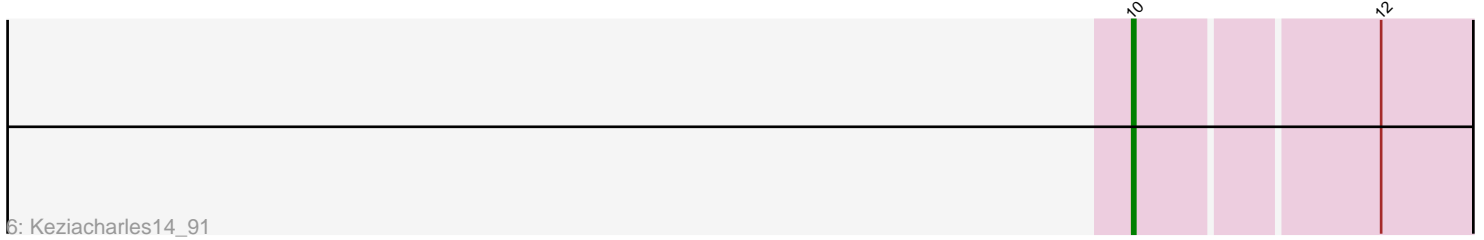
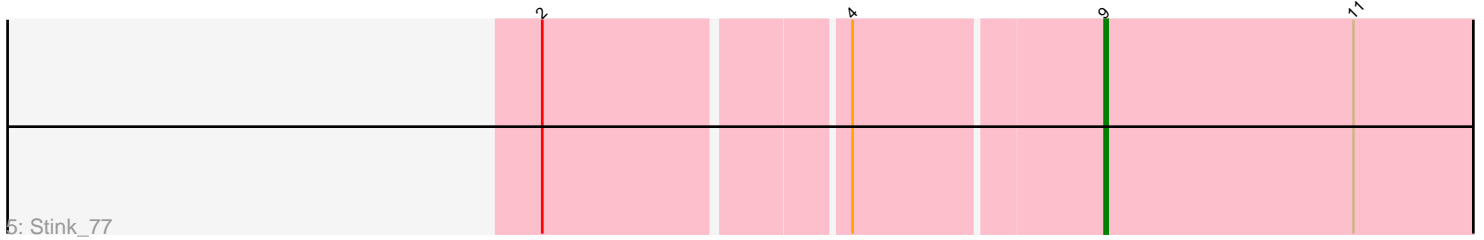
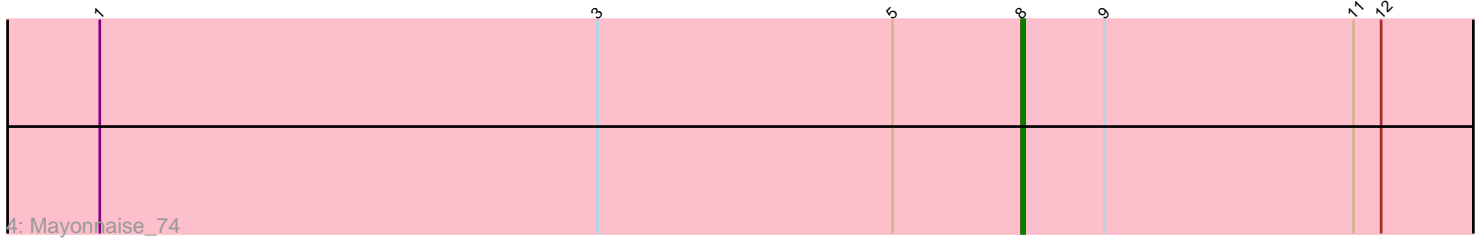
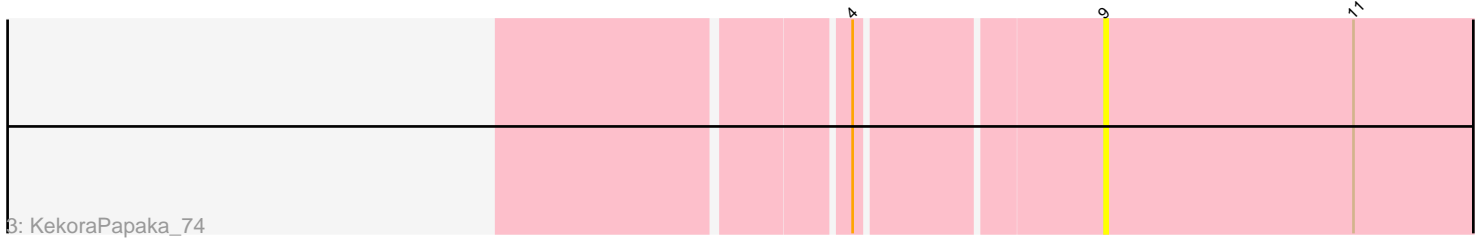
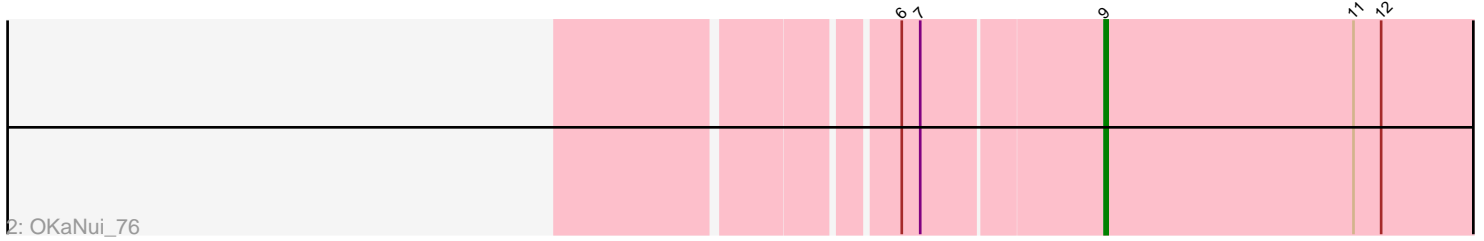
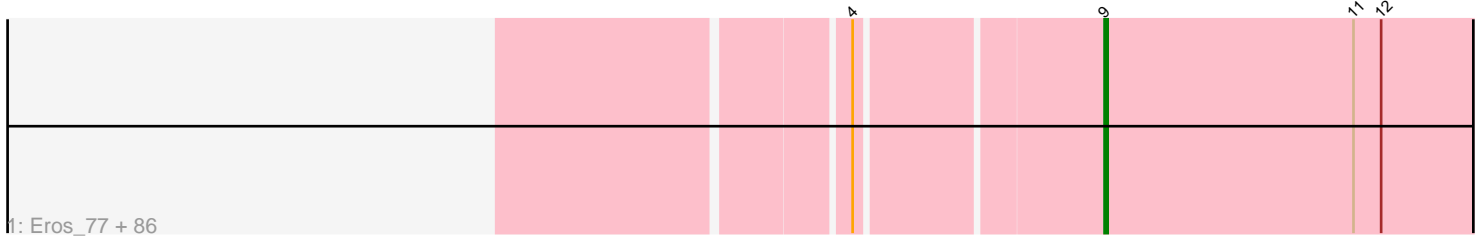


Pham 308409



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 308409 Report

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

Pham number 308409 has 92 members, 3 are drafts.

Phages represented in each track:

- Track 1 : Eros\_77, Sabertooth\_77, Holli\_76, DirtyDunning\_76, TiroTheta9\_76, MeeZee\_76, Caelakin\_75, Obama12\_78, Morrow\_79, LochMonster\_78, Kingmustik0402\_77, Iceman\_75, Jaykayelowell\_74, Kamy\_76, Mazhar510\_77, Melvin\_79, Eagle\_76, Happiness\_76, Koan\_74, Sparxx\_78, Burger\_75, Peaches\_75, NorthStar\_74, Romney\_76, Houdini22\_76, BellusTerra\_78, Deano\_74, Shaka\_75, Eapen\_77, PeterPeter\_77, Spino\_76, SenorClean\_78, Ohfah\_78, Phelipe\_78, LHTSCC\_79, JetBlade\_78, Broseidon\_77, Nyxis\_76, Connomayer\_77, Bartimeaus\_77, TroyPia\_78, Cocoaberry\_77, Lorenzo\_77, Pumbaa\_77, SheldonCooper\_77, BangNhom\_74, ICleared\_76, YoSam321\_77, Alberto7\_78, Taquarus\_76, Dhanush\_77, Wilbur\_77, SteMason\_77, Pipcraft\_73, Phighter1804\_77, Relief\_76, Kye\_77, CentreCat\_77, Arturo\_74, Commander\_75, Ruin\_77, Polymorphads\_78, Albee\_77, LittleGuy\_77, TygerBlood\_77, Koreni\_76, Citius\_77, Scamp\_77, Nemo27\_76, RockieBear\_74, Rosa24\_73, Skipitt\_76, Baby16\_77, Lemur\_77, Tinybot\_76, Gadost\_77, Eurydice\_78, Lunsford\_77, LittleB\_77, Phontbonne\_77, NotAPhaseMom\_76, Nebs\_78, Medusa\_76, Ulysses\_76, Druantia\_76, Chaph\_77, Flux\_78
- Track 2 : OKaNui\_76
- Track 3 : KekoraPapaka\_74
- Track 4 : Mayonnaise\_74
- Track 5 : Stink\_77
- Track 6 : Keziacharles14\_91

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

The start number called the most often in the published annotations is 9, it was called in 87 of the 89 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Albee\_77, Alberto7\_78, Arturo\_74, Baby16\_77, BangNhom\_74, Bartimeaus\_77, BellusTerra\_78, Broseidon\_77, Burger\_75, Caelakin\_75, CentreCat\_77, Chaph\_77, Citius\_77, Cocoaberry\_77, Commander\_75, Connomayer\_77, Deano\_74, Dhanush\_77, DirtyDunning\_76, Druantia\_76, Eagle\_76, Eapen\_77, Eros\_77, Eurydice\_78, Flux\_78, Gadost\_77, Happiness\_76, Holli\_76, Houdini22\_76, ICleared\_76, Iceman\_75, Jaykayelowell\_74, JetBlade\_78, Kamy\_76,

KekoraPapaka\_74, Kingmustik0402\_77, Koan\_74, Koreni\_76, Kyee\_77, LHTSCC\_79, Lemur\_77, LittleB\_77, LittleGuy\_77, LochMonster\_78, Lorenzo\_77, Lunsford\_77, Mazhar510\_77, Medusa\_76, MeeZee\_76, Melvin\_79, Morrow\_79, Nebs\_78, Nemo27\_76, NorthStar\_74, NotAPhaseMom\_76, Nyxis\_76, OKaNui\_76, Obama12\_78, Ohfah\_78, Peaches\_75, PeterPeter\_77, Phelipe\_78, Phighter1804\_77, Phontbonne\_77, Pipcraft\_73, Polymorphads\_78, Pumbaa\_77, Relief\_76, RockieBear\_74, Romney\_76, Rosa24\_73, Ruin\_77, Sabertooth\_77, Scamp\_77, SenorClean\_78, Shaka\_75, SheldonCooper\_77, Skipitt\_76, Sparxx\_78, Spino\_76, SteMason\_77, Stink\_77, Taquarus\_76, Tinybot\_76, TiroTheta9\_76, TroyPia\_78, TygerBlood\_77, Ulysses\_76, Wilbur\_77, YoSam321\_77,

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

- Mayonnaise\_74,

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

- Keziacharles14\_91,

### Summary by start number:

Start 8:

- Found in 1 of 92 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 1 of 89
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Mayonnaise\_74 (A4),

Start 9:

- Found in 91 of 92 ( 98.9% ) of genes in pham
- Manual Annotations of this start: 87 of 89
- Called 98.9% of time when present
- Phage (with cluster) where this start called: Albee\_77 (A4), Alberto7\_78 (A4), Arturo\_74 (A4), Baby16\_77 (A4), BangNhom\_74 (A4), Bartimeaus\_77 (A4), BellusTerra\_78 (A4), Broseidon\_77 (A4), Burger\_75 (A4), Caelakin\_75 (A4), CentreCat\_77 (A4), Chaph\_77 (A4), Citius\_77 (A4), Cocoaberry\_77 (A4), Commander\_75 (A4), Connomayer\_77 (A4), Deano\_74 (A4), Dhanush\_77 (A4), DirtyDunning\_76 (A4), Druantia\_76 (A4), Eagle\_76 (A4), Eapen\_77 (A4), Eros\_77 (A4), Eurydice\_78 (A4), Flux\_78 (A4), Gadost\_77 (A4), Happiness\_76 (A4), Holli\_76 (A4), Houdini22\_76 (A4), ICleared\_76 (A4), Iceman\_75 (A4), Jaykayelowell\_74 (A4), JetBlade\_78 (A4), Kamy\_76 (A4), KekoraPapaka\_74 (A4), Kingmustik0402\_77 (A4), Koan\_74 (A4), Koreni\_76 (A4), Kyee\_77 (A4), LHTSCC\_79 (A4), Lemur\_77 (A4), LittleB\_77 (A4), LittleGuy\_77 (A4), LochMonster\_78 (A4), Lorenzo\_77 (A4), Lunsford\_77 (A4), Mazhar510\_77 (A4), Medusa\_76 (A4), MeeZee\_76 (A4), Melvin\_79 (A4), Morrow\_79 (A4), Nebs\_78 (A4), Nemo27\_76 (A4), NorthStar\_74 (A4), NotAPhaseMom\_76 (A4), Nyxis\_76 (A4), OKaNui\_76 (A4), Obama12\_78 (A4), Ohfah\_78 (A4), Peaches\_75 (A4), PeterPeter\_77 (A4), Phelipe\_78 (A4), Phighter1804\_77 (A4), Phontbonne\_77 (A4), Pipcraft\_73 (A4), Polymorphads\_78 (A4), Pumbaa\_77 (A4), Relief\_76 (A4), RockieBear\_74 (A4), Romney\_76 (A4), Rosa24\_73 (A4), Ruin\_77 (A4), Sabertooth\_77 (A4), Scamp\_77 (A4), SenorClean\_78 (A4), Shaka\_75 (A4), SheldonCooper\_77 (A4), Skipitt\_76 (A4), Sparxx\_78 (A4), Spino\_76 (A4), SteMason\_77 (A4), Stink\_77 (A4), Taquarus\_76 (A4), Tinybot\_76 (A4), TiroTheta9\_76 (A4), TroyPia\_78 (A4), TygerBlood\_77 (A4), Ulysses\_76 (A4), Wilbur\_77 (A4), YoSam321\_77 (A4),

Start 10:

- Found in 1 of 92 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 1 of 89
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Keziacharles14\_91 (A9),

### **Summary by clusters:**

There are 2 clusters represented in this pham: A9, A4,

Info for manual annotations of cluster A4:

- Start number 8 was manually annotated 1 time for cluster A4.
- Start number 9 was manually annotated 87 times for cluster A4.

Info for manual annotations of cluster A9:

- Start number 10 was manually annotated 1 time for cluster A9.

### **Gene Information:**

Gene: Albee\_77 Start: 45953, Stop: 45810, Start Num: 9

Candidate Starts for Albee\_77:

(4, 46028), (Start: 9 @45953 has 87 MA's), (11, 45872), (12, 45863),

Gene: Alberto7\_78 Start: 46290, Stop: 46147, Start Num: 9

Candidate Starts for Alberto7\_78:

(4, 46365), (Start: 9 @46290 has 87 MA's), (11, 46209), (12, 46200),

Gene: Arturo\_74 Start: 46081, Stop: 45938, Start Num: 9

Candidate Starts for Arturo\_74:

(4, 46156), (Start: 9 @46081 has 87 MA's), (11, 46000), (12, 45991),

Gene: Baby16\_77 Start: 45964, Stop: 45821, Start Num: 9

Candidate Starts for Baby16\_77:

(4, 46039), (Start: 9 @45964 has 87 MA's), (11, 45883), (12, 45874),

Gene: BangNhom\_74 Start: 46390, Stop: 46247, Start Num: 9

Candidate Starts for BangNhom\_74:

(4, 46465), (Start: 9 @46390 has 87 MA's), (11, 46309), (12, 46300),

Gene: Bartimeaus\_77 Start: 45955, Stop: 45812, Start Num: 9

Candidate Starts for Bartimeaus\_77:

(4, 46030), (Start: 9 @45955 has 87 MA's), (11, 45874), (12, 45865),

Gene: BellusTerra\_78 Start: 45994, Stop: 45851, Start Num: 9

Candidate Starts for BellusTerra\_78:

(4, 46069), (Start: 9 @45994 has 87 MA's), (11, 45913), (12, 45904),

Gene: Broseidon\_77 Start: 45956, Stop: 45813, Start Num: 9

Candidate Starts for Broseidon\_77:

(4, 46031), (Start: 9 @45956 has 87 MA's), (11, 45875), (12, 45866),

Gene: Burger\_75 Start: 45953, Stop: 45810, Start Num: 9

Candidate Starts for Burger\_75:

(4, 46028), (Start: 9 @45953 has 87 MA's), (11, 45872), (12, 45863),

Gene: Caelakin\_75 Start: 45953, Stop: 45810, Start Num: 9

Candidate Starts for Caelakin\_75:

(4, 46028), (Start: 9 @45953 has 87 MA's), (11, 45872), (12, 45863),

Gene: CentreCat\_77 Start: 45993, Stop: 45850, Start Num: 9

Candidate Starts for CentreCat\_77:

(4, 46068), (Start: 9 @45993 has 87 MA's), (11, 45912), (12, 45903),

Gene: Chaph\_77 Start: 45964, Stop: 45821, Start Num: 9

Candidate Starts for Chaph\_77:

(4, 46039), (Start: 9 @45964 has 87 MA's), (11, 45883), (12, 45874),

Gene: Citius\_77 Start: 45974, Stop: 45831, Start Num: 9

Candidate Starts for Citius\_77:

(4, 46049), (Start: 9 @45974 has 87 MA's), (11, 45893), (12, 45884),

Gene: Cocoaberry\_77 Start: 45954, Stop: 45811, Start Num: 9

Candidate Starts for Cocoaberry\_77:

(4, 46029), (Start: 9 @45954 has 87 MA's), (11, 45873), (12, 45864),

Gene: Commander\_75 Start: 45951, Stop: 45808, Start Num: 9

Candidate Starts for Commander\_75:

(4, 46026), (Start: 9 @45951 has 87 MA's), (11, 45870), (12, 45861),

Gene: Connomayer\_77 Start: 45953, Stop: 45810, Start Num: 9

Candidate Starts for Connomayer\_77:

(4, 46028), (Start: 9 @45953 has 87 MA's), (11, 45872), (12, 45863),

Gene: Deano\_74 Start: 45961, Stop: 45818, Start Num: 9

Candidate Starts for Deano\_74:

(4, 46036), (Start: 9 @45961 has 87 MA's), (11, 45880), (12, 45871),

Gene: Dhanush\_77 Start: 45956, Stop: 45813, Start Num: 9

Candidate Starts for Dhanush\_77:

(4, 46031), (Start: 9 @45956 has 87 MA's), (11, 45875), (12, 45866),

Gene: DirtyDunning\_76 Start: 45965, Stop: 45822, Start Num: 9

Candidate Starts for DirtyDunning\_76:

(4, 46040), (Start: 9 @45965 has 87 MA's), (11, 45884), (12, 45875),

Gene: Druantia\_76 Start: 45956, Stop: 45813, Start Num: 9

Candidate Starts for Druantia\_76:

(4, 46031), (Start: 9 @45956 has 87 MA's), (11, 45875), (12, 45866),

Gene: Eagle\_76 Start: 46015, Stop: 45872, Start Num: 9

Candidate Starts for Eagle\_76:

(4, 46090), (Start: 9 @46015 has 87 MA's), (11, 45934), (12, 45925),

Gene: Eapen\_77 Start: 45948, Stop: 45805, Start Num: 9

Candidate Starts for Eapen\_77:

(4, 46023), (Start: 9 @45948 has 87 MA's), (11, 45867), (12, 45858),

Gene: Eros\_77 Start: 45955, Stop: 45812, Start Num: 9

Candidate Starts for Eros\_77:

(4, 46030), (Start: 9 @45955 has 87 MA's), (11, 45874), (12, 45865),

Gene: Eurydice\_78 Start: 45990, Stop: 45847, Start Num: 9

Candidate Starts for Eurydice\_78:

(4, 46065), (Start: 9 @45990 has 87 MA's), (11, 45909), (12, 45900),

Gene: Flux\_78 Start: 45951, Stop: 45808, Start Num: 9

Candidate Starts for Flux\_78:

(4, 46026), (Start: 9 @45951 has 87 MA's), (11, 45870), (12, 45861),

Gene: Gadost\_77 Start: 45954, Stop: 45811, Start Num: 9

Candidate Starts for Gadost\_77:

(4, 46029), (Start: 9 @45954 has 87 MA's), (11, 45873), (12, 45864),

Gene: Happiness\_76 Start: 45976, Stop: 45833, Start Num: 9

Candidate Starts for Happiness\_76:

(4, 46051), (Start: 9 @45976 has 87 MA's), (11, 45895), (12, 45886),

Gene: Holli\_76 Start: 45743, Stop: 45600, Start Num: 9

Candidate Starts for Holli\_76:

(4, 45818), (Start: 9 @45743 has 87 MA's), (11, 45662), (12, 45653),

Gene: Houdini22\_76 Start: 45954, Stop: 45811, Start Num: 9

Candidate Starts for Houdini22\_76:

(4, 46029), (Start: 9 @45954 has 87 MA's), (11, 45873), (12, 45864),

Gene: ICleared\_76 Start: 46021, Stop: 45878, Start Num: 9

Candidate Starts for ICleared\_76:

(4, 46096), (Start: 9 @46021 has 87 MA's), (11, 45940), (12, 45931),

Gene: Iceman\_75 Start: 46243, Stop: 46100, Start Num: 9

Candidate Starts for Iceman\_75:

(4, 46318), (Start: 9 @46243 has 87 MA's), (11, 46162), (12, 46153),

Gene: Jaykayelowell\_74 Start: 45946, Stop: 45803, Start Num: 9

Candidate Starts for Jaykayelowell\_74:

(4, 46021), (Start: 9 @45946 has 87 MA's), (11, 45865), (12, 45856),

Gene: JetBlade\_78 Start: 45981, Stop: 45838, Start Num: 9

Candidate Starts for JetBlade\_78:

(4, 46056), (Start: 9 @45981 has 87 MA's), (11, 45900), (12, 45891),

Gene: Kamy\_76 Start: 45956, Stop: 45813, Start Num: 9

Candidate Starts for Kamy\_76:

(4, 46031), (Start: 9 @45956 has 87 MA's), (11, 45875), (12, 45866),

Gene: KekoraPapaka\_74 Start: 45953, Stop: 45810, Start Num: 9

Candidate Starts for KekoraPapaka\_74:

(4, 46028), (Start: 9 @45953 has 87 MA's), (11, 45872),

Gene: Keziacharles14\_91 Start: 50723, Stop: 50595, Start Num: 10  
Candidate Starts for Keziacharles14\_91:  
(Start: 10 @50723 has 1 MA's), (12, 50648),

Gene: Kingmustik0402\_77 Start: 45942, Stop: 45799, Start Num: 9  
Candidate Starts for Kingmustik0402\_77:  
(4, 46017), (Start: 9 @45942 has 87 MA's), (11, 45861), (12, 45852),

Gene: Koan\_74 Start: 45953, Stop: 45810, Start Num: 9  
Candidate Starts for Koan\_74:  
(4, 46028), (Start: 9 @45953 has 87 MA's), (11, 45872), (12, 45863),

Gene: Koreni\_76 Start: 45634, Stop: 45491, Start Num: 9  
Candidate Starts for Koreni\_76:  
(4, 45709), (Start: 9 @45634 has 87 MA's), (11, 45553), (12, 45544),

Gene: Kyee\_77 Start: 45948, Stop: 45805, Start Num: 9  
Candidate Starts for Kyee\_77:  
(4, 46023), (Start: 9 @45948 has 87 MA's), (11, 45867), (12, 45858),

Gene: LHTSCC\_79 Start: 46393, Stop: 46250, Start Num: 9  
Candidate Starts for LHTSCC\_79:  
(4, 46468), (Start: 9 @46393 has 87 MA's), (11, 46312), (12, 46303),

Gene: Lemur\_77 Start: 45950, Stop: 45807, Start Num: 9  
Candidate Starts for Lemur\_77:  
(4, 46025), (Start: 9 @45950 has 87 MA's), (11, 45869), (12, 45860),

Gene: LittleB\_77 Start: 45954, Stop: 45811, Start Num: 9  
Candidate Starts for LittleB\_77:  
(4, 46029), (Start: 9 @45954 has 87 MA's), (11, 45873), (12, 45864),

Gene: LittleGuy\_77 Start: 45838, Stop: 45695, Start Num: 9  
Candidate Starts for LittleGuy\_77:  
(4, 45913), (Start: 9 @45838 has 87 MA's), (11, 45757), (12, 45748),

Gene: LochMonster\_78 Start: 46190, Stop: 46047, Start Num: 9  
Candidate Starts for LochMonster\_78:  
(4, 46265), (Start: 9 @46190 has 87 MA's), (11, 46109), (12, 46100),

Gene: Lorenzo\_77 Start: 45951, Stop: 45808, Start Num: 9  
Candidate Starts for Lorenzo\_77:  
(4, 46026), (Start: 9 @45951 has 87 MA's), (11, 45870), (12, 45861),

Gene: Lunsford\_77 Start: 45946, Stop: 45803, Start Num: 9  
Candidate Starts for Lunsford\_77:  
(4, 46021), (Start: 9 @45946 has 87 MA's), (11, 45865), (12, 45856),

Gene: Mayonnaise\_74 Start: 45977, Stop: 45807, Start Num: 8  
Candidate Starts for Mayonnaise\_74:  
(1, 46277), (3, 46115), (5, 46019), (Start: 8 @45977 has 1 MA's), (Start: 9 @45950 has 87 MA's), (11, 45869), (12, 45860),

Gene: Mazhar510\_77 Start: 45951, Stop: 45808, Start Num: 9  
Candidate Starts for Mazhar510\_77:  
(4, 46026), (Start: 9 @45951 has 87 MA's), (11, 45870), (12, 45861),

Gene: Medusa\_76 Start: 45966, Stop: 45823, Start Num: 9  
Candidate Starts for Medusa\_76:  
(4, 46041), (Start: 9 @45966 has 87 MA's), (11, 45885), (12, 45876),

Gene: MeeZee\_76 Start: 45947, Stop: 45804, Start Num: 9  
Candidate Starts for MeeZee\_76:  
(4, 46022), (Start: 9 @45947 has 87 MA's), (11, 45866), (12, 45857),

Gene: Melvin\_79 Start: 45948, Stop: 45805, Start Num: 9  
Candidate Starts for Melvin\_79:  
(4, 46023), (Start: 9 @45948 has 87 MA's), (11, 45867), (12, 45858),

Gene: Morrow\_79 Start: 45993, Stop: 45850, Start Num: 9  
Candidate Starts for Morrow\_79:  
(4, 46068), (Start: 9 @45993 has 87 MA's), (11, 45912), (12, 45903),

Gene: Nebs\_78 Start: 45993, Stop: 45850, Start Num: 9  
Candidate Starts for Nebs\_78:  
(4, 46068), (Start: 9 @45993 has 87 MA's), (11, 45912), (12, 45903),

Gene: Nemo27\_76 Start: 45949, Stop: 45806, Start Num: 9  
Candidate Starts for Nemo27\_76:  
(4, 46024), (Start: 9 @45949 has 87 MA's), (11, 45868), (12, 45859),

Gene: NorthStar\_74 Start: 45953, Stop: 45810, Start Num: 9  
Candidate Starts for NorthStar\_74:  
(4, 46028), (Start: 9 @45953 has 87 MA's), (11, 45872), (12, 45863),

Gene: NotAPhaseMom\_76 Start: 45954, Stop: 45811, Start Num: 9  
Candidate Starts for NotAPhaseMom\_76:  
(4, 46029), (Start: 9 @45954 has 87 MA's), (11, 45873), (12, 45864),

Gene: Nyxis\_76 Start: 45832, Stop: 45689, Start Num: 9  
Candidate Starts for Nyxis\_76:  
(4, 45907), (Start: 9 @45832 has 87 MA's), (11, 45751), (12, 45742),

Gene: OKaNui\_76 Start: 46003, Stop: 45860, Start Num: 9  
Candidate Starts for OKaNui\_76:  
(6, 46066), (7, 46060), (Start: 9 @46003 has 87 MA's), (11, 45922), (12, 45913),

Gene: Obama12\_78 Start: 46377, Stop: 46234, Start Num: 9  
Candidate Starts for Obama12\_78:  
(4, 46452), (Start: 9 @46377 has 87 MA's), (11, 46296), (12, 46287),

Gene: Ohfah\_78 Start: 45993, Stop: 45850, Start Num: 9  
Candidate Starts for Ohfah\_78:  
(4, 46068), (Start: 9 @45993 has 87 MA's), (11, 45912), (12, 45903),

Gene: Peaches\_75 Start: 45952, Stop: 45809, Start Num: 9  
Candidate Starts for Peaches\_75:  
(4, 46027), (Start: 9 @45952 has 87 MA's), (11, 45871), (12, 45862),

Gene: PeterPeter\_77 Start: 45947, Stop: 45804, Start Num: 9  
Candidate Starts for PeterPeter\_77:  
(4, 46022), (Start: 9 @45947 has 87 MA's), (11, 45866), (12, 45857),

Gene: Phelipe\_78 Start: 45993, Stop: 45850, Start Num: 9  
Candidate Starts for Phelipe\_78:  
(4, 46068), (Start: 9 @45993 has 87 MA's), (11, 45912), (12, 45903),

Gene: Phighter1804\_77 Start: 46014, Stop: 45871, Start Num: 9  
Candidate Starts for Phighter1804\_77:  
(4, 46089), (Start: 9 @46014 has 87 MA's), (11, 45933), (12, 45924),

Gene: Phontbonne\_77 Start: 45848, Stop: 45705, Start Num: 9  
Candidate Starts for Phontbonne\_77:  
(4, 45923), (Start: 9 @45848 has 87 MA's), (11, 45767), (12, 45758),

Gene: Pipcraft\_73 Start: 45954, Stop: 45811, Start Num: 9  
Candidate Starts for Pipcraft\_73:  
(4, 46029), (Start: 9 @45954 has 87 MA's), (11, 45873), (12, 45864),

Gene: Polymorphads\_78 Start: 45974, Stop: 45831, Start Num: 9  
Candidate Starts for Polymorphads\_78:  
(4, 46049), (Start: 9 @45974 has 87 MA's), (11, 45893), (12, 45884),

Gene: Pumbaa\_77 Start: 45898, Stop: 45755, Start Num: 9  
Candidate Starts for Pumbaa\_77:  
(4, 45973), (Start: 9 @45898 has 87 MA's), (11, 45817), (12, 45808),

Gene: Relief\_76 Start: 45950, Stop: 45807, Start Num: 9  
Candidate Starts for Relief\_76:  
(4, 46025), (Start: 9 @45950 has 87 MA's), (11, 45869), (12, 45860),

Gene: RockieBear\_74 Start: 45952, Stop: 45809, Start Num: 9  
Candidate Starts for RockieBear\_74:  
(4, 46027), (Start: 9 @45952 has 87 MA's), (11, 45871), (12, 45862),

Gene: Romney\_76 Start: 45950, Stop: 45807, Start Num: 9  
Candidate Starts for Romney\_76:  
(4, 46025), (Start: 9 @45950 has 87 MA's), (11, 45869), (12, 45860),

Gene: Rosa24\_73 Start: 45981, Stop: 45838, Start Num: 9  
Candidate Starts for Rosa24\_73:  
(4, 46056), (Start: 9 @45981 has 87 MA's), (11, 45900), (12, 45891),

Gene: Ruin\_77 Start: 45946, Stop: 45803, Start Num: 9  
Candidate Starts for Ruin\_77:  
(4, 46021), (Start: 9 @45946 has 87 MA's), (11, 45865), (12, 45856),

Gene: Sabertooth\_77 Start: 45958, Stop: 45815, Start Num: 9

Candidate Starts for Sabertooth\_77:

(4, 46033), (Start: 9 @45958 has 87 MA's), (11, 45877), (12, 45868),

Gene: Scamp\_77 Start: 45955, Stop: 45812, Start Num: 9

Candidate Starts for Scamp\_77:

(4, 46030), (Start: 9 @45955 has 87 MA's), (11, 45874), (12, 45865),

Gene: SenorClean\_78 Start: 45953, Stop: 45810, Start Num: 9

Candidate Starts for SenorClean\_78:

(4, 46028), (Start: 9 @45953 has 87 MA's), (11, 45872), (12, 45863),

Gene: Shaka\_75 Start: 45951, Stop: 45808, Start Num: 9

Candidate Starts for Shaka\_75:

(4, 46026), (Start: 9 @45951 has 87 MA's), (11, 45870), (12, 45861),

Gene: SheldonCooper\_77 Start: 46391, Stop: 46248, Start Num: 9

Candidate Starts for SheldonCooper\_77:

(4, 46466), (Start: 9 @46391 has 87 MA's), (11, 46310), (12, 46301),

Gene: Skipitt\_76 Start: 45947, Stop: 45804, Start Num: 9

Candidate Starts for Skipitt\_76:

(4, 46022), (Start: 9 @45947 has 87 MA's), (11, 45866), (12, 45857),

Gene: Sparxx\_78 Start: 45949, Stop: 45806, Start Num: 9

Candidate Starts for Sparxx\_78:

(4, 46024), (Start: 9 @45949 has 87 MA's), (11, 45868), (12, 45859),

Gene: Spino\_76 Start: 45953, Stop: 45810, Start Num: 9

Candidate Starts for Spino\_76:

(4, 46028), (Start: 9 @45953 has 87 MA's), (11, 45872), (12, 45863),

Gene: SteMason\_77 Start: 45950, Stop: 45807, Start Num: 9

Candidate Starts for SteMason\_77:

(4, 46025), (Start: 9 @45950 has 87 MA's), (11, 45869), (12, 45860),

Gene: Stink\_77 Start: 46085, Stop: 45942, Start Num: 9

Candidate Starts for Stink\_77:

(2, 46256), (4, 46163), (Start: 9 @46085 has 87 MA's), (11, 46004),

Gene: Taquarus\_76 Start: 45956, Stop: 45813, Start Num: 9

Candidate Starts for Taquarus\_76:

(4, 46031), (Start: 9 @45956 has 87 MA's), (11, 45875), (12, 45866),

Gene: Tinybot\_76 Start: 45980, Stop: 45837, Start Num: 9

Candidate Starts for Tinybot\_76:

(4, 46055), (Start: 9 @45980 has 87 MA's), (11, 45899), (12, 45890),

Gene: TiroTheta9\_76 Start: 45947, Stop: 45804, Start Num: 9

Candidate Starts for TiroTheta9\_76:

(4, 46022), (Start: 9 @45947 has 87 MA's), (11, 45866), (12, 45857),

Gene: TroyPia\_78 Start: 45988, Stop: 45845, Start Num: 9

Candidate Starts for TroyPia\_78:

(4, 46063), (Start: 9 @45988 has 87 MA's), (11, 45907), (12, 45898),

Gene: TygerBlood\_77 Start: 45953, Stop: 45810, Start Num: 9

Candidate Starts for TygerBlood\_77:

(4, 46028), (Start: 9 @45953 has 87 MA's), (11, 45872), (12, 45863),

Gene: Ulysses\_76 Start: 45636, Stop: 45493, Start Num: 9

Candidate Starts for Ulysses\_76:

(4, 45711), (Start: 9 @45636 has 87 MA's), (11, 45555), (12, 45546),

Gene: Wilbur\_77 Start: 45950, Stop: 45807, Start Num: 9

Candidate Starts for Wilbur\_77:

(4, 46025), (Start: 9 @45950 has 87 MA's), (11, 45869), (12, 45860),

Gene: YoSam321\_77 Start: 45948, Stop: 45805, Start Num: 9

Candidate Starts for YoSam321\_77:

(4, 46023), (Start: 9 @45948 has 87 MA's), (11, 45867), (12, 45858),