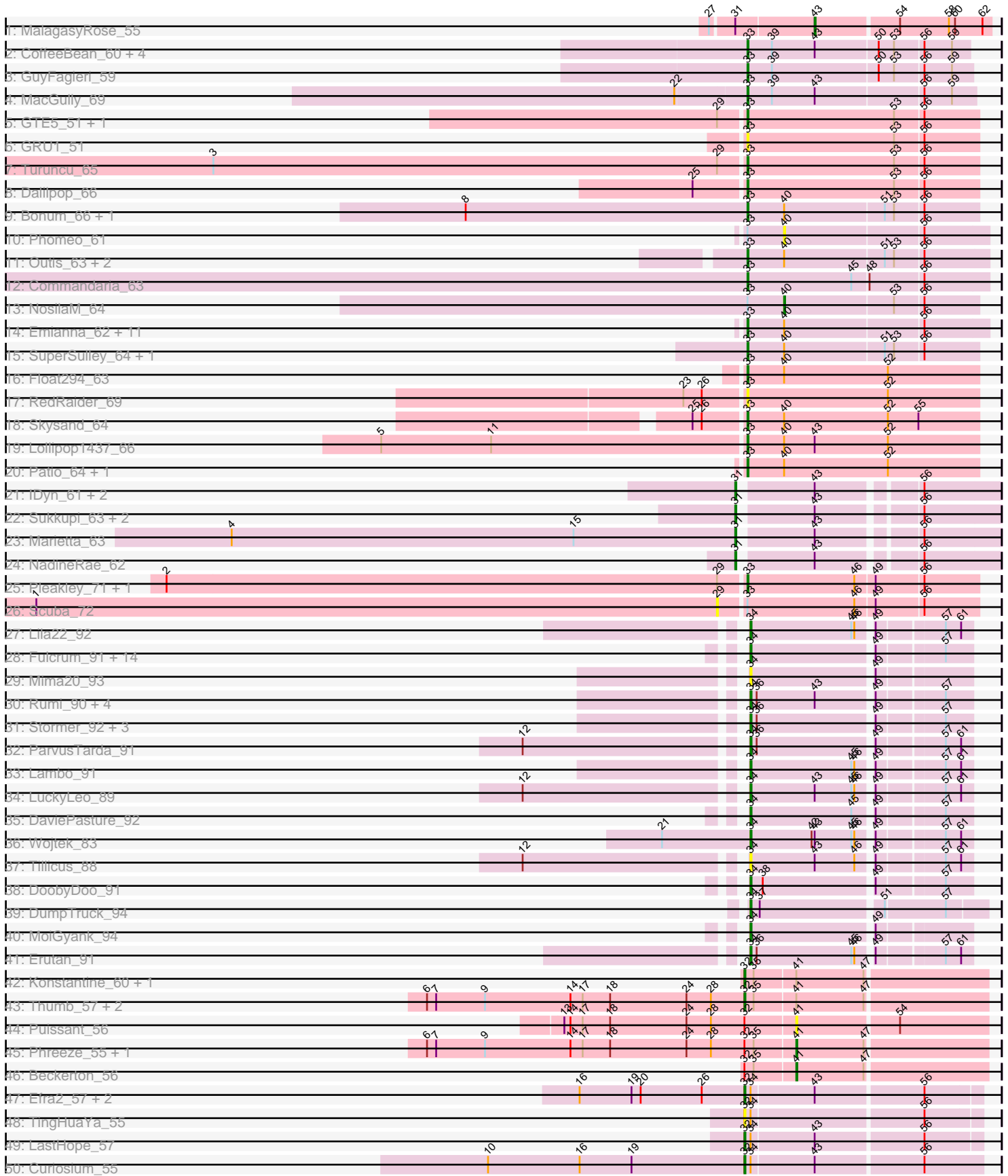
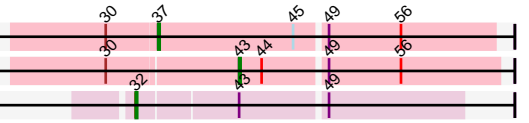


Pham 206711



51: AlleyCat\_49 + 2  
52: Rando14\_49  
53: Labelle\_70



A series of empty horizontal lines for data entry, spanning the width of the page below the tracks.

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 206711 Report

This analysis was run 02/22/25 on database version 588.

Pham number 206711 has 108 members, 17 are drafts.

Phages represented in each track:

- Track 1 : MalagasyRose\_55
- Track 2 : CoffeeBean\_60, Maselop\_60, Apiary\_60, Braxoaddie\_60, Polyuyuki\_60
- Track 3 : GuyFagieri\_59
- Track 4 : MacGully\_69
- Track 5 : GTE5\_51, Flapper\_65
- Track 6 : GRU1\_51
- Track 7 : Turuncu\_65
- Track 8 : Dalilpop\_66
- Track 9 : Bonum\_66, Kabluna\_65
- Track 10 : Phomeo\_61
- Track 11 : Outis\_63, StarStruck\_63, MerCougar\_64
- Track 12 : Commandaria\_63
- Track 13 : NosilaM\_64
- Track 14 : Emianna\_62, GTE8\_51, Wheezy\_62, Jifall16\_61, Tracker\_62, Arti\_61, Foxboro\_63, NatB6\_62, Kurt\_62, GrootJr\_64, KidneyBean\_62, NovumRegina\_62
- Track 15 : SuperSulley\_64, Buggaboo\_64
- Track 16 : Float294\_63
- Track 17 : RedRaider\_69
- Track 18 : Skysand\_64
- Track 19 : Lollipop1437\_66
- Track 20 : Patio\_64, Ennea\_69
- Track 21 : IDyn\_61, WhoseManz\_62, HubbaBubba\_57
- Track 22 : Sukkupi\_63, Yndexa\_63, BiPauneto\_65
- Track 23 : Marietta\_63
- Track 24 : NadineRae\_62
- Track 25 : Pleakley\_71, Fury\_71
- Track 26 : Scuba\_72
- Track 27 : Lila22\_92
- Track 28 : Fulcrum\_91, OtterstedtS21\_92, Gibbin\_93, Patos\_96, Jalebi\_91, Sampudon\_93, LavAbarElk\_91, Sadboi\_91, GretelLyn\_91, Alephilan\_92, Zany\_90, GOATification\_91, Yikes\_92, BirthdayBoy\_94, NorManre\_96
- Track 29 : Mima20\_93
- Track 30 : Rumi\_90, Alyssamiracle\_92, RazorC\_90, Jamemuya19\_91, NovaSharks\_91
- Track 31 : Stormer\_92, Genamy16\_92, Avian\_90, Astralis\_91
- Track 32 : ParvusTarda\_91
- Track 33 : Lambo\_91

- Track 34 : LuckyLeo\_89
- Track 35 : DaviePasture\_92
- Track 36 : Wojtek\_83
- Track 37 : Tillicus\_88
- Track 38 : DoobyDoo\_91
- Track 39 : DumpTruck\_94
- Track 40 : MoiGyank\_94
- Track 41 : Erutan\_91
- Track 42 : Konstantine\_60, Cborch11\_58
- Track 43 : Thumb\_57, Oaker\_56, Megatron06\_58
- Track 44 : Puissant\_56
- Track 45 : Phreeze\_55, Damien\_57
- Track 46 : Beckerton\_56
- Track 47 : Efra2\_57, Guanica15\_56, Yunkel11\_56
- Track 48 : TingHuaYa\_55
- Track 49 : LastHope\_57
- Track 50 : Curiosium\_55
- Track 51 : AlleyCat\_49, Psycho\_47, Dadosky\_49
- Track 52 : Rando14\_49
- Track 53 : Labelle\_70

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

The start number called the most often in the published annotations is 33, it was called in 36 of the 91 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Apiary\_60, Arti\_61, Bonum\_66, Braxoaddie\_60, Buggaboo\_64, CoffeeBean\_60, Commandaria\_63, Dalilpop\_66, Emianna\_62, Ennea\_69, Flapper\_65, Float294\_63, Foxboro\_63, Fury\_71, GRU1\_51, GTE5\_51, GTE8\_51, GrootJr\_64, GuyFagieri\_59, Jifall16\_61, Kabluna\_65, KidneyBean\_62, Kurt\_62, Lollipop1437\_66, MacGully\_69, Maselop\_60, MerCougar\_64, NatB6\_62, NovumRegina\_62, Outis\_63, Patio\_64, Pleakley\_71, Polyuyuki\_60, RedRaider\_69, Skysand\_64, StarStruck\_63, SuperSulley\_64, Tracker\_62, Turuncu\_65, Wheezy\_62,

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

- NosilaM\_64, Phomeo\_61, Scuba\_72,

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

- Alephilan\_92, AlleyCat\_49, Alyssamiracle\_92, Astralis\_91, Avian\_90, Beckerton\_56, BiPauneto\_65, BirthdayBoy\_94, Cborch11\_58, Curiosium\_55, Dadosky\_49, Damien\_57, DaviePasture\_92, DoobyDoo\_91, DumpTruck\_94, Efra2\_57, Erutan\_91, Fulcrum\_91, GOATification\_91, Genamy16\_92, Gibbin\_93, GretelLyn\_91, Guanica15\_56, HubbaBubba\_57, IDyn\_61, Jalebi\_91, Jamemuya19\_91, Konstantine\_60, Labelle\_70, Lambo\_91, LastHope\_57, LavAbarElk\_91, Lila22\_92, LuckyLeo\_89, MalagasyRose\_55, Marietta\_63, Megatron06\_58, Mima20\_93, MoiGyank\_94, NadineRae\_62, NorManre\_96, NovaSharks\_91, Oaker\_56, OtterstedtS21\_92, ParvusTarda\_91, Patos\_96, Phreeze\_55, Psycho\_47, Puissant\_56, Rando14\_49, RazorC\_90, Rumi\_90, Sadboi\_91, Sampudon\_93, Stormer\_92, Sukkupi\_63, Thumb\_57, Tillicus\_88, TingHuaYa\_55, WhoseManz\_62,

Wojtek\_83, Yikes\_92, Yndexa\_63, Yunkel11\_56, Zany\_90,

### Summary by start number:

#### Start 29:

- Found in 6 of 108 ( 5.6% ) of genes in pham
- No Manual Annotations of this start.
- Called 16.7% of time when present
- Phage (with cluster) where this start called: Scuba\_72 (CR5),

#### Start 31:

- Found in 9 of 108 ( 8.3% ) of genes in pham
- Manual Annotations of this start: 8 of 91
- Called 88.9% of time when present
- Phage (with cluster) where this start called: BiPauneto\_65 (CR4), HubbaBubba\_57 (CR4), IDyn\_61 (CR4), Marietta\_63 (CR4), NadineRae\_62 (CR4), Sukkupi\_63 (CR4), WhoseManz\_62 (CR4), Yndexa\_63 (CR4),

#### Start 32:

- Found in 16 of 108 ( 14.8% ) of genes in pham
- Manual Annotations of this start: 11 of 91
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Cborch11\_58 (H1), Curiosium\_55 (K1), Efra2\_57 (K1), Guanica15\_56 (K1), Konstantine\_60 (H1), Labelle\_70 (U), LastHope\_57 (K1), Megatron06\_58 (H1), Oaker\_56 (H1), Thumb\_57 (H1), TingHuaYa\_55 (K1), Yunkel11\_56 (K1),

#### Start 33:

- Found in 43 of 108 ( 39.8% ) of genes in pham
- Manual Annotations of this start: 36 of 91
- Called 93.0% of time when present
- Phage (with cluster) where this start called: Apiary\_60 (CR), Arti\_61 (CR2), Bonum\_66 (CR2), Braxoaddie\_60 (CR), Buggaboo\_64 (CR2), CoffeeBean\_60 (CR), Commandaria\_63 (CR2), Dalilpop\_66 (CR1), Emianna\_62 (CR2), Ennea\_69 (CR3), Flapper\_65 (CR1), Float294\_63 (CR3), Foxboro\_63 (CR2), Fury\_71 (CR5), GRU1\_51 (CR1), GTE5\_51 (CR1), GTE8\_51 (CR2), GrootJr\_64 (CR2), GuyFagieri\_59 (CR), Jifall16\_61 (CR2), Kabluna\_65 (CR2), KidneyBean\_62 (CR2), Kurt\_62 (CR2), Lollipop1437\_66 (CR3), MacGully\_69 (CR), Maselop\_60 (CR), MerCougar\_64 (CR2), NatB6\_62 (CR2), NovumRegina\_62 (CR2), Outis\_63 (CR2), Patio\_64 (CR3), Pleakley\_71 (CR5), Polyuyuki\_60 (CR), RedRaider\_69 (CR3), Skysand\_64 (CR3), StarStruck\_63 (CR2), SuperSulley\_64 (CR2), Tracker\_62 (CR2), Turuncu\_65 (CR1), Wheezy\_62 (CR2),

#### Start 34:

- Found in 42 of 108 ( 38.9% ) of genes in pham
- Manual Annotations of this start: 27 of 91
- Called 85.7% of time when present
- Phage (with cluster) where this start called: Alephilan\_92 (DV), Alyssamiracle\_92 (DV), Astralis\_91 (DV), Avian\_90 (DV), BirthdayBoy\_94 (DV), DaviePasture\_92 (DV), DoobyDoo\_91 (DV), DumpTruck\_94 (DV), Erutan\_91 (DV), Fulcrum\_91 (DV), GOATification\_91 (DV), Genamy16\_92 (DV), Gibbin\_93 (DV), GretelLyn\_91 (DV), Jalebi\_91 (DV), Jamemuya19\_91 (DV), Lambo\_91 (DV), LavAbarElk\_91 (DV), Lila22\_92 (DV), LuckyLeo\_89 (DV), Mima20\_93 (DV), MoiGyank\_94 (DV),

NorManre\_96 (DV), NovaSharks\_91 (DV), OtterstedtS21\_92 (DV), ParvusTarda\_91 (DV), Patos\_96 (DV), RazorC\_90 (DV), Rumi\_90 (DV), Sadboi\_91 (DV), Sampudon\_93 (DV), Stormer\_92 (DV), Tillicus\_88 (DV), Wojtek\_83 (DV), Yikes\_92 (DV), Zany\_90 (DV),

Start 37:

- Found in 4 of 108 ( 3.7% ) of genes in pham
- Manual Annotations of this start: 3 of 91
- Called 75.0% of time when present
- Phage (with cluster) where this start called: AlleyCat\_49 (K5), Dadosky\_49 (K5), Psycho\_47 (K5),

Start 40:

- Found in 26 of 108 ( 24.1% ) of genes in pham
- Manual Annotations of this start: 1 of 91
- Called 7.7% of time when present
- Phage (with cluster) where this start called: NosilaM\_64 (CR2), Phomeo\_61 (CR2),

Start 41:

- Found in 9 of 108 ( 8.3% ) of genes in pham
- Manual Annotations of this start: 3 of 91
- Called 44.4% of time when present
- Phage (with cluster) where this start called: Beckerton\_56 (H1), Damien\_57 (H1), Phreeze\_55 (H1), Puissant\_56 (H1),

Start 43:

- Found in 31 of 108 ( 28.7% ) of genes in pham
- Manual Annotations of this start: 2 of 91
- Called 6.5% of time when present
- Phage (with cluster) where this start called: MalagasyRose\_55 (AG), Rando14\_49 (K5),

### **Summary by clusters:**

There are 12 clusters represented in this pham: CR2, CR3, CR1, AG, CR4, CR5, H1, K1, U, K5, DV, CR,

Info for manual annotations of cluster AG:

- Start number 43 was manually annotated 1 time for cluster AG.

Info for manual annotations of cluster CR:

- Start number 33 was manually annotated 7 times for cluster CR.

Info for manual annotations of cluster CR1:

- Start number 33 was manually annotated 3 times for cluster CR1.

Info for manual annotations of cluster CR2:

- Start number 33 was manually annotated 19 times for cluster CR2.
- Start number 40 was manually annotated 1 time for cluster CR2.

Info for manual annotations of cluster CR3:

- Start number 33 was manually annotated 5 times for cluster CR3.

Info for manual annotations of cluster CR4:

- Start number 31 was manually annotated 8 times for cluster CR4.

Info for manual annotations of cluster CR5:

- Start number 33 was manually annotated 2 times for cluster CR5.

Info for manual annotations of cluster DV:

- Start number 34 was manually annotated 27 times for cluster DV.

Info for manual annotations of cluster H1:

- Start number 32 was manually annotated 5 times for cluster H1.
- Start number 41 was manually annotated 3 times for cluster H1.

Info for manual annotations of cluster K1:

- Start number 32 was manually annotated 5 times for cluster K1.

Info for manual annotations of cluster K5:

- Start number 37 was manually annotated 3 times for cluster K5.
- Start number 43 was manually annotated 1 time for cluster K5.

Info for manual annotations of cluster U:

- Start number 32 was manually annotated 1 time for cluster U.

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

Gene: Alephilan\_92 Start: 64646, Stop: 64846, Start Num: 34

Candidate Starts for Alephilan\_92:

(Start: 34 @64646 has 27 MA's), (49, 64760), (57, 64820),

Gene: AlleyCat\_49 Start: 36887, Stop: 37105, Start Num: 37

Candidate Starts for AlleyCat\_49:

(30, 36857), (Start: 37 @36887 has 3 MA's), (45, 36977), (49, 36995), (56, 37043),

Gene: Alyssamiracle\_92 Start: 62607, Stop: 62807, Start Num: 34

Candidate Starts for Alyssamiracle\_92:

(Start: 34 @62607 has 27 MA's), (36, 62613), (Start: 43 @62670 has 2 MA's), (49, 62721), (57, 62781),

Gene: Apiary\_60 Start: 45998, Stop: 45786, Start Num: 33

Candidate Starts for Apiary\_60:

(Start: 33 @45998 has 36 MA's), (39, 45974), (Start: 43 @45932 has 2 MA's), (50, 45872), (53, 45857), (56, 45830), (59, 45803),

Gene: Arti\_61 Start: 48483, Stop: 48253, Start Num: 33

Candidate Starts for Arti\_61:

(Start: 33 @48483 has 36 MA's), (Start: 40 @48447 has 1 MA's), (56, 48315),

Gene: Astralis\_91 Start: 62134, Stop: 62334, Start Num: 34

Candidate Starts for Astralis\_91:

(Start: 34 @62134 has 27 MA's), (36, 62140), (49, 62248), (57, 62308),

Gene: Avian\_90 Start: 62369, Stop: 62569, Start Num: 34

Candidate Starts for Avian\_90:  
(Start: 34 @62369 has 27 MA's), (36, 62375), (49, 62483), (57, 62543),

Gene: Beckerton\_56 Start: 44938, Stop: 45120, Start Num: 41  
Candidate Starts for Beckerton\_56:  
(Start: 32 @44890 has 11 MA's), (35, 44899), (Start: 41 @44938 has 3 MA's), (47, 45004),

Gene: BiPauneto\_65 Start: 48080, Stop: 47850, Start Num: 31  
Candidate Starts for BiPauneto\_65:  
(Start: 31 @48080 has 8 MA's), (Start: 43 @48014 has 2 MA's), (56, 47924),

Gene: BirthdayBoy\_94 Start: 64659, Stop: 64859, Start Num: 34  
Candidate Starts for BirthdayBoy\_94:  
(Start: 34 @64659 has 27 MA's), (49, 64773), (57, 64833),

Gene: Bonum\_66 Start: 49270, Stop: 49049, Start Num: 33  
Candidate Starts for Bonum\_66:  
(8, 49546), (Start: 33 @49270 has 36 MA's), (Start: 40 @49234 has 1 MA's), (51, 49138), (53, 49129),  
(56, 49102),

Gene: Braxoaddie\_60 Start: 45987, Stop: 45775, Start Num: 33  
Candidate Starts for Braxoaddie\_60:  
(Start: 33 @45987 has 36 MA's), (39, 45963), (Start: 43 @45921 has 2 MA's), (50, 45861), (53, 45846),  
(56, 45819), (59, 45792),

Gene: Buggaboo\_64 Start: 49827, Stop: 49606, Start Num: 33  
Candidate Starts for Buggaboo\_64:  
(Start: 33 @49827 has 36 MA's), (Start: 40 @49791 has 1 MA's), (51, 49695), (53, 49686), (56, 49659),

Gene: Cborch11\_58 Start: 44408, Stop: 44638, Start Num: 32  
Candidate Starts for Cborch11\_58:  
(Start: 32 @44408 has 11 MA's), (35, 44417), (Start: 41 @44456 has 3 MA's), (47, 44522),

Gene: CoffeeBean\_60 Start: 45945, Stop: 45733, Start Num: 33  
Candidate Starts for CoffeeBean\_60:  
(Start: 33 @45945 has 36 MA's), (39, 45921), (Start: 43 @45879 has 2 MA's), (50, 45819), (53, 45804),  
(56, 45777), (59, 45750),

Gene: Commandaria\_63 Start: 49702, Stop: 49472, Start Num: 33  
Candidate Starts for Commandaria\_63:  
(Start: 33 @49702 has 36 MA's), (45, 49600), (48, 49585), (56, 49534),

Gene: Curiosium\_55 Start: 37814, Stop: 38038, Start Num: 32  
Candidate Starts for Curiosium\_55:  
(10, 37562), (16, 37652), (19, 37703), (Start: 32 @37814 has 11 MA's), (Start: 34 @37820 has 27  
MA's), (Start: 43 @37880 has 2 MA's), (56, 37982),

Gene: Dadosky\_49 Start: 36889, Stop: 37107, Start Num: 37  
Candidate Starts for Dadosky\_49:  
(30, 36859), (Start: 37 @36889 has 3 MA's), (45, 36979), (49, 36997), (56, 37045),

Gene: Dalilpop\_66 Start: 50690, Stop: 50466, Start Num: 33  
Candidate Starts for Dalilpop\_66:



(25, 50738), (Start: 33 @50690 has 36 MA's), (53, 50546), (56, 50519),

Gene: Damien\_57 Start: 44418, Stop: 44600, Start Num: 41

Candidate Starts for Damien\_57:

(6, 44058), (7, 44067), (9, 44115), (14, 44199), (17, 44211), (18, 44238), (24, 44313), (28, 44337),  
(Start: 32 @44370 has 11 MA's), (35, 44379), (Start: 41 @44418 has 3 MA's), (47, 44484),

Gene: DaviePasture\_92 Start: 64175, Stop: 64375, Start Num: 34

Candidate Starts for DaviePasture\_92:

(Start: 34 @64175 has 27 MA's), (45, 64274), (49, 64289), (57, 64349),

Gene: DoobyDoo\_91 Start: 62959, Stop: 63159, Start Num: 34

Candidate Starts for DoobyDoo\_91:

(Start: 34 @62959 has 27 MA's), (38, 62971), (49, 63073), (57, 63133),

Gene: DumpTruck\_94 Start: 64144, Stop: 64362, Start Num: 34

Candidate Starts for DumpTruck\_94:

(Start: 34 @64144 has 27 MA's), (Start: 37 @64153 has 3 MA's), (51, 64267), (57, 64324),

Gene: Efra2\_57 Start: 38957, Stop: 39178, Start Num: 32

Candidate Starts for Efra2\_57:

(16, 38795), (19, 38846), (20, 38855), (26, 38915), (Start: 32 @38957 has 11 MA's), (Start: 34 @38963  
has 27 MA's), (Start: 43 @39023 has 2 MA's), (56, 39125),

Gene: Emianna\_62 Start: 49726, Stop: 49496, Start Num: 33

Candidate Starts for Emianna\_62:

(Start: 33 @49726 has 36 MA's), (Start: 40 @49690 has 1 MA's), (56, 49558),

Gene: Ennea\_69 Start: 50721, Stop: 50494, Start Num: 33

Candidate Starts for Ennea\_69:

(Start: 33 @50721 has 36 MA's), (Start: 40 @50685 has 1 MA's), (52, 50583),

Gene: Erutan\_91 Start: 64022, Stop: 64222, Start Num: 34

Candidate Starts for Erutan\_91:

(Start: 34 @64022 has 27 MA's), (36, 64028), (45, 64121), (46, 64124), (49, 64136), (57, 64196), (61,  
64211),

Gene: Flapper\_65 Start: 49880, Stop: 49656, Start Num: 33

Candidate Starts for Flapper\_65:

(29, 49904), (Start: 33 @49880 has 36 MA's), (53, 49736), (56, 49709),

Gene: Float294\_63 Start: 50556, Stop: 50329, Start Num: 33

Candidate Starts for Float294\_63:

(Start: 33 @50556 has 36 MA's), (Start: 40 @50520 has 1 MA's), (52, 50418),

Gene: Foxboro\_63 Start: 50235, Stop: 50005, Start Num: 33

Candidate Starts for Foxboro\_63:

(Start: 33 @50235 has 36 MA's), (Start: 40 @50199 has 1 MA's), (56, 50067),

Gene: Fulcrum\_91 Start: 64168, Stop: 64368, Start Num: 34

Candidate Starts for Fulcrum\_91:

(Start: 34 @64168 has 27 MA's), (49, 64282), (57, 64342),

Gene: Fury\_71 Start: 48990, Stop: 48769, Start Num: 33  
Candidate Starts for Fury\_71:  
(2, 49554), (29, 49014), (Start: 33 @48990 has 36 MA's), (46, 48885), (49, 48867), (56, 48822),

Gene: GOATification\_91 Start: 64168, Stop: 64368, Start Num: 34  
Candidate Starts for GOATification\_91:  
(Start: 34 @64168 has 27 MA's), (49, 64282), (57, 64342),

Gene: GRU1\_51 Start: 41731, Stop: 41507, Start Num: 33  
Candidate Starts for GRU1\_51:  
(Start: 33 @41731 has 36 MA's), (53, 41587), (56, 41560),

Gene: GTE5\_51 Start: 42757, Stop: 42533, Start Num: 33  
Candidate Starts for GTE5\_51:  
(29, 42781), (Start: 33 @42757 has 36 MA's), (53, 42613), (56, 42586),

Gene: GTE8\_51 Start: 42940, Stop: 42710, Start Num: 33  
Candidate Starts for GTE8\_51:  
(Start: 33 @42940 has 36 MA's), (Start: 40 @42904 has 1 MA's), (56, 42772),

Gene: Genamy16\_92 Start: 62656, Stop: 62856, Start Num: 34  
Candidate Starts for Genamy16\_92:  
(Start: 34 @62656 has 27 MA's), (36, 62662), (49, 62770), (57, 62830),

Gene: Gibbin\_93 Start: 64345, Stop: 64545, Start Num: 34  
Candidate Starts for Gibbin\_93:  
(Start: 34 @64345 has 27 MA's), (49, 64459), (57, 64519),

Gene: Gretellyn\_91 Start: 64171, Stop: 64371, Start Num: 34  
Candidate Starts for Gretellyn\_91:  
(Start: 34 @64171 has 27 MA's), (49, 64285), (57, 64345),

Gene: GrootJr\_64 Start: 49108, Stop: 48878, Start Num: 33  
Candidate Starts for GrootJr\_64:  
(Start: 33 @49108 has 36 MA's), (Start: 40 @49072 has 1 MA's), (56, 48940),

Gene: Guanica15\_56 Start: 38702, Stop: 38920, Start Num: 32  
Candidate Starts for Guanica15\_56:  
(16, 38540), (19, 38591), (20, 38600), (26, 38660), (Start: 32 @38702 has 11 MA's), (Start: 34 @38708 has 27 MA's), (Start: 43 @38768 has 2 MA's), (56, 38870),

Gene: GuyFagieri\_59 Start: 46181, Stop: 45966, Start Num: 33  
Candidate Starts for GuyFagieri\_59:  
(Start: 33 @46181 has 36 MA's), (39, 46157), (50, 46055), (53, 46040), (56, 46013), (59, 45986),

Gene: HubbaBubba\_57 Start: 44587, Stop: 44357, Start Num: 31  
Candidate Starts for HubbaBubba\_57:  
(Start: 31 @44587 has 8 MA's), (Start: 43 @44521 has 2 MA's), (56, 44431),

Gene: IDyn\_61 Start: 46010, Stop: 45780, Start Num: 31  
Candidate Starts for IDyn\_61:  
(Start: 31 @46010 has 8 MA's), (Start: 43 @45944 has 2 MA's), (56, 45854),

Gene: Jalebi\_91 Start: 65112, Stop: 65312, Start Num: 34  
Candidate Starts for Jalebi\_91:  
(Start: 34 @65112 has 27 MA's), (49, 65226), (57, 65286),

Gene: Jamemuya19\_91 Start: 62281, Stop: 62481, Start Num: 34  
Candidate Starts for Jamemuya19\_91:  
(Start: 34 @62281 has 27 MA's), (36, 62287), (Start: 43 @62344 has 2 MA's), (49, 62395), (57, 62455),

Gene: Jifall16\_61 Start: 49380, Stop: 49150, Start Num: 33  
Candidate Starts for Jifall16\_61:  
(Start: 33 @49380 has 36 MA's), (Start: 40 @49344 has 1 MA's), (56, 49212),

Gene: Kabluna\_65 Start: 48605, Stop: 48384, Start Num: 33  
Candidate Starts for Kabluna\_65:  
(8, 48881), (Start: 33 @48605 has 36 MA's), (Start: 40 @48569 has 1 MA's), (51, 48473), (53, 48464),  
(56, 48437),

Gene: KidneyBean\_62 Start: 49504, Stop: 49274, Start Num: 33  
Candidate Starts for KidneyBean\_62:  
(Start: 33 @49504 has 36 MA's), (Start: 40 @49468 has 1 MA's), (56, 49336),

Gene: Konstantine\_60 Start: 45201, Stop: 45431, Start Num: 32  
Candidate Starts for Konstantine\_60:  
(Start: 32 @45201 has 11 MA's), (35, 45210), (Start: 41 @45249 has 3 MA's), (47, 45315),

Gene: Kurt\_62 Start: 49741, Stop: 49511, Start Num: 33  
Candidate Starts for Kurt\_62:  
(Start: 33 @49741 has 36 MA's), (Start: 40 @49705 has 1 MA's), (56, 49573),

Gene: Labelle\_70 Start: 46820, Stop: 47026, Start Num: 32  
Candidate Starts for Labelle\_70:  
(Start: 32 @46820 has 11 MA's), (Start: 43 @46883 has 2 MA's), (49, 46937),

Gene: Lambo\_91 Start: 64248, Stop: 64448, Start Num: 34  
Candidate Starts for Lambo\_91:  
(Start: 34 @64248 has 27 MA's), (45, 64347), (46, 64350), (49, 64362), (57, 64422), (61, 64437),

Gene: LastHope\_57 Start: 38346, Stop: 38567, Start Num: 32  
Candidate Starts for LastHope\_57:  
(Start: 32 @38346 has 11 MA's), (Start: 34 @38352 has 27 MA's), (Start: 43 @38412 has 2 MA's), (56, 38514),

Gene: LavAbarElk\_91 Start: 63290, Stop: 63490, Start Num: 34  
Candidate Starts for LavAbarElk\_91:  
(Start: 34 @63290 has 27 MA's), (49, 63404), (57, 63464),

Gene: Lila22\_92 Start: 64603, Stop: 64803, Start Num: 34  
Candidate Starts for Lila22\_92:  
(Start: 34 @64603 has 27 MA's), (45, 64702), (46, 64705), (49, 64717), (57, 64777), (61, 64792),

Gene: Lollipop1437\_66 Start: 50521, Stop: 50294, Start Num: 33  
Candidate Starts for Lollipop1437\_66:

(5, 50875), (11, 50767), (Start: 33 @50521 has 36 MA's), (Start: 40 @50485 has 1 MA's), (Start: 43 @50455 has 2 MA's), (52, 50383),

Gene: LuckyLeo\_89 Start: 63837, Stop: 64037, Start Num: 34

Candidate Starts for LuckyLeo\_89:

(12, 63636), (Start: 34 @63837 has 27 MA's), (Start: 43 @63900 has 2 MA's), (45, 63936), (46, 63939), (49, 63951), (57, 64011), (61, 64026),

Gene: MacGully\_69 Start: 49142, Stop: 48924, Start Num: 33

Candidate Starts for MacGully\_69:

(22, 49208), (Start: 33 @49142 has 36 MA's), (39, 49118), (Start: 43 @49076 has 2 MA's), (56, 48974), (59, 48947),

Gene: MalagasyRose\_55 Start: 38193, Stop: 38360, Start Num: 43

Candidate Starts for MalagasyRose\_55:

(27, 38097), (Start: 31 @38118 has 8 MA's), (Start: 43 @38193 has 2 MA's), (54, 38271), (58, 38319), (60, 38325), (62, 38352),

Gene: Marietta\_63 Start: 46140, Stop: 45910, Start Num: 31

Candidate Starts for Marietta\_63:

(4, 46635), (15, 46299), (Start: 31 @46140 has 8 MA's), (Start: 43 @46074 has 2 MA's), (56, 45984),

Gene: Maselop\_60 Start: 46021, Stop: 45809, Start Num: 33

Candidate Starts for Maselop\_60:

(Start: 33 @46021 has 36 MA's), (39, 45997), (Start: 43 @45955 has 2 MA's), (50, 45895), (53, 45880), (56, 45853), (59, 45826),

Gene: Megatron06\_58 Start: 44947, Stop: 45177, Start Num: 32

Candidate Starts for Megatron06\_58:

(6, 44635), (7, 44644), (9, 44692), (14, 44776), (17, 44788), (18, 44815), (24, 44890), (28, 44914), (Start: 32 @44947 has 11 MA's), (35, 44956), (Start: 41 @44995 has 3 MA's), (47, 45061),

Gene: MerCougar\_64 Start: 50026, Stop: 49796, Start Num: 33

Candidate Starts for MerCougar\_64:

(Start: 33 @50026 has 36 MA's), (Start: 40 @49990 has 1 MA's), (51, 49894), (53, 49885), (56, 49858),

Gene: Mima20\_93 Start: 63914, Stop: 64114, Start Num: 34

Candidate Starts for Mima20\_93:

(Start: 34 @63914 has 27 MA's), (49, 64028),

Gene: MoiGyank\_94 Start: 64426, Stop: 64626, Start Num: 34

Candidate Starts for MoiGyank\_94:

(Start: 34 @64426 has 27 MA's), (49, 64540),

Gene: NadineRae\_62 Start: 45743, Stop: 45513, Start Num: 31

Candidate Starts for NadineRae\_62:

(Start: 31 @45743 has 8 MA's), (Start: 43 @45677 has 2 MA's), (56, 45587),

Gene: NatB6\_62 Start: 48798, Stop: 48568, Start Num: 33

Candidate Starts for NatB6\_62:

(Start: 33 @48798 has 36 MA's), (Start: 40 @48762 has 1 MA's), (56, 48630),

Gene: NorManre\_96 Start: 65444, Stop: 65644, Start Num: 34

Candidate Starts for NorManre\_96:

(Start: 34 @65444 has 27 MA's), (49, 65558), (57, 65618),

Gene: NosilaM\_64 Start: 49246, Stop: 49061, Start Num: 40

Candidate Starts for NosilaM\_64:

(Start: 33 @49282 has 36 MA's), (Start: 40 @49246 has 1 MA's), (53, 49141), (56, 49114),

Gene: NovaSharks\_91 Start: 62356, Stop: 62556, Start Num: 34

Candidate Starts for NovaSharks\_91:

(Start: 34 @62356 has 27 MA's), (36, 62362), (Start: 43 @62419 has 2 MA's), (49, 62470), (57, 62530),

Gene: NovumRegina\_62 Start: 49107, Stop: 48877, Start Num: 33

Candidate Starts for NovumRegina\_62:

(Start: 33 @49107 has 36 MA's), (Start: 40 @49071 has 1 MA's), (56, 48939),

Gene: Oaker\_56 Start: 44662, Stop: 44892, Start Num: 32

Candidate Starts for Oaker\_56:

(6, 44350), (7, 44359), (9, 44407), (14, 44491), (17, 44503), (18, 44530), (24, 44605), (28, 44629),  
(Start: 32 @44662 has 11 MA's), (35, 44671), (Start: 41 @44710 has 3 MA's), (47, 44776),

Gene: OtterstedtS21\_92 Start: 64255, Stop: 64455, Start Num: 34

Candidate Starts for OtterstedtS21\_92:

(Start: 34 @64255 has 27 MA's), (49, 64369), (57, 64429),

Gene: Outis\_63 Start: 49539, Stop: 49309, Start Num: 33

Candidate Starts for Outis\_63:

(Start: 33 @49539 has 36 MA's), (Start: 40 @49503 has 1 MA's), (51, 49407), (53, 49398), (56, 49371),

Gene: ParvusTarda\_91 Start: 63529, Stop: 63729, Start Num: 34

Candidate Starts for ParvusTarda\_91:

(12, 63328), (Start: 34 @63529 has 27 MA's), (36, 63535), (49, 63643), (57, 63703), (61, 63718),

Gene: Patio\_64 Start: 49476, Stop: 49249, Start Num: 33

Candidate Starts for Patio\_64:

(Start: 33 @49476 has 36 MA's), (Start: 40 @49440 has 1 MA's), (52, 49338),

Gene: Patos\_96 Start: 65443, Stop: 65643, Start Num: 34

Candidate Starts for Patos\_96:

(Start: 34 @65443 has 27 MA's), (49, 65557), (57, 65617),

Gene: Phomeo\_61 Start: 49340, Stop: 49146, Start Num: 40

Candidate Starts for Phomeo\_61:

(Start: 33 @49376 has 36 MA's), (Start: 40 @49340 has 1 MA's), (56, 49208),

Gene: Phreeze\_55 Start: 44015, Stop: 44197, Start Num: 41

Candidate Starts for Phreeze\_55:

(6, 43655), (7, 43664), (9, 43712), (14, 43796), (17, 43808), (18, 43835), (24, 43910), (28, 43934),  
(Start: 32 @43967 has 11 MA's), (35, 43976), (Start: 41 @44015 has 3 MA's), (47, 44081),

Gene: Pleakley\_71 Start: 48991, Stop: 48770, Start Num: 33

Candidate Starts for Pleakley\_71:

(2, 49555), (29, 49015), (Start: 33 @48991 has 36 MA's), (46, 48886), (49, 48868), (56, 48823),

Gene: Polyuyki\_60 Start: 46010, Stop: 45798, Start Num: 33

Candidate Starts for Polyuyki\_60:

(Start: 33 @46010 has 36 MA's), (39, 45986), (Start: 43 @45944 has 2 MA's), (50, 45884), (53, 45869), (56, 45842), (59, 45815),

Gene: Psycho\_47 Start: 36886, Stop: 37104, Start Num: 37

Candidate Starts for Psycho\_47:

(30, 36856), (Start: 37 @36886 has 3 MA's), (45, 36976), (49, 36994), (56, 37042),

Gene: Puissant\_56 Start: 44115, Stop: 44297, Start Num: 41

Candidate Starts for Puissant\_56:

(13, 43890), (14, 43896), (17, 43908), (18, 43935), (24, 44010), (28, 44034), (Start: 32 @44067 has 11 MA's), (Start: 41 @44115 has 3 MA's), (54, 44211),

Gene: Rando14\_49 Start: 35934, Stop: 36101, Start Num: 43

Candidate Starts for Rando14\_49:

(30, 35850), (Start: 43 @35934 has 2 MA's), (44, 35949), (49, 35988), (56, 36036),

Gene: RazorC\_90 Start: 62289, Stop: 62489, Start Num: 34

Candidate Starts for RazorC\_90:

(Start: 34 @62289 has 27 MA's), (36, 62295), (Start: 43 @62352 has 2 MA's), (49, 62403), (57, 62463),

Gene: RedRaider\_69 Start: 51797, Stop: 51570, Start Num: 33

Candidate Starts for RedRaider\_69:

(23, 51854), (26, 51836), (Start: 33 @51797 has 36 MA's), (52, 51659),

Gene: Rumi\_90 Start: 61951, Stop: 62151, Start Num: 34

Candidate Starts for Rumi\_90:

(Start: 34 @61951 has 27 MA's), (36, 61957), (Start: 43 @62014 has 2 MA's), (49, 62065), (57, 62125),

Gene: Sadboi\_91 Start: 64051, Stop: 64251, Start Num: 34

Candidate Starts for Sadboi\_91:

(Start: 34 @64051 has 27 MA's), (49, 64165), (57, 64225),

Gene: Sampudon\_93 Start: 65111, Stop: 65311, Start Num: 34

Candidate Starts for Sampudon\_93:

(Start: 34 @65111 has 27 MA's), (49, 65225), (57, 65285),

Gene: Scuba\_72 Start: 49108, Stop: 48863, Start Num: 29

Candidate Starts for Scuba\_72:

(1, 49777), (29, 49108), (Start: 33 @49084 has 36 MA's), (46, 48979), (49, 48961), (56, 48916),

Gene: Skysand\_64 Start: 49975, Stop: 49748, Start Num: 33

Candidate Starts for Skysand\_64:

(25, 50023), (26, 50014), (Start: 33 @49975 has 36 MA's), (Start: 40 @49939 has 1 MA's), (52, 49837), (55, 49807),

Gene: StarStruck\_63 Start: 49539, Stop: 49309, Start Num: 33

Candidate Starts for StarStruck\_63:

(Start: 33 @49539 has 36 MA's), (Start: 40 @49503 has 1 MA's), (51, 49407), (53, 49398), (56, 49371),

Gene: Stormer\_92 Start: 62063, Stop: 62263, Start Num: 34

Candidate Starts for Stormer\_92:

(Start: 34 @62063 has 27 MA's), (36, 62069), (49, 62177), (57, 62237),

Gene: Sukkupi\_63 Start: 47971, Stop: 47741, Start Num: 31

Candidate Starts for Sukkupi\_63:

(Start: 31 @47971 has 8 MA's), (Start: 43 @47905 has 2 MA's), (56, 47815),

Gene: SuperSulley\_64 Start: 49827, Stop: 49606, Start Num: 33

Candidate Starts for SuperSulley\_64:

(Start: 33 @49827 has 36 MA's), (Start: 40 @49791 has 1 MA's), (51, 49695), (53, 49686), (56, 49659),

Gene: Thumb\_57 Start: 44402, Stop: 44632, Start Num: 32

Candidate Starts for Thumb\_57:

(6, 44090), (7, 44099), (9, 44147), (14, 44231), (17, 44243), (18, 44270), (24, 44345), (28, 44369),

(Start: 32 @44402 has 11 MA's), (35, 44411), (Start: 41 @44450 has 3 MA's), (47, 44516),

Gene: Tillicus\_88 Start: 63638, Stop: 63838, Start Num: 34

Candidate Starts for Tillicus\_88:

(12, 63437), (Start: 34 @63638 has 27 MA's), (Start: 43 @63701 has 2 MA's), (46, 63740), (49, 63752),

(57, 63812), (61, 63827),

Gene: TingHuaYa\_55 Start: 38208, Stop: 38429, Start Num: 32

Candidate Starts for TingHuaYa\_55:

(Start: 32 @38208 has 11 MA's), (Start: 34 @38214 has 27 MA's), (56, 38376),

Gene: Tracker\_62 Start: 48549, Stop: 48319, Start Num: 33

Candidate Starts for Tracker\_62:

(Start: 33 @48549 has 36 MA's), (Start: 40 @48513 has 1 MA's), (56, 48381),

Gene: Turuncu\_65 Start: 49569, Stop: 49345, Start Num: 33

Candidate Starts for Turuncu\_65:

(3, 50088), (29, 49593), (Start: 33 @49569 has 36 MA's), (53, 49425), (56, 49398),

Gene: Wheezy\_62 Start: 48757, Stop: 48527, Start Num: 33

Candidate Starts for Wheezy\_62:

(Start: 33 @48757 has 36 MA's), (Start: 40 @48721 has 1 MA's), (56, 48589),

Gene: WhoseManz\_62 Start: 45753, Stop: 45523, Start Num: 31

Candidate Starts for WhoseManz\_62:

(Start: 31 @45753 has 8 MA's), (Start: 43 @45687 has 2 MA's), (56, 45597),

Gene: Wojtek\_83 Start: 64184, Stop: 64384, Start Num: 34

Candidate Starts for Wojtek\_83:

(21, 64097), (Start: 34 @64184 has 27 MA's), (42, 64244), (Start: 43 @64247 has 2 MA's), (45, 64283),

(46, 64286), (49, 64298), (57, 64358), (61, 64373),

Gene: Yikes\_92 Start: 64716, Stop: 64916, Start Num: 34

Candidate Starts for Yikes\_92:

(Start: 34 @64716 has 27 MA's), (49, 64830), (57, 64890),

Gene: Yndexa\_63 Start: 47971, Stop: 47741, Start Num: 31

Candidate Starts for Yndexa\_63:

(Start: 31 @47971 has 8 MA's), (Start: 43 @47905 has 2 MA's), (56, 47815),

Gene: Yunkel11\_56 Start: 38701, Stop: 38919, Start Num: 32

Candidate Starts for Yunkel11\_56:

(16, 38539), (19, 38590), (20, 38599), (26, 38659), (Start: 32 @38701 has 11 MA's), (Start: 34 @38707 has 27 MA's), (Start: 43 @38767 has 2 MA's), (56, 38869),

Gene: Zany\_90 Start: 64855, Stop: 65055, Start Num: 34

Candidate Starts for Zany\_90:

(Start: 34 @64855 has 27 MA's), (49, 64969), (57, 65029),