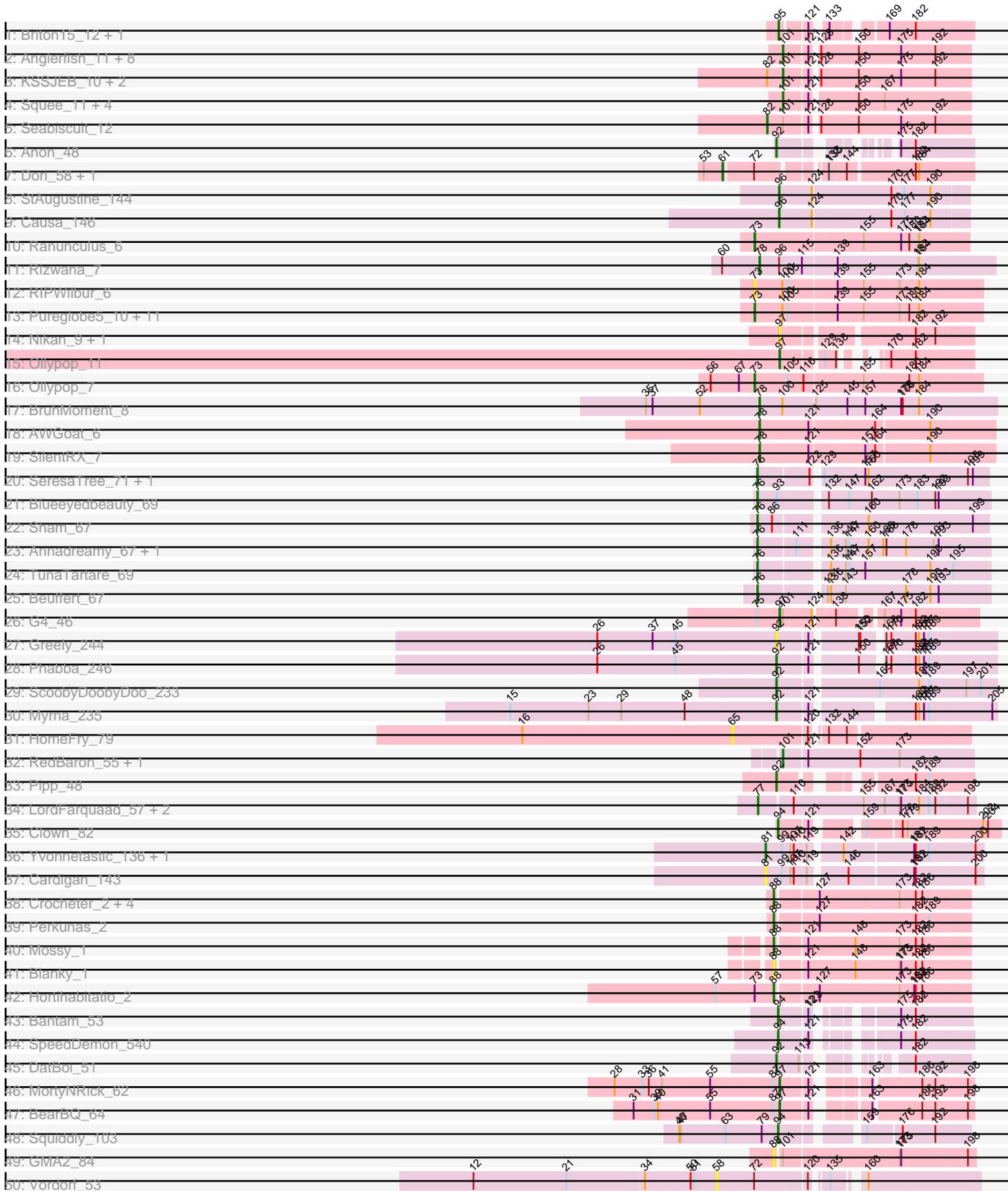
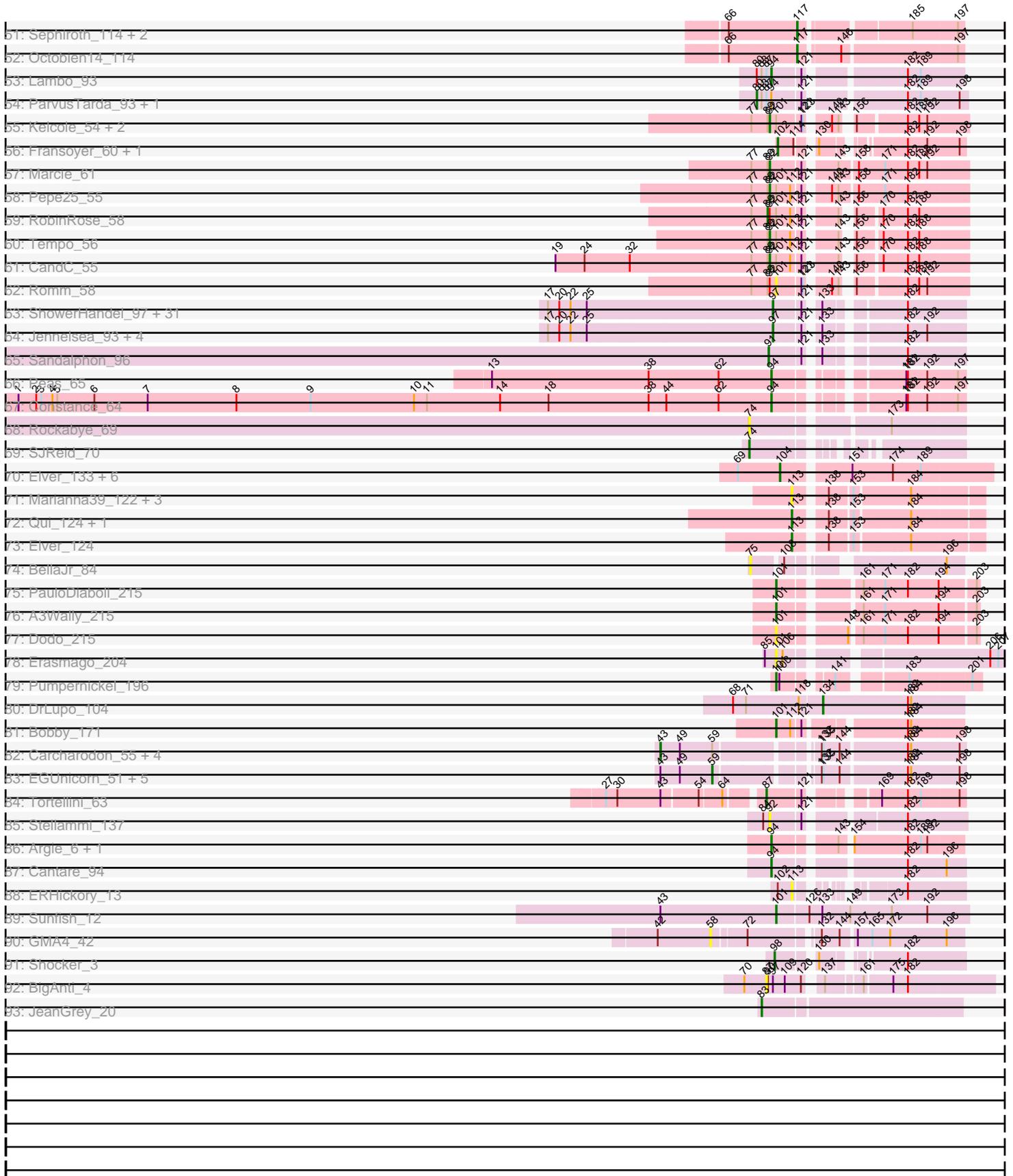


Pham 290870



Pham 290870



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 290870 Report

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

Pham number 290870 has 192 members, 36 are drafts.

Phages represented in each track:

- Track 1 : Briton15\_12, Ichabod\_11
- Track 2 : Anglerfish\_11, Arcanine\_11, Rajelicia\_10, Slagathor\_11, Dynamix\_11, PinkPlastic\_9, Manatee\_11, DreamCatcher\_12, McGuire\_11
- Track 3 : KSSJEB\_10, U2\_10, Switzer\_11
- Track 4 : Squee\_11, Naira\_11, BeesKnees\_11, Atkinbua\_11, Fenn\_11
- Track 5 : Seabiscuit\_12
- Track 6 : Anon\_48
- Track 7 : Dori\_58, Mask\_58
- Track 8 : StAugustine\_144
- Track 9 : Causa\_146
- Track 10 : Ranunculus\_6
- Track 11 : Rizwana\_7
- Track 12 : RIPWilbur\_6
- Track 13 : Pureglobe5\_10, Pointis\_8, Beagle\_10, Kubulix\_9, PhuzzTulsa\_6, Odyssey395\_10, DogYard\_8, RazzB\_7, BetaFish\_8, MellowYellow\_8, Popstraw\_8, Forrestell\_8
- Track 14 : Nikan\_9, Ren19\_8
- Track 15 : Ollypop\_11
- Track 16 : Ollypop\_7
- Track 17 : BruhMoment\_8
- Track 18 : AWGoat\_6
- Track 19 : SilentRX\_7
- Track 20 : SeresaTree\_71, Faust\_71
- Track 21 : Blueeyedbeauty\_69
- Track 22 : Sham\_67
- Track 23 : Annadreamy\_67, Limpid\_66
- Track 24 : TunaTartare\_69
- Track 25 : Beuffert\_67
- Track 26 : G4\_46
- Track 27 : Greely\_244
- Track 28 : Phabba\_246
- Track 29 : ScoobyDoobyDoo\_233
- Track 30 : Myrna\_235
- Track 31 : HomeFry\_79
- Track 32 : RedBaron\_55, Nina\_52
- Track 33 : Pipp\_48
- Track 34 : LordFarquaad\_57, Attis\_55, SoilAssassin\_55

- Track 35 : Clown\_82
- Track 36 : Yvonnestic\_136, JonJames\_139
- Track 37 : Cardigan\_143
- Track 38 : Crocheter\_2, CWormy\_2, ArtetaBall\_2, Dialga\_2, Untouchable\_2
- Track 39 : Perkunas\_2
- Track 40 : Mossy\_1
- Track 41 : Blanky\_1
- Track 42 : Hortihabitatio\_2
- Track 43 : Bantam\_53
- Track 44 : SpeedDemon\_540
- Track 45 : DatBoi\_51
- Track 46 : MortyNRick\_62
- Track 47 : BearBQ\_64
- Track 48 : Squiddly\_103
- Track 49 : GMA2\_84
- Track 50 : Vordorf\_53
- Track 51 : Sephiroth\_114, Kudefre\_118, Syleon\_119
- Track 52 : Octobien14\_114
- Track 53 : Lambo\_93
- Track 54 : ParvusTarda\_93, Wojtek\_85
- Track 55 : Kelcole\_54, KillerQueen\_57, OneinaGillian\_56
- Track 56 : Fransoyer\_60, SadLad\_63
- Track 57 : Marcie\_61
- Track 58 : Pepe25\_55
- Track 59 : RobinRose\_58
- Track 60 : Tempo\_56
- Track 61 : CandC\_55
- Track 62 : Romm\_58
- Track 63 : ShowerHandel\_97, Gorge\_95, Brocalys\_88, Lizziana\_97, Martik\_95, LastJedi\_87, Clifton\_88, Nivrat\_96, Crumble\_91, LilMoolah\_99, ByChance\_87, Pippy\_94, Yorick\_92, Philus\_98, James\_100, Jarcob\_99, Burwell21\_90, Cabrinians\_93, Vivum\_96, Spoonbill\_96, Whouxphf\_100, FreddyB\_106, Minnie\_91, Maravista\_93, NormanBulbieJr\_94, OlympiaSaint\_100, Saal\_94, Blexus\_93, Koella\_89, Latretium\_99, SwagPiggett\_98, Priscilla\_97
- Track 64 : Jennelsea\_93, BobaPhett\_98, ShiLan\_99, Zizzle\_99, Mattes\_97
- Track 65 : Sandalphon\_96
- Track 66 : Peas\_65
- Track 67 : Constance\_64
- Track 68 : Rockabye\_69
- Track 69 : SJReid\_70
- Track 70 : Elver\_133, Paella\_133, Gandionco\_129, JeNeSaisPas\_127, Qui\_133, Kureo\_130, Marianna39\_130
- Track 71 : Marianna39\_122, Gandionco\_121, JeNeSaisPas\_119, Kureo\_122
- Track 72 : Qui\_124, Paella\_124
- Track 73 : Elver\_124
- Track 74 : BellaJr\_84
- Track 75 : PauloDiaboli\_215
- Track 76 : A3Wally\_215
- Track 77 : Dodo\_215
- Track 78 : Erasmago\_204
- Track 79 : Pumpernickel\_196
- Track 80 : DrLupo\_104
- Track 81 : Bobby\_171

- Track 82 : Carcharodon\_55, Phloss\_53, Parmesanjohn\_55, Smurph\_55, Schnauzer\_56
- Track 83 : EGUnicorn\_51, Gex\_56, Magsby\_55, Tessdabest\_55, Xerxes\_55, Pipsqueaks\_56
- Track 84 : Tortellini\_63
- Track 85 : Stellammi\_137
- Track 86 : Argie\_6, GodPhather\_6
- Track 87 : Cantare\_94
- Track 88 : ERHickory\_13
- Track 89 : Sunfish\_12
- Track 90 : GMA4\_42
- Track 91 : Shocker\_3
- Track 92 : BigAnti\_4
- Track 93 : JeanGrey\_20

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

The start number called the most often in the published annotations is 97, it was called in 40 of the 156 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- BearBQ\_64, Blexus\_93, BobaPhett\_98, Brocalys\_88, Burwell21\_90, ByChance\_87, Cabrinians\_93, Clifton\_88, Crumble\_91, FreddyB\_106, G4\_46, Gorge\_95, James\_100, Jarcob\_99, Jennelsea\_93, Koella\_89, LastJedi\_87, Latretium\_99, LilMoolah\_99, Lizziana\_97, Maravista\_93, Martik\_95, Mattes\_97, Minnie\_91, MortyNRick\_62, Nikan\_9, Nivrat\_96, NormanBulbieJr\_94, Ollypop\_11, OlympiaSaint\_100, Philus\_98, Pippy\_94, Priscilla\_97, Ren19\_8, Saal\_94, ShiLan\_99, ShowerHandel\_97, Spoonbill\_96, SwagPigglett\_98, Vivum\_96, Whouxphf\_100, Yorick\_92, Zizzle\_99,

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

- BigAnti\_4,

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

- A3Wally\_215, AWGoat\_6, Anglerfish\_11, Annadreamy\_67, Anon\_48, Arcanine\_11, Argie\_6, ArtetaBall\_2, Atkinbua\_11, Attis\_55, Bantam\_53, Beagle\_10, BeesKnees\_11, BellaJr\_84, BetaFish\_8, Beuffert\_67, Blanky\_1, Blueeyedbeauty\_69, Bobby\_171, Briton15\_12, BruhMoment\_8, CWormy\_2, CandC\_55, Cantare\_94, Carcharodon\_55, Cardigan\_143, Causa\_146, Clown\_82, Constance\_64, Crocheter\_2, DatBoi\_51, Dialga\_2, Dodo\_215, DogYard\_8, Dori\_58, DrLupo\_104, DreamCatcher\_12, Dynamix\_11, EGUnicorn\_51, ERHickory\_13, Elver\_124, Elver\_133, Erasmago\_204, Faust\_71, Fenn\_11, Forrestell\_8, Fransoyer\_60, GMA2\_84, GMA4\_42, Gandionco\_121, Gandionco\_129, Gex\_56, GodPhather\_6, Greely\_244, HomeFry\_79, Hortihabitatio\_2, Ichabod\_11, JeNeSaisPas\_119, JeNeSaisPas\_127, JeanGrey\_20, JonJames\_139, KSSJEB\_10, Kelcole\_54, KillerQueen\_57, Kubulix\_9, Kudefre\_118, Kureo\_122, Kureo\_130, Lambo\_93, Limpid\_66, LordFarquaad\_57, Magsby\_55, Manatee\_11, Marcie\_61, Marianna39\_122, Marianna39\_130, Mask\_58, McGuire\_11, MellowYellow\_8, Mossy\_1, Myrna\_235, Naira\_11, Nina\_52, Octobien14\_114, Odyssey395\_10, Ollypop\_7, OneinaGillian\_56, Paella\_124, Paella\_133, Parmesanjohn\_55,

ParvusTarda\_93, PauloDiaboli\_215, Peas\_65, Pepe25\_55, Perkunas\_2, Phabba\_246, Phloss\_53, PhuzzTulsa\_6, PinkPlastic\_9, Pipp\_48, Pipsqueaks\_56, Pointis\_8, Popstraw\_8, Pumpernickel\_196, Pureglobe5\_10, Qui\_124, Qui\_133, RIPWilbur\_6, Rajelicia\_10, Ranunculus\_6, RazzB\_7, RedBaron\_55, Rizwana\_7, RobinRose\_58, Rockabye\_69, Romm\_58, SJReid\_70, SadLad\_63, Sandalphon\_96, Schnauzer\_56, ScoobyDoobyDoo\_233, Seabiscuit\_12, Sephiroth\_114, SeresaTree\_71, Sham\_67, Shocker\_3, SilentRX\_7, Slagathor\_11, Smurph\_55, SoilAssassin\_55, SpeedDemon\_540, Squee\_11, Squiddly\_103, StAugustine\_144, Stellammi\_137, Sunfish\_12, Switzer\_11, Syleon\_119, Tempo\_56, Tessdabest\_55, Tortellini\_63, TunaTartare\_69, U2\_10, Untouchable\_2, Vordorf\_53, Wojtek\_85, Xerxes\_55, Yvonnetastic\_136,

### Summary by start number:

#### Start 43:

- Found in 13 of 192 ( 6.8% ) of genes in pham
- Manual Annotations of this start: 5 of 156
- Called 38.5% of time when present
- Phage (with cluster) where this start called: Carcharodon\_55 (N), Parmesanjohn\_55 (N), Phloss\_53 (N), Schnauzer\_56 (N), Smurph\_55 (N),

#### Start 58:

- Found in 2 of 192 ( 1.0% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GMA4\_42 (singleton), Vordorf\_53 (DT),

#### Start 59:

- Found in 11 of 192 ( 5.7% ) of genes in pham
- Manual Annotations of this start: 5 of 156
- Called 54.5% of time when present
- Phage (with cluster) where this start called: EGUnicorn\_51 (N), Gex\_56 (N), Magsby\_55 (N), Pipsqueaks\_56 (N), Tessdabest\_55 (N), Xerxes\_55 (N),

#### Start 61:

- Found in 2 of 192 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 2 of 156
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Dori\_58 (AD), Mask\_58 (AD),

#### Start 65:

- Found in 1 of 192 ( 0.5% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: HomeFry\_79 (CR5),

#### Start 73:

- Found in 16 of 192 ( 8.3% ) of genes in pham
- Manual Annotations of this start: 11 of 156
- Called 93.8% of time when present
- Phage (with cluster) where this start called: Beagle\_10 (AP2), BetaFish\_8 (AP2), DogYard\_8 (AP2), Forrestell\_8 (AP2), Kubulix\_9 (AP2), MellowYellow\_8 (AP2), Odyssey395\_10 (AP2), Ollypop\_7 (AP2), PhuzzTulsa\_6 (AP2), Pointis\_8 (AP2),

Popstraw\_8 (AP2), Pureglobe5\_10 (AP2), RIPWilbur\_6 (AP2), Ranunculus\_6 (AP), RazzB\_7 (AP2),

Start 74:

- Found in 2 of 192 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 1 of 156
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Rockabye\_69 (FC), SJReid\_70 (FC),

Start 75:

- Found in 2 of 192 ( 1.0% ) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: BellaJr\_84 (FN),

Start 76:

- Found in 8 of 192 ( 4.2% ) of genes in pham
- Manual Annotations of this start: 7 of 156
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Annadreamy\_67 (BK1), Beuffert\_67 (BK1), Blueeyedbeauty\_69 (BK1), Faust\_71 (BK1), Limpid\_66 (BK1), SeresaTree\_71 (BK1), Sham\_67 (BK1), TunaTartare\_69 (BK1),

Start 77:

- Found in 12 of 192 ( 6.2% ) of genes in pham
- Manual Annotations of this start: 3 of 156
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Attis\_55 (CZ2), LordFarquaad\_57 (CZ2), SoilAssassin\_55 (CZ2),

Start 78:

- Found in 4 of 192 ( 2.1% ) of genes in pham
- Manual Annotations of this start: 4 of 156
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AWGoat\_6 (AP4), BruhMoment\_8 (AP3), Rizwana\_7 (AP1), SilentRX\_7 (AP4),

Start 80:

- Found in 3 of 192 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 2 of 156
- Called 66.7% of time when present
- Phage (with cluster) where this start called: ParvusTarda\_93 (DV), Wojtek\_85 (DV),

Start 81:

- Found in 3 of 192 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 2 of 156
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cardigan\_143 (DD), JonJames\_139 (DD), Yvonnetastic\_136 (DD),

Start 82:

- Found in 4 of 192 ( 2.1% ) of genes in pham
- Manual Annotations of this start: 1 of 156

- Called 25.0% of time when present
- Phage (with cluster) where this start called: Seabiscuit\_12 (A1),

Start 83:

- Found in 4 of 192 ( 2.1% ) of genes in pham
- Manual Annotations of this start: 1 of 156
- Called 25.0% of time when present
- Phage (with cluster) where this start called: JeanGrey\_20 (singleton),

Start 87:

- Found in 7 of 192 ( 3.6% ) of genes in pham
- Manual Annotations of this start: 1 of 156
- Called 28.6% of time when present
- Phage (with cluster) where this start called: BigAnti\_4 (singleton), Tortellini\_63 (P2),

Start 88:

- Found in 10 of 192 ( 5.2% ) of genes in pham
- Manual Annotations of this start: 5 of 156
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ArtetaBall\_2 (DJ), Blanky\_1 (DJ), CWormy\_2 (DJ), Crocheter\_2 (DJ), Dialga\_2 (DJ), GMA2\_84 (DS), Hortihabitatio\_2 (DJ), Mossy\_1 (DJ), Perkunas\_2 (DJ), Untouchable\_2 (DJ),

Start 89:

- Found in 9 of 192 ( 4.7% ) of genes in pham
- Manual Annotations of this start: 1 of 156
- Called 11.1% of time when present
- Phage (with cluster) where this start called: RobinRose\_58 (EG),

Start 91:

- Found in 1 of 192 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 156
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Sandalphon\_96 (F1),

Start 92:

- Found in 17 of 192 ( 8.9% ) of genes in pham
- Manual Annotations of this start: 13 of 156
- Called 88.2% of time when present
- Phage (with cluster) where this start called: Anon\_48 (A15), CandC\_55 (EG), DatBoi\_51 (DL), Greely\_244 (C2), Kelcole\_54 (EG), KillerQueen\_57 (EG), Marcie\_61 (EG), Myrna\_235 (C2), OneinaGillian\_56 (EG), Pepe25\_55 (EG), Phabba\_246 (C2), Pipp\_48 (CV), ScoobyDoobyDoo\_233 (C2), Stellammi\_137 (UNK), Tempo\_56 (EG),

Start 94:

- Found in 12 of 192 ( 6.2% ) of genes in pham
- Manual Annotations of this start: 10 of 156
- Called 83.3% of time when present
- Phage (with cluster) where this start called: Argie\_6 (W), Bantam\_53 (DL), Cantare\_94 (singleton), Clown\_82 (DC2), Constance\_64 (FA), GodPhather\_6 (W), Lambo\_93 (DV), Peas\_65 (FA), SpeedDemon\_540 (DL), Squiddly\_103 (DN2),

Start 95:

- Found in 2 of 192 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 2 of 156
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Briton15\_12 (A1), Ichabod\_11 (A1),

#### Start 96:

- Found in 3 of 192 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 2 of 156
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Causa\_146 (A1), StAugustine\_144 (A1),

#### Start 97:

- Found in 44 of 192 ( 22.9% ) of genes in pham
- Manual Annotations of this start: 40 of 156
- Called 97.7% of time when present
- Phage (with cluster) where this start called: BearBQ\_64 (DN), Blexus\_93 (F1), BobaPhett\_98 (F1), Brocalys\_88 (F1), Burwell21\_90 (F1), ByChance\_87 (F1), Cabrinians\_93 (F1), Clifton\_88 (F1), Crumble\_91 (F1), FreddyB\_106 (F1), G4\_46 (BW), Gorge\_95 (F1), James\_100 (F1), Jarcob\_99 (F1), Jennelsea\_93 (F1), Koella\_89 (F1), LastJedi\_87 (F1), Latretium\_99 (F1), LilMoolah\_99 (F1), Lizziana\_97 (F1), Maravista\_93 (F1), Martik\_95 (F1), Mattes\_97 (F1), Minnie\_91 (F1), MortyNRick\_62 (DN), Nikan\_9 (AP2), Nivrat\_96 (F1), NormanBulbieJr\_94 (F1), Ollypop\_11 (AP2), OlympiaSaint\_100 (F1), Philus\_98 (F1), Pippy\_94 (F1), Priscilla\_97 (F1), Ren19\_8 (AP2), Saal\_94 (F1), ShiLan\_99 (F1), ShowerHandel\_97 (F1), Spoonbill\_96 (F1), SwagPiggett\_98 (F1), Vivum\_96 (F1), Whouxphf\_100 (F1), Yorick\_92 (F1), Zizzle\_99 (F1),

#### Start 98:

- Found in 1 of 192 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 156
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Shocker\_3 (singleton),

#### Start 101:

- Found in 37 of 192 ( 19.3% ) of genes in pham
- Manual Annotations of this start: 23 of 156
- Called 73.0% of time when present
- Phage (with cluster) where this start called: A3Wally\_215 (GD1), Anglerfish\_11 (A1), Arcanine\_11 (A1), Atkinbua\_11 (A1), BeesKnees\_11 (A1), Bobby\_171 (J), Dodo\_215 (GD1), DreamCatcher\_12 (A1), Dynamix\_11 (A1), Erasmago\_204 (GD2), Fenn\_11 (A1), KSSJEB\_10 (A1), Manatee\_11 (A1), McGuire\_11 (A1), Naira\_11 (A1), Nina\_52 (CT), PauloDiaboli\_215 (GD1), PinkPlastic\_9 (A1), Pumpernickel\_196 (GD4), Rajelicia\_10 (A1), RedBaron\_55 (CT), Romm\_58 (EG), Slagathor\_11 (A1), Squee\_11 (A1), Sunfish\_12 (singleton), Switzer\_11 (A1), U2\_10 (A1),

#### Start 102:

- Found in 3 of 192 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 2 of 156
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Fransoyer\_60 (EG), SadLad\_63 (EG),

#### Start 104:

- Found in 7 of 192 ( 3.6% ) of genes in pham

- Manual Annotations of this start: 3 of 156
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Elver\_133 (FK), Gandionco\_129 (FK), JeNeSaisPas\_127 (FK), Kureo\_130 (FK), Marianna39\_130 (FK), Paella\_133 (FK), Qui\_133 (FK),

Start 113:

- Found in 9 of 192 ( 4.7% ) of genes in pham
- Manual Annotations of this start: 3 of 156
- Called 88.9% of time when present
- Phage (with cluster) where this start called: ERHickory\_13 (singleton), Elver\_124 (FK), Gandionco\_121 (FK), JeNeSaisPas\_119 (FK), Kureo\_122 (FK), Marianna39\_122 (FK), Paella\_124 (FK), Qui\_124 (FK),

Start 117:

- Found in 4 of 192 ( 2.1% ) of genes in pham
- Manual Annotations of this start: 4 of 156
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kudrefre\_118 (DU1), Octobien14\_114 (DU1), Sephiroth\_114 (DU1), Syleon\_119 (DU1),

Start 134:

- Found in 1 of 192 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 156
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DrLupo\_104 (H2),

### **Summary by clusters:**

There are 42 clusters represented in this pham: DN, GD1, singleton, DJ, AP2, AP3, DD, AP1, DL, AP4, FA, FC, DV, GD4, DT, FK, DS, FN, A15, A1, CZ2, DN2, C2, P2, AD, AI, EG, J, N, AP, BK1, W, DU1, UNK, DC2, CV, CT, F1, CR5, H2, BW, GD2,

Info for manual annotations of cluster A1:

- Start number 82 was manually annotated 1 time for cluster A1.
- Start number 95 was manually annotated 2 times for cluster A1.
- Start number 101 was manually annotated 17 times for cluster A1.

Info for manual annotations of cluster A15:

- Start number 92 was manually annotated 1 time for cluster A15.

Info for manual annotations of cluster AD:

- Start number 61 was manually annotated 2 times for cluster AD.

Info for manual annotations of cluster AI:

- Start number 96 was manually annotated 2 times for cluster AI.

Info for manual annotations of cluster AP:

- Start number 73 was manually annotated 1 time for cluster AP.

Info for manual annotations of cluster AP1:

- Start number 78 was manually annotated 1 time for cluster AP1.

Info for manual annotations of cluster AP2:

- Start number 73 was manually annotated 10 times for cluster AP2.
- Start number 97 was manually annotated 1 time for cluster AP2.

Info for manual annotations of cluster AP3:

- Start number 78 was manually annotated 1 time for cluster AP3.

Info for manual annotations of cluster AP4:

- Start number 78 was manually annotated 2 times for cluster AP4.

Info for manual annotations of cluster BK1:

- Start number 76 was manually annotated 7 times for cluster BK1.

Info for manual annotations of cluster BW:

- Start number 97 was manually annotated 1 time for cluster BW.

Info for manual annotations of cluster C2:

- Start number 92 was manually annotated 3 times for cluster C2.

Info for manual annotations of cluster CT:

- Start number 101 was manually annotated 1 time for cluster CT.

Info for manual annotations of cluster CV:

- Start number 92 was manually annotated 1 time for cluster CV.

Info for manual annotations of cluster CZ2:

- Start number 77 was manually annotated 3 times for cluster CZ2.

Info for manual annotations of cluster DC2:

- Start number 94 was manually annotated 1 time for cluster DC2.

Info for manual annotations of cluster DD:

- Start number 81 was manually annotated 2 times for cluster DD.

Info for manual annotations of cluster DJ:

- Start number 88 was manually annotated 5 times for cluster DJ.

Info for manual annotations of cluster DL:

- Start number 92 was manually annotated 1 time for cluster DL.
- Start number 94 was manually annotated 2 times for cluster DL.

Info for manual annotations of cluster DN:

- Start number 97 was manually annotated 2 times for cluster DN.

Info for manual annotations of cluster DN2:

- Start number 94 was manually annotated 1 time for cluster DN2.

Info for manual annotations of cluster DU1:

- Start number 117 was manually annotated 4 times for cluster DU1.

Info for manual annotations of cluster DV:

- Start number 80 was manually annotated 2 times for cluster DV.
- Start number 94 was manually annotated 1 time for cluster DV.

Info for manual annotations of cluster EG:

- Start number 89 was manually annotated 1 time for cluster EG.
- Start number 92 was manually annotated 7 times for cluster EG.
- Start number 102 was manually annotated 2 times for cluster EG.

Info for manual annotations of cluster F1:

- Start number 91 was manually annotated 1 time for cluster F1.
- Start number 97 was manually annotated 36 times for cluster F1.

Info for manual annotations of cluster FA:

- Start number 94 was manually annotated 2 times for cluster FA.

Info for manual annotations of cluster FC:

- Start number 74 was manually annotated 1 time for cluster FC.

Info for manual annotations of cluster FK:

- Start number 104 was manually annotated 3 times for cluster FK.
- Start number 113 was manually annotated 3 times for cluster FK.

Info for manual annotations of cluster GD1:

- Start number 101 was manually annotated 2 times for cluster GD1.

Info for manual annotations of cluster GD4:

- Start number 101 was manually annotated 1 time for cluster GD4.

Info for manual annotations of cluster H2:

- Start number 134 was manually annotated 1 time for cluster H2.

Info for manual annotations of cluster J:

- Start number 101 was manually annotated 1 time for cluster J.

Info for manual annotations of cluster N:

- Start number 43 was manually annotated 5 times for cluster N.
- Start number 59 was manually annotated 5 times for cluster N.

Info for manual annotations of cluster P2:

- Start number 87 was manually annotated 1 time for cluster P2.

Info for manual annotations of cluster W:

- Start number 94 was manually annotated 2 times for cluster W.

***Gene Information:***

Gene: A3Wally\_215 Start: 115440, Stop: 115123, Start Num: 101

Candidate Starts for A3Wally\_215:

(Start: 101 @115440 has 23 MA's), (161, 115323), (171, 115284), (194, 115188), (203, 115128),

Gene: AWGoat\_6 Start: 2566, Stop: 2979, Start Num: 78

Candidate Starts for AWGoat\_6:

(Start: 78 @2566 has 4 MA's), (121, 2656), (164, 2773), (190, 2869),

Gene: Anglerfish\_11 Start: 6625, Stop: 6939, Start Num: 101

Candidate Starts for Anglerfish\_11:

(Start: 101 @6625 has 23 MA's), (121, 6664), (128, 6673), (150, 6742), (175, 6817), (192, 6877),

Gene: Annadreamy\_67 Start: 53881, Stop: 54282, Start Num: 76

Candidate Starts for Annadreamy\_67:

(Start: 76 @53881 has 7 MA's), (111, 53947), (136, 53992), (143, 54019), (147, 54025), (160, 54061), (166, 54088), (168, 54094), (178, 54130), (191, 54181), (193, 54187),

Gene: Anon\_48 Start: 31013, Stop: 30756, Start Num: 92

Candidate Starts for Anon\_48:

(Start: 92 @31013 has 13 MA's), (175, 30884), (182, 30860),

Gene: Arcanine\_11 Start: 6591, Stop: 6905, Start Num: 101

Candidate Starts for Arcanine\_11:

(Start: 101 @6591 has 23 MA's), (121, 6630), (128, 6639), (150, 6708), (175, 6783), (192, 6843),

Gene: Argie\_6 Start: 3283, Stop: 3579, Start Num: 94

Candidate Starts for Argie\_6:

(Start: 94 @3283 has 10 MA's), (143, 3376), (154, 3391), (182, 3481), (189, 3505), (192, 3517),

Gene: ArtetaBall\_2 Start: 479, Stop: 808, Start Num: 88

Candidate Starts for ArtetaBall\_2:

(Start: 88 @479 has 5 MA's), (127, 545), (173, 686), (182, 713), (186, 725),

Gene: Atkinbua\_11 Start: 6636, Stop: 6950, Start Num: 101

Candidate Starts for Atkinbua\_11:

(Start: 101 @6636 has 23 MA's), (121, 6675), (150, 6753), (167, 6798),

Gene: Attis\_55 Start: 39035, Stop: 39415, Start Num: 77

Candidate Starts for Attis\_55:

(Start: 77 @39035 has 3 MA's), (110, 39089), (155, 39218), (167, 39254), (173, 39281), (175, 39284), (184, 39314), (189, 39332), (192, 39344), (198, 39401),

Gene: Bantam\_53 Start: 43734, Stop: 44000, Start Num: 94

Candidate Starts for Bantam\_53:

(Start: 94 @43734 has 10 MA's), (121, 43782), (123, 43785), (175, 43878), (182, 43902),

Gene: Beagle\_10 Start: 3455, Stop: 3862, Start Num: 73

Candidate Starts for Beagle\_10:

(Start: 73 @3455 has 11 MA's), (100, 3506), (105, 3515), (139, 3602), (155, 3650), (173, 3716), (180, 3734), (184, 3752),

Gene: BearBQ\_64 Start: 41458, Stop: 41745, Start Num: 97

Candidate Starts for BearBQ\_64:

(31, 41194), (39, 41230), (40, 41236), (55, 41332), (Start: 87 @41446 has 1 MA's), (Start: 97 @41458 has 40 MA's), (121, 41503), (163, 41575), (186, 41653), (192, 41677), (198, 41734),

Gene: BeesKnees\_11 Start: 6720, Stop: 7034, Start Num: 101  
Candidate Starts for BeesKnees\_11:  
(Start: 101 @6720 has 23 MA's), (121, 6759), (150, 6837), (167, 6882),

Gene: BellaJr\_84 Start: 48464, Stop: 48778, Start Num: 75  
Candidate Starts for BellaJr\_84:  
(75, 48464), (108, 48512), (196, 48746),

Gene: BetaFish\_8 Start: 3461, Stop: 3868, Start Num: 73  
Candidate Starts for BetaFish\_8:  
(Start: 73 @3461 has 11 MA's), (100, 3512), (105, 3521), (139, 3608), (155, 3656), (173, 3722), (180, 3740), (184, 3758),

Gene: Beuffert\_67 Start: 55006, Stop: 55407, Start Num: 76  
Candidate Starts for Beuffert\_67:  
(Start: 76 @55006 has 7 MA's), (131, 55111), (136, 55117), (143, 55144), (178, 55255), (190, 55300), (193, 55312),

Gene: BigAnti\_4 Start: 2585, Stop: 2959, Start Num: 87  
Candidate Starts for BigAnti\_4:  
(70, 2546), (Start: 87 @2585 has 1 MA's), (90, 2588), (Start: 97 @2597 has 40 MA's), (109, 2618), (120, 2648), (137, 2669), (161, 2729), (175, 2777), (182, 2801),

Gene: Blanky\_1 Start: 220, Stop: 549, Start Num: 88  
Candidate Starts for Blanky\_1:  
(Start: 88 @220 has 5 MA's), (121, 268), (148, 352), (173, 427), (175, 430), (182, 454), (186, 466),

Gene: Blexus\_93 Start: 53556, Stop: 53837, Start Num: 97  
Candidate Starts for Blexus\_93:  
(17, 53145), (20, 53166), (22, 53187), (25, 53217), (Start: 97 @53556 has 40 MA's), (121, 53601), (133, 53619), (182, 53736),

Gene: Blueeyedbeauty\_69 Start: 54393, Stop: 54800, Start Num: 76  
Candidate Starts for Blueeyedbeauty\_69:  
(Start: 76 @54393 has 7 MA's), (93, 54429), (132, 54507), (147, 54543), (162, 54582), (173, 54633), (183, 54666), (192, 54699), (193, 54705),

Gene: BobaPhett\_98 Start: 55238, Stop: 55519, Start Num: 97  
Candidate Starts for BobaPhett\_98:  
(17, 54827), (20, 54848), (22, 54869), (25, 54899), (Start: 97 @55238 has 40 MA's), (121, 55283), (133, 55301), (182, 55418), (192, 55454),

Gene: Bobby\_171 Start: 94727, Stop: 95017, Start Num: 101  
Candidate Starts for Bobby\_171:  
(Start: 101 @94727 has 23 MA's), (112, 94751), (121, 94766), (182, 94919), (184, 94925),

Gene: Briton15\_12 Start: 6774, Stop: 7046, Start Num: 95  
Candidate Starts for Briton15\_12:  
(Start: 95 @6774 has 2 MA's), (121, 6813), (133, 6831), (169, 6909), (182, 6948),

Gene: Brocalys\_88 Start: 50717, Stop: 50998, Start Num: 97  
Candidate Starts for Brocalys\_88:  
(17, 50306), (20, 50327), (22, 50348), (25, 50378), (Start: 97 @50717 has 40 MA's), (121, 50762),  
(133, 50780), (182, 50897),

Gene: BruhMoment\_8 Start: 3480, Stop: 3902, Start Num: 78  
Candidate Starts for BruhMoment\_8:  
(35, 3276), (37, 3288), (52, 3375), (Start: 78 @3480 has 4 MA's), (100, 3522), (125, 3579), (145, 3636),  
(157, 3669), (175, 3735), (176, 3738), (184, 3768),

Gene: Burwell21\_90 Start: 53003, Stop: 53284, Start Num: 97  
Candidate Starts for Burwell21\_90:  
(17, 52592), (20, 52613), (22, 52634), (25, 52664), (Start: 97 @53003 has 40 MA's), (121, 53048),  
(133, 53066), (182, 53183),

Gene: ByChance\_87 Start: 49075, Stop: 49356, Start Num: 97  
Candidate Starts for ByChance\_87:  
(17, 48664), (20, 48685), (22, 48706), (25, 48736), (Start: 97 @49075 has 40 MA's), (121, 49120),  
(133, 49138), (182, 49255),

Gene: CWormy\_2 Start: 479, Stop: 808, Start Num: 88  
Candidate Starts for CWormy\_2:  
(Start: 88 @479 has 5 MA's), (127, 545), (173, 686), (182, 713), (186, 725),

Gene: Cabrinians\_93 Start: 52638, Stop: 52919, Start Num: 97  
Candidate Starts for Cabrinians\_93:  
(17, 52227), (20, 52248), (22, 52269), (25, 52299), (Start: 97 @52638 has 40 MA's), (121, 52683),  
(133, 52701), (182, 52818),

Gene: CandC\_55 Start: 37729, Stop: 37433, Start Num: 92  
Candidate Starts for CandC\_55:  
(19, 38122), (24, 38068), (32, 37984), (Start: 77 @37759 has 3 MA's), (Start: 89 @37732 has 1 MA's),  
(Start: 92 @37729 has 13 MA's), (Start: 101 @37717 has 23 MA's), (112, 37693), (121, 37678), (143,  
37630), (156, 37621), (170, 37585), (182, 37543), (188, 37522),

Gene: Cantare\_94 Start: 71064, Stop: 71369, Start Num: 94  
Candidate Starts for Cantare\_94:  
(Start: 94 @71064 has 10 MA's), (182, 71268), (196, 71337),

Gene: Carcharodon\_55 Start: 36177, Stop: 36665, Start Num: 43  
Candidate Starts for Carcharodon\_55:  
(Start: 43 @36177 has 5 MA's), (49, 36213), (Start: 59 @36267 has 5 MA's), (132, 36420), (135,  
36423), (144, 36450), (182, 36561), (184, 36567), (198, 36654),

Gene: Cardigan\_143 Start: 79014, Stop: 79379, Start Num: 81  
Candidate Starts for Cardigan\_143:  
(Start: 81 @79014 has 2 MA's), (99, 79044), (107, 79059), (110, 79065), (119, 79089), (146, 79149),  
(181, 79257), (182, 79260), (200, 79365),

Gene: Causa\_146 Start: 84210, Stop: 83881, Start Num: 96  
Candidate Starts for Causa\_146:  
(Start: 96 @84210 has 2 MA's), (124, 84153), (170, 84015), (177, 83991), (190, 83943),

Gene: Clifton\_88 Start: 51692, Stop: 51973, Start Num: 97

Candidate Starts for Clifton\_88:

(17, 51281), (20, 51302), (22, 51323), (25, 51353), (Start: 97 @51692 has 40 MA's), (121, 51737), (133, 51755), (182, 51872),

Gene: Clown\_82 Start: 53661, Stop: 54005, Start Num: 94

Candidate Starts for Clown\_82:

(Start: 94 @53661 has 10 MA's), (121, 53709), (159, 53778), (176, 53832), (179, 53841), (202, 53973), (204, 53982),

Gene: Constance\_64 Start: 41355, Stop: 41633, Start Num: 94

Candidate Starts for Constance\_64:

(1, 39963), (2, 39996), (3, 40005), (4, 40026), (5, 40035), (6, 40104), (7, 40203), (8, 40368), (9, 40506), (10, 40698), (11, 40722), (14, 40857), (18, 40944), (38, 41130), (44, 41163), (62, 41259), (Start: 94 @41355 has 10 MA's), (181, 41529), (182, 41532), (192, 41568), (197, 41622),

Gene: Crocheter\_2 Start: 479, Stop: 808, Start Num: 88

Candidate Starts for Crocheter\_2:

(Start: 88 @479 has 5 MA's), (127, 545), (173, 686), (182, 713), (186, 725),

Gene: Crumble\_91 Start: 49362, Stop: 49643, Start Num: 97

Candidate Starts for Crumble\_91:

(17, 48951), (20, 48972), (22, 48993), (25, 49023), (Start: 97 @49362 has 40 MA's), (121, 49407), (133, 49425), (182, 49542),

Gene: DatBoi\_51 Start: 43635, Stop: 43889, Start Num: 92

Candidate Starts for DatBoi\_51:

(Start: 92 @43635 has 13 MA's), (Start: 113 @43674 has 3 MA's), (182, 43791),

Gene: Dialga\_2 Start: 479, Stop: 808, Start Num: 88

Candidate Starts for Dialga\_2:

(Start: 88 @479 has 5 MA's), (127, 545), (173, 686), (182, 713), (186, 725),

Gene: Dodo\_215 Start: 115242, Stop: 114925, Start Num: 101

Candidate Starts for Dodo\_215:

(Start: 101 @115242 has 23 MA's), (148, 115140), (161, 115125), (171, 115086), (182, 115047), (194, 114990), (203, 114930),

Gene: DogYard\_8 Start: 3331, Stop: 3738, Start Num: 73

Candidate Starts for DogYard\_8:

(Start: 73 @3331 has 11 MA's), (100, 3382), (105, 3391), (139, 3478), (155, 3526), (173, 3592), (180, 3610), (184, 3628),

Gene: Dori\_58 Start: 47703, Stop: 48095, Start Num: 61

Candidate Starts for Dori\_58:

(53, 47673), (Start: 61 @47703 has 2 MA's), (72, 47751), (132, 47850), (135, 47853), (144, 47880), (182, 47991), (184, 47997),

Gene: DrLupo\_104 Start: 65399, Stop: 65650, Start Num: 134

Candidate Starts for DrLupo\_104:

(68, 65246), (71, 65267), (118, 65360), (Start: 134 @65399 has 1 MA's), (182, 65552), (184, 65558),

Gene: DreamCatcher\_12 Start: 7365, Stop: 7679, Start Num: 101

Candidate Starts for DreamCatcher\_12:

(Start: 101 @7365 has 23 MA's), (121, 7404), (128, 7413), (150, 7482), (175, 7557), (192, 7617),

Gene: Dynamix\_11 Start: 6722, Stop: 7036, Start Num: 101

Candidate Starts for Dynamix\_11:

(Start: 101 @6722 has 23 MA's), (121, 6761), (128, 6770), (150, 6839), (175, 6914), (192, 6974),

Gene: EGUunicorn\_51 Start: 35104, Stop: 35502, Start Num: 59

Candidate Starts for EGUunicorn\_51:

(Start: 43 @35014 has 5 MA's), (49, 35050), (Start: 59 @35104 has 5 MA's), (132, 35257), (135, 35260), (144, 35287), (182, 35398), (184, 35404), (198, 35491),

Gene: ERHickory\_13 Start: 5618, Stop: 5839, Start Num: 113

Candidate Starts for ERHickory\_13:

(Start: 102 @5594 has 2 MA's), (Start: 113 @5618 has 3 MA's), (182, 5738),

Gene: Elver\_133 Start: 70843, Stop: 71208, Start Num: 104

Candidate Starts for Elver\_133:

(69, 70765), (Start: 104 @70843 has 3 MA's), (151, 70954), (174, 71029), (189, 71080),

Gene: Elver\_124 Start: 67517, Stop: 67825, Start Num: 113

Candidate Starts for Elver\_124:

(Start: 113 @67517 has 3 MA's), (138, 67562), (153, 67601), (184, 67697),

Gene: Erasmago\_204 Start: 109961, Stop: 109605, Start Num: 101

Candidate Starts for Erasmago\_204:

(85, 109982), (Start: 101 @109961 has 23 MA's), (106, 109949), (206, 109631), (207, 109616),

Gene: Faust\_71 Start: 56000, Stop: 56389, Start Num: 76

Candidate Starts for Faust\_71:

(Start: 76 @56000 has 7 MA's), (122, 56087), (129, 56096), (157, 56168), (160, 56174), (198, 56351), (199, 56360),

Gene: Fenn\_11 Start: 6952, Stop: 7266, Start Num: 101

Candidate Starts for Fenn\_11:

(Start: 101 @6952 has 23 MA's), (121, 6991), (150, 7069), (167, 7114),

Gene: Forrestell\_8 Start: 3035, Stop: 3442, Start Num: 73

Candidate Starts for Forrestell\_8:

(Start: 73 @3035 has 11 MA's), (100, 3086), (105, 3095), (139, 3182), (155, 3230), (173, 3296), (180, 3314), (184, 3332),

Gene: Fransoyer\_60 Start: 45317, Stop: 45054, Start Num: 102

Candidate Starts for Fransoyer\_60:

(Start: 102 @45317 has 2 MA's), (114, 45290), (130, 45269), (182, 45158), (192, 45122), (198, 45065),

Gene: FreddyB\_106 Start: 54284, Stop: 54565, Start Num: 97

Candidate Starts for FreddyB\_106:

(17, 53873), (20, 53894), (22, 53915), (25, 53945), (Start: 97 @54284 has 40 MA's), (121, 54329), (133, 54347), (182, 54464),

Gene: G4\_46 Start: 30222, Stop: 30545, Start Num: 97

Candidate Starts for G4\_46:

(75, 30180), (Start: 97 @30222 has 40 MA's), (Start: 101 @30228 has 23 MA's), (124, 30276), (138, 30312), (167, 30378), (175, 30408), (182, 30432),

Gene: GMA2\_84 Start: 80351, Stop: 80010, Start Num: 88

Candidate Starts for GMA2\_84:

(Start: 88 @80351 has 5 MA's), (Start: 101 @80342 has 23 MA's), (173, 80141), (175, 80138), (198, 80021),

Gene: GMA4\_42 Start: 31658, Stop: 32065, Start Num: 58

Candidate Starts for GMA4\_42:

(42, 31565), (58, 31658), (72, 31715), (132, 31823), (144, 31853), (157, 31877), (165, 31901), (172, 31934), (196, 32033),

Gene: Gandionco\_121 Start: 66329, Stop: 66637, Start Num: 113

Candidate Starts for Gandionco\_121:

(Start: 113 @66329 has 3 MA's), (138, 66374), (153, 66413), (184, 66509),

Gene: Gandionco\_129 Start: 69661, Stop: 70026, Start Num: 104

Candidate Starts for Gandionco\_129:

(69, 69583), (Start: 104 @69661 has 3 MA's), (151, 69772), (174, 69847), (189, 69898),

Gene: Gex\_56 Start: 36283, Stop: 36681, Start Num: 59

Candidate Starts for Gex\_56:

(Start: 43 @36193 has 5 MA's), (49, 36229), (Start: 59 @36283 has 5 MA's), (132, 36436), (135, 36439), (144, 36466), (182, 36577), (184, 36583), (198, 36670),

Gene: GodPhather\_6 Start: 3283, Stop: 3579, Start Num: 94

Candidate Starts for GodPhather\_6:

(Start: 94 @3283 has 10 MA's), (143, 3376), (154, 3391), (182, 3481), (189, 3505), (192, 3517),

Gene: Gorge\_95 Start: 53911, Stop: 54192, Start Num: 97

Candidate Starts for Gorge\_95:

(17, 53500), (20, 53521), (22, 53542), (25, 53572), (Start: 97 @53911 has 40 MA's), (121, 53956), (133, 53974), (182, 54091),

Gene: Greely\_244 Start: 137695, Stop: 138051, Start Num: 92

Candidate Starts for Greely\_244:

(26, 137374), (37, 137473), (45, 137515), (Start: 92 @137695 has 13 MA's), (121, 137746), (150, 137821), (152, 137824), (168, 137854), (170, 137863), (182, 137905), (184, 137911), (187, 137920), (189, 137929),

Gene: HomeFry\_79 Start: 53143, Stop: 52757, Start Num: 65

Candidate Starts for HomeFry\_79:

(16, 53527), (65, 53143), (120, 53014), (132, 52996), (144, 52966),

Gene: Hortihabitatio\_2 Start: 447, Stop: 776, Start Num: 88

Candidate Starts for Hortihabitatio\_2:

(57, 342), (Start: 73 @414 has 11 MA's), (Start: 88 @447 has 5 MA's), (127, 513), (173, 654), (181, 678), (182, 681), (186, 693),

Gene: Ichabod\_11 Start: 6739, Stop: 7011, Start Num: 95

Candidate Starts for Ichabod\_11:

(Start: 95 @6739 has 2 MA's), (121, 6778), (133, 6796), (169, 6874), (182, 6913),

Gene: James\_100 Start: 55293, Stop: 55574, Start Num: 97  
Candidate Starts for James\_100:  
(17, 54882), (20, 54903), (22, 54924), (25, 54954), (Start: 97 @55293 has 40 MA's), (121, 55338),  
(133, 55356), (182, 55473),

Gene: Jacob\_99 Start: 54892, Stop: 55173, Start Num: 97  
Candidate Starts for Jacob\_99:  
(17, 54481), (20, 54502), (22, 54523), (25, 54553), (Start: 97 @54892 has 40 MA's), (121, 54937),  
(133, 54955), (182, 55072),

Gene: JeNeSaisPas\_119 Start: 66931, Stop: 67239, Start Num: 113  
Candidate Starts for JeNeSaisPas\_119:  
(Start: 113 @66931 has 3 MA's), (138, 66976), (153, 67015), (184, 67111),

Gene: JeNeSaisPas\_127 Start: 70257, Stop: 70622, Start Num: 104  
Candidate Starts for JeNeSaisPas\_127:  
(69, 70179), (Start: 104 @70257 has 3 MA's), (151, 70368), (174, 70443), (189, 70494),

Gene: JeanGrey\_20 Start: 10459, Stop: 10809, Start Num: 83  
Candidate Starts for JeanGrey\_20:  
(Start: 83 @10459 has 1 MA's),

Gene: Jennelsea\_93 Start: 52193, Stop: 52474, Start Num: 97  
Candidate Starts for Jennelsea\_93:  
(17, 51782), (20, 51803), (22, 51824), (25, 51854), (Start: 97 @52193 has 40 MA's), (121, 52238),  
(133, 52256), (182, 52373), (192, 52409),

Gene: JonJames\_139 Start: 79256, Stop: 79624, Start Num: 81  
Candidate Starts for JonJames\_139:  
(Start: 81 @79256 has 2 MA's), (99, 79286), (107, 79301), (110, 79307), (119, 79331), (142, 79382),  
(181, 79502), (182, 79505), (189, 79529), (200, 79610),

Gene: KSSJEB\_10 Start: 6483, Stop: 6797, Start Num: 101  
Candidate Starts for KSSJEB\_10:  
(Start: 82 @6456 has 1 MA's), (Start: 101 @6483 has 23 MA's), (121, 6522), (128, 6531), (150, 6600),  
(175, 6675), (192, 6735),

Gene: Kelcole\_54 Start: 37921, Stop: 37628, Start Num: 92  
Candidate Starts for Kelcole\_54:  
(Start: 77 @37951 has 3 MA's), (Start: 89 @37924 has 1 MA's), (Start: 92 @37921 has 13 MA's),  
(Start: 101 @37909 has 23 MA's), (121, 37870), (123, 37867), (140, 37834), (143, 37822), (156,  
37813), (182, 37735), (188, 37714), (192, 37699),

Gene: KillerQueen\_57 Start: 38171, Stop: 37878, Start Num: 92  
Candidate Starts for KillerQueen\_57:  
(Start: 77 @38201 has 3 MA's), (Start: 89 @38174 has 1 MA's), (Start: 92 @38171 has 13 MA's),  
(Start: 101 @38159 has 23 MA's), (121, 38120), (123, 38117), (140, 38084), (143, 38072), (156,  
38063), (182, 37985), (188, 37964), (192, 37949),

Gene: Koella\_89 Start: 50055, Stop: 50336, Start Num: 97  
Candidate Starts for Koella\_89:

(17, 49644), (20, 49665), (22, 49686), (25, 49716), (Start: 97 @50055 has 40 MA's), (121, 50100), (133, 50118), (182, 50235),

Gene: Kubulix\_9 Start: 3460, Stop: 3867, Start Num: 73

Candidate Starts for Kubulix\_9:

(Start: 73 @3460 has 11 MA's), (100, 3511), (105, 3520), (139, 3607), (155, 3655), (173, 3721), (180, 3739), (184, 3757),

Gene: Kudefre\_118 Start: 64805, Stop: 65071, Start Num: 117

Candidate Starts for Kudefre\_118:

(66, 64688), (Start: 117 @64805 has 4 MA's), (185, 64979), (197, 65060),

Gene: Kureo\_122 Start: 66525, Stop: 66833, Start Num: 113

Candidate Starts for Kureo\_122:

(Start: 113 @66525 has 3 MA's), (138, 66570), (153, 66609), (184, 66705),

Gene: Kureo\_130 Start: 69857, Stop: 70222, Start Num: 104

Candidate Starts for Kureo\_130:

(69, 69779), (Start: 104 @69857 has 3 MA's), (151, 69968), (174, 70043), (189, 70094),

Gene: Lambo\_93 Start: 64770, Stop: 65072, Start Num: 94

Candidate Starts for Lambo\_93:

(Start: 80 @64743 has 2 MA's), (Start: 83 @64752 has 1 MA's), (Start: 87 @64761 has 1 MA's), (Start: 94 @64770 has 10 MA's), (121, 64818), (182, 64971), (189, 64995),

Gene: LastJedi\_87 Start: 51112, Stop: 51393, Start Num: 97

Candidate Starts for LastJedi\_87:

(17, 50701), (20, 50722), (22, 50743), (25, 50773), (Start: 97 @51112 has 40 MA's), (121, 51157), (133, 51175), (182, 51292),

Gene: Latretium\_99 Start: 54158, Stop: 54439, Start Num: 97

Candidate Starts for Latretium\_99:

(17, 53747), (20, 53768), (22, 53789), (25, 53819), (Start: 97 @54158 has 40 MA's), (121, 54203), (133, 54221), (182, 54338),

Gene: LilMoolah\_99 Start: 54092, Stop: 54373, Start Num: 97

Candidate Starts for LilMoolah\_99:

(17, 53681), (20, 53702), (22, 53723), (25, 53753), (Start: 97 @54092 has 40 MA's), (121, 54137), (133, 54155), (182, 54272),

Gene: Limpid\_66 Start: 53880, Stop: 54281, Start Num: 76

Candidate Starts for Limpid\_66:

(Start: 76 @53880 has 7 MA's), (111, 53946), (136, 53991), (143, 54018), (147, 54024), (160, 54060), (166, 54087), (168, 54093), (178, 54129), (191, 54180), (193, 54186),

Gene: Lizziana\_97 Start: 54360, Stop: 54641, Start Num: 97

Candidate Starts for Lizziana\_97:

(17, 53949), (20, 53970), (22, 53991), (25, 54021), (Start: 97 @54360 has 40 MA's), (121, 54405), (133, 54423), (182, 54540),

Gene: LordFarquaad\_57 Start: 39016, Stop: 39396, Start Num: 77

Candidate Starts for LordFarquaad\_57:

(Start: 77 @39016 has 3 MA's), (110, 39070), (155, 39199), (167, 39235), (173, 39262), (175, 39265), (184, 39295), (189, 39313), (192, 39325), (198, 39382),

Gene: Magsby\_55 Start: 36284, Stop: 36682, Start Num: 59

Candidate Starts for Magsby\_55:

(Start: 43 @36194 has 5 MA's), (49, 36230), (Start: 59 @36284 has 5 MA's), (132, 36437), (135, 36440), (144, 36467), (182, 36578), (184, 36584), (198, 36671),

Gene: Manatee\_11 Start: 6673, Stop: 6987, Start Num: 101

Candidate Starts for Manatee\_11:

(Start: 101 @6673 has 23 MA's), (121, 6712), (128, 6721), (150, 6790), (175, 6865), (192, 6925),

Gene: Maravista\_93 Start: 55020, Stop: 55301, Start Num: 97

Candidate Starts for Maravista\_93:

(17, 54609), (20, 54630), (22, 54651), (25, 54681), (Start: 97 @55020 has 40 MA's), (121, 55065), (133, 55083), (182, 55200),

Gene: Marcie\_61 Start: 38811, Stop: 38491, Start Num: 92

Candidate Starts for Marcie\_61:

(Start: 77 @38841 has 3 MA's), (Start: 89 @38814 has 1 MA's), (Start: 92 @38811 has 13 MA's), (121, 38760), (143, 38712), (158, 38682), (171, 38637), (182, 38598), (188, 38577), (192, 38562),

Gene: Marianna39\_122 Start: 66940, Stop: 67248, Start Num: 113

Candidate Starts for Marianna39\_122:

(Start: 113 @66940 has 3 MA's), (138, 66985), (153, 67024), (184, 67120),

Gene: Marianna39\_130 Start: 70266, Stop: 70631, Start Num: 104

Candidate Starts for Marianna39\_130:

(69, 70188), (Start: 104 @70266 has 3 MA's), (151, 70377), (174, 70452), (189, 70503),

Gene: Martik\_95 Start: 54823, Stop: 55104, Start Num: 97

Candidate Starts for Martik\_95:

(17, 54412), (20, 54433), (22, 54454), (25, 54484), (Start: 97 @54823 has 40 MA's), (121, 54868), (133, 54886), (182, 55003),

Gene: Mask\_58 Start: 48446, Stop: 48838, Start Num: 61

Candidate Starts for Mask\_58:

(53, 48416), (Start: 61 @48446 has 2 MA's), (72, 48494), (132, 48593), (135, 48596), (144, 48623), (182, 48734), (184, 48740),

Gene: Mattes\_97 Start: 54029, Stop: 54310, Start Num: 97

Candidate Starts for Mattes\_97:

(17, 53618), (20, 53639), (22, 53660), (25, 53690), (Start: 97 @54029 has 40 MA's), (121, 54074), (133, 54092), (182, 54209), (192, 54245),

Gene: McGuire\_11 Start: 6718, Stop: 7032, Start Num: 101

Candidate Starts for McGuire\_11:

(Start: 101 @6718 has 23 MA's), (121, 6757), (128, 6766), (150, 6835), (175, 6910), (192, 6970),

Gene: MellowYellow\_8 Start: 3065, Stop: 3472, Start Num: 73

Candidate Starts for MellowYellow\_8:

(Start: 73 @3065 has 11 MA's), (100, 3116), (105, 3125), (139, 3212), (155, 3260), (173, 3326), (180, 3344), (184, 3362),

Gene: Minnie\_91 Start: 54441, Stop: 54722, Start Num: 97  
Candidate Starts for Minnie\_91:  
(17, 54030), (20, 54051), (22, 54072), (25, 54102), (Start: 97 @54441 has 40 MA's), (121, 54486),  
(133, 54504), (182, 54621),

Gene: MortyNRick\_62 Start: 41583, Stop: 41870, Start Num: 97  
Candidate Starts for MortyNRick\_62:  
(28, 41283), (33, 41334), (36, 41346), (41, 41370), (55, 41457), (Start: 87 @41571 has 1 MA's), (Start:  
97 @41583 has 40 MA's), (121, 41628), (163, 41700), (186, 41778), (192, 41802), (198, 41859),

Gene: Mossy\_1 Start: 220, Stop: 549, Start Num: 88  
Candidate Starts for Mossy\_1:  
(Start: 88 @220 has 5 MA's), (121, 268), (148, 352), (173, 427), (182, 454), (186, 466),

Gene: Myrna\_235 Start: 137260, Stop: 137607, Start Num: 92  
Candidate Starts for Myrna\_235:  
(15, 136774), (23, 136918), (29, 136978), (48, 137095), (Start: 92 @137260 has 13 MA's), (121,  
137311), (182, 137461), (184, 137467), (187, 137476), (189, 137485), (205, 137599),

Gene: Naira\_11 Start: 6952, Stop: 7266, Start Num: 101  
Candidate Starts for Naira\_11:  
(Start: 101 @6952 has 23 MA's), (121, 6991), (150, 7069), (167, 7114),

Gene: Nikan\_9 Start: 4093, Stop: 4401, Start Num: 97  
Candidate Starts for Nikan\_9:  
(Start: 97 @4093 has 40 MA's), (182, 4297), (192, 4333),

Gene: Nina\_52 Start: 37854, Stop: 37525, Start Num: 101  
Candidate Starts for Nina\_52:  
(Start: 101 @37854 has 23 MA's), (121, 37815), (152, 37722), (173, 37653),

Gene: Nivrat\_96 Start: 53965, Stop: 54246, Start Num: 97  
Candidate Starts for Nivrat\_96:  
(17, 53554), (20, 53575), (22, 53596), (25, 53626), (Start: 97 @53965 has 40 MA's), (121, 54010),  
(133, 54028), (182, 54145),

Gene: NormanBulbieJr\_94 Start: 54069, Stop: 54350, Start Num: 97  
Candidate Starts for NormanBulbieJr\_94:  
(17, 53658), (20, 53679), (22, 53700), (25, 53730), (Start: 97 @54069 has 40 MA's), (121, 54114),  
(133, 54132), (182, 54249),

Gene: Octobien14\_114 Start: 63585, Stop: 63860, Start Num: 117  
Candidate Starts for Octobien14\_114:  
(66, 63468), (Start: 117 @63585 has 4 MA's), (146, 63651), (197, 63849),

Gene: Odyssey395\_10 Start: 3459, Stop: 3866, Start Num: 73  
Candidate Starts for Odyssey395\_10:  
(Start: 73 @3459 has 11 MA's), (100, 3510), (105, 3519), (139, 3606), (155, 3654), (173, 3720), (180,  
3738), (184, 3756),

Gene: Ollypop\_11 Start: 4172, Stop: 4435, Start Num: 97  
Candidate Starts for Ollypop\_11:

(Start: 97 @4172 has 40 MA's), (129, 4235), (138, 4256), (170, 4292), (182, 4331),

Gene: Ollypop\_7 Start: 3116, Stop: 3523, Start Num: 73

Candidate Starts for Ollypop\_7:

(56, 3041), (67, 3092), (Start: 73 @3116 has 11 MA's), (105, 3176), (116, 3206), (155, 3311), (180, 3395), (184, 3413),

Gene: OlympiaSaint\_100 Start: 54235, Stop: 54516, Start Num: 97

Candidate Starts for OlympiaSaint\_100:

(17, 53824), (20, 53845), (22, 53866), (25, 53896), (Start: 97 @54235 has 40 MA's), (121, 54280), (133, 54298), (182, 54415),

Gene: OneinaGillian\_56 Start: 37823, Stop: 37530, Start Num: 92

Candidate Starts for OneinaGillian\_56:

(Start: 77 @37853 has 3 MA's), (Start: 89 @37826 has 1 MA's), (Start: 92 @37823 has 13 MA's), (Start: 101 @37811 has 23 MA's), (121, 37772), (123, 37769), (140, 37736), (143, 37724), (156, 37715), (182, 37637), (188, 37616), (192, 37601),

Gene: Paella\_133 Start: 71406, Stop: 71771, Start Num: 104

Candidate Starts for Paella\_133:

(69, 71328), (Start: 104 @71406 has 3 MA's), (151, 71517), (174, 71592), (189, 71643),

Gene: Paella\_124 Start: 68080, Stop: 68388, Start Num: 113

Candidate Starts for Paella\_124:

(Start: 113 @68080 has 3 MA's), (138, 68125), (153, 68164), (184, 68260),

Gene: Parmesanjohn\_55 Start: 36197, Stop: 36685, Start Num: 43

Candidate Starts for Parmesanjohn\_55:

(Start: 43 @36197 has 5 MA's), (49, 36233), (Start: 59 @36287 has 5 MA's), (132, 36440), (135, 36443), (144, 36470), (182, 36581), (184, 36587), (198, 36674),

Gene: ParvusTarda\_93 Start: 64024, Stop: 64359, Start Num: 80

Candidate Starts for ParvusTarda\_93:

(Start: 80 @64024 has 2 MA's), (Start: 83 @64033 has 1 MA's), (Start: 87 @64042 has 1 MA's), (Start: 94 @64051 has 10 MA's), (121, 64099), (182, 64252), (189, 64276), (198, 64345),

Gene: PauloDiaboli\_215 Start: 113653, Stop: 113336, Start Num: 101

Candidate Starts for PauloDiaboli\_215:

(Start: 101 @113653 has 23 MA's), (161, 113536), (171, 113497), (182, 113458), (194, 113401), (203, 113341),

Gene: Peas\_65 Start: 41993, Stop: 42271, Start Num: 94

Candidate Starts for Peas\_65:

(13, 41477), (38, 41768), (62, 41897), (Start: 94 @41993 has 10 MA's), (181, 42167), (182, 42170), (192, 42206), (197, 42260),

Gene: Pepe25\_55 Start: 37387, Stop: 37064, Start Num: 92

Candidate Starts for Pepe25\_55:

(Start: 77 @37417 has 3 MA's), (Start: 89 @37390 has 1 MA's), (Start: 92 @37387 has 13 MA's), (Start: 101 @37375 has 23 MA's), (112, 37351), (121, 37336), (140, 37300), (143, 37288), (158, 37258), (171, 37213), (182, 37174),

Gene: Perkunas\_2 Start: 448, Stop: 780, Start Num: 88

Candidate Starts for Perkunas\_2:

(Start: 88 @448 has 5 MA's), (127, 514), (182, 682), (189, 706),

Gene: Phabba\_246 Start: 137077, Stop: 137433, Start Num: 92

Candidate Starts for Phabba\_246:

(26, 136756), (45, 136897), (Start: 92 @137077 has 13 MA's), (121, 137128), (150, 137203), (168, 137236), (170, 137245), (182, 137287), (184, 137293), (187, 137302), (189, 137311),

Gene: Philus\_98 Start: 54977, Stop: 55258, Start Num: 97

Candidate Starts for Philus\_98:

(17, 54566), (20, 54587), (22, 54608), (25, 54638), (Start: 97 @54977 has 40 MA's), (121, 55022), (133, 55040), (182, 55157),

Gene: Phloss\_53 Start: 35604, Stop: 36092, Start Num: 43

Candidate Starts for Phloss\_53:

(Start: 43 @35604 has 5 MA's), (49, 35640), (Start: 59 @35694 has 5 MA's), (132, 35847), (135, 35850), (144, 35877), (182, 35988), (184, 35994), (198, 36081),

Gene: PhuzzTulsa\_6 Start: 3249, Stop: 3656, Start Num: 73

Candidate Starts for PhuzzTulsa\_6:

(Start: 73 @3249 has 11 MA's), (100, 3300), (105, 3309), (139, 3396), (155, 3444), (173, 3510), (180, 3528), (184, 3546),

Gene: PinkPlastic\_9 Start: 6480, Stop: 6794, Start Num: 101

Candidate Starts for PinkPlastic\_9:

(Start: 101 @6480 has 23 MA's), (121, 6519), (128, 6528), (150, 6597), (175, 6672), (192, 6732),

Gene: Pipp\_48 Start: 34437, Stop: 34712, Start Num: 92

Candidate Starts for Pipp\_48:

(Start: 92 @34437 has 13 MA's), (182, 34608), (189, 34632),

Gene: Pippy\_94 Start: 52340, Stop: 52621, Start Num: 97

Candidate Starts for Pippy\_94:

(17, 51929), (20, 51950), (22, 51971), (25, 52001), (Start: 97 @52340 has 40 MA's), (121, 52385), (133, 52403), (182, 52520),

Gene: Pipsqueaks\_56 Start: 36265, Stop: 36663, Start Num: 59

Candidate Starts for Pipsqueaks\_56:

(Start: 43 @36175 has 5 MA's), (49, 36211), (Start: 59 @36265 has 5 MA's), (132, 36418), (135, 36421), (144, 36448), (182, 36559), (184, 36565), (198, 36652),

Gene: Pointis\_8 Start: 3460, Stop: 3867, Start Num: 73

Candidate Starts for Pointis\_8:

(Start: 73 @3460 has 11 MA's), (100, 3511), (105, 3520), (139, 3607), (155, 3655), (173, 3721), (180, 3739), (184, 3757),

Gene: Popstraw\_8 Start: 3443, Stop: 3850, Start Num: 73

Candidate Starts for Popstraw\_8:

(Start: 73 @3443 has 11 MA's), (100, 3494), (105, 3503), (139, 3590), (155, 3638), (173, 3704), (180, 3722), (184, 3740),

Gene: Priscilla\_97 Start: 54167, Stop: 54448, Start Num: 97

Candidate Starts for Priscilla\_97:

(17, 53756), (20, 53777), (22, 53798), (25, 53828), (Start: 97 @54167 has 40 MA's), (121, 54212), (133, 54230), (182, 54347),

Gene: Pumpernickel\_196 Start: 112347, Stop: 112042, Start Num: 101

Candidate Starts for Pumpernickel\_196:

(Start: 101 @112347 has 23 MA's), (103, 112341), (141, 112272), (183, 112170), (201, 112059),

Gene: Pureglobe5\_10 Start: 3473, Stop: 3880, Start Num: 73

Candidate Starts for Pureglobe5\_10:

(Start: 73 @3473 has 11 MA's), (100, 3524), (105, 3533), (139, 3620), (155, 3668), (173, 3734), (180, 3752), (184, 3770),

Gene: Qui\_124 Start: 68080, Stop: 68388, Start Num: 113

Candidate Starts for Qui\_124:

(Start: 113 @68080 has 3 MA's), (138, 68125), (153, 68164), (184, 68260),

Gene: Qui\_133 Start: 71406, Stop: 71771, Start Num: 104

Candidate Starts for Qui\_133:

(69, 71328), (Start: 104 @71406 has 3 MA's), (151, 71517), (174, 71592), (189, 71643),

Gene: RIPWilbur\_6 Start: 2867, Stop: 3274, Start Num: 73

Candidate Starts for RIPWilbur\_6:

(Start: 73 @2867 has 11 MA's), (100, 2918), (105, 2927), (139, 3014), (155, 3062), (173, 3128), (184, 3164),

Gene: Rajelicia\_10 Start: 6620, Stop: 6934, Start Num: 101

Candidate Starts for Rajelicia\_10:

(Start: 101 @6620 has 23 MA's), (121, 6659), (128, 6668), (150, 6737), (175, 6812), (192, 6872),

Gene: Ranunculus\_6 Start: 3041, Stop: 3424, Start Num: 73

Candidate Starts for Ranunculus\_6:

(Start: 73 @3041 has 11 MA's), (155, 3236), (175, 3305), (180, 3320), (183, 3335), (184, 3338),

Gene: RazzB\_7 Start: 2835, Stop: 3242, Start Num: 73

Candidate Starts for RazzB\_7:

(Start: 73 @2835 has 11 MA's), (100, 2886), (105, 2895), (139, 2982), (155, 3030), (173, 3096), (180, 3114), (184, 3132),

Gene: RedBaron\_55 Start: 37907, Stop: 37578, Start Num: 101

Candidate Starts for RedBaron\_55:

(Start: 101 @37907 has 23 MA's), (121, 37868), (152, 37775), (173, 37706),

Gene: Ren19\_8 Start: 4093, Stop: 4401, Start Num: 97

Candidate Starts for Ren19\_8:

(Start: 97 @4093 has 40 MA's), (182, 4297), (192, 4333),

Gene: Rizwana\_7 Start: 3422, Stop: 3844, Start Num: 78

Candidate Starts for Rizwana\_7:

(60, 3356), (Start: 78 @3422 has 4 MA's), (Start: 96 @3458 has 2 MA's), (115, 3500), (139, 3560), (183, 3707), (184, 3710),

Gene: RobinRose\_58 Start: 38338, Stop: 38039, Start Num: 89

Candidate Starts for RobinRose\_58:

(Start: 77 @38365 has 3 MA's), (Start: 89 @38338 has 1 MA's), (Start: 92 @38335 has 13 MA's), (Start: 101 @38323 has 23 MA's), (112, 38299), (121, 38284), (143, 38236), (156, 38227), (170, 38191), (182, 38149), (188, 38128),

Gene: Rockabye\_69 Start: 29857, Stop: 30210, Start Num: 74

Candidate Starts for Rockabye\_69:

(Start: 74 @29857 has 1 MA's), (173, 30079),

Gene: Romm\_58 Start: 38320, Stop: 38039, Start Num: 101

Candidate Starts for Romm\_58:

(Start: 77 @38362 has 3 MA's), (Start: 89 @38335 has 1 MA's), (Start: 92 @38332 has 13 MA's), (Start: 101 @38320 has 23 MA's), (121, 38281), (123, 38278), (140, 38245), (143, 38233), (156, 38224), (182, 38146), (188, 38125), (192, 38110),

Gene: SJReid\_70 Start: 30780, Stop: 31085, Start Num: 74

Candidate Starts for SJReid\_70:

(Start: 74 @30780 has 1 MA's),

Gene: Saal\_94 Start: 53731, Stop: 54012, Start Num: 97

Candidate Starts for Saal\_94:

(17, 53320), (20, 53341), (22, 53362), (25, 53392), (Start: 97 @53731 has 40 MA's), (121, 53776), (133, 53794), (182, 53911),

Gene: SadLad\_63 Start: 46437, Stop: 46174, Start Num: 102

Candidate Starts for SadLad\_63:

(Start: 102 @46437 has 2 MA's), (114, 46410), (130, 46389), (182, 46278), (192, 46242), (198, 46185),

Gene: Sandalphon\_96 Start: 54715, Stop: 55005, Start Num: 91

Candidate Starts for Sandalphon\_96:

(Start: 91 @54715 has 1 MA's), (121, 54769), (133, 54787), (182, 54904),

Gene: Schnauzer\_56 Start: 36197, Stop: 36685, Start Num: 43

Candidate Starts for Schnauzer\_56:

(Start: 43 @36197 has 5 MA's), (49, 36233), (Start: 59 @36287 has 5 MA's), (132, 36440), (135, 36443), (144, 36470), (182, 36581), (184, 36587), (198, 36674),

Gene: ScoobyDoobyDoo\_233 Start: 134075, Stop: 134443, Start Num: 92

Candidate Starts for ScoobyDoobyDoo\_233:

(Start: 92 @134075 has 13 MA's), (165, 134234), (184, 134303), (189, 134321), (197, 134387), (201, 134414),

Gene: Seabiscuit\_12 Start: 6693, Stop: 7034, Start Num: 82

Candidate Starts for Seabiscuit\_12:

(Start: 82 @6693 has 1 MA's), (Start: 101 @6720 has 23 MA's), (121, 6759), (128, 6768), (150, 6837), (175, 6912), (192, 6972),

Gene: Sephiroth\_114 Start: 64560, Stop: 64826, Start Num: 117

Candidate Starts for Sephiroth\_114:

(66, 64443), (Start: 117 @64560 has 4 MA's), (185, 64734), (197, 64815),

Gene: SeresaTree\_71 Start: 55390, Stop: 55779, Start Num: 76

Candidate Starts for SeresaTree\_71:

(Start: 76 @55390 has 7 MA's), (122, 55477), (129, 55486), (157, 55558), (160, 55564), (198, 55741), (199, 55750),

Gene: Sham\_67 Start: 56064, Stop: 56453, Start Num: 76

Candidate Starts for Sham\_67:

(Start: 76 @56064 has 7 MA's), (86, 56091), (160, 56238), (199, 56424),

Gene: ShiLan\_99 Start: 55748, Stop: 56029, Start Num: 97

Candidate Starts for ShiLan\_99:

(17, 55337), (20, 55358), (22, 55379), (25, 55409), (Start: 97 @55748 has 40 MA's), (121, 55793), (133, 55811), (182, 55928), (192, 55964),

Gene: Shocker\_3 Start: 902, Stop: 1168, Start Num: 98

Candidate Starts for Shocker\_3:

(Start: 98 @902 has 1 MA's), (130, 956), (182, 1067),

Gene: ShowerHandel\_97 Start: 53013, Stop: 53294, Start Num: 97

Candidate Starts for ShowerHandel\_97:

(17, 52602), (20, 52623), (22, 52644), (25, 52674), (Start: 97 @53013 has 40 MA's), (121, 53058), (133, 53076), (182, 53193),

Gene: SilentRX\_7 Start: 2575, Stop: 2988, Start Num: 78

Candidate Starts for SilentRX\_7:

(Start: 78 @2575 has 4 MA's), (121, 2665), (157, 2764), (164, 2782), (190, 2878),

Gene: Slagathor\_11 Start: 6591, Stop: 6905, Start Num: 101

Candidate Starts for Slagathor\_11:

(Start: 101 @6591 has 23 MA's), (121, 6630), (128, 6639), (150, 6708), (175, 6783), (192, 6843),

Gene: Smurph\_55 Start: 36197, Stop: 36685, Start Num: 43

Candidate Starts for Smurph\_55:

(Start: 43 @36197 has 5 MA's), (49, 36233), (Start: 59 @36287 has 5 MA's), (132, 36440), (135, 36443), (144, 36470), (182, 36581), (184, 36587), (198, 36674),

Gene: SoilAssassin\_55 Start: 39034, Stop: 39414, Start Num: 77

Candidate Starts for SoilAssassin\_55:

(Start: 77 @39034 has 3 MA's), (110, 39088), (155, 39217), (167, 39253), (173, 39280), (175, 39283), (184, 39313), (189, 39331), (192, 39343), (198, 39400),

Gene: SpeedDemon\_540 Start: 45518, Stop: 45787, Start Num: 94

Candidate Starts for SpeedDemon\_540:

(Start: 94 @45518 has 10 MA's), (121, 45566), (175, 45662), (182, 45686),

Gene: Spoonbill\_96 Start: 51661, Stop: 51942, Start Num: 97

Candidate Starts for Spoonbill\_96:

(17, 51250), (20, 51271), (22, 51292), (25, 51322), (Start: 97 @51661 has 40 MA's), (121, 51706), (133, 51724), (182, 51841),

Gene: Squee\_11 Start: 7115, Stop: 7429, Start Num: 101

Candidate Starts for Squee\_11:

(Start: 101 @7115 has 23 MA's), (121, 7154), (150, 7232), (167, 7277),

Gene: Squiddly\_103 Start: 56800, Stop: 57090, Start Num: 94

Candidate Starts for Squiddly\_103:

(46, 56620), (47, 56623), (63, 56704), (79, 56770), (Start: 94 @56800 has 10 MA's), (159, 56917), (176, 56971), (192, 57028),

Gene: StAugustine\_144 Start: 85407, Stop: 85078, Start Num: 96

Candidate Starts for StAugustine\_144:

(Start: 96 @85407 has 2 MA's), (124, 85350), (170, 85212), (177, 85188), (190, 85140),

Gene: Stellammi\_137 Start: 61212, Stop: 61520, Start Num: 92

Candidate Starts for Stellammi\_137:

(84, 61200), (Start: 92 @61212 has 13 MA's), (121, 61263), (182, 61413),

Gene: Sunfish\_12 Start: 3876, Stop: 4208, Start Num: 101

Candidate Starts for Sunfish\_12:

(Start: 43 @3663 has 5 MA's), (Start: 101 @3876 has 23 MA's), (126, 3927), (133, 3951), (149, 4002), (173, 4071), (192, 4134),

Gene: SwagPigglett\_98 Start: 54867, Stop: 55148, Start Num: 97

Candidate Starts for SwagPigglett\_98:

(17, 54456), (20, 54477), (22, 54498), (25, 54528), (Start: 97 @54867 has 40 MA's), (121, 54912), (133, 54930), (182, 55047),

Gene: Switzer\_11 Start: 6599, Stop: 6913, Start Num: 101

Candidate Starts for Switzer\_11:

(Start: 82 @6572 has 1 MA's), (Start: 101 @6599 has 23 MA's), (121, 6638), (128, 6647), (150, 6716), (175, 6791), (192, 6851),

Gene: Syleon\_119 Start: 65342, Stop: 65608, Start Num: 117

Candidate Starts for Syleon\_119:

(66, 65225), (Start: 117 @65342 has 4 MA's), (185, 65516), (197, 65597),

Gene: Tempo\_56 Start: 38215, Stop: 37919, Start Num: 92

Candidate Starts for Tempo\_56:

(Start: 77 @38245 has 3 MA's), (Start: 89 @38218 has 1 MA's), (Start: 92 @38215 has 13 MA's), (Start: 101 @38203 has 23 MA's), (112, 38179), (121, 38164), (143, 38116), (156, 38107), (170, 38071), (182, 38029), (188, 38008),

Gene: Tessdabest\_55 Start: 36420, Stop: 36818, Start Num: 59

Candidate Starts for Tessdabest\_55:

(Start: 43 @36330 has 5 MA's), (49, 36366), (Start: 59 @36420 has 5 MA's), (132, 36573), (135, 36576), (144, 36603), (182, 36714), (184, 36720), (198, 36807),

Gene: Tortellini\_63 Start: 43457, Stop: 43750, Start Num: 87

Candidate Starts for Tortellini\_63:

(27, 43202), (30, 43223), (Start: 43 @43301 has 5 MA's), (54, 43364), (64, 43400), (Start: 87 @43457 has 1 MA's), (121, 43511), (169, 43607), (182, 43646), (189, 43670), (198, 43739),

Gene: TunaTartare\_69 Start: 56371, Stop: 56772, Start Num: 76

Candidate Starts for TunaTartare\_69:

(Start: 76 @56371 has 7 MA's), (136, 56482), (143, 56509), (147, 56515), (157, 56545), (190, 56665), (195, 56704),

Gene: U2\_10 Start: 6601, Stop: 6915, Start Num: 101

Candidate Starts for U2\_10:

(Start: 82 @6574 has 1 MA's), (Start: 101 @6601 has 23 MA's), (121, 6640), (128, 6649), (150, 6718), (175, 6793), (192, 6853),

Gene: Untouchable\_2 Start: 479, Stop: 808, Start Num: 88

Candidate Starts for Untouchable\_2:

(Start: 88 @479 has 5 MA's), (127, 545), (173, 686), (182, 713), (186, 725),

Gene: Vivum\_96 Start: 55102, Stop: 55383, Start Num: 97

Candidate Starts for Vivum\_96:

(17, 54691), (20, 54712), (22, 54733), (25, 54763), (Start: 97 @55102 has 40 MA's), (121, 55147), (133, 55165), (182, 55282),

Gene: Vordorf\_53 Start: 39065, Stop: 39475, Start Num: 58

Candidate Starts for Vordorf\_53:

(12, 38624), (21, 38795), (34, 38936), (50, 39017), (51, 39023), (58, 39065), (72, 39131), (120, 39221), (135, 39242), (160, 39278),

Gene: Whouxphf\_100 Start: 54173, Stop: 54454, Start Num: 97

Candidate Starts for Whouxphf\_100:

(17, 53762), (20, 53783), (22, 53804), (25, 53834), (Start: 97 @54173 has 40 MA's), (121, 54218), (133, 54236), (182, 54353),

Gene: Wojtek\_85 Start: 64679, Stop: 65014, Start Num: 80

Candidate Starts for Wojtek\_85:

(Start: 80 @64679 has 2 MA's), (Start: 83 @64688 has 1 MA's), (Start: 87 @64697 has 1 MA's), (Start: 94 @64706 has 10 MA's), (121, 64754), (182, 64907), (189, 64931), (198, 65000),

Gene: Xerxes\_55 Start: 36284, Stop: 36682, Start Num: 59

Candidate Starts for Xerxes\_55:

(Start: 43 @36194 has 5 MA's), (49, 36230), (Start: 59 @36284 has 5 MA's), (132, 36437), (135, 36440), (144, 36467), (182, 36578), (184, 36584), (198, 36671),

Gene: Yorick\_92 Start: 54408, Stop: 54689, Start Num: 97

Candidate Starts for Yorick\_92:

(17, 53997), (20, 54018), (22, 54039), (25, 54069), (Start: 97 @54408 has 40 MA's), (121, 54453), (133, 54471), (182, 54588),

Gene: Yvonnetastic\_136 Start: 75890, Stop: 76258, Start Num: 81

Candidate Starts for Yvonnetastic\_136:

(Start: 81 @75890 has 2 MA's), (99, 75920), (107, 75935), (110, 75941), (119, 75965), (142, 76016), (181, 76136), (182, 76139), (189, 76163), (200, 76244),

Gene: Zizzle\_99 Start: 55058, Stop: 55339, Start Num: 97

Candidate Starts for Zizzle\_99:

(17, 54647), (20, 54668), (22, 54689), (25, 54719), (Start: 97 @55058 has 40 MA's), (121, 55103), (133, 55121), (182, 55238), (192, 55274),