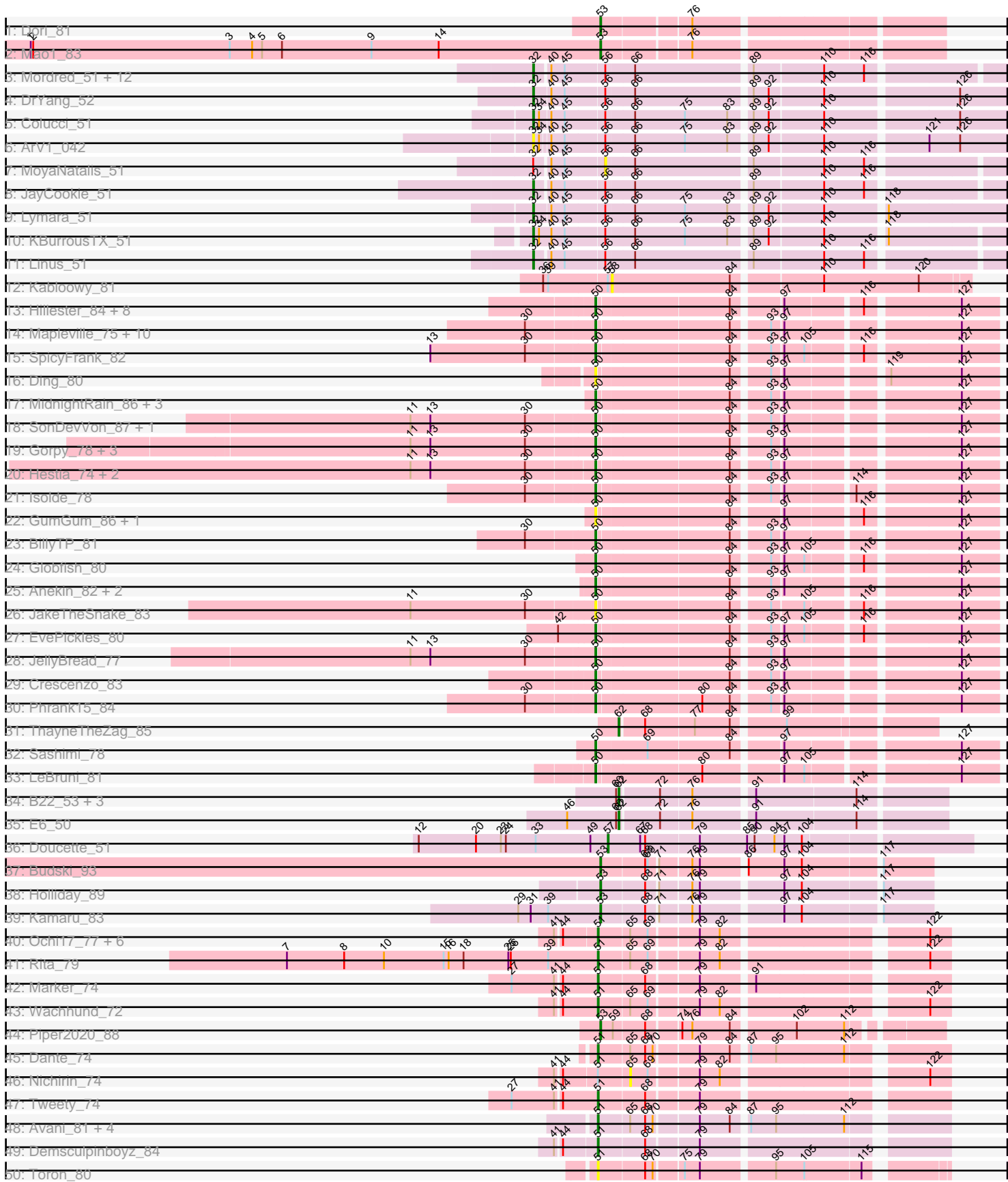
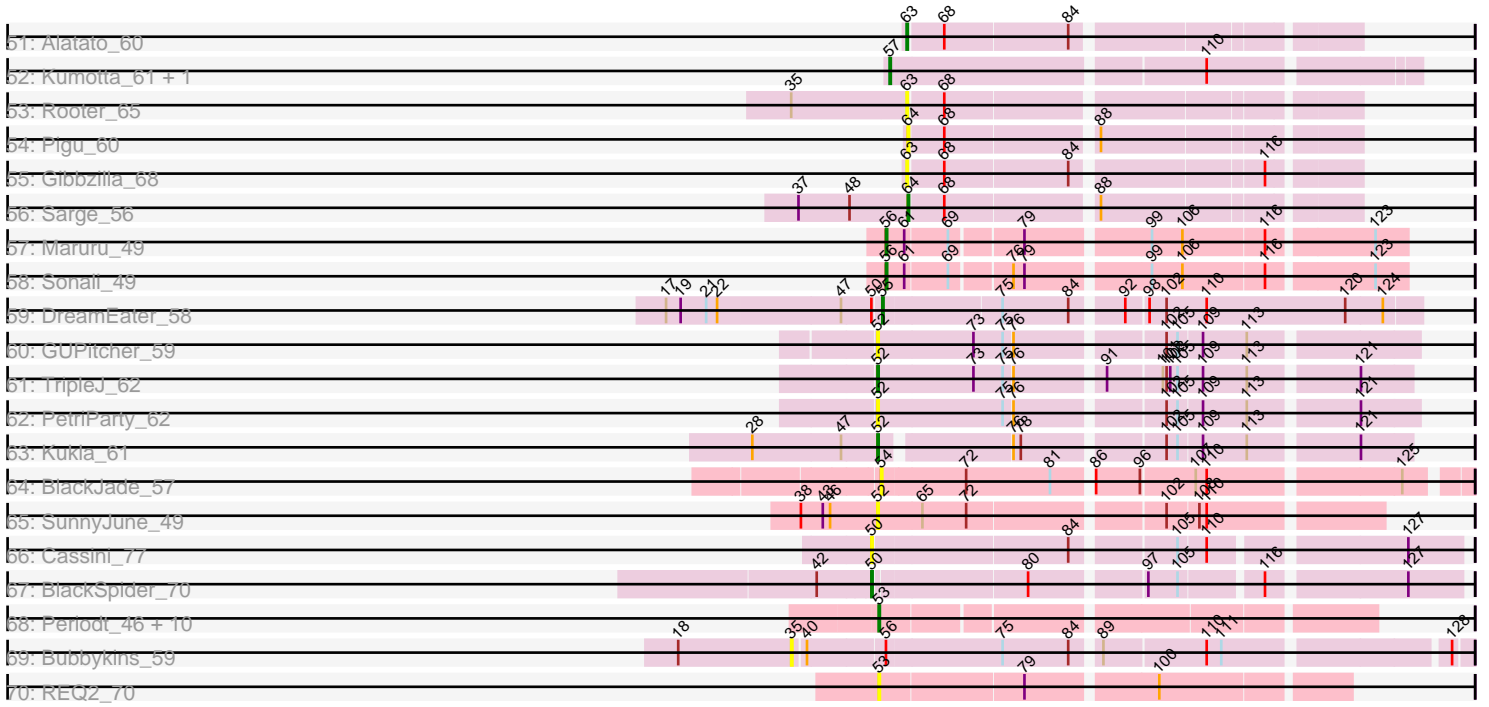


Pham 308245



Pham 308245



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 308245 Report

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

Pham number 308245 has 136 members, 32 are drafts.

Phages represented in each track:

- Track 1 : Dori\_81
- Track 2 : Mao1\_83
- Track 3 : Mordred\_51, RosiePosie\_51, Conboy\_51, Chipper1996\_510, JaNo\_51, PrincessTrina\_51, Tophat\_51, EdgarPoe\_51, Kabreeze\_51, Scavito\_51, Chubster\_51, Chocolat\_51, HumptyDumpty\_51
- Track 4 : DrYang\_52
- Track 5 : Colucci\_51
- Track 6 : ArV1\_042
- Track 7 : MoyaNatalis\_51
- Track 8 : JayCookie\_51
- Track 9 : Lymara\_51
- Track 10 : KBurrousTX\_51
- Track 11 : Linus\_51
- Track 12 : Kabloowy\_81
- Track 13 : Hillester\_84, DarwinJr\_84, Satrap\_80, BenchScraper\_80, RadFad\_85, BasketStar\_80, Seahorse\_88, Bhageatrice\_84, Auxilium\_78
- Track 14 : Mapleville\_75, YoungHarleezy\_80, MaterMagnus\_80, BlueShadow\_78, MUWow\_83, Raqqa\_78, Raphaella\_81, CookieBear\_79, Lawnathon\_82, Aikyam\_79, Windest\_84
- Track 15 : SpicyFrank\_82
- Track 16 : Ding\_80
- Track 17 : MidnightRain\_86, CosmicBrownie\_78, AdaS\_76, Lasker\_81
- Track 18 : SonDevVon\_87, Richie\_83
- Track 19 : Gorpy\_78, Sakai\_77, NewKitty\_82, Sporco\_82
- Track 20 : Hestia\_74, Faja\_83, Vopal\_82
- Track 21 : Isolde\_78
- Track 22 : GumGum\_86, MurphyJoseph\_77
- Track 23 : BillyTP\_81
- Track 24 : Globfish\_80
- Track 25 : Anekin\_82, Tiff81\_76, Nyilah\_84
- Track 26 : JakeTheSnake\_83
- Track 27 : EvePickles\_80
- Track 28 : JellyBread\_77
- Track 29 : Crescenzo\_83
- Track 30 : Phrank15\_84
- Track 31 : ThayneTheZag\_85
- Track 32 : Sashimi\_78

- Track 33 : LeBruni\_81
- Track 34 : B22\_53, Anatole\_45, E1\_45, B3\_47
- Track 35 : E6\_50
- Track 36 : Doucette\_51
- Track 37 : Budski\_93
- Track 38 : Holliday\_89
- Track 39 : Kamaru\_83
- Track 40 : Ochi17\_77, Llama\_78, AlpineSix\_78, Jinglebell\_78, OfUltron\_79, Sebastian\_79, Modragons\_76
- Track 41 : Rita\_79
- Track 42 : Marker\_74
- Track 43 : Wachhund\_72
- Track 44 : Piper2020\_88
- Track 45 : Dante\_74
- Track 46 : Nichirin\_74
- Track 47 : Tweety\_74
- Track 48 : Avani\_81, Ardmore\_60, Chuckly\_71, Jant\_75, ThetaBob\_78
- Track 49 : Demsculpinboyz\_84
- Track 50 : Toron\_80
- Track 51 : Alatato\_60
- Track 52 : Kumotta\_61, MargaretKali\_57
- Track 53 : Rooter\_65
- Track 54 : Pigu\_60
- Track 55 : Gibbzilla\_68
- Track 56 : Sarge\_56
- Track 57 : Maruru\_49
- Track 58 : Sonali\_49
- Track 59 : DreamEater\_58
- Track 60 : GUPitcher\_59
- Track 61 : TripleJ\_62
- Track 62 : PetriParty\_62
- Track 63 : Kukla\_61
- Track 64 : BlackJade\_57
- Track 65 : SunnyJune\_49
- Track 66 : Cassini\_77
- Track 67 : BlackSpider\_70
- Track 68 : Periodt\_46, Barkley26\_46, Terror\_45, Sneeze\_47, Liefie\_45, Rattrick\_46, Grizzly\_46, DNAIII\_0044, Jolene\_46, Taheera\_45, Rabbs\_48
- Track 69 : Bubbykins\_59
- Track 70 : REQ2\_70

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

The start number called the most often in the published annotations is 50, it was called in 37 of the 104 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AdaS\_76, Aikyam\_79, Anekin\_82, Auxilium\_78, BasketStar\_80, BenchScraper\_80, Bhageatrice\_84, BillyTP\_81, BlackSpider\_70, BlueShadow\_78, Cassini\_77, CookieBear\_79, CosmicBrownie\_78, Crescenzo\_83, DarwinJr\_84, Ding\_80,

EvePickles\_80, Faja\_83, Globfish\_80, Gorpy\_78, GumGum\_86, Hestia\_74, Hillester\_84, Isolde\_78, JakeTheSnake\_83, JellyBread\_77, Lasker\_81, Lawnathon\_82, LeBruni\_81, MUWow\_83, Mapleville\_75, MaterMagnus\_80, MidnightRain\_86, MurphyJoseph\_77, NewKitty\_82, Nyilah\_84, Phrank15\_84, RadFad\_85, Raphaella\_81, Raqqa\_78, Richie\_83, Sakai\_77, Sashimi\_78, Satrap\_80, Seahorse\_88, SonDevVon\_87, SpicyFrank\_82, Sporco\_82, Tiff81\_76, Vopal\_82, Windest\_84, YoungHarleezy\_80,

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

- DreamEater\_58,

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

- Alatato\_60, AlpineSix\_78, Anatole\_45, ArV1\_042, Ardmore\_60, Avani\_81, B22\_53, B3\_47, Barkley26\_46, BlackJade\_57, Bubbykins\_59, Budski\_93, Chipper1996\_510, Chocolat\_51, Chubster\_51, Chuckly\_71, Colucci\_51, Conboy\_51, DNAIII\_0044, Dante\_74, Demsculpinboyz\_84, Dori\_81, Doucette\_51, DrYang\_52, E1\_45, E6\_50, EdgarPoe\_51, GUPitcher\_59, Gibbzilla\_68, Grizzly\_46, Holliday\_89, HumptyDumpty\_51, JaNo\_51, Jant\_75, JayCookie\_51, Jinglebell\_78, Jolene\_46, KBurrousTX\_51, Kabloowy\_81, Kabreeze\_51, Kamaru\_83, Kukla\_61, Kumotta\_61, Liefie\_45, Linus\_51, Llama\_78, Lymara\_51, Mao1\_83, MargaretKali\_57, Marker\_74, Maruru\_49, Modragons\_76, Mordred\_51, MoyaNatalis\_51, Nichirin\_74, Ochi17\_77, OfUltron\_79, Periodt\_46, PetriParty\_62, Pigu\_60, Piper2020\_88, PrincessTrina\_51, REQ2\_70, Rabbs\_48, Rattrick\_46, Rita\_79, Rooter\_65, RosiePosie\_51, Sarge\_56, Scavito\_51, Seabastian\_79, Sneeze\_47, Sonali\_49, SunnyJune\_49, Taheera\_45, Terror\_45, ThayneTheZag\_85, ThetaBob\_78, Tophat\_51, Toron\_80, TripleJ\_62, Tweety\_74, Wachhund\_72,

### Summary by start number:

Start 32:

- Found in 21 of 136 ( 15.4% ) of genes in pham
- Manual Annotations of this start: 19 of 104
- Called 95.2% of time when present
- Phage (with cluster) where this start called: ArV1\_042 (AR), Chipper1996\_510 (AR), Chocolat\_51 (AR), Chubster\_51 (AR), Colucci\_51 (AR), Conboy\_51 (AR), DrYang\_52 (AR), EdgarPoe\_51 (AR), HumptyDumpty\_51 (AR), JaNo\_51 (AR), JayCookie\_51 (AR), KBurrousTX\_51 (AR), Kabreeze\_51 (AR), Linus\_51 (AR), Lymara\_51 (AR), Mordred\_51 (AR), PrincessTrina\_51 (AR), RosiePosie\_51 (AR), Scavito\_51 (AR), Tophat\_51 (AR),

Start 35:

- Found in 2 of 136 ( 1.5% ) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Bubbykins\_59 (UNK),

Start 50:

- Found in 53 of 136 ( 39.0% ) of genes in pham
- Manual Annotations of this start: 37 of 104
- Called 98.1% of time when present
- Phage (with cluster) where this start called: AdaS\_76 (AY), Aikyam\_79 (AY), Anekin\_82 (AY), Auxilium\_78 (AY), BasketStar\_80 (AY), BenchScraper\_80 (AY), Bhageatrice\_84 (AY), BillyTP\_81 (AY), BlackSpider\_70 (FN), BlueShadow\_78 (AY),

Cassini\_77 (FN), CookieBear\_79 (AY), CosmicBrownie\_78 (AY), Crescenzo\_83 (AY), DarwinJr\_84 (AY), Ding\_80 (AY), EvePickles\_80 (AY), Faja\_83 (AY), Globfish\_80 (AY), Gorpy\_78 (AY), GumGum\_86 (AY), Hestia\_74 (AY), Hillester\_84 (AY), Isolde\_78 (AY), JakeTheSnake\_83 (AY), JellyBread\_77 (AY), Lasker\_81 (AY), Lawnathon\_82 (AY), LeBruni\_81 (AY), MUWow\_83 (AY), Mapleville\_75 (AY), MaterMagnus\_80 (AY), MidnightRain\_86 (AY), MurphyJoseph\_77 (AY), NewKitty\_82 (AY), Nyilah\_84 (AY), Phrank15\_84 (AY), RadFad\_85 (AY), Raphaella\_81 (AY), Raqqa\_78 (AY), Richie\_83 (AY), Sakai\_77 (AY), Sashimi\_78 (AY), Satrap\_80 (AY), Seahorse\_88 (AY), SonDevVon\_87 (AY), SpicyFrank\_82 (AY), Sporco\_82 (AY), Tiff81\_76 (AY), Vopal\_82 (AY), Windest\_84 (AY), YoungHarleezy\_80 (AY),

#### Start 51:

- Found in 20 of 136 ( 14.7% ) of genes in pham
- Manual Annotations of this start: 16 of 104
- Called 95.0% of time when present
- Phage (with cluster) where this start called: AlpineSix\_78 (F1), Ardmore\_60 (F1), Avani\_81 (F2), Chuckly\_71 (F1), Dante\_74 (F1), Demsculpinboyz\_84 (F2), Jant\_75 (F1), Jinglebell\_78 (F1), Llama\_78 (F1), Marker\_74 (F1), Modragons\_76 (F1), Ochi17\_77 (F1), OfUltron\_79 (F1), Rita\_79 (F1), Seabastian\_79 (F1), ThetaBob\_78 (F4), Toron\_80 (F6), Tweety\_74 (F1), Wachhund\_72 (F1),

#### Start 52:

- Found in 5 of 136 ( 3.7% ) of genes in pham
- Manual Annotations of this start: 2 of 104
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GUPitcher\_59 (FJ), Kukla\_61 (FJ), PetriParty\_62 (FJ), SunnyJune\_49 (FL), TripleJ\_62 (FJ),

#### Start 53:

- Found in 18 of 136 ( 13.2% ) of genes in pham
- Manual Annotations of this start: 16 of 104
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Barkley26\_46 (G1), Budski\_93 (DN), DNAll\_0044 (G1), Dori\_81 (AD), Grizzly\_46 (G1), Holliday\_89 (DN1), Jolene\_46 (G1), Kamaru\_83 (DN1), Liefie\_45 (G1), Mao1\_83 (AD), Periodt\_46 (G1), Piper2020\_88 (F1), REQ2\_70 (singleton), Rabbs\_48 (G1), Rattrick\_46 (G1), Sneeze\_47 (G1), Taheera\_45 (G1), Terror\_45 (G1),

#### Start 54:

- Found in 1 of 136 ( 0.7% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BlackJade\_57 (FL),

#### Start 55:

- Found in 1 of 136 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 1 of 104
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DreamEater\_58 (FJ),

#### Start 56:

- Found in 24 of 136 ( 17.6% ) of genes in pham
- Manual Annotations of this start: 2 of 104

- Called 12.5% of time when present
- Phage (with cluster) where this start called: Maruru\_49 (FG), MoyaNatalis\_51 (AR), Sonali\_49 (FG),

Start 57:

- Found in 4 of 136 ( 2.9% ) of genes in pham
- Manual Annotations of this start: 3 of 104
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Doucette\_51 (BW), Kumotta\_61 (FB), MargaretKali\_57 (FB),

Start 58:

- Found in 1 of 136 ( 0.7% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kabloowy\_81 (AY),

Start 62:

- Found in 6 of 136 ( 4.4% ) of genes in pham
- Manual Annotations of this start: 6 of 104
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Anatole\_45 (BV), B22\_53 (BW), B3\_47 (BV), E1\_45 (BV), E6\_50 (BW), ThayneTheZag\_85 (AY),

Start 63:

- Found in 3 of 136 ( 2.2% ) of genes in pham
- Manual Annotations of this start: 1 of 104
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Alatato\_60 (FB), Gibbzilla\_68 (FB), Rooter\_65 (FB),

Start 64:

- Found in 2 of 136 ( 1.5% ) of genes in pham
- Manual Annotations of this start: 1 of 104
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Pigu\_60 (FB), Sarge\_56 (FB),

Start 65:

- Found in 17 of 136 ( 12.5% ) of genes in pham
- No Manual Annotations of this start.
- Called 5.9% of time when present
- Phage (with cluster) where this start called: Nichirin\_74 (F1),

### **Summary by clusters:**

There are 19 clusters represented in this pham: DN, F1, F2, F4, AD, G1, F6, BV, singleton, BW, FB, AR, DN1, FG, AY, FJ, UNK, FL, FN,

Info for manual annotations of cluster AD:

- Start number 53 was manually annotated 2 times for cluster AD.

Info for manual annotations of cluster AR:

- Start number 32 was manually annotated 19 times for cluster AR.

Info for manual annotations of cluster AY:

- Start number 50 was manually annotated 36 times for cluster AY.
- Start number 62 was manually annotated 1 time for cluster AY.

Info for manual annotations of cluster BV:

- Start number 62 was manually annotated 3 times for cluster BV.

Info for manual annotations of cluster BW:

- Start number 57 was manually annotated 1 time for cluster BW.
- Start number 62 was manually annotated 2 times for cluster BW.

Info for manual annotations of cluster DN:

- Start number 53 was manually annotated 1 time for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 53 was manually annotated 2 times for cluster DN1.

Info for manual annotations of cluster F1:

- Start number 51 was manually annotated 13 times for cluster F1.
- Start number 53 was manually annotated 1 time for cluster F1.

Info for manual annotations of cluster F2:

- Start number 51 was manually annotated 2 times for cluster F2.

Info for manual annotations of cluster F4:

- Start number 51 was manually annotated 1 time for cluster F4.

Info for manual annotations of cluster FB:

- Start number 57 was manually annotated 2 times for cluster FB.
- Start number 63 was manually annotated 1 time for cluster FB.
- Start number 64 was manually annotated 1 time for cluster FB.

Info for manual annotations of cluster FG:

- Start number 56 was manually annotated 2 times for cluster FG.

Info for manual annotations of cluster FJ:

- Start number 52 was manually annotated 2 times for cluster FJ.
- Start number 55 was manually annotated 1 time for cluster FJ.

Info for manual annotations of cluster FN:

- Start number 50 was manually annotated 1 time for cluster FN.

Info for manual annotations of cluster G1:

- Start number 53 was manually annotated 10 times for cluster G1.

***Gene Information:***

Gene: AdaS\_76 Start: 43281, Stop: 43715, Start Num: 50  
Candidate Starts for AdaS\_76:  
(Start: 50 @43281 has 37 MA's), (84, 43431), (93, 43470), (97, 43482), (127, 43671),

Gene: Aikyam\_79 Start: 43854, Stop: 44288, Start Num: 50  
Candidate Starts for Aikyam\_79:  
(30, 43776), (Start: 50 @43854 has 37 MA's), (84, 44004), (93, 44043), (97, 44055), (127, 44244),

Gene: Alatato\_60 Start: 34727, Stop: 35062, Start Num: 63  
Candidate Starts for Alatato\_60:  
(Start: 63 @34727 has 1 MA's), (68, 34754), (84, 34853),

Gene: AlpineSix\_78 Start: 47298, Stop: 47669, Start Num: 51  
Candidate Starts for AlpineSix\_78:  
(41, 47253), (44, 47259), (Start: 51 @47298 has 16 MA's), (65, 47334), (69, 47355), (79, 47409), (82, 47433), (122, 47646),

Gene: Anatole\_45 Start: 30233, Stop: 30598, Start Num: 62  
Candidate Starts for Anatole\_45:  
(60, 30230), (Start: 62 @30233 has 6 MA's), (72, 30278), (76, 30314), (91, 30380), (114, 30497),

Gene: Anekin\_82 Start: 46598, Stop: 47032, Start Num: 50  
Candidate Starts for Anekin\_82:  
(Start: 50 @46598 has 37 MA's), (84, 46748), (93, 46787), (97, 46799), (127, 46988),

Gene: ArV1\_042 Start: 37634, Stop: 38161, Start Num: 32  
Candidate Starts for ArV1\_042:  
(Start: 32 @37634 has 19 MA's), (34, 37640), (40, 37649), (45, 37664), (Start: 56 @37709 has 2 MA's), (66, 37742), (75, 37802), (83, 37853), (89, 37874), (92, 37892), (110, 37955), (121, 38069), (126, 38105),

Gene: Ardmore\_60 Start: 41615, Stop: 41989, Start Num: 51  
Candidate Starts for Ardmore\_60:  
(Start: 51 @41615 has 16 MA's), (65, 41651), (68, 41669), (70, 41678), (79, 41726), (84, 41762), (87, 41777), (95, 41807), (112, 41885),

Gene: Auxilium\_78 Start: 43540, Stop: 43974, Start Num: 50  
Candidate Starts for Auxilium\_78:  
(Start: 50 @43540 has 37 MA's), (84, 43690), (97, 43741), (116, 43825), (127, 43930),

Gene: Avani\_81 Start: 44848, Stop: 45222, Start Num: 51  
Candidate Starts for Avani\_81:  
(Start: 51 @44848 has 16 MA's), (65, 44884), (68, 44902), (70, 44911), (79, 44959), (84, 44995), (87, 45010), (95, 45040), (112, 45118),

Gene: B22\_53 Start: 33661, Stop: 34026, Start Num: 62  
Candidate Starts for B22\_53:  
(60, 33658), (Start: 62 @33661 has 6 MA's), (72, 33706), (76, 33742), (91, 33808), (114, 33925),

Gene: B3\_47 Start: 30896, Stop: 31261, Start Num: 62  
Candidate Starts for B3\_47:  
(60, 30893), (Start: 62 @30896 has 6 MA's), (72, 30941), (76, 30977), (91, 31043), (114, 31160),

Gene: Barkley26\_46 Start: 35142, Stop: 35513, Start Num: 53

Candidate Starts for Barkley26\_46:

(Start: 53 @35142 has 16 MA's),

Gene: BasketStar\_80 Start: 46212, Stop: 46646, Start Num: 50

Candidate Starts for BasketStar\_80:

(Start: 50 @46212 has 37 MA's), (84, 46362), (97, 46413), (116, 46497), (127, 46602),

Gene: BenchScraper\_80 Start: 44453, Stop: 44887, Start Num: 50

Candidate Starts for BenchScraper\_80:

(Start: 50 @44453 has 37 MA's), (84, 44603), (97, 44654), (116, 44738), (127, 44843),

Gene: Bhageatrice\_84 Start: 48381, Stop: 48815, Start Num: 50

Candidate Starts for Bhageatrice\_84:

(Start: 50 @48381 has 37 MA's), (84, 48531), (97, 48582), (116, 48666), (127, 48771),

Gene: BillyTP\_81 Start: 46444, Stop: 46878, Start Num: 50

Candidate Starts for BillyTP\_81:

(30, 46366), (Start: 50 @46444 has 37 MA's), (84, 46594), (93, 46633), (97, 46645), (127, 46834),

Gene: BlackJade\_57 Start: 36087, Stop: 36527, Start Num: 54

Candidate Starts for BlackJade\_57:

(54, 36087), (72, 36153), (81, 36222), (86, 36249), (96, 36285), (107, 36327), (110, 36336), (125, 36483),

Gene: BlackSpider\_70 Start: 43372, Stop: 43806, Start Num: 50

Candidate Starts for BlackSpider\_70:

(42, 43330), (Start: 50 @43372 has 37 MA's), (80, 43489), (97, 43573), (105, 43597), (116, 43657), (127, 43762),

Gene: BlueShadow\_78 Start: 45699, Stop: 46133, Start Num: 50

Candidate Starts for BlueShadow\_78:

(30, 45621), (Start: 50 @45699 has 37 MA's), (84, 45849), (93, 45888), (97, 45900), (127, 46089),

Gene: Bubbykins\_59 Start: 44007, Stop: 44516, Start Num: 35

Candidate Starts for Bubbykins\_59:

(18, 43914), (35, 44007), (40, 44016), (Start: 56 @44076 has 2 MA's), (75, 44169), (84, 44223), (89, 44241), (110, 44322), (111, 44334), (128, 44502),

Gene: Budski\_93 Start: 50931, Stop: 51293, Start Num: 53

Candidate Starts for Budski\_93:

(Start: 53 @50931 has 16 MA's), (68, 50982), (69, 50985), (71, 50994), (76, 51030), (79, 51039), (86, 51087), (97, 51129), (104, 51150), (117, 51234),

Gene: Cassini\_77 Start: 45232, Stop: 45669, Start Num: 50

Candidate Starts for Cassini\_77:

(Start: 50 @45232 has 37 MA's), (84, 45385), (105, 45460), (110, 45481), (127, 45625),

Gene: Chipper1996\_510 Start: 39219, Stop: 39737, Start Num: 32

Candidate Starts for Chipper1996\_510:

(Start: 32 @39219 has 19 MA's), (40, 39234), (45, 39249), (Start: 56 @39294 has 2 MA's), (66, 39327), (89, 39459), (110, 39540), (116, 39588),

Gene: Chocolat\_51 Start: 39199, Stop: 39717, Start Num: 32

Candidate Starts for Chocolat\_51:

(Start: 32 @39199 has 19 MA's), (40, 39214), (45, 39229), (Start: 56 @39274 has 2 MA's), (66, 39307), (89, 39439), (110, 39520), (116, 39568),

Gene: Chubster\_51 Start: 39119, Stop: 39637, Start Num: 32

Candidate Starts for Chubster\_51:

(Start: 32 @39119 has 19 MA's), (40, 39134), (45, 39149), (Start: 56 @39194 has 2 MA's), (66, 39227), (89, 39359), (110, 39440), (116, 39488),

Gene: Chuckly\_71 Start: 44186, Stop: 44560, Start Num: 51

Candidate Starts for Chuckly\_71:

(Start: 51 @44186 has 16 MA's), (65, 44222), (68, 44240), (70, 44249), (79, 44297), (84, 44333), (87, 44348), (95, 44378), (112, 44456),

Gene: Colucci\_51 Start: 38917, Stop: 39447, Start Num: 32

Candidate Starts for Colucci\_51:

(Start: 32 @38917 has 19 MA's), (34, 38923), (40, 38935), (45, 38950), (Start: 56 @38995 has 2 MA's), (66, 39028), (75, 39088), (83, 39139), (89, 39160), (92, 39178), (110, 39241), (126, 39391),

Gene: Conboy\_51 Start: 39347, Stop: 39865, Start Num: 32

Candidate Starts for Conboy\_51:

(Start: 32 @39347 has 19 MA's), (40, 39362), (45, 39377), (Start: 56 @39422 has 2 MA's), (66, 39455), (89, 39587), (110, 39668), (116, 39716),

Gene: CookieBear\_79 Start: 44928, Stop: 45362, Start Num: 50

Candidate Starts for CookieBear\_79:

(30, 44850), (Start: 50 @44928 has 37 MA's), (84, 45078), (93, 45117), (97, 45129), (127, 45318),

Gene: CosmicBrownie\_78 Start: 44683, Stop: 45117, Start Num: 50

Candidate Starts for CosmicBrownie\_78:

(Start: 50 @44683 has 37 MA's), (84, 44833), (93, 44872), (97, 44884), (127, 45073),

Gene: Crescenzo\_83 Start: 47866, Stop: 48300, Start Num: 50

Candidate Starts for Crescenzo\_83:

(Start: 50 @47866 has 37 MA's), (84, 48016), (93, 48055), (97, 48067), (127, 48256),

Gene: DNAIII\_0044 Start: 33784, Stop: 34155, Start Num: 53

Candidate Starts for DNAIII\_0044:

(Start: 53 @33784 has 16 MA's),

Gene: Dante\_74 Start: 48875, Stop: 49249, Start Num: 51

Candidate Starts for Dante\_74:

(Start: 51 @48875 has 16 MA's), (65, 48911), (68, 48929), (70, 48938), (79, 48986), (84, 49022), (87, 49037), (95, 49067), (112, 49145),

Gene: DarwinJr\_84 Start: 47821, Stop: 48255, Start Num: 50

Candidate Starts for DarwinJr\_84:

(Start: 50 @47821 has 37 MA's), (84, 47971), (97, 48022), (116, 48106), (127, 48211),

Gene: Demsculpinboyz\_84 Start: 44357, Stop: 44731, Start Num: 51

Candidate Starts for Demsculpinboyz\_84:

(41, 44312), (44, 44318), (Start: 51 @44357 has 16 MA's), (68, 44411), (79, 44468),

Gene: Ding\_80 Start: 45228, Stop: 45662, Start Num: 50

Candidate Starts for Ding\_80:

(Start: 50 @45228 has 37 MA's), (84, 45378), (93, 45417), (97, 45429), (119, 45534), (127, 45618),

Gene: Dori\_81 Start: 57732, Stop: 58109, Start Num: 53

Candidate Starts for Dori\_81:

(Start: 53 @57732 has 16 MA's), (76, 57831),

Gene: Doucette\_51 Start: 33311, Stop: 33733, Start Num: 57

Candidate Starts for Doucette\_51:

(12, 33083), (20, 33152), (23, 33182), (24, 33188), (33, 33224), (49, 33290), (Start: 57 @33311 has 3 MA's), (67, 33350), (68, 33356), (79, 33419), (85, 33476), (90, 33485), (94, 33509), (97, 33521), (104, 33542),

Gene: DrYang\_52 Start: 41254, Stop: 41784, Start Num: 32

Candidate Starts for DrYang\_52:

(Start: 32 @41254 has 19 MA's), (40, 41272), (45, 41287), (Start: 56 @41332 has 2 MA's), (66, 41365), (89, 41497), (92, 41515), (110, 41578), (126, 41728),

Gene: DreamEater\_58 Start: 37911, Stop: 38327, Start Num: 55

Candidate Starts for DreamEater\_58:

(17, 37740), (19, 37752), (21, 37773), (22, 37782), (47, 37881), (Start: 50 @37905 has 37 MA's), (Start: 55 @37911 has 1 MA's), (75, 38004), (84, 38058), (92, 38094), (98, 38109), (102, 38121), (110, 38154), (120, 38268), (124, 38298),

Gene: E1\_45 Start: 30233, Stop: 30598, Start Num: 62

Candidate Starts for E1\_45:

(60, 30230), (Start: 62 @30233 has 6 MA's), (72, 30278), (76, 30314), (91, 30380), (114, 30497),

Gene: E6\_50 Start: 33161, Stop: 33526, Start Num: 62

Candidate Starts for E6\_50:

(46, 33101), (60, 33158), (Start: 62 @33161 has 6 MA's), (72, 33206), (76, 33242), (91, 33308), (114, 33425),

Gene: EdgarPoe\_51 Start: 39347, Stop: 39865, Start Num: 32

Candidate Starts for EdgarPoe\_51:

(Start: 32 @39347 has 19 MA's), (40, 39362), (45, 39377), (Start: 56 @39422 has 2 MA's), (66, 39455), (89, 39587), (110, 39668), (116, 39716),

Gene: EvePickles\_80 Start: 46710, Stop: 47144, Start Num: 50

Candidate Starts for EvePickles\_80:

(42, 46668), (Start: 50 @46710 has 37 MA's), (84, 46860), (93, 46899), (97, 46911), (105, 46935), (116, 46995), (127, 47100),

Gene: Faja\_83 Start: 46967, Stop: 47401, Start Num: 50

Candidate Starts for Faja\_83:

(11, 46754), (13, 46778), (30, 46892), (Start: 50 @46967 has 37 MA's), (84, 47117), (93, 47156), (97, 47168), (127, 47357),

Gene: GUPitcher\_59 Start: 38018, Stop: 38428, Start Num: 52

Candidate Starts for GUPitcher\_59:

(Start: 52 @38018 has 2 MA's), (73, 38096), (75, 38120), (76, 38126), (102, 38237), (105, 38246), (109, 38264), (113, 38300),

Gene: Gibbzilla\_68 Start: 35366, Stop: 35701, Start Num: 63

Candidate Starts for Gibbzilla\_68:

(Start: 63 @35366 has 1 MA's), (68, 35393), (84, 35492), (116, 35633),

Gene: Globfish\_80 Start: 44618, Stop: 45055, Start Num: 50

Candidate Starts for Globfish\_80:

(Start: 50 @44618 has 37 MA's), (84, 44771), (93, 44810), (97, 44822), (105, 44846), (116, 44906), (127, 45011),

Gene: Gorpy\_78 Start: 46271, Stop: 46705, Start Num: 50

Candidate Starts for Gorpy\_78:

(11, 46055), (13, 46079), (30, 46193), (Start: 50 @46271 has 37 MA's), (84, 46421), (93, 46460), (97, 46472), (127, 46661),

Gene: Grizzly\_46 Start: 35126, Stop: 35497, Start Num: 53

Candidate Starts for Grizzly\_46:

(Start: 53 @35126 has 16 MA's),

Gene: GumGum\_86 Start: 46484, Stop: 46918, Start Num: 50

Candidate Starts for GumGum\_86:

(Start: 50 @46484 has 37 MA's), (84, 46634), (97, 46685), (116, 46769), (127, 46874),

Gene: Hestia\_74 Start: 43190, Stop: 43624, Start Num: 50

Candidate Starts for Hestia\_74:

(11, 42977), (13, 43001), (30, 43115), (Start: 50 @43190 has 37 MA's), (84, 43340), (93, 43379), (97, 43391), (127, 43580),

Gene: Hillester\_84 Start: 46339, Stop: 46773, Start Num: 50

Candidate Starts for Hillester\_84:

(Start: 50 @46339 has 37 MA's), (84, 46489), (97, 46540), (116, 46624), (127, 46729),

Gene: Holliday\_89 Start: 51444, Stop: 51806, Start Num: 53

Candidate Starts for Holliday\_89:

(Start: 53 @51444 has 16 MA's), (68, 51495), (71, 51507), (76, 51543), (79, 51552), (97, 51642), (104, 51663), (117, 51747),

Gene: HumptyDumpty\_51 Start: 39217, Stop: 39735, Start Num: 32

Candidate Starts for HumptyDumpty\_51:

(Start: 32 @39217 has 19 MA's), (40, 39232), (45, 39247), (Start: 56 @39292 has 2 MA's), (66, 39325), (89, 39457), (110, 39538), (116, 39586),

Gene: Isolde\_78 Start: 45144, Stop: 45578, Start Num: 50

Candidate Starts for Isolde\_78:

(30, 45066), (Start: 50 @45144 has 37 MA's), (84, 45294), (93, 45333), (97, 45345), (114, 45420), (127, 45534),

Gene: JaNo\_51 Start: 39217, Stop: 39735, Start Num: 32

Candidate Starts for JaNo\_51:

(Start: 32 @39217 has 19 MA's), (40, 39232), (45, 39247), (Start: 56 @39292 has 2 MA's), (66, 39325), (89, 39457), (110, 39538), (116, 39586),

Gene: JakeTheSnake\_83 Start: 48002, Stop: 48436, Start Num: 50

Candidate Starts for JakeTheSnake\_83:

(11, 47786), (30, 47924), (Start: 50 @48002 has 37 MA's), (84, 48152), (93, 48191), (105, 48227), (116, 48287), (127, 48392),

Gene: Jant\_75 Start: 45698, Stop: 46072, Start Num: 51

Candidate Starts for Jant\_75:

(Start: 51 @45698 has 16 MA's), (65, 45734), (68, 45752), (70, 45761), (79, 45809), (84, 45845), (87, 45860), (95, 45890), (112, 45968),

Gene: JayCookie\_51 Start: 39354, Stop: 39872, Start Num: 32

Candidate Starts for JayCookie\_51:

(Start: 32 @39354 has 19 MA's), (40, 39369), (45, 39384), (Start: 56 @39429 has 2 MA's), (66, 39462), (89, 39594), (110, 39675), (116, 39723),

Gene: JellyBread\_77 Start: 45355, Stop: 45789, Start Num: 50

Candidate Starts for JellyBread\_77:

(11, 45139), (13, 45163), (30, 45277), (Start: 50 @45355 has 37 MA's), (84, 45505), (93, 45544), (97, 45556), (127, 45745),

Gene: Jinglebell\_78 Start: 47297, Stop: 47668, Start Num: 51

Candidate Starts for Jinglebell\_78:

(41, 47252), (44, 47258), (Start: 51 @47297 has 16 MA's), (65, 47333), (69, 47354), (79, 47408), (82, 47432), (122, 47645),

Gene: Jolene\_46 Start: 35150, Stop: 35521, Start Num: 53

Candidate Starts for Jolene\_46:

(Start: 53 @35150 has 16 MA's),

Gene: KBurrousTX\_51 Start: 40442, Stop: 40966, Start Num: 32

Candidate Starts for KBurrousTX\_51:

(Start: 32 @40442 has 19 MA's), (34, 40448), (40, 40463), (45, 40478), (Start: 56 @40523 has 2 MA's), (66, 40556), (75, 40616), (83, 40667), (89, 40688), (92, 40706), (110, 40769), (118, 40835),

Gene: Kabloowy\_81 Start: 46747, Stop: 47157, Start Num: 58

Candidate Starts for Kabloowy\_81:

(36, 46672), (39, 46678), (Start: 57 @46744 has 3 MA's), (58, 46747), (84, 46888), (110, 46987), (120, 47101),

Gene: Kabreeze\_51 Start: 39217, Stop: 39735, Start Num: 32

Candidate Starts for Kabreeze\_51:

(Start: 32 @39217 has 19 MA's), (40, 39232), (45, 39247), (Start: 56 @39292 has 2 MA's), (66, 39325), (89, 39457), (110, 39538), (116, 39586),

Gene: Kamaru\_83 Start: 47388, Stop: 47750, Start Num: 53

Candidate Starts for Kamaru\_83:

(29, 47289), (31, 47304), (39, 47325), (Start: 53 @47388 has 16 MA's), (68, 47439), (71, 47451), (76, 47487), (79, 47496), (97, 47586), (104, 47607), (117, 47691),

Gene: Kukla\_61 Start: 37872, Stop: 38264, Start Num: 52

Candidate Starts for Kukla\_61:

(28, 37773), (47, 37845), (Start: 52 @37872 has 2 MA's), (76, 37968), (78, 37974), (102, 38079), (105, 38088), (109, 38106), (113, 38142), (121, 38223),

Gene: Kumotta\_61 Start: 34491, Stop: 34892, Start Num: 57

Candidate Starts for Kumotta\_61:

(Start: 57 @34491 has 3 MA's), (110, 34734),

Gene: Lasker\_81 Start: 46923, Stop: 47357, Start Num: 50

Candidate Starts for Lasker\_81:

(Start: 50 @46923 has 37 MA's), (84, 47073), (93, 47112), (97, 47124), (127, 47313),

Gene: Lawnathon\_82 Start: 45556, Stop: 45990, Start Num: 50

Candidate Starts for Lawnathon\_82:

(30, 45478), (Start: 50 @45556 has 37 MA's), (84, 45706), (93, 45745), (97, 45757), (127, 45946),

Gene: LeBruni\_81 Start: 45351, Stop: 45785, Start Num: 50

Candidate Starts for LeBruni\_81:

(Start: 50 @45351 has 37 MA's), (80, 45468), (97, 45552), (105, 45576), (127, 45741),

Gene: Liefie\_45 Start: 35148, Stop: 35519, Start Num: 53

Candidate Starts for Liefie\_45:

(Start: 53 @35148 has 16 MA's),

Gene: Linus\_51 Start: 39340, Stop: 39858, Start Num: 32

Candidate Starts for Linus\_51:

(Start: 32 @39340 has 19 MA's), (40, 39355), (45, 39370), (Start: 56 @39415 has 2 MA's), (66, 39448), (89, 39580), (110, 39661), (116, 39709),

Gene: Llama\_78 Start: 47152, Stop: 47523, Start Num: 51

Candidate Starts for Llama\_78:

(41, 47107), (44, 47113), (Start: 51 @47152 has 16 MA's), (65, 47188), (69, 47209), (79, 47263), (82, 47287), (122, 47500),

Gene: Lymara\_51 Start: 39161, Stop: 39691, Start Num: 32

Candidate Starts for Lymara\_51:

(Start: 32 @39161 has 19 MA's), (40, 39179), (45, 39194), (Start: 56 @39239 has 2 MA's), (66, 39272), (75, 39332), (83, 39383), (89, 39404), (92, 39422), (110, 39485), (118, 39551),

Gene: MUWow\_83 Start: 47292, Stop: 47726, Start Num: 50

Candidate Starts for MUWow\_83:

(30, 47214), (Start: 50 @47292 has 37 MA's), (84, 47442), (93, 47481), (97, 47493), (127, 47682),

Gene: Mao1\_83 Start: 56621, Stop: 56998, Start Num: 53

Candidate Starts for Mao1\_83:

(1, 55934), (2, 55937), (3, 56174), (4, 56201), (5, 56213), (6, 56237), (9, 56345), (14, 56426), (Start: 53 @56621 has 16 MA's), (76, 56720),

Gene: Mapleville\_75 Start: 44872, Stop: 45306, Start Num: 50

Candidate Starts for Mapleville\_75:

(30, 44794), (Start: 50 @44872 has 37 MA's), (84, 45022), (93, 45061), (97, 45073), (127, 45262),

Gene: MargaretKali\_57 Start: 33109, Stop: 33510, Start Num: 57

Candidate Starts for MargaretKali\_57:

(Start: 57 @33109 has 3 MA's), (110, 33352),

Gene: Marker\_74 Start: 45543, Stop: 45917, Start Num: 51

Candidate Starts for Marker\_74:

(27, 45444), (41, 45495), (44, 45501), (Start: 51 @45543 has 16 MA's), (68, 45597), (79, 45654), (91, 45711),

Gene: Maruru\_49 Start: 38776, Stop: 39165, Start Num: 56

Candidate Starts for Maruru\_49:

(Start: 56 @38776 has 2 MA's), (61, 38791), (69, 38824), (79, 38878), (99, 38971), (106, 38995), (116, 39058), (123, 39139),

Gene: MaterMagnus\_80 Start: 46026, Stop: 46460, Start Num: 50

Candidate Starts for MaterMagnus\_80:

(30, 45948), (Start: 50 @46026 has 37 MA's), (84, 46176), (93, 46215), (97, 46227), (127, 46416),

Gene: MidnightRain\_86 Start: 47232, Stop: 47666, Start Num: 50

Candidate Starts for MidnightRain\_86:

(Start: 50 @47232 has 37 MA's), (84, 47382), (93, 47421), (97, 47433), (127, 47622),

Gene: Modragons\_76 Start: 47141, Stop: 47512, Start Num: 51

Candidate Starts for Modragons\_76:

(41, 47096), (44, 47102), (Start: 51 @47141 has 16 MA's), (65, 47177), (69, 47198), (79, 47252), (82, 47276), (122, 47489),

Gene: Mordred\_51 Start: 39217, Stop: 39735, Start Num: 32

Candidate Starts for Mordred\_51:

(Start: 32 @39217 has 19 MA's), (40, 39232), (45, 39247), (Start: 56 @39292 has 2 MA's), (66, 39325), (89, 39457), (110, 39538), (116, 39586),

Gene: MoyaNatalis\_51 Start: 39273, Stop: 39716, Start Num: 56

Candidate Starts for MoyaNatalis\_51:

(Start: 32 @39198 has 19 MA's), (40, 39213), (45, 39228), (Start: 56 @39273 has 2 MA's), (66, 39306), (89, 39438), (110, 39519), (116, 39567),

Gene: MurphyJoseph\_77 Start: 44408, Stop: 44842, Start Num: 50

Candidate Starts for MurphyJoseph\_77:

(Start: 50 @44408 has 37 MA's), (84, 44558), (97, 44609), (116, 44693), (127, 44798),

Gene: NewKitty\_82 Start: 47134, Stop: 47568, Start Num: 50

Candidate Starts for NewKitty\_82:

(11, 46921), (13, 46945), (30, 47059), (Start: 50 @47134 has 37 MA's), (84, 47284), (93, 47323), (97, 47335), (127, 47524),

Gene: Nichirin\_74 Start: 46551, Stop: 46886, Start Num: 65

Candidate Starts for Nichirin\_74:

(41, 46470), (44, 46476), (Start: 51 @46515 has 16 MA's), (65, 46551), (69, 46572), (79, 46626), (82, 46650), (122, 46863),

Gene: Nyilah\_84 Start: 45704, Stop: 46138, Start Num: 50

Candidate Starts for Nyilah\_84:

(Start: 50 @45704 has 37 MA's), (84, 45854), (93, 45893), (97, 45905), (127, 46094),

Gene: Ochi17\_77 Start: 46748, Stop: 47119, Start Num: 51

Candidate Starts for Ochi17\_77:

(41, 46703), (44, 46709), (Start: 51 @46748 has 16 MA's), (65, 46784), (69, 46805), (79, 46859), (82, 46883), (122, 47096),

Gene: OfUltron\_79 Start: 47297, Stop: 47668, Start Num: 51

Candidate Starts for OfUltron\_79:

(41, 47252), (44, 47258), (Start: 51 @47297 has 16 MA's), (65, 47333), (69, 47354), (79, 47408), (82, 47432), (122, 47645),

Gene: Periodt\_46 Start: 35141, Stop: 35512, Start Num: 53

Candidate Starts for Periodt\_46:

(Start: 53 @35141 has 16 MA's),

Gene: PetriParty\_62 Start: 37816, Stop: 38226, Start Num: 52

Candidate Starts for PetriParty\_62:

(Start: 52 @37816 has 2 MA's), (75, 37918), (76, 37924), (102, 38035), (105, 38044), (109, 38062), (113, 38098), (121, 38179),

Gene: Phrank15\_84 Start: 46287, Stop: 46721, Start Num: 50

Candidate Starts for Phrank15\_84:

(30, 46209), (Start: 50 @46287 has 37 MA's), (80, 46404), (84, 46437), (93, 46476), (97, 46488), (127, 46677),

Gene: Pigu\_60 Start: 32856, Stop: 33191, Start Num: 64

Candidate Starts for Pigu\_60:

(Start: 64 @32856 has 1 MA's), (68, 32883), (88, 32997),

Gene: Piper2020\_88 Start: 52279, Stop: 52644, Start Num: 53

Candidate Starts for Piper2020\_88:

(Start: 53 @52279 has 16 MA's), (59, 52294), (68, 52330), (74, 52366), (76, 52378), (84, 52423), (102, 52492), (112, 52546),

Gene: PrincessTrina\_51 Start: 39341, Stop: 39859, Start Num: 32

Candidate Starts for PrincessTrina\_51:

(Start: 32 @39341 has 19 MA's), (40, 39356), (45, 39371), (Start: 56 @39416 has 2 MA's), (66, 39449), (89, 39581), (110, 39662), (116, 39710),

Gene: REQ2\_70 Start: 43365, Stop: 43724, Start Num: 53

Candidate Starts for REQ2\_70:

(Start: 53 @43365 has 16 MA's), (79, 43479), (100, 43578),

Gene: Rabbs\_48 Start: 35478, Stop: 35849, Start Num: 53

Candidate Starts for Rabbs\_48:

(Start: 53 @35478 has 16 MA's),

Gene: RadFad\_85 Start: 46339, Stop: 46773, Start Num: 50

Candidate Starts for RadFad\_85:

(Start: 50 @46339 has 37 MA's), (84, 46489), (97, 46540), (116, 46624), (127, 46729),

Gene: Raphaella\_81 Start: 45261, Stop: 45695, Start Num: 50

Candidate Starts for Raphaella\_81:

(30, 45183), (Start: 50 @45261 has 37 MA's), (84, 45411), (93, 45450), (97, 45462), (127, 45651),

Gene: Raqqa\_78 Start: 45834, Stop: 46268, Start Num: 50  
Candidate Starts for Raqqa\_78:  
(30, 45756), (Start: 50 @45834 has 37 MA's), (84, 45984), (93, 46023), (97, 46035), (127, 46224),

Gene: Rattrick\_46 Start: 35141, Stop: 35512, Start Num: 53  
Candidate Starts for Rattrick\_46:  
(Start: 53 @35141 has 16 MA's),

Gene: Richie\_83 Start: 47024, Stop: 47458, Start Num: 50  
Candidate Starts for Richie\_83:  
(11, 46808), (13, 46832), (30, 46946), (Start: 50 @47024 has 37 MA's), (84, 47174), (93, 47213), (97, 47225), (127, 47414),

Gene: Rita\_79 Start: 48269, Stop: 48640, Start Num: 51  
Candidate Starts for Rita\_79:  
(7, 47894), (8, 47963), (10, 48011), (15, 48083), (16, 48089), (18, 48107), (25, 48161), (26, 48164), (39, 48209), (Start: 51 @48269 has 16 MA's), (65, 48305), (69, 48326), (79, 48380), (82, 48404), (122, 48617),

Gene: Rooter\_65 Start: 34611, Stop: 34946, Start Num: 63  
Candidate Starts for Rooter\_65:  
(35, 34518), (Start: 63 @34611 has 1 MA's), (68, 34638),

Gene: RosiePosie\_51 Start: 39220, Stop: 39738, Start Num: 32  
Candidate Starts for RosiePosie\_51:  
(Start: 32 @39220 has 19 MA's), (40, 39235), (45, 39250), (Start: 56 @39295 has 2 MA's), (66, 39328), (89, 39460), (110, 39541), (116, 39589),

Gene: Sakai\_77 Start: 44982, Stop: 45416, Start Num: 50  
Candidate Starts for Sakai\_77:  
(11, 44766), (13, 44790), (30, 44904), (Start: 50 @44982 has 37 MA's), (84, 45132), (93, 45171), (97, 45183), (127, 45372),

Gene: Sarge\_56 Start: 32052, Stop: 32387, Start Num: 64  
Candidate Starts for Sarge\_56:  
(37, 31962), (48, 32004), (Start: 64 @32052 has 1 MA's), (68, 32079), (88, 32193),

Gene: Sashimi\_78 Start: 45527, Stop: 45964, Start Num: 50  
Candidate Starts for Sashimi\_78:  
(Start: 50 @45527 has 37 MA's), (69, 45584), (84, 45680), (97, 45731), (127, 45920),

Gene: Satrap\_80 Start: 45800, Stop: 46234, Start Num: 50  
Candidate Starts for Satrap\_80:  
(Start: 50 @45800 has 37 MA's), (84, 45950), (97, 46001), (116, 46085), (127, 46190),

Gene: Scavito\_51 Start: 39218, Stop: 39736, Start Num: 32  
Candidate Starts for Scavito\_51:  
(Start: 32 @39218 has 19 MA's), (40, 39233), (45, 39248), (Start: 56 @39293 has 2 MA's), (66, 39326), (89, 39458), (110, 39539), (116, 39587),

Gene: Seabastian\_79 Start: 47298, Stop: 47669, Start Num: 51  
Candidate Starts for Seabastian\_79:

(41, 47253), (44, 47259), (Start: 51 @47298 has 16 MA's), (65, 47334), (69, 47355), (79, 47409), (82, 47433), (122, 47646),

Gene: Seahorse\_88 Start: 50801, Stop: 51235, Start Num: 50

Candidate Starts for Seahorse\_88:

(Start: 50 @50801 has 37 MA's), (84, 50951), (97, 51002), (116, 51086), (127, 51191),

Gene: Sneeze\_47 Start: 35477, Stop: 35848, Start Num: 53

Candidate Starts for Sneeze\_47:

(Start: 53 @35477 has 16 MA's),

Gene: SonDevVon\_87 Start: 45926, Stop: 46360, Start Num: 50

Candidate Starts for SonDevVon\_87:

(11, 45710), (13, 45734), (30, 45848), (Start: 50 @45926 has 37 MA's), (84, 46076), (93, 46115), (97, 46127), (127, 46316),

Gene: Sonali\_49 Start: 39233, Stop: 39622, Start Num: 56

Candidate Starts for Sonali\_49:

(Start: 56 @39233 has 2 MA's), (61, 39248), (69, 39281), (76, 39326), (79, 39335), (99, 39428), (106, 39452), (116, 39515), (123, 39596),

Gene: SpicyFrank\_82 Start: 45513, Stop: 45947, Start Num: 50

Candidate Starts for SpicyFrank\_82:

(13, 45321), (30, 45435), (Start: 50 @45513 has 37 MA's), (84, 45663), (93, 45702), (97, 45714), (105, 45738), (116, 45798), (127, 45903),

Gene: Sporco\_82 Start: 46941, Stop: 47375, Start Num: 50

Candidate Starts for Sporco\_82:

(11, 46725), (13, 46749), (30, 46863), (Start: 50 @46941 has 37 MA's), (84, 47091), (93, 47130), (97, 47142), (127, 47331),

Gene: SunnyJune\_49 Start: 34283, Stop: 34666, Start Num: 52

Candidate Starts for SunnyJune\_49:

(38, 34220), (43, 34238), (46, 34244), (Start: 52 @34283 has 2 MA's), (65, 34319), (72, 34355), (102, 34502), (108, 34526), (110, 34532),

Gene: Taheera\_45 Start: 34853, Stop: 35224, Start Num: 53

Candidate Starts for Taheera\_45:

(Start: 53 @34853 has 16 MA's),

Gene: Terror\_45 Start: 34853, Stop: 35224, Start Num: 53

Candidate Starts for Terror\_45:

(Start: 53 @34853 has 16 MA's),

Gene: ThayneTheZag\_85 Start: 46273, Stop: 46623, Start Num: 62

Candidate Starts for ThayneTheZag\_85:

(Start: 62 @46273 has 6 MA's), (68, 46300), (77, 46357), (84, 46399), (99, 46456),

Gene: ThetaBob\_78 Start: 46922, Stop: 47296, Start Num: 51

Candidate Starts for ThetaBob\_78:

(Start: 51 @46922 has 16 MA's), (65, 46958), (68, 46976), (70, 46985), (79, 47033), (84, 47069), (87, 47084), (95, 47114), (112, 47192),

Gene: Tiff81\_76 Start: 44402, Stop: 44836, Start Num: 50

Candidate Starts for Tiff81\_76:

(Start: 50 @44402 has 37 MA's), (84, 44552), (93, 44591), (97, 44603), (127, 44792),

Gene: Tophat\_51 Start: 39219, Stop: 39737, Start Num: 32

Candidate Starts for Tophat\_51:

(Start: 32 @39219 has 19 MA's), (40, 39234), (45, 39249), (Start: 56 @39294 has 2 MA's), (66, 39327), (89, 39459), (110, 39540), (116, 39588),

Gene: Toron\_80 Start: 48999, Stop: 49367, Start Num: 51

Candidate Starts for Toron\_80:

(Start: 51 @48999 has 16 MA's), (68, 49053), (70, 49062), (75, 49092), (79, 49110), (95, 49191), (105, 49224), (115, 49287),

Gene: TripleJ\_62 Start: 38075, Stop: 38479, Start Num: 52

Candidate Starts for TripleJ\_62:

(Start: 52 @38075 has 2 MA's), (73, 38153), (75, 38177), (76, 38183), (91, 38249), (101, 38291), (102, 38294), (103, 38297), (105, 38303), (109, 38321), (113, 38357), (121, 38438),

Gene: Tweety\_74 Start: 47222, Stop: 47596, Start Num: 51

Candidate Starts for Tweety\_74:

(27, 47123), (41, 47174), (44, 47180), (Start: 51 @47222 has 16 MA's), (68, 47276), (79, 47333),

Gene: Vopal\_82 Start: 47327, Stop: 47761, Start Num: 50

Candidate Starts for Vopal\_82:

(11, 47114), (13, 47138), (30, 47252), (Start: 50 @47327 has 37 MA's), (84, 47477), (93, 47516), (97, 47528), (127, 47717),

Gene: Wachhund\_72 Start: 44350, Stop: 44721, Start Num: 51

Candidate Starts for Wachhund\_72:

(41, 44302), (44, 44308), (Start: 51 @44350 has 16 MA's), (65, 44386), (69, 44407), (79, 44461), (82, 44485), (122, 44698),

Gene: Windest\_84 Start: 44509, Stop: 44943, Start Num: 50

Candidate Starts for Windest\_84:

(30, 44431), (Start: 50 @44509 has 37 MA's), (84, 44659), (93, 44698), (97, 44710), (127, 44899),

Gene: YoungHarleezy\_80 Start: 45534, Stop: 45968, Start Num: 50

Candidate Starts for YoungHarleezy\_80:

(30, 45456), (Start: 50 @45534 has 37 MA's), (84, 45684), (93, 45723), (97, 45735), (127, 45924),