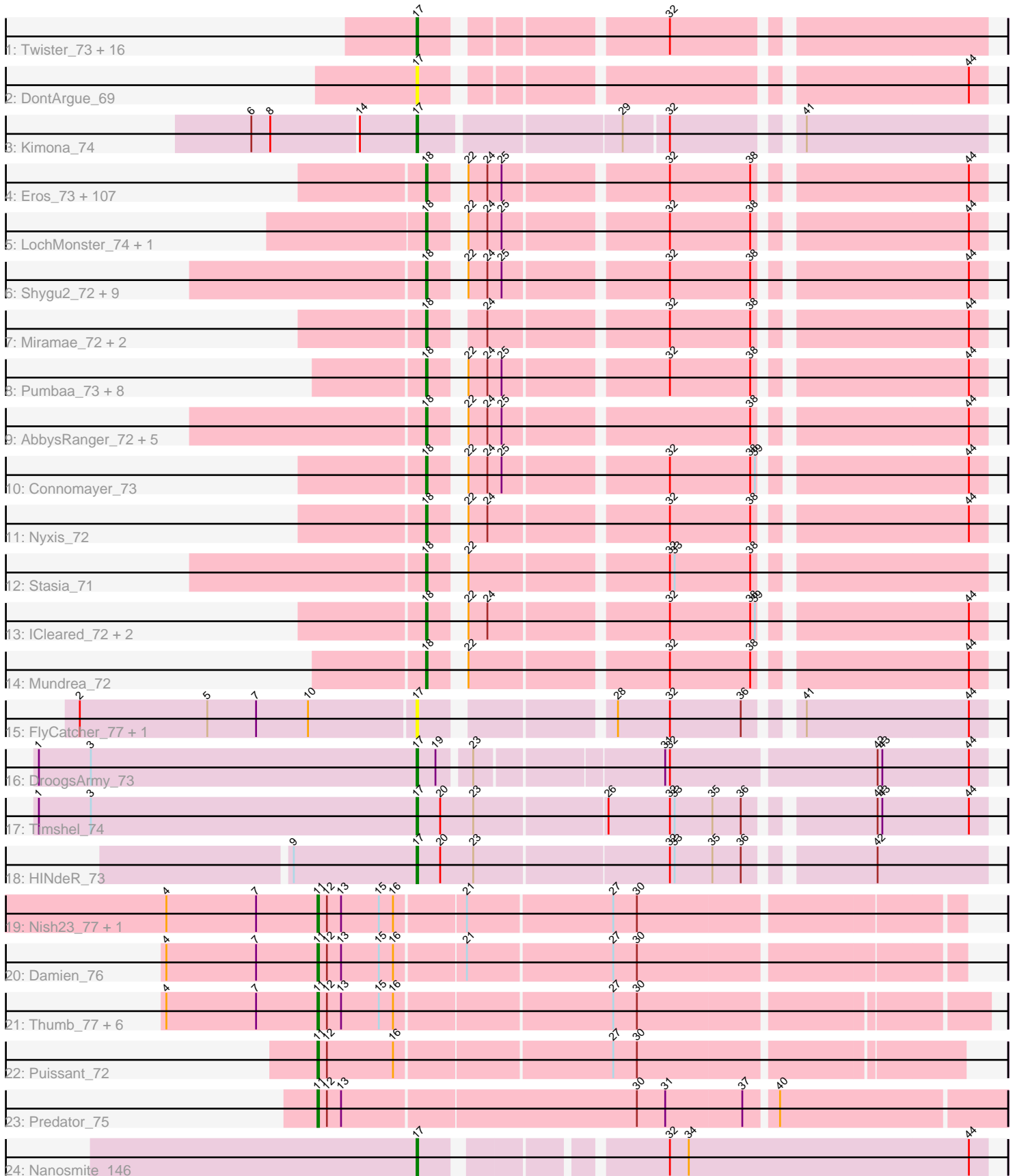


Pham 308135



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 308135 Report

This analysis was run 06/27/26 on database version 652.

Pham number 308135 has 182 members, 10 are drafts.

Phages represented in each track:

- Track 1 : Twister\_73, Rebeuca\_74, Kristoff\_71, Severus\_71, WalterMcMickey\_72, Edison31\_69, Eaglepride\_76, OKCentral2016\_72, Shapes\_75, Chupacabra\_70, Poompha\_70, KittenMittens\_69, DustyMartin\_75, Goose\_74, Drake94\_70, Rowdy\_75, PeaceMeal1\_70
- Track 2 : DontArgue\_69
- Track 3 : Kimona\_74
- Track 4 : Eros\_73, Millski\_72, Kratark\_72, Sabertooth\_73, Holli\_72, TiroTheta9\_72, Lemur\_73, DirtyDunning\_72, MeeZee\_72, OKaNui\_72, Caelakin\_72, Skipitt\_72, Obama12\_74, Kingmustik0402\_73, Maverick\_72, KekoraPapaka\_70, Jaykayelowell\_70, Kampy\_72, Iceman\_72, Eagle\_72, JoongJeon\_72, Mazhar510\_73, Melvin\_75, Happiness\_72, Koan\_70, Burger\_71, Polymorphads\_74, Peaches\_71, Blackmoor\_72, NorthStar\_71, Sparxx\_74, Commander\_71, Romney\_72, Iracema64\_73, Houdini22\_72, Clarenza\_72, Deano\_70, BubbleTrouble\_72, Eapen\_73, PeterPeter\_73, Ruin\_73, Mayonnaise\_70, Spino\_72, Phacado\_73, Avle17\_73, HamSlice\_69, Eurydice\_74, SenorClean\_74, Roosevelt\_71, Ohfah\_74, Phelipe\_74, LHTSCC\_75, KFPoly\_72, Palestino\_72, JetBlade\_74, Bartimeaus\_73, Cocoaberry\_73, LeoAvram\_72, TroyPia\_74, Florean\_73, YoSam321\_73, Alberto7\_74, Taquarus\_72, Bruiser\_72, Dhanush\_73, Wilbur\_73, Pipcraft\_70, Relief\_72, TinaFeyge\_71, Kyee\_73, ChampagnePapi\_76, Arturo\_70, Phighter1804\_73, CentreCat\_73, Wander\_73, LittleGuy\_73, TygerBlood\_73, Albee\_73, Koreni\_72, Thanksgivukkah\_72, Citius\_73, Scamp\_73, Maxo\_75, Flux\_74, Baby16\_73, Nemo27\_72, RockieBear\_70, Lorenzo\_73, Tinybot\_72, Gadost\_73, Lunsford\_73, LittleB\_73, Bombshell\_73, SteMason\_73, BellusTerra\_74, Broseidon\_73, NotAPhaseMom\_72, Nebs\_74, Medusa\_73, Morrow\_75, Eris\_72, Druantia\_72, Annyong\_72, Sultana\_73, Chaph\_73, Abdiel\_73, Funston\_72, Shaka\_71
- Track 5 : LochMonster\_74, LappelDuVide\_73
- Track 6 : Shygu2\_72, Noelle\_73, Bumblebee11\_71, Morpher26\_72, Cici\_72, Katalie136\_72, Wile\_71, Badger\_71, Wizard007\_72, Achebe\_71
- Track 7 : Miramae\_72, AvatarAhPeg\_72, Stink\_72
- Track 8 : Pumbaa\_73, Cintron\_74, SheldonCooper\_73, BangNhom\_71, Rosa24\_70, Camperdownii\_71, Ulysses\_72, Kremtemulon\_72, Cerulean\_75
- Track 9 : AbbysRanger\_72, Perplexer\_72, Datway\_72, PetiteSangsue\_72, Backyardigan\_70, Xena\_71
- Track 10 : Connomayer\_73
- Track 11 : Nyxis\_72
- Track 12 : Stasia\_71

- Track 13 : ICleared\_72, Phontbonne\_73, Cindaradix\_69
- Track 14 : Mundrea\_72
- Track 15 : FlyCatcher\_77, Toro\_75
- Track 16 : DroogsArmy\_73
- Track 17 : Timshel\_74
- Track 18 : HINdeR\_73
- Track 19 : Nish23\_77, Cborch11\_77
- Track 20 : Damien\_76
- Track 21 : Thumb\_77, BobtimousPrime\_79, Konstantine\_79, Oaker\_76, Megatron06\_77, Phreeze\_75, Beckerton\_75
- Track 22 : Puissant\_72
- Track 23 : Predator\_75
- Track 24 : Nanosmite\_146

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

The start number called the most often in the published annotations is 18, it was called in 142 of the 172 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AbbysRanger\_72, Abdiel\_73, Achebe\_71, Albee\_73, Alberto7\_74, Annyong\_72, Arturo\_70, AvatarAhPeg\_72, Avle17\_73, Baby16\_73, Backyardigan\_70, Badger\_71, BangNhom\_71, Bartimeaus\_73, BellusTerra\_74, Blackmoor\_72, Bombshell\_73, Broseidon\_73, Bruiser\_72, BubbleTrouble\_72, Bumblebee11\_71, Burger\_71, Caelakin\_72, Camperdownii\_71, CentreCat\_73, Cerulean\_75, ChampagnePapi\_76, Chaph\_73, Cici\_72, Cindaradix\_69, Cintron\_74, Citius\_73, Clarenza\_72, Cocoaberry\_73, Commander\_71, Connomayer\_73, Datway\_72, Deano\_70, Dhanush\_73, DirtyDunning\_72, Druantia\_72, Eagle\_72, Eapen\_73, Eris\_72, Eros\_73, Eurydice\_74, Floean\_73, Flux\_74, Funston\_72, Gadost\_73, HamSlice\_69, Happiness\_72, Holli\_72, Houdini22\_72, ICleared\_72, Iceman\_72, Iracema64\_73, Jaykayelowell\_70, JetBlade\_74, JoongJeon\_72, KFPoly\_72, Kampy\_72, Katalie136\_72, KekoraPapaka\_70, Kingmustik0402\_73, Koan\_70, Koreni\_72, Kratak\_72, Kremtemulon\_72, Kyee\_73, LHTSCC\_75, LappelDuVide\_73, Lemur\_73, LeoAvram\_72, LittleB\_73, LittleGuy\_73, LochMonster\_74, Lorenzo\_73, Lunsford\_73, Maverick\_72, Maxo\_75, Mayonnaise\_70, Mazhar510\_73, Medusa\_73, MeeZee\_72, Melvin\_75, Millski\_72, Miramae\_72, Morpher26\_72, Morrow\_75, Mundrea\_72, Nebs\_74, Nemo27\_72, Noelle\_73, NorthStar\_71, NotAPhaseMom\_72, Nyxis\_72, OKaNui\_72, Obama12\_74, Ohfah\_74, Palestino\_72, Peaches\_71, Perplexer\_72, PeterPeter\_73, PetiteSangsue\_72, Phacado\_73, Phelipe\_74, Phighter1804\_73, Phontbonne\_73, Pipcraft\_70, Polymorphads\_74, Pumbaa\_73, Relief\_72, RockieBear\_70, Romney\_72, Roosevelt\_71, Rosa24\_70, Ruin\_73, Sabertooth\_73, Scamp\_73, SeniorClean\_74, Shaka\_71, SheldonCooper\_73, Shygu2\_72, Skipitt\_72, Sparxx\_74, Spino\_72, Stasia\_71, SteMason\_73, Stink\_72, Sultana\_73, Taquarus\_72, Thanksgivukkah\_72, TinaFeyge\_71, Tinybot\_72, TiroTheta9\_72, TroyPia\_74, TygerBlood\_73, Ulysses\_72, Wander\_73, Wilbur\_73, Wile\_71, Wizard007\_72, Xena\_71, YoSam321\_73,

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

-

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

- Beckerton\_75, BobtimousPrime\_79, Cborch11\_77, Chupacabra\_70, Damien\_76, DontArgue\_69, Drake94\_70, DroogsArmy\_73, DustyMartin\_75, Eaglepride\_76, Edison31\_69, FlyCatcher\_77, Goose\_74, HINdeR\_73, Kimona\_74, KittenMittens\_69, Konstantine\_79, Kristoff\_71, Megatron06\_77, Nanosmite\_146, Nish23\_77, OKCentral2016\_72, Oaker\_76, PeaceMeal1\_70, Phreeze\_75, Poompha\_70, Predator\_75, Puissant\_72, Rebeuca\_74, Rowdy\_75, Severus\_71, Shapes\_75, Thumb\_77, Timshel\_74, Toro\_75, Twister\_73, WalterMcMickey\_72,

### Summary by start number:

Start 11:

- Found in 12 of 182 ( 6.6% ) of genes in pham
- Manual Annotations of this start: 11 of 172
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Beckerton\_75 (H1), BobtimousPrime\_79 (H1), Cborch11\_77 (H1), Damien\_76 (H1), Konstantine\_79 (H1), Megatron06\_77 (H1), Nish23\_77 (H1), Oaker\_76 (H1), Phreeze\_75 (H1), Predator\_75 (H1), Puissant\_72 (H1), Thumb\_77 (H1),

Start 17:

- Found in 25 of 182 ( 13.7% ) of genes in pham
- Manual Annotations of this start: 19 of 172
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Chupacabra\_70 (A10), DontArgue\_69 (A10), Drake94\_70 (A10), DroogsArmy\_73 (A7), DustyMartin\_75 (A10), Eaglepride\_76 (A10), Edison31\_69 (A10), FlyCatcher\_77 (A7), Goose\_74 (A10), HINdeR\_73 (A7), Kimona\_74 (A19), KittenMittens\_69 (A10), Kristoff\_71 (A10), Nanosmite\_146 (M3), OKCentral2016\_72 (A10), PeaceMeal1\_70 (A10), Poompha\_70 (A10), Rebeuca\_74 (A10), Rowdy\_75 (A10), Severus\_71 (A10), Shapes\_75 (A10), Timshel\_74 (A7), Toro\_75 (A7), Twister\_73 (A10), WalterMcMickey\_72 (A10),

Start 18:

- Found in 145 of 182 ( 79.7% ) of genes in pham
- Manual Annotations of this start: 142 of 172
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AbbysRanger\_72 (A4), Abdiel\_73 (A4), Achebe\_71 (A4), Albee\_73 (A4), Alberto7\_74 (A4), Annyong\_72 (A4), Arturo\_70 (A4), AvatarAhPeg\_72 (A4), Avle17\_73 (A4), Baby16\_73 (A4), Backyardigan\_70 (A4), Badger\_71 (A4), BangNhom\_71 (A4), Bartimeaus\_73 (A4), BellusTerra\_74 (A4), Blackmoor\_72 (A4), Bombshell\_73 (A4), Broseidon\_73 (A4), Bruiser\_72 (A4), BubbleTrouble\_72 (A4), Bumblebee11\_71 (A4), Burger\_71 (A4), Caelakin\_72 (A4), Camperdownii\_71 (A4), CentreCat\_73 (A4), Cerulean\_75 (A4), ChampagnePapi\_76 (A4), Chaph\_73 (A4), Cici\_72 (A4), Cindaradix\_69 (A4), Cintron\_74 (A4), Citius\_73 (A4), Clarenza\_72 (A4), Cocoaberry\_73 (A4), Commander\_71 (A4), Connomayer\_73 (A4), Datway\_72 (A4), Deano\_70 (A4), Dhanush\_73 (A4), DirtyDunning\_72 (A4), Druantia\_72 (A4), Eagle\_72 (A4), Eapen\_73 (A4), Eris\_72 (A4), Eros\_73 (A4), Eurydice\_74 (A4), Florean\_73 (A4), Flux\_74 (A4), Funston\_72 (A4), Gadost\_73 (A4), HamSlice\_69 (A4), Happiness\_72 (A4), Holli\_72 (A4), Houdini22\_72 (A4), ICleared\_72 (A4), Iceman\_72 (A4), Iracema64\_73 (A4), Jaykayelowell\_70 (A4), JetBlade\_74 (A4), JoongJeon\_72 (A4), KFPoly\_72 (A4), Kampy\_72 (A4), Katalie136\_72 (A4), KekoraPapaka\_70 (A4), Kingmustik0402\_73 (A4), Koan\_70 (A4),

Koreni\_72 (A4), Kratak\_72 (A4), Kremtemulon\_72 (A4), Kyee\_73 (A4), LHTSCC\_75 (A4), LappelDuVide\_73 (A4), Lemur\_73 (A4), LeoAvram\_72 (A4), LittleB\_73 (A4), LittleGuy\_73 (A4), LochMonster\_74 (A4), Lorenzo\_73 (A4), Lunsford\_73 (A4), Maverick\_72 (A4), Maxo\_75 (A4), Mayonnaise\_70 (A4), Mazhar510\_73 (A4), Medusa\_73 (A4), MeeZee\_72 (A4), Melvin\_75 (A4), Millski\_72 (A4), Miramae\_72 (A4), Morpher26\_72 (A4), Morrow\_75 (A4), Mundrea\_72 (A4), Nebs\_74 (A4), Nemo27\_72 (A4), Noelle\_73 (A4), NorthStar\_71 (A4), NotAPhaseMom\_72 (A4), Nyxis\_72 (A4), OKaNui\_72 (A4), Obama12\_74 (A4), Ohfah\_74 (A4), Palestino\_72 (A4), Peaches\_71 (A4), Perplexer\_72 (A4), PeterPeter\_73 (A4), PetiteSangsue\_72 (A4), Phacado\_73 (A4), Phelipe\_74 (A4), Phighter1804\_73 (A4), Phontbonne\_73 (A4), Pipcraft\_70 (A4), Polymorphads\_74 (A4), Pumbaa\_73 (A4), Relief\_72 (A4), RockieBear\_70 (A4), Romney\_72 (A4), Roosevelt\_71 (A4), Rosa24\_70 (A4), Ruin\_73 (A4), Sabertooth\_73 (A4), Scamp\_73 (A4), SeniorClean\_74 (A4), Shaka\_71 (A4), SheldonCooper\_73 (A4), Shygu2\_72 (A4), Skipitt\_72 (A4), Sparxx\_74 (A4), Spino\_72 (A4), Stasia\_71 (A4), SteMason\_73 (A4), Stink\_72 (A4), Sultana\_73 (A4), Taquarus\_72 (A4), Thanksgivukkah\_72 (A4), TinaFeyge\_71 (A4), Tinybot\_72 (A4), TiroTheta9\_72 (A4), TroyPia\_74 (A4), TygerBlood\_73 (A4), Ulysses\_72 (A4), Wander\_73 (A4), Wilbur\_73 (A4), Wile\_71 (A4), Wizard007\_72 (A4), Xena\_71 (A4), YoSam321\_73 (A4),

### **Summary by clusters:**

There are 6 clusters represented in this pham: A7, H1, A19, A4, M3, A10,

Info for manual annotations of cluster A10:

- Start number 17 was manually annotated 14 times for cluster A10.

Info for manual annotations of cluster A19:

- Start number 17 was manually annotated 1 time for cluster A19.

Info for manual annotations of cluster A4:

- Start number 18 was manually annotated 142 times for cluster A4.

Info for manual annotations of cluster A7:

- Start number 17 was manually annotated 3 times for cluster A7.

Info for manual annotations of cluster H1:

- Start number 11 was manually annotated 11 times for cluster H1.

Info for manual annotations of cluster M3:

- Start number 17 was manually annotated 1 time for cluster M3.

### **Gene Information:**

Gene: AbbysRanger\_72 Start: 45254, Stop: 44940, Start Num: 18

Candidate Starts for AbbysRanger\_72:

(Start: 18 @45254 has 142 MA's), (22, 45239), (24, 45227), (25, 45218), (38, 45071), (44, 44951),

Gene: Abdiel\_73 Start: 45203, Stop: 44889, Start Num: 18

Candidate Starts for Abdiel\_73:

(Start: 18 @45203 has 142 MA's), (22, 45188), (24, 45176), (25, 45167), (32, 45071), (38, 45020), (44, 44900),

Gene: Achebe\_71 Start: 45237, Stop: 44923, Start Num: 18

Candidate Starts for Achebe\_71:

(Start: 18 @45237 has 142 MA's), (22, 45222), (24, 45210), (25, 45201), (32, 45105), (38, 45054), (44, 44934),

Gene: Albee\_73 Start: 45191, Stop: 44877, Start Num: 18

Candidate Starts for Albee\_73:

(Start: 18 @45191 has 142 MA's), (22, 45176), (24, 45164), (25, 45155), (32, 45059), (38, 45008), (44, 44888),

Gene: Alberto7\_74 Start: 45528, Stop: 45214, Start Num: 18

Candidate Starts for Alberto7\_74:

(Start: 18 @45528 has 142 MA's), (22, 45513), (24, 45501), (25, 45492), (32, 45396), (38, 45345), (44, 45225),

Gene: Annyong\_72 Start: 45236, Stop: 44922, Start Num: 18

Candidate Starts for Annyong\_72:

(Start: 18 @45236 has 142 MA's), (22, 45221), (24, 45209), (25, 45200), (32, 45104), (38, 45053), (44, 44933),

Gene: Arturo\_70 Start: 45319, Stop: 45005, Start Num: 18

Candidate Starts for Arturo\_70:

(Start: 18 @45319 has 142 MA's), (22, 45304), (24, 45292), (25, 45283), (32, 45187), (38, 45136), (44, 45016),

Gene: AvatarAhPeg\_72 Start: 45127, Stop: 44813, Start Num: 18

Candidate Starts for AvatarAhPeg\_72:

(Start: 18 @45127 has 142 MA's), (24, 45100), (32, 44995), (38, 44944), (44, 44824),

Gene: Avle17\_73 Start: 45185, Stop: 44871, Start Num: 18

Candidate Starts for Avle17\_73:

(Start: 18 @45185 has 142 MA's), (22, 45170), (24, 45158), (25, 45149), (32, 45053), (38, 45002), (44, 44882),

Gene: Baby16\_73 Start: 45202, Stop: 44888, Start Num: 18

Candidate Starts for Baby16\_73:

(Start: 18 @45202 has 142 MA's), (22, 45187), (24, 45175), (25, 45166), (32, 45070), (38, 45019), (44, 44899),

Gene: Backyardigan\_70 Start: 45270, Stop: 44956, Start Num: 18

Candidate Starts for Backyardigan\_70:

(Start: 18 @45270 has 142 MA's), (22, 45255), (24, 45243), (25, 45234), (38, 45087), (44, 44967),

Gene: Badger\_71 Start: 45238, Stop: 44924, Start Num: 18

Candidate Starts for Badger\_71:

(Start: 18 @45238 has 142 MA's), (22, 45223), (24, 45211), (25, 45202), (32, 45106), (38, 45055), (44, 44935),

Gene: BangNhom\_71 Start: 45628, Stop: 45314, Start Num: 18

Candidate Starts for BangNhom\_71:

(Start: 18 @45628 has 142 MA's), (22, 45613), (24, 45601), (25, 45592), (32, 45496), (38, 45445), (44, 45325),

Gene: Bartimeaus\_73 Start: 45193, Stop: 44879, Start Num: 18

Candidate Starts for Bartimeaus\_73:

(Start: 18 @45193 has 142 MA's), (22, 45178), (24, 45166), (25, 45157), (32, 45061), (38, 45010), (44, 44890),

Gene: Beckerton\_75 Start: 55576, Stop: 55977, Start Num: 11

Candidate Starts for Beckerton\_75:

(4, 55480), (7, 55537), (Start: 11 @55576 has 11 MA's), (12, 55582), (13, 55591), (15, 55615), (16, 55624), (27, 55756), (30, 55771),

Gene: BellusTerra\_74 Start: 45232, Stop: 44918, Start Num: 18

Candidate Starts for BellusTerra\_74:

(Start: 18 @45232 has 142 MA's), (22, 45217), (24, 45205), (25, 45196), (32, 45100), (38, 45049), (44, 44929),

Gene: Blackmoor\_72 Start: 45193, Stop: 44879, Start Num: 18

Candidate Starts for Blackmoor\_72:

(Start: 18 @45193 has 142 MA's), (22, 45178), (24, 45166), (25, 45157), (32, 45061), (38, 45010), (44, 44890),

Gene: BobtimousPrime\_79 Start: 55877, Stop: 56278, Start Num: 11

Candidate Starts for BobtimousPrime\_79:

(4, 55781), (7, 55838), (Start: 11 @55877 has 11 MA's), (12, 55883), (13, 55892), (15, 55916), (16, 55925), (27, 56057), (30, 56072),

Gene: Bombshell\_73 Start: 45188, Stop: 44874, Start Num: 18

Candidate Starts for Bombshell\_73:

(Start: 18 @45188 has 142 MA's), (22, 45173), (24, 45161), (25, 45152), (32, 45056), (38, 45005), (44, 44885),

Gene: Broseidon\_73 Start: 45194, Stop: 44880, Start Num: 18

Candidate Starts for Broseidon\_73:

(Start: 18 @45194 has 142 MA's), (22, 45179), (24, 45167), (25, 45158), (32, 45062), (38, 45011), (44, 44891),

Gene: Bruiser\_72 Start: 45191, Stop: 44877, Start Num: 18

Candidate Starts for Bruiser\_72:

(Start: 18 @45191 has 142 MA's), (22, 45176), (24, 45164), (25, 45155), (32, 45059), (38, 45008), (44, 44888),

Gene: BubbleTrouble\_72 Start: 45218, Stop: 44904, Start Num: 18

Candidate Starts for BubbleTrouble\_72:

(Start: 18 @45218 has 142 MA's), (22, 45203), (24, 45191), (25, 45182), (32, 45086), (38, 45035), (44, 44915),

Gene: Bumblebee11\_71 Start: 45240, Stop: 44926, Start Num: 18

Candidate Starts for Bumblebee11\_71:

(Start: 18 @45240 has 142 MA's), (22, 45225), (24, 45213), (25, 45204), (32, 45108), (38, 45057), (44, 44937),

Gene: Burger\_71 Start: 45191, Stop: 44877, Start Num: 18  
Candidate Starts for Burger\_71:  
(Start: 18 @45191 has 142 MA's), (22, 45176), (24, 45164), (25, 45155), (32, 45059), (38, 45008), (44, 44888),

Gene: Caelakin\_72 Start: 45191, Stop: 44877, Start Num: 18  
Candidate Starts for Caelakin\_72:  
(Start: 18 @45191 has 142 MA's), (22, 45176), (24, 45164), (25, 45155), (32, 45059), (38, 45008), (44, 44888),

Gene: Camperdownii\_71 Start: 44863, Stop: 44549, Start Num: 18  
Candidate Starts for Camperdownii\_71:  
(Start: 18 @44863 has 142 MA's), (22, 44848), (24, 44836), (25, 44827), (32, 44731), (38, 44680), (44, 44560),

Gene: Cborch11\_77 Start: 54773, Stop: 55162, Start Num: 11  
Candidate Starts for Cborch11\_77:  
(4, 54677), (7, 54734), (Start: 11 @54773 has 11 MA's), (12, 54779), (13, 54788), (15, 54812), (16, 54821), (21, 54863), (27, 54953), (30, 54968),

Gene: CentreCat\_73 Start: 45231, Stop: 44917, Start Num: 18  
Candidate Starts for CentreCat\_73:  
(Start: 18 @45231 has 142 MA's), (22, 45216), (24, 45204), (25, 45195), (32, 45099), (38, 45048), (44, 44928),

Gene: Cerulean\_75 Start: 45629, Stop: 45315, Start Num: 18  
Candidate Starts for Cerulean\_75:  
(Start: 18 @45629 has 142 MA's), (22, 45614), (24, 45602), (25, 45593), (32, 45497), (38, 45446), (44, 45326),

Gene: ChampagnePapi\_76 Start: 45628, Stop: 45314, Start Num: 18  
Candidate Starts for ChampagnePapi\_76:  
(Start: 18 @45628 has 142 MA's), (22, 45613), (24, 45601), (25, 45592), (32, 45496), (38, 45445), (44, 45325),

Gene: Chaph\_73 Start: 45202, Stop: 44888, Start Num: 18  
Candidate Starts for Chaph\_73:  
(Start: 18 @45202 has 142 MA's), (22, 45187), (24, 45175), (25, 45166), (32, 45070), (38, 45019), (44, 44899),

Gene: Chupacabra\_70 Start: 44895, Stop: 44578, Start Num: 17  
Candidate Starts for Chupacabra\_70:  
(Start: 17 @44895 has 19 MA's), (32, 44760),

Gene: Cici\_72 Start: 45255, Stop: 44941, Start Num: 18  
Candidate Starts for Cici\_72:  
(Start: 18 @45255 has 142 MA's), (22, 45240), (24, 45228), (25, 45219), (32, 45123), (38, 45072), (44, 44952),

Gene: Cindaradix\_69 Start: 45089, Stop: 44775, Start Num: 18  
Candidate Starts for Cindaradix\_69:  
(Start: 18 @45089 has 142 MA's), (22, 45074), (24, 45062), (32, 44957), (38, 44906), (39, 44903), (44, 44786),

Gene: Cintron\_74 Start: 45342, Stop: 45028, Start Num: 18

Candidate Starts for Cintron\_74:

(Start: 18 @45342 has 142 MA's), (22, 45327), (24, 45315), (25, 45306), (32, 45210), (38, 45159), (44, 45039),

Gene: Citius\_73 Start: 45212, Stop: 44898, Start Num: 18

Candidate Starts for Citius\_73:

(Start: 18 @45212 has 142 MA's), (22, 45197), (24, 45185), (25, 45176), (32, 45080), (38, 45029), (44, 44909),

Gene: Clarenza\_72 Start: 45188, Stop: 44874, Start Num: 18

Candidate Starts for Clarenza\_72:

(Start: 18 @45188 has 142 MA's), (22, 45173), (24, 45161), (25, 45152), (32, 45056), (38, 45005), (44, 44885),

Gene: Cocoaberry\_73 Start: 45192, Stop: 44878, Start Num: 18

Candidate Starts for Cocoaberry\_73:

(Start: 18 @45192 has 142 MA's), (22, 45177), (24, 45165), (25, 45156), (32, 45060), (38, 45009), (44, 44889),

Gene: Commander\_71 Start: 45189, Stop: 44875, Start Num: 18

Candidate Starts for Commander\_71:

(Start: 18 @45189 has 142 MA's), (22, 45174), (24, 45162), (25, 45153), (32, 45057), (38, 45006), (44, 44886),

Gene: Connomayer\_73 Start: 45191, Stop: 44877, Start Num: 18

Candidate Starts for Connomayer\_73:

(Start: 18 @45191 has 142 MA's), (22, 45176), (24, 45164), (25, 45155), (32, 45059), (38, 45008), (39, 45005), (44, 44888),

Gene: Damien\_76 Start: 55083, Stop: 55472, Start Num: 11

Candidate Starts for Damien\_76:

(4, 54987), (7, 55044), (Start: 11 @55083 has 11 MA's), (12, 55089), (13, 55098), (15, 55122), (16, 55131), (21, 55173), (27, 55263), (30, 55278),

Gene: Datway\_72 Start: 45253, Stop: 44939, Start Num: 18

Candidate Starts for Datway\_72:

(Start: 18 @45253 has 142 MA's), (22, 45238), (24, 45226), (25, 45217), (38, 45070), (44, 44950),

Gene: Deano\_70 Start: 45199, Stop: 44885, Start Num: 18

Candidate Starts for Deano\_70:

(Start: 18 @45199 has 142 MA's), (22, 45184), (24, 45172), (25, 45163), (32, 45067), (38, 45016), (44, 44896),

Gene: Dhanush\_73 Start: 45194, Stop: 44880, Start Num: 18

Candidate Starts for Dhanush\_73:

(Start: 18 @45194 has 142 MA's), (22, 45179), (24, 45167), (25, 45158), (32, 45062), (38, 45011), (44, 44891),

Gene: DirtyDunning\_72 Start: 45203, Stop: 44889, Start Num: 18

Candidate Starts for DirtyDunning\_72:

(Start: 18 @45203 has 142 MA's), (22, 45188), (24, 45176), (25, 45167), (32, 45071), (38, 45020), (44, 44900),

Gene: DontArgue\_69 Start: 43915, Stop: 43598, Start Num: 17

Candidate Starts for DontArgue\_69:

(Start: 17 @43915 has 19 MA's), (44, 43609),

Gene: Drake94\_70 Start: 44044, Stop: 43709, Start Num: 17

Candidate Starts for Drake94\_70:

(Start: 17 @44044 has 19 MA's), (32, 43891),

Gene: DroogsArmy\_73 Start: 48396, Stop: 48058, Start Num: 17

Candidate Starts for DroogsArmy\_73:

(1, 48636), (3, 48603), (Start: 17 @48396 has 19 MA's), (19, 48384), (23, 48366), (31, 48255), (32, 48252), (42, 48126), (43, 48123), (44, 48069),

Gene: Druantia\_72 Start: 45194, Stop: 44880, Start Num: 18

Candidate Starts for Druantia\_72:

(Start: 18 @45194 has 142 MA's), (22, 45179), (24, 45167), (25, 45158), (32, 45062), (38, 45011), (44, 44891),

Gene: DustyMartin\_75 Start: 45046, Stop: 44729, Start Num: 17

Candidate Starts for DustyMartin\_75:

(Start: 17 @45046 has 19 MA's), (32, 44911),

Gene: Eagle\_72 Start: 45253, Stop: 44939, Start Num: 18

Candidate Starts for Eagle\_72:

(Start: 18 @45253 has 142 MA's), (22, 45238), (24, 45226), (25, 45217), (32, 45121), (38, 45070), (44, 44950),

Gene: Eaglepride\_76 Start: 44987, Stop: 44670, Start Num: 17

Candidate Starts for Eaglepride\_76:

(Start: 17 @44987 has 19 MA's), (32, 44852),

Gene: Eapen\_73 Start: 45186, Stop: 44872, Start Num: 18

Candidate Starts for Eapen\_73:

(Start: 18 @45186 has 142 MA's), (22, 45171), (24, 45159), (25, 45150), (32, 45054), (38, 45003), (44, 44883),

Gene: Edison31\_69 Start: 44762, Stop: 44445, Start Num: 17

Candidate Starts for Edison31\_69:

(Start: 17 @44762 has 19 MA's), (32, 44627),

Gene: Eris\_72 Start: 45203, Stop: 44889, Start Num: 18

Candidate Starts for Eris\_72:

(Start: 18 @45203 has 142 MA's), (22, 45188), (24, 45176), (25, 45167), (32, 45071), (38, 45020), (44, 44900),

Gene: Eros\_73 Start: 45193, Stop: 44879, Start Num: 18

Candidate Starts for Eros\_73:

(Start: 18 @45193 has 142 MA's), (22, 45178), (24, 45166), (25, 45157), (32, 45061), (38, 45010), (44, 44890),

Gene: Eurydice\_74 Start: 45228, Stop: 44914, Start Num: 18

Candidate Starts for Eurydice\_74:

(Start: 18 @45228 has 142 MA's), (22, 45213), (24, 45201), (25, 45192), (32, 45096), (38, 45045), (44, 44925),

Gene: Florean\_73 Start: 45190, Stop: 44876, Start Num: 18

Candidate Starts for Florean\_73:

(Start: 18 @45190 has 142 MA's), (22, 45175), (24, 45163), (25, 45154), (32, 45058), (38, 45007), (44, 44887),

Gene: Flux\_74 Start: 45189, Stop: 44875, Start Num: 18

Candidate Starts for Flux\_74:

(Start: 18 @45189 has 142 MA's), (22, 45174), (24, 45162), (25, 45153), (32, 45057), (38, 45006), (44, 44886),

Gene: FlyCatcher\_77 Start: 48937, Stop: 48617, Start Num: 17

Candidate Starts for FlyCatcher\_77:

(2, 49147), (5, 49066), (7, 49036), (10, 49003), (Start: 17 @48937 has 19 MA's), (28, 48832), (32, 48799), (36, 48754), (41, 48730), (44, 48628),

Gene: Funston\_72 Start: 45188, Stop: 44874, Start Num: 18

Candidate Starts for Funston\_72:

(Start: 18 @45188 has 142 MA's), (22, 45173), (24, 45161), (25, 45152), (32, 45056), (38, 45005), (44, 44885),

Gene: Gadost\_73 Start: 45192, Stop: 44878, Start Num: 18

Candidate Starts for Gadost\_73:

(Start: 18 @45192 has 142 MA's), (22, 45177), (24, 45165), (25, 45156), (32, 45060), (38, 45009), (44, 44889),

Gene: Goose\_74 Start: 44706, Stop: 44389, Start Num: 17

Candidate Starts for Goose\_74:

(Start: 17 @44706 has 19 MA's), (32, 44571),

Gene: HINdeR\_73 Start: 47777, Stop: 47439, Start Num: 17

Candidate Starts for HINdeR\_73:

(9, 47855), (Start: 17 @47777 has 19 MA's), (20, 47762), (23, 47741), (32, 47621), (33, 47618), (35, 47594), (36, 47576), (42, 47507),

Gene: HamSlice\_69 Start: 45190, Stop: 44876, Start Num: 18

Candidate Starts for HamSlice\_69:

(Start: 18 @45190 has 142 MA's), (22, 45175), (24, 45163), (25, 45154), (32, 45058), (38, 45007), (44, 44887),

Gene: Happiness\_72 Start: 45211, Stop: 44897, Start Num: 18

Candidate Starts for Happiness\_72:

(Start: 18 @45211 has 142 MA's), (22, 45196), (24, 45184), (25, 45175), (32, 45079), (38, 45028), (44, 44908),

Gene: Holli\_72 Start: 44981, Stop: 44667, Start Num: 18

Candidate Starts for Holli\_72:

(Start: 18 @44981 has 142 MA's), (22, 44966), (24, 44954), (25, 44945), (32, 44849), (38, 44798), (44, 44678),

Gene: Houdini22\_72 Start: 45192, Stop: 44878, Start Num: 18

Candidate Starts for Houdini22\_72:

(Start: 18 @45192 has 142 MA's), (22, 45177), (24, 45165), (25, 45156), (32, 45060), (38, 45009), (44, 44889),

Gene: ICleared\_72 Start: 45259, Stop: 44945, Start Num: 18

Candidate Starts for ICleared\_72:

(Start: 18 @45259 has 142 MA's), (22, 45244), (24, 45232), (32, 45127), (38, 45076), (39, 45073), (44, 44956),

Gene: Iceman\_72 Start: 45481, Stop: 45167, Start Num: 18

Candidate Starts for Iceman\_72:

(Start: 18 @45481 has 142 MA's), (22, 45466), (24, 45454), (25, 45445), (32, 45349), (38, 45298), (44, 45178),

Gene: Iracema64\_73 Start: 45455, Stop: 45141, Start Num: 18

Candidate Starts for Iracema64\_73:

(Start: 18 @45455 has 142 MA's), (22, 45440), (24, 45428), (25, 45419), (32, 45323), (38, 45272), (44, 45152),

Gene: Jaykayelowell\_70 Start: 45184, Stop: 44870, Start Num: 18

Candidate Starts for Jaykayelowell\_70:

(Start: 18 @45184 has 142 MA's), (22, 45169), (24, 45157), (25, 45148), (32, 45052), (38, 45001), (44, 44881),

Gene: JetBlade\_74 Start: 45219, Stop: 44905, Start Num: 18

Candidate Starts for JetBlade\_74:

(Start: 18 @45219 has 142 MA's), (22, 45204), (24, 45192), (25, 45183), (32, 45087), (38, 45036), (44, 44916),

Gene: JoongJeon\_72 Start: 45185, Stop: 44871, Start Num: 18

Candidate Starts for JoongJeon\_72:

(Start: 18 @45185 has 142 MA's), (22, 45170), (24, 45158), (25, 45149), (32, 45053), (38, 45002), (44, 44882),

Gene: KFPoly\_72 Start: 45185, Stop: 44871, Start Num: 18

Candidate Starts for KFPoly\_72:

(Start: 18 @45185 has 142 MA's), (22, 45170), (24, 45158), (25, 45149), (32, 45053), (38, 45002), (44, 44882),

Gene: Kamy\_72 Start: 45194, Stop: 44880, Start Num: 18

Candidate Starts for Kamy\_72:

(Start: 18 @45194 has 142 MA's), (22, 45179), (24, 45167), (25, 45158), (32, 45062), (38, 45011), (44, 44891),

Gene: Katalie136\_72 Start: 45240, Stop: 44926, Start Num: 18

Candidate Starts for Katalie136\_72:

(Start: 18 @45240 has 142 MA's), (22, 45225), (24, 45213), (25, 45204), (32, 45108), (38, 45057), (44, 44937),

Gene: KekoraPapaka\_70 Start: 45191, Stop: 44877, Start Num: 18

Candidate Starts for KekoraPapaka\_70:

(Start: 18 @45191 has 142 MA's), (22, 45176), (24, 45164), (25, 45155), (32, 45059), (38, 45008), (44, 44888),

Gene: Kimona\_74 Start: 44271, Stop: 43942, Start Num: 17

Candidate Starts for Kimona\_74:

(6, 44373), (8, 44361), (14, 44307), (Start: 17 @44271 has 19 MA's), (29, 44151), (32, 44124), (41, 44055),

Gene: Kingmustik0402\_73 Start: 45180, Stop: 44866, Start Num: 18

Candidate Starts for Kingmustik0402\_73:

(Start: 18 @45180 has 142 MA's), (22, 45165), (24, 45153), (25, 45144), (32, 45048), (38, 44997), (44, 44877),

Gene: KittenMittens\_69 Start: 44054, Stop: 43719, Start Num: 17

Candidate Starts for KittenMittens\_69:

(Start: 17 @44054 has 19 MA's), (32, 43901),

Gene: Koan\_70 Start: 45191, Stop: 44877, Start Num: 18

Candidate Starts for Koan\_70:

(Start: 18 @45191 has 142 MA's), (22, 45176), (24, 45164), (25, 45155), (32, 45059), (38, 45008), (44, 44888),

Gene: Konstantine\_79 Start: 55566, Stop: 55967, Start Num: 11

Candidate Starts for Konstantine\_79:

(4, 55470), (7, 55527), (Start: 11 @55566 has 11 MA's), (12, 55572), (13, 55581), (15, 55605), (16, 55614), (27, 55746), (30, 55761),

Gene: Koreni\_72 Start: 44872, Stop: 44558, Start Num: 18

Candidate Starts for Koreni\_72:

(Start: 18 @44872 has 142 MA's), (22, 44857), (24, 44845), (25, 44836), (32, 44740), (38, 44689), (44, 44569),

Gene: Kratark\_72 Start: 45225, Stop: 44911, Start Num: 18

Candidate Starts for Kratark\_72:

(Start: 18 @45225 has 142 MA's), (22, 45210), (24, 45198), (25, 45189), (32, 45093), (38, 45042), (44, 44922),

Gene: Kremtemulon\_72 Start: 45324, Stop: 45010, Start Num: 18

Candidate Starts for Kremtemulon\_72:

(Start: 18 @45324 has 142 MA's), (22, 45309), (24, 45297), (25, 45288), (32, 45192), (38, 45141), (44, 45021),

Gene: Kristoff\_71 Start: 45340, Stop: 45023, Start Num: 17

Candidate Starts for Kristoff\_71:

(Start: 17 @45340 has 19 MA's), (32, 45205),

Gene: Kyee\_73 Start: 45186, Stop: 44872, Start Num: 18

Candidate Starts for Kyee\_73:

(Start: 18 @45186 has 142 MA's), (22, 45171), (24, 45159), (25, 45150), (32, 45054), (38, 45003), (44, 44883),

Gene: LHTSCC\_75 Start: 45628, Stop: 45314, Start Num: 18

Candidate Starts for LHTSCC\_75:

(Start: 18 @45628 has 142 MA's), (22, 45613), (24, 45601), (25, 45592), (32, 45496), (38, 45445), (44, 45325),

Gene: LappelDuVide\_73 Start: 45190, Stop: 44876, Start Num: 18

Candidate Starts for LappelDuVide\_73:

(Start: 18 @45190 has 142 MA's), (22, 45175), (24, 45163), (25, 45154), (32, 45058), (38, 45007), (44, 44887),

Gene: Lemur\_73 Start: 45188, Stop: 44874, Start Num: 18

Candidate Starts for Lemur\_73:

(Start: 18 @45188 has 142 MA's), (22, 45173), (24, 45161), (25, 45152), (32, 45056), (38, 45005), (44, 44885),

Gene: LeoAvram\_72 Start: 45222, Stop: 44908, Start Num: 18

Candidate Starts for LeoAvram\_72:

(Start: 18 @45222 has 142 MA's), (22, 45207), (24, 45195), (25, 45186), (32, 45090), (38, 45039), (44, 44919),

Gene: LittleB\_73 Start: 45192, Stop: 44878, Start Num: 18

Candidate Starts for LittleB\_73:

(Start: 18 @45192 has 142 MA's), (22, 45177), (24, 45165), (25, 45156), (32, 45060), (38, 45009), (44, 44889),

Gene: LittleGuy\_73 Start: 45076, Stop: 44762, Start Num: 18

Candidate Starts for LittleGuy\_73:

(Start: 18 @45076 has 142 MA's), (22, 45061), (24, 45049), (25, 45040), (32, 44944), (38, 44893), (44, 44773),

Gene: LochMonster\_74 Start: 45427, Stop: 45113, Start Num: 18

Candidate Starts for LochMonster\_74:

(Start: 18 @45427 has 142 MA's), (22, 45412), (24, 45400), (25, 45391), (32, 45295), (38, 45244), (44, 45124),

Gene: Lorenzo\_73 Start: 45189, Stop: 44875, Start Num: 18

Candidate Starts for Lorenzo\_73:

(Start: 18 @45189 has 142 MA's), (22, 45174), (24, 45162), (25, 45153), (32, 45057), (38, 45006), (44, 44886),

Gene: Lunsford\_73 Start: 45184, Stop: 44870, Start Num: 18

Candidate Starts for Lunsford\_73:

(Start: 18 @45184 has 142 MA's), (22, 45169), (24, 45157), (25, 45148), (32, 45052), (38, 45001), (44, 44881),

Gene: Maverick\_72 Start: 45188, Stop: 44874, Start Num: 18

Candidate Starts for Maverick\_72:

(Start: 18 @45188 has 142 MA's), (22, 45173), (24, 45161), (25, 45152), (32, 45056), (38, 45005), (44, 44885),

Gene: Maxo\_75 Start: 45194, Stop: 44880, Start Num: 18

Candidate Starts for Maxo\_75:

(Start: 18 @45194 has 142 MA's), (22, 45179), (24, 45167), (25, 45158), (32, 45062), (38, 45011), (44, 44891),

Gene: Mayonnaise\_70 Start: 45188, Stop: 44874, Start Num: 18  
Candidate Starts for Mayonnaise\_70:  
(Start: 18 @45188 has 142 MA's), (22, 45173), (24, 45161), (25, 45152), (32, 45056), (38, 45005), (44, 44885),

Gene: Mazhar510\_73 Start: 45189, Stop: 44875, Start Num: 18  
Candidate Starts for Mazhar510\_73:  
(Start: 18 @45189 has 142 MA's), (22, 45174), (24, 45162), (25, 45153), (32, 45057), (38, 45006), (44, 44886),

Gene: Medusa\_73 Start: 45204, Stop: 44890, Start Num: 18  
Candidate Starts for Medusa\_73:  
(Start: 18 @45204 has 142 MA's), (22, 45189), (24, 45177), (25, 45168), (32, 45072), (38, 45021), (44, 44901),

Gene: MeeZee\_72 Start: 45185, Stop: 44871, Start Num: 18  
Candidate Starts for MeeZee\_72:  
(Start: 18 @45185 has 142 MA's), (22, 45170), (24, 45158), (25, 45149), (32, 45053), (38, 45002), (44, 44882),

Gene: Megatron06\_77 Start: 55657, Stop: 56058, Start Num: 11  
Candidate Starts for Megatron06\_77:  
(4, 55561), (7, 55618), (Start: 11 @55657 has 11 MA's), (12, 55663), (13, 55672), (15, 55696), (16, 55705), (27, 55837), (30, 55852),

Gene: Melvin\_75 Start: 45186, Stop: 44872, Start Num: 18  
Candidate Starts for Melvin\_75:  
(Start: 18 @45186 has 142 MA's), (22, 45171), (24, 45159), (25, 45150), (32, 45054), (38, 45003), (44, 44883),

Gene: Millski\_72 Start: 45192, Stop: 44878, Start Num: 18  
Candidate Starts for Millski\_72:  
(Start: 18 @45192 has 142 MA's), (22, 45177), (24, 45165), (25, 45156), (32, 45060), (38, 45009), (44, 44889),

Gene: Miramae\_72 Start: 44789, Stop: 44475, Start Num: 18  
Candidate Starts for Miramae\_72:  
(Start: 18 @44789 has 142 MA's), (24, 44762), (32, 44657), (38, 44606), (44, 44486),

Gene: Morpher26\_72 Start: 45261, Stop: 44947, Start Num: 18  
Candidate Starts for Morpher26\_72:  
(Start: 18 @45261 has 142 MA's), (22, 45246), (24, 45234), (25, 45225), (32, 45129), (38, 45078), (44, 44958),

Gene: Morrow\_75 Start: 45231, Stop: 44917, Start Num: 18  
Candidate Starts for Morrow\_75:  
(Start: 18 @45231 has 142 MA's), (22, 45216), (24, 45204), (25, 45195), (32, 45099), (38, 45048), (44, 44928),

Gene: Mundrea\_72 Start: 45260, Stop: 44946, Start Num: 18  
Candidate Starts for Mundrea\_72:  
(Start: 18 @45260 has 142 MA's), (22, 45245), (32, 45128), (38, 45077), (44, 44957),

Gene: Nanosmite\_146 Start: 72535, Stop: 72203, Start Num: 17  
Candidate Starts for Nanosmite\_146:  
(Start: 17 @72535 has 19 MA's), (32, 72403), (34, 72391), (44, 72214),

Gene: Nebs\_74 Start: 45231, Stop: 44917, Start Num: 18  
Candidate Starts for Nebs\_74:  
(Start: 18 @45231 has 142 MA's), (22, 45216), (24, 45204), (25, 45195), (32, 45099), (38, 45048), (44, 44928),

Gene: Nemo27\_72 Start: 45187, Stop: 44873, Start Num: 18  
Candidate Starts for Nemo27\_72:  
(Start: 18 @45187 has 142 MA's), (22, 45172), (24, 45160), (25, 45151), (32, 45055), (38, 45004), (44, 44884),

Gene: Nish23\_77 Start: 54773, Stop: 55162, Start Num: 11  
Candidate Starts for Nish23\_77:  
(4, 54677), (7, 54734), (Start: 11 @54773 has 11 MA's), (12, 54779), (13, 54788), (15, 54812), (16, 54821), (21, 54863), (27, 54953), (30, 54968),

Gene: Noelle\_73 Start: 45582, Stop: 45268, Start Num: 18  
Candidate Starts for Noelle\_73:  
(Start: 18 @45582 has 142 MA's), (22, 45567), (24, 45555), (25, 45546), (32, 45450), (38, 45399), (44, 45279),

Gene: NorthStar\_71 Start: 45191, Stop: 44877, Start Num: 18  
Candidate Starts for NorthStar\_71:  
(Start: 18 @45191 has 142 MA's), (22, 45176), (24, 45164), (25, 45155), (32, 45059), (38, 45008), (44, 44888),

Gene: NotAPhaseMom\_72 Start: 45192, Stop: 44878, Start Num: 18  
Candidate Starts for NotAPhaseMom\_72:  
(Start: 18 @45192 has 142 MA's), (22, 45177), (24, 45165), (25, 45156), (32, 45060), (38, 45009), (44, 44889),

Gene: Nyxis\_72 Start: 45070, Stop: 44756, Start Num: 18  
Candidate Starts for Nyxis\_72:  
(Start: 18 @45070 has 142 MA's), (22, 45055), (24, 45043), (32, 44938), (38, 44887), (44, 44767),

Gene: OKCentral2016\_72 Start: 44133, Stop: 43816, Start Num: 17  
Candidate Starts for OKCentral2016\_72:  
(Start: 17 @44133 has 19 MA's), (32, 43998),

Gene: OKaNui\_72 Start: 45241, Stop: 44927, Start Num: 18  
Candidate Starts for OKaNui\_72:  
(Start: 18 @45241 has 142 MA's), (22, 45226), (24, 45214), (25, 45205), (32, 45109), (38, 45058), (44, 44938),

Gene: Oaker\_76 Start: 55686, Stop: 56087, Start Num: 11  
Candidate Starts for Oaker\_76:  
(4, 55590), (7, 55647), (Start: 11 @55686 has 11 MA's), (12, 55692), (13, 55701), (15, 55725), (16, 55734), (27, 55866), (30, 55881),

Gene: Obama12\_74 Start: 45612, Stop: 45298, Start Num: 18

Candidate Starts for Obama12\_74:

(Start: 18 @45612 has 142 MA's), (22, 45597), (24, 45585), (25, 45576), (32, 45480), (38, 45429), (44, 45309),

Gene: Ohfah\_74 Start: 45231, Stop: 44917, Start Num: 18

Candidate Starts for Ohfah\_74:

(Start: 18 @45231 has 142 MA's), (22, 45216), (24, 45204), (25, 45195), (32, 45099), (38, 45048), (44, 44928),

Gene: Palestino\_72 Start: 45188, Stop: 44874, Start Num: 18

Candidate Starts for Palestino\_72:

(Start: 18 @45188 has 142 MA's), (22, 45173), (24, 45161), (25, 45152), (32, 45056), (38, 45005), (44, 44885),

Gene: PeaceMeal1\_70 Start: 44055, Stop: 43720, Start Num: 17

Candidate Starts for PeaceMeal1\_70:

(Start: 17 @44055 has 19 MA's), (32, 43902),

Gene: Peaches\_71 Start: 45190, Stop: 44876, Start Num: 18

Candidate Starts for Peaches\_71:

(Start: 18 @45190 has 142 MA's), (22, 45175), (24, 45163), (25, 45154), (32, 45058), (38, 45007), (44, 44887),

Gene: Perplexer\_72 Start: 45237, Stop: 44923, Start Num: 18

Candidate Starts for Perplexer\_72:

(Start: 18 @45237 has 142 MA's), (22, 45222), (24, 45210), (25, 45201), (38, 45054), (44, 44934),

Gene: PeterPeter\_73 Start: 45185, Stop: 44871, Start Num: 18

Candidate Starts for PeterPeter\_73:

(Start: 18 @45185 has 142 MA's), (22, 45170), (24, 45158), (25, 45149), (32, 45053), (38, 45002), (44, 44882),

Gene: PetiteSangsue\_72 Start: 45240, Stop: 44926, Start Num: 18

Candidate Starts for PetiteSangsue\_72:

(Start: 18 @45240 has 142 MA's), (22, 45225), (24, 45213), (25, 45204), (38, 45057), (44, 44937),

Gene: Phacado\_73 Start: 45187, Stop: 44873, Start Num: 18

Candidate Starts for Phacado\_73:

(Start: 18 @45187 has 142 MA's), (22, 45172), (24, 45160), (25, 45151), (32, 45055), (38, 45004), (44, 44884),

Gene: Phelipe\_74 Start: 45231, Stop: 44917, Start Num: 18

Candidate Starts for Phelipe\_74:

(Start: 18 @45231 has 142 MA's), (22, 45216), (24, 45204), (25, 45195), (32, 45099), (38, 45048), (44, 44928),

Gene: Phighter1804\_73 Start: 45252, Stop: 44938, Start Num: 18

Candidate Starts for Phighter1804\_73:

(Start: 18 @45252 has 142 MA's), (22, 45237), (24, 45225), (25, 45216), (32, 45120), (38, 45069), (44, 44949),

Gene: Phontbonne\_73 Start: 45086, Stop: 44772, Start Num: 18

Candidate Starts for Phontbonne\_73:

(Start: 18 @45086 has 142 MA's), (22, 45071), (24, 45059), (32, 44954), (38, 44903), (39, 44900), (44, 44783),

Gene: Phreeze\_75 Start: 54656, Stop: 55057, Start Num: 11

Candidate Starts for Phreeze\_75:

(4, 54560), (7, 54617), (Start: 11 @54656 has 11 MA's), (12, 54662), (13, 54671), (15, 54695), (16, 54704), (27, 54836), (30, 54851),

Gene: Pipcraft\_70 Start: 45192, Stop: 44878, Start Num: 18

Candidate Starts for Pipcraft\_70:

(Start: 18 @45192 has 142 MA's), (22, 45177), (24, 45165), (25, 45156), (32, 45060), (38, 45009), (44, 44889),

Gene: Polymorphads\_74 Start: 45212, Stop: 44898, Start Num: 18

Candidate Starts for Polymorphads\_74:

(Start: 18 @45212 has 142 MA's), (22, 45197), (24, 45185), (25, 45176), (32, 45080), (38, 45029), (44, 44909),

Gene: Poompha\_70 Start: 44053, Stop: 43718, Start Num: 17

Candidate Starts for Poompha\_70:

(Start: 17 @44053 has 19 MA's), (32, 43900),

Gene: Predator\_75 Start: 54337, Stop: 54759, Start Num: 11

Candidate Starts for Predator\_75:

(Start: 11 @54337 has 11 MA's), (12, 54343), (13, 54352), (30, 54535), (31, 54553), (37, 54601), (40, 54619),

Gene: Puissant\_72 Start: 54821, Stop: 55210, Start Num: 11

Candidate Starts for Puissant\_72:

(Start: 11 @54821 has 11 MA's), (12, 54827), (16, 54869), (27, 55001), (30, 55016),

Gene: Pumbaa\_73 Start: 45136, Stop: 44822, Start Num: 18

Candidate Starts for Pumbaa\_73:

(Start: 18 @45136 has 142 MA's), (22, 45121), (24, 45109), (25, 45100), (32, 45004), (38, 44953), (44, 44833),

Gene: Rebeuca\_74 Start: 45341, Stop: 45024, Start Num: 17

Candidate Starts for Rebeuca\_74:

(Start: 17 @45341 has 19 MA's), (32, 45206),

Gene: Relief\_72 Start: 45188, Stop: 44874, Start Num: 18

Candidate Starts for Relief\_72:

(Start: 18 @45188 has 142 MA's), (22, 45173), (24, 45161), (25, 45152), (32, 45056), (38, 45005), (44, 44885),

Gene: RockieBear\_70 Start: 45190, Stop: 44876, Start Num: 18

Candidate Starts for RockieBear\_70:

(Start: 18 @45190 has 142 MA's), (22, 45175), (24, 45163), (25, 45154), (32, 45058), (38, 45007), (44, 44887),

Gene: Romney\_72 Start: 45188, Stop: 44874, Start Num: 18

Candidate Starts for Romney\_72:

(Start: 18 @45188 has 142 MA's), (22, 45173), (24, 45161), (25, 45152), (32, 45056), (38, 45005), (44, 44885),

Gene: Roosevelt\_71 Start: 45193, Stop: 44879, Start Num: 18

Candidate Starts for Roosevelt\_71:

(Start: 18 @45193 has 142 MA's), (22, 45178), (24, 45166), (25, 45157), (32, 45061), (38, 45010), (44, 44890),

Gene: Rosa24\_70 Start: 45219, Stop: 44905, Start Num: 18

Candidate Starts for Rosa24\_70:

(Start: 18 @45219 has 142 MA's), (22, 45204), (24, 45192), (25, 45183), (32, 45087), (38, 45036), (44, 44916),

Gene: Rowdy\_75 Start: 45046, Stop: 44729, Start Num: 17

Candidate Starts for Rowdy\_75:

(Start: 17 @45046 has 19 MA's), (32, 44911),

Gene: Ruin\_73 Start: 45184, Stop: 44870, Start Num: 18

Candidate Starts for Ruin\_73:

(Start: 18 @45184 has 142 MA's), (22, 45169), (24, 45157), (25, 45148), (32, 45052), (38, 45001), (44, 44881),

Gene: Sabertooth\_73 Start: 45196, Stop: 44882, Start Num: 18

Candidate Starts for Sabertooth\_73:

(Start: 18 @45196 has 142 MA's), (22, 45181), (24, 45169), (25, 45160), (32, 45064), (38, 45013), (44, 44893),

Gene: Scamp\_73 Start: 45193, Stop: 44879, Start Num: 18

Candidate Starts for Scamp\_73:

(Start: 18 @45193 has 142 MA's), (22, 45178), (24, 45166), (25, 45157), (32, 45061), (38, 45010), (44, 44890),

Gene: SenorClean\_74 Start: 45191, Stop: 44877, Start Num: 18

Candidate Starts for SenorClean\_74:

(Start: 18 @45191 has 142 MA's), (22, 45176), (24, 45164), (25, 45155), (32, 45059), (38, 45008), (44, 44888),

Gene: Severus\_71 Start: 44053, Stop: 43718, Start Num: 17

Candidate Starts for Severus\_71:

(Start: 17 @44053 has 19 MA's), (32, 43900),

Gene: Shaka\_71 Start: 45189, Stop: 44875, Start Num: 18

Candidate Starts for Shaka\_71:

(Start: 18 @45189 has 142 MA's), (22, 45174), (24, 45162), (25, 45153), (32, 45057), (38, 45006), (44, 44886),

Gene: Shapes\_75 Start: 45046, Stop: 44729, Start Num: 17

Candidate Starts for Shapes\_75:

(Start: 17 @45046 has 19 MA's), (32, 44911),

Gene: SheldonCooper\_73 Start: 45629, Stop: 45315, Start Num: 18

Candidate Starts for SheldonCooper\_73:

(Start: 18 @45629 has 142 MA's), (22, 45614), (24, 45602), (25, 45593), (32, 45497), (38, 45446), (44, 45326),

Gene: Shygu2\_72 Start: 45292, Stop: 44978, Start Num: 18

Candidate Starts for Shygu2\_72:

(Start: 18 @45292 has 142 MA's), (22, 45277), (24, 45265), (25, 45256), (32, 45160), (38, 45109), (44, 44989),

Gene: Skipitt\_72 Start: 45185, Stop: 44871, Start Num: 18

Candidate Starts for Skipitt\_72:

(Start: 18 @45185 has 142 MA's), (22, 45170), (24, 45158), (25, 45149), (32, 45053), (38, 45002), (44, 44882),

Gene: Sparxx\_74 Start: 45187, Stop: 44873, Start Num: 18

Candidate Starts for Sparxx\_74:

(Start: 18 @45187 has 142 MA's), (22, 45172), (24, 45160), (25, 45151), (32, 45055), (38, 45004), (44, 44884),

Gene: Spino\_72 Start: 45191, Stop: 44877, Start Num: 18

Candidate Starts for Spino\_72:

(Start: 18 @45191 has 142 MA's), (22, 45176), (24, 45164), (25, 45155), (32, 45059), (38, 45008), (44, 44888),

Gene: Stasia\_71 Start: 45170, Stop: 44856, Start Num: 18

Candidate Starts for Stasia\_71:

(Start: 18 @45170 has 142 MA's), (22, 45155), (32, 45038), (33, 45035), (38, 44987),

Gene: SteMason\_73 Start: 45188, Stop: 44874, Start Num: 18

Candidate Starts for SteMason\_73:

(Start: 18 @45188 has 142 MA's), (22, 45173), (24, 45161), (25, 45152), (32, 45056), (38, 45005), (44, 44885),

Gene: Stink\_72 Start: 45069, Stop: 44755, Start Num: 18

Candidate Starts for Stink\_72:

(Start: 18 @45069 has 142 MA's), (24, 45042), (32, 44937), (38, 44886), (44, 44766),

Gene: Sultana\_73 Start: 45188, Stop: 44874, Start Num: 18

Candidate Starts for Sultana\_73:

(Start: 18 @45188 has 142 MA's), (22, 45173), (24, 45161), (25, 45152), (32, 45056), (38, 45005), (44, 44885),

Gene: Taquarus\_72 Start: 45194, Stop: 44880, Start Num: 18

Candidate Starts for Taquarus\_72:

(Start: 18 @45194 has 142 MA's), (22, 45179), (24, 45167), (25, 45158), (32, 45062), (38, 45011), (44, 44891),

Gene: Thanksgivukkah\_72 Start: 45189, Stop: 44875, Start Num: 18

Candidate Starts for Thanksgivukkah\_72:

(Start: 18 @45189 has 142 MA's), (22, 45174), (24, 45162), (25, 45153), (32, 45057), (38, 45006), (44, 44886),

Gene: Thumb\_77 Start: 55088, Stop: 55489, Start Num: 11

Candidate Starts for Thumb\_77:

(4, 54992), (7, 55049), (Start: 11 @55088 has 11 MA's), (12, 55094), (13, 55103), (15, 55127), (16, 55136), (27, 55268), (30, 55283),

Gene: Timshel\_74 Start: 48213, Stop: 47875, Start Num: 17

Candidate Starts for Timshel\_74:

(1, 48453), (3, 48420), (Start: 17 @48213 has 19 MA's), (20, 48198), (23, 48177), (26, 48096), (32, 48057), (33, 48054), (35, 48030), (36, 48012), (42, 47943), (43, 47940), (44, 47886),

Gene: TinaFeyge\_71 Start: 45186, Stop: 44872, Start Num: 18

Candidate Starts for TinaFeyge\_71:

(Start: 18 @45186 has 142 MA's), (22, 45171), (24, 45159), (25, 45150), (32, 45054), (38, 45003), (44, 44883),

Gene: Tinybot\_72 Start: 45218, Stop: 44904, Start Num: 18

Candidate Starts for Tinybot\_72:

(Start: 18 @45218 has 142 MA's), (22, 45203), (24, 45191), (25, 45182), (32, 45086), (38, 45035), (44, 44915),

Gene: TiroTheta9\_72 Start: 45185, Stop: 44871, Start Num: 18

Candidate Starts for TiroTheta9\_72:

(Start: 18 @45185 has 142 MA's), (22, 45170), (24, 45158), (25, 45149), (32, 45053), (38, 45002), (44, 44882),

Gene: Toro\_75 Start: 48937, Stop: 48617, Start Num: 17

Candidate Starts for Toro\_75:

(2, 49147), (5, 49066), (7, 49036), (10, 49003), (Start: 17 @48937 has 19 MA's), (28, 48832), (32, 48799), (36, 48754), (41, 48730), (44, 48628),

Gene: TroyPia\_74 Start: 45226, Stop: 44912, Start Num: 18

Candidate Starts for TroyPia\_74:

(Start: 18 @45226 has 142 MA's), (22, 45211), (24, 45199), (25, 45190), (32, 45094), (38, 45043), (44, 44923),

Gene: Twister\_73 Start: 44890, Stop: 44573, Start Num: 17

Candidate Starts for Twister\_73:

(Start: 17 @44890 has 19 MA's), (32, 44755),

Gene: TygerBlood\_73 Start: 45191, Stop: 44877, Start Num: 18

Candidate Starts for TygerBlood\_73:

(Start: 18 @45191 has 142 MA's), (22, 45176), (24, 45164), (25, 45155), (32, 45059), (38, 45008), (44, 44888),

Gene: Ulysses\_72 Start: 44874, Stop: 44560, Start Num: 18

Candidate Starts for Ulysses\_72:

(Start: 18 @44874 has 142 MA's), (22, 44859), (24, 44847), (25, 44838), (32, 44742), (38, 44691), (44, 44571),

Gene: WalterMcMickey\_72 Start: 44890, Stop: 44573, Start Num: 17

Candidate Starts for WalterMcMickey\_72:

(Start: 17 @44890 has 19 MA's), (32, 44755),

Gene: Wander\_73 Start: 45185, Stop: 44871, Start Num: 18

Candidate Starts for Wander\_73:

(Start: 18 @45185 has 142 MA's), (22, 45170), (24, 45158), (25, 45149), (32, 45053), (38, 45002), (44, 44882),

Gene: Wilbur\_73 Start: 45188, Stop: 44874, Start Num: 18

Candidate Starts for Wilbur\_73:

(Start: 18 @45188 has 142 MA's), (22, 45173), (24, 45161), (25, 45152), (32, 45056), (38, 45005), (44, 44885),

Gene: Wile\_71 Start: 45270, Stop: 44956, Start Num: 18

Candidate Starts for Wile\_71:

(Start: 18 @45270 has 142 MA's), (22, 45255), (24, 45243), (25, 45234), (32, 45138), (38, 45087), (44, 44967),

Gene: Wizard007\_72 Start: 44996, Stop: 44682, Start Num: 18

Candidate Starts for Wizard007\_72:

(Start: 18 @44996 has 142 MA's), (22, 44981), (24, 44969), (25, 44960), (32, 44864), (38, 44813), (44, 44693),

Gene: Xena\_71 Start: 45261, Stop: 44947, Start Num: 18

Candidate Starts for Xena\_71:

(Start: 18 @45261 has 142 MA's), (22, 45246), (24, 45234), (25, 45225), (38, 45078), (44, 44958),

Gene: YoSam321\_73 Start: 45186, Stop: 44872, Start Num: 18

Candidate Starts for YoSam321\_73:

(Start: 18 @45186 has 142 MA's), (22, 45171), (24, 45159), (25, 45150), (32, 45054), (38, 45003), (44, 44883),