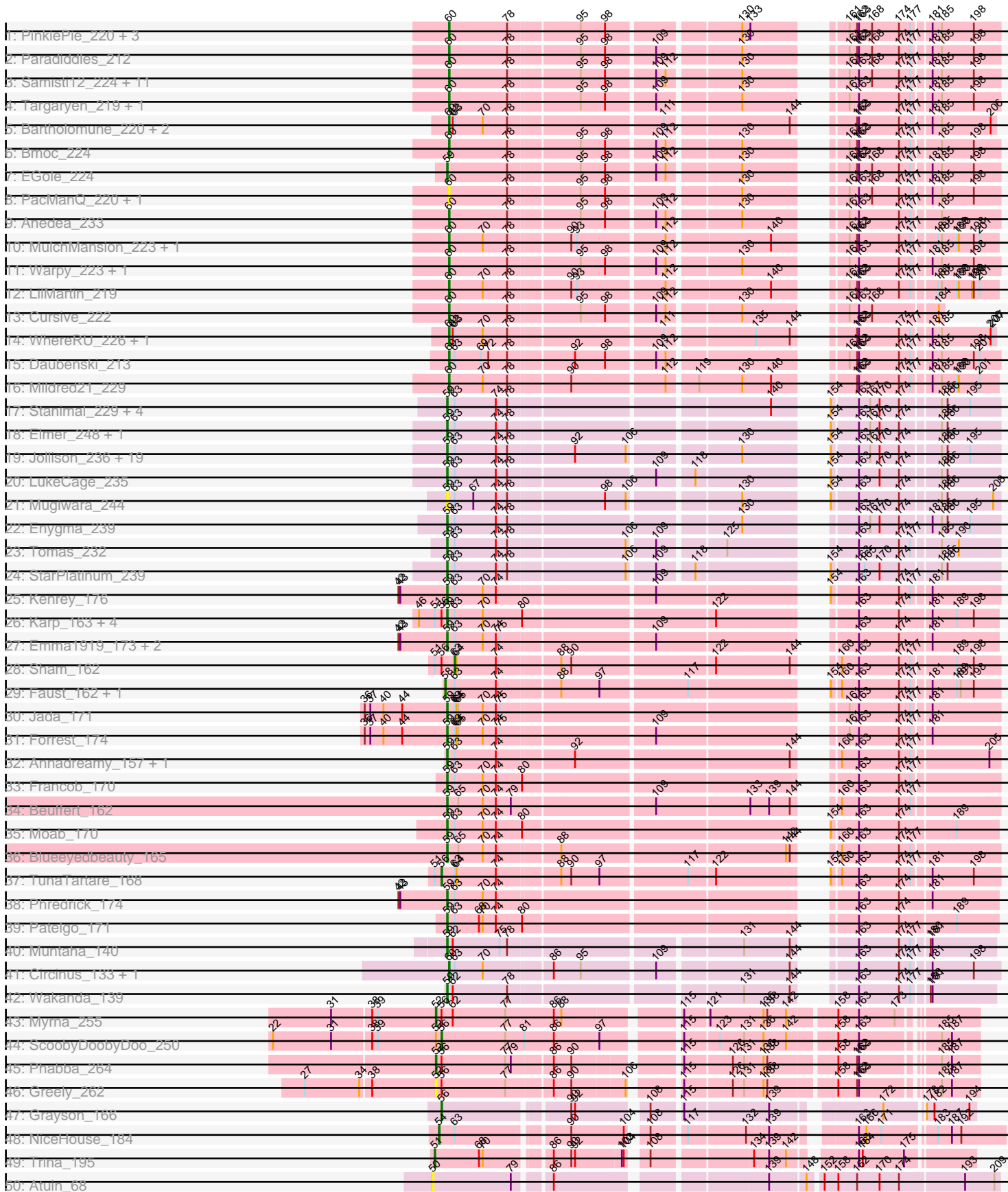


Pham 368





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 368 Report

This analysis was run 07/09/24 on database version 566.

Pham number 368 has 226 members, 28 are drafts.

Phages represented in each track:

- Track 1 : PinkiePie\_220, NootNoot\_217, Liandry\_220, Squillium\_223
- Track 2 : Paradiddles\_212
- Track 3 : Samisti12\_224, Cross\_219, BlueOtter\_221, HangryHippo\_221, Sushi23\_220, Tribute\_216, Peebs\_217, Leo04\_220, Larnav\_226, Teutsch\_219, Pepperwood\_220, Watermoore\_219
- Track 4 : Targaryen\_219, Evy\_210
- Track 5 : Bartholomune\_220, Navo\_214, Persimmon\_223
- Track 6 : Bmoc\_224
- Track 7 : EGole\_224
- Track 8 : PacManQ\_220, Lululemon\_219
- Track 9 : Anedea\_233
- Track 10 : MulchMansion\_223, Angela\_222
- Track 11 : Warpy\_223, Jay2Jay\_225
- Track 12 : LilMartin\_219
- Track 13 : Cursive\_222
- Track 14 : WhereRU\_226, Braelyn\_216
- Track 15 : Daubenski\_213
- Track 16 : Mildred21\_229
- Track 17 : Stanimal\_229, Sollertia\_230, BoomerJR\_229, Yaboi\_234, Genie2\_229
- Track 18 : Elmer\_248, Wofford\_232
- Track 19 : Jollison\_236, KentuckyRacer\_243, MindFlayer\_225, SaltySpitoon\_232, Starbow\_229, Gibbi\_240, PumpkinSpice\_235, CeilingFan\_244, Amabiko\_236, Birchlyn\_231, JimJam\_239, Bordeaux\_230, Karimac\_232, Spelly\_237, IchabodCrane\_226, Battuta\_230, Spilled\_239, TomSawyer\_236, Wipeout\_222, Quaran19\_232
- Track 20 : LukeCage\_235
- Track 21 : Mugiwara\_244
- Track 22 : Enygma\_239
- Track 23 : Tomas\_232
- Track 24 : StarPlatinum\_239
- Track 25 : Kenrey\_176
- Track 26 : Karp\_163, Comrade\_166, Belfort\_169, Stigma\_167, SparkleGoddess\_169
- Track 27 : Emma1919\_173, Gilson\_172, MeganTheeKilla\_172
- Track 28 : Sham\_162
- Track 29 : Faust\_162, SeresaTree\_164
- Track 30 : Jada\_171

- Track 31 : Forrest\_174
- Track 32 : Annadreamy\_157, Limpid\_164
- Track 33 : Francob\_170
- Track 34 : Beuffert\_162
- Track 35 : Moab\_170
- Track 36 : Blueeyedbeauty\_165
- Track 37 : TunaTartare\_168
- Track 38 : Phredrick\_174
- Track 39 : Patelgo\_171
- Track 40 : Muntaha\_140
- Track 41 : Circinus\_133, BillNye\_132
- Track 42 : Wakanda\_139
- Track 43 : Myrna\_255
- Track 44 : ScoobyDoobyDoo\_250
- Track 45 : Phabba\_264
- Track 46 : Greely\_262
- Track 47 : Grayson\_166
- Track 48 : NiceHouse\_184
- Track 49 : Trina\_195
- Track 50 : Atuin\_68
- Track 51 : PauloDiaboli\_231
- Track 52 : A3Wally\_231
- Track 53 : Big4\_214
- Track 54 : Zooman\_197
- Track 55 : Cece\_205
- Track 56 : Pumpernickel\_215
- Track 57 : EricMillard\_173
- Track 58 : Dallas\_175, Minerva\_175, Wanda\_173, Phoebus\_176, HokkenD\_170, Beem\_176, Ejimix\_166, Bombitas\_162, Zelink\_168, Duke13\_178, Constella\_171, Klein\_179, JuicyJay\_170, Optimus\_174, Kalah2\_172, Pound\_169, Halley\_176, Bagrid\_184, BAKA\_181, Hughesyang\_174, ThreeRngTarjay\_173, Redno2\_169, NihilNomen\_177, Schatzie\_170
- Track 59 : Squint\_143, HokkenD\_146, Gonephishing\_145, Hannaconda\_145, KashFlow\_151
- Track 60 : DmpstrDiver\_176, Odette\_179, Yeet\_167
- Track 61 : Superphikiman\_148, Courthouse\_146, Ariel\_150
- Track 62 : Bobby\_168
- Track 63 : Thibault\_159, Dove\_170
- Track 64 : AvadaKedavra\_46, Silverleaf\_46
- Track 65 : Halena\_45, Wamburgxpress\_46, UPIE\_46
- Track 66 : JoeDirt\_45
- Track 67 : LeBron\_46, Appletree2\_45, OhShagHennessy\_45
- Track 68 : CicholasNage\_46, Acquire49\_46, Calm\_46, Wyatt2\_46, Rose5\_45, Zaria\_46
- Track 69 : MAckerman\_45, Enceladus\_45
- Track 70 : Tyson\_45
- Track 71 : DirkDirk\_45
- Track 72 : Vetrix\_47
- Track 73 : Lewan\_48
- Track 74 : GuuelaD\_46, Crossroads\_47, Loadrie\_46, Zakai\_47
- Track 75 : Nicholasp3\_47, Kahlid\_47, DrSeegs\_47, Breezona\_47, Winky\_47, Miley16\_47, Gabriela\_47, Wilder\_47, Gardann\_47, Netyap\_47, Rumpelstiltskin\_47, Itos\_46, BigCheese\_47, Faith1\_47, LilDestine\_47

- Track 76 : Hafay\_47
- Track 77 : Claus\_47
- Track 78 : Bazzle\_47
- Track 79 : Finemlucis\_47, Wigglewiggle\_47
- Track 80 : BobsGarage\_47
- Track 81 : ZhongYanYuan\_45, Baoshan\_45
- Track 82 : MkaliMitinis3\_47
- Track 83 : Archie\_47
- Track 84 : Tourach\_46
- Track 85 : Lolly9\_44, MiniLon\_46, MiniMac\_46
- Track 86 : MsGreen\_44, Jobypre\_45, Lumos\_45, Clautastrophe\_44, Snenia\_44, Finnry\_44, Jubie\_44
- Track 87 : Whirlwind\_45
- Track 88 : Samty\_44, Kingsolomon\_44, Bellis\_44, Nicholas\_44, Moostard\_44
- Track 89 : Ellson\_44
- Track 90 : Krypton555\_46
- Track 91 : DuncansLeg\_44
- Track 92 : Chaser\_44
- Track 93 : DyoEdafos\_46
- Track 94 : Douge\_45
- Track 95 : Bromden\_47
- Track 96 : Baudelaire\_55, Aegeus\_55
- Track 97 : Gaia\_143

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

The start number called the most often in the published annotations is 59, it was called in 50 of the 198 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- A3Wally\_231, Amabiko\_236, Annadreamy\_157, Battuta\_230, Belfort\_169, Beuffert\_162, Birchlyn\_231, Blueeyedbeauty\_165, BoomerJR\_229, Bordeaux\_230, CeilingFan\_244, Comrade\_166, EGole\_224, Elmer\_248, Emma1919\_173, Enygma\_239, Forrest\_174, Francob\_170, Genie2\_229, Gibbi\_240, Gilson\_172, IchabodCrane\_226, Jada\_171, JimJam\_239, Jollison\_236, Karimac\_232, Karp\_163, Kenrey\_176, KentuckyRacer\_243, Limpid\_164, LukeCage\_235, MeganTheeKilla\_172, MindFlayer\_225, Moab\_170, Mugiwara\_244, Muntaha\_140, Patelgo\_171, PauloDiaboli\_231, Phredrick\_174, PumpkinSpice\_235, Quaran19\_232, SaltySpitoon\_232, Sollertia\_230, SparkleGoddess\_169, Spelly\_237, Spilled\_239, Stanimal\_229, StarPlatinum\_239, Starbow\_229, Stigma\_167, TomSawyer\_236, Tomas\_232, Wakanda\_139, Wipeout\_222, Wofford\_232, Yaboi\_234,

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

- 

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

- Acquire49\_46, Aegeus\_55, Anedea\_233, Angela\_222, Appletree2\_45, Archie\_47, Ariel\_150, Atuin\_68, AvadaKedavra\_46, BAKA\_181, Bagrid\_184, Baoshan\_45, Bartholomune\_220, Baudelaire\_55, Bazzle\_47, Beem\_176, Bellis\_44, Big4\_214, BigCheese\_47, BillNye\_132, BlueOtter\_221, Bmoc\_224, Bobby\_168,

BobsGarage\_47, Bombitas\_162, Braelyn\_216, Breezona\_47, Bromden\_47, Calm\_46, Cece\_205, Chaser\_44, CicholasNage\_46, Circinus\_133, Claus\_47, Clautastrophe\_44, Constella\_171, Courthouse\_146, Cross\_219, Crossroads\_47, Cursive\_222, Dallas\_175, Daubenski\_213, DirkDirk\_45, DmpstrDiver\_176, Douge\_45, Dove\_170, DrSeegs\_47, Duke13\_178, DuncansLeg\_44, DyoEdafos\_46, Ejimix\_166, Ellson\_44, Enceladus\_45, EricMillard\_173, Evy\_210, Faith1\_47, Faust\_162, Finemlucis\_47, Finnry\_44, Gabriela\_47, Gaia\_143, Gardann\_47, Gonephishing\_145, Grayson\_166, Greely\_262, GuuelaD\_46, Hafay\_47, Halena\_45, Halley\_176, HangryHippo\_221, Hannaconda\_145, HokkenD\_146, HokkenD\_170, Hughesyang\_174, Itos\_46, Jay2Jay\_225, Jobypre\_45, JoeDirt\_45, Jubie\_44, JuicyJay\_170, Kahlid\_47, Kalah2\_172, KashFlow\_151, Kingsolomon\_44, Klein\_179, Krypton555\_46, Larnav\_226, LeBron\_46, Leo04\_220, Lewan\_48, Liandry\_220, LilDestine\_47, LilMartin\_219, Loadrie\_46, Lolly9\_44, Lululemon\_219, Lumos\_45, MAckerman\_45, Mildred21\_229, Miley16\_47, Minerva\_175, MiniLon\_46, MiniMac\_46, MkaliMitinis3\_47, Moostard\_44, MsGreen\_44, MulchMansion\_223, Myrna\_255, Navo\_214, Netyap\_47, NiceHouse\_184, Nicholas\_44, Nicholasp3\_47, NihilNomen\_177, NootNoot\_217, Odette\_179, OhShagHennessy\_45, Optimus\_174, PacManQ\_220, Paradiddles\_212, Peebs\_217, Pepperwood\_220, Persimmon\_223, Phabba\_264, Phoebus\_176, PinkiePie\_220, Pound\_169, Pumpernickel\_215, Redno2\_169, Rose5\_45, Rumpelstiltskin\_47, Samisti12\_224, Samty\_44, Schatzie\_170, ScoobyDoobyDoo\_250, SeresaTree\_164, Sham\_162, Silverleaf\_46, Snenia\_44, Squillium\_223, Squint\_143, Superphikiman\_148, Sushi23\_220, Targaryen\_219, Teutsch\_219, Thibault\_159, ThreeRngTarjay\_173, Tourach\_46, Tribute\_216, Trina\_195, TunaTartare\_168, Tyson\_45, UPIE\_46, Vetrix\_47, Wamburgrxpress\_46, Wanda\_173, Warpy\_223, Watermoore\_219, WhereRU\_226, Whirlwind\_45, Wigglewiggles\_47, Wilder\_47, Winky\_47, Wyatt2\_46, Yeet\_167, Zakai\_47, Zaria\_46, Zelink\_168, ZhongYanYuan\_45, Zooman\_197,

### Summary by start number:

#### Start 21:

- Found in 19 of 226 ( 8.4% ) of genes in pham
- Manual Annotations of this start: 17 of 198
- Called 89.5% of time when present
- Phage (with cluster) where this start called: Acquire49\_46 (L1), Appletree2\_45 (L1), AvadaKedavra\_46 (L1), Calm\_46 (L1), CicholasNage\_46 (L1), DirkDirk\_45 (L1), Halena\_45 (L1), JoeDirt\_45 (L1), LeBron\_46 (L1), OhShagHennessy\_45 (L1), Rose5\_45 (L1), Silverleaf\_46 (L1), Tyson\_45 (L1), UPIE\_46 (L1), Wamburgrxpress\_46 (L1), Wyatt2\_46 (L1), Zaria\_46 (L1),

#### Start 23:

- Found in 32 of 226 ( 14.2% ) of genes in pham
- Manual Annotations of this start: 24 of 198
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Archie\_47 (L2), BigCheese\_47 (L2), Breezona\_47 (L2), Crossroads\_47 (L2), DrSeegs\_47 (L2), Faith1\_47 (L2), Finemlucis\_47 (L2), Gabriela\_47 (L2), Gardann\_47 (L2), GuuelaD\_46 (L2), Itos\_46 (L2), Kahlid\_47 (L2), LilDestine\_47 (L2), Loadrie\_46 (L2), Miley16\_47 (L2), Netyap\_47 (L2), Nicholasp3\_47 (L2), Rumpelstiltskin\_47 (L2), Tourach\_46 (L2), Vetrix\_47 (L2), Wigglewiggles\_47 (L2), Wilder\_47 (L2), Winky\_47 (L2), Zakai\_47 (L2),

#### Start 24:

- Found in 4 of 226 ( 1.8% ) of genes in pham

- Manual Annotations of this start: 2 of 198
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Chaser\_44 (L4), DyoEdafos\_46 (L4),

#### Start 25:

- Found in 32 of 226 ( 14.2% ) of genes in pham
- Manual Annotations of this start: 2 of 198
- Called 6.2% of time when present
- Phage (with cluster) where this start called: BobsGarage\_47 (L2), MkaliMitinis3\_47 (L2),

#### Start 28:

- Found in 6 of 226 ( 2.7% ) of genes in pham
- Manual Annotations of this start: 1 of 198
- Called 16.7% of time when present
- Phage (with cluster) where this start called: Bazzle\_47 (L2),

#### Start 29:

- Found in 23 of 226 ( 10.2% ) of genes in pham
- Manual Annotations of this start: 1 of 198
- Called 4.3% of time when present
- Phage (with cluster) where this start called: Bromden\_47 (L4),

#### Start 46:

- Found in 75 of 226 ( 33.2% ) of genes in pham
- Manual Annotations of this start: 17 of 198
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Baoshan\_45 (L2), Bellis\_44 (L3), Claus\_47 (L2), Clautastrophe\_44 (L3), DuncansLeg\_44 (L3), Ellson\_44 (L3), Enceladus\_45 (L1), Finnry\_44 (L3), Hafay\_47 (L2), Jobypre\_45 (L3), Jubie\_44 (L3), Kingsolomon\_44 (L3), Krypton555\_46 (L3), Lolly9\_44 (L3), Lumos\_45 (L3), MAckerman\_45 (L1), MiniLon\_46 (L3), MiniMac\_46 (L3), Moostard\_44 (L3), MsGreen\_44 (L3), Nicholas\_44 (L3), Samty\_44 (L3), Snenia\_44 (L3), Whirlwind\_45 (L3), ZhongYanYuan\_45 (L2),

#### Start 48:

- Found in 4 of 226 ( 1.8% ) of genes in pham
- No Manual Annotations of this start.
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Douge\_45 (L4),

#### Start 49:

- Found in 2 of 226 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 2 of 198
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aegeus\_55 (L5), Baudelaire\_55 (L5),

#### Start 50:

- Found in 1 of 226 ( 0.4% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Atuin\_68 (FC),

Start 51:

- Found in 8 of 226 ( 3.5% ) of genes in pham
- Manual Annotations of this start: 1 of 198
- Called 12.5% of time when present
- Phage (with cluster) where this start called: Trina\_195 (CE),

Start 52:

- Found in 4 of 226 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 2 of 198
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Greely\_262 (C2), Myrna\_255 (C2), Phabba\_264 (C2),

Start 54:

- Found in 1 of 226 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 198
- Called 100.0% of time when present
- Phage (with cluster) where this start called: NiceHouse\_184 (CE),

Start 55:

- Found in 40 of 226 ( 17.7% ) of genes in pham
- Manual Annotations of this start: 36 of 198
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ariel\_150 (J), BAKA\_181 (J), Bagrid\_184 (J), Beem\_176 (J), Bobby\_168 (J), Bombitas\_162 (J), Constella\_171 (J), Courthouse\_146 (J), Dallas\_175 (J), DmpstrDiver\_176 (J), Dove\_170 (J), Duke13\_178 (J), Ejimix\_166 (J), EricMillard\_173 (J), Gaia\_143 (X), Gonephishing\_145 (J), Halley\_176 (J), Hannaconda\_145 (J), HokkenD\_146 (J), HokkenD\_170 (J), Hughesyang\_174 (J), JuicyJay\_170 (J), Kalah2\_172 (J), KashFlow\_151 (J), Klein\_179 (J), Minerva\_175 (J), NihilNomen\_177 (J), Odette\_179 (J), Optimus\_174 (J), Phoebus\_176 (J), Pound\_169 (J), Redno2\_169 (J), Schatzie\_170 (J), Squint\_143 (J), Superphikiman\_148 (J), Thibault\_159 (J), ThreeRngTarjay\_173 (J), Wanda\_173 (J), Yeet\_167 (J), Zelink\_168 (J),

Start 56:

- Found in 46 of 226 ( 20.4% ) of genes in pham
- Manual Annotations of this start: 5 of 198
- Called 10.9% of time when present
- Phage (with cluster) where this start called: Big4\_214 (GD2), Grayson\_166 (CB), ScoobyDoobyDoo\_250 (C2), TunaTartare\_168 (BK1), Zooman\_197 (GD2),

Start 57:

- Found in 1 of 226 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 198
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Pumpernickel\_215 (GD4),

Start 58:

- Found in 2 of 226 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 1 of 198
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Faust\_162 (BK1), SeresaTree\_164 (BK1),



#### Start 59:

- Found in 56 of 226 ( 24.8% ) of genes in pham
- Manual Annotations of this start: 50 of 198
- Called 100.0% of time when present
- Phage (with cluster) where this start called: A3Wally\_231 (GD1), Amabiko\_236 (BE2), Annadreamy\_157 (BK1), Battuta\_230 (BE2), Belfort\_169 (BK1), Beuffert\_162 (BK1), Birchlyn\_231 (BE2), Blueeyedbeauty\_165 (BK1), BoomerJR\_229 (BE2), Bordeaux\_230 (BE2), CeilingFan\_244 (BE2), Comrade\_166 (BK1), EGole\_224 (BE1), Elmer\_248 (BE2), Emma1919\_173 (BK1), Enygma\_239 (BE2), Forrest\_174 (BK1), Francob\_170 (BK1), Genie2\_229 (BE2), Gibbi\_240 (BE2), Gilson\_172 (BK1), IchabodCrane\_226 (BE2), Jada\_171 (BK1), JimJam\_239 (BE2), Jollison\_236 (BE2), Karimac\_232 (BE2), Karp\_163 (BK1), Kenrey\_176 (BK1), KentuckyRacer\_243 (BE2), Limpid\_164 (BK1), LukeCage\_235 (BE2), MeganTheeKilla\_172 (BK1), MindFlayer\_225 (BE2), Moab\_170 (BK1), Mugiwara\_244 (BE2), Muntaha\_140 (BK2), Patelgo\_171 (BK1), PauloDiaboli\_231 (GD1), Phredrick\_174 (BK1), PumpkinSpice\_235 (BE2), Quarant19\_232 (BE2), SaltySpittoon\_232 (BE2), Sollertia\_230 (BE2), SparkleGoddess\_169 (BK1), Spelly\_237 (BE2), Spilled\_239 (BE2), Stanimal\_229 (BE2), StarPlatinum\_239 (BE2), Starbow\_229 (BE2), Stigma\_167 (BK1), TomSawyer\_236 (BE2), Tomas\_232 (BE2), Wakanda\_139 (BK2), Wipeout\_222 (BE2), Wofford\_232 (BE2), Yaboi\_234 (BE2),

#### Start 60:

- Found in 39 of 226 ( 17.3% ) of genes in pham
- Manual Annotations of this start: 33 of 198
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Anedea\_233 (BE1), Angela\_222 (BE1), Bartholomune\_220 (BE1), BillNye\_132 (BK2), BlueOtter\_221 (BE1), Bmoc\_224 (BE1), Braelyn\_216 (BE1), Cece\_205 (GD3), Circinus\_133 (BK2), Cross\_219 (BE1), Cursive\_222 (BE1), Daubenski\_213 (BE1), Evy\_210 (BE1), HangryHippo\_221 (BE1), Jay2Jay\_225 (BE1), Larnav\_226 (BE1), Leo04\_220 (BE1), Liandry\_220 (BE1), LilMartin\_219 (BE1), Lululemon\_219 (BE1), Mildred21\_229 (BE1), MulchMansion\_223 (BE1), Navo\_214 (BE1), NootNoot\_217 (BE1), PacManQ\_220 (BE1), Paradiddles\_212 (BE1), Peebs\_217 (BE1), Pepperwood\_220 (BE1), Persimmon\_223 (BE1), PinkiePie\_220 (BE1), Samisti12\_224 (BE1), Squillium\_223 (BE1), Sushi23\_220 (BE1), Targaryen\_219 (BE1), Teutsch\_219 (BE1), Tribute\_216 (BE1), Warpy\_223 (BE1), Watermoore\_219 (BE1), WhereRU\_226 (BE1),

#### Start 63:

- Found in 170 of 226 ( 75.2% ) of genes in pham
- Manual Annotations of this start: 2 of 198
- Called 1.2% of time when present
- Phage (with cluster) where this start called: Lewan\_48 (L2), Sham\_162 (BK1),

#### Summary by clusters:

There are 19 clusters represented in this pham: GD1, GD2, GD3, GD4, FC, CB, J, CE, X, L4, L5, L2, L3, BK2, L1, BE2, C2, BE1, BK1,

#### Info for manual annotations of cluster BE1:

- Start number 59 was manually annotated 1 time for cluster BE1.
- Start number 60 was manually annotated 30 times for cluster BE1.

Info for manual annotations of cluster BE2:

- Start number 59 was manually annotated 26 times for cluster BE2.

Info for manual annotations of cluster BK1:

- Start number 56 was manually annotated 1 time for cluster BK1.
- Start number 58 was manually annotated 1 time for cluster BK1.
- Start number 59 was manually annotated 19 times for cluster BK1.
- Start number 63 was manually annotated 1 time for cluster BK1.

Info for manual annotations of cluster BK2:

- Start number 59 was manually annotated 2 times for cluster BK2.
- Start number 60 was manually annotated 2 times for cluster BK2.

Info for manual annotations of cluster C2:

- Start number 52 was manually annotated 2 times for cluster C2.
- Start number 56 was manually annotated 1 time for cluster C2.

Info for manual annotations of cluster CB:

- Start number 56 was manually annotated 1 time for cluster CB.

Info for manual annotations of cluster CE:

- Start number 51 was manually annotated 1 time for cluster CE.
- Start number 54 was manually annotated 1 time for cluster CE.

Info for manual annotations of cluster GD1:

- Start number 59 was manually annotated 2 times for cluster GD1.

Info for manual annotations of cluster GD2:

- Start number 56 was manually annotated 2 times for cluster GD2.

Info for manual annotations of cluster GD3:

- Start number 60 was manually annotated 1 time for cluster GD3.

Info for manual annotations of cluster GD4:

- Start number 57 was manually annotated 1 time for cluster GD4.

Info for manual annotations of cluster J:

- Start number 55 was manually annotated 35 times for cluster J.

Info for manual annotations of cluster L1:

- Start number 21 was manually annotated 17 times for cluster L1.
- Start number 46 was manually annotated 1 time for cluster L1.

Info for manual annotations of cluster L2:

- Start number 23 was manually annotated 24 times for cluster L2.
- Start number 25 was manually annotated 2 times for cluster L2.
- Start number 28 was manually annotated 1 time for cluster L2.
- Start number 63 was manually annotated 1 time for cluster L2.

Info for manual annotations of cluster L3:

- Start number 46 was manually annotated 16 times for cluster L3.

Info for manual annotations of cluster L4:

- Start number 24 was manually annotated 2 times for cluster L4.
- Start number 29 was manually annotated 1 time for cluster L4.

Info for manual annotations of cluster L5:

- Start number 49 was manually annotated 2 times for cluster L5.

Info for manual annotations of cluster X:

- Start number 55 was manually annotated 1 time for cluster X.

### **Gene Information:**

Gene: A3Wally\_231 Start: 123700, Stop: 124557, Start Num: 59

Candidate Starts for A3Wally\_231:

(Start: 59 @123700 has 50 MA's), (70, 123754), (79, 123799), (94, 123892), (95, 123895), (96, 123922), (113, 124021), (115, 124030), (116, 124033), (119, 124054), (124, 124087), (129, 124114), (137, 124153), (140, 124162), (142, 124186), (143, 124189), (163, 124303), (174, 124366),

Gene: Acquire49\_46 Start: 35305, Stop: 36390, Start Num: 21

Candidate Starts for Acquire49\_46:

(11, 35191), (13, 35212), (14, 35215), (15, 35224), (19, 35272), (Start: 21 @35305 has 17 MA's), (26, 35353), (Start: 29 @35380 has 1 MA's), (32, 35431), (42, 35512), (Start: 46 @35545 has 17 MA's), (53, 35575), (Start: 63 @35602 has 2 MA's), (64, 35605), (79, 35692), (82, 35722), (88, 35761), (108, 35887), (115, 35929), (117, 35935), (140, 36058), (159, 36163), (160, 36166), (176, 36265), (181, 36298), (187, 36328),

Gene: Aegeus\_55 Start: 39045, Stop: 39824, Start Num: 49

Candidate Starts for Aegeus\_55:

(45, 39015), (Start: 49 @39045 has 2 MA's), (Start: 63 @39069 has 2 MA's), (79, 39159), (85, 39210), (87, 39225), (90, 39243), (91, 39246), (92, 39249), (101, 39303), (104, 39324), (115, 39396), (117, 39402), (119, 39420), (121, 39432), (123, 39447), (136, 39513), (138, 39519), (159, 39606), (173, 39693), (183, 39750), (192, 39786), (199, 39807),

Gene: Amabiko\_236 Start: 109558, Stop: 110328, Start Num: 59

Candidate Starts for Amabiko\_236:

(Start: 59 @109558 has 50 MA's), (Start: 63 @109570 has 2 MA's), (74, 109636), (78, 109654), (92, 109750), (106, 109831), (130, 109990), (154, 110077), (163, 110116), (167, 110134), (170, 110149), (174, 110179), (185, 110236), (186, 110245), (195, 110281),

Gene: Anedea\_233 Start: 113066, Stop: 113833, Start Num: 60

Candidate Starts for Anedea\_233:

(Start: 60 @113066 has 33 MA's), (78, 113159), (95, 113264), (98, 113303), (109, 113375), (112, 113390), (130, 113495), (161, 113606), (163, 113621), (174, 113684), (177, 113702), (185, 113741),

Gene: Angela\_222 Start: 110874, Stop: 111638, Start Num: 60

Candidate Starts for Angela\_222:

(Start: 60 @110874 has 33 MA's), (70, 110928), (78, 110967), (90, 111057), (93, 111066), (112, 111198), (140, 111348), (161, 111414), (162, 111426), (163, 111429), (174, 111492), (177, 111510), (183, 111543), (185, 111549), (189, 111573), (190, 111576), (198, 111600), (201, 111609),

Gene: Annadreamy\_157 Start: 86408, Stop: 87181, Start Num: 59

Candidate Starts for Annadreamy\_157:

(Start: 59 @86408 has 50 MA's), (Start: 63 @86417 has 2 MA's), (74, 86483), (92, 86597), (144, 86924), (160, 86945), (163, 86972), (174, 87035), (177, 87050), (205, 87164),

Gene: Appletree2\_45 Start: 35232, Stop: 36320, Start Num: 21

Candidate Starts for Appletree2\_45:

(11, 35118), (12, 35121), (13, 35139), (14, 35142), (15, 35151), (19, 35199), (Start: 21 @35232 has 17 MA's), (26, 35280), (Start: 29 @35307 has 1 MA's), (32, 35358), (42, 35439), (Start: 46 @35472 has 17 MA's), (53, 35502), (Start: 63 @35529 has 2 MA's), (64, 35532), (79, 35619), (106, 35787), (115, 35856), (140, 35985), (146, 36024), (153, 36078), (161, 36108), (162, 36120), (176, 36195), (181, 36228), (187, 36258), (203, 36303),

Gene: Archie\_47 Start: 36772, Stop: 37803, Start Num: 23

Candidate Starts for Archie\_47:

(Start: 23 @36772 has 24 MA's), (Start: 25 @36781 has 2 MA's), (Start: 28 @36802 has 1 MA's), (33, 36865), (42, 36940), (Start: 46 @36970 has 17 MA's), (Start: 56 @37000 has 5 MA's), (Start: 63 @37021 has 2 MA's), (79, 37111), (107, 37282), (108, 37306), (115, 37348), (119, 37372), (127, 37423), (134, 37450), (136, 37465), (140, 37477), (147, 37519), (151, 37555), (159, 37582), (166, 37624), (176, 37684), (187, 37747),

Gene: Ariel\_150 Start: 76984, Stop: 77751, Start Num: 55

Candidate Starts for Ariel\_150:

(Start: 55 @76984 has 36 MA's), (67, 77038), (71, 77056), (92, 77188), (99, 77239), (115, 77335), (126, 77407), (131, 77425), (136, 77452), (140, 77464), (142, 77488), (157, 77545), (160, 77554),

Gene: Atuin\_68 Start: 28870, Stop: 29682, Start Num: 50

Candidate Starts for Atuin\_68:

(50, 28870), (79, 28993), (86, 29041), (139, 29341), (148, 29395), (152, 29413), (158, 29434), (162, 29464), (170, 29500), (174, 29530), (193, 29629), (209, 29674),

Gene: AvadaKedavra\_46 Start: 35314, Stop: 36390, Start Num: 21

Candidate Starts for AvadaKedavra\_46:

(11, 35200), (13, 35221), (14, 35224), (15, 35233), (19, 35281), (Start: 21 @35314 has 17 MA's), (26, 35362), (Start: 29 @35389 has 1 MA's), (32, 35440), (42, 35521), (44, 35527), (Start: 46 @35554 has 17 MA's), (Start: 63 @35593 has 2 MA's), (66, 35620), (79, 35683), (108, 35878), (115, 35920), (140, 36049), (161, 36172), (162, 36184), (185, 36307), (197, 36355), (203, 36373),

Gene: BAKA\_181 Start: 93222, Stop: 94022, Start Num: 55

Candidate Starts for BAKA\_181:

(Start: 55 @93222 has 36 MA's), (Start: 63 @93243 has 2 MA's), (79, 93333), (95, 93432), (102, 93480), (115, 93585), (117, 93591), (131, 93675), (142, 93738), (160, 93804), (165, 93840), (181, 93936), (192, 93981), (202, 94011),

Gene: Bagrid\_184 Start: 93688, Stop: 94488, Start Num: 55

Candidate Starts for Bagrid\_184:

(Start: 55 @93688 has 36 MA's), (Start: 63 @93709 has 2 MA's), (79, 93799), (95, 93898), (102, 93946), (115, 94051), (117, 94057), (131, 94141), (142, 94204), (160, 94270), (165, 94306), (181, 94402), (192, 94447), (202, 94477),

Gene: Baoshan\_45 Start: 36697, Stop: 37530, Start Num: 46

Candidate Starts for Baoshan\_45:

(Start: 23 @36499 has 24 MA's), (Start: 25 @36508 has 2 MA's), (Start: 28 @36529 has 1 MA's), (33, 36592), (42, 36667), (Start: 46 @36697 has 17 MA's), (Start: 56 @36727 has 5 MA's), (Start: 63

@36748 has 2 MA's), (78, 36832), (107, 37009), (108, 37033), (115, 37075), (119, 37099), (127, 37150), (134, 37177), (140, 37204), (147, 37246), (151, 37282), (159, 37309), (166, 37351), (187, 37474),

Gene: Bartholomune\_220 Start: 111039, Stop: 111794, Start Num: 60

Candidate Starts for Bartholomune\_220:

(Start: 60 @111039 has 33 MA's), (62, 111045), (Start: 63 @111048 has 2 MA's), (70, 111093), (78, 111132), (111, 111360), (144, 111543), (162, 111588), (163, 111591), (174, 111654), (177, 111669), (181, 111693), (185, 111708), (206, 111786),

Gene: Battuta\_230 Start: 108873, Stop: 109643, Start Num: 59

Candidate Starts for Battuta\_230:

(Start: 59 @108873 has 50 MA's), (Start: 63 @108885 has 2 MA's), (74, 108951), (78, 108969), (92, 109065), (106, 109146), (130, 109305), (154, 109392), (163, 109431), (167, 109449), (170, 109464), (174, 109494), (185, 109551), (186, 109560), (195, 109596),

Gene: Baudelaire\_55 Start: 39045, Stop: 39824, Start Num: 49

Candidate Starts for Baudelaire\_55:

(45, 39015), (Start: 49 @39045 has 2 MA's), (Start: 63 @39069 has 2 MA's), (79, 39159), (85, 39210), (87, 39225), (90, 39243), (91, 39246), (92, 39249), (101, 39303), (104, 39324), (115, 39396), (117, 39402), (119, 39420), (121, 39432), (123, 39447), (136, 39513), (138, 39519), (159, 39606), (173, 39693), (183, 39750), (192, 39786), (199, 39807),

Gene: Bazzle\_47 Start: 36872, Stop: 37873, Start Num: 28

Candidate Starts for Bazzle\_47:

(Start: 23 @36842 has 24 MA's), (Start: 25 @36851 has 2 MA's), (Start: 28 @36872 has 1 MA's), (33, 36935), (42, 37010), (Start: 46 @37040 has 17 MA's), (Start: 56 @37070 has 5 MA's), (Start: 63 @37091 has 2 MA's), (79, 37181), (107, 37352), (108, 37376), (115, 37418), (119, 37442), (127, 37493), (134, 37520), (136, 37535), (140, 37547), (147, 37589), (151, 37625), (159, 37652), (166, 37694), (176, 37754), (187, 37817),

Gene: Beem\_176 Start: 92377, Stop: 93177, Start Num: 55

Candidate Starts for Beem\_176:

(Start: 55 @92377 has 36 MA's), (Start: 63 @92398 has 2 MA's), (79, 92488), (95, 92587), (102, 92635), (115, 92740), (117, 92746), (131, 92830), (142, 92893), (160, 92959), (165, 92995), (181, 93091), (192, 93136), (202, 93166),

Gene: Belfort\_169 Start: 92234, Stop: 93013, Start Num: 59

Candidate Starts for Belfort\_169:

(Start: 46 @92192 has 17 MA's), (Start: 51 @92216 has 1 MA's), (Start: 56 @92225 has 5 MA's), (Start: 59 @92234 has 50 MA's), (Start: 63 @92246 has 2 MA's), (70, 92291), (80, 92351), (122, 92636), (163, 92801), (174, 92864), (181, 92909), (189, 92948), (198, 92975),

Gene: Bellis\_44 Start: 37025, Stop: 37834, Start Num: 46

Candidate Starts for Bellis\_44:

(42, 36995), (Start: 46 @37025 has 17 MA's), (Start: 63 @37061 has 2 MA's), (66, 37088), (84, 37193), (115, 37391), (134, 37493), (136, 37508), (151, 37598), (153, 37610), (159, 37625), (169, 37685), (176, 37727), (181, 37760), (187, 37790), (197, 37823),

Gene: Beuffert\_162 Start: 90286, Stop: 91059, Start Num: 59

Candidate Starts for Beuffert\_162:

(Start: 59 @90286 has 50 MA's), (65, 90301), (70, 90340), (74, 90361), (79, 90385), (109, 90595), (133, 90739), (139, 90769), (144, 90802), (160, 90823), (163, 90850), (174, 90913), (177, 90928),

Gene: Big4\_214 Start: 119203, Stop: 120069, Start Num: 56

Candidate Starts for Big4\_214:

(41, 119131), (47, 119170), (Start: 56 @119203 has 5 MA's), (64, 119224), (70, 119266), (73, 119278), (74, 119287), (79, 119311), (83, 119347), (86, 119365), (94, 119404), (95, 119407), (100, 119449), (113, 119533), (119, 119566), (137, 119662), (140, 119671), (141, 119674), (142, 119695), (143, 119698), (163, 119812), (174, 119875), (188, 119962),

Gene: BigCheese\_47 Start: 36604, Stop: 37638, Start Num: 23

Candidate Starts for BigCheese\_47:

(Start: 23 @36604 has 24 MA's), (Start: 25 @36613 has 2 MA's), (33, 36697), (42, 36772), (Start: 46 @36802 has 17 MA's), (Start: 56 @36832 has 5 MA's), (Start: 63 @36853 has 2 MA's), (107, 37114), (108, 37138), (114, 37174), (115, 37180), (119, 37204), (127, 37255), (134, 37282), (140, 37309), (144, 37339), (147, 37351), (151, 37387), (159, 37414), (187, 37579),

Gene: BillNye\_132 Start: 81897, Stop: 82658, Start Num: 60

Candidate Starts for BillNye\_132:

(Start: 60 @81897 has 33 MA's), (Start: 63 @81906 has 2 MA's), (70, 81951), (86, 82053), (95, 82095), (109, 82206), (144, 82401), (163, 82449), (174, 82512), (177, 82527), (181, 82551), (198, 82617),

Gene: Birchlyn\_231 Start: 106806, Stop: 107576, Start Num: 59

Candidate Starts for Birchlyn\_231:

(Start: 59 @106806 has 50 MA's), (Start: 63 @106818 has 2 MA's), (74, 106884), (78, 106902), (92, 106998), (106, 107079), (130, 107238), (154, 107325), (163, 107364), (167, 107382), (170, 107397), (174, 107427), (185, 107484), (186, 107493), (195, 107529),

Gene: BlueOtter\_221 Start: 111161, Stop: 111928, Start Num: 60

Candidate Starts for BlueOtter\_221:

(Start: 60 @111161 has 33 MA's), (78, 111254), (95, 111359), (98, 111398), (109, 111470), (112, 111485), (130, 111590), (161, 111701), (163, 111716), (168, 111737), (174, 111779), (177, 111797), (181, 111821), (185, 111836), (198, 111887),

Gene: Blueeyedbeauty\_165 Start: 90175, Stop: 90948, Start Num: 59

Candidate Starts for Blueeyedbeauty\_165:

(Start: 59 @90175 has 50 MA's), (65, 90190), (70, 90229), (74, 90250), (88, 90343), (142, 90685), (144, 90691), (160, 90712), (163, 90739), (174, 90802), (177, 90817),

Gene: Bmoc\_224 Start: 111275, Stop: 112042, Start Num: 60

Candidate Starts for Bmoc\_224:

(Start: 60 @111275 has 33 MA's), (78, 111368), (95, 111473), (98, 111512), (109, 111584), (112, 111599), (130, 111704), (161, 111815), (162, 111827), (163, 111830), (174, 111893), (177, 111911), (185, 111950), (198, 112001),

Gene: Bobby\_168 Start: 93474, Stop: 94274, Start Num: 55

Candidate Starts for Bobby\_168:

(Start: 55 @93474 has 36 MA's), (Start: 63 @93495 has 2 MA's), (79, 93585), (95, 93684), (102, 93732), (115, 93837), (131, 93927), (136, 93954), (142, 93990), (160, 94056), (165, 94092), (166, 94095), (181, 94188), (192, 94233), (202, 94263),

Gene: BobsGarage\_47 Start: 36613, Stop: 37638, Start Num: 25

Candidate Starts for BobsGarage\_47:

(Start: 23 @36604 has 24 MA's), (Start: 25 @36613 has 2 MA's), (33, 36697), (42, 36772), (Start: 46 @36802 has 17 MA's), (Start: 56 @36832 has 5 MA's), (Start: 63 @36853 has 2 MA's), (107, 37114), (108, 37138), (114, 37174), (115, 37180), (119, 37204), (127, 37255), (134, 37282), (140, 37309), (144, 37339), (147, 37351), (151, 37387), (159, 37414), (187, 37579),

Gene: Bombitas\_162 Start: 88607, Stop: 89407, Start Num: 55

Candidate Starts for Bombitas\_162:

(Start: 55 @88607 has 36 MA's), (Start: 63 @88628 has 2 MA's), (79, 88718), (95, 88817), (102, 88865), (115, 88970), (117, 88976), (131, 89060), (142, 89123), (160, 89189), (165, 89225), (181, 89321), (192, 89366), (202, 89396),

Gene: BoomerJR\_229 Start: 109462, Stop: 110232, Start Num: 59

Candidate Starts for BoomerJR\_229:

(Start: 59 @109462 has 50 MA's), (Start: 63 @109474 has 2 MA's), (74, 109540), (78, 109558), (140, 109939), (154, 109981), (163, 110020), (167, 110038), (170, 110053), (174, 110083), (185, 110140), (186, 110149), (195, 110185),

Gene: Bordeaux\_230 Start: 109456, Stop: 110226, Start Num: 59

Candidate Starts for Bordeaux\_230:

(Start: 59 @109456 has 50 MA's), (Start: 63 @109468 has 2 MA's), (74, 109534), (78, 109552), (92, 109648), (106, 109729), (130, 109888), (154, 109975), (163, 110014), (167, 110032), (170, 110047), (174, 110077), (185, 110134), (186, 110143), (195, 110179),

Gene: Braelyn\_216 Start: 110686, Stop: 111441, Start Num: 60

Candidate Starts for Braelyn\_216:

(Start: 60 @110686 has 33 MA's), (62, 110692), (Start: 63 @110695 has 2 MA's), (70, 110740), (78, 110779), (111, 111007), (135, 111136), (144, 111190), (162, 111235), (163, 111238), (174, 111301), (177, 111316), (181, 111340), (185, 111355), (206, 111433), (207, 111436),

Gene: Breezona\_47 Start: 36604, Stop: 37638, Start Num: 23

Candidate Starts for Breezona\_47:

(Start: 23 @36604 has 24 MA's), (Start: 25 @36613 has 2 MA's), (33, 36697), (42, 36772), (Start: 46 @36802 has 17 MA's), (Start: 56 @36832 has 5 MA's), (Start: 63 @36853 has 2 MA's), (107, 37114), (108, 37138), (114, 37174), (115, 37180), (119, 37204), (127, 37255), (134, 37282), (140, 37309), (144, 37339), (147, 37351), (151, 37387), (159, 37414), (187, 37579),

Gene: Bromden\_47 Start: 36496, Stop: 37467, Start Num: 29

Candidate Starts for Bromden\_47:

(10, 36298), (19, 36397), (Start: 24 @36460 has 2 MA's), (Start: 29 @36496 has 1 MA's), (45, 36643), (48, 36670), (Start: 63 @36694 has 2 MA's), (64, 36697), (101, 36928), (115, 37021), (134, 37123), (149, 37213), (153, 37240), (165, 37294), (177, 37366), (179, 37384), (187, 37420), (197, 37453),

Gene: Calm\_46 Start: 35320, Stop: 36405, Start Num: 21

Candidate Starts for Calm\_46:

(11, 35206), (13, 35227), (14, 35230), (15, 35239), (19, 35287), (Start: 21 @35320 has 17 MA's), (26, 35368), (Start: 29 @35395 has 1 MA's), (32, 35446), (42, 35527), (Start: 46 @35560 has 17 MA's), (53, 35590), (Start: 63 @35617 has 2 MA's), (64, 35620), (79, 35707), (82, 35737), (88, 35776), (108, 35902), (115, 35944), (117, 35950), (140, 36073), (159, 36178), (160, 36181), (176, 36280), (181, 36313), (187, 36343),

Gene: Cece\_205 Start: 123883, Stop: 124746, Start Num: 60

Candidate Starts for Cece\_205:

(Start: 60 @123883 has 33 MA's), (70, 123937), (71, 123940), (73, 123949), (79, 123982), (83, 124018), (86, 124036), (89, 124057), (110, 124186), (113, 124207), (115, 124216), (119, 124240), (127, 124291), (137, 124339), (140, 124348), (142, 124372), (143, 124375), (150, 124420), (174, 124552), (181, 124606), (188, 124642), (190, 124648),

Gene: CeilingFan\_244 Start: 110251, Stop: 111021, Start Num: 59

Candidate Starts for CeilingFan\_244:

(Start: 59 @110251 has 50 MA's), (Start: 63 @110263 has 2 MA's), (74, 110329), (78, 110347), (92, 110443), (106, 110524), (130, 110683), (154, 110770), (163, 110809), (167, 110827), (170, 110842), (174, 110872), (185, 110929), (186, 110938), (195, 110974),

Gene: Chaser\_44 Start: 35399, Stop: 36406, Start Num: 24

Candidate Starts for Chaser\_44:

(10, 35237), (16, 35309), (17, 35312), (20, 35354), (Start: 24 @35399 has 2 MA's), (Start: 29 @35435 has 1 MA's), (30, 35447), (32, 35486), (42, 35573), (48, 35609), (Start: 63 @35633 has 2 MA's), (66, 35660), (78, 35717), (101, 35867), (115, 35960), (119, 35984), (127, 36035), (131, 36050), (134, 36062), (140, 36089), (153, 36179), (165, 36233), (179, 36323),

Gene: CicholasNage\_46 Start: 35341, Stop: 36426, Start Num: 21

Candidate Starts for CicholasNage\_46:

(11, 35227), (13, 35248), (14, 35251), (15, 35260), (19, 35308), (Start: 21 @35341 has 17 MA's), (26, 35389), (Start: 29 @35416 has 1 MA's), (32, 35467), (42, 35548), (Start: 46 @35581 has 17 MA's), (53, 35611), (Start: 63 @35638 has 2 MA's), (64, 35641), (79, 35728), (82, 35758), (88, 35797), (108, 35923), (115, 35965), (117, 35971), (140, 36094), (159, 36199), (160, 36202), (176, 36301), (181, 36334), (187, 36364),

Gene: Circinus\_133 Start: 81865, Stop: 82626, Start Num: 60

Candidate Starts for Circinus\_133:

(Start: 60 @81865 has 33 MA's), (Start: 63 @81874 has 2 MA's), (70, 81919), (86, 82021), (95, 82063), (109, 82174), (144, 82369), (163, 82417), (174, 82480), (177, 82495), (181, 82519), (198, 82585),

Gene: Claus\_47 Start: 36816, Stop: 37649, Start Num: 46

Candidate Starts for Claus\_47:

(Start: 23 @36618 has 24 MA's), (Start: 25 @36627 has 2 MA's), (Start: 28 @36648 has 1 MA's), (33, 36711), (42, 36786), (Start: 46 @36816 has 17 MA's), (Start: 56 @36846 has 5 MA's), (Start: 63 @36867 has 2 MA's), (66, 36894), (107, 37128), (108, 37152), (115, 37194), (119, 37218), (127, 37269), (134, 37296), (140, 37323), (147, 37365), (151, 37401), (159, 37428), (166, 37470), (187, 37593),

Gene: Clautastrophe\_44 Start: 37022, Stop: 37831, Start Num: 46

Candidate Starts for Clautastrophe\_44:

(42, 36992), (Start: 46 @37022 has 17 MA's), (Start: 63 @37058 has 2 MA's), (66, 37085), (84, 37190), (115, 37388), (134, 37490), (136, 37505), (151, 37595), (153, 37607), (159, 37622), (165, 37661), (169, 37682), (176, 37724), (181, 37757), (187, 37787), (197, 37820),

Gene: Comrade\_166 Start: 92436, Stop: 93215, Start Num: 59

Candidate Starts for Comrade\_166:

(Start: 46 @92394 has 17 MA's), (Start: 51 @92418 has 1 MA's), (Start: 56 @92427 has 5 MA's), (Start: 59 @92436 has 50 MA's), (Start: 63 @92448 has 2 MA's), (70, 92493), (80, 92553), (122, 92838), (163, 93003), (174, 93066), (181, 93111), (189, 93150), (198, 93177),

Gene: Constella\_171 Start: 91111, Stop: 91911, Start Num: 55



Candidate Starts for Constella\_171:

(Start: 55 @91111 has 36 MA's), (Start: 63 @91132 has 2 MA's), (79, 91222), (95, 91321), (102, 91369), (115, 91474), (117, 91480), (131, 91564), (142, 91627), (160, 91693), (165, 91729), (181, 91825), (192, 91870), (202, 91900),

Gene: Courthouse\_146 Start: 76842, Stop: 77609, Start Num: 55

Candidate Starts for Courthouse\_146:

(Start: 55 @76842 has 36 MA's), (67, 76896), (71, 76914), (92, 77046), (99, 77097), (115, 77193), (126, 77265), (131, 77283), (136, 77310), (140, 77322), (142, 77346), (157, 77403), (160, 77412),

Gene: Cross\_219 Start: 111806, Stop: 112573, Start Num: 60

Candidate Starts for Cross\_219:

(Start: 60 @111806 has 33 MA's), (78, 111899), (95, 112004), (98, 112043), (109, 112115), (112, 112130), (130, 112235), (161, 112346), (163, 112361), (168, 112382), (174, 112424), (177, 112442), (181, 112466), (185, 112481), (198, 112532),

Gene: Crossroads\_47 Start: 36606, Stop: 37640, Start Num: 23

Candidate Starts for Crossroads\_47:

(Start: 23 @36606 has 24 MA's), (Start: 25 @36615 has 2 MA's), (33, 36699), (42, 36774), (Start: 46 @36804 has 17 MA's), (Start: 56 @36834 has 5 MA's), (Start: 63 @36855 has 2 MA's), (107, 37116), (108, 37140), (115, 37182), (119, 37206), (127, 37257), (134, 37284), (140, 37311), (147, 37353), (151, 37389), (153, 37401), (159, 37416), (176, 37518), (187, 37581),

Gene: Cursive\_222 Start: 111490, Stop: 112167, Start Num: 60

Candidate Starts for Cursive\_222:

(Start: 60 @111490 has 33 MA's), (78, 111583), (95, 111688), (98, 111727), (109, 111799), (112, 111814), (130, 111919), (161, 112030), (163, 112045), (168, 112066), (184, 112159),

Gene: Dallas\_175 Start: 91600, Stop: 92400, Start Num: 55

Candidate Starts for Dallas\_175:

(Start: 55 @91600 has 36 MA's), (Start: 63 @91621 has 2 MA's), (79, 91711), (95, 91810), (102, 91858), (115, 91963), (117, 91969), (131, 92053), (142, 92116), (160, 92182), (165, 92218), (181, 92314), (192, 92359), (202, 92389),

Gene: Daubenski\_213 Start: 111887, Stop: 112654, Start Num: 60

Candidate Starts for Daubenski\_213:

(Start: 60 @111887 has 33 MA's), (Start: 63 @111896 has 2 MA's), (69, 111938), (72, 111950), (78, 111980), (92, 112076), (98, 112124), (109, 112196), (112, 112211), (161, 112427), (162, 112439), (163, 112442), (174, 112505), (177, 112523), (181, 112547), (185, 112562), (198, 112613), (201, 112622),

Gene: DirkDirk\_45 Start: 35292, Stop: 36368, Start Num: 21

Candidate Starts for DirkDirk\_45:

(3, 34980), (6, 35118), (9, 35148), (11, 35178), (12, 35181), (13, 35199), (14, 35202), (15, 35211), (19, 35259), (Start: 21 @35292 has 17 MA's), (26, 35340), (Start: 29 @35367 has 1 MA's), (32, 35418), (42, 35499), (44, 35505), (Start: 46 @35532 has 17 MA's), (Start: 63 @35571 has 2 MA's), (66, 35598), (79, 35661), (108, 35856), (115, 35898), (140, 36027), (161, 36150), (162, 36162), (185, 36285), (197, 36333), (203, 36351),

Gene: DmpstrDiver\_176 Start: 91044, Stop: 91844, Start Num: 55

Candidate Starts for DmpstrDiver\_176:

(Start: 55 @91044 has 36 MA's), (Start: 63 @91065 has 2 MA's), (79, 91155), (95, 91254), (102, 91302), (115, 91407), (117, 91413), (131, 91497), (136, 91524), (142, 91560), (160, 91626), (165,

91662), (181, 91758), (192, 91803), (202, 91833),

Gene: Douge\_45 Start: 35578, Stop: 36375, Start Num: 48

Candidate Starts for Douge\_45:

(10, 35206), (16, 35278), (17, 35281), (Start: 24 @35368 has 2 MA's), (Start: 29 @35404 has 1 MA's), (30, 35416), (48, 35578), (Start: 63 @35602 has 2 MA's), (66, 35629), (78, 35686), (101, 35836), (115, 35929), (119, 35953), (127, 36004), (131, 36019), (134, 36031), (140, 36058), (153, 36148), (159, 36163), (165, 36202), (179, 36292),

Gene: Dove\_170 Start: 86963, Stop: 87763, Start Num: 55

Candidate Starts for Dove\_170:

(Start: 55 @86963 has 36 MA's), (Start: 63 @86984 has 2 MA's), (79, 87074), (95, 87173), (102, 87221), (115, 87326), (117, 87332), (131, 87416), (142, 87479), (165, 87581), (181, 87677), (192, 87722), (202, 87752),

Gene: DrSeegs\_47 Start: 36604, Stop: 37638, Start Num: 23

Candidate Starts for DrSeegs\_47:

(Start: 23 @36604 has 24 MA's), (Start: 25 @36613 has 2 MA's), (33, 36697), (42, 36772), (Start: 46 @36802 has 17 MA's), (Start: 56 @36832 has 5 MA's), (Start: 63 @36853 has 2 MA's), (107, 37114), (108, 37138), (114, 37174), (115, 37180), (119, 37204), (127, 37255), (134, 37282), (140, 37309), (144, 37339), (147, 37351), (151, 37387), (159, 37414), (187, 37579),

Gene: Duke13\_178 Start: 91718, Stop: 92518, Start Num: 55

Candidate Starts for Duke13\_178:

(Start: 55 @91718 has 36 MA's), (Start: 63 @91739 has 2 MA's), (79, 91829), (95, 91928), (102, 91976), (115, 92081), (117, 92087), (131, 92171), (142, 92234), (160, 92300), (165, 92336), (181, 92432), (192, 92477), (202, 92507),

Gene: DuncansLeg\_44 Start: 37048, Stop: 37857, Start Num: 46

Candidate Starts for DuncansLeg\_44:

(42, 37018), (Start: 46 @37048 has 17 MA's), (Start: 63 @37084 has 2 MA's), (66, 37111), (84, 37216), (92, 37267), (115, 37414), (134, 37516), (136, 37531), (151, 37621), (153, 37633), (159, 37648), (165, 37687), (169, 37708), (176, 37750), (181, 37783), (187, 37813), (197, 37846),

Gene: DyoEdafos\_46 Start: 35667, Stop: 36674, Start Num: 24

Candidate Starts for DyoEdafos\_46:

(1, 35238), (2, 35319), (4, 35373), (5, 35415), (7, 35472), (10, 35505), (17, 35580), (Start: 24 @35667 has 2 MA's), (Start: 29 @35703 has 1 MA's), (35, 35784), (45, 35850), (48, 35877), (62, 35898), (Start: 63 @35901 has 2 MA's), (66, 35928), (92, 36081), (111, 36207), (115, 36228), (131, 36318), (134, 36330), (140, 36357), (165, 36501), (176, 36564), (179, 36591),

Gene: EGole\_224 Start: 113994, Stop: 114764, Start Num: 59

Candidate Starts for EGole\_224:

(Start: 59 @113994 has 50 MA's), (78, 114090), (95, 114195), (98, 114234), (109, 114306), (112, 114321), (130, 114426), (161, 114537), (162, 114549), (163, 114552), (168, 114573), (174, 114615), (177, 114633), (181, 114657), (185, 114672), (198, 114723),

Gene: Ejimix\_166 Start: 90588, Stop: 91388, Start Num: 55

Candidate Starts for Ejimix\_166:

(Start: 55 @90588 has 36 MA's), (Start: 63 @90609 has 2 MA's), (79, 90699), (95, 90798), (102, 90846), (115, 90951), (117, 90957), (131, 91041), (142, 91104), (160, 91170), (165, 91206), (181, 91302), (192, 91347), (202, 91377),

Gene: Ellson\_44 Start: 37078, Stop: 37887, Start Num: 46

Candidate Starts for Ellson\_44:

(42, 37048), (Start: 46 @37078 has 17 MA's), (Start: 63 @37114 has 2 MA's), (66, 37141), (76, 37192), (84, 37246), (115, 37444), (123, 37495), (136, 37561), (140, 37573), (142, 37597), (149, 37636), (151, 37651), (167, 37726), (169, 37738), (181, 37813), (187, 37843), (197, 37876),

Gene: Elmer\_248 Start: 113039, Stop: 113809, Start Num: 59

Candidate Starts for Elmer\_248:

(Start: 59 @113039 has 50 MA's), (Start: 63 @113051 has 2 MA's), (74, 113117), (78, 113135), (154, 113558), (163, 113597), (167, 113615), (170, 113630), (174, 113660), (185, 113717), (186, 113726),

Gene: Emma1919\_173 Start: 91172, Stop: 91951, Start Num: 59

Candidate Starts for Emma1919\_173:

(42, 91100), (43, 91103), (Start: 59 @91172 has 50 MA's), (Start: 63 @91184 has 2 MA's), (70, 91229), (74, 91250), (75, 91256), (109, 91484), (163, 91739), (174, 91802), (181, 91847),

Gene: Enceladus\_45 Start: 35515, Stop: 36363, Start Num: 46

Candidate Starts for Enceladus\_45:

(3, 34963), (6, 35101), (8, 35122), (9, 35131), (11, 35161), (12, 35164), (13, 35182), (14, 35185), (15, 35194), (19, 35242), (Start: 21 @35275 has 17 MA's), (26, 35323), (Start: 29 @35350 has 1 MA's), (32, 35401), (42, 35482), (Start: 46 @35515 has 17 MA's), (53, 35545), (Start: 63 @35572 has 2 MA's), (64, 35575), (79, 35662), (106, 35830), (115, 35899), (140, 36028), (146, 36067), (153, 36121), (161, 36151), (162, 36163), (176, 36238), (181, 36271), (187, 36301), (203, 36346),

Gene: Enygma\_239 Start: 112267, Stop: 113037, Start Num: 59

Candidate Starts for Enygma\_239:

(Start: 59 @112267 has 50 MA's), (Start: 63 @112279 has 2 MA's), (74, 112345), (78, 112363), (130, 112699), (163, 112825), (167, 112843), (170, 112858), (174, 112888), (181, 112930), (185, 112945), (186, 112954), (195, 112990),

Gene: EricMillard\_173 Start: 92298, Stop: 93098, Start Num: 55

Candidate Starts for EricMillard\_173:

(Start: 55 @92298 has 36 MA's), (Start: 63 @92319 has 2 MA's), (79, 92409), (95, 92508), (102, 92556), (115, 92661), (117, 92667), (131, 92751), (136, 92778), (142, 92814), (145, 92826), (160, 92880), (165, 92916), (181, 93012), (192, 93057), (202, 93087),

Gene: Evy\_210 Start: 111981, Stop: 112748, Start Num: 60

Candidate Starts for Evy\_210:

(Start: 60 @111981 has 33 MA's), (78, 112074), (95, 112179), (98, 112218), (109, 112290), (130, 112410), (161, 112521), (163, 112536), (174, 112599), (177, 112617), (181, 112641), (185, 112656), (198, 112707),

Gene: Faith1\_47 Start: 36604, Stop: 37638, Start Num: 23

Candidate Starts for Faith1\_47:

(Start: 23 @36604 has 24 MA's), (Start: 25 @36613 has 2 MA's), (33, 36697), (42, 36772), (Start: 46 @36802 has 17 MA's), (Start: 56 @36832 has 5 MA's), (Start: 63 @36853 has 2 MA's), (107, 37114), (108, 37138), (114, 37174), (115, 37180), (119, 37204), (127, 37255), (134, 37282), (140, 37309), (144, 37339), (147, 37351), (151, 37387), (159, 37414), (187, 37579),

Gene: Faust\_162 Start: 91582, Stop: 92358, Start Num: 58

Candidate Starts for Faust\_162:

(Start: 58 @91582 has 1 MA's), (Start: 63 @91594 has 2 MA's), (74, 91660), (88, 91753), (97, 91813), (117, 91945), (154, 92110), (160, 92122), (163, 92149), (174, 92212), (177, 92227), (181, 92251),

(189, 92290), (191, 92296), (198, 92317),

Gene: Finemlucis\_47 Start: 36890, Stop: 37924, Start Num: 23

Candidate Starts for Finemlucis\_47:

(Start: 23 @36890 has 24 MA's), (Start: 25 @36899 has 2 MA's), (33, 36983), (42, 37058), (Start: 46 @37088 has 17 MA's), (Start: 56 @37118 has 5 MA's), (Start: 63 @37139 has 2 MA's), (107, 37400), (108, 37424), (114, 37460), (115, 37466), (119, 37490), (127, 37541), (134, 37568), (140, 37595), (147, 37637), (151, 37673), (159, 37700), (187, 37865),

Gene: Finnry\_44 Start: 37026, Stop: 37835, Start Num: 46

Candidate Starts for Finnry\_44:

(42, 36996), (Start: 46 @37026 has 17 MA's), (Start: 63 @37062 has 2 MA's), (66, 37089), (84, 37194), (115, 37392), (134, 37494), (136, 37509), (151, 37599), (153, 37611), (159, 37626), (165, 37665), (169, 37686), (176, 37728), (181, 37761), (187, 37791), (197, 37824),

Gene: Forrest\_174 Start: 92570, Stop: 93346, Start Num: 59

Candidate Starts for Forrest\_174:

(36, 92441), (37, 92450), (40, 92471), (44, 92501), (Start: 59 @92570 has 50 MA's), (Start: 63 @92582 has 2 MA's), (64, 92585), (65, 92588), (70, 92627), (74, 92648), (75, 92654), (109, 92882), (161, 93122), (163, 93137), (174, 93200), (177, 93215), (181, 93239),

Gene: Francob\_170 Start: 91476, Stop: 92252, Start Num: 59

Candidate Starts for Francob\_170:

(Start: 59 @91476 has 50 MA's), (Start: 63 @91488 has 2 MA's), (70, 91533), (74, 91554), (80, 91593), (163, 92043), (174, 92106), (177, 92121),

Gene: Gabriela\_47 Start: 36866, Stop: 37900, Start Num: 23

Candidate Starts for Gabriela\_47:

(Start: 23 @36866 has 24 MA's), (Start: 25 @36875 has 2 MA's), (33, 36959), (42, 37034), (Start: 46 @37064 has 17 MA's), (Start: 56 @37094 has 5 MA's), (Start: 63 @37115 has 2 MA's), (107, 37376), (108, 37400), (114, 37436), (115, 37442), (119, 37466), (127, 37517), (134, 37544), (140, 37571), (144, 37601), (147, 37613), (151, 37649), (159, 37676), (187, 37841),

Gene: Gaia\_143 Start: 76632, Stop: 77390, Start Num: 55

Candidate Starts for Gaia\_143:

(Start: 55 @76632 has 36 MA's), (Start: 63 @76653 has 2 MA's), (64, 76656), (78, 76737), (80, 76758), (95, 76842), (99, 76884), (111, 76959), (115, 76980), (119, 77004), (120, 77013), (136, 77094), (138, 77100), (142, 77130), (155, 77181), (158, 77187), (159, 77190), (165, 77229), (180, 77322), (187, 77355),

Gene: Gardann\_47 Start: 36605, Stop: 37639, Start Num: 23

Candidate Starts for Gardann\_47:

(Start: 23 @36605 has 24 MA's), (Start: 25 @36614 has 2 MA's), (33, 36698), (42, 36773), (Start: 46 @36803 has 17 MA's), (Start: 56 @36833 has 5 MA's), (Start: 63 @36854 has 2 MA's), (107, 37115), (108, 37139), (114, 37175), (115, 37181), (119, 37205), (127, 37256), (134, 37283), (140, 37310), (144, 37340), (147, 37352), (151, 37388), (159, 37415), (187, 37580),

Gene: Genie2\_229 Start: 109587, Stop: 110357, Start Num: 59

Candidate Starts for Genie2\_229:

(Start: 59 @109587 has 50 MA's), (Start: 63 @109599 has 2 MA's), (74, 109665), (78, 109683), (140, 110064), (154, 110106), (163, 110145), (167, 110163), (170, 110178), (174, 110208), (185, 110265), (186, 110274), (195, 110310),

Gene: Gibbi\_240 Start: 109744, Stop: 110514, Start Num: 59

Candidate Starts for Gibbi\_240:

(Start: 59 @109744 has 50 MA's), (Start: 63 @109756 has 2 MA's), (74, 109822), (78, 109840), (92, 109936), (106, 110017), (130, 110176), (154, 110263), (163, 110302), (167, 110320), (170, 110335), (174, 110365), (185, 110422), (186, 110431), (195, 110467),

Gene: Gilson\_172 Start: 91134, Stop: 91913, Start Num: 59

Candidate Starts for Gilson\_172:

(42, 91062), (43, 91065), (Start: 59 @91134 has 50 MA's), (Start: 63 @91146 has 2 MA's), (70, 91191), (74, 91212), (75, 91218), (109, 91446), (163, 91701), (174, 91764), (181, 91809),

Gene: Gonephishing\_145 Start: 78930, Stop: 79697, Start Num: 55

Candidate Starts for Gonephishing\_145:

(Start: 55 @78930 has 36 MA's), (67, 78984), (71, 79002), (92, 79134), (99, 79185), (115, 79281), (126, 79353), (131, 79371), (136, 79398), (140, 79410), (142, 79434), (157, 79491), (160, 79500),

Gene: Grayson\_166 Start: 88611, Stop: 89342, Start Num: 56

Candidate Starts for Grayson\_166:

(Start: 56 @88611 has 5 MA's), (90, 88794), (92, 88800), (108, 88899), (115, 88941), (139, 89067), (172, 89214), (178, 89268), (182, 89280), (194, 89334),

Gene: Greely\_262 Start: 154596, Stop: 155366, Start Num: 52

Candidate Starts for Greely\_262:

(27, 154395), (34, 154482), (38, 154497), (Start: 52 @154596 has 2 MA's), (Start: 56 @154605 has 5 MA's), (77, 154707), (86, 154776), (90, 154803), (106, 154884), (115, 154947), (126, 155019), (131, 155037), (136, 155067), (138, 155073), (158, 155169), (162, 155199), (163, 155202), (185, 155307), (187, 155322),

Gene: GuuelaD\_46 Start: 36643, Stop: 37677, Start Num: 23

Candidate Starts for GuuelaD\_46:

(Start: 23 @36643 has 24 MA's), (Start: 25 @36652 has 2 MA's), (33, 36736), (42, 36811), (Start: 46 @36841 has 17 MA's), (Start: 56 @36871 has 5 MA's), (Start: 63 @36892 has 2 MA's), (107, 37153), (108, 37177), (115, 37219), (119, 37243), (127, 37294), (134, 37321), (140, 37348), (147, 37390), (151, 37426), (153, 37438), (159, 37453), (176, 37555), (187, 37618),

Gene: Hafay\_47 Start: 36867, Stop: 37700, Start Num: 46

Candidate Starts for Hafay\_47:

(Start: 23 @36669 has 24 MA's), (Start: 25 @36678 has 2 MA's), (33, 36762), (42, 36837), (Start: 46 @36867 has 17 MA's), (Start: 56 @36897 has 5 MA's), (Start: 63 @36918 has 2 MA's), (107, 37179), (108, 37203), (114, 37239), (115, 37245), (119, 37269), (127, 37320), (134, 37347), (140, 37374), (147, 37416), (151, 37452), (159, 37479), (187, 37644),

Gene: Halena\_45 Start: 35316, Stop: 36404, Start Num: 21

Candidate Starts for Halena\_45:

(3, 35004), (6, 35142), (8, 35163), (9, 35172), (11, 35202), (12, 35205), (13, 35223), (14, 35226), (15, 35235), (19, 35283), (Start: 21 @35316 has 17 MA's), (26, 35364), (Start: 29 @35391 has 1 MA's), (32, 35442), (42, 35523), (Start: 46 @35556 has 17 MA's), (53, 35586), (Start: 63 @35613 has 2 MA's), (64, 35616), (79, 35703), (106, 35871), (115, 35940), (140, 36069), (146, 36108), (153, 36162), (161, 36192), (162, 36204), (176, 36279), (181, 36312), (187, 36342), (203, 36387),

Gene: Halley\_176 Start: 90904, Stop: 91704, Start Num: 55

Candidate Starts for Halley\_176:

(Start: 55 @90904 has 36 MA's), (Start: 63 @90925 has 2 MA's), (79, 91015), (95, 91114), (102, 91162), (115, 91267), (117, 91273), (131, 91357), (142, 91420), (160, 91486), (165, 91522), (181, 91618), (192, 91663), (202, 91693),

Gene: HangryHippo\_221 Start: 111161, Stop: 111928, Start Num: 60

Candidate Starts for HangryHippo\_221:

(Start: 60 @111161 has 33 MA's), (78, 111254), (95, 111359), (98, 111398), (109, 111470), (112, 111485), (130, 111590), (161, 111701), (163, 111716), (168, 111737), (174, 111779), (177, 111797), (181, 111821), (185, 111836), (198, 111887),

Gene: Hannaconda\_145 Start: 79863, Stop: 80630, Start Num: 55

Candidate Starts for Hannaconda\_145:

(Start: 55 @79863 has 36 MA's), (67, 79917), (71, 79935), (92, 80067), (99, 80118), (115, 80214), (126, 80286), (131, 80304), (136, 80331), (140, 80343), (142, 80367), (157, 80424), (160, 80433),

Gene: HokkenD\_170 Start: 92685, Stop: 93485, Start Num: 55

Candidate Starts for HokkenD\_170:

(Start: 55 @92685 has 36 MA's), (Start: 63 @92706 has 2 MA's), (79, 92796), (95, 92895), (102, 92943), (115, 93048), (117, 93054), (131, 93138), (142, 93201), (160, 93267), (165, 93303), (181, 93399), (192, 93444), (202, 93474),

Gene: HokkenD\_146 Start: 82199, Stop: 82966, Start Num: 55

Candidate Starts for HokkenD\_146:

(Start: 55 @82199 has 36 MA's), (67, 82253), (71, 82271), (92, 82403), (99, 82454), (115, 82550), (126, 82622), (131, 82640), (136, 82667), (140, 82679), (142, 82703), (157, 82760), (160, 82769),

Gene: Hughesyang\_174 Start: 91386, Stop: 92186, Start Num: 55

Candidate Starts for Hughesyang\_174:

(Start: 55 @91386 has 36 MA's), (Start: 63 @91407 has 2 MA's), (79, 91497), (95, 91596), (102, 91644), (115, 91749), (117, 91755), (131, 91839), (142, 91902), (160, 91968), (165, 92004), (181, 92100), (192, 92145), (202, 92175),

Gene: IchabodCrane\_226 Start: 109259, Stop: 110029, Start Num: 59

Candidate Starts for IchabodCrane\_226:

(Start: 59 @109259 has 50 MA's), (Start: 63 @109271 has 2 MA's), (74, 109337), (78, 109355), (92, 109451), (106, 109532), (130, 109691), (154, 109778), (163, 109817), (167, 109835), (170, 109850), (174, 109880), (185, 109937), (186, 109946), (195, 109982),

Gene: Itos\_46 Start: 35510, Stop: 36544, Start Num: 23

Candidate Starts for Itos\_46:

(Start: 23 @35510 has 24 MA's), (Start: 25 @35519 has 2 MA's), (33, 35603), (42, 35678), (Start: 46 @35708 has 17 MA's), (Start: 56 @35738 has 5 MA's), (Start: 63 @35759 has 2 MA's), (107, 36020), (108, 36044), (114, 36080), (115, 36086), (119, 36110), (127, 36161), (134, 36188), (140, 36215), (144, 36245), (147, 36257), (151, 36293), (159, 36320), (187, 36485),

Gene: Jada\_171 Start: 91266, Stop: 92042, Start Num: 59

Candidate Starts for Jada\_171:

(36, 91137), (37, 91146), (40, 91167), (44, 91197), (Start: 59 @91266 has 50 MA's), (Start: 63 @91278 has 2 MA's), (64, 91281), (65, 91284), (70, 91323), (74, 91344), (75, 91350), (161, 91818), (163, 91833), (174, 91896), (177, 91911), (181, 91935),

Gene: Jay2Jay\_225 Start: 112136, Stop: 112903, Start Num: 60

Candidate Starts for Jay2Jay\_225:

(Start: 60 @112136 has 33 MA's), (78, 112229), (95, 112334), (98, 112373), (109, 112445), (112, 112460), (130, 112565), (161, 112676), (163, 112691), (174, 112754), (177, 112772), (181, 112796), (185, 112811), (198, 112862),

Gene: JimJam\_239 Start: 111180, Stop: 111950, Start Num: 59

Candidate Starts for JimJam\_239:

(Start: 59 @111180 has 50 MA's), (Start: 63 @111192 has 2 MA's), (74, 111258), (78, 111276), (92, 111372), (106, 111453), (130, 111612), (154, 111699), (163, 111738), (167, 111756), (170, 111771), (174, 111801), (185, 111858), (186, 111867), (195, 111903),

Gene: Jobypre\_45 Start: 37022, Stop: 37831, Start Num: 46

Candidate Starts for Jobypre\_45:

(42, 36992), (Start: 46 @37022 has 17 MA's), (Start: 63 @37058 has 2 MA's), (66, 37085), (84, 37190), (115, 37388), (134, 37490), (136, 37505), (151, 37595), (153, 37607), (159, 37622), (165, 37661), (169, 37682), (176, 37724), (181, 37757), (187, 37787), (197, 37820),

Gene: JoeDirt\_45 Start: 35273, Stop: 36361, Start Num: 21

Candidate Starts for JoeDirt\_45:

(11, 35159), (13, 35180), (14, 35183), (15, 35192), (19, 35240), (Start: 21 @35273 has 17 MA's), (26, 35321), (Start: 29 @35348 has 1 MA's), (32, 35399), (42, 35480), (Start: 46 @35513 has 17 MA's), (53, 35543), (Start: 63 @35570 has 2 MA's), (64, 35573), (79, 35660), (108, 35855), (115, 35897), (140, 36026), (149, 36092), (161, 36149), (162, 36161), (181, 36269), (187, 36299), (203, 36344),

Gene: Jollison\_236 Start: 109390, Stop: 110160, Start Num: 59

Candidate Starts for Jollison\_236:

(Start: 59 @109390 has 50 MA's), (Start: 63 @109402 has 2 MA's), (74, 109468), (78, 109486), (92, 109582), (106, 109663), (130, 109822), (154, 109909), (163, 109948), (167, 109966), (170, 109981), (174, 110011), (185, 110068), (186, 110077), (195, 110113),

Gene: Jubie\_44 Start: 37023, Stop: 37832, Start Num: 46

Candidate Starts for Jubie\_44:

(42, 36993), (Start: 46 @37023 has 17 MA's), (Start: 63 @37059 has 2 MA's), (66, 37086), (84, 37191), (115, 37389), (134, 37491), (136, 37506), (151, 37596), (153, 37608), (159, 37623), (165, 37662), (169, 37683), (176, 37725), (181, 37758), (187, 37788), (197, 37821),

Gene: JuicyJay\_170 Start: 92332, Stop: 93132, Start Num: 55

Candidate Starts for JuicyJay\_170:

(Start: 55 @92332 has 36 MA's), (Start: 63 @92353 has 2 MA's), (79, 92443), (95, 92542), (102, 92590), (115, 92695), (117, 92701), (131, 92785), (142, 92848), (160, 92914), (165, 92950), (181, 93046), (192, 93091), (202, 93121),

Gene: Kahlid\_47 Start: 36610, Stop: 37644, Start Num: 23

Candidate Starts for Kahlid\_47:

(Start: 23 @36610 has 24 MA's), (Start: 25 @36619 has 2 MA's), (33, 36703), (42, 36778), (Start: 46 @36808 has 17 MA's), (Start: 56 @36838 has 5 MA's), (Start: 63 @36859 has 2 MA's), (107, 37120), (108, 37144), (114, 37180), (115, 37186), (119, 37210), (127, 37261), (134, 37288), (140, 37315), (144, 37345), (147, 37357), (151, 37393), (159, 37420), (187, 37585),

Gene: Kalah2\_172 Start: 92670, Stop: 93470, Start Num: 55

Candidate Starts for Kalah2\_172:

(Start: 55 @92670 has 36 MA's), (Start: 63 @92691 has 2 MA's), (79, 92781), (95, 92880), (102, 92928), (115, 93033), (117, 93039), (131, 93123), (142, 93186), (160, 93252), (165, 93288), (181, 93384), (192, 93429), (202, 93459),

Gene: Karimac\_232 Start: 109575, Stop: 110345, Start Num: 59

Candidate Starts for Karimac\_232:

(Start: 59 @109575 has 50 MA's), (Start: 63 @109587 has 2 MA's), (74, 109653), (78, 109671), (92, 109767), (106, 109848), (130, 110007), (154, 110094), (163, 110133), (167, 110151), (170, 110166), (174, 110196), (185, 110253), (186, 110262), (195, 110298),

Gene: Karp\_163 Start: 91660, Stop: 92439, Start Num: 59

Candidate Starts for Karp\_163:

(Start: 46 @91618 has 17 MA's), (Start: 51 @91642 has 1 MA's), (Start: 56 @91651 has 5 MA's), (Start: 59 @91660 has 50 MA's), (Start: 63 @91672 has 2 MA's), (70, 91717), (80, 91777), (122, 92062), (163, 92227), (174, 92290), (181, 92335), (189, 92374), (198, 92401),

Gene: KashFlow\_151 Start: 79862, Stop: 80629, Start Num: 55

Candidate Starts for KashFlow\_151:

(Start: 55 @79862 has 36 MA's), (67, 79916), (71, 79934), (92, 80066), (99, 80117), (115, 80213), (126, 80285), (131, 80303), (136, 80330), (140, 80342), (142, 80366), (157, 80423), (160, 80432),

Gene: Kenrey\_176 Start: 92481, Stop: 93257, Start Num: 59

Candidate Starts for Kenrey\_176:

(42, 92409), (43, 92412), (Start: 59 @92481 has 50 MA's), (Start: 63 @92493 has 2 MA's), (70, 92538), (74, 92559), (109, 92793), (154, 93009), (163, 93048), (174, 93111), (177, 93126), (181, 93150),

Gene: KentuckyRacer\_243 Start: 111095, Stop: 111865, Start Num: 59

Candidate Starts for KentuckyRacer\_243:

(Start: 59 @111095 has 50 MA's), (Start: 63 @111107 has 2 MA's), (74, 111173), (78, 111191), (92, 111287), (106, 111368), (130, 111527), (154, 111614), (163, 111653), (167, 111671), (170, 111686), (174, 111716), (185, 111773), (186, 111782), (195, 111818),

Gene: Kingsolomon\_44 Start: 37022, Stop: 37831, Start Num: 46

Candidate Starts for Kingsolomon\_44:

(42, 36992), (Start: 46 @37022 has 17 MA's), (Start: 63 @37058 has 2 MA's), (66, 37085), (84, 37190), (115, 37388), (134, 37490), (136, 37505), (151, 37595), (153, 37607), (159, 37622), (169, 37682), (176, 37724), (181, 37757), (187, 37787), (197, 37820),

Gene: Klein\_179 Start: 91113, Stop: 91913, Start Num: 55

Candidate Starts for Klein\_179:

(Start: 55 @91113 has 36 MA's), (Start: 63 @91134 has 2 MA's), (79, 91224), (95, 91323), (102, 91371), (115, 91476), (117, 91482), (131, 91566), (142, 91629), (160, 91695), (165, 91731), (181, 91827), (192, 91872), (202, 91902),

Gene: Krypton555\_46 Start: 36996, Stop: 37805, Start Num: 46

Candidate Starts for Krypton555\_46:

(42, 36966), (Start: 46 @36996 has 17 MA's), (Start: 63 @37032 has 2 MA's), (66, 37059), (84, 37164), (115, 37362), (134, 37464), (136, 37479), (151, 37569), (153, 37581), (159, 37596), (165, 37635), (169, 37656), (181, 37731), (187, 37761), (197, 37794),

Gene: Larnav\_226 Start: 111655, Stop: 112422, Start Num: 60

Candidate Starts for Larnav\_226:

(Start: 60 @111655 has 33 MA's), (78, 111748), (95, 111853), (98, 111892), (109, 111964), (112, 111979), (130, 112084), (161, 112195), (163, 112210), (168, 112231), (174, 112273), (177, 112291), (181, 112315), (185, 112330), (198, 112381),



Gene: LeBron\_46 Start: 35317, Stop: 36405, Start Num: 21

Candidate Starts for LeBron\_46:

(11, 35203), (12, 35206), (13, 35224), (14, 35227), (15, 35236), (19, 35284), (Start: 21 @35317 has 17 MA's), (26, 35365), (Start: 29 @35392 has 1 MA's), (32, 35443), (42, 35524), (Start: 46 @35557 has 17 MA's), (53, 35587), (Start: 63 @35614 has 2 MA's), (64, 35617), (79, 35704), (106, 35872), (115, 35941), (140, 36070), (146, 36109), (153, 36163), (161, 36193), (162, 36205), (176, 36280), (181, 36313), (187, 36343), (203, 36388),

Gene: Leo04\_220 Start: 112187, Stop: 112954, Start Num: 60

Candidate Starts for Leo04\_220:

(Start: 60 @112187 has 33 MA's), (78, 112280), (95, 112385), (98, 112424), (109, 112496), (112, 112511), (130, 112616), (161, 112727), (163, 112742), (168, 112763), (174, 112805), (177, 112823), (181, 112847), (185, 112862), (198, 112913),

Gene: Lewan\_48 Start: 36877, Stop: 37662, Start Num: 63

Candidate Starts for Lewan\_48:

(Start: 23 @36628 has 24 MA's), (Start: 25 @36637 has 2 MA's), (33, 36721), (42, 36796), (Start: 46 @36826 has 17 MA's), (Start: 56 @36856 has 5 MA's), (Start: 63 @36877 has 2 MA's), (107, 37138), (108, 37162), (114, 37198), (115, 37204), (119, 37228), (127, 37279), (134, 37306), (140, 37333), (147, 37375), (151, 37411), (187, 37603),

Gene: Liandry\_220 Start: 111563, Stop: 112330, Start Num: 60

Candidate Starts for Liandry\_220:

(Start: 60 @111563 has 33 MA's), (78, 111656), (95, 111761), (98, 111800), (130, 111992), (133, 112004), (161, 112103), (162, 112115), (163, 112118), (168, 112139), (174, 112181), (177, 112199), (181, 112223), (185, 112238), (198, 112289),

Gene: LilDestine\_47 Start: 36602, Stop: 37636, Start Num: 23

Candidate Starts for LilDestine\_47:

(Start: 23 @36602 has 24 MA's), (Start: 25 @36611 has 2 MA's), (33, 36695), (42, 36770), (Start: 46 @36800 has 17 MA's), (Start: 56 @36830 has 5 MA's), (Start: 63 @36851 has 2 MA's), (107, 37112), (108, 37136), (114, 37172), (115, 37178), (119, 37202), (127, 37253), (134, 37280), (140, 37307), (144, 37337), (147, 37349), (151, 37385), (159, 37412), (187, 37577),

Gene: LilMartin\_219 Start: 110238, Stop: 111002, Start Num: 60

Candidate Starts for LilMartin\_219:

(Start: 60 @110238 has 33 MA's), (70, 110292), (78, 110331), (90, 110421), (93, 110430), (112, 110562), (140, 110712), (161, 110778), (162, 110790), (163, 110793), (174, 110856), (177, 110874), (183, 110907), (185, 110913), (189, 110937), (190, 110940), (196, 110961), (198, 110964), (201, 110973),

Gene: Limpid\_164 Start: 91721, Stop: 92494, Start Num: 59

Candidate Starts for Limpid\_164:

(Start: 59 @91721 has 50 MA's), (Start: 63 @91730 has 2 MA's), (74, 91796), (92, 91910), (144, 92237), (160, 92258), (163, 92285), (174, 92348), (177, 92363), (205, 92477),

Gene: Loadrie\_46 Start: 36667, Stop: 37698, Start Num: 23

Candidate Starts for Loadrie\_46:

(Start: 23 @36667 has 24 MA's), (Start: 25 @36676 has 2 MA's), (33, 36760), (42, 36835), (Start: 46 @36865 has 17 MA's), (Start: 56 @36895 has 5 MA's), (Start: 63 @36916 has 2 MA's), (107, 37177), (108, 37201), (115, 37243), (119, 37267), (127, 37318), (134, 37345), (140, 37372), (147, 37414), (151, 37450), (153, 37462), (159, 37477), (176, 37579), (187, 37642),

Gene: Lolly9\_44 Start: 36834, Stop: 37643, Start Num: 46

Candidate Starts for Lolly9\_44:

(42, 36804), (Start: 46 @36834 has 17 MA's), (Start: 63 @36870 has 2 MA's), (66, 36897), (84, 37002), (115, 37200), (123, 37251), (136, 37317), (140, 37329), (142, 37353), (149, 37392), (151, 37407), (165, 37473), (169, 37494), (181, 37569), (187, 37599), (197, 37632),

Gene: LukeCage\_235 Start: 111426, Stop: 112196, Start Num: 59

Candidate Starts for LukeCage\_235:

(Start: 59 @111426 has 50 MA's), (Start: 63 @111438 has 2 MA's), (74, 111504), (78, 111522), (109, 111738), (118, 111789), (154, 111945), (163, 111984), (170, 112017), (174, 112047), (185, 112104), (186, 112113),

Gene: Lululemon\_219 Start: 110542, Stop: 111309, Start Num: 60

Candidate Starts for Lululemon\_219:

(Start: 60 @110542 has 33 MA's), (78, 110635), (95, 110740), (98, 110779), (130, 110971), (161, 111082), (163, 111097), (168, 111118), (174, 111160), (177, 111178), (181, 111202), (185, 111217), (198, 111268),

Gene: Lumos\_45 Start: 37019, Stop: 37828, Start Num: 46

Candidate Starts for Lumos\_45:

(42, 36989), (Start: 46 @37019 has 17 MA's), (Start: 63 @37055 has 2 MA's), (66, 37082), (84, 37187), (115, 37385), (134, 37487), (136, 37502), (151, 37592), (153, 37604), (159, 37619), (165, 37658), (169, 37679), (176, 37721), (181, 37754), (187, 37784), (197, 37817),

Gene: MAckerman\_45 Start: 35550, Stop: 36398, Start Num: 46

Candidate Starts for MAckerman\_45:

(3, 34998), (6, 35136), (8, 35157), (9, 35166), (11, 35196), (12, 35199), (13, 35217), (14, 35220), (15, 35229), (19, 35277), (Start: 21 @35310 has 17 MA's), (26, 35358), (Start: 29 @35385 has 1 MA's), (32, 35436), (42, 35517), (Start: 46 @35550 has 17 MA's), (53, 35580), (Start: 63 @35607 has 2 MA's), (64, 35610), (79, 35697), (106, 35865), (115, 35934), (140, 36063), (146, 36102), (153, 36156), (161, 36186), (162, 36198), (176, 36273), (181, 36306), (187, 36336), (203, 36381),

Gene: MeganTheeKilla\_172 Start: 91203, Stop: 91982, Start Num: 59

Candidate Starts for MeganTheeKilla\_172:

(42, 91131), (43, 91134), (Start: 59 @91203 has 50 MA's), (Start: 63 @91215 has 2 MA's), (70, 91260), (74, 91281), (75, 91287), (109, 91515), (163, 91770), (174, 91833), (181, 91878),

Gene: Mildred21\_229 Start: 109942, Stop: 110712, Start Num: 60

Candidate Starts for Mildred21\_229:

(Start: 60 @109942 has 33 MA's), (70, 109996), (78, 110035), (90, 110125), (112, 110266), (119, 110308), (130, 110377), (140, 110422), (162, 110500), (163, 110503), (174, 110566), (177, 110584), (181, 110608), (185, 110623), (189, 110647), (190, 110650), (201, 110683),

Gene: Miley16\_47 Start: 36604, Stop: 37638, Start Num: 23

Candidate Starts for Miley16\_47:

(Start: 23 @36604 has 24 MA's), (Start: 25 @36613 has 2 MA's), (33, 36697), (42, 36772), (Start: 46 @36802 has 17 MA's), (Start: 56 @36832 has 5 MA's), (Start: 63 @36853 has 2 MA's), (107, 37114), (108, 37138), (114, 37174), (115, 37180), (119, 37204), (127, 37255), (134, 37282), (140, 37309), (144, 37339), (147, 37351), (151, 37387), (159, 37414), (187, 37579),

Gene: MindFlayer\_225 Start: 108775, Stop: 109545, Start Num: 59

Candidate Starts for MindFlayer\_225:

(Start: 59 @108775 has 50 MA's), (Start: 63 @108787 has 2 MA's), (74, 108853), (78, 108871), (92, 108967), (106, 109048), (130, 109207), (154, 109294), (163, 109333), (167, 109351), (170, 109366), (174, 109396), (185, 109453), (186, 109462), (195, 109498),

Gene: Minerva\_175 Start: 90750, Stop: 91550, Start Num: 55

Candidate Starts for Minerva\_175:

(Start: 55 @90750 has 36 MA's), (Start: 63 @90771 has 2 MA's), (79, 90861), (95, 90960), (102, 91008), (115, 91113), (117, 91119), (131, 91203), (142, 91266), (160, 91332), (165, 91368), (181, 91464), (192, 91509), (202, 91539),

Gene: MiniLon\_46 Start: 36835, Stop: 37644, Start Num: 46

Candidate Starts for MiniLon\_46:

(42, 36805), (Start: 46 @36835 has 17 MA's), (Start: 63 @36871 has 2 MA's), (66, 36898), (84, 37003), (115, 37201), (123, 37252), (136, 37318), (140, 37330), (142, 37354), (149, 37393), (151, 37408), (165, 37474), (169, 37495), (181, 37570), (187, 37600), (197, 37633),

Gene: MiniMac\_46 Start: 36833, Stop: 37642, Start Num: 46

Candidate Starts for MiniMac\_46:

(42, 36803), (Start: 46 @36833 has 17 MA's), (Start: 63 @36869 has 2 MA's), (66, 36896), (84, 37001), (115, 37199), (123, 37250), (136, 37316), (140, 37328), (142, 37352), (149, 37391), (151, 37406), (165, 37472), (169, 37493), (181, 37568), (187, 37598), (197, 37631),

Gene: MkaliMitinis3\_47 Start: 36646, Stop: 37668, Start Num: 25

Candidate Starts for MkaliMitinis3\_47:

(Start: 23 @36637 has 24 MA's), (Start: 25 @36646 has 2 MA's), (33, 36730), (42, 36805), (Start: 46 @36835 has 17 MA's), (Start: 56 @36865 has 5 MA's), (Start: 63 @36886 has 2 MA's), (107, 37147), (108, 37171), (114, 37207), (115, 37213), (119, 37237), (127, 37288), (134, 37315), (140, 37342), (147, 37384), (151, 37420), (159, 37447), (187, 37612),

Gene: Moab\_170 Start: 93701, Stop: 94480, Start Num: 59

Candidate Starts for Moab\_170:

(Start: 59 @93701 has 50 MA's), (Start: 63 @93713 has 2 MA's), (70, 93758), (74, 93779), (80, 93818), (154, 94229), (163, 94268), (174, 94331), (189, 94415),

Gene: Moostard\_44 Start: 37025, Stop: 37834, Start Num: 46

Candidate Starts for Moostard\_44:

(42, 36995), (Start: 46 @37025 has 17 MA's), (Start: 63 @37061 has 2 MA's), (66, 37088), (84, 37193), (115, 37391), (134, 37493), (136, 37508), (151, 37598), (153, 37610), (159, 37625), (169, 37685), (176, 37727), (181, 37760), (187, 37790), (197, 37823),

Gene: MsGreen\_44 Start: 37022, Stop: 37831, Start Num: 46

Candidate Starts for MsGreen\_44:

(42, 36992), (Start: 46 @37022 has 17 MA's), (Start: 63 @37058 has 2 MA's), (66, 37085), (84, 37190), (115, 37388), (134, 37490), (136, 37505), (151, 37595), (153, 37607), (159, 37622), (165, 37661), (169, 37682), (176, 37724), (181, 37757), (187, 37787), (197, 37820),

Gene: Mugiwara\_244 Start: 111961, Stop: 112731, Start Num: 59

Candidate Starts for Mugiwara\_244:

(Start: 59 @111961 has 50 MA's), (Start: 63 @111973 has 2 MA's), (67, 112003), (74, 112039), (78, 112057), (98, 112201), (106, 112234), (130, 112393), (154, 112480), (163, 112519), (174, 112582), (185, 112639), (186, 112648), (208, 112720),

Gene: MulchMansion\_223 Start: 111872, Stop: 112636, Start Num: 60

Candidate Starts for MulchMansion\_223:

(Start: 60 @111872 has 33 MA's), (70, 111926), (78, 111965), (90, 112055), (93, 112064), (112, 112196), (140, 112346), (161, 112412), (162, 112424), (163, 112427), (174, 112490), (177, 112508), (183, 112541), (185, 112547), (189, 112571), (190, 112574), (198, 112598), (201, 112607),

Gene: Muntaha\_140 Start: 80856, Stop: 81611, Start Num: 59

Candidate Starts for Muntaha\_140:

(Start: 59 @80856 has 50 MA's), (62, 80862), (75, 80937), (78, 80949), (131, 81288), (144, 81360), (163, 81408), (174, 81471), (177, 81486), (180, 81507), (181, 81510),

Gene: Myrna\_255 Start: 155126, Stop: 155908, Start Num: 52

Candidate Starts for Myrna\_255:

(31, 154967), (38, 155027), (39, 155036), (Start: 52 @155126 has 2 MA's), (Start: 56 @155135 has 5 MA's), (62, 155153), (77, 155237), (86, 155315), (88, 155327), (115, 155489), (121, 155525), (136, 155609), (138, 155615), (142, 155645), (158, 155711), (163, 155744), (173, 155801),

Gene: Navo\_214 Start: 109890, Stop: 110645, Start Num: 60

Candidate Starts for Navo\_214:

(Start: 60 @109890 has 33 MA's), (62, 109896), (Start: 63 @109899 has 2 MA's), (70, 109944), (78, 109983), (111, 110211), (144, 110394), (162, 110439), (163, 110442), (174, 110505), (177, 110520), (181, 110544), (185, 110559), (206, 110637),

Gene: Netyap\_47 Start: 36604, Stop: 37638, Start Num: 23

Candidate Starts for Netyap\_47:

(Start: 23 @36604 has 24 MA's), (Start: 25 @36613 has 2 MA's), (33, 36697), (42, 36772), (Start: 46 @36802 has 17 MA's), (Start: 56 @36832 has 5 MA's), (Start: 63 @36853 has 2 MA's), (107, 37114), (108, 37138), (114, 37174), (115, 37180), (119, 37204), (127, 37255), (134, 37282), (140, 37309), (144, 37339), (147, 37351), (151, 37387), (159, 37414), (187, 37579),

Gene: NiceHouse\_184 Start: 103692, Stop: 104471, Start Num: 54

Candidate Starts for NiceHouse\_184:

(Start: 54 @103692 has 1 MA's), (Start: 63 @103716 has 2 MA's), (90, 103878), (104, 103962), (108, 103983), (117, 104031), (132, 104118), (139, 104148), (163, 104256), (166, 104268), (171, 104292), (183, 104367), (187, 104388), (192, 104403),

Gene: Nicholas\_44 Start: 37022, Stop: 37831, Start Num: 46

Candidate Starts for Nicholas\_44:

(42, 36992), (Start: 46 @37022 has 17 MA's), (Start: 63 @37058 has 2 MA's), (66, 37085), (84, 37190), (115, 37388), (134, 37490), (136, 37505), (151, 37595), (153, 37607), (159, 37622), (169, 37682), (176, 37724), (181, 37757), (187, 37787), (197, 37820),

Gene: Nicholasp3\_47 Start: 36605, Stop: 37639, Start Num: 23

Candidate Starts for Nicholasp3\_47:

(Start: 23 @36605 has 24 MA's), (Start: 25 @36614 has 2 MA's), (33, 36698), (42, 36773), (Start: 46 @36803 has 17 MA's), (Start: 56 @36833 has 5 MA's), (Start: 63 @36854 has 2 MA's), (107, 37115), (108, 37139), (114, 37175), (115, 37181), (119, 37205), (127, 37256), (134, 37283), (140, 37310), (144, 37340), (147, 37352), (151, 37388), (159, 37415), (187, 37580),

Gene: NihilNomen\_177 Start: 90458, Stop: 91258, Start Num: 55

Candidate Starts for NihilNomen\_177:

(Start: 55 @90458 has 36 MA's), (Start: 63 @90479 has 2 MA's), (79, 90569), (95, 90668), (102, 90716), (115, 90821), (117, 90827), (131, 90911), (142, 90974), (160, 91040), (165, 91076), (181, 91172), (192, 91217), (202, 91247),

Gene: NootNoot\_217 Start: 110408, Stop: 111175, Start Num: 60

Candidate Starts for NootNoot\_217:

(Start: 60 @110408 has 33 MA's), (78, 110501), (95, 110606), (98, 110645), (130, 110837), (133, 110849), (161, 110948), (162, 110960), (163, 110963), (168, 110984), (174, 111026), (177, 111044), (181, 111068), (185, 111083), (198, 111134),

Gene: Odette\_179 Start: 93139, Stop: 93939, Start Num: 55

Candidate Starts for Odette\_179:

(Start: 55 @93139 has 36 MA's), (Start: 63 @93160 has 2 MA's), (79, 93250), (95, 93349), (102, 93397), (115, 93502), (117, 93508), (131, 93592), (136, 93619), (142, 93655), (160, 93721), (165, 93757), (181, 93853), (192, 93898), (202, 93928),

Gene: OhShagHennessy\_45 Start: 35263, Stop: 36351, Start Num: 21

Candidate Starts for OhShagHennessy\_45:

(11, 35149), (12, 35152), (13, 35170), (14, 35173), (15, 35182), (19, 35230), (Start: 21 @35263 has 17 MA's), (26, 35311), (Start: 29 @35338 has 1 MA's), (32, 35389), (42, 35470), (Start: 46 @35503 has 17 MA's), (53, 35533), (Start: 63 @35560 has 2 MA's), (64, 35563), (79, 35650), (106, 35818), (115, 35887), (140, 36016), (146, 36055), (153, 36109), (161, 36139), (162, 36151), (176, 36226), (181, 36259), (187, 36289), (203, 36334),

Gene: Optimus\_174 Start: 91665, Stop: 92465, Start Num: 55

Candidate Starts for Optimus\_174:

(Start: 55 @91665 has 36 MA's), (Start: 63 @91686 has 2 MA's), (79, 91776), (95, 91875), (102, 91923), (115, 92028), (117, 92034), (131, 92118), (142, 92181), (160, 92247), (165, 92283), (181, 92379), (192, 92424), (202, 92454),

Gene: PacManQ\_220 Start: 110542, Stop: 111309, Start Num: 60

Candidate Starts for PacManQ\_220:

(Start: 60 @110542 has 33 MA's), (78, 110635), (95, 110740), (98, 110779), (130, 110971), (161, 111082), (163, 111097), (168, 111118), (174, 111160), (177, 111178), (181, 111202), (185, 111217), (198, 111268),

Gene: Paradiddles\_212 Start: 112783, Stop: 113550, Start Num: 60

Candidate Starts for Paradiddles\_212:

(Start: 60 @112783 has 33 MA's), (78, 112876), (95, 112981), (98, 113020), (109, 113092), (130, 113212), (161, 113323), (162, 113335), (163, 113338), (168, 113359), (174, 113401), (177, 113419), (181, 113443), (185, 113458), (198, 113509),

Gene: Patelgo\_171 Start: 94159, Stop: 94938, Start Num: 59

Candidate Starts for Patelgo\_171:

(Start: 59 @94159 has 50 MA's), (Start: 63 @94171 has 2 MA's), (68, 94210), (70, 94216), (74, 94237), (80, 94276), (163, 94726), (174, 94789), (189, 94873),

Gene: PauloDiaboli\_231 Start: 121910, Stop: 122767, Start Num: 59

Candidate Starts for PauloDiaboli\_231:

(Start: 59 @121910 has 50 MA's), (70, 121964), (94, 122102), (95, 122105), (96, 122132), (113, 122231), (115, 122240), (116, 122243), (119, 122264), (124, 122297), (129, 122324), (137, 122363), (142, 122396), (143, 122399), (163, 122513), (174, 122576),

Gene: Peebs\_217 Start: 111626, Stop: 112393, Start Num: 60

Candidate Starts for Peebs\_217:

(Start: 60 @111626 has 33 MA's), (78, 111719), (95, 111824), (98, 111863), (109, 111935), (112, 111950), (130, 112055), (161, 112166), (163, 112181), (168, 112202), (174, 112244), (177, 112262), (181, 112286), (185, 112301), (198, 112352),

Gene: Pepperwood\_220 Start: 111858, Stop: 112625, Start Num: 60

Candidate Starts for Pepperwood\_220:

(Start: 60 @111858 has 33 MA's), (78, 111951), (95, 112056), (98, 112095), (109, 112167), (112, 112182), (130, 112287), (161, 112398), (163, 112413), (168, 112434), (174, 112476), (177, 112494), (181, 112518), (185, 112533), (198, 112584),

Gene: Persimmon\_223 Start: 110908, Stop: 111663, Start Num: 60

Candidate Starts for Persimmon\_223:

(Start: 60 @110908 has 33 MA's), (62, 110914), (Start: 63 @110917 has 2 MA's), (70, 110962), (78, 111001), (111, 111229), (144, 111412), (162, 111457), (163, 111460), (174, 111523), (177, 111538), (181, 111562), (185, 111577), (206, 111655),

Gene: Phabba\_264 Start: 153985, Stop: 154755, Start Num: 52

Candidate Starts for Phabba\_264:

(Start: 52 @153985 has 2 MA's), (Start: 56 @153994 has 5 MA's), (77, 154096), (79, 154105), (86, 154165), (90, 154192), (115, 154336), (126, 154408), (131, 154426), (136, 154456), (138, 154462), (158, 154558), (162, 154588), (163, 154591), (185, 154696), (187, 154711),

Gene: Phoebus\_176 Start: 94145, Stop: 94945, Start Num: 55

Candidate Starts for Phoebus\_176:

(Start: 55 @94145 has 36 MA's), (Start: 63 @94166 has 2 MA's), (79, 94256), (95, 94355), (102, 94403), (115, 94508), (117, 94514), (131, 94598), (142, 94661), (160, 94727), (165, 94763), (181, 94859), (192, 94904), (202, 94934),

Gene: Phredrick\_174 Start: 91105, Stop: 91884, Start Num: 59

Candidate Starts for Phredrick\_174:

(42, 91033), (43, 91036), (Start: 59 @91105 has 50 MA's), (Start: 63 @91117 has 2 MA's), (70, 91162), (74, 91183), (163, 91672), (174, 91735), (181, 91780),

Gene: PinkiePie\_220 Start: 111563, Stop: 112330, Start Num: 60

Candidate Starts for PinkiePie\_220:

(Start: 60 @111563 has 33 MA's), (78, 111656), (95, 111761), (98, 111800), (130, 111992), (133, 112004), (161, 112103), (162, 112115), (163, 112118), (168, 112139), (174, 112181), (177, 112199), (181, 112223), (185, 112238), (198, 112289),

Gene: Pound\_169 Start: 90194, Stop: 90994, Start Num: 55

Candidate Starts for Pound\_169:

(Start: 55 @90194 has 36 MA's), (Start: 63 @90215 has 2 MA's), (79, 90305), (95, 90404), (102, 90452), (115, 90557), (117, 90563), (131, 90647), (142, 90710), (160, 90776), (165, 90812), (181, 90908), (192, 90953), (202, 90983),

Gene: Pumpernickel\_215 Start: 123152, Stop: 124003, Start Num: 57

Candidate Starts for Pumpernickel\_215:

(Start: 57 @123152 has 1 MA's), (74, 123236), (90, 123341), (105, 123419), (119, 123512), (121, 123530), (128, 123572), (143, 123653), (144, 123656), (162, 123764), (168, 123788), (174, 123830), (200, 123950), (204, 123968),

Gene: PumpkinSpice\_235 Start: 109996, Stop: 110766, Start Num: 59

Candidate Starts for PumpkinSpice\_235:

(Start: 59 @109996 has 50 MA's), (Start: 63 @110008 has 2 MA's), (74, 110074), (78, 110092), (92, 110188), (106, 110269), (130, 110428), (154, 110515), (163, 110554), (167, 110572), (170, 110587), (174, 110617), (185, 110674), (186, 110683), (195, 110719),

Gene: Quaran19\_232 Start: 109437, Stop: 110207, Start Num: 59

Candidate Starts for Quaran19\_232:

(Start: 59 @109437 has 50 MA's), (Start: 63 @109449 has 2 MA's), (74, 109515), (78, 109533), (92, 109629), (106, 109710), (130, 109869), (154, 109956), (163, 109995), (167, 110013), (170, 110028), (174, 110058), (185, 110115), (186, 110124), (195, 110160),

Gene: Redno2\_169 Start: 88258, Stop: 89058, Start Num: 55

Candidate Starts for Redno2\_169:

(Start: 55 @88258 has 36 MA's), (Start: 63 @88279 has 2 MA's), (79, 88369), (95, 88468), (102, 88516), (115, 88621), (117, 88627), (131, 88711), (142, 88774), (160, 88840), (165, 88876), (181, 88972), (192, 89017), (202, 89047),

Gene: Rose5\_45 Start: 35305, Stop: 36390, Start Num: 21

Candidate Starts for Rose5\_45:

(11, 35191), (13, 35212), (14, 35215), (15, 35224), (19, 35272), (Start: 21 @35305 has 17 MA's), (26, 35353), (Start: 29 @35380 has 1 MA's), (32, 35431), (42, 35512), (Start: 46 @35545 has 17 MA's), (53, 35575), (Start: 63 @35602 has 2 MA's), (64, 35605), (79, 35692), (82, 35722), (88, 35761), (108, 35887), (115, 35929), (117, 35935), (140, 36058), (159, 36163), (160, 36166), (176, 36265), (181, 36298), (187, 36328),

Gene: Rumpelstiltskin\_47 Start: 36871, Stop: 37905, Start Num: 23

Candidate Starts for Rumpelstiltskin\_47:

(Start: 23 @36871 has 24 MA's), (Start: 25 @36880 has 2 MA's), (33, 36964), (42, 37039), (Start: 46 @37069 has 17 MA's), (Start: 56 @37099 has 5 MA's), (Start: 63 @37120 has 2 MA's), (107, 37381), (108, 37405), (114, 37441), (115, 37447), (119, 37471), (127, 37522), (134, 37549), (140, 37576), (144, 37606), (147, 37618), (151, 37654), (159, 37681), (187, 37846),

Gene: SaltySpittoon\_232 Start: 108979, Stop: 109749, Start Num: 59

Candidate Starts for SaltySpittoon\_232:

(Start: 59 @108979 has 50 MA's), (Start: 63 @108991 has 2 MA's), (74, 109057), (78, 109075), (92, 109171), (106, 109252), (130, 109411), (154, 109498), (163, 109537), (167, 109555), (170, 109570), (174, 109600), (185, 109657), (186, 109666), (195, 109702),

Gene: Samisti12\_224 Start: 113452, Stop: 114219, Start Num: 60

Candidate Starts for Samisti12\_224:

(Start: 60 @113452 has 33 MA's), (78, 113545), (95, 113650), (98, 113689), (109, 113761), (112, 113776), (130, 113881), (161, 113992), (163, 114007), (168, 114028), (174, 114070), (177, 114088), (181, 114112), (185, 114127), (198, 114178),

Gene: Samty\_44 Start: 37024, Stop: 37833, Start Num: 46

Candidate Starts for Samty\_44:

(42, 36994), (Start: 46 @37024 has 17 MA's), (Start: 63 @37060 has 2 MA's), (66, 37087), (84, 37192), (115, 37390), (134, 37492), (136, 37507), (151, 37597), (153, 37609), (159, 37624), (169, 37684), (176, 37726), (181, 37759), (187, 37789), (197, 37822),

Gene: Schatzie\_170 Start: 91193, Stop: 91993, Start Num: 55

Candidate Starts for Schatzie\_170:

(Start: 55 @91193 has 36 MA's), (Start: 63 @91214 has 2 MA's), (79, 91304), (95, 91403), (102, 91451), (115, 91556), (117, 91562), (131, 91646), (142, 91709), (160, 91775), (165, 91811), (181,

91907), (192, 91952), (202, 91982),

Gene: ScoobyDoobyDoo\_250 Start: 150524, Stop: 151297, Start Num: 56

Candidate Starts for ScoobyDoobyDoo\_250:

(22, 150263), (31, 150356), (38, 150416), (39, 150425), (Start: 52 @150515 has 2 MA's), (Start: 56 @150524 has 5 MA's), (77, 150626), (81, 150656), (86, 150704), (97, 150773), (115, 150878), (123, 150929), (131, 150968), (136, 150998), (142, 151034), (158, 151100), (163, 151133), (185, 151238), (187, 151253),

Gene: SeresaTree\_164 Start: 90964, Stop: 91740, Start Num: 58

Candidate Starts for SeresaTree\_164:

(Start: 58 @90964 has 1 MA's), (Start: 63 @90976 has 2 MA's), (74, 91042), (88, 91135), (97, 91195), (117, 91327), (154, 91492), (160, 91504), (163, 91531), (174, 91594), (177, 91609), (181, 91633), (189, 91672), (191, 91678), (198, 91699),

Gene: Sham\_162 Start: 92572, Stop: 93336, Start Num: 63

Candidate Starts for Sham\_162:

(Start: 51 @92545 has 1 MA's), (Start: 56 @92554 has 5 MA's), (Start: 63 @92572 has 2 MA's), (64, 92575), (74, 92638), (88, 92731), (90, 92746), (122, 92962), (144, 93079), (160, 93100), (163, 93127), (174, 93190), (177, 93205), (189, 93268), (198, 93295),

Gene: Silverleaf\_46 Start: 35307, Stop: 36383, Start Num: 21

Candidate Starts for Silverleaf\_46:

(11, 35193), (13, 35214), (14, 35217), (15, 35226), (19, 35274), (Start: 21 @35307 has 17 MA's), (26, 35355), (Start: 29 @35382 has 1 MA's), (32, 35433), (42, 35514), (44, 35520), (Start: 46 @35547 has 17 MA's), (Start: 63 @35586 has 2 MA's), (66, 35613), (79, 35676), (108, 35871), (115, 35913), (140, 36042), (161, 36165), (162, 36177), (185, 36300), (197, 36348), (203, 36366),

Gene: Snenia\_44 Start: 37023, Stop: 37832, Start Num: 46

Candidate Starts for Snenia\_44:

(42, 36993), (Start: 46 @37023 has 17 MA's), (Start: 63 @37059 has 2 MA's), (66, 37086), (84, 37191), (115, 37389), (134, 37491), (136, 37506), (151, 37596), (153, 37608), (159, 37623), (165, 37662), (169, 37683), (176, 37725), (181, 37758), (187, 37788), (197, 37821),

Gene: Sollertia\_230 Start: 109576, Stop: 110346, Start Num: 59

Candidate Starts for Sollertia\_230:

(Start: 59 @109576 has 50 MA's), (Start: 63 @109588 has 2 MA's), (74, 109654), (78, 109672), (140, 110053), (154, 110095), (163, 110134), (167, 110152), (170, 110167), (174, 110197), (185, 110254), (186, 110263), (195, 110299),

Gene: SparkleGoddess\_169 Start: 92644, Stop: 93423, Start Num: 59

Candidate Starts for SparkleGoddess\_169:

(Start: 46 @92602 has 17 MA's), (Start: 51 @92626 has 1 MA's), (Start: 56 @92635 has 5 MA's), (Start: 59 @92644 has 50 MA's), (Start: 63 @92656 has 2 MA's), (70, 92701), (80, 92761), (122, 93046), (163, 93211), (174, 93274), (181, 93319), (189, 93358), (198, 93385),

Gene: Spelly\_237 Start: 108908, Stop: 109678, Start Num: 59

Candidate Starts for Spelly\_237:

(Start: 59 @108908 has 50 MA's), (Start: 63 @108920 has 2 MA's), (74, 108986), (78, 109004), (92, 109100), (106, 109181), (130, 109340), (154, 109427), (163, 109466), (167, 109484), (170, 109499), (174, 109529), (185, 109586), (186, 109595), (195, 109631),

Gene: Spilled\_239 Start: 110112, Stop: 110882, Start Num: 59



Candidate Starts for Spilled\_239:

(Start: 59 @110112 has 50 MA's), (Start: 63 @110124 has 2 MA's), (74, 110190), (78, 110208), (92, 110304), (106, 110385), (130, 110544), (154, 110631), (163, 110670), (167, 110688), (170, 110703), (174, 110733), (185, 110790), (186, 110799), (195, 110835),

Gene: Squillium\_223 Start: 111565, Stop: 112332, Start Num: 60

Candidate Starts for Squillium\_223:

(Start: 60 @111565 has 33 MA's), (78, 111658), (95, 111763), (98, 111802), (130, 111994), (133, 112006), (161, 112105), (162, 112117), (163, 112120), (168, 112141), (174, 112183), (177, 112201), (181, 112225), (185, 112240), (198, 112291),

Gene: Squint\_143 Start: 76651, Stop: 77418, Start Num: 55

Candidate Starts for Squint\_143:

(Start: 55 @76651 has 36 MA's), (67, 76705), (71, 76723), (92, 76855), (99, 76906), (115, 77002), (126, 77074), (131, 77092), (136, 77119), (140, 77131), (142, 77155), (157, 77212), (160, 77221),

Gene: Stanimal\_229 Start: 109948, Stop: 110718, Start Num: 59

Candidate Starts for Stanimal\_229:

(Start: 59 @109948 has 50 MA's), (Start: 63 @109960 has 2 MA's), (74, 110026), (78, 110044), (140, 110425), (154, 110467), (163, 110506), (167, 110524), (170, 110539), (174, 110569), (185, 110626), (186, 110635), (195, 110671),

Gene: StarPlatinum\_239 Start: 111909, Stop: 112679, Start Num: 59

Candidate Starts for StarPlatinum\_239:

(Start: 59 @111909 has 50 MA's), (Start: 63 @111921 has 2 MA's), (74, 111987), (78, 112005), (106, 112182), (109, 112221), (118, 112272), (154, 112428), (163, 112467), (165, 112476), (170, 112500), (174, 112530), (185, 112587), (186, 112596),

Gene: Starbow\_229 Start: 108952, Stop: 109722, Start Num: 59

Candidate Starts for Starbow\_229:

(Start: 59 @108952 has 50 MA's), (Start: 63 @108964 has 2 MA's), (74, 109030), (78, 109048), (92, 109144), (106, 109225), (130, 109384), (154, 109471), (163, 109510), (167, 109528), (170, 109543), (174, 109573), (185, 109630), (186, 109639), (195, 109675),

Gene: Stigma\_167 Start: 92881, Stop: 93660, Start Num: 59

Candidate Starts for Stigma\_167:

(Start: 46 @92839 has 17 MA's), (Start: 51 @92863 has 1 MA's), (Start: 56 @92872 has 5 MA's), (Start: 59 @92881 has 50 MA's), (Start: 63 @92893 has 2 MA's), (70, 92938), (80, 92998), (122, 93283), (163, 93448), (174, 93511), (181, 93556), (189, 93595), (198, 93622),

Gene: Superphikiman\_148 Start: 77124, Stop: 77891, Start Num: 55

Candidate Starts for Superphikiman\_148:

(Start: 55 @77124 has 36 MA's), (67, 77178), (71, 77196), (92, 77328), (99, 77379), (115, 77475), (126, 77547), (131, 77565), (136, 77592), (140, 77604), (142, 77628), (157, 77685), (160, 77694),

Gene: Sushi23\_220 Start: 112492, Stop: 113259, Start Num: 60

Candidate Starts for Sushi23\_220:

(Start: 60 @112492 has 33 MA's), (78, 112585), (95, 112690), (98, 112729), (109, 112801), (112, 112816), (130, 112921), (161, 113032), (163, 113047), (168, 113068), (174, 113110), (177, 113128), (181, 113152), (185, 113167), (198, 113218),

Gene: Targaryen\_219 Start: 112665, Stop: 113432, Start Num: 60

Candidate Starts for Targaryen\_219:

(Start: 60 @112665 has 33 MA's), (78, 112758), (95, 112863), (98, 112902), (109, 112974), (130, 113094), (161, 113205), (163, 113220), (174, 113283), (177, 113301), (181, 113325), (185, 113340), (198, 113391),

Gene: Deutsch\_219 Start: 112281, Stop: 113048, Start Num: 60

Candidate Starts for Deutsch\_219:

(Start: 60 @112281 has 33 MA's), (78, 112374), (95, 112479), (98, 112518), (109, 112590), (112, 112605), (130, 112710), (161, 112821), (163, 112836), (168, 112857), (174, 112899), (177, 112917), (181, 112941), (185, 112956), (198, 113007),

Gene: Thibault\_159 Start: 88073, Stop: 88873, Start Num: 55

Candidate Starts for Thibault\_159:

(Start: 55 @88073 has 36 MA's), (Start: 63 @88094 has 2 MA's), (79, 88184), (95, 88283), (102, 88331), (115, 88436), (117, 88442), (131, 88526), (142, 88589), (165, 88691), (181, 88787), (192, 88832), (202, 88862),

Gene: ThreeRngTarjay\_173 Start: 92489, Stop: 93289, Start Num: 55

Candidate Starts for ThreeRngTarjay\_173:

(Start: 55 @92489 has 36 MA's), (Start: 63 @92510 has 2 MA's), (79, 92600), (95, 92699), (102, 92747), (115, 92852), (117, 92858), (131, 92942), (142, 93005), (160, 93071), (165, 93107), (181, 93203), (192, 93248), (202, 93278),

Gene: TomSawyer\_236 Start: 111423, Stop: 112193, Start Num: 59

Candidate Starts for TomSawyer\_236:

(Start: 59 @111423 has 50 MA's), (Start: 63 @111435 has 2 MA's), (74, 111501), (78, 111519), (92, 111615), (106, 111696), (130, 111855), (154, 111942), (163, 111981), (167, 111999), (170, 112014), (174, 112044), (185, 112101), (186, 112110), (195, 112146),

Gene: Tomas\_232 Start: 113367, Stop: 114137, Start Num: 59

Candidate Starts for Tomas\_232:

(Start: 59 @113367 has 50 MA's), (Start: 63 @113379 has 2 MA's), (74, 113445), (78, 113463), (106, 113640), (109, 113679), (125, 113775), (163, 113925), (174, 113988), (177, 114006), (185, 114045), (190, 114072),

Gene: Tourach\_46 Start: 36628, Stop: 37659, Start Num: 23

Candidate Starts for Tourach\_46:

(Start: 23 @36628 has 24 MA's), (Start: 25 @36637 has 2 MA's), (Start: 28 @36658 has 1 MA's), (33, 36721), (42, 36796), (Start: 46 @36826 has 17 MA's), (Start: 56 @36856 has 5 MA's), (Start: 63 @36877 has 2 MA's), (79, 36967), (107, 37138), (108, 37162), (115, 37204), (127, 37279), (140, 37333), (157, 37432), (159, 37438), (166, 37480), (176, 37540), (187, 37603),

Gene: Tribute\_216 Start: 112446, Stop: 113213, Start Num: 60

Candidate Starts for Tribute\_216:

(Start: 60 @112446 has 33 MA's), (78, 112539), (95, 112644), (98, 112683), (109, 112755), (112, 112770), (130, 112875), (161, 112986), (163, 113001), (168, 113022), (174, 113064), (177, 113082), (181, 113106), (185, 113121), (198, 113172),

Gene: Trina\_195 Start: 105510, Stop: 106253, Start Num: 51

Candidate Starts for Trina\_195:

(Start: 51 @105510 has 1 MA's), (68, 105579), (70, 105585), (86, 105675), (90, 105702), (92, 105708), (103, 105780), (104, 105783), (108, 105804), (134, 105948), (139, 105972), (142, 105999), (163, 106083), (164, 106089), (175, 106155),

Gene: TunaTartare\_168 Start: 93806, Stop: 94588, Start Num: 56

Candidate Starts for TunaTartare\_168:

(Start: 51 @93797 has 1 MA's), (Start: 56 @93806 has 5 MA's), (Start: 63 @93824 has 2 MA's), (64, 93827), (74, 93890), (88, 93983), (90, 93998), (97, 94043), (117, 94175), (122, 94214), (154, 94340), (160, 94352), (163, 94379), (174, 94442), (177, 94457), (181, 94481), (198, 94547),

Gene: Tyson\_45 Start: 35307, Stop: 36392, Start Num: 21

Candidate Starts for Tyson\_45:

(11, 35193), (13, 35214), (14, 35217), (15, 35226), (18, 35262), (Start: 21 @35307 has 17 MA's), (26, 35355), (Start: 29 @35382 has 1 MA's), (32, 35433), (42, 35514), (Start: 46 @35547 has 17 MA's), (53, 35577), (Start: 63 @35604 has 2 MA's), (64, 35607), (79, 35694), (82, 35724), (88, 35763), (108, 35889), (115, 35931), (117, 35937), (140, 36060), (159, 36165), (160, 36168), (176, 36267), (181, 36300), (187, 36330),

Gene: UPIE\_46 Start: 35289, Stop: 36377, Start Num: 21

Candidate Starts for UPIE\_46:

(3, 34977), (6, 35115), (8, 35136), (9, 35145), (11, 35175), (12, 35178), (13, 35196), (14, 35199), (15, 35208), (19, 35256), (Start: 21 @35289 has 17 MA's), (26, 35337), (Start: 29 @35364 has 1 MA's), (32, 35415), (42, 35496), (Start: 46 @35529 has 17 MA's), (53, 35559), (Start: 63 @35586 has 2 MA's), (64, 35589), (79, 35676), (106, 35844), (115, 35913), (140, 36042), (146, 36081), (153, 36135), (161, 36165), (162, 36177), (176, 36252), (181, 36285), (187, 36315), (203, 36360),

Gene: Vetric\_47 Start: 36610, Stop: 37644, Start Num: 23

Candidate Starts for Vetric\_47:

(Start: 23 @36610 has 24 MA's), (Start: 25 @36619 has 2 MA's), (33, 36703), (42, 36778), (Start: 46 @36808 has 17 MA's), (Start: 56 @36838 has 5 MA's), (Start: 63 @36859 has 2 MA's), (107, 37120), (108, 37144), (114, 37180), (115, 37186), (119, 37210), (127, 37261), (134, 37288), (140, 37315), (144, 37345), (147, 37357), (151, 37393), (153, 37405), (159, 37420), (187, 37585),

Gene: Wakanda\_139 Start: 80798, Stop: 81553, Start Num: 59

Candidate Starts for Wakanda\_139:

(Start: 59 @80798 has 50 MA's), (62, 80804), (78, 80891), (131, 81230), (144, 81302), (163, 81350), (174, 81413), (177, 81428), (180, 81449), (181, 81452),

Gene: Wamburgexpress\_46 Start: 35304, Stop: 36392, Start Num: 21

Candidate Starts for Wamburgexpress\_46:

(3, 34992), (6, 35130), (8, 35151), (9, 35160), (11, 35190), (12, 35193), (13, 35211), (14, 35214), (15, 35223), (19, 35271), (Start: 21 @35304 has 17 MA's), (26, 35352), (Start: 29 @35379 has 1 MA's), (32, 35430), (42, 35511), (Start: 46 @35544 has 17 MA's), (53, 35574), (Start: 63 @35601 has 2 MA's), (64, 35604), (79, 35691), (106, 35859), (115, 35928), (140, 36057), (146, 36096), (153, 36150), (161, 36180), (162, 36192), (176, 36267), (181, 36300), (187, 36330), (203, 36375),

Gene: Wanda\_173 Start: 88762, Stop: 89562, Start Num: 55

Candidate Starts for Wanda\_173:

(Start: 55 @88762 has 36 MA's), (Start: 63 @88783 has 2 MA's), (79, 88873), (95, 88972), (102, 89020), (115, 89125), (117, 89131), (131, 89215), (142, 89278), (160, 89344), (165, 89380), (181, 89476), (192, 89521), (202, 89551),

Gene: Warpy\_223 Start: 111574, Stop: 112341, Start Num: 60

Candidate Starts for Warpy\_223:

(Start: 60 @111574 has 33 MA's), (78, 111667), (95, 111772), (98, 111811), (109, 111883), (112, 111898), (130, 112003), (161, 112114), (163, 112129), (174, 112192), (177, 112210), (181, 112234), (185, 112249), (198, 112300),

Gene: Watermoore\_219 Start: 112804, Stop: 113571, Start Num: 60

Candidate Starts for Watermoore\_219:

(Start: 60 @112804 has 33 MA's), (78, 112897), (95, 113002), (98, 113041), (109, 113113), (112, 113128), (130, 113233), (161, 113344), (163, 113359), (168, 113380), (174, 113422), (177, 113440), (181, 113464), (185, 113479), (198, 113530),

Gene: WhereRU\_226 Start: 111087, Stop: 111842, Start Num: 60

Candidate Starts for WhereRU\_226:

(Start: 60 @111087 has 33 MA's), (62, 111093), (Start: 63 @111096 has 2 MA's), (70, 111141), (78, 111180), (111, 111408), (135, 111537), (144, 111591), (162, 111636), (163, 111639), (174, 111702), (177, 111717), (181, 111741), (185, 111756), (206, 111834), (207, 111837),

Gene: Whirlwind\_45 Start: 36838, Stop: 37647, Start Num: 46

Candidate Starts for Whirlwind\_45:

(42, 36808), (Start: 46 @36838 has 17 MA's), (Start: 63 @36874 has 2 MA's), (66, 36901), (84, 37006), (115, 37204), (123, 37255), (136, 37321), (140, 37333), (142, 37357), (149, 37396), (151, 37411), (159, 37438), (165, 37477), (169, 37498), (181, 37573), (187, 37603), (197, 37636),

Gene: Wigglewobble\_47 Start: 36668, Stop: 37699, Start Num: 23

Candidate Starts for Wigglewobble\_47:

(Start: 23 @36668 has 24 MA's), (Start: 25 @36677 has 2 MA's), (33, 36761), (42, 36836), (Start: 46 @36866 has 17 MA's), (Start: 56 @36896 has 5 MA's), (Start: 63 @36917 has 2 MA's), (107, 37178), (108, 37202), (114, 37238), (115, 37244), (119, 37268), (127, 37319), (134, 37346), (140, 37373), (147, 37415), (151, 37451), (159, 37478), (187, 37643),

Gene: Wilder\_47 Start: 36610, Stop: 37644, Start Num: 23

Candidate Starts for Wilder\_47:

(Start: 23 @36610 has 24 MA's), (Start: 25 @36619 has 2 MA's), (33, 36703), (42, 36778), (Start: 46 @36808 has 17 MA's), (Start: 56 @36838 has 5 MA's), (Start: 63 @36859 has 2 MA's), (107, 37120), (108, 37144), (114, 37180), (115, 37186), (119, 37210), (127, 37261), (134, 37288), (140, 37315), (144, 37345), (147, 37357), (151, 37393), (159, 37420), (187, 37585),

Gene: Winky\_47 Start: 36604, Stop: 37638, Start Num: 23

Candidate Starts for Winky\_47:

(Start: 23 @36604 has 24 MA's), (Start: 25 @36613 has 2 MA's), (33, 36697), (42, 36772), (Start: 46 @36802 has 17 MA's), (Start: 56 @36832 has 5 MA's), (Start: 63 @36853 has 2 MA's), (107, 37114), (108, 37138), (114, 37174), (115, 37180), (119, 37204), (127, 37255), (134, 37282), (140, 37309), (144, 37339), (147, 37351), (151, 37387), (159, 37414), (187, 37579),

Gene: Wipeout\_222 Start: 110375, Stop: 111145, Start Num: 59

Candidate Starts for Wipeout\_222:

(Start: 59 @110375 has 50 MA's), (Start: 63 @110387 has 2 MA's), (74, 110453), (78, 110471), (92, 110567), (106, 110648), (130, 110807), (154, 110894), (163, 110933), (167, 110951), (170, 110966), (174, 110996), (185, 111053), (186, 111062), (195, 111098),

Gene: Wofford\_232 Start: 112653, Stop: 113423, Start Num: 59

Candidate Starts for Wofford\_232:

(Start: 59 @112653 has 50 MA's), (Start: 63 @112665 has 2 MA's), (74, 112731), (78, 112749), (154, 113172), (163, 113211), (167, 113229), (170, 113244), (174, 113274), (185, 113331), (186, 113340),

Gene: Wyatt2\_46 Start: 35305, Stop: 36390, Start Num: 21

Candidate Starts for Wyatt2\_46:

(11, 35191), (13, 35212), (14, 35215), (15, 35224), (19, 35272), (Start: 21 @35305 has 17 MA's), (26, 35353), (Start: 29 @35380 has 1 MA's), (32, 35431), (42, 35512), (Start: 46 @35545 has 17 MA's), (53, 35575), (Start: 63 @35602 has 2 MA's), (64, 35605), (79, 35692), (82, 35722), (88, 35761), (108, 35887), (115, 35929), (117, 35935), (140, 36058), (159, 36163), (160, 36166), (176, 36265), (181, 36298), (187, 36328),

Gene: Yaboi\_234 Start: 109511, Stop: 110281, Start Num: 59

Candidate Starts for Yaboi\_234:

(Start: 59 @109511 has 50 MA's), (Start: 63 @109523 has 2 MA's), (74, 109589), (78, 109607), (140, 109988), (154, 110030), (163, 110069), (167, 110087), (170, 110102), (174, 110132), (185, 110189), (186, 110198), (195, 110234),

Gene: Yeet\_167 Start: 90046, Stop: 90846, Start Num: 55

Candidate Starts for Yeet\_167:

(Start: 55 @90046 has 36 MA's), (Start: 63 @90067 has 2 MA's), (79, 90157), (95, 90256), (102, 90304), (115, 90409), (117, 90415), (131, 90499), (136, 90526), (142, 90562), (160, 90628), (165, 90664), (181, 90760), (192, 90805), (202, 90835),

Gene: Zakai\_47 Start: 36862, Stop: 37896, Start Num: 23

Candidate Starts for Zakai\_47:

(Start: 23 @36862 has 24 MA's), (Start: 25 @36871 has 2 MA's), (33, 36955), (42, 37030), (Start: 46 @37060 has 17 MA's), (Start: 56 @37090 has 5 MA's), (Start: 63 @37111 has 2 MA's), (107, 37372), (108, 37396), (115, 37438), (119, 37462), (127, 37513), (134, 37540), (140, 37567), (147, 37609), (151, 37645), (153, 37657), (159, 37672), (176, 37774), (187, 37837),

Gene: Zaria\_46 Start: 35320, Stop: 36405, Start Num: 21

Candidate Starts for Zaria\_46:

(11, 35206), (13, 35227), (14, 35230), (15, 35239), (19, 35287), (Start: 21 @35320 has 17 MA's), (26, 35368), (Start: 29 @35395 has 1 MA's), (32, 35446), (42, 35527), (Start: 46 @35560 has 17 MA's), (53, 35590), (Start: 63 @35617 has 2 MA's), (64, 35620), (79, 35707), (82, 35737), (88, 35776), (108, 35902), (115, 35944), (117, 35950), (140, 36073), (159, 36178), (160, 36181), (176, 36280), (181, 36313), (187, 36343),

Gene: Zelink\_168 Start: 90381, Stop: 91181, Start Num: 55

Candidate Starts for Zelink\_168:

(Start: 55 @90381 has 36 MA's), (Start: 63 @90402 has 2 MA's), (79, 90492), (95, 90591), (102, 90639), (115, 90744), (117, 90750), (131, 90834), (142, 90897), (160, 90963), (165, 90999), (181, 91095), (192, 91140), (202, 91170),

Gene: ZhongYanYuan\_45 Start: 36658, Stop: 37494, Start Num: 46

Candidate Starts for ZhongYanYuan\_45:

(Start: 23 @36460 has 24 MA's), (Start: 25 @36469 has 2 MA's), (Start: 28 @36490 has 1 MA's), (33, 36553), (42, 36628), (Start: 46 @36658 has 17 MA's), (Start: 56 @36688 has 5 MA's), (Start: 63 @36709 has 2 MA's), (78, 36793), (107, 36970), (108, 36994), (115, 37036), (119, 37060), (127, 37111), (134, 37138), (140, 37165), (147, 37207), (151, 37243), (159, 37270), (166, 37312), (187, 37435),

Gene: Zooman\_197 Start: 115841, Stop: 116701, Start Num: 56

Candidate Starts for Zooman\_197:

(47, 115808), (Start: 56 @115841 has 5 MA's), (61, 115856), (64, 115862), (70, 115904), (73, 115916), (74, 115925), (83, 115985), (86, 116003), (94, 116042), (95, 116045), (99, 116084), (100, 116087), (113, 116171), (119, 116204), (137, 116303), (140, 116312), (142, 116336), (143, 116339), (156, 116414), (163, 116453), (168, 116474), (174, 116516), (181, 116567), (188, 116603), (207,

116663),