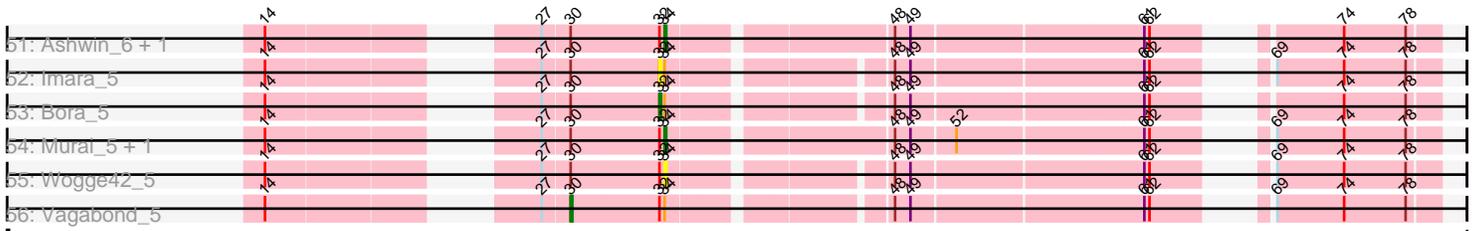


Pham 283489



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 283489 Report

This analysis was run 02/23/26 on database version 636.

Pham number 283489 has 208 members, 26 are drafts.

Phages represented in each track:

- Track 1 : Severus\_76, PeaceMeal1\_75, Poompha\_75
- Track 2 : Twister\_78, Rebeuca\_79
- Track 3 : Eaglepride\_81
- Track 4 : WalterMcMickey\_77
- Track 5 : Shapes\_80, DustyMartin\_80, Rowdy\_80
- Track 6 : DontArgue\_73
- Track 7 : Chupacabra\_75
- Track 8 : DarthPhader\_79, Refuge\_81
- Track 9 : Phlei\_63
- Track 10 : PainterBoy\_86, Lucyedi\_87, EagleEye\_88
- Track 11 : 40AC\_83
- Track 12 : Sabertooth\_78, Polymorphads\_79, Mazhar510\_78, Connomayer\_78, Pumbaa\_78, TygerBlood\_78, Koreni\_77, LHTSCC\_80, Tinybot\_77, Sultana\_78
- Track 13 : Eros\_78, OKaNui\_77, DirtyDunning\_77, MeeZee\_77, Obama12\_79, Maverick\_77, Iceman\_76, Koan\_75, Happiness\_77, Peaches\_76, Burger\_76, Phacado\_78, Huxley\_67, Eapen\_78, PeterPeter\_78, Avle17\_78, Wander\_78, Broseidon\_78, Commander\_76, Lorenzo\_78, Cocoaberry\_78, ICleared\_77, Annyong\_77, Alberto7\_79, Relief\_77, Kyee\_78, Arturo\_75, LittleGuy\_78, Scamp\_78, HamSlice\_74, Nemo27\_77, LappelDuVide\_78, Gadost\_78, Millski\_77, Houdini22\_77, NotAPhaseMom\_77, Phighter1804\_78
- Track 14 : Holli\_77, Kingmustik0402\_78, TroyPia\_79, Sparxx\_79, Blackmoor\_77, Eurydice\_79, Maxo\_80, Ohfah\_79, JetBlade\_79, Nyxis\_77, Bartimeaus\_78, BangNhom\_75, YoSam321\_78, Baby16\_78, Rosa24\_74
- Track 15 : Deano\_75, TiroTheta9\_77, Caelakin\_76, LochMonster\_79, CentreCat\_78, Kamy\_77, Eagle\_77, Iracema64\_78, ChampagnePapi\_81, BellusTerra\_79, Shaka\_76, Lunsford\_78, Spino\_77, SenorClean\_79, Roosevelt\_76, Abdiel\_77, SheldonCooper\_78, Taquarus\_77, Cerulean\_80, Citius\_78, Phontbonne\_78, Nebs\_79, Medusa\_77, Ulysses\_77, Druantia\_77, Phelipe\_79
- Track 16 : KekoraPapaka\_75, Dhanush\_78, Chaph\_78
- Track 17 : AvatarAhPeg\_78, Miramae\_78
- Track 18 : NorthStar\_75, Romney\_77, Flux\_79, Pipcraft\_74, Ruin\_78, SteMason\_74, Wilbur\_78, Lemur\_78, Melvin\_80
- Track 19 : Cintron\_78
- Track 20 : Perplexer\_75
- Track 21 : Cici\_75, Morpher26\_75, Shygu2\_76
- Track 22 : Stasia\_75
- Track 23 : Cindaradix\_73

- Track 24 : Wile\_74, Wizard007\_75, Katalie136\_75
- Track 25 : Skipitt\_77, RockieBear\_75, Bombshell\_78
- Track 26 : Morrow\_80
- Track 27 : Badger\_74
- Track 28 : Bumblebee11\_74
- Track 29 : Stink\_78
- Track 30 : Kremtemulon\_75
- Track 31 : Chartreuse\_87
- Track 32 : Hammer\_90, BlessJoy\_90, ToneTone\_87, Tucker\_90
- Track 33 : Yokurt\_89, Koko\_91, Temprado\_91, Helmet\_92
- Track 34 : LoneWolf\_84, Vanisoa\_79, Arissanae\_79
- Track 35 : EdogawaKiddo\_82, HortumSL17\_85, Scherzo\_82, Phonnegut\_84, Fayely\_82, Jiawan\_81, Tubs\_84, Sachima\_80, Pioneer\_84, Catalina\_86, RyeScarlet\_85, Beemo\_84, Onglai\_82, Myxus\_84, Halex\_82, Phaeder\_84, Hanray\_82, Lilleskat\_81
- Track 36 : Qobbit\_82, Conquerage\_82, Alma\_82, Eidsmoe\_82, EmyBug\_81, Ayanochan\_82
- Track 37 : Yecey3\_85
- Track 38 : Darrell\_82
- Track 39 : Keziacharles14\_81
- Track 40 : Maminiaina\_83, BogosyJay\_83
- Track 41 : SheaKeira\_79
- Track 42 : Toaka\_82
- Track 43 : PackMan\_83
- Track 44 : Glotell\_44, Babushka\_40, Camara\_43, Amphitrite\_43, AdoptaAdorbs\_42, Renna12\_42, KHumphrey\_43
- Track 45 : Hans\_7
- Track 46 : Ali17\_3
- Track 47 : Camerico\_39
- Track 48 : Scottish\_69, KingMidas\_70, Inventum\_69, Sassafras\_72
- Track 49 : ByChance\_64, ShowerHandel\_74
- Track 50 : Dorothy\_72
- Track 51 : Ashwin\_6, Wildflower\_5
- Track 52 : Imara\_5
- Track 53 : Bora\_5
- Track 54 : Murai\_5, KingPhillip3\_5
- Track 55 : Wogge42\_5
- Track 56 : Vagabond\_5

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

The start number called the most often in the published annotations is 19, it was called in 82 of the 182 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abdiel\_77, Alberto7\_79, Annyong\_77, Arturo\_75, AvatarAhPeg\_78, Avle17\_78, Badger\_74, BellusTerra\_79, Broseidon\_78, Bumblebee11\_74, Burger\_76, Caelakin\_76, CentreCat\_78, Cerulean\_80, ChampagnePapi\_81, Chaph\_78, Cici\_75, Citius\_78, Cocoaberry\_78, Commander\_76, Deano\_75, Dhanush\_78, DirtyDunning\_77, Dorothy\_72, Druantia\_77, Eagle\_77, Eapen\_78, Eros\_78, Flux\_79,

Gadost\_78, HamSlice\_74, Happiness\_77, Houdini22\_77, Huxley\_67, ICleared\_77, Iceman\_76, Iracema64\_78, Kampy\_77, KekoraPapaka\_75, Koan\_75, Kremtemulon\_75, Kyee\_78, LappelDuVide\_78, Lemur\_78, LittleGuy\_78, LochMonster\_79, Lorenzo\_78, Lunsford\_78, Maverick\_77, Medusa\_77, MeeZee\_77, Melvin\_80, Millski\_77, Miramae\_78, Morpher26\_75, Morrow\_80, Nebs\_79, Nemo27\_77, NorthStar\_75, NotAPhaseMom\_77, OKaNui\_77, Obama12\_79, Peaches\_76, PeterPeter\_78, Phacado\_78, Phelipe\_79, Phighter1804\_78, Phlei\_63, Phontbonne\_78, Pipcraft\_74, Relief\_77, Romney\_77, Roosevelt\_76, Ruin\_78, Scamp\_78, SeniorClean\_79, Shaka\_76, SheldonCooper\_78, Shygu2\_76, Spino\_77, SteMason\_74, Taquarus\_77, TiroTheta9\_77, Ulysses\_77, Wander\_78, Wilbur\_78,

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

- Baby16\_78, BangNhom\_75, Bartimeaus\_78, Blackmoor\_77, Bombshell\_78, ByChance\_64, Cintron\_78, Connomayer\_78, Eurydice\_79, Holli\_77, Inventum\_69, JetBlade\_79, Katalie136\_75, KingMidas\_70, Kingmustik0402\_78, Koreni\_77, LHTSCC\_80, Maxo\_80, Mazhar510\_78, Nyxis\_77, Ohfah\_79, Perplexer\_75, Polymorphads\_79, Pumbaa\_78, RockieBear\_75, Rosa24\_74, Sabertooth\_78, Sassafras\_72, Scottish\_69, ShowerHandel\_74, Skipitt\_77, Sparxx\_79, Stasia\_75, Stink\_78, Sultana\_78, Tinybot\_77, TroyPia\_79, TygerBlood\_78, Wile\_74, Wizard007\_75, YoSam321\_78,

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

- 40AC\_83, AdoptaAdorbs\_42, Ali17\_3, Alma\_82, Amphitrite\_43, Arissanae\_79, Ashwin\_6, Ayanochan\_82, Babushka\_40, Beemo\_84, BlessJoy\_90, BogosyJay\_83, Bora\_5, Camara\_43, Camerico\_39, Catalina\_86, Chartreuse\_87, Chupacabra\_75, Cindaradix\_73, Conquerage\_82, Darrell\_82, DarthPhader\_79, DontArgue\_73, DustyMartin\_80, EagleEye\_88, Eaglepride\_81, EdogawaKiddo\_82, Eidsmoe\_82, EmyBug\_81, Fayely\_82, Glotell\_44, Hammer\_90, Hanray\_82, Hans\_7, Helmet\_92, Horex\_82, HortumSL17\_85, Imara\_5, Jiawan\_81, KHumphrey\_43, Keziacharles14\_81, KingPhillip3\_5, Koko\_91, Lilleskat\_81, LoneWolf\_84, Lucyedi\_87, Maminiaina\_83, Murai\_5, Myxus\_84, Onglai\_82, PackMan\_83, PainterBoy\_86, PeaceMeal1\_75, Phaeder\_84, Phonnegut\_84, Pioneer\_84, Poompha\_75, Qobbit\_82, Rebeuca\_79, Refuge\_81, Renna12\_42, Rowdy\_80, RyeScarlet\_85, Sachima\_80, Scherzo\_82, Severus\_76, Shapes\_80, SheaKeira\_79, Temprado\_91, Toaka\_82, ToneTone\_87, Tubs\_84, Tucker\_90, Twister\_78, Vagabond\_5, Vanisoa\_79, WalterMcMickey\_77, Wildflower\_5, Wogge42\_5, Yecey3\_85, Yokurt\_89,

### Summary by start number:

Start 12:

- Found in 68 of 208 ( 32.7% ) of genes in pham
- Manual Annotations of this start: 13 of 182
- Called 19.1% of time when present
- Phage (with cluster) where this start called: Arissanae\_79 (A9), BogosyJay\_83 (A9), Darrell\_82 (A9), DarthPhader\_79 (A12), Keziacharles14\_81 (A9), LoneWolf\_84 (A9), Maminiaina\_83 (A9), Refuge\_81 (A12), SheaKeira\_79 (A9), Toaka\_82 (A9), Vanisoa\_79 (A9), WalterMcMickey\_77 (A10), Yecey3\_85 (A9),

Start 14:

- Found in 140 of 208 ( 67.3% ) of genes in pham
- Manual Annotations of this start: 5 of 182
- Called 3.6% of time when present

- Phage (with cluster) where this start called: Chartreuse\_87 (A6), Helmet\_92 (A6), Koko\_91 (A6), Temprado\_91 (A6), Yokurt\_89 (A6),

#### Start 15:

- Found in 5 of 208 ( 2.4% ) of genes in pham
- Manual Annotations of this start: 4 of 182
- Called 80.0% of time when present
- Phage (with cluster) where this start called: BlessJoy\_90 (A6), Hammer\_90 (A6), ToneTone\_87 (A6), Tucker\_90 (A6),

#### Start 17:

- Found in 40 of 208 ( 19.2% ) of genes in pham
- Manual Annotations of this start: 17 of 182
- Called 65.0% of time when present
- Phage (with cluster) where this start called: Alma\_82 (A9), Ayanochan\_82 (A9), Beemo\_84 (A9), Catalina\_86 (A9), Conquerage\_82 (A9), EdogawaKiddo\_82 (A9), Eidsmoe\_82 (A9), EmyBug\_81 (A9), Fayely\_82 (A9), Hanray\_82 (A9), Holes\_82 (A9), HortumSL17\_85 (A9), Jiawan\_81 (A9), Lilleskat\_81 (A9), Myxus\_84 (A9), Onglai\_82 (A9), Phaeder\_84 (A9), Phonnegut\_84 (A9), Pioneer\_84 (A9), Qobbit\_82 (A9), Rebeuca\_79 (A10), RyeScarlet\_85 (A9), Sachima\_80 (A9), Scherzo\_82 (A9), Tubs\_84 (A9), Twister\_78 (A10),

#### Start 18:

- Found in 116 of 208 ( 55.8% ) of genes in pham
- Manual Annotations of this start: 28 of 182
- Called 25.9% of time when present
- Phage (with cluster) where this start called: Baby16\_78 (A4), BangNhom\_75 (A4), Bartimeaus\_78 (A4), Blackmoor\_77 (A4), Bombshell\_78 (A4), Cintron\_78 (A4), Connomayer\_78 (A4), Eurydice\_79 (A4), Holli\_77 (A4), JetBlade\_79 (A4), Kingmustik0402\_78 (A4), Koreni\_77 (A4), LHTSCC\_80 (A4), Maxo\_80 (A4), Mazhar510\_78 (A4), Nyxis\_77 (A4), Ohfah\_79 (A4), Polymorphads\_79 (A4), Pumbaa\_78 (A4), RockieBear\_75 (A4), Rosa24\_74 (A4), Sabertooth\_78 (A4), Skipitt\_77 (A4), Sparxx\_79 (A4), Stasia\_75 (A4), Sultana\_78 (A4), Tinybot\_77 (A4), TroyPia\_79 (A4), TygerBlood\_78 (A4), YoSam321\_78 (A4),

#### Start 19:

- Found in 127 of 208 ( 61.1% ) of genes in pham
- Manual Annotations of this start: 82 of 182
- Called 67.7% of time when present
- Phage (with cluster) where this start called: Abdiel\_77 (A4), Alberto7\_79 (A4), Annyong\_77 (A4), Arturo\_75 (A4), AvatarAhPeg\_78 (A4), Avle17\_78 (A4), Badger\_74 (A4), BellusTerra\_79 (A4), Broseidon\_78 (A4), Bumblebee11\_74 (A4), Burger\_76 (A4), Caelakin\_76 (A4), CentreCat\_78 (A4), Cerulean\_80 (A4), ChampagnePapi\_81 (A4), Chaph\_78 (A4), Cici\_75 (A4), Citius\_78 (A4), Cocoaberry\_78 (A4), Commander\_76 (A4), Deano\_75 (A4), Dhanush\_78 (A4), DirtyDunning\_77 (A4), Dorothy\_72 (F1), Druantia\_77 (A4), Eagle\_77 (A4), Eapen\_78 (A4), Eros\_78 (A4), Flux\_79 (A4), Gadost\_78 (A4), HamSlice\_74 (A4), Happiness\_77 (A4), Houdini22\_77 (A4), Huxley\_67 (A4), ICleared\_77 (A4), Iceman\_76 (A4), Iracema64\_78 (A4), Kamy\_77 (A4), KekoraPapaka\_75 (A4), Koan\_75 (A4), Kremtemulon\_75 (A4), Kyee\_78 (A4), LappelDuVide\_78 (A4), Lemur\_78 (A4), LittleGuy\_78 (A4), LochMonster\_79 (A4), Lorenzo\_78 (A4), Lunsford\_78 (A4), Maverick\_77 (A4), Medusa\_77 (A4), MeeZee\_77 (A4), Melvin\_80 (A4), Millski\_77 (A4), Miramae\_78 (A4), Morpher26\_75 (A4), Morrow\_80 (A4), Nebs\_79 (A4), Nemo27\_77 (A4),

NorthStar\_75 (A4), NotAPhaseMom\_77 (A4), OKaNui\_77 (A4), Obama12\_79 (A4), Peaches\_76 (A4), PeterPeter\_78 (A4), Phacado\_78 (A4), Phelipe\_79 (A4), Phighter1804\_78 (A4), Phlei\_63 (A13), Phontbonne\_78 (A4), Pipcraft\_74 (A4), Relief\_77 (A4), Romney\_77 (A4), Roosevelt\_76 (A4), Ruin\_78 (A4), Scamp\_78 (A4), SenorClean\_79 (A4), Shaka\_76 (A4), SheldonCooper\_78 (A4), Shygu2\_76 (A4), Spino\_77 (A4), SteMason\_74 (A4), Taquarus\_77 (A4), TiroTheta9\_77 (A4), Ulysses\_77 (A4), Wander\_78 (A4), Wilbur\_78 (A4),

Start 20:

- Found in 9 of 208 ( 4.3% ) of genes in pham
- Manual Annotations of this start: 4 of 182
- Called 44.4% of time when present
- Phage (with cluster) where this start called: Katalie136\_75 (A4), Perplexer\_75 (A4), Wile\_74 (A4), Wizard007\_75 (A4),

Start 24:

- Found in 1 of 208 ( 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: 40AC\_83 (A17),

Start 25:

- Found in 4 of 208 ( 1.9% ) of genes in pham
- Manual Annotations of this start: 2 of 182
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Cindaradix\_73 (A4), Stink\_78 (A4),

Start 26:

- Found in 118 of 208 ( 56.7% ) of genes in pham
- Manual Annotations of this start: 1 of 182
- Called 0.8% of time when present
- Phage (with cluster) where this start called: Hans\_7 (DE2),

Start 29:

- Found in 7 of 208 ( 3.4% ) of genes in pham
- Manual Annotations of this start: 4 of 182
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AdoptaAdorbs\_42 (AS3), Amphitrite\_43 (AS3), Babushka\_40 (AS3), Camara\_43 (AS3), Glotell\_44 (AS3), KHumphrey\_43 (AS3), Renna12\_42 (AS3),

Start 30:

- Found in 8 of 208 ( 3.8% ) of genes in pham
- Manual Annotations of this start: 1 of 182
- Called 12.5% of time when present
- Phage (with cluster) where this start called: Vagabond\_5 (O),

Start 31:

- Found in 1 of 208 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 182
- Called 100.0% of time when present
- Phage (with cluster) where this start called: PackMan\_83 (A9),

Start 32:

- Found in 8 of 208 ( 3.8% ) of genes in pham
- Manual Annotations of this start: 1 of 182
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Bora\_5 (O), Imara\_5 (O),

Start 33:

- Found in 131 of 208 ( 63.0% ) of genes in pham
- Manual Annotations of this start: 8 of 182
- Called 9.2% of time when present
- Phage (with cluster) where this start called: Chupacabra\_75 (A10), DontArgue\_73 (A10), DustyMartin\_80 (A10), EagleEye\_88 (A16), Eaglepride\_81 (A10), Lucyedi\_87 (A16), PainterBoy\_86 (A16), PeaceMeal1\_75 (A10), Poompha\_75 (A10), Rowdy\_80 (A10), Severus\_76 (A10), Shapes\_80 (A10),

Start 34:

- Found in 9 of 208 ( 4.3% ) of genes in pham
- Manual Annotations of this start: 3 of 182
- Called 55.6% of time when present
- Phage (with cluster) where this start called: Ashwin\_6 (O), KingPhillip3\_5 (O), Murai\_5 (O), Wildflower\_5 (O), Wogge42\_5 (O),

Start 37:

- Found in 17 of 208 ( 8.2% ) of genes in pham
- Manual Annotations of this start: 6 of 182
- Called 35.3% of time when present
- Phage (with cluster) where this start called: ByChance\_64 (F1), Inventum\_69 (F1), KingMidas\_70 (F1), Sassafras\_72 (F1), Scottish\_69 (F1), ShowerHandel\_74 (F1),

Start 38:

- Found in 1 of 208 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 182
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ali17\_3 (DE2),

Start 41:

- Found in 1 of 208 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 182
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Camerico\_39 (DF4),

**Summary by clusters:**

There are 13 clusters represented in this pham: AS3, F1, A17, A16, A10, A13, A12, DF4, DE2, O, A4, A6, A9,

Info for manual annotations of cluster A10:

- Start number 12 was manually annotated 1 time for cluster A10.
- Start number 17 was manually annotated 2 times for cluster A10.
- Start number 33 was manually annotated 5 times for cluster A10.

Info for manual annotations of cluster A12:

- Start number 12 was manually annotated 2 times for cluster A12.

Info for manual annotations of cluster A16:

- Start number 33 was manually annotated 3 times for cluster A16.

Info for manual annotations of cluster A4:

- Start number 18 was manually annotated 28 times for cluster A4.
- Start number 19 was manually annotated 81 times for cluster A4.
- Start number 20 was manually annotated 4 times for cluster A4.
- Start number 25 was manually annotated 2 times for cluster A4.

Info for manual annotations of cluster A6:

- Start number 14 was manually annotated 5 times for cluster A6.
- Start number 15 was manually annotated 4 times for cluster A6.

Info for manual annotations of cluster A9:

- Start number 12 was manually annotated 10 times for cluster A9.
- Start number 17 was manually annotated 15 times for cluster A9.
- Start number 31 was manually annotated 1 time for cluster A9.

Info for manual annotations of cluster AS3:

- Start number 29 was manually annotated 4 times for cluster AS3.

Info for manual annotations of cluster DE2:

- Start number 26 was manually annotated 1 time for cluster DE2.
- Start number 38 was manually annotated 1 time for cluster DE2.

Info for manual annotations of cluster DF4:

- Start number 41 was manually annotated 1 time for cluster DF4.

Info for manual annotations of cluster F1:

- Start number 19 was manually annotated 1 time for cluster F1.
- Start number 37 was manually annotated 6 times for cluster F1.

Info for manual annotations of cluster O:

- Start number 30 was manually annotated 1 time for cluster O.
- Start number 32 was manually annotated 1 time for cluster O.
- Start number 34 was manually annotated 3 times for cluster O.

### ***Gene Information:***

Gene: 40AC\_83 Start: 49035, Stop: 48499, Start Num: 24

Candidate Starts for 40AC\_83:

(3, 49257), (6, 49233), (Start: 12 @49176 has 13 MA's), (21, 49083), (24, 49035), (Start: 26 @49005 has 1 MA's), (28, 48996), (46, 48810), (51, 48786), (61, 48663), (62, 48660), (72, 48564), (73, 48561), (76, 48522),

Gene: Abdiel\_77 Start: 46760, Stop: 46176, Start Num: 19

Candidate Starts for Abdiel\_77:

(3, 46910), (11, 46832), (Start: 14 @46811 has 5 MA's), (Start: 18 @46763 has 28 MA's), (Start: 19 @46760 has 82 MA's), (Start: 26 @46655 has 1 MA's), (Start: 33 @46583 has 8 MA's), (39, 46565), (42, 46499), (61, 46334), (62, 46331), (71, 46244), (74, 46223),

Gene: AdoptaAdorbs\_42 Start: 27398, Stop: 27865, Start Num: 29

Candidate Starts for AdoptaAdorbs\_42:

(2, 27170), (4, 27209), (7, 27236), (Start: 12 @27290 has 13 MA's), (13, 27302), (16, 27335), (Start: 29 @27398 has 4 MA's), (Start: 37 @27473 has 6 MA's), (43, 27563), (45, 27569), (50, 27590), (56, 27641), (61, 27716), (62, 27719), (75, 27803), (76, 27827), (78, 27836), (80, 27848),

Gene: Alberto7\_79 Start: 47085, Stop: 46501, Start Num: 19

Candidate Starts for Alberto7\_79:

(3, 47235), (11, 47157), (Start: 14 @47136 has 5 MA's), (Start: 18 @47088 has 28 MA's), (Start: 19 @47085 has 82 MA's), (Start: 26 @46980 has 1 MA's), (Start: 33 @46908 has 8 MA's), (39, 46890), (42, 46824), (58, 46719), (61, 46659), (62, 46656), (71, 46569), (74, 46548),

Gene: Ali17\_3 Start: 3303, Stop: 3692, Start Num: 38

Candidate Starts for Ali17\_3:

(Start: 38 @3303 has 1 MA's), (44, 3387), (50, 3414), (61, 3546), (62, 3549), (63, 3552), (74, 3630), (77, 3660),

Gene: Alma\_82 Start: 46797, Stop: 46282, Start Num: 17

Candidate Starts for Alma\_82:

(3, 46929), (6, 46905), (11, 46851), (Start: 12 @46848 has 13 MA's), (Start: 17 @46797 has 17 MA's), (46, 46590), (50, 46569), (55, 46521), (61, 46443), (62, 46440), (71, 46353),

Gene: Amphitrite\_43 Start: 27397, Stop: 27864, Start Num: 29

Candidate Starts for Amphitrite\_43:

(2, 27169), (4, 27208), (7, 27235), (Start: 12 @27289 has 13 MA's), (13, 27301), (16, 27334), (Start: 29 @27397 has 4 MA's), (Start: 37 @27472 has 6 MA's), (43, 27562), (45, 27568), (50, 27589), (56, 27640), (61, 27715), (62, 27718), (75, 27802), (76, 27826), (78, 27835), (80, 27847),

Gene: Annyong\_77 Start: 46793, Stop: 46209, Start Num: 19

Candidate Starts for Annyong\_77:

(3, 46943), (11, 46865), (Start: 14 @46844 has 5 MA's), (Start: 18 @46796 has 28 MA's), (Start: 19 @46793 has 82 MA's), (Start: 26 @46688 has 1 MA's), (Start: 33 @46616 has 8 MA's), (39, 46598), (42, 46532), (58, 46427), (61, 46367), (62, 46364), (71, 46277), (74, 46256),

Gene: Arissanae\_79 Start: 46740, Stop: 46174, Start Num: 12

Candidate Starts for Arissanae\_79:

(3, 46821), (6, 46797), (11, 46743), (Start: 12 @46740 has 13 MA's), (46, 46482), (50, 46461), (61, 46335), (62, 46332), (71, 46245),

Gene: Arturo\_75 Start: 46876, Stop: 46292, Start Num: 19

Candidate Starts for Arturo\_75:

(3, 47026), (11, 46948), (Start: 14 @46927 has 5 MA's), (Start: 18 @46879 has 28 MA's), (Start: 19 @46876 has 82 MA's), (Start: 26 @46771 has 1 MA's), (Start: 33 @46699 has 8 MA's), (39, 46681), (42, 46615), (58, 46510), (61, 46450), (62, 46447), (71, 46360), (74, 46339),

Gene: Ashwin\_6 Start: 1973, Stop: 1590, Start Num: 34

Candidate Starts for Ashwin\_6:

(Start: 14 @2159 has 5 MA's), (27, 2042), (Start: 30 @2027 has 1 MA's), (Start: 32 @1976 has 1 MA's), (Start: 34 @1973 has 3 MA's), (48, 1859), (49, 1850), (61, 1721), (62, 1718), (74, 1643), (78,

1607),

Gene: AvatarAhPeg\_78 Start: 46909, Stop: 46328, Start Num: 19

Candidate Starts for AvatarAhPeg\_78:

(3, 47059), (11, 46981), (Start: 14 @46960 has 5 MA's), (Start: 17 @46927 has 17 MA's), (Start: 19 @46909 has 82 MA's), (22, 46840), (23, 46834), (Start: 25 @46822 has 2 MA's), (42, 46651), (61, 46486), (62, 46483), (71, 46396), (74, 46375), (78, 46339),

Gene: Avle17\_78 Start: 46742, Stop: 46158, Start Num: 19

Candidate Starts for Avle17\_78:

(3, 46892), (11, 46814), (Start: 14 @46793 has 5 MA's), (Start: 18 @46745 has 28 MA's), (Start: 19 @46742 has 82 MA's), (Start: 26 @46637 has 1 MA's), (Start: 33 @46565 has 8 MA's), (39, 46547), (42, 46481), (58, 46376), (61, 46316), (62, 46313), (71, 46226), (74, 46205),

Gene: Ayanochan\_82 Start: 46580, Stop: 46065, Start Num: 17

Candidate Starts for Ayanochan\_82:

(3, 46712), (6, 46688), (11, 46634), (Start: 12 @46631 has 13 MA's), (Start: 17 @46580 has 17 MA's), (46, 46373), (50, 46352), (55, 46304), (61, 46226), (62, 46223), (71, 46136),

Gene: Babushka\_40 Start: 27331, Stop: 27798, Start Num: 29

Candidate Starts for Babushka\_40:

(2, 27103), (4, 27142), (7, 27169), (Start: 12 @27223 has 13 MA's), (13, 27235), (16, 27268), (Start: 29 @27331 has 4 MA's), (Start: 37 @27406 has 6 MA's), (43, 27496), (45, 27502), (50, 27523), (56, 27574), (61, 27649), (62, 27652), (75, 27736), (76, 27760), (78, 27769), (80, 27781),

Gene: Baby16\_78 Start: 46762, Stop: 46175, Start Num: 18

Candidate Starts for Baby16\_78:

(3, 46909), (11, 46831), (Start: 14 @46810 has 5 MA's), (Start: 18 @46762 has 28 MA's), (Start: 19 @46759 has 82 MA's), (Start: 26 @46654 has 1 MA's), (Start: 33 @46582 has 8 MA's), (39, 46564), (42, 46498), (61, 46333), (62, 46330), (71, 46243), (74, 46222),

Gene: Badger\_74 Start: 46542, Stop: 45958, Start Num: 19

Candidate Starts for Badger\_74:

(3, 46692), (11, 46614), (Start: 14 @46593 has 5 MA's), (Start: 18 @46545 has 28 MA's), (Start: 19 @46542 has 82 MA's), (Start: 20 @46530 has 4 MA's), (Start: 26 @46437 has 1 MA's), (Start: 33 @46365 has 8 MA's), (39, 46347), (42, 46281), (58, 46176), (61, 46116), (62, 46113), (71, 46026), (74, 46005),

Gene: BangNhom\_75 Start: 47188, Stop: 46601, Start Num: 18

Candidate Starts for BangNhom\_75:

(3, 47335), (11, 47257), (Start: 14 @47236 has 5 MA's), (Start: 18 @47188 has 28 MA's), (Start: 19 @47185 has 82 MA's), (Start: 26 @47080 has 1 MA's), (Start: 33 @47008 has 8 MA's), (39, 46990), (42, 46924), (61, 46759), (62, 46756), (71, 46669), (74, 46648),

Gene: Bartimeaus\_78 Start: 46753, Stop: 46166, Start Num: 18

Candidate Starts for Bartimeaus\_78:

(3, 46900), (11, 46822), (Start: 14 @46801 has 5 MA's), (Start: 18 @46753 has 28 MA's), (Start: 19 @46750 has 82 MA's), (Start: 26 @46645 has 1 MA's), (Start: 33 @46573 has 8 MA's), (39, 46555), (42, 46489), (61, 46324), (62, 46321), (71, 46234), (74, 46213),

Gene: Beemo\_84 Start: 46790, Stop: 46275, Start Num: 17

Candidate Starts for Beemo\_84:

(3, 46922), (6, 46898), (Start: 12 @46841 has 13 MA's), (Start: 17 @46790 has 17 MA's), (46, 46583), (50, 46562), (55, 46514), (61, 46436), (62, 46433), (71, 46346),

Gene: BellusTerra\_79 Start: 46789, Stop: 46205, Start Num: 19

Candidate Starts for BellusTerra\_79:

(3, 46939), (11, 46861), (Start: 14 @46840 has 5 MA's), (Start: 18 @46792 has 28 MA's), (Start: 19 @46789 has 82 MA's), (Start: 26 @46684 has 1 MA's), (Start: 33 @46612 has 8 MA's), (39, 46594), (42, 46528), (61, 46363), (62, 46360), (71, 46273), (74, 46252),

Gene: Blackmoor\_77 Start: 46753, Stop: 46166, Start Num: 18

Candidate Starts for Blackmoor\_77:

(3, 46900), (11, 46822), (Start: 14 @46801 has 5 MA's), (Start: 18 @46753 has 28 MA's), (Start: 19 @46750 has 82 MA's), (Start: 26 @46645 has 1 MA's), (Start: 33 @46573 has 8 MA's), (39, 46555), (42, 46489), (61, 46324), (62, 46321), (71, 46234), (74, 46213),

Gene: BlessJoy\_90 Start: 47615, Stop: 47079, Start Num: 15

Candidate Starts for BlessJoy\_90:

(3, 47726), (6, 47702), (11, 47648), (Start: 12 @47645 has 13 MA's), (Start: 15 @47615 has 4 MA's), (54, 47321), (61, 47240), (62, 47237), (72, 47144), (73, 47141),

Gene: BogosyJay\_83 Start: 46896, Stop: 46318, Start Num: 12

Candidate Starts for BogosyJay\_83:

(3, 46977), (5, 46956), (6, 46953), (Start: 12 @46896 has 13 MA's), (Start: 17 @46845 has 17 MA's), (46, 46638), (50, 46617), (61, 46491), (62, 46488), (71, 46401), (74, 46380), (79, 46335),

Gene: Bombshell\_78 Start: 46748, Stop: 46161, Start Num: 18

Candidate Starts for Bombshell\_78:

(3, 46895), (11, 46817), (Start: 14 @46796 has 5 MA's), (Start: 18 @46748 has 28 MA's), (Start: 19 @46745 has 82 MA's), (Start: 26 @46640 has 1 MA's), (Start: 33 @46568 has 8 MA's), (35, 46562), (39, 46550), (42, 46484), (58, 46379), (61, 46319), (62, 46316), (71, 46229), (74, 46208),

Gene: Bora\_5 Start: 1666, Stop: 1286, Start Num: 32

Candidate Starts for Bora\_5:

(Start: 14 @1849 has 5 MA's), (27, 1732), (Start: 30 @1717 has 1 MA's), (Start: 32 @1666 has 1 MA's), (Start: 34 @1663 has 3 MA's), (48, 1555), (49, 1546), (61, 1417), (62, 1414), (74, 1339), (78, 1303),

Gene: Broseidon\_78 Start: 46751, Stop: 46167, Start Num: 19

Candidate Starts for Broseidon\_78:

(3, 46901), (11, 46823), (Start: 14 @46802 has 5 MA's), (Start: 18 @46754 has 28 MA's), (Start: 19 @46751 has 82 MA's), (Start: 26 @46646 has 1 MA's), (Start: 33 @46574 has 8 MA's), (39, 46556), (42, 46490), (58, 46385), (61, 46325), (62, 46322), (71, 46235), (74, 46214),

Gene: Bumblebee11\_74 Start: 46542, Stop: 45958, Start Num: 19

Candidate Starts for Bumblebee11\_74:

(3, 46692), (11, 46614), (Start: 14 @46593 has 5 MA's), (Start: 18 @46545 has 28 MA's), (Start: 19 @46542 has 82 MA's), (Start: 20 @46530 has 4 MA's), (Start: 26 @46437 has 1 MA's), (Start: 33 @46365 has 8 MA's), (39, 46347), (42, 46281), (58, 46176), (61, 46116), (62, 46113), (71, 46026), (74, 46005), (75, 46002),

Gene: Burger\_76 Start: 46748, Stop: 46164, Start Num: 19

Candidate Starts for Burger\_76:

(3, 46898), (11, 46820), (Start: 14 @46799 has 5 MA's), (Start: 18 @46751 has 28 MA's), (Start: 19 @46748 has 82 MA's), (Start: 26 @46643 has 1 MA's), (Start: 33 @46571 has 8 MA's), (39, 46553), (42, 46487), (58, 46382), (61, 46322), (62, 46319), (71, 46232), (74, 46211),

Gene: ByChance\_64 Start: 42129, Stop: 42512, Start Num: 37

Candidate Starts for ByChance\_64:

(1, 41784), (5, 41841), (8, 41865), (10, 41883), (11, 41898), (Start: 14 @41919 has 5 MA's), (Start: 17 @41952 has 17 MA's), (Start: 19 @41970 has 82 MA's), (Start: 37 @42129 has 6 MA's), (55, 42291), (61, 42369), (62, 42372), (64, 42393), (65, 42402), (71, 42429), (76, 42477), (81, 42501),

Gene: Caelakin\_76 Start: 46748, Stop: 46164, Start Num: 19

Candidate Starts for Caelakin\_76:

(3, 46898), (11, 46820), (Start: 14 @46799 has 5 MA's), (Start: 18 @46751 has 28 MA's), (Start: 19 @46748 has 82 MA's), (Start: 26 @46643 has 1 MA's), (Start: 33 @46571 has 8 MA's), (39, 46553), (42, 46487), (61, 46322), (62, 46319), (71, 46232), (74, 46211),

Gene: Camara\_43 Start: 27400, Stop: 27867, Start Num: 29

Candidate Starts for Camara\_43:

(2, 27172), (4, 27211), (7, 27238), (Start: 12 @27292 has 13 MA's), (13, 27304), (16, 27337), (Start: 29 @27400 has 4 MA's), (Start: 37 @27475 has 6 MA's), (43, 27565), (45, 27571), (50, 27592), (56, 27643), (61, 27718), (62, 27721), (75, 27805), (76, 27829), (78, 27838), (80, 27850),

Gene: Camerico\_39 Start: 42850, Stop: 43254, Start Num: 41

Candidate Starts for Camerico\_39:

(9, 42643), (Start: 34 @42814 has 3 MA's), (Start: 41 @42850 has 1 MA's), (53, 42979), (60, 43048), (61, 43072), (62, 43075), (67, 43135), (70, 43156),

Gene: Catalina\_86 Start: 46900, Stop: 46385, Start Num: 17

Candidate Starts for Catalina\_86:

(3, 47032), (6, 47008), (Start: 12 @46951 has 13 MA's), (Start: 17 @46900 has 17 MA's), (46, 46693), (50, 46672), (55, 46624), (61, 46546), (62, 46543), (71, 46456),

Gene: CentreCat\_78 Start: 46788, Stop: 46204, Start Num: 19

Candidate Starts for CentreCat\_78:

(3, 46938), (11, 46860), (Start: 14 @46839 has 5 MA's), (Start: 18 @46791 has 28 MA's), (Start: 19 @46788 has 82 MA's), (Start: 26 @46683 has 1 MA's), (Start: 33 @46611 has 8 MA's), (39, 46593), (42, 46527), (61, 46362), (62, 46359), (71, 46272), (74, 46251),

Gene: Cerulean\_80 Start: 47186, Stop: 46602, Start Num: 19

Candidate Starts for Cerulean\_80:

(3, 47336), (11, 47258), (Start: 14 @47237 has 5 MA's), (Start: 18 @47189 has 28 MA's), (Start: 19 @47186 has 82 MA's), (Start: 26 @47081 has 1 MA's), (Start: 33 @47009 has 8 MA's), (39, 46991), (42, 46925), (61, 46760), (62, 46757), (71, 46670), (74, 46649),

Gene: ChampagnePapi\_81 Start: 47188, Stop: 46604, Start Num: 19

Candidate Starts for ChampagnePapi\_81:

(3, 47338), (11, 47260), (Start: 14 @47239 has 5 MA's), (Start: 18 @47191 has 28 MA's), (Start: 19 @47188 has 82 MA's), (Start: 26 @47083 has 1 MA's), (Start: 33 @47011 has 8 MA's), (39, 46993), (42, 46927), (61, 46762), (62, 46759), (71, 46672), (74, 46651),

Gene: Chaph\_78 Start: 46759, Stop: 46175, Start Num: 19

Candidate Starts for Chaph\_78:

(3, 46909), (11, 46831), (Start: 14 @46810 has 5 MA's), (Start: 18 @46762 has 28 MA's), (Start: 19 @46759 has 82 MA's), (Start: 26 @46654 has 1 MA's), (Start: 33 @46582 has 8 MA's), (35, 46576), (39, 46564), (42, 46498), (61, 46333), (62, 46330), (71, 46243), (74, 46222),

Gene: Chartreuse\_87 Start: 46443, Stop: 45892, Start Num: 14

Candidate Starts for Chartreuse\_87:

(3, 46542), (6, 46518), (11, 46464), (Start: 12 @46461 has 13 MA's), (Start: 14 @46443 has 5 MA's), (46, 46203), (51, 46179), (55, 46134), (61, 46056), (62, 46053), (64, 46032), (72, 45957), (73, 45954),

Gene: Chupacabra\_75 Start: 46471, Stop: 46052, Start Num: 33

Candidate Starts for Chupacabra\_75:

(3, 46687), (6, 46663), (Start: 12 @46606 has 13 MA's), (Start: 33 @46471 has 8 MA's), (55, 46282), (61, 46204), (62, 46201), (66, 46168), (72, 46114),

Gene: Cici\_75 Start: 46555, Stop: 45971, Start Num: 19

Candidate Starts for Cici\_75:

(3, 46705), (11, 46627), (Start: 14 @46606 has 5 MA's), (Start: 18 @46558 has 28 MA's), (Start: 19 @46555 has 82 MA's), (Start: 20 @46543 has 4 MA's), (Start: 26 @46450 has 1 MA's), (Start: 33 @46378 has 8 MA's), (39, 46360), (42, 46294), (58, 46189), (61, 46129), (62, 46126), (71, 46039), (74, 46018), (78, 45982),

Gene: Cindaradix\_73 Start: 46788, Stop: 46300, Start Num: 25

Candidate Starts for Cindaradix\_73:

(3, 47025), (11, 46947), (Start: 14 @46926 has 5 MA's), (22, 46806), (Start: 25 @46788 has 2 MA's), (42, 46623), (47, 46602), (61, 46458), (62, 46455), (71, 46368), (74, 46347),

Gene: Cintron\_78 Start: 46867, Stop: 46280, Start Num: 18

Candidate Starts for Cintron\_78:

(3, 47014), (11, 46936), (Start: 14 @46915 has 5 MA's), (Start: 18 @46867 has 28 MA's), (Start: 19 @46864 has 82 MA's), (Start: 26 @46759 has 1 MA's), (Start: 33 @46687 has 8 MA's), (39, 46669), (42, 46603), (58, 46498), (61, 46438), (62, 46435), (71, 46348), (74, 46327), (78, 46291),

Gene: Citius\_78 Start: 46769, Stop: 46185, Start Num: 19

Candidate Starts for Citius\_78:

(3, 46919), (11, 46841), (Start: 14 @46820 has 5 MA's), (Start: 18 @46772 has 28 MA's), (Start: 19 @46769 has 82 MA's), (Start: 26 @46664 has 1 MA's), (Start: 33 @46592 has 8 MA's), (39, 46574), (42, 46508), (61, 46343), (62, 46340), (71, 46253), (74, 46232),

Gene: Cocoaberry\_78 Start: 46749, Stop: 46165, Start Num: 19

Candidate Starts for Cocoaberry\_78:

(3, 46899), (11, 46821), (Start: 14 @46800 has 5 MA's), (Start: 18 @46752 has 28 MA's), (Start: 19 @46749 has 82 MA's), (Start: 26 @46644 has 1 MA's), (Start: 33 @46572 has 8 MA's), (39, 46554), (42, 46488), (58, 46383), (61, 46323), (62, 46320), (71, 46233), (74, 46212),

Gene: Commander\_76 Start: 46746, Stop: 46162, Start Num: 19

Candidate Starts for Commander\_76:

(3, 46896), (11, 46818), (Start: 14 @46797 has 5 MA's), (Start: 18 @46749 has 28 MA's), (Start: 19 @46746 has 82 MA's), (Start: 26 @46641 has 1 MA's), (Start: 33 @46569 has 8 MA's), (39, 46551), (42, 46485), (58, 46380), (61, 46320), (62, 46317), (71, 46230), (74, 46209),

Gene: Connomayer\_78 Start: 46751, Stop: 46164, Start Num: 18

Candidate Starts for Connomayer\_78:

(3, 46898), (11, 46820), (Start: 14 @46799 has 5 MA's), (Start: 18 @46751 has 28 MA's), (Start: 19 @46748 has 82 MA's), (Start: 26 @46643 has 1 MA's), (Start: 33 @46571 has 8 MA's), (39, 46553), (42, 46487), (58, 46382), (61, 46322), (62, 46319), (71, 46232), (74, 46211),

Gene: Conquerage\_82 Start: 46566, Stop: 46051, Start Num: 17

Candidate Starts for Conquerage\_82:

(3, 46698), (6, 46674), (11, 46620), (Start: 12 @46617 has 13 MA's), (Start: 17 @46566 has 17 MA's), (46, 46359), (50, 46338), (55, 46290), (61, 46212), (62, 46209), (71, 46122),

Gene: Darrell\_82 Start: 46051, Stop: 45485, Start Num: 12

Candidate Starts for Darrell\_82:

(3, 46132), (6, 46108), (Start: 12 @46051 has 13 MA's), (Start: 37 @45898 has 6 MA's), (46, 45793), (50, 45772), (61, 45646), (62, 45643), (71, 45556),

Gene: DARTHPhader\_79 Start: 47620, Stop: 47048, Start Num: 12

Candidate Starts for DARTHPhader\_79:

(3, 47701), (6, 47677), (Start: 12 @47620 has 13 MA's), (Start: 37 @47464 has 6 MA's), (50, 47338), (61, 47212), (62, 47209), (72, 47116), (73, 47113), (76, 47074),

Gene: Deano\_75 Start: 46756, Stop: 46172, Start Num: 19

Candidate Starts for Deano\_75:

(3, 46906), (11, 46828), (Start: 14 @46807 has 5 MA's), (Start: 18 @46759 has 28 MA's), (Start: 19 @46756 has 82 MA's), (Start: 26 @46651 has 1 MA's), (Start: 33 @46579 has 8 MA's), (39, 46561), (42, 46495), (61, 46330), (62, 46327), (71, 46240), (74, 46219),

Gene: Dhanush\_78 Start: 46751, Stop: 46167, Start Num: 19

Candidate Starts for Dhanush\_78:

(3, 46901), (11, 46823), (Start: 14 @46802 has 5 MA's), (Start: 18 @46754 has 28 MA's), (Start: 19 @46751 has 82 MA's), (Start: 26 @46646 has 1 MA's), (Start: 33 @46574 has 8 MA's), (35, 46568), (39, 46556), (42, 46490), (61, 46325), (62, 46322), (71, 46235), (74, 46214),

Gene: DirtyDunning\_77 Start: 46760, Stop: 46176, Start Num: 19

Candidate Starts for DirtyDunning\_77:

(3, 46910), (11, 46832), (Start: 14 @46811 has 5 MA's), (Start: 18 @46763 has 28 MA's), (Start: 19 @46760 has 82 MA's), (Start: 26 @46655 has 1 MA's), (Start: 33 @46583 has 8 MA's), (39, 46565), (42, 46499), (58, 46394), (61, 46334), (62, 46331), (71, 46244), (74, 46223),

Gene: DontArgue\_73 Start: 45331, Stop: 44912, Start Num: 33

Candidate Starts for DontArgue\_73:

(3, 45547), (6, 45523), (Start: 12 @45466 has 13 MA's), (Start: 33 @45331 has 8 MA's), (61, 45064), (62, 45061), (72, 44974),

Gene: Dorothy\_72 Start: 44809, Stop: 45360, Start Num: 19

Candidate Starts for Dorothy\_72:

(1, 44623), (5, 44680), (8, 44704), (10, 44722), (11, 44737), (Start: 14 @44758 has 5 MA's), (Start: 17 @44791 has 17 MA's), (Start: 19 @44809 has 82 MA's), (Start: 37 @44968 has 6 MA's), (55, 45130), (61, 45208), (62, 45211), (64, 45232), (65, 45241), (71, 45268), (81, 45349),

Gene: Druantia\_77 Start: 46751, Stop: 46167, Start Num: 19

Candidate Starts for Druantia\_77:

(3, 46901), (11, 46823), (Start: 14 @46802 has 5 MA's), (Start: 18 @46754 has 28 MA's), (Start: 19 @46751 has 82 MA's), (Start: 26 @46646 has 1 MA's), (Start: 33 @46574 has 8 MA's), (39, 46556), (42, 46490), (61, 46325), (62, 46322), (71, 46235), (74, 46214),

Gene: DustyMartin\_80 Start: 46614, Stop: 46195, Start Num: 33

Candidate Starts for DustyMartin\_80:

(3, 46830), (6, 46806), (Start: 12 @46749 has 13 MA's), (Start: 33 @46614 has 8 MA's), (61, 46347), (62, 46344), (64, 46323), (72, 46257),

Gene: Eagle\_77 Start: 46810, Stop: 46226, Start Num: 19

Candidate Starts for Eagle\_77:

(3, 46960), (11, 46882), (Start: 14 @46861 has 5 MA's), (Start: 18 @46813 has 28 MA's), (Start: 19 @46810 has 82 MA's), (Start: 26 @46705 has 1 MA's), (Start: 33 @46633 has 8 MA's), (39, 46615), (42, 46549), (61, 46384), (62, 46381), (71, 46294), (74, 46273),

Gene: EagleEye\_88 Start: 48605, Stop: 48168, Start Num: 33

Candidate Starts for EagleEye\_88:

(3, 48824), (6, 48800), (11, 48746), (Start: 12 @48743 has 13 MA's), (Start: 33 @48605 has 8 MA's), (46, 48482), (50, 48461), (61, 48335), (65, 48302), (72, 48233), (73, 48230), (76, 48191),

Gene: Eaglepride\_81 Start: 46551, Stop: 46135, Start Num: 33

Candidate Starts for Eaglepride\_81:

(3, 46767), (6, 46743), (Start: 12 @46686 has 13 MA's), (Start: 33 @46551 has 8 MA's), (55, 46362), (61, 46284), (62, 46281), (65, 46251), (72, 46197),

Gene: Eapen\_78 Start: 46743, Stop: 46159, Start Num: 19

Candidate Starts for Eapen\_78:

(3, 46893), (11, 46815), (Start: 14 @46794 has 5 MA's), (Start: 18 @46746 has 28 MA's), (Start: 19 @46743 has 82 MA's), (Start: 26 @46638 has 1 MA's), (Start: 33 @46566 has 8 MA's), (39, 46548), (42, 46482), (58, 46377), (61, 46317), (62, 46314), (71, 46227), (74, 46206),

Gene: EdogawaKiddo\_82 Start: 46868, Stop: 46353, Start Num: 17

Candidate Starts for EdogawaKiddo\_82:

(3, 47000), (6, 46976), (Start: 12 @46919 has 13 MA's), (Start: 17 @46868 has 17 MA's), (46, 46661), (50, 46640), (55, 46592), (61, 46514), (62, 46511), (71, 46424),

Gene: Eidsmoe\_82 Start: 46558, Stop: 46043, Start Num: 17

Candidate Starts for Eidsmoe\_82:

(3, 46690), (6, 46666), (11, 46612), (Start: 12 @46609 has 13 MA's), (Start: 17 @46558 has 17 MA's), (46, 46351), (50, 46330), (55, 46282), (61, 46204), (62, 46201), (71, 46114),

Gene: EmyBug\_81 Start: 46560, Stop: 46045, Start Num: 17

Candidate Starts for EmyBug\_81:

(3, 46692), (6, 46668), (11, 46614), (Start: 12 @46611 has 13 MA's), (Start: 17 @46560 has 17 MA's), (46, 46353), (50, 46332), (55, 46284), (61, 46206), (62, 46203), (71, 46116),

Gene: Eros\_78 Start: 46750, Stop: 46166, Start Num: 19

Candidate Starts for Eros\_78:

(3, 46900), (11, 46822), (Start: 14 @46801 has 5 MA's), (Start: 18 @46753 has 28 MA's), (Start: 19 @46750 has 82 MA's), (Start: 26 @46645 has 1 MA's), (Start: 33 @46573 has 8 MA's), (39, 46555), (42, 46489), (58, 46384), (61, 46324), (62, 46321), (71, 46234), (74, 46213),

Gene: Eurydice\_79 Start: 46788, Stop: 46201, Start Num: 18

Candidate Starts for Eurydice\_79:

(3, 46935), (11, 46857), (Start: 14 @46836 has 5 MA's), (Start: 18 @46788 has 28 MA's), (Start: 19 @46785 has 82 MA's), (Start: 26 @46680 has 1 MA's), (Start: 33 @46608 has 8 MA's), (39, 46590),

(42, 46524), (61, 46359), (62, 46356), (71, 46269), (74, 46248),

Gene: Fayely\_82 Start: 46533, Stop: 46018, Start Num: 17

Candidate Starts for Fayely\_82:

(3, 46665), (6, 46641), (Start: 12 @46584 has 13 MA's), (Start: 17 @46533 has 17 MA's), (46, 46326), (50, 46305), (55, 46257), (61, 46179), (62, 46176), (71, 46089),

Gene: Flux\_79 Start: 46746, Stop: 46162, Start Num: 19

Candidate Starts for Flux\_79:

(3, 46896), (11, 46818), (Start: 14 @46797 has 5 MA's), (Start: 18 @46749 has 28 MA's), (Start: 19 @46746 has 82 MA's), (Start: 26 @46641 has 1 MA's), (Start: 33 @46569 has 8 MA's), (35, 46563), (39, 46551), (42, 46485), (58, 46380), (61, 46320), (62, 46317), (71, 46230), (74, 46209),

Gene: Gadost\_78 Start: 46749, Stop: 46165, Start Num: 19

Candidate Starts for Gadost\_78:

(3, 46899), (11, 46821), (Start: 14 @46800 has 5 MA's), (Start: 18 @46752 has 28 MA's), (Start: 19 @46749 has 82 MA's), (Start: 26 @46644 has 1 MA's), (Start: 33 @46572 has 8 MA's), (39, 46554), (42, 46488), (58, 46383), (61, 46323), (62, 46320), (71, 46233), (74, 46212),

Gene: Glotell\_44 Start: 27556, Stop: 28023, Start Num: 29

Candidate Starts for Glotell\_44:

(2, 27328), (4, 27367), (7, 27394), (Start: 12 @27448 has 13 MA's), (13, 27460), (16, 27493), (Start: 29 @27556 has 4 MA's), (Start: 37 @27631 has 6 MA's), (43, 27721), (45, 27727), (50, 27748), (56, 27799), (61, 27874), (62, 27877), (75, 27961), (76, 27985), (78, 27994), (80, 28006),

Gene: HamSlice\_74 Start: 46747, Stop: 46163, Start Num: 19

Candidate Starts for HamSlice\_74:

(3, 46897), (11, 46819), (Start: 14 @46798 has 5 MA's), (Start: 18 @46750 has 28 MA's), (Start: 19 @46747 has 82 MA's), (Start: 26 @46642 has 1 MA's), (Start: 33 @46570 has 8 MA's), (39, 46552), (42, 46486), (58, 46381), (61, 46321), (62, 46318), (71, 46231), (74, 46210),

Gene: Hammer\_90 Start: 46941, Stop: 46405, Start Num: 15

Candidate Starts for Hammer\_90:

(3, 47052), (6, 47028), (11, 46974), (Start: 12 @46971 has 13 MA's), (Start: 15 @46941 has 4 MA's), (54, 46647), (61, 46566), (62, 46563), (72, 46470), (73, 46467),

Gene: Hanray\_82 Start: 46844, Stop: 46329, Start Num: 17

Candidate Starts for Hanray\_82:

(3, 46976), (6, 46952), (Start: 12 @46895 has 13 MA's), (Start: 17 @46844 has 17 MA's), (46, 46637), (50, 46616), (55, 46568), (61, 46490), (62, 46487), (71, 46400),

Gene: Hans\_7 Start: 4390, Stop: 4869, Start Num: 26

Candidate Starts for Hans\_7:

(Start: 26 @4390 has 1 MA's), (40, 4486), (44, 4564), (50, 4591), (61, 4723), (62, 4726), (63, 4729), (74, 4807), (77, 4837),

Gene: Happiness\_77 Start: 46771, Stop: 46187, Start Num: 19

Candidate Starts for Happiness\_77:

(3, 46921), (11, 46843), (Start: 14 @46822 has 5 MA's), (Start: 18 @46774 has 28 MA's), (Start: 19 @46771 has 82 MA's), (Start: 26 @46666 has 1 MA's), (Start: 33 @46594 has 8 MA's), (39, 46576), (42, 46510), (58, 46405), (61, 46345), (62, 46342), (71, 46255), (74, 46234),

Gene: Helmet\_92 Start: 47580, Stop: 47029, Start Num: 14

Candidate Starts for Helmet\_92:

(3, 47679), (6, 47655), (11, 47601), (Start: 12 @47598 has 13 MA's), (Start: 14 @47580 has 5 MA's), (54, 47274), (61, 47193), (62, 47190), (64, 47169), (72, 47094), (73, 47091),

Gene: Horex\_82 Start: 46860, Stop: 46345, Start Num: 17

Candidate Starts for Horex\_82:

(3, 46992), (6, 46968), (Start: 12 @46911 has 13 MA's), (Start: 17 @46860 has 17 MA's), (46, 46653), (50, 46632), (55, 46584), (61, 46506), (62, 46503), (71, 46416),

Gene: Holli\_77 Start: 46541, Stop: 45954, Start Num: 18

Candidate Starts for Holli\_77:

(3, 46688), (11, 46610), (Start: 14 @46589 has 5 MA's), (Start: 18 @46541 has 28 MA's), (Start: 19 @46538 has 82 MA's), (Start: 26 @46433 has 1 MA's), (Start: 33 @46361 has 8 MA's), (39, 46343), (42, 46277), (61, 46112), (62, 46109), (71, 46022), (74, 46001),

Gene: HortumSL17\_85 Start: 46898, Stop: 46383, Start Num: 17

Candidate Starts for HortumSL17\_85:

(3, 47030), (6, 47006), (Start: 12 @46949 has 13 MA's), (Start: 17 @46898 has 17 MA's), (46, 46691), (50, 46670), (55, 46622), (61, 46544), (62, 46541), (71, 46454),

Gene: Houdini22\_77 Start: 46749, Stop: 46165, Start Num: 19

Candidate Starts for Houdini22\_77:

(3, 46899), (11, 46821), (Start: 14 @46800 has 5 MA's), (Start: 18 @46752 has 28 MA's), (Start: 19 @46749 has 82 MA's), (Start: 26 @46644 has 1 MA's), (Start: 33 @46572 has 8 MA's), (39, 46554), (42, 46488), (58, 46383), (61, 46323), (62, 46320), (71, 46233), (74, 46212),

Gene: Huxley\_67 Start: 44641, Stop: 44057, Start Num: 19

Candidate Starts for Huxley\_67:

(3, 44791), (11, 44713), (Start: 14 @44692 has 5 MA's), (Start: 18 @44644 has 28 MA's), (Start: 19 @44641 has 82 MA's), (Start: 26 @44536 has 1 MA's), (Start: 33 @44464 has 8 MA's), (39, 44446), (42, 44380), (58, 44275), (61, 44215), (62, 44212), (71, 44125), (74, 44104),

Gene: ICleared\_77 Start: 46816, Stop: 46232, Start Num: 19

Candidate Starts for ICleared\_77:

(3, 46966), (11, 46888), (Start: 14 @46867 has 5 MA's), (Start: 18 @46819 has 28 MA's), (Start: 19 @46816 has 82 MA's), (Start: 26 @46711 has 1 MA's), (Start: 33 @46639 has 8 MA's), (39, 46621), (42, 46555), (58, 46450), (61, 46390), (62, 46387), (71, 46300), (74, 46279),

Gene: Iceman\_76 Start: 47038, Stop: 46454, Start Num: 19

Candidate Starts for Iceman\_76:

(3, 47188), (11, 47110), (Start: 14 @47089 has 5 MA's), (Start: 18 @47041 has 28 MA's), (Start: 19 @47038 has 82 MA's), (Start: 26 @46933 has 1 MA's), (Start: 33 @46861 has 8 MA's), (39, 46843), (42, 46777), (58, 46672), (61, 46612), (62, 46609), (71, 46522), (74, 46501),

Gene: Imara\_5 Start: 1667, Stop: 1287, Start Num: 32

Candidate Starts for Imara\_5:

(Start: 14 @1850 has 5 MA's), (27, 1733), (Start: 30 @1718 has 1 MA's), (Start: 32 @1667 has 1 MA's), (Start: 34 @1664 has 3 MA's), (48, 1556), (49, 1547), (61, 1418), (62, 1415), (69, 1379), (74, 1340), (78, 1304),

Gene: Inventum\_69 Start: 45166, Stop: 45558, Start Num: 37

Candidate Starts for Inventum\_69:

(1, 44821), (5, 44878), (8, 44902), (10, 44920), (11, 44935), (Start: 14 @44956 has 5 MA's), (Start: 17 @44989 has 17 MA's), (Start: 19 @45007 has 82 MA's), (Start: 37 @45166 has 6 MA's), (55, 45328), (61, 45406), (62, 45409), (64, 45430), (65, 45439), (71, 45466), (81, 45547),

Gene: Iracema64\_78 Start: 47012, Stop: 46428, Start Num: 19

Candidate Starts for Iracema64\_78:

(3, 47162), (11, 47084), (Start: 14 @47063 has 5 MA's), (Start: 18 @47015 has 28 MA's), (Start: 19 @47012 has 82 MA's), (Start: 26 @46907 has 1 MA's), (Start: 33 @46835 has 8 MA's), (39, 46817), (42, 46751), (61, 46586), (62, 46583), (71, 46496), (74, 46475),

Gene: JetBlade\_79 Start: 46779, Stop: 46192, Start Num: 18

Candidate Starts for JetBlade\_79:

(3, 46926), (11, 46848), (Start: 14 @46827 has 5 MA's), (Start: 18 @46779 has 28 MA's), (Start: 19 @46776 has 82 MA's), (Start: 26 @46671 has 1 MA's), (Start: 33 @46599 has 8 MA's), (39, 46581), (42, 46515), (61, 46350), (62, 46347), (71, 46260), (74, 46239),

Gene: Jiawan\_81 Start: 46876, Stop: 46361, Start Num: 17

Candidate Starts for Jiawan\_81:

(3, 47008), (6, 46984), (Start: 12 @46927 has 13 MA's), (Start: 17 @46876 has 17 MA's), (46, 46669), (50, 46648), (55, 46600), (61, 46522), (62, 46519), (71, 46432),

Gene: KHumphrey\_43 Start: 27399, Stop: 27866, Start Num: 29

Candidate Starts for KHumphrey\_43:

(2, 27171), (4, 27210), (7, 27237), (Start: 12 @27291 has 13 MA's), (13, 27303), (16, 27336), (Start: 29 @27399 has 4 MA's), (Start: 37 @27474 has 6 MA's), (43, 27564), (45, 27570), (50, 27591), (56, 27642), (61, 27717), (62, 27720), (75, 27804), (76, 27828), (78, 27837), (80, 27849),

Gene: Kampy\_77 Start: 46751, Stop: 46167, Start Num: 19

Candidate Starts for Kampy\_77:

(3, 46901), (11, 46823), (Start: 14 @46802 has 5 MA's), (Start: 18 @46754 has 28 MA's), (Start: 19 @46751 has 82 MA's), (Start: 26 @46646 has 1 MA's), (Start: 33 @46574 has 8 MA's), (39, 46556), (42, 46490), (61, 46325), (62, 46322), (71, 46235), (74, 46214),

Gene: Katalie136\_75 Start: 46530, Stop: 45958, Start Num: 20

Candidate Starts for Katalie136\_75:

(3, 46692), (11, 46614), (Start: 14 @46593 has 5 MA's), (Start: 18 @46545 has 28 MA's), (Start: 19 @46542 has 82 MA's), (Start: 20 @46530 has 4 MA's), (Start: 26 @46437 has 1 MA's), (Start: 33 @46365 has 8 MA's), (39, 46347), (42, 46281), (58, 46176), (61, 46116), (62, 46113), (71, 46026), (74, 46005), (78, 45969),

Gene: KekoraPapaka\_75 Start: 46748, Stop: 46164, Start Num: 19

Candidate Starts for KekoraPapaka\_75:

(3, 46898), (11, 46820), (Start: 14 @46799 has 5 MA's), (Start: 18 @46751 has 28 MA's), (Start: 19 @46748 has 82 MA's), (Start: 26 @46643 has 1 MA's), (Start: 33 @46571 has 8 MA's), (35, 46565), (39, 46553), (42, 46487), (61, 46322), (62, 46319), (71, 46232), (74, 46211),

Gene: Keziacharles14\_81 Start: 47447, Stop: 46881, Start Num: 12

Candidate Starts for Keziacharles14\_81:

(3, 47528), (6, 47504), (11, 47450), (Start: 12 @47447 has 13 MA's), (Start: 17 @47396 has 17 MA's), (46, 47189), (50, 47168), (55, 47120), (61, 47042), (62, 47039), (71, 46952),

Gene: KingMidas\_70 Start: 45569, Stop: 45961, Start Num: 37

Candidate Starts for KingMidas\_70:

(1, 45224), (5, 45281), (8, 45305), (10, 45323), (11, 45338), (Start: 14 @45359 has 5 MA's), (Start: 17 @45392 has 17 MA's), (Start: 19 @45410 has 82 MA's), (Start: 37 @45569 has 6 MA's), (55, 45731), (61, 45809), (62, 45812), (64, 45833), (65, 45842), (71, 45869), (81, 45950),

Gene: KingPhillip3\_5 Start: 1579, Stop: 1196, Start Num: 34

Candidate Starts for KingPhillip3\_5:

(Start: 14 @1765 has 5 MA's), (27, 1648), (Start: 30 @1633 has 1 MA's), (Start: 32 @1582 has 1 MA's), (Start: 34 @1579 has 3 MA's), (48, 1465), (49, 1456), (52, 1432), (61, 1327), (62, 1324), (69, 1288), (74, 1249), (78, 1213),

Gene: Kingmustik0402\_78 Start: 46740, Stop: 46153, Start Num: 18

Candidate Starts for Kingmustik0402\_78:

(3, 46887), (11, 46809), (Start: 14 @46788 has 5 MA's), (Start: 18 @46740 has 28 MA's), (Start: 19 @46737 has 82 MA's), (Start: 26 @46632 has 1 MA's), (Start: 33 @46560 has 8 MA's), (39, 46542), (42, 46476), (61, 46311), (62, 46308), (71, 46221), (74, 46200),

Gene: Koan\_75 Start: 46748, Stop: 46164, Start Num: 19

Candidate Starts for Koan\_75:

(3, 46898), (11, 46820), (Start: 14 @46799 has 5 MA's), (Start: 18 @46751 has 28 MA's), (Start: 19 @46748 has 82 MA's), (Start: 26 @46643 has 1 MA's), (Start: 33 @46571 has 8 MA's), (39, 46553), (42, 46487), (58, 46382), (61, 46322), (62, 46319), (71, 46232), (74, 46211),

Gene: Koko\_91 Start: 47970, Stop: 47419, Start Num: 14

Candidate Starts for Koko\_91:

(3, 48069), (6, 48045), (11, 47991), (Start: 12 @47988 has 13 MA's), (Start: 14 @47970 has 5 MA's), (54, 47664), (61, 47583), (62, 47580), (64, 47559), (72, 47484), (73, 47481),

Gene: Koreni\_77 Start: 46432, Stop: 45845, Start Num: 18

Candidate Starts for Koreni\_77:

(3, 46579), (11, 46501), (Start: 14 @46480 has 5 MA's), (Start: 18 @46432 has 28 MA's), (Start: 19 @46429 has 82 MA's), (Start: 26 @46324 has 1 MA's), (Start: 33 @46252 has 8 MA's), (39, 46234), (42, 46168), (58, 46063), (61, 46003), (62, 46000), (71, 45913), (74, 45892),

Gene: Kremtemulon\_75 Start: 46628, Stop: 46044, Start Num: 19

Candidate Starts for Kremtemulon\_75:

(3, 46778), (11, 46700), (Start: 14 @46679 has 5 MA's), (Start: 18 @46631 has 28 MA's), (Start: 19 @46628 has 82 MA's), (Start: 26 @46523 has 1 MA's), (Start: 33 @46451 has 8 MA's), (39, 46433), (42, 46367), (58, 46262), (61, 46202), (62, 46199), (71, 46112), (74, 46091), (78, 46055),

Gene: Kyee\_78 Start: 46743, Stop: 46159, Start Num: 19

Candidate Starts for Kyee\_78:

(3, 46893), (11, 46815), (Start: 14 @46794 has 5 MA's), (Start: 18 @46746 has 28 MA's), (Start: 19 @46743 has 82 MA's), (Start: 26 @46638 has 1 MA's), (Start: 33 @46566 has 8 MA's), (39, 46548), (42, 46482), (58, 46377), (61, 46317), (62, 46314), (71, 46227), (74, 46206),

Gene: LHTSCC\_80 Start: 47191, Stop: 46604, Start Num: 18

Candidate Starts for LHTSCC\_80:

(3, 47338), (11, 47260), (Start: 14 @47239 has 5 MA's), (Start: 18 @47191 has 28 MA's), (Start: 19 @47188 has 82 MA's), (Start: 26 @47083 has 1 MA's), (Start: 33 @47011 has 8 MA's), (39, 46993), (42, 46927), (58, 46822), (61, 46762), (62, 46759), (71, 46672), (74, 46651),

Gene: LappelDuVide\_78 Start: 46748, Stop: 46164, Start Num: 19

Candidate Starts for LappelDuVide\_78:

(3, 46898), (11, 46820), (Start: 14 @46799 has 5 MA's), (Start: 18 @46751 has 28 MA's), (Start: 19 @46748 has 82 MA's), (Start: 26 @46643 has 1 MA's), (Start: 33 @46571 has 8 MA's), (39, 46553), (42, 46487), (58, 46382), (61, 46322), (62, 46319), (71, 46232), (74, 46211),

Gene: Lemur\_78 Start: 46745, Stop: 46161, Start Num: 19

Candidate Starts for Lemur\_78:

(3, 46895), (11, 46817), (Start: 14 @46796 has 5 MA's), (Start: 18 @46748 has 28 MA's), (Start: 19 @46745 has 82 MA's), (Start: 26 @46640 has 1 MA's), (Start: 33 @46568 has 8 MA's), (35, 46562), (39, 46550), (42, 46484), (58, 46379), (61, 46319), (62, 46316), (71, 46229), (74, 46208),

Gene: Lilleskat\_81 Start: 46857, Stop: 46342, Start Num: 17

Candidate Starts for Lilleskat\_81:

(3, 46989), (6, 46965), (Start: 12 @46908 has 13 MA's), (Start: 17 @46857 has 17 MA's), (46, 46650), (50, 46629), (55, 46581), (61, 46503), (62, 46500), (71, 46413),

Gene: LittleGuy\_78 Start: 46633, Stop: 46049, Start Num: 19

Candidate Starts for LittleGuy\_78:

(3, 46783), (11, 46705), (Start: 14 @46684 has 5 MA's), (Start: 18 @46636 has 28 MA's), (Start: 19 @46633 has 82 MA's), (Start: 26 @46528 has 1 MA's), (Start: 33 @46456 has 8 MA's), (39, 46438), (42, 46372), (58, 46267), (61, 46207), (62, 46204), (71, 46117), (74, 46096),

Gene: LochMonster\_79 Start: 46985, Stop: 46401, Start Num: 19

Candidate Starts for LochMonster\_79:

(3, 47135), (11, 47057), (Start: 14 @47036 has 5 MA's), (Start: 18 @46988 has 28 MA's), (Start: 19 @46985 has 82 MA's), (Start: 26 @46880 has 1 MA's), (Start: 33 @46808 has 8 MA's), (39, 46790), (42, 46724), (61, 46559), (62, 46556), (71, 46469), (74, 46448),

Gene: LoneWolf\_84 Start: 46963, Stop: 46397, Start Num: 12

Candidate Starts for LoneWolf\_84:

(3, 47044), (6, 47020), (11, 46966), (Start: 12 @46963 has 13 MA's), (46, 46705), (50, 46684), (61, 46558), (62, 46555), (71, 46468),

Gene: Lorenzo\_78 Start: 46746, Stop: 46162, Start Num: 19

Candidate Starts for Lorenzo\_78:

(3, 46896), (11, 46818), (Start: 14 @46797 has 5 MA's), (Start: 18 @46749 has 28 MA's), (Start: 19 @46746 has 82 MA's), (Start: 26 @46641 has 1 MA's), (Start: 33 @46569 has 8 MA's), (39, 46551), (42, 46485), (58, 46380), (61, 46320), (62, 46317), (71, 46230), (74, 46209),

Gene: Lucyedi\_87 Start: 48804, Stop: 48367, Start Num: 33

Candidate Starts for Lucyedi\_87:

(3, 49023), (6, 48999), (11, 48945), (Start: 12 @48942 has 13 MA's), (Start: 33 @48804 has 8 MA's), (46, 48681), (50, 48660), (61, 48534), (65, 48501), (72, 48432), (73, 48429), (76, 48390),

Gene: Lunsford\_78 Start: 46741, Stop: 46157, Start Num: 19

Candidate Starts for Lunsford\_78:

(3, 46891), (11, 46813), (Start: 14 @46792 has 5 MA's), (Start: 18 @46744 has 28 MA's), (Start: 19 @46741 has 82 MA's), (Start: 26 @46636 has 1 MA's), (Start: 33 @46564 has 8 MA's), (39, 46546), (42, 46480), (61, 46315), (62, 46312), (71, 46225), (74, 46204),

Gene: Maminiaina\_83 Start: 46878, Stop: 46300, Start Num: 12

Candidate Starts for Maminiaina\_83:

(3, 46959), (5, 46938), (6, 46935), (Start: 12 @46878 has 13 MA's), (Start: 17 @46827 has 17 MA's), (46, 46620), (50, 46599), (61, 46473), (62, 46470), (71, 46383), (74, 46362), (79, 46317),

Gene: Maverick\_77 Start: 46745, Stop: 46161, Start Num: 19

Candidate Starts for Maverick\_77:

(3, 46895), (11, 46817), (Start: 14 @46796 has 5 MA's), (Start: 18 @46748 has 28 MA's), (Start: 19 @46745 has 82 MA's), (Start: 26 @46640 has 1 MA's), (Start: 33 @46568 has 8 MA's), (39, 46550), (42, 46484), (58, 46379), (61, 46319), (62, 46316), (71, 46229), (74, 46208),

Gene: Maxo\_80 Start: 46754, Stop: 46167, Start Num: 18

Candidate Starts for Maxo\_80:

(3, 46901), (11, 46823), (Start: 14 @46802 has 5 MA's), (Start: 18 @46754 has 28 MA's), (Start: 19 @46751 has 82 MA's), (Start: 26 @46646 has 1 MA's), (Start: 33 @46574 has 8 MA's), (39, 46556), (42, 46490), (61, 46325), (62, 46322), (71, 46235), (74, 46214),

Gene: Mazhar510\_78 Start: 46749, Stop: 46162, Start Num: 18

Candidate Starts for Mazhar510\_78:

(3, 46896), (11, 46818), (Start: 14 @46797 has 5 MA's), (Start: 18 @46749 has 28 MA's), (Start: 19 @46746 has 82 MA's), (Start: 26 @46641 has 1 MA's), (Start: 33 @46569 has 8 MA's), (39, 46551), (42, 46485), (58, 46380), (61, 46320), (62, 46317), (71, 46230), (74, 46209),

Gene: Medusa\_77 Start: 46761, Stop: 46177, Start Num: 19

Candidate Starts for Medusa\_77:

(3, 46911), (11, 46833), (Start: 14 @46812 has 5 MA's), (Start: 18 @46764 has 28 MA's), (Start: 19 @46761 has 82 MA's), (Start: 26 @46656 has 1 MA's), (Start: 33 @46584 has 8 MA's), (39, 46566), (42, 46500), (61, 46335), (62, 46332), (71, 46245), (74, 46224),

Gene: MeeZee\_77 Start: 46742, Stop: 46158, Start Num: 19

Candidate Starts for MeeZee\_77:

(3, 46892), (11, 46814), (Start: 14 @46793 has 5 MA's), (Start: 18 @46745 has 28 MA's), (Start: 19 @46742 has 82 MA's), (Start: 26 @46637 has 1 MA's), (Start: 33 @46565 has 8 MA's), (39, 46547), (42, 46481), (58, 46376), (61, 46316), (62, 46313), (71, 46226), (74, 46205),

Gene: Melvin\_80 Start: 46743, Stop: 46159, Start Num: 19

Candidate Starts for Melvin\_80:

(3, 46893), (11, 46815), (Start: 14 @46794 has 5 MA's), (Start: 18 @46746 has 28 MA's), (Start: 19 @46743 has 82 MA's), (Start: 26 @46638 has 1 MA's), (Start: 33 @46566 has 8 MA's), (35, 46560), (39, 46548), (42, 46482), (58, 46377), (61, 46317), (62, 46314), (71, 46227), (74, 46206),

Gene: Millski\_77 Start: 46749, Stop: 46165, Start Num: 19

Candidate Starts for Millski\_77:

(3, 46899), (11, 46821), (Start: 14 @46800 has 5 MA's), (Start: 18 @46752 has 28 MA's), (Start: 19 @46749 has 82 MA's), (Start: 26 @46644 has 1 MA's), (Start: 33 @46572 has 8 MA's), (39, 46554), (42, 46488), (58, 46383), (61, 46323), (62, 46320), (71, 46233), (74, 46212),

Gene: Miramae\_78 Start: 46572, Stop: 45991, Start Num: 19

Candidate Starts for Miramae\_78:

(3, 46722), (11, 46644), (Start: 14 @46623 has 5 MA's), (Start: 17 @46590 has 17 MA's), (Start: 19 @46572 has 82 MA's), (22, 46503), (23, 46497), (Start: 25 @46485 has 2 MA's), (42, 46314), (61, 46149), (62, 46146), (71, 46059), (74, 46038), (78, 46002),

Gene: Morpher26\_75 Start: 46563, Stop: 45979, Start Num: 19

Candidate Starts for Morpher26\_75:

(3, 46713), (11, 46635), (Start: 14 @46614 has 5 MA's), (Start: 18 @46566 has 28 MA's), (Start: 19 @46563 has 82 MA's), (Start: 20 @46551 has 4 MA's), (Start: 26 @46458 has 1 MA's), (Start: 33

@46386 has 8 MA's), (39, 46368), (42, 46302), (58, 46197), (61, 46137), (62, 46134), (71, 46047), (74, 46026), (78, 45990),

Gene: Morrow\_80 Start: 46788, Stop: 46204, Start Num: 19

Candidate Starts for Morrow\_80:

(3, 46938), (11, 46860), (Start: 14 @46839 has 5 MA's), (Start: 18 @46791 has 28 MA's), (Start: 19 @46788 has 82 MA's), (Start: 26 @46683 has 1 MA's), (Start: 33 @46611 has 8 MA's), (39, 46593), (61, 46362), (62, 46359), (71, 46272), (74, 46251),

Gene: Murai\_5 Start: 1530, Stop: 1147, Start Num: 34

Candidate Starts for Murai\_5:

(Start: 14 @1716 has 5 MA's), (27, 1599), (Start: 30 @1584 has 1 MA's), (Start: 32 @1533 has 1 MA's), (Start: 34 @1530 has 3 MA's), (48, 1416), (49, 1407), (52, 1383), (61, 1278), (62, 1275), (69, 1239), (74, 1200), (78, 1164),

Gene: Myxus\_84 Start: 46898, Stop: 46383, Start Num: 17

Candidate Starts for Myxus\_84:

(3, 47030), (6, 47006), (Start: 12 @46949 has 13 MA's), (Start: 17 @46898 has 17 MA's), (46, 46691), (50, 46670), (55, 46622), (61, 46544), (62, 46541), (71, 46454),

Gene: Nebs\_79 Start: 46788, Stop: 46204, Start Num: 19

Candidate Starts for Nebs\_79:

(3, 46938), (11, 46860), (Start: 14 @46839 has 5 MA's), (Start: 18 @46791 has 28 MA's), (Start: 19 @46788 has 82 MA's), (Start: 26 @46683 has 1 MA's), (Start: 33 @46611 has 8 MA's), (39, 46593), (42, 46527), (61, 46362), (62, 46359), (71, 46272), (74, 46251),

Gene: Nemo27\_77 Start: 46744, Stop: 46160, Start Num: 19

Candidate Starts for Nemo27\_77:

(3, 46894), (11, 46816), (Start: 14 @46795 has 5 MA's), (Start: 18 @46747 has 28 MA's), (Start: 19 @46744 has 82 MA's), (Start: 26 @46639 has 1 MA's), (Start: 33 @46567 has 8 MA's), (39, 46549), (42, 46483), (58, 46378), (61, 46318), (62, 46315), (71, 46228), (74, 46207),

Gene: NorthStar\_75 Start: 46748, Stop: 46164, Start Num: 19

Candidate Starts for NorthStar\_75:

(3, 46898), (11, 46820), (Start: 14 @46799 has 5 MA's), (Start: 18 @46751 has 28 MA's), (Start: 19 @46748 has 82 MA's), (Start: 26 @46643 has 1 MA's), (Start: 33 @46571 has 8 MA's), (35, 46565), (39, 46553), (42, 46487), (58, 46382), (61, 46322), (62, 46319), (71, 46232), (74, 46211),

Gene: NotAPhaseMom\_77 Start: 46749, Stop: 46165, Start Num: 19

Candidate Starts for NotAPhaseMom\_77:

(3, 46899), (11, 46821), (Start: 14 @46800 has 5 MA's), (Start: 18 @46752 has 28 MA's), (Start: 19 @46749 has 82 MA's), (Start: 26 @46644 has 1 MA's), (Start: 33 @46572 has 8 MA's), (39, 46554), (42, 46488), (58, 46383), (61, 46323), (62, 46320), (71, 46233), (74, 46212),

Gene: Nyxis\_77 Start: 46630, Stop: 46043, Start Num: 18

Candidate Starts for Nyxis\_77:

(3, 46777), (11, 46699), (Start: 14 @46678 has 5 MA's), (Start: 18 @46630 has 28 MA's), (Start: 19 @46627 has 82 MA's), (Start: 26 @46522 has 1 MA's), (Start: 33 @46450 has 8 MA's), (39, 46432), (42, 46366), (61, 46201), (62, 46198), (71, 46111), (74, 46090),

Gene: OKaNui\_77 Start: 46799, Stop: 46215, Start Num: 19

Candidate Starts for OKaNui\_77:

(3, 46949), (11, 46871), (Start: 14 @46850 has 5 MA's), (Start: 18 @46802 has 28 MA's), (Start: 19 @46799 has 82 MA's), (Start: 26 @46694 has 1 MA's), (Start: 33 @46622 has 8 MA's), (39, 46604), (42, 46538), (58, 46433), (61, 46373), (62, 46370), (71, 46283), (74, 46262),

Gene: Obama12\_79 Start: 47172, Stop: 46588, Start Num: 19

Candidate Starts for Obama12\_79:

(3, 47322), (11, 47244), (Start: 14 @47223 has 5 MA's), (Start: 18 @47175 has 28 MA's), (Start: 19 @47172 has 82 MA's), (Start: 26 @47067 has 1 MA's), (Start: 33 @46995 has 8 MA's), (39, 46977), (42, 46911), (58, 46806), (61, 46746), (62, 46743), (71, 46656), (74, 46635),

Gene: Ohfah\_79 Start: 46791, Stop: 46204, Start Num: 18

Candidate Starts for Ohfah\_79:

(3, 46938), (11, 46860), (Start: 14 @46839 has 5 MA's), (Start: 18 @46791 has 28 MA's), (Start: 19 @46788 has 82 MA's), (Start: 26 @46683 has 1 MA's), (Start: 33 @46611 has 8 MA's), (39, 46593), (42, 46527), (61, 46362), (62, 46359), (71, 46272), (74, 46251),

Gene: Onglai\_82 Start: 45048, Stop: 44533, Start Num: 17

Candidate Starts for Onglai\_82:

(3, 45180), (6, 45156), (Start: 12 @45099 has 13 MA's), (Start: 17 @45048 has 17 MA's), (46, 44841), (50, 44820), (55, 44772), (61, 44694), (62, 44691), (71, 44604),

Gene: PackMan\_83 Start: 46722, Stop: 46258, Start Num: 31

Candidate Starts for PackMan\_83:

(Start: 31 @46722 has 1 MA's), (36, 46662), (46, 46566), (50, 46545), (55, 46497), (61, 46419), (62, 46416), (71, 46329),

Gene: PainterBoy\_86 Start: 48515, Stop: 48078, Start Num: 33

Candidate Starts for PainterBoy\_86:

(3, 48734), (6, 48710), (11, 48656), (Start: 12 @48653 has 13 MA's), (Start: 33 @48515 has 8 MA's), (46, 48392), (50, 48371), (61, 48245), (65, 48212), (72, 48143), (73, 48140), (76, 48101),

Gene: PeaceMeal1\_75 Start: 45639, Stop: 45220, Start Num: 33

Candidate Starts for PeaceMeal1\_75:

(3, 45855), (6, 45831), (Start: 12 @45774 has 13 MA's), (Start: 33 @45639 has 8 MA's), (55, 45450), (61, 45372), (62, 45369), (64, 45348), (66, 45336), (72, 45282),

Gene: Peaches\_76 Start: 46747, Stop: 46163, Start Num: 19

Candidate Starts for Peaches\_76:

(3, 46897), (11, 46819), (Start: 14 @46798 has 5 MA's), (Start: 18 @46750 has 28 MA's), (Start: 19 @46747 has 82 MA's), (Start: 26 @46642 has 1 MA's), (Start: 33 @46570 has 8 MA's), (39, 46552), (42, 46486), (58, 46381), (61, 46321), (62, 46318), (71, 46231), (74, 46210),

Gene: Perplexer\_75 Start: 46531, Stop: 45959, Start Num: 20

Candidate Starts for Perplexer\_75:

(3, 46693), (11, 46615), (Start: 14 @46594 has 5 MA's), (Start: 18 @46546 has 28 MA's), (Start: 19 @46543 has 82 MA's), (Start: 20 @46531 has 4 MA's), (Start: 26 @46438 has 1 MA's), (Start: 33 @46366 has 8 MA's), (39, 46348), (42, 46282), (58, 46177), (61, 46117), (62, 46114), (71, 46027), (74, 46006),

Gene: PeterPeter\_78 Start: 46742, Stop: 46158, Start Num: 19

Candidate Starts for PeterPeter\_78:

(3, 46892), (11, 46814), (Start: 14 @46793 has 5 MA's), (Start: 18 @46745 has 28 MA's), (Start: 19 @46742 has 82 MA's), (Start: 26 @46637 has 1 MA's), (Start: 33 @46565 has 8 MA's), (39, 46547),

(42, 46481), (58, 46376), (61, 46316), (62, 46313), (71, 46226), (74, 46205),

Gene: Phacado\_78 Start: 46744, Stop: 46160, Start Num: 19

Candidate Starts for Phacado\_78:

(3, 46894), (11, 46816), (Start: 14 @46795 has 5 MA's), (Start: 18 @46747 has 28 MA's), (Start: 19 @46744 has 82 MA's), (Start: 26 @46639 has 1 MA's), (Start: 33 @46567 has 8 MA's), (39, 46549), (42, 46483), (58, 46378), (61, 46318), (62, 46315), (71, 46228), (74, 46207),

Gene: Phaeder\_84 Start: 46773, Stop: 46258, Start Num: 17

Candidate Starts for Phaeder\_84:

(3, 46905), (6, 46881), (Start: 12 @46824 has 13 MA's), (Start: 17 @46773 has 17 MA's), (46, 46566), (50, 46545), (55, 46497), (61, 46419), (62, 46416), (71, 46329),

Gene: Phelipe\_79 Start: 46788, Stop: 46204, Start Num: 19

Candidate Starts for Phelipe\_79:

(3, 46938), (11, 46860), (Start: 14 @46839 has 5 MA's), (Start: 18 @46791 has 28 MA's), (Start: 19 @46788 has 82 MA's), (Start: 26 @46683 has 1 MA's), (Start: 33 @46611 has 8 MA's), (39, 46593), (42, 46527), (61, 46362), (62, 46359), (71, 46272), (74, 46251),

Gene: Phighter1804\_78 Start: 46809, Stop: 46225, Start Num: 19

Candidate Starts for Phighter1804\_78:

(3, 46959), (11, 46881), (Start: 14 @46860 has 5 MA's), (Start: 18 @46812 has 28 MA's), (Start: 19 @46809 has 82 MA's), (Start: 26 @46704 has 1 MA's), (Start: 33 @46632 has 8 MA's), (39, 46614), (42, 46548), (58, 46443), (61, 46383), (62, 46380), (71, 46293), (74, 46272),

Gene: Phlei\_63 Start: 43732, Stop: 43292, Start Num: 19

Candidate Starts for Phlei\_63:

(3, 43876), (6, 43858), (11, 43804), (Start: 15 @43771 has 4 MA's), (Start: 19 @43732 has 82 MA's), (50, 43588), (55, 43540), (57, 43534), (61, 43462), (62, 43459), (71, 43378), (72, 43372), (79, 43312),

Gene: Phonnegut\_84 Start: 46789, Stop: 46274, Start Num: 17

Candidate Starts for Phonnegut\_84:

(3, 46921), (6, 46897), (Start: 12 @46840 has 13 MA's), (Start: 17 @46789 has 17 MA's), (46, 46582), (50, 46561), (55, 46513), (61, 46435), (62, 46432), (71, 46345),

Gene: Phontbonne\_78 Start: 46643, Stop: 46059, Start Num: 19

Candidate Starts for Phontbonne\_78:

(3, 46793), (11, 46715), (Start: 14 @46694 has 5 MA's), (Start: 18 @46646 has 28 MA's), (Start: 19 @46643 has 82 MA's), (Start: 26 @46538 has 1 MA's), (Start: 33 @46466 has 8 MA's), (39, 46448), (42, 46382), (61, 46217), (62, 46214), (71, 46127), (74, 46106),

Gene: Pioneer\_84 Start: 46789, Stop: 46274, Start Num: 17

Candidate Starts for Pioneer\_84:

(3, 46921), (6, 46897), (Start: 12 @46840 has 13 MA's), (Start: 17 @46789 has 17 MA's), (46, 46582), (50, 46561), (55, 46513), (61, 46435), (62, 46432), (71, 46345),

Gene: Pipcraft\_74 Start: 46749, Stop: 46165, Start Num: 19

Candidate Starts for Pipcraft\_74:

(3, 46899), (11, 46821), (Start: 14 @46800 has 5 MA's), (Start: 18 @46752 has 28 MA's), (Start: 19 @46749 has 82 MA's), (Start: 26 @46644 has 1 MA's), (Start: 33 @46572 has 8 MA's), (35, 46566), (39, 46554), (42, 46488), (58, 46383), (61, 46323), (62, 46320), (71, 46233), (74, 46212),

Gene: Polymorphads\_79 Start: 46772, Stop: 46185, Start Num: 18

Candidate Starts for Polymorphads\_79:

(3, 46919), (11, 46841), (Start: 14 @46820 has 5 MA's), (Start: 18 @46772 has 28 MA's), (Start: 19 @46769 has 82 MA's), (Start: 26 @46664 has 1 MA's), (Start: 33 @46592 has 8 MA's), (39, 46574), (42, 46508), (58, 46403), (61, 46343), (62, 46340), (71, 46253), (74, 46232),

Gene: Poompha\_75 Start: 45637, Stop: 45218, Start Num: 33

Candidate Starts for Poompha\_75:

(3, 45853), (6, 45829), (Start: 12 @45772 has 13 MA's), (Start: 33 @45637 has 8 MA's), (55, 45448), (61, 45370), (62, 45367), (64, 45346), (66, 45334), (72, 45280),

Gene: Pumbaa\_78 Start: 46696, Stop: 46109, Start Num: 18

Candidate Starts for Pumbaa\_78:

(3, 46843), (11, 46765), (Start: 14 @46744 has 5 MA's), (Start: 18 @46696 has 28 MA's), (Start: 19 @46693 has 82 MA's), (Start: 26 @46588 has 1 MA's), (Start: 33 @46516 has 8 MA's), (39, 46498), (42, 46432), (58, 46327), (61, 46267), (62, 46264), (71, 46177), (74, 46156),

Gene: Qobbit\_82 Start: 46523, Stop: 46008, Start Num: 17

Candidate Starts for Qobbit\_82:

(3, 46655), (6, 46631), (11, 46577), (Start: 12 @46574 has 13 MA's), (Start: 17 @46523 has 17 MA's), (46, 46316), (50, 46295), (55, 46247), (61, 46169), (62, 46166), (71, 46079),

Gene: Rebeuca\_79 Start: 46991, Stop: 46488, Start Num: 17

Candidate Starts for Rebeuca\_79:

(3, 47123), (6, 47099), (Start: 12 @47042 has 13 MA's), (Start: 17 @46991 has 17 MA's), (Start: 33 @46907 has 8 MA's), (55, 46718), (61, 46640), (62, 46637), (66, 46604), (72, 46550),

Gene: Refuge\_81 Start: 48475, Stop: 47903, Start Num: 12

Candidate Starts for Refuge\_81:

(3, 48556), (6, 48532), (Start: 12 @48475 has 13 MA's), (Start: 37 @48319 has 6 MA's), (50, 48193), (61, 48067), (62, 48064), (72, 47971), (73, 47968), (76, 47929),

Gene: Relief\_77 Start: 46745, Stop: 46161, Start Num: 19

Candidate Starts for Relief\_77:

(3, 46895), (11, 46817), (Start: 14 @46796 has 5 MA's), (Start: 18 @46748 has 28 MA's), (Start: 19 @46745 has 82 MA's), (Start: 26 @46640 has 1 MA's), (Start: 33 @46568 has 8 MA's), (39, 46550), (42, 46484), (58, 46379), (61, 46319), (62, 46316), (71, 46229), (74, 46208),

Gene: Renna12\_42 Start: 27456, Stop: 27923, Start Num: 29

Candidate Starts for Renna12\_42:

(2, 27228), (4, 27267), (7, 27294), (Start: 12 @27348 has 13 MA's), (13, 27360), (16, 27393), (Start: 29 @27456 has 4 MA's), (Start: 37 @27531 has 6 MA's), (43, 27621), (45, 27627), (50, 27648), (56, 27699), (61, 27774), (62, 27777), (75, 27861), (76, 27885), (78, 27894), (80, 27906),

Gene: RockieBear\_75 Start: 46750, Stop: 46163, Start Num: 18

Candidate Starts for RockieBear\_75:

(3, 46897), (11, 46819), (Start: 14 @46798 has 5 MA's), (Start: 18 @46750 has 28 MA's), (Start: 19 @46747 has 82 MA's), (Start: 26 @46642 has 1 MA's), (Start: 33 @46570 has 8 MA's), (35, 46564), (39, 46552), (42, 46486), (58, 46381), (61, 46321), (62, 46318), (71, 46231), (74, 46210),

Gene: Romney\_77 Start: 46745, Stop: 46161, Start Num: 19

Candidate Starts for Romney\_77:

(3, 46895), (11, 46817), (Start: 14 @46796 has 5 MA's), (Start: 18 @46748 has 28 MA's), (Start: 19 @46745 has 82 MA's), (Start: 26 @46640 has 1 MA's), (Start: 33 @46568 has 8 MA's), (35, 46562),

(39, 46550), (42, 46484), (58, 46379), (61, 46319), (62, 46316), (71, 46229), (74, 46208),

Gene: Roosevelt\_76 Start: 46750, Stop: 46166, Start Num: 19

Candidate Starts for Roosevelt\_76:

(3, 46900), (11, 46822), (Start: 14 @46801 has 5 MA's), (Start: 18 @46753 has 28 MA's), (Start: 19 @46750 has 82 MA's), (Start: 26 @46645 has 1 MA's), (Start: 33 @46573 has 8 MA's), (39, 46555), (42, 46489), (61, 46324), (62, 46321), (71, 46234), (74, 46213),

Gene: Rosa24\_74 Start: 46779, Stop: 46192, Start Num: 18

Candidate Starts for Rosa24\_74:

(3, 46926), (11, 46848), (Start: 14 @46827 has 5 MA's), (Start: 18 @46779 has 28 MA's), (Start: 19 @46776 has 82 MA's), (Start: 26 @46671 has 1 MA's), (Start: 33 @46599 has 8 MA's), (39, 46581), (42, 46515), (61, 46350), (62, 46347), (71, 46260), (74, 46239),

Gene: Rowdy\_80 Start: 46614, Stop: 46195, Start Num: 33

Candidate Starts for Rowdy\_80:

(3, 46830), (6, 46806), (Start: 12 @46749 has 13 MA's), (Start: 33 @46614 has 8 MA's), (61, 46347), (62, 46344), (64, 46323), (72, 46257),

Gene: Ruin\_78 Start: 46741, Stop: 46157, Start Num: 19

Candidate Starts for Ruin\_78:

(3, 46891), (11, 46813), (Start: 14 @46792 has 5 MA's), (Start: 18 @46744 has 28 MA's), (Start: 19 @46741 has 82 MA's), (Start: 26 @46636 has 1 MA's), (Start: 33 @46564 has 8 MA's), (35, 46558), (39, 46546), (42, 46480), (58, 46375), (61, 46315), (62, 46312), (71, 46225), (74, 46204),

Gene: RyeScarlet\_85 Start: 46764, Stop: 46249, Start Num: 17

Candidate Starts for RyeScarlet\_85:

(3, 46896), (6, 46872), (Start: 12 @46815 has 13 MA's), (Start: 17 @46764 has 17 MA's), (46, 46557), (50, 46536), (55, 46488), (61, 46410), (62, 46407), (71, 46320),

Gene: Sabertooth\_78 Start: 46756, Stop: 46169, Start Num: 18

Candidate Starts for Sabertooth\_78:

(3, 46903), (11, 46825), (Start: 14 @46804 has 5 MA's), (Start: 18 @46756 has 28 MA's), (Start: 19 @46753 has 82 MA's), (Start: 26 @46648 has 1 MA's), (Start: 33 @46576 has 8 MA's), (39, 46558), (42, 46492), (58, 46387), (61, 46327), (62, 46324), (71, 46237), (74, 46216),

Gene: Sachima\_80 Start: 46801, Stop: 46286, Start Num: 17

Candidate Starts for Sachima\_80:

(3, 46933), (6, 46909), (Start: 12 @46852 has 13 MA's), (Start: 17 @46801 has 17 MA's), (46, 46594), (50, 46573), (55, 46525), (61, 46447), (62, 46444), (71, 46357),

Gene: Sassafras\_72 Start: 45165, Stop: 45557, Start Num: 37

Candidate Starts for Sassafras\_72:

(1, 44820), (5, 44877), (8, 44901), (10, 44919), (11, 44934), (Start: 14 @44955 has 5 MA's), (Start: 17 @44988 has 17 MA's), (Start: 19 @45006 has 82 MA's), (Start: 37 @45165 has 6 MA's), (55, 45327), (61, 45405), (62, 45408), (64, 45429), (65, 45438), (71, 45465), (81, 45546),

Gene: Scamp\_78 Start: 46750, Stop: 46166, Start Num: 19

Candidate Starts for Scamp\_78:

(3, 46900), (11, 46822), (Start: 14 @46801 has 5 MA's), (Start: 18 @46753 has 28 MA's), (Start: 19 @46750 has 82 MA's), (Start: 26 @46645 has 1 MA's), (Start: 33 @46573 has 8 MA's), (39, 46555), (42, 46489), (58, 46384), (61, 46324), (62, 46321), (71, 46234), (74, 46213),

Gene: Scherzo\_82 Start: 46821, Stop: 46306, Start Num: 17

Candidate Starts for Scherzo\_82:

(3, 46953), (6, 46929), (Start: 12 @46872 has 13 MA's), (Start: 17 @46821 has 17 MA's), (46, 46614), (50, 46593), (55, 46545), (61, 46467), (62, 46464), (71, 46377),

Gene: Scottish\_69 Start: 44824, Stop: 45216, Start Num: 37

Candidate Starts for Scottish\_69:

(1, 44479), (5, 44536), (8, 44560), (10, 44578), (11, 44593), (Start: 14 @44614 has 5 MA's), (Start: 17 @44647 has 17 MA's), (Start: 19 @44665 has 82 MA's), (Start: 37 @44824 has 6 MA's), (55, 44986), (61, 45064), (62, 45067), (64, 45088), (65, 45097), (71, 45124), (81, 45205),

Gene: SenorClean\_79 Start: 46748, Stop: 46164, Start Num: 19

Candidate Starts for SenorClean\_79:

(3, 46898), (11, 46820), (Start: 14 @46799 has 5 MA's), (Start: 18 @46751 has 28 MA's), (Start: 19 @46748 has 82 MA's), (Start: 26 @46643 has 1 MA's), (Start: 33 @46571 has 8 MA's), (39, 46553), (42, 46487), (61, 46322), (62, 46319), (71, 46232), (74, 46211),

Gene: Severus\_76 Start: 45637, Stop: 45218, Start Num: 33

Candidate Starts for Severus\_76:

(3, 45853), (6, 45829), (Start: 12 @45772 has 13 MA's), (Start: 33 @45637 has 8 MA's), (55, 45448), (61, 45370), (62, 45367), (64, 45346), (66, 45334), (72, 45280),

Gene: Shaka\_76 Start: 46746, Stop: 46162, Start Num: 19

Candidate Starts for Shaka\_76:

(3, 46896), (11, 46818), (Start: 14 @46797 has 5 MA's), (Start: 18 @46749 has 28 MA's), (Start: 19 @46746 has 82 MA's), (Start: 26 @46641 has 1 MA's), (Start: 33 @46569 has 8 MA's), (39, 46551), (42, 46485), (61, 46320), (62, 46317), (71, 46230), (74, 46209),

Gene: Shapes\_80 Start: 46614, Stop: 46195, Start Num: 33

Candidate Starts for Shapes\_80:

(3, 46830), (6, 46806), (Start: 12 @46749 has 13 MA's), (Start: 33 @46614 has 8 MA's), (61, 46347), (62, 46344), (64, 46323), (72, 46257),

Gene: SheaKeira\_79 Start: 46163, Stop: 45585, Start Num: 12

Candidate Starts for SheaKeira\_79:

(3, 46244), (6, 46220), (11, 46166), (Start: 12 @46163 has 13 MA's), (46, 45905), (50, 45884), (55, 45836), (59, 45797), (61, 45758), (62, 45755), (68, 45689), (71, 45668), (74, 45647), (79, 45602),

Gene: SheldonCooper\_78 Start: 47186, Stop: 46602, Start Num: 19

Candidate Starts for SheldonCooper\_78:

(3, 47336), (11, 47258), (Start: 14 @47237 has 5 MA's), (Start: 18 @47189 has 28 MA's), (Start: 19 @47186 has 82 MA's), (Start: 26 @47081 has 1 MA's), (Start: 33 @47009 has 8 MA's), (39, 46991), (42, 46925), (61, 46760), (62, 46757), (71, 46670), (74, 46649),

Gene: ShowerHandel\_74 Start: 46069, Stop: 46452, Start Num: 37

Candidate Starts for ShowerHandel\_74:

(1, 45724), (5, 45781), (8, 45805), (10, 45823), (11, 45838), (Start: 14 @45859 has 5 MA's), (Start: 17 @45892 has 17 MA's), (Start: 19 @45910 has 82 MA's), (Start: 37 @46069 has 6 MA's), (55, 46231), (61, 46309), (62, 46312), (64, 46333), (65, 46342), (71, 46369), (76, 46417), (81, 46441),

Gene: Shygu2\_76 Start: 46692, Stop: 46108, Start Num: 19

Candidate Starts for Shygu2\_76:

(3, 46842), (11, 46764), (Start: 14 @46743 has 5 MA's), (Start: 18 @46695 has 28 MA's), (Start: 19 @46692 has 82 MA's), (Start: 20 @46680 has 4 MA's), (Start: 26 @46587 has 1 MA's), (Start: 33 @46515 has 8 MA's), (39, 46497), (42, 46431), (58, 46326), (61, 46266), (62, 46263), (71, 46176), (74, 46155), (78, 46119),

Gene: Skipitt\_77 Start: 46745, Stop: 46158, Start Num: 18

Candidate Starts for Skipitt\_77:

(3, 46892), (11, 46814), (Start: 14 @46793 has 5 MA's), (Start: 18 @46745 has 28 MA's), (Start: 19 @46742 has 82 MA's), (Start: 26 @46637 has 1 MA's), (Start: 33 @46565 has 8 MA's), (35, 46559), (39, 46547), (42, 46481), (58, 46376), (61, 46316), (62, 46313), (71, 46226), (74, 46205),

Gene: Sparxx\_79 Start: 46747, Stop: 46160, Start Num: 18

Candidate Starts for Sparxx\_79:

(3, 46894), (11, 46816), (Start: 14 @46795 has 5 MA's), (Start: 18 @46747 has 28 MA's), (Start: 19 @46744 has 82 MA's), (Start: 26 @46639 has 1 MA's), (Start: 33 @46567 has 8 MA's), (39, 46549), (42, 46483), (61, 46318), (62, 46315), (71, 46228), (74, 46207),

Gene: Spino\_77 Start: 46748, Stop: 46164, Start Num: 19

Candidate Starts for Spino\_77:

(3, 46898), (11, 46820), (Start: 14 @46799 has 5 MA's), (Start: 18 @46751 has 28 MA's), (Start: 19 @46748 has 82 MA's), (Start: 26 @46643 has 1 MA's), (Start: 33 @46571 has 8 MA's), (39, 46553), (42, 46487), (61, 46322), (62, 46319), (71, 46232), (74, 46211),

Gene: Stasia\_75 Start: 46708, Stop: 46121, Start Num: 18

Candidate Starts for Stasia\_75:

(3, 46855), (11, 46777), (Start: 14 @46756 has 5 MA's), (Start: 18 @46708 has 28 MA's), (Start: 19 @46705 has 82 MA's), (Start: 26 @46600 has 1 MA's), (Start: 33 @46528 has 8 MA's), (39, 46510), (42, 46444), (61, 46279), (62, 46276), (71, 46189), (74, 46168), (78, 46132),

Gene: SteMason\_74 Start: 46745, Stop: 46161, Start Num: 19

Candidate Starts for SteMason\_74:

(3, 46895), (11, 46817), (Start: 14 @46796 has 5 MA's), (Start: 18 @46748 has 28 MA's), (Start: 19 @46745 has 82 MA's), (Start: 26 @46640 has 1 MA's), (Start: 33 @46568 has 8 MA's), (35, 46562), (39, 46550), (42, 46484), (58, 46379), (61, 46319), (62, 46316), (71, 46229), (74, 46208),

Gene: Stink\_78 Start: 46793, Stop: 46299, Start Num: 25

Candidate Starts for Stink\_78:

(3, 47030), (11, 46952), (Start: 14 @46931 has 5 MA's), (Start: 17 @46898 has 17 MA's), (Start: 19 @46880 has 82 MA's), (22, 46811), (23, 46805), (Start: 25 @46793 has 2 MA's), (42, 46622), (61, 46457), (62, 46454), (71, 46367), (74, 46346), (78, 46310),

Gene: Sultana\_78 Start: 46748, Stop: 46161, Start Num: 18

Candidate Starts for Sultana\_78:

(3, 46895), (11, 46817), (Start: 14 @46796 has 5 MA's), (Start: 18 @46748 has 28 MA's), (Start: 19 @46745 has 82 MA's), (Start: 26 @46640 has 1 MA's), (Start: 33 @46568 has 8 MA's), (39, 46550), (42, 46484), (58, 46379), (61, 46319), (62, 46316), (71, 46229), (74, 46208),

Gene: Taquarus\_77 Start: 46751, Stop: 46167, Start Num: 19

Candidate Starts for Taquarus\_77:

(3, 46901), (11, 46823), (Start: 14 @46802 has 5 MA's), (Start: 18 @46754 has 28 MA's), (Start: 19 @46751 has 82 MA's), (Start: 26 @46646 has 1 MA's), (Start: 33 @46574 has 8 MA's), (39, 46556), (42, 46490), (61, 46325), (62, 46322), (71, 46235), (74, 46214),

Gene: Temprado\_91 Start: 47580, Stop: 47029, Start Num: 14

Candidate Starts for Temprado\_91:

(3, 47679), (6, 47655), (11, 47601), (Start: 12 @47598 has 13 MA's), (Start: 14 @47580 has 5 MA's), (54, 47274), (61, 47193), (62, 47190), (64, 47169), (72, 47094), (73, 47091),

Gene: Tinybot\_77 Start: 46778, Stop: 46191, Start Num: 18

Candidate Starts for Tinybot\_77:

(3, 46925), (11, 46847), (Start: 14 @46826 has 5 MA's), (Start: 18 @46778 has 28 MA's), (Start: 19 @46775 has 82 MA's), (Start: 26 @46670 has 1 MA's), (Start: 33 @46598 has 8 MA's), (39, 46580), (42, 46514), (58, 46409), (61, 46349), (62, 46346), (71, 46259), (74, 46238),

Gene: TiroTheta9\_77 Start: 46742, Stop: 46158, Start Num: 19

Candidate Starts for TiroTheta9\_77:

(3, 46892), (11, 46814), (Start: 14 @46793 has 5 MA's), (Start: 18 @46745 has 28 MA's), (Start: 19 @46742 has 82 MA's), (Start: 26 @46637 has 1 MA's), (Start: 33 @46565 has 8 MA's), (39, 46547), (42, 46481), (61, 46316), (62, 46313), (71, 46226), (74, 46205),

Gene: Toaka\_82 Start: 46732, Stop: 46166, Start Num: 12

Candidate Starts for Toaka\_82:

(3, 46813), (6, 46789), (Start: 12 @46732 has 13 MA's), (46, 46474), (50, 46453), (55, 46405), (61, 46327), (62, 46324), (71, 46237),

Gene: ToneTone\_87 Start: 47116, Stop: 46580, Start Num: 15

Candidate Starts for ToneTone\_87:

(3, 47227), (6, 47203), (11, 47149), (Start: 12 @47146 has 13 MA's), (Start: 15 @47116 has 4 MA's), (54, 46822), (61, 46741), (62, 46738), (72, 46645), (73, 46642),

Gene: TroyPia\_79 Start: 46786, Stop: 46199, Start Num: 18

Candidate Starts for TroyPia\_79:

(3, 46933), (11, 46855), (Start: 14 @46834 has 5 MA's), (Start: 18 @46786 has 28 MA's), (Start: 19 @46783 has 82 MA's), (Start: 26 @46678 has 1 MA's), (Start: 33 @46606 has 8 MA's), (39, 46588), (42, 46522), (61, 46357), (62, 46354), (71, 46267), (74, 46246),

Gene: Tubs\_84 Start: 46773, Stop: 46258, Start Num: 17

Candidate Starts for Tubs\_84:

(3, 46905), (6, 46881), (Start: 12 @46824 has 13 MA's), (Start: 17 @46773 has 17 MA's), (46, 46566), (50, 46545), (55, 46497), (61, 46419), (62, 46416), (71, 46329),

Gene: Tucker\_90 Start: 47319, Stop: 46783, Start Num: 15

Candidate Starts for Tucker\_90:

(3, 47430), (6, 47406), (11, 47352), (Start: 12 @47349 has 13 MA's), (Start: 15 @47319 has 4 MA's), (54, 47025), (61, 46944), (62, 46941), (72, 46848), (73, 46845),

Gene: Twister\_78 Start: 46549, Stop: 46046, Start Num: 17

Candidate Starts for Twister\_78:

(3, 46681), (6, 46657), (Start: 12 @46600 has 13 MA's), (Start: 17 @46549 has 17 MA's), (Start: 33 @46465 has 8 MA's), (55, 46276), (61, 46198), (62, 46195), (66, 46162), (72, 46108),

Gene: TygerBlood\_78 Start: 46751, Stop: 46164, Start Num: 18

Candidate Starts for TygerBlood\_78:

(3, 46898), (11, 46820), (Start: 14 @46799 has 5 MA's), (Start: 18 @46751 has 28 MA's), (Start: 19 @46748 has 82 MA's), (Start: 26 @46643 has 1 MA's), (Start: 33 @46571 has 8 MA's), (39, 46553), (42, 46487), (58, 46382), (61, 46322), (62, 46319), (71, 46232), (74, 46211),

Gene: Ulysses\_77 Start: 46431, Stop: 45847, Start Num: 19

Candidate Starts for Ulysses\_77:

(3, 46581), (11, 46503), (Start: 14 @46482 has 5 MA's), (Start: 18 @46434 has 28 MA's), (Start: 19 @46431 has 82 MA's), (Start: 26 @46326 has 1 MA's), (Start: 33 @46254 has 8 MA's), (39, 46236), (42, 46170), (61, 46005), (62, 46002), (71, 45915), (74, 45894),

Gene: Vagabond\_5 Start: 1719, Stop: 1288, Start Num: 30

Candidate Starts for Vagabond\_5:

(Start: 14 @1851 has 5 MA's), (27, 1734), (Start: 30 @1719 has 1 MA's), (Start: 32 @1668 has 1 MA's), (Start: 34 @1665 has 3 MA's), (48, 1557), (49, 1548), (61, 1419), (62, 1416), (69, 1380), (74, 1341), (78, 1305),

Gene: Vanisoa\_79 Start: 47062, Stop: 46496, Start Num: 12

Candidate Starts for Vanisoa\_79:

(3, 47143), (6, 47119), (11, 47065), (Start: 12 @47062 has 13 MA's), (46, 46804), (50, 46783), (61, 46657), (62, 46654), (71, 46567),

Gene: WalterMcMickey\_77 Start: 46600, Stop: 46046, Start Num: 12

Candidate Starts for WalterMcMickey\_77:

(3, 46681), (6, 46657), (Start: 12 @46600 has 13 MA's), (Start: 17 @46549 has 17 MA's), (Start: 33 @46465 has 8 MA's), (55, 46276), (61, 46198), (62, 46195), (66, 46162), (72, 46108),

Gene: Wander\_78 Start: 46742, Stop: 46158, Start Num: 19

Candidate Starts for Wander\_78:

(3, 46892), (11, 46814), (Start: 14 @46793 has 5 MA's), (Start: 18 @46745 has 28 MA's), (Start: 19 @46742 has 82 MA's), (Start: 26 @46637 has 1 MA's), (Start: 33 @46565 has 8 MA's), (39, 46547), (42, 46481), (58, 46376), (61, 46316), (62, 46313), (71, 46226), (74, 46205),

Gene: Wilbur\_78 Start: 46745, Stop: 46161, Start Num: 19

Candidate Starts for Wilbur\_78:

(3, 46895), (11, 46817), (Start: 14 @46796 has 5 MA's), (Start: 18 @46748 has 28 MA's), (Start: 19 @46745 has 82 MA's), (Start: 26 @46640 has 1 MA's), (Start: 33 @46568 has 8 MA's), (35, 46562), (39, 46550), (42, 46484), (58, 46379), (61, 46319), (62, 46316), (71, 46229), (74, 46208),

Gene: Wildflower\_5 Start: 1625, Stop: 1242, Start Num: 34

Candidate Starts for Wildflower\_5:

(Start: 14 @1811 has 5 MA's), (27, 1694), (Start: 30 @1679 has 1 MA's), (Start: 32 @1628 has 1 MA's), (Start: 34 @1625 has 3 MA's), (48, 1511), (49, 1502), (61, 1373), (62, 1370), (74, 1295), (78, 1259),

Gene: Wile\_74 Start: 46560, Stop: 45988, Start Num: 20

Candidate Starts for Wile\_74:

(3, 46722), (11, 46644), (Start: 14 @46623 has 5 MA's), (Start: 18 @46575 has 28 MA's), (Start: 19 @46572 has 82 MA's), (Start: 20 @46560 has 4 MA's), (Start: 26 @46467 has 1 MA's), (Start: 33 @46395 has 8 MA's), (39, 46377), (42, 46311), (58, 46206), (61, 46146), (62, 46143), (71, 46056), (74, 46035), (78, 45999),

Gene: Wizard007\_75 Start: 46286, Stop: 45714, Start Num: 20

Candidate Starts for Wizard007\_75:

(3, 46448), (11, 46370), (Start: 14 @46349 has 5 MA's), (Start: 18 @46301 has 28 MA's), (Start: 19 @46298 has 82 MA's), (Start: 20 @46286 has 4 MA's), (Start: 26 @46193 has 1 MA's), (Start: 33 @46121 has 8 MA's), (39, 46103), (42, 46037), (58, 45932), (61, 45872), (62, 45869), (71, 45782), (74,

45761), (78, 45725),

Gene: Wogge42\_5 Start: 1668, Stop: 1291, Start Num: 34

Candidate Starts for Wogge42\_5:

(Start: 14 @1854 has 5 MA's), (27, 1737), (Start: 30 @1722 has 1 MA's), (Start: 32 @1671 has 1 MA's), (Start: 34 @1668 has 3 MA's), (48, 1560), (49, 1551), (61, 1422), (62, 1419), (69, 1383), (74, 1344), (78, 1308),

Gene: Yecey3\_85 Start: 46628, Stop: 46062, Start Num: 12

Candidate Starts for Yecey3\_85:

(3, 46709), (6, 46685), (Start: 12 @46628 has 13 MA's), (50, 46349), (61, 46223), (62, 46220), (78, 46076),

Gene: YoSam321\_78 Start: 46746, Stop: 46159, Start Num: 18

Candidate Starts for YoSam321\_78:

(3, 46893), (11, 46815), (Start: 14 @46794 has 5 MA's), (Start: 18 @46746 has 28 MA's), (Start: 19 @46743 has 82 MA's), (Start: 26 @46638 has 1 MA's), (Start: 33 @46566 has 8 MA's), (39, 46548), (42, 46482), (61, 46317), (62, 46314), (71, 46227), (74, 46206),

Gene: Yokurt\_89 Start: 47211, Stop: 46660, Start Num: 14

Candidate Starts for Yokurt\_89:

(3, 47310), (6, 47286), (11, 47232), (Start: 12 @47229 has 13 MA's), (Start: 14 @47211 has 5 MA's), (54, 46905), (61, 46824), (62, 46821), (64, 46800), (72, 46725), (73, 46722),