#### Start 50:

- Found in 1 of 180 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 1 of 164
- Called 100.0% of time when present
- Phage (with cluster) where this start called: SpeedDemon\_1630 (DL),

#### Start 51:

- Found in 27 of 180 ( 15.0% ) of genes in pham
- Manual Annotations of this start: 24 of 164
- Called 96.3% of time when present
- Phage (with cluster) where this start called: Ariel\_233 (J), Bagrid\_233 (J), Beem\_228 (J), Bobby\_207 (J), Bombitas\_211 (J), Courthouse\_230 (J), DmpstrDiver\_226 (J), Dove\_219 (J), Duke13\_229 (J), EricMillard\_223 (J), Halley\_229 (J), Hannaconda\_217 (J), HokkenD\_217 (J), Hughesyang\_227 (J), JuicyJay\_221 (J), KashFlow\_219 (J), Minerva\_224 (J), NihilNomen\_228 (J), Omega\_228 (J), Phoebus\_224 (J), Pound\_216 (J), Schatzie\_217 (J), Squint\_224 (J), Superphikiman\_225 (J), ThreeRngTarjay\_226 (J), Yeet\_219 (J),

#### Start 52:

- Found in 1 of 180 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 1 of 164
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ChewyVIII\_93 (singleton),

#### Start 55:

- Found in 4 of 180 ( 2.2% ) of genes in pham
- Manual Annotations of this start: 1 of 164
- Called 25.0% of time when present
- Phage (with cluster) where this start called: NosilaM\_91 (CR2),

#### Start 59:

- Found in 36 of 180 ( 20.0% ) of genes in pham
- Manual Annotations of this start: 2 of 164
- Called 8.3% of time when present
- Phage (with cluster) where this start called: NoSleep\_131 (E), Porky\_133 (E), StellaBean\_128 (E),

### Summary by clusters:

There are 10 clusters represented in this pham: CR2, CR3, singleton, CR1, E, CR4, CR5, J, DL, H1,

Info for manual annotations of cluster CR1:

- Start number 34 was manually annotated 3 times for cluster CR1.

Info for manual annotations of cluster CR2:

- Start number 37 was manually annotated 3 times for cluster CR2.
- Start number 55 was manually annotated 1 time for cluster CR2.

Info for manual annotations of cluster CR3:

- Start number 34 was manually annotated 5 times for cluster CR3.

Info for manual annotations of cluster CR4:

- Start number 35 was manually annotated 6 times for cluster CR4.

Info for manual annotations of cluster CR5:

- Start number 38 was manually annotated 2 times for cluster CR5.

Info for manual annotations of cluster DL:

- Start number 50 was manually annotated 1 time for cluster DL.

Info for manual annotations of cluster E:

- Start number 33 was manually annotated 31 times for cluster E.
- Start number 47 was manually annotated 1 time for cluster E.
- Start number 49 was manually annotated 84 times for cluster E.
- Start number 59 was manually annotated 2 times for cluster E.

Info for manual annotations of cluster J:

- Start number 51 was manually annotated 24 times for cluster J.

### **Gene Information:**

Gene: 244\_133 Start: 70573, Stop: 70115, Start Num: 49

Candidate Starts for 244\_133:

(Start: 49 @70573 has 84 MA's), (60, 70534), (65, 70504), (89, 70354), (91, 70333), (92, 70327), (93, 70285), (97, 70213), (98, 70204), (99, 70192), (105, 70153), (107, 70129), (109, 70126),

Gene: ABCat\_133 Start: 72121, Stop: 71663, Start Num: 49

Candidate Starts for ABCat\_133:

(Start: 49 @72121 has 84 MA's), (60, 72082), (65, 72052), (89, 71902), (91, 71881), (92, 71875), (93, 71833), (97, 71761), (98, 71752), (99, 71740), (105, 71701), (107, 71677), (109, 71674),

Gene: Adnama\_136 Start: 70869, Stop: 70321, Start Num: 33

Candidate Starts for Adnama\_136:

(31, 70926), (32, 70920), (Start: 33 @70869 has 31 MA's), (Start: 47 @70797 has 1 MA's), (58, 70758), (Start: 59 @70755 has 2 MA's), (65, 70716), (89, 70566), (92, 70539), (97, 70419), (105, 70359), (107, 70335), (109, 70332),



Gene: Amao\_136 Start: 71946, Stop: 71473, Start Num: 49

Candidate Starts for Amao\_136:

(Start: 49 @71946 has 84 MA's), (65, 71877), (83, 71760), (89, 71727), (92, 71700), (105, 71508), (106, 71487), (107, 71484),

Gene: AmericanBeauty\_139 Start: 70911, Stop: 70363, Start Num: 33

Candidate Starts for AmericanBeauty\_139:

(31, 70968), (32, 70962), (Start: 33 @70911 has 31 MA's), (Start: 47 @70839 has 1 MA's), (58, 70800), (Start: 59 @70797 has 2 MA's), (65, 70758), (89, 70608), (92, 70581), (97, 70461), (105, 70401), (107, 70377), (109, 70374),

Gene: Argent26\_136 Start: 70793, Stop: 70245, Start Num: 33

Candidate Starts for Argent26\_136:

(31, 70850), (32, 70844), (Start: 33 @70793 has 31 MA's), (Start: 47 @70721 has 1 MA's), (58, 70682), (Start: 59 @70679 has 2 MA's), (65, 70640), (89, 70490), (92, 70463), (97, 70343), (105, 70283), (107, 70259), (109, 70256),

Gene: Ariel\_233 Start: 105828, Stop: 105376, Start Num: 51

Candidate Starts for Ariel\_233:

(46, 105840), (Start: 51 @105828 has 24 MA's), (65, 105762), (70, 105735), (84, 105636), (89, 105612), (92, 105585), (93, 105543), (97, 105471), (98, 105462), (105, 105411), (106, 105390), (107, 105387),

Gene: Asriel\_129 Start: 69426, Stop: 68968, Start Num: 49

Candidate Starts for Asriel\_129:

(Start: 49 @69426 has 84 MA's), (60, 69387), (65, 69357), (89, 69207), (91, 69186), (92, 69180), (93, 69138), (97, 69066), (98, 69057), (99, 69045), (105, 69006), (107, 68982), (109, 68979),

Gene: BaboJay\_131 Start: 71740, Stop: 71282, Start Num: 49

Candidate Starts for BaboJay\_131:

(Start: 49 @71740 has 84 MA's), (60, 71701), (65, 71671), (89, 71521), (91, 71500), (92, 71494), (93, 71452), (97, 71380), (98, 71371), (99, 71359), (105, 71320), (107, 71296), (109, 71293),

Gene: BadStone\_133 Start: 71669, Stop: 71211, Start Num: 49

Candidate Starts for BadStone\_133:

(Start: 49 @71669 has 84 MA's), (60, 71630), (65, 71600), (89, 71450), (91, 71429), (92, 71423), (93, 71381), (97, 71309), (98, 71300), (99, 71288), (105, 71249), (107, 71225), (109, 71222),

Gene: Bagrid\_233 Start: 109850, Stop: 109392, Start Num: 51

Candidate Starts for Bagrid\_233:

(46, 109862), (Start: 51 @109850 has 24 MA's), (65, 109784), (70, 109757), (84, 109658), (89, 109634), (91, 109613), (92, 109607), (97, 109487), (98, 109478), (104, 109430), (105, 109427), (106, 109406), (107, 109403),

Gene: Balomoji\_133 Start: 71215, Stop: 70751, Start Num: 49

Candidate Starts for Balomoji\_133:

(Start: 49 @71215 has 84 MA's), (60, 71176), (65, 71146), (89, 70996), (92, 70969), (97, 70849), (98, 70840), (99, 70828), (105, 70789), (107, 70765), (109, 70762),

Gene: Barbarian\_132 Start: 69426, Stop: 68968, Start Num: 49

Candidate Starts for Barbarian\_132:

(Start: 49 @69426 has 84 MA's), (60, 69387), (65, 69357), (89, 69207), (91, 69186), (92, 69180), (93, 69138), (97, 69066), (98, 69057), (99, 69045), (105, 69006), (107, 68982), (109, 68979),

Gene: Bask21\_137 Start: 70592, Stop: 70134, Start Num: 49

Candidate Starts for Bask21\_137:

(Start: 49 @70592 has 84 MA's), (60, 70553), (65, 70523), (89, 70373), (91, 70352), (92, 70346), (93, 70304), (97, 70232), (98, 70223), (99, 70211), (105, 70172), (107, 70148), (109, 70145),

Gene: Beem\_228 Start: 108612, Stop: 108160, Start Num: 51

Candidate Starts for Beem\_228:

(46, 108624), (Start: 51 @108612 has 24 MA's), (65, 108546), (70, 108519), (84, 108420), (89, 108396), (92, 108369), (93, 108327), (97, 108255), (98, 108246), (105, 108195), (106, 108174), (107, 108171),

Gene: Bench\_134 Start: 71466, Stop: 71002, Start Num: 49

Candidate Starts for Bench\_134:

(Start: 49 @71466 has 84 MA's), (60, 71427), (65, 71397), (89, 71247), (92, 71220), (97, 71100), (105, 71040), (107, 71016), (109, 71013),

Gene: BigBubba\_134 Start: 70303, Stop: 69761, Start Num: 33

Candidate Starts for BigBubba\_134:

(31, 70360), (32, 70354), (Start: 33 @70303 has 31 MA's), (Start: 47 @70231 has 1 MA's), (58, 70192), (Start: 59 @70189 has 2 MA's), (65, 70150), (89, 70000), (91, 69979), (92, 69973), (93, 69931), (97, 69859), (98, 69850), (99, 69838), (105, 69799), (107, 69775), (109, 69772),

Gene: BilboSwaggins\_130 Start: 71706, Stop: 71248, Start Num: 49

Candidate Starts for BilboSwaggins\_130:

(Start: 49 @71706 has 84 MA's), (60, 71667), (65, 71637), (89, 71487), (91, 71466), (92, 71460), (93, 71418), (97, 71346), (98, 71337), (99, 71325), (105, 71286), (107, 71262), (109, 71259),

Gene: Bobby\_207 Start: 106620, Stop: 106168, Start Num: 51

Candidate Starts for Bobby\_207:

(46, 106632), (Start: 51 @106620 has 24 MA's), (65, 106554), (70, 106527), (84, 106428), (89, 106404), (92, 106377), (93, 106335), (97, 106263), (98, 106254), (105, 106203), (106, 106182), (107, 106179),

Gene: Bombitas\_211 Start: 105190, Stop: 104732, Start Num: 51

Candidate Starts for Bombitas\_211:

(46, 105202), (Start: 51 @105190 has 24 MA's), (65, 105124), (70, 105097), (89, 104974), (91, 104953), (92, 104947), (97, 104827), (98, 104818), (105, 104767), (106, 104746),

Gene: Bruin\_129 Start: 69850, Stop: 69392, Start Num: 49

Candidate Starts for Bruin\_129:

(Start: 49 @69850 has 84 MA's), (60, 69811), (65, 69781), (89, 69631), (91, 69610), (92, 69604), (93, 69562), (97, 69490), (98, 69481), (99, 69469), (105, 69430), (107, 69406), (109, 69403),

Gene: Buck\_132 Start: 71751, Stop: 71209, Start Num: 33

Candidate Starts for Buck\_132:

(31, 71808), (32, 71802), (Start: 33 @71751 has 31 MA's), (Start: 47 @71679 has 1 MA's), (58, 71640), (Start: 59 @71637 has 2 MA's), (65, 71598), (89, 71448), (91, 71427), (92, 71421), (93, 71379), (97, 71307), (98, 71298), (99, 71286), (105, 71247), (107, 71223), (109, 71220),

Gene: BugsBunny\_131 Start: 71165, Stop: 70707, Start Num: 49

Candidate Starts for BugsBunny\_131:

(Start: 49 @71165 has 84 MA's), (60, 71126), (65, 71096), (89, 70946), (91, 70925), (92, 70919), (93, 70877), (97, 70805), (98, 70796), (99, 70784), (105, 70745), (107, 70721), (109, 70718),

Gene: Cactus\_140 Start: 71263, Stop: 70799, Start Num: 49

Candidate Starts for Cactus\_140:

(Start: 49 @71263 has 84 MA's), (60, 71224), (65, 71194), (89, 71044), (92, 71017), (97, 70897), (101, 70867), (105, 70837), (107, 70813), (109, 70810),

Gene: ChewyVIII\_93 Start: 67567, Stop: 68139, Start Num: 52

Candidate Starts for ChewyVIII\_93:

(44, 67540), (Start: 52 @67567 has 1 MA's), (53, 67573), (73, 67732), (78, 67771), (92, 67894), (94, 67966), (96, 67972), (110, 68125),

Gene: ChosenOne\_133 Start: 70642, Stop: 70184, Start Num: 49

Candidate Starts for ChosenOne\_133:

(Start: 49 @70642 has 84 MA's), (60, 70603), (65, 70573), (89, 70423), (91, 70402), (92, 70396), (93, 70354), (97, 70282), (99, 70261), (105, 70222), (107, 70198), (109, 70195),

Gene: ChotaBhai\_136 Start: 71428, Stop: 70970, Start Num: 49

Candidate Starts for ChotaBhai\_136:

(Start: 49 @71428 has 84 MA's), (60, 71389), (65, 71359), (89, 71209), (91, 71188), (92, 71182), (93, 71140), (97, 71068), (98, 71059), (99, 71047), (105, 71008), (107, 70984), (109, 70981),

Gene: Cjw1\_130 Start: 71844, Stop: 71386, Start Num: 49

Candidate Starts for Cjw1\_130:

(Start: 49 @71844 has 84 MA's), (60, 71805), (65, 71775), (89, 71625), (91, 71604), (92, 71598), (93, 71556), (97, 71484), (99, 71463), (105, 71424), (107, 71400), (109, 71397),

Gene: Command613\_134 Start: 71208, Stop: 70744, Start Num: 49

Candidate Starts for Command613\_134:

(Start: 49 @71208 has 84 MA's), (60, 71169), (65, 71139), (89, 70989), (92, 70962), (97, 70842), (98, 70833), (99, 70821), (105, 70782), (107, 70758), (109, 70755),

Gene: Contagion\_128 Start: 70212, Stop: 69754, Start Num: 49

Candidate Starts for Contagion\_128:

(Start: 49 @70212 has 84 MA's), (60, 70173), (65, 70143), (89, 69993), (91, 69972), (92, 69966), (93, 69924), (97, 69852), (98, 69843), (99, 69831), (105, 69792), (107, 69768), (109, 69765),

Gene: Cookies\_133 Start: 71754, Stop: 71278, Start Num: 49

Candidate Starts for Cookies\_133:

(Start: 49 @71754 has 84 MA's), (60, 71715), (65, 71685), (89, 71535), (92, 71508), (97, 71376), (105, 71316), (107, 71292), (109, 71289),

Gene: Courthouse\_230 Start: 106688, Stop: 106236, Start Num: 51

Candidate Starts for Courthouse\_230:

(46, 106700), (Start: 51 @106688 has 24 MA's), (65, 106622), (70, 106595), (84, 106496), (89, 106472), (92, 106445), (93, 106403), (97, 106331), (98, 106322), (105, 106271), (106, 106250), (107, 106247),

Gene: CrystalP\_132 Start: 71706, Stop: 71248, Start Num: 49

Candidate Starts for CrystalP\_132:

(Start: 49 @71706 has 84 MA's), (60, 71667), (65, 71637), (89, 71487), (91, 71466), (92, 71460), (93, 71418), (97, 71346), (98, 71337), (99, 71325), (105, 71286), (107, 71262), (109, 71259),

Gene: Czyszczone1\_131 Start: 70290, Stop: 69748, Start Num: 33

Candidate Starts for Czyszczone1\_131:

(31, 70347), (32, 70341), (Start: 33 @70290 has 31 MA's), (Start: 47 @70218 has 1 MA's), (58, 70179), (Start: 59 @70176 has 2 MA's), (65, 70137), (89, 69987), (92, 69960), (93, 69918), (97, 69846), (98, 69837), (99, 69825), (105, 69786), (107, 69762), (109, 69759),

Gene: Daikon\_134 Start: 70511, Stop: 70047, Start Num: 49

Candidate Starts for Daikon\_134:

(Start: 49 @70511 has 84 MA's), (60, 70472), (65, 70442), (89, 70292), (92, 70265), (97, 70145), (98, 70136), (99, 70124), (105, 70085), (107, 70061), (109, 70058),

Gene: Dalilpop\_91 Start: 64399, Stop: 64968, Start Num: 34

Candidate Starts for Dalilpop\_91:

(Start: 34 @64399 has 8 MA's), (45, 64462), (61, 64525), (70, 64579), (79, 64639), (86, 64702), (87, 64705), (91, 64735), (92, 64741), (93, 64783),

Gene: DmpstrDiver\_226 Start: 107322, Stop: 106870, Start Num: 51

Candidate Starts for DmpstrDiver\_226:

(46, 107334), (Start: 51 @107322 has 24 MA's), (65, 107256), (70, 107229), (84, 107130), (89, 107106), (92, 107079), (93, 107037), (97, 106965), (98, 106956), (105, 106905), (106, 106884), (107, 106881),

Gene: DoctorDiddles\_130 Start: 70165, Stop: 69707, Start Num: 49

Candidate Starts for DoctorDiddles\_130:

(Start: 49 @70165 has 84 MA's), (60, 70126), (65, 70096), (89, 69946), (91, 69925), (92, 69919), (93, 69877), (97, 69805), (98, 69796), (99, 69784), (105, 69745), (107, 69721), (109, 69718),

Gene: Dove\_219 Start: 103730, Stop: 103272, Start Num: 51

Candidate Starts for Dove\_219:

(46, 103742), (Start: 51 @103730 has 24 MA's), (65, 103664), (70, 103637), (84, 103538), (89, 103514), (92, 103487), (97, 103367), (98, 103358), (105, 103307), (106, 103286),

Gene: DrDrey\_135 Start: 72902, Stop: 72444, Start Num: 49

Candidate Starts for DrDrey\_135:

(Start: 49 @72902 has 84 MA's), (60, 72863), (65, 72833), (89, 72683), (91, 72662), (92, 72656), (93, 72614), (97, 72542), (98, 72533), (99, 72521), (105, 72482), (107, 72458), (109, 72455),

Gene: Duke13\_229 Start: 108040, Stop: 107582, Start Num: 51

Candidate Starts for Duke13\_229:

(46, 108052), (Start: 51 @108040 has 24 MA's), (65, 107974), (70, 107947), (84, 107848), (89, 107824), (91, 107803), (92, 107797), (97, 107677), (98, 107668), (104, 107620), (105, 107617), (106, 107596), (107, 107593),

Gene: Dumbo\_133 Start: 70853, Stop: 70395, Start Num: 49

Candidate Starts for Dumbo\_133:

(Start: 49 @70853 has 84 MA's), (60, 70814), (65, 70784), (89, 70634), (91, 70613), (92, 70607), (93, 70565), (97, 70493), (99, 70472), (105, 70433), (107, 70409), (109, 70406),

Gene: Dusk\_133 Start: 71329, Stop: 70871, Start Num: 49

Candidate Starts for Dusk\_133:

(Start: 49 @71329 has 84 MA's), (60, 71290), (65, 71260), (89, 71110), (91, 71089), (92, 71083), (93, 71041), (97, 70969), (98, 70960), (99, 70948), (105, 70909), (107, 70885), (109, 70882),

Gene: Easy2Say\_133 Start: 71259, Stop: 70711, Start Num: 33

Candidate Starts for Easy2Say\_133:

(31, 71316), (32, 71310), (Start: 33 @71259 has 31 MA's), (Start: 47 @71187 has 1 MA's), (58, 71148), (Start: 59 @71145 has 2 MA's), (65, 71106), (89, 70956), (92, 70929), (97, 70809), (105, 70749), (107, 70725), (109, 70722),

Gene: Elite2014\_132 Start: 70641, Stop: 70183, Start Num: 49

Candidate Starts for Elite2014\_132:

(Start: 49 @70641 has 84 MA's), (60, 70602), (65, 70572), (89, 70422), (91, 70401), (92, 70395), (93, 70353), (97, 70281), (99, 70260), (105, 70221), (107, 70197), (109, 70194),

Gene: Elph10\_130 Start: 69960, Stop: 69496, Start Num: 49

Candidate Starts for Elph10\_130:

(Start: 49 @69960 has 84 MA's), (60, 69921), (65, 69891), (89, 69741), (92, 69714), (97, 69594), (98, 69585), (99, 69573), (105, 69534), (107, 69510), (109, 69507),

Gene: Emmina\_132 Start: 70211, Stop: 69663, Start Num: 33

Candidate Starts for Emmina\_132:

(Start: 33 @70211 has 31 MA's), (58, 70100), (Start: 59 @70097 has 2 MA's), (65, 70058), (89, 69908), (92, 69881), (97, 69761), (101, 69731), (105, 69701), (107, 69677), (109, 69674),

Gene: Ennea\_94 Start: 64628, Stop: 65194, Start Num: 34

Candidate Starts for Ennea\_94:

(1, 64034), (2, 64097), (3, 64100), (6, 64130), (8, 64142), (11, 64199), (23, 64379), (Start: 34 @64628 has 8 MA's), (41, 64658), (45, 64688), (65, 64778), (69, 64802), (77, 64856), (80, 64865), (87, 64925), (90, 64949), (91, 64955), (92, 64961), (103, 65117),

Gene: EricMillard\_223 Start: 108742, Stop: 108284, Start Num: 51

Candidate Starts for EricMillard\_223:

(46, 108754), (Start: 51 @108742 has 24 MA's), (65, 108676), (70, 108649), (84, 108550), (89, 108526), (91, 108505), (92, 108499), (97, 108379), (98, 108370), (104, 108322), (105, 108319), (106, 108298), (107, 108295),

Gene: Eureka\_131 Start: 71139, Stop: 70579, Start Num: 33

Candidate Starts for Eureka\_131:

(31, 71196), (32, 71190), (Start: 33 @71139 has 31 MA's), (Start: 47 @71067 has 1 MA's), (58, 71028), (Start: 59 @71025 has 2 MA's), (65, 70986), (89, 70836), (91, 70815), (92, 70809), (97, 70677), (98, 70668), (99, 70656), (105, 70617), (107, 70593), (109, 70590),

Gene: Filch\_134 Start: 70782, Stop: 70324, Start Num: 49

Candidate Starts for Filch\_134:

(Start: 49 @70782 has 84 MA's), (60, 70743), (65, 70713), (89, 70563), (91, 70542), (92, 70536), (93, 70494), (97, 70422), (98, 70413), (99, 70401), (105, 70362), (107, 70338), (109, 70335),

Gene: FireRed\_135 Start: 71291, Stop: 70833, Start Num: 49

Candidate Starts for FireRed\_135:

(Start: 49 @71291 has 84 MA's), (65, 71222), (66, 71219), (89, 71072), (92, 71045), (93, 71003), (97, 70931), (98, 70922), (99, 70910), (105, 70871), (107, 70847), (109, 70844),

Gene: Flapper\_91 Start: 64268, Stop: 64843, Start Num: 34

Candidate Starts for Flapper\_91:

(15, 63911), (16, 63920), (17, 63959), (18, 63971), (20, 63995), (22, 64004), (26, 64073), (Start: 34 @64268 has 8 MA's), (45, 64331), (61, 64394), (70, 64448), (79, 64508), (86, 64571), (87, 64574), (90, 64598), (91, 64604), (92, 64610), (93, 64652), (105, 64784),

Gene: Float294\_88 Start: 64522, Stop: 65091, Start Num: 34

Candidate Starts for Float294\_88:

(23, 64273), (27, 64330), (Start: 34 @64522 has 8 MA's), (53, 64609), (63, 64657), (64, 64666), (65, 64675), (67, 64690), (69, 64699), (77, 64753), (87, 64822), (90, 64846), (91, 64852), (92, 64858), (103, 65014),

Gene: Flypotenuse\_127 Start: 70080, Stop: 69622, Start Num: 49

Candidate Starts for Flypotenuse\_127:

(Start: 49 @70080 has 84 MA's), (60, 70041), (65, 70011), (89, 69861), (91, 69840), (92, 69834), (93, 69792), (97, 69720), (98, 69711), (99, 69699), (105, 69660), (107, 69636), (109, 69633),

Gene: Fury\_95 Start: 62225, Stop: 62755, Start Num: 38

Candidate Starts for Fury\_95:

(Start: 38 @62225 has 2 MA's), (56, 62297), (65, 62345), (81, 62444), (84, 62477), (89, 62501), (90, 62516), (95, 62603), (102, 62681),

Gene: GRU1\_77 Start: 55846, Stop: 56415, Start Num: 34

Candidate Starts for GRU1\_77:

(Start: 34 @55846 has 8 MA's), (45, 55909), (61, 55972), (70, 56026), (77, 56083), (79, 56086), (86, 56149), (87, 56152), (91, 56182), (92, 56188), (93, 56230), (97, 56302),

Gene: Gator\_134 Start: 71620, Stop: 71162, Start Num: 49

Candidate Starts for Gator\_134:

(Start: 49 @71620 has 84 MA's), (60, 71581), (65, 71551), (89, 71401), (91, 71380), (92, 71374), (93, 71332), (97, 71260), (98, 71251), (99, 71239), (105, 71200), (107, 71176), (109, 71173),

Gene: Gemini\_137 Start: 71310, Stop: 70762, Start Num: 33

Candidate Starts for Gemini\_137:

(31, 71367), (32, 71361), (Start: 33 @71310 has 31 MA's), (Start: 47 @71238 has 1 MA's), (58, 71199), (Start: 59 @71196 has 2 MA's), (65, 71157), (89, 71007), (92, 70980), (97, 70860), (105, 70800), (107, 70776), (109, 70773),

Gene: Glexan\_136 Start: 71770, Stop: 71312, Start Num: 49

Candidate Starts for Glexan\_136:

(Start: 49 @71770 has 84 MA's), (60, 71731), (65, 71701), (89, 71551), (91, 71530), (92, 71524), (93, 71482), (97, 71410), (98, 71401), (99, 71389), (105, 71350), (107, 71326), (109, 71323),

Gene: Goku\_130 Start: 71448, Stop: 70888, Start Num: 33

Candidate Starts for Goku\_130:

(31, 71505), (32, 71499), (Start: 33 @71448 has 31 MA's), (Start: 47 @71376 has 1 MA's), (58, 71337), (Start: 59 @71334 has 2 MA's), (65, 71295), (89, 71145), (91, 71124), (92, 71118), (97, 70986), (98, 70977), (99, 70965), (105, 70926), (107, 70902), (109, 70899),

Gene: GoldenSpark\_136 Start: 70793, Stop: 70245, Start Num: 33

Candidate Starts for GoldenSpark\_136:

(31, 70850), (32, 70844), (Start: 33 @70793 has 31 MA's), (Start: 47 @70721 has 1 MA's), (58, 70682), (Start: 59 @70679 has 2 MA's), (65, 70640), (89, 70490), (92, 70463), (97, 70343), (105, 70283), (107, 70259), (109, 70256),

Gene: Goldilocks\_137 Start: 71389, Stop: 70841, Start Num: 33

Candidate Starts for Goldilocks\_137:

(31, 71446), (32, 71440), (Start: 33 @71389 has 31 MA's), (Start: 47 @71317 has 1 MA's), (58, 71278), (Start: 59 @71275 has 2 MA's), (65, 71236), (89, 71086), (92, 71059), (97, 70939), (105, 70879), (107, 70855), (109, 70852),

Gene: Gonephishing\_222 Start: 106099, Stop: 105629, Start Num: 46

Candidate Starts for Gonephishing\_222:

(46, 106099), (Start: 51 @106087 has 24 MA's), (65, 106021), (70, 105994), (84, 105895), (89, 105871), (91, 105850), (92, 105844), (97, 105724), (98, 105715), (105, 105664), (106, 105643), (107, 105640),

Gene: GooberAzure\_134 Start: 70793, Stop: 70245, Start Num: 33

Candidate Starts for GooberAzure\_134:

(31, 70850), (32, 70844), (Start: 33 @70793 has 31 MA's), (Start: 47 @70721 has 1 MA's), (58, 70682), (Start: 59 @70679 has 2 MA's), (65, 70640), (89, 70490), (92, 70463), (97, 70343), (105, 70283), (107, 70259), (109, 70256),

Gene: Halley\_229 Start: 107495, Stop: 107037, Start Num: 51

Candidate Starts for Halley\_229:

(46, 107507), (Start: 51 @107495 has 24 MA's), (65, 107429), (70, 107402), (89, 107279), (91, 107258), (92, 107252), (97, 107132), (98, 107123), (105, 107072), (106, 107051), (107, 107048),

Gene: HanKaySha\_131 Start: 70747, Stop: 70205, Start Num: 33

Candidate Starts for HanKaySha\_131:

(31, 70804), (32, 70798), (Start: 33 @70747 has 31 MA's), (Start: 47 @70675 has 1 MA's), (58, 70636), (Start: 59 @70633 has 2 MA's), (65, 70594), (89, 70444), (91, 70423), (92, 70417), (93, 70375), (97, 70303), (98, 70294), (99, 70282), (105, 70243), (107, 70219), (109, 70216),

Gene: Hannaconda\_217 Start: 107027, Stop: 106569, Start Num: 51

Candidate Starts for Hannaconda\_217:

(40, 107078), (48, 107036), (Start: 51 @107027 has 24 MA's), (65, 106961), (70, 106934), (84, 106835), (89, 106811), (92, 106784), (97, 106664), (98, 106655), (105, 106604), (106, 106583),

Gene: Harella\_138 Start: 72286, Stop: 71828, Start Num: 49

Candidate Starts for Harella\_138:

(Start: 49 @72286 has 84 MA's), (60, 72247), (65, 72217), (89, 72067), (91, 72046), (92, 72040), (93, 71998), (97, 71926), (98, 71917), (99, 71905), (105, 71866), (107, 71842), (109, 71839),

Gene: Henry\_134 Start: 71571, Stop: 71113, Start Num: 49

Candidate Starts for Henry\_134:

(Start: 49 @71571 has 84 MA's), (60, 71532), (65, 71502), (89, 71352), (91, 71331), (92, 71325), (93, 71283), (97, 71211), (98, 71202), (99, 71190), (105, 71151), (107, 71127), (109, 71124),

Gene: Highbury\_128 Start: 69055, Stop: 68591, Start Num: 49

Candidate Starts for Highbury\_128:

(Start: 49 @69055 has 84 MA's), (60, 69016), (65, 68986), (89, 68836), (92, 68809), (97, 68689), (101, 68659), (105, 68629), (107, 68605), (109, 68602),

Gene: HokkenD\_217 Start: 108333, Stop: 107881, Start Num: 51

Candidate Starts for HokkenD\_217:

(46, 108345), (Start: 51 @108333 has 24 MA's), (65, 108267), (70, 108240), (84, 108141), (89, 108117), (92, 108090), (93, 108048), (97, 107976), (98, 107967), (105, 107916), (106, 107895), (107,

107892),

Gene: Holt\_138 Start: 71715, Stop: 71239, Start Num: 49

Candidate Starts for Holt\_138:

(Start: 49 @71715 has 84 MA's), (65, 71646), (66, 71643), (89, 71496), (92, 71469), (97, 71337), (105, 71277), (107, 71253), (109, 71250),

Gene: Hoonter\_135 Start: 71202, Stop: 70738, Start Num: 49

Candidate Starts for Hoonter\_135:

(Start: 49 @71202 has 84 MA's), (60, 71163), (65, 71133), (89, 70983), (92, 70956), (97, 70836), (101, 70806), (105, 70776), (107, 70752), (109, 70749),

Gene: Hokey\_131 Start: 71209, Stop: 70751, Start Num: 49

Candidate Starts for Hokey\_131:

(Start: 49 @71209 has 84 MA's), (60, 71170), (65, 71140), (89, 70990), (91, 70969), (92, 70963), (93, 70921), (97, 70849), (98, 70840), (99, 70828), (105, 70789), (107, 70765), (109, 70762),

Gene: HubbaBubba\_80 Start: 58420, Stop: 59040, Start Num: 35

Candidate Starts for HubbaBubba\_80:

(29, 58348), (Start: 35 @58420 has 6 MA's), (54, 58486), (65, 58543), (67, 58558), (92, 58720), (93, 58762), (100, 58861),

Gene: HufflyPuff\_134 Start: 71517, Stop: 71059, Start Num: 49

Candidate Starts for HufflyPuff\_134:

(Start: 49 @71517 has 84 MA's), (65, 71448), (66, 71445), (89, 71298), (92, 71271), (93, 71229), (97, 71157), (98, 71148), (99, 71136), (105, 71097), (107, 71073), (109, 71070),

Gene: Hughesyang\_227 Start: 108297, Stop: 107839, Start Num: 51

Candidate Starts for Hughesyang\_227:

(46, 108309), (Start: 51 @108297 has 24 MA's), (65, 108231), (70, 108204), (84, 108105), (89, 108081), (91, 108060), (92, 108054), (97, 107934), (98, 107925), (104, 107877), (105, 107874), (106, 107853), (107, 107850),

Gene: IDyn\_81 Start: 59074, Stop: 59697, Start Num: 35

Candidate Starts for IDyn\_81:

(24, 58867), (29, 59002), (Start: 35 @59074 has 6 MA's), (54, 59140), (65, 59197), (69, 59221), (92, 59377), (93, 59419), (94, 59443), (101, 59521),

Gene: IHOP\_136 Start: 71145, Stop: 70687, Start Num: 49

Candidate Starts for IHOP\_136:

(Start: 49 @71145 has 84 MA's), (60, 71106), (65, 71076), (89, 70926), (91, 70905), (92, 70899), (93, 70857), (97, 70785), (98, 70776), (99, 70764), (105, 70725), (107, 70701), (109, 70698),

Gene: Icee\_137 Start: 71021, Stop: 70563, Start Num: 49

Candidate Starts for Icee\_137:

(Start: 49 @71021 has 84 MA's), (60, 70982), (65, 70952), (89, 70802), (91, 70781), (92, 70775), (93, 70733), (97, 70661), (98, 70652), (99, 70640), (105, 70601), (107, 70577), (109, 70574),

Gene: Inca\_131 Start: 69165, Stop: 68707, Start Num: 49

Candidate Starts for Inca\_131:

(Start: 49 @69165 has 84 MA's), (60, 69126), (65, 69096), (89, 68946), (91, 68925), (92, 68919), (93, 68877), (97, 68805), (98, 68796), (99, 68784), (105, 68745), (107, 68721), (109, 68718),



Gene: JeTaime\_130 Start: 70681, Stop: 70223, Start Num: 49

Candidate Starts for JeTaime\_130:

(Start: 49 @70681 has 84 MA's), (60, 70642), (65, 70612), (89, 70462), (92, 70435), (93, 70393), (97, 70321), (98, 70312), (99, 70300), (105, 70261), (107, 70237), (109, 70234),

Gene: JuicyJay\_221 Start: 108561, Stop: 108109, Start Num: 51

Candidate Starts for JuicyJay\_221:

(46, 108573), (Start: 51 @108561 has 24 MA's), (65, 108495), (70, 108468), (84, 108369), (89, 108345), (92, 108318), (93, 108276), (97, 108204), (98, 108195), (105, 108144), (106, 108123), (107, 108120),

Gene: Kanye\_128 Start: 70808, Stop: 70266, Start Num: 33

Candidate Starts for Kanye\_128:

(31, 70865), (32, 70859), (Start: 33 @70808 has 31 MA's), (Start: 47 @70736 has 1 MA's), (58, 70697), (Start: 59 @70694 has 2 MA's), (65, 70655), (89, 70505), (91, 70484), (92, 70478), (93, 70436), (97, 70364), (98, 70355), (99, 70343), (105, 70304), (107, 70280), (109, 70277),

Gene: KashFlow\_219 Start: 106921, Stop: 106463, Start Num: 51

Candidate Starts for KashFlow\_219:

(40, 106972), (48, 106930), (Start: 51 @106921 has 24 MA's), (65, 106855), (70, 106828), (84, 106729), (89, 106705), (92, 106678), (97, 106558), (98, 106549), (105, 106498), (106, 106477),

Gene: Kimchi\_137 Start: 71514, Stop: 70966, Start Num: 33

Candidate Starts for Kimchi\_137:

(31, 71571), (32, 71565), (Start: 33 @71514 has 31 MA's), (Start: 47 @71442 has 1 MA's), (58, 71403), (Start: 59 @71400 has 2 MA's), (65, 71361), (89, 71211), (92, 71184), (97, 71064), (105, 71004), (107, 70980), (109, 70977),

Gene: Kostya\_133 Start: 71247, Stop: 70789, Start Num: 49

Candidate Starts for Kostya\_133:

(Start: 49 @71247 has 84 MA's), (60, 71208), (65, 71178), (89, 71028), (91, 71007), (92, 71001), (93, 70959), (97, 70887), (98, 70878), (99, 70866), (105, 70827), (107, 70803), (109, 70800),

Gene: Lilac\_130 Start: 71659, Stop: 71183, Start Num: 49

Candidate Starts for Lilac\_130:

(Start: 49 @71659 has 84 MA's), (60, 71620), (65, 71590), (89, 71440), (92, 71413), (97, 71281), (105, 71221), (107, 71197), (109, 71194),

Gene: Lilizi\_132 Start: 71021, Stop: 70473, Start Num: 33

Candidate Starts for Lilizi\_132:

(31, 71078), (32, 71072), (Start: 33 @71021 has 31 MA's), (Start: 47 @70949 has 1 MA's), (58, 70910), (Start: 59 @70907 has 2 MA's), (65, 70868), (89, 70718), (92, 70691), (97, 70571), (105, 70511), (107, 70487), (109, 70484),

Gene: Lilpickle\_132 Start: 70641, Stop: 70183, Start Num: 49

Candidate Starts for Lilpickle\_132:

(Start: 49 @70641 has 84 MA's), (60, 70602), (65, 70572), (89, 70422), (91, 70401), (92, 70395), (93, 70353), (97, 70281), (99, 70260), (105, 70221), (107, 70197), (109, 70194),

Gene: Lollipop1437\_89 Start: 64307, Stop: 64873, Start Num: 34

Candidate Starts for Lollipop1437\_89:

(Start: 34 @64307 has 8 MA's), (41, 64337), (43, 64358), (65, 64457), (69, 64481), (80, 64544), (82, 64565), (87, 64604), (90, 64628), (91, 64634), (92, 64640), (103, 64796),

Gene: MISSy\_134 Start: 71556, Stop: 71098, Start Num: 49

Candidate Starts for MISSy\_134:

(Start: 49 @71556 has 84 MA's), (60, 71517), (65, 71487), (89, 71337), (91, 71316), (92, 71310), (93, 71268), (97, 71196), (98, 71187), (99, 71175), (105, 71136), (107, 71112), (109, 71109),

Gene: MPhalcon\_133 Start: 70974, Stop: 70516, Start Num: 49

Candidate Starts for MPhalcon\_133:

(Start: 49 @70974 has 84 MA's), (60, 70935), (65, 70905), (89, 70755), (91, 70734), (92, 70728), (93, 70686), (97, 70614), (98, 70605), (99, 70593), (105, 70554), (107, 70530), (109, 70527),

Gene: MadamMonkfish\_132 Start: 70650, Stop: 70192, Start Num: 49

Candidate Starts for MadamMonkfish\_132:

(Start: 49 @70650 has 84 MA's), (60, 70611), (65, 70581), (89, 70431), (91, 70410), (92, 70404), (93, 70362), (97, 70290), (98, 70281), (99, 70269), (105, 70230), (107, 70206), (109, 70203),

Gene: Manda\_133 Start: 71091, Stop: 70615, Start Num: 49

Candidate Starts for Manda\_133:

(Start: 49 @71091 has 84 MA's), (65, 71022), (66, 71019), (89, 70872), (92, 70845), (97, 70713), (105, 70653), (107, 70629), (109, 70626),

Gene: Marietta\_85 Start: 59747, Stop: 60280, Start Num: 35

Candidate Starts for Marietta\_85:

(4, 59228), (9, 59279), (10, 59300), (12, 59321), (13, 59333), (14, 59342), (29, 59675), (Start: 35 @59747 has 6 MA's), (54, 59813), (65, 59873), (92, 60053), (93, 60095), (108, 60245),

Gene: Marshmallow\_133 Start: 71835, Stop: 71377, Start Num: 49

Candidate Starts for Marshmallow\_133:

(Start: 49 @71835 has 84 MA's), (60, 71796), (65, 71766), (89, 71616), (91, 71595), (92, 71589), (93, 71547), (97, 71475), (98, 71466), (99, 71454), (105, 71415), (107, 71391), (109, 71388),

Gene: Maxxinista\_134 Start: 70603, Stop: 70145, Start Num: 49

Candidate Starts for Maxxinista\_134:

(Start: 49 @70603 has 84 MA's), (60, 70564), (65, 70534), (89, 70384), (91, 70363), (92, 70357), (93, 70315), (97, 70243), (98, 70234), (99, 70222), (105, 70183), (107, 70159), (109, 70156),

Gene: MerCougar\_93 Start: 67221, Stop: 67787, Start Num: 37

Candidate Starts for MerCougar\_93:

(36, 67218), (Start: 37 @67221 has 3 MA's), (42, 67254), (Start: 55 @67296 has 1 MA's), (77, 67428), (90, 67521), (91, 67527), (92, 67533), (97, 67647), (99, 67668),

Gene: Mindy\_135 Start: 70999, Stop: 70535, Start Num: 49

Candidate Starts for Mindy\_135:

(Start: 49 @70999 has 84 MA's), (60, 70960), (65, 70930), (89, 70780), (92, 70753), (97, 70633), (98, 70624), (99, 70612), (105, 70573), (107, 70549), (109, 70546),

Gene: Minerva\_224 Start: 105833, Stop: 105375, Start Num: 51

Candidate Starts for Minerva\_224:

(46, 105845), (Start: 51 @105833 has 24 MA's), (65, 105767), (70, 105740), (89, 105617), (91, 105596), (92, 105590), (97, 105470), (98, 105461), (105, 105410), (106, 105389), (107, 105386),

Gene: Miniwave\_125 Start: 70331, Stop: 69789, Start Num: 33

Candidate Starts for Miniwave\_125:

(31, 70388), (32, 70382), (Start: 33 @70331 has 31 MA's), (Start: 47 @70259 has 1 MA's), (58, 70220), (Start: 59 @70217 has 2 MA's), (65, 70178), (89, 70028), (91, 70007), (92, 70001), (93, 69959), (97, 69887), (98, 69878), (99, 69866), (105, 69827), (107, 69803), (109, 69800),

Gene: Misfit\_132 Start: 71848, Stop: 71390, Start Num: 49

Candidate Starts for Misfit\_132:

(Start: 49 @71848 has 84 MA's), (60, 71809), (65, 71779), (89, 71629), (91, 71608), (92, 71602), (93, 71560), (97, 71488), (98, 71479), (99, 71467), (105, 71428), (107, 71404), (109, 71401),

Gene: Moldemort\_134 Start: 70901, Stop: 70353, Start Num: 33

Candidate Starts for Moldemort\_134:

(31, 70958), (32, 70952), (Start: 33 @70901 has 31 MA's), (Start: 47 @70829 has 1 MA's), (58, 70790), (Start: 59 @70787 has 2 MA's), (65, 70748), (89, 70598), (92, 70571), (97, 70451), (105, 70391), (107, 70367), (109, 70364),

Gene: Mosby\_129 Start: 70212, Stop: 69754, Start Num: 49

Candidate Starts for Mosby\_129:

(Start: 49 @70212 has 84 MA's), (60, 70173), (65, 70143), (89, 69993), (91, 69972), (92, 69966), (93, 69924), (97, 69852), (98, 69843), (99, 69831), (105, 69792), (107, 69768), (109, 69765),

Gene: Murica\_136 Start: 72551, Stop: 72093, Start Num: 49

Candidate Starts for Murica\_136:

(Start: 49 @72551 has 84 MA's), (65, 72482), (66, 72479), (89, 72332), (92, 72305), (93, 72263), (97, 72191), (98, 72182), (99, 72170), (105, 72131), (107, 72107), (109, 72104),

Gene: Murphy\_131 Start: 70977, Stop: 70519, Start Num: 49

Candidate Starts for Murphy\_131:

(Start: 49 @70977 has 84 MA's), (60, 70938), (65, 70908), (89, 70758), (91, 70737), (92, 70731), (93, 70689), (97, 70617), (98, 70608), (99, 70596), (105, 70557), (107, 70533), (109, 70530),

Gene: Myrale\_132 Start: 71502, Stop: 71032, Start Num: 47

Candidate Starts for Myrale\_132:

(31, 71631), (32, 71625), (Start: 33 @71574 has 31 MA's), (Start: 47 @71502 has 1 MA's), (58, 71463), (Start: 59 @71460 has 2 MA's), (65, 71421), (89, 71271), (91, 71250), (92, 71244), (93, 71202), (97, 71130), (98, 71121), (99, 71109), (105, 71070), (107, 71046), (109, 71043),

Gene: NadineRae\_85 Start: 59593, Stop: 60120, Start Num: 35

Candidate Starts for NadineRae\_85:

(25, 59389), (28, 59416), (29, 59521), (Start: 35 @59593 has 6 MA's), (65, 59716), (92, 59896), (93, 59938), (94, 59962),

Gene: Nala\_134 Start: 71263, Stop: 70805, Start Num: 49

Candidate Starts for Nala\_134:

(Start: 49 @71263 has 84 MA's), (60, 71224), (65, 71194), (89, 71044), (91, 71023), (92, 71017), (93, 70975), (97, 70903), (99, 70882), (105, 70843), (107, 70819), (109, 70816),

Gene: NelitzaMV\_130 Start: 69306, Stop: 68842, Start Num: 49

Candidate Starts for NelitzaMV\_130:

(Start: 49 @69306 has 84 MA's), (60, 69267), (65, 69237), (89, 69087), (92, 69060), (97, 68940), (98, 68931), (99, 68919), (105, 68880), (107, 68856), (109, 68853),

Gene: NihilNomen\_228 Start: 106600, Stop: 106148, Start Num: 51

Candidate Starts for NihilNomen\_228:

(46, 106612), (Start: 51 @106600 has 24 MA's), (65, 106534), (70, 106507), (84, 106408), (89, 106384), (92, 106357), (93, 106315), (97, 106243), (98, 106234), (105, 106183), (106, 106162), (107, 106159),

Gene: Nimrod\_132 Start: 71762, Stop: 71304, Start Num: 49

Candidate Starts for Nimrod\_132:

(Start: 49 @71762 has 84 MA's), (60, 71723), (65, 71693), (89, 71543), (91, 71522), (92, 71516), (93, 71474), (97, 71402), (98, 71393), (99, 71381), (105, 71342), (107, 71318), (109, 71315),

Gene: NoSleep\_131 Start: 70046, Stop: 69612, Start Num: 59

Candidate Starts for NoSleep\_131:

(31, 70217), (32, 70211), (Start: 33 @70160 has 31 MA's), (Start: 47 @70088 has 1 MA's), (58, 70049), (Start: 59 @70046 has 2 MA's), (65, 70007), (89, 69857), (92, 69830), (97, 69710), (98, 69701), (99, 69689), (105, 69650), (107, 69626), (109, 69623),

Gene: NosilaM\_91 Start: 66138, Stop: 66605, Start Num: 55

Candidate Starts for NosilaM\_91:

(36, 66060), (Start: 37 @66063 has 3 MA's), (Start: 55 @66138 has 1 MA's), (77, 66273), (90, 66366), (91, 66372), (92, 66378),

Gene: Omega\_228 Start: 108207, Stop: 107749, Start Num: 51

Candidate Starts for Omega\_228:

(40, 108258), (48, 108216), (Start: 51 @108207 has 24 MA's), (65, 108141), (70, 108114), (84, 108015), (89, 107991), (92, 107964), (97, 107844), (98, 107835), (105, 107784), (106, 107763), (107, 107760),

Gene: OrionPax\_128 Start: 70208, Stop: 69750, Start Num: 49

Candidate Starts for OrionPax\_128:

(Start: 49 @70208 has 84 MA's), (60, 70169), (65, 70139), (89, 69989), (91, 69968), (92, 69962), (93, 69920), (97, 69848), (98, 69839), (99, 69827), (105, 69788), (107, 69764), (109, 69761),

Gene: Outis\_91 Start: 66496, Stop: 67062, Start Num: 37

Candidate Starts for Outis\_91:

(36, 66493), (Start: 37 @66496 has 3 MA's), (42, 66529), (Start: 55 @66571 has 1 MA's), (77, 66703), (90, 66796), (91, 66802), (92, 66808), (97, 66922), (99, 66943),

Gene: Palpatine\_132 Start: 71768, Stop: 71310, Start Num: 49

Candidate Starts for Palpatine\_132:

(Start: 49 @71768 has 84 MA's), (60, 71729), (65, 71699), (89, 71549), (91, 71528), (92, 71522), (93, 71480), (97, 71408), (98, 71399), (99, 71387), (105, 71348), (107, 71324), (109, 71321),

Gene: Paperbeatsrock\_130 Start: 71009, Stop: 70467, Start Num: 33

Candidate Starts for Paperbeatsrock\_130:

(31, 71066), (32, 71060), (Start: 33 @71009 has 31 MA's), (Start: 47 @70937 has 1 MA's), (58, 70898), (Start: 59 @70895 has 2 MA's), (65, 70856), (89, 70706), (91, 70685), (92, 70679), (93, 70637), (97, 70565), (98, 70556), (99, 70544), (105, 70505), (107, 70481), (109, 70478),

Gene: Pat3\_131 Start: 70546, Stop: 69986, Start Num: 33

Candidate Starts for Pat3\_131:

(31, 70603), (32, 70597), (Start: 33 @70546 has 31 MA's), (Start: 47 @70474 has 1 MA's), (58, 70435), (Start: 59 @70432 has 2 MA's), (65, 70393), (89, 70243), (91, 70222), (92, 70216), (97, 70084), (99, 70063), (105, 70024), (107, 70000), (109, 69997),

Gene: Patio\_87 Start: 63521, Stop: 64090, Start Num: 34

Candidate Starts for Patio\_87:

(23, 63272), (27, 63329), (Start: 34 @63521 has 8 MA's), (43, 63572), (63, 63656), (64, 63665), (65, 63674), (67, 63689), (69, 63698), (75, 63746), (77, 63752), (82, 63782), (87, 63821), (91, 63851), (92, 63857), (93, 63899), (103, 64013),

Gene: Petra64142\_134 Start: 71392, Stop: 70934, Start Num: 49

Candidate Starts for Petra64142\_134:

(Start: 49 @71392 has 84 MA's), (60, 71353), (65, 71323), (89, 71173), (91, 71152), (92, 71146), (93, 71104), (97, 71032), (98, 71023), (99, 71011), (105, 70972), (107, 70948), (109, 70945),

Gene: Phaja\_136 Start: 71150, Stop: 70692, Start Num: 49

Candidate Starts for Phaja\_136:

(Start: 49 @71150 has 84 MA's), (60, 71111), (65, 71081), (89, 70931), (91, 70910), (92, 70904), (93, 70862), (97, 70790), (98, 70781), (99, 70769), (105, 70730), (107, 70706), (109, 70703),

Gene: Pharsalus\_129 Start: 71149, Stop: 70607, Start Num: 33

Candidate Starts for Pharsalus\_129:

(31, 71206), (32, 71200), (Start: 33 @71149 has 31 MA's), (Start: 47 @71077 has 1 MA's), (58, 71038), (Start: 59 @71035 has 2 MA's), (65, 70996), (89, 70846), (91, 70825), (92, 70819), (93, 70777), (97, 70705), (98, 70696), (99, 70684), (105, 70645), (107, 70621), (109, 70618),

Gene: PhatBacter\_135 Start: 71291, Stop: 70833, Start Num: 49

Candidate Starts for PhatBacter\_135:

(Start: 49 @71291 has 84 MA's), (65, 71222), (66, 71219), (89, 71072), (92, 71045), (93, 71003), (97, 70931), (98, 70922), (99, 70910), (105, 70871), (107, 70847), (109, 70844),

Gene: Phaux\_134 Start: 71917, Stop: 71459, Start Num: 49

Candidate Starts for Phaux\_134:

(Start: 49 @71917 has 84 MA's), (65, 71848), (66, 71845), (89, 71698), (92, 71671), (93, 71629), (97, 71557), (98, 71548), (99, 71536), (105, 71497), (107, 71473), (109, 71470),

Gene: Phoebus\_224 Start: 109850, Stop: 109398, Start Num: 51

Candidate Starts for Phoebus\_224:

(46, 109862), (Start: 51 @109850 has 24 MA's), (65, 109784), (70, 109757), (84, 109658), (89, 109634), (92, 109607), (93, 109565), (97, 109493), (98, 109484), (105, 109433), (106, 109412), (107, 109409),

Gene: Phrux\_128 Start: 69995, Stop: 69537, Start Num: 49

Candidate Starts for Phrux\_128:

(Start: 49 @69995 has 84 MA's), (60, 69956), (65, 69926), (89, 69776), (91, 69755), (92, 69749), (93, 69707), (97, 69635), (98, 69626), (99, 69614), (105, 69575), (107, 69551), (109, 69548),

Gene: Pleakley\_95 Start: 62226, Stop: 62756, Start Num: 38

Candidate Starts for Pleakley\_95:

(Start: 38 @62226 has 2 MA's), (56, 62298), (65, 62346), (81, 62445), (84, 62478), (89, 62502), (90, 62517), (95, 62604), (102, 62682),

Gene: Policronamos\_135 Start: 71621, Stop: 71163, Start Num: 49

Candidate Starts for Policronamos\_135:

(Start: 49 @71621 has 84 MA's), (65, 71552), (66, 71549), (89, 71402), (92, 71375), (93, 71333), (97, 71261), (98, 71252), (99, 71240), (105, 71201), (107, 71177), (109, 71174),

Gene: Porky\_133 Start: 71114, Stop: 70680, Start Num: 59

Candidate Starts for Porky\_133:

(Start: 33 @71228 has 31 MA's), (58, 71117), (Start: 59 @71114 has 2 MA's), (65, 71075), (89, 70925), (92, 70898), (97, 70778), (101, 70748), (105, 70718), (107, 70694), (109, 70691),

Gene: Pound\_216 Start: 106092, Stop: 105640, Start Num: 51

Candidate Starts for Pound\_216:

(40, 106143), (Start: 51 @106092 has 24 MA's), (65, 106026), (70, 105999), (84, 105900), (89, 105876), (92, 105849), (93, 105807), (97, 105735), (98, 105726), (105, 105675), (106, 105654), (107, 105651),

Gene: Puissant\_49 Start: 40211, Stop: 40798, Start Num: 33

Candidate Starts for Puissant\_49:

(30, 40142), (Start: 33 @40211 has 31 MA's), (57, 40322), (65, 40364), (72, 40403), (74, 40445), (88, 40544), (89, 40547), (92, 40574), (97, 40703), (105, 40763), (107, 40787),

Gene: Pumpkin\_132 Start: 70271, Stop: 69813, Start Num: 49

Candidate Starts for Pumpkin\_132:

(Start: 49 @70271 has 84 MA's), (60, 70232), (65, 70202), (89, 70052), (91, 70031), (92, 70025), (93, 69983), (97, 69911), (98, 69902), (99, 69890), (105, 69851), (107, 69827), (109, 69824),

Gene: Quallification\_132 Start: 71487, Stop: 70945, Start Num: 33

Candidate Starts for Quallification\_132:

(31, 71544), (32, 71538), (Start: 33 @71487 has 31 MA's), (Start: 47 @71415 has 1 MA's), (58, 71376), (Start: 59 @71373 has 2 MA's), (65, 71334), (89, 71184), (91, 71163), (92, 71157), (93, 71115), (97, 71043), (98, 71034), (99, 71022), (105, 70983), (107, 70959), (109, 70956),

Gene: Rakim\_133 Start: 70829, Stop: 70365, Start Num: 49

Candidate Starts for Rakim\_133:

(Start: 49 @70829 has 84 MA's), (60, 70790), (65, 70760), (89, 70610), (92, 70583), (97, 70463), (98, 70454), (99, 70442), (105, 70403), (107, 70379), (109, 70376),

Gene: Rimmer\_129 Start: 70730, Stop: 70272, Start Num: 49

Candidate Starts for Rimmer\_129:

(Start: 49 @70730 has 84 MA's), (60, 70691), (65, 70661), (89, 70511), (91, 70490), (92, 70484), (93, 70442), (97, 70370), (99, 70349), (105, 70310), (107, 70286), (109, 70283),

Gene: RiverMonster\_131 Start: 70890, Stop: 70432, Start Num: 49

Candidate Starts for RiverMonster\_131:

(Start: 49 @70890 has 84 MA's), (60, 70851), (65, 70821), (89, 70671), (91, 70650), (92, 70644), (93, 70602), (97, 70530), (98, 70521), (99, 70509), (105, 70470), (107, 70446), (109, 70443),

Gene: Saints25\_128 Start: 69055, Stop: 68591, Start Num: 49

Candidate Starts for Saints25\_128:

(Start: 49 @69055 has 84 MA's), (60, 69016), (65, 68986), (89, 68836), (92, 68809), (97, 68689), (101, 68659), (105, 68629), (107, 68605), (109, 68602),

Gene: Sassay\_127 Start: 69174, Stop: 68716, Start Num: 49

Candidate Starts for Sassay\_127:

(Start: 49 @69174 has 84 MA's), (60, 69135), (65, 69105), (89, 68955), (91, 68934), (92, 68928), (93, 68886), (97, 68814), (98, 68805), (99, 68793), (105, 68754), (107, 68730), (109, 68727),

Gene: Schatzie\_217 Start: 106558, Stop: 106100, Start Num: 51

Candidate Starts for Schatzie\_217:

(46, 106570), (Start: 51 @106558 has 24 MA's), (65, 106492), (70, 106465), (84, 106366), (89, 106342), (92, 106315), (97, 106195), (98, 106186), (105, 106135), (106, 106114),

Gene: ShamWow\_132 Start: 71707, Stop: 71249, Start Num: 49

Candidate Starts for ShamWow\_132:

(Start: 49 @71707 has 84 MA's), (60, 71668), (65, 71638), (89, 71488), (91, 71467), (92, 71461), (93, 71419), (97, 71347), (98, 71338), (99, 71326), (105, 71287), (107, 71263), (109, 71260),

Gene: ShereKhan\_131 Start: 71733, Stop: 71191, Start Num: 33

Candidate Starts for ShereKhan\_131:

(31, 71790), (32, 71784), (Start: 33 @71733 has 31 MA's), (Start: 47 @71661 has 1 MA's), (58, 71622), (Start: 59 @71619 has 2 MA's), (65, 71580), (89, 71430), (91, 71409), (92, 71403), (93, 71361), (97, 71289), (98, 71280), (99, 71268), (105, 71229), (107, 71205), (109, 71202),

Gene: Simpliphy\_131 Start: 70461, Stop: 70003, Start Num: 49

Candidate Starts for Simpliphy\_131:

(Start: 49 @70461 has 84 MA's), (60, 70422), (65, 70392), (89, 70242), (91, 70221), (92, 70215), (93, 70173), (97, 70101), (98, 70092), (99, 70080), (105, 70041), (107, 70017), (109, 70014),

Gene: SirDuracell\_135 Start: 71323, Stop: 70847, Start Num: 49

Candidate Starts for SirDuracell\_135:

(Start: 49 @71323 has 84 MA's), (65, 71254), (66, 71251), (89, 71104), (92, 71077), (97, 70945), (105, 70885), (107, 70861), (109, 70858),

Gene: Skysand\_91 Start: 64471, Stop: 65037, Start Num: 34

Candidate Starts for Skysand\_91:

(1, 63880), (2, 63943), (3, 63946), (5, 63967), (6, 63976), (7, 63979), (8, 63988), (11, 64045), (21, 64204), (23, 64222), (Start: 34 @64471 has 8 MA's), (41, 64501), (45, 64531), (63, 64603), (64, 64612), (65, 64621), (67, 64636), (69, 64645), (77, 64699), (87, 64768), (90, 64792), (91, 64798), (92, 64804), (103, 64960),

Gene: SophKB\_130 Start: 70806, Stop: 70348, Start Num: 49

Candidate Starts for SophKB\_130:

(Start: 49 @70806 has 84 MA's), (60, 70767), (65, 70737), (89, 70587), (91, 70566), (92, 70560), (93, 70518), (97, 70446), (98, 70437), (99, 70425), (105, 70386), (107, 70362), (109, 70359),

Gene: Sotrice96\_137 Start: 72007, Stop: 71543, Start Num: 49

Candidate Starts for Sotrice96\_137:

(Start: 49 @72007 has 84 MA's), (60, 71968), (65, 71938), (89, 71788), (92, 71761), (97, 71641), (101, 71611), (105, 71581), (107, 71557), (109, 71554),

Gene: SpeedDemon\_1630 Start: 91078, Stop: 90608, Start Num: 50

Candidate Starts for SpeedDemon\_1630:

(Start: 50 @91078 has 1 MA's), (56, 91054), (62, 91030), (65, 91006), (71, 90958), (76, 90919), (81, 90898), (85, 90856), (96, 90742), (101, 90670),

Gene: Squint\_224 Start: 105830, Stop: 105378, Start Num: 51

Candidate Starts for Squint\_224:

(39, 105884), (Start: 51 @105830 has 24 MA's), (65, 105764), (70, 105737), (84, 105638), (89, 105614), (92, 105587), (93, 105545), (97, 105473), (98, 105464), (104, 105416), (105, 105413), (106, 105392), (107, 105389),

Gene: Stank\_135 Start: 71586, Stop: 71038, Start Num: 33

Candidate Starts for Stank\_135:

(31, 71643), (32, 71637), (Start: 33 @71586 has 31 MA's), (Start: 47 @71514 has 1 MA's), (58, 71475), (Start: 59 @71472 has 2 MA's), (65, 71433), (89, 71283), (92, 71256), (97, 71136), (105, 71076), (107, 71052), (109, 71049),

Gene: StarStruck\_91 Start: 66496, Stop: 67062, Start Num: 37

Candidate Starts for StarStruck\_91:

(36, 66493), (Start: 37 @66496 has 3 MA's), (42, 66529), (Start: 55 @66571 has 1 MA's), (77, 66703), (90, 66796), (91, 66802), (92, 66808), (97, 66922), (99, 66943),

Gene: Stark\_130 Start: 70709, Stop: 70251, Start Num: 49

Candidate Starts for Stark\_130:

(Start: 49 @70709 has 84 MA's), (60, 70670), (65, 70640), (89, 70490), (91, 70469), (92, 70463), (93, 70421), (97, 70349), (99, 70328), (105, 70289), (107, 70265), (109, 70262),

Gene: StellaBean\_128 Start: 70977, Stop: 70549, Start Num: 59

Candidate Starts for StellaBean\_128:

(31, 71148), (32, 71142), (Start: 33 @71091 has 31 MA's), (Start: 47 @71019 has 1 MA's), (58, 70980), (Start: 59 @70977 has 2 MA's), (65, 70938), (89, 70788), (91, 70767), (92, 70761), (93, 70719), (97, 70647), (98, 70638), (99, 70626), (105, 70587), (107, 70563), (109, 70560),

Gene: StolenFromERC\_134 Start: 70931, Stop: 70383, Start Num: 33

Candidate Starts for StolenFromERC\_134:

(31, 70988), (32, 70982), (Start: 33 @70931 has 31 MA's), (Start: 47 @70859 has 1 MA's), (58, 70820), (Start: 59 @70817 has 2 MA's), (65, 70778), (89, 70628), (92, 70601), (97, 70481), (105, 70421), (107, 70397), (109, 70394),

Gene: Sukkupi\_85 Start: 61461, Stop: 62021, Start Num: 35

Candidate Starts for Sukkupi\_85:

(19, 61182), (25, 61257), (29, 61389), (Start: 35 @61461 has 6 MA's), (65, 61584), (92, 61764), (93, 61806), (95, 61833), (108, 61956),

Gene: Superphikiman\_225 Start: 105649, Stop: 105197, Start Num: 51

Candidate Starts for Superphikiman\_225:

(39, 105703), (Start: 51 @105649 has 24 MA's), (65, 105583), (70, 105556), (84, 105457), (89, 105433), (92, 105406), (93, 105364), (97, 105292), (98, 105283), (105, 105232), (106, 105211), (107, 105208),

Gene: TBrady12\_136 Start: 71023, Stop: 70475, Start Num: 33

Candidate Starts for TBrady12\_136:

(31, 71080), (32, 71074), (Start: 33 @71023 has 31 MA's), (Start: 47 @70951 has 1 MA's), (58, 70912), (Start: 59 @70909 has 2 MA's), (65, 70870), (89, 70720), (92, 70693), (97, 70573), (101, 70543), (105, 70513), (107, 70489), (109, 70486),

Gene: Tarkin\_130 Start: 71598, Stop: 71056, Start Num: 33

Candidate Starts for Tarkin\_130:

(31, 71655), (32, 71649), (Start: 33 @71598 has 31 MA's), (Start: 47 @71526 has 1 MA's), (58, 71487), (Start: 59 @71484 has 2 MA's), (65, 71445), (89, 71295), (91, 71274), (92, 71268), (93, 71226), (97, 71154), (99, 71133), (105, 71094), (107, 71070), (109, 71067),

Gene: TeardropMSU\_133 Start: 70875, Stop: 70417, Start Num: 49

Candidate Starts for TeardropMSU\_133:



(Start: 49 @70875 has 84 MA's), (60, 70836), (65, 70806), (89, 70656), (91, 70635), (92, 70629), (93, 70587), (97, 70515), (98, 70506), (99, 70494), (105, 70455), (107, 70431), (109, 70428),

Gene: Terminus\_135 Start: 71848, Stop: 71390, Start Num: 49

Candidate Starts for Terminus\_135:

(Start: 49 @71848 has 84 MA's), (60, 71809), (65, 71779), (89, 71629), (91, 71608), (92, 71602), (93, 71560), (97, 71488), (98, 71479), (99, 71467), (105, 71428), (107, 71404), (109, 71401),

Gene: ThreeRngTarjay\_226 Start: 109071, Stop: 108619, Start Num: 51

Candidate Starts for ThreeRngTarjay\_226:

(46, 109083), (Start: 51 @109071 has 24 MA's), (65, 109005), (70, 108978), (84, 108879), (89, 108855), (91, 108834), (92, 108828), (93, 108786), (97, 108714), (98, 108705), (105, 108654), (106, 108633), (107, 108630),

Gene: Thresher\_134 Start: 71775, Stop: 71311, Start Num: 49

Candidate Starts for Thresher\_134:

(Start: 49 @71775 has 84 MA's), (60, 71736), (65, 71706), (89, 71556), (92, 71529), (97, 71409), (98, 71400), (99, 71388), (105, 71349), (107, 71325), (109, 71322),

Gene: Tomaszewski\_126 Start: 70386, Stop: 69928, Start Num: 49

Candidate Starts for Tomaszewski\_126:

(Start: 49 @70386 has 84 MA's), (60, 70347), (65, 70317), (89, 70167), (91, 70146), (92, 70140), (93, 70098), (97, 70026), (98, 70017), (99, 70005), (105, 69966), (107, 69942), (109, 69939),

Gene: Toto\_130 Start: 71707, Stop: 71249, Start Num: 49

Candidate Starts for Toto\_130:

(Start: 49 @71707 has 84 MA's), (60, 71668), (65, 71638), (89, 71488), (91, 71467), (92, 71461), (93, 71419), (97, 71347), (98, 71338), (99, 71326), (105, 71287), (107, 71263), (109, 71260),

Gene: Traaww1\_128 Start: 70255, Stop: 69797, Start Num: 49

Candidate Starts for Traaww1\_128:

(Start: 49 @70255 has 84 MA's), (60, 70216), (65, 70186), (89, 70036), (91, 70015), (92, 70009), (93, 69967), (97, 69895), (98, 69886), (99, 69874), (105, 69835), (107, 69811), (109, 69808),

Gene: Tuco\_138 Start: 72934, Stop: 72476, Start Num: 49

Candidate Starts for Tuco\_138:

(Start: 49 @72934 has 84 MA's), (60, 72895), (65, 72865), (89, 72715), (91, 72694), (92, 72688), (93, 72646), (97, 72574), (98, 72565), (99, 72553), (105, 72514), (107, 72490), (109, 72487),

Gene: Turuncu\_91 Start: 63897, Stop: 64454, Start Num: 34

Candidate Starts for Turuncu\_91:

(16, 63546), (18, 63597), (Start: 34 @63897 has 8 MA's), (43, 63951), (45, 63960), (61, 64023), (68, 64068), (69, 64074), (79, 64125), (86, 64188), (87, 64191), (90, 64215), (91, 64221), (92, 64227), (93, 64269),

Gene: Ukulele\_127 Start: 70270, Stop: 69812, Start Num: 49

Candidate Starts for Ukulele\_127:

(Start: 49 @70270 has 84 MA's), (60, 70231), (65, 70201), (89, 70051), (91, 70030), (92, 70024), (93, 69982), (97, 69910), (98, 69901), (99, 69889), (105, 69850), (107, 69826), (109, 69823),

Gene: WhoseManz\_85 Start: 59407, Stop: 59943, Start Num: 35

Candidate Starts for WhoseManz\_85:

(4, 58888), (9, 58939), (10, 58960), (12, 58981), (13, 58993), (14, 59002), (29, 59335), (Start: 35 @59407 has 6 MA's), (54, 59473), (65, 59533), (92, 59713), (93, 59755), (108, 59905),

Gene: Wiggin\_135 Start: 70932, Stop: 70468, Start Num: 49

Candidate Starts for Wiggin\_135:

(Start: 49 @70932 has 84 MA's), (60, 70893), (65, 70863), (89, 70713), (92, 70686), (97, 70566), (101, 70536), (105, 70506), (107, 70482), (109, 70479),

Gene: Willez\_128 Start: 69661, Stop: 69101, Start Num: 33

Candidate Starts for Willez\_128:

(31, 69718), (32, 69712), (Start: 33 @69661 has 31 MA's), (Start: 47 @69589 has 1 MA's), (58, 69550), (Start: 59 @69547 has 2 MA's), (65, 69508), (66, 69505), (89, 69358), (92, 69331), (97, 69199), (105, 69139), (107, 69115), (109, 69112),

Gene: Xandras\_132 Start: 70840, Stop: 70292, Start Num: 33

Candidate Starts for Xandras\_132:

(31, 70897), (32, 70891), (Start: 33 @70840 has 31 MA's), (Start: 47 @70768 has 1 MA's), (58, 70729), (Start: 59 @70726 has 2 MA's), (65, 70687), (89, 70537), (92, 70510), (97, 70390), (105, 70330), (107, 70306), (109, 70303),

Gene: YassJohnny\_128 Start: 69195, Stop: 68737, Start Num: 49

Candidate Starts for YassJohnny\_128:

(Start: 49 @69195 has 84 MA's), (65, 69126), (66, 69123), (89, 68976), (92, 68949), (93, 68907), (97, 68835), (98, 68826), (99, 68814), (105, 68775), (107, 68751), (109, 68748),

Gene: Yeet\_219 Start: 106651, Stop: 106199, Start Num: 51

Candidate Starts for Yeet\_219:

(46, 106663), (Start: 51 @106651 has 24 MA's), (65, 106585), (70, 106558), (84, 106459), (89, 106435), (92, 106408), (93, 106366), (97, 106294), (98, 106285), (105, 106234), (106, 106213),

Gene: Yndexa\_85 Start: 61461, Stop: 62021, Start Num: 35

Candidate Starts for Yndexa\_85:

(19, 61182), (25, 61257), (29, 61389), (Start: 35 @61461 has 6 MA's), (65, 61584), (92, 61764), (93, 61806), (95, 61833), (108, 61956),

Gene: Youngblood\_136 Start: 71345, Stop: 70887, Start Num: 49

Candidate Starts for Youngblood\_136:

(Start: 49 @71345 has 84 MA's), (60, 71306), (65, 71276), (89, 71126), (91, 71105), (92, 71099), (93, 71057), (97, 70985), (98, 70976), (99, 70964), (105, 70925), (107, 70901), (109, 70898),

Gene: xkcd\_135 Start: 71614, Stop: 71072, Start Num: 33

Candidate Starts for xkcd\_135:

(31, 71671), (32, 71665), (Start: 33 @71614 has 31 MA's), (Start: 47 @71542 has 1 MA's), (58, 71503), (Start: 59 @71500 has 2 MA's), (65, 71461), (89, 71311), (91, 71290), (92, 71284), (93, 71242), (97, 71170), (98, 71161), (99, 71149), (105, 71110), (107, 71086), (109, 71083),