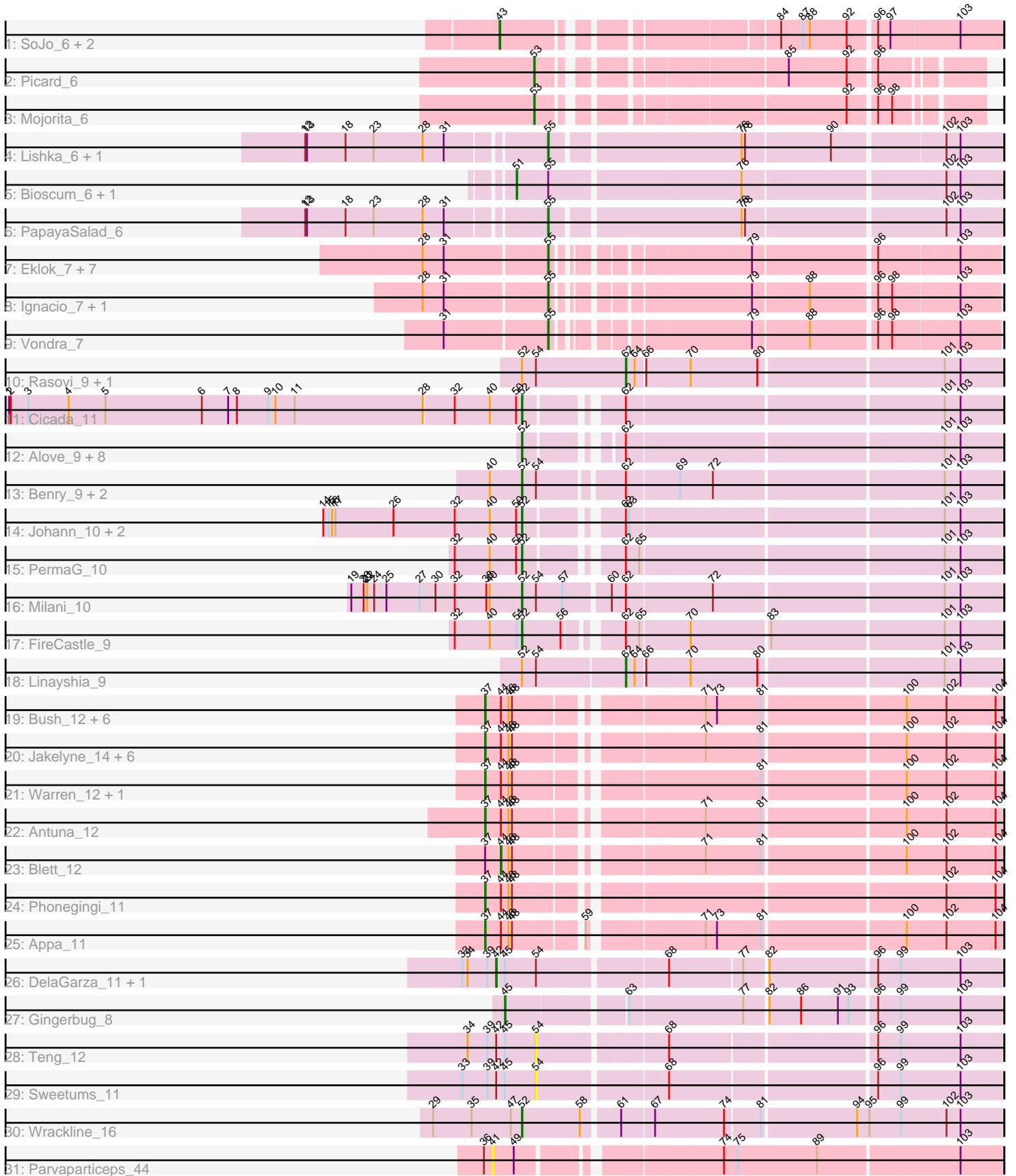


# Pham 282192



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 282192 Report

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

WARNING: Pham size does not match number of genes in report. Either unphamerated genes have been added (by you) or starterator has removed genes due to invalid start codon.

Pham number 282192 has 70 members, 17 are drafts.

Phages represented in each track:

- Track 1 : SoJo\_6, Tubberson\_6, DaRealMyers\_6
- Track 2 : Picard\_6
- Track 3 : Mojourita\_6
- Track 4 : Lishka\_6, Austintatious\_6
- Track 5 : Bioscum\_6, Ididsumtinwong\_6
- Track 6 : PapayaSalad\_6
- Track 7 : Eklok\_7, Piccadilly\_7, AxeJC\_7, FrumpyGal\_7, Cumberbatch\_7, Eastland\_7, Schlegelian\_7, ArizonaGT\_7
- Track 8 : Ignacio\_7, HFrancette\_7
- Track 9 : Vondra\_7
- Track 10 : Rasovi\_9, Htur\_9
- Track 11 : Cicada\_11
- Track 12 : Alove\_9, AyoTeo\_11, Jera\_10, SBlackberry\_9, Zarella\_9, Labela\_11, Typher\_11, TurboVicky\_9, Rootkit7\_9
- Track 13 : Benry\_9, IndiRoo\_9, Sucha\_9
- Track 14 : Johann\_10, Olympi\_11, Goodman\_10
- Track 15 : PermaG\_10
- Track 16 : Milani\_10
- Track 17 : FireCastle\_9
- Track 18 : Linayshia\_9
- Track 19 : Bush\_12, PhillyJawn\_12, CookieDog\_12, Dropshot\_11, NCRodriguez\_13, Winchester007\_27, Losacky\_13
- Track 20 : Jakelyne\_14, MenE\_12, Guzman\_13, Mariel\_15, Phingu\_14, Violeta\_13, Carrillo\_13
- Track 21 : Warren\_12, Pickles13\_11
- Track 22 : Antuna\_12
- Track 23 : Blett\_12
- Track 24 : Phonegingi\_11
- Track 25 : Appa\_11
- Track 26 : DelaGarza\_11, Lesiram\_11
- Track 27 : Gingerbug\_8
- Track 28 : Teng\_12
- Track 29 : Sweetums\_11

- Track 30 : Wrackline\_16
- Track 31 : Parvarticeps\_44

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

The start number called the most often in the published annotations is 52, it was called in 16 of the 53 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alove\_9, AyoTeo\_11, Benry\_9, Cicada\_11, FireCastle\_9, Goodman\_10, IndiRoo\_9, Jera\_10, Johann\_10, Labella\_11, Milani\_10, Olympi\_11, PermaG\_10, Rootkit7\_9, SBlackberry\_9, Sucha\_9, TurboVicky\_9, Typher\_11, Wrackline\_16, Zanella\_9,

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

- Htur\_9, Linayshia\_9, Rasovi\_9,

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

- Antuna\_12, Appa\_11, ArizonaGT\_7, Austintatious\_6, AxeJC\_7, Bioscum\_6, Blett\_12, Bush\_12, Carrillo\_13, CookieDog\_12, Cumberbatch\_7, DaRealMyers\_6, DelaGarza\_11, Dropshot\_11, Eastland\_7, Eklok\_7, FrumpyGal\_7, Gingerbug\_8, Guzman\_13, HFrancette\_7, Ididsumtinwong\_6, Ignacio\_7, Jakelyne\_14, Lesiram\_11, Lishka\_6, Losacky\_13, Mariel\_15, MenE\_12, Mojerita\_6, NCRodriguez\_13, PapayaSalad\_6, Parvarticeps\_44, PhillyJawn\_12, Phingu\_14, Phonegingi\_11, Picard\_6, Piccadilly\_7, Pickles13\_11, Schlegelian\_7, SoJo\_6, Sweetums\_11, Teng\_12, Tubberson\_6, Violeta\_13, Vondra\_7, Warren\_12, Winchester007\_27,

**Summary by start number:**

Start 37:

- Found in 20 of 70 ( 28.6% ) of genes in pham
- Manual Annotations of this start: 10 of 53
- Called 95.0% of time when present
- Phage (with cluster) where this start called: Antuna\_12 (GA), Appa\_11 (GA), Bush\_12 (GA), Carrillo\_13 (GA), CookieDog\_12 (GA), Dropshot\_11 (GA), Guzman\_13 (GA), Jakelyne\_14 (GA), Losacky\_13 (GA), Mariel\_15 (GA), MenE\_12 (GA), NCRodriguez\_13 (GA), PhillyJawn\_12 (GA), Phingu\_14 (GA), Phonegingi\_11 (GA), Pickles13\_11 (GA), Violeta\_13 (GA), Warren\_12 (GA), Winchester007\_27 (GA),

Start 41:

- Found in 1 of 70 ( 1.4% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Parvarticeps\_44 (UNK),

Start 42:

- Found in 4 of 70 ( 5.7% ) of genes in pham
- Manual Annotations of this start: 2 of 53
- Called 50.0% of time when present
- Phage (with cluster) where this start called: DelaGarza\_11 (GF), Lesiram\_11 (GF),

Start 43:

- Found in 3 of 70 ( 4.3% ) of genes in pham
- Manual Annotations of this start: 2 of 53
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DaRealMyers\_6 (BC1), SoJo\_6 (BC1), Tubberson\_6 (BC1),

Start 44:

- Found in 20 of 70 ( 28.6% ) of genes in pham
- Manual Annotations of this start: 1 of 53
- Called 5.0% of time when present
- Phage (with cluster) where this start called: Blett\_12 (GA),

Start 45:

- Found in 5 of 70 ( 7.1% ) of genes in pham
- Manual Annotations of this start: 1 of 53
- Called 20.0% of time when present
- Phage (with cluster) where this start called: Gingerbug\_8 (GF),

Start 51:

- Found in 3 of 70 ( 4.3% ) of genes in pham
- Manual Annotations of this start: 2 of 53
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Bioscum\_6 (BC3), Ididsumtinwong\_6 (BC3),

Start 52:

- Found in 23 of 70 ( 32.9% ) of genes in pham
- Manual Annotations of this start: 16 of 53
- Called 87.0% of time when present
- Phage (with cluster) where this start called: Alove\_9 (EJ), AyoTeo\_11 (EJ), Benry\_9 (EJ), Cicada\_11 (EJ), FireCastle\_9 (EJ), Goodman\_10 (EJ), IndiRoo\_9 (EJ), Jera\_10 (EJ), Johann\_10 (EJ), Labella\_11 (EJ), Milani\_10 (EJ), Olympi\_11 (EJ), PermaG\_10 (EJ), Rootkit7\_9 (EJ), SBlackberry\_9 (EJ), Sucha\_9 (EJ), TurboVicky\_9 (EJ), Typher\_11 (EJ), Wrackline\_16 (GF), Zanella\_9 (EJ),

Start 53:

- Found in 2 of 70 ( 2.9% ) of genes in pham
- Manual Annotations of this start: 2 of 53
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Moajorita\_6 (BC1), Picard\_6 (BC1),

Start 54:

- Found in 11 of 70 ( 15.7% ) of genes in pham
- No Manual Annotations of this start.
- Called 18.2% of time when present
- Phage (with cluster) where this start called: Sweetums\_11 (GF), Teng\_12 (GF),

Start 55:

- Found in 16 of 70 ( 22.9% ) of genes in pham
- Manual Annotations of this start: 14 of 53
- Called 87.5% of time when present

- Phage (with cluster) where this start called: ArizonaGT\_7 (BP), Austintatious\_6 (BC3), AxeJC\_7 (BP), Cumberbatch\_7 (BP), Eastland\_7 (BP), Eklok\_7 (BP), FrumpyGal\_7 (BP), HFrancette\_7 (BP), Ignacio\_7 (BP), Lishka\_6 (BC3), PapayaSalad\_6 (BC3), Piccadilly\_7 (BP), Schlegelian\_7 (BP), Vondra\_7 (BP),

Start 62:

- Found in 22 of 70 ( 31.4% ) of genes in pham
- Manual Annotations of this start: 3 of 53
- Called 13.6% of time when present
- Phage (with cluster) where this start called: Htur\_9 (EJ), Linayshia\_9 (EJ), Rasovi\_9 (EJ),

### **Summary by clusters:**

There are 7 clusters represented in this pham: EJ, GF, BP, GA, UNK, BC1, BC3,

Info for manual annotations of cluster BC1:

- Start number 43 was manually annotated 2 times for cluster BC1.
- Start number 53 was manually annotated 2 times for cluster BC1.

Info for manual annotations of cluster BC3:

- Start number 51 was manually annotated 2 times for cluster BC3.
- Start number 55 was manually annotated 3 times for cluster BC3.

Info for manual annotations of cluster BP:

- Start number 55 was manually annotated 11 times for cluster BP.

Info for manual annotations of cluster EJ:

- Start number 52 was manually annotated 15 times for cluster EJ.
- Start number 62 was manually annotated 3 times for cluster EJ.

Info for manual annotations of cluster GA:

- Start number 37 was manually annotated 10 times for cluster GA.
- Start number 44 was manually annotated 1 time for cluster GA.

Info for manual annotations of cluster GF:

- Start number 42 was manually annotated 2 times for cluster GF.
- Start number 45 was manually annotated 1 time for cluster GF.
- Start number 52 was manually annotated 1 time for cluster GF.

### **Gene Information:**

Gene: Alove\_9 Start: 8202, Stop: 8933, Start Num: 52

Candidate Starts for Alove\_9:

(Start: 52 @8202 has 16 MA's), (Start: 62 @8322 has 3 MA's), (101, 8832), (103, 8859),

Gene: Antuna\_12 Start: 6246, Stop: 7052, Start Num: 37

Candidate Starts for Antuna\_12:

(Start: 37 @6246 has 10 MA's), (Start: 44 @6273 has 1 MA's), (46, 6285), (48, 6291), (71, 6573), (81, 6663), (100, 6894), (102, 6957), (104, 7041),

Gene: Appa\_11 Start: 6111, Stop: 6914, Start Num: 37

Candidate Starts for Appa\_11:

(Start: 37 @6111 has 10 MA's), (Start: 44 @6138 has 1 MA's), (46, 6150), (48, 6156), (59, 6258), (71, 6435), (73, 6453), (81, 6525), (100, 6756), (102, 6819), (104, 6903),

Gene: ArizonaGT\_7 Start: 5592, Stop: 6266, Start Num: 55

Candidate Starts for ArizonaGT\_7:

(28, 5394), (31, 5430), (Start: 55 @5592 has 14 MA's), (79, 5868), (96, 6066), (103, 6198),

Gene: Austintatious\_6 Start: 5252, Stop: 5971, Start Num: 55

Candidate Starts for Austintatious\_6:

(12, 4865), (13, 4868), (18, 4934), (23, 4982), (28, 5066), (31, 5102), (Start: 55 @5252 has 14 MA's), (76, 5555), (78, 5561), (90, 5702), (102, 5876), (103, 5900),

Gene: AxeJC\_7 Start: 5605, Stop: 6279, Start Num: 55

Candidate Starts for AxeJC\_7:

(28, 5407), (31, 5443), (Start: 55 @5605 has 14 MA's), (79, 5881), (96, 6079), (103, 6211),

Gene: AyoTeo\_11 Start: 8329, Stop: 9060, Start Num: 52

Candidate Starts for AyoTeo\_11:

(Start: 52 @8329 has 16 MA's), (Start: 62 @8449 has 3 MA's), (101, 8959), (103, 8986),

Gene: Benry\_9 Start: 6358, Stop: 7122, Start Num: 52

Candidate Starts for Benry\_9:

(40, 6304), (Start: 52 @6358 has 16 MA's), (54, 6382), (Start: 62 @6511 has 3 MA's), (69, 6595), (72, 6649), (101, 7021), (103, 7048),

Gene: Bioscum\_6 Start: 5214, Stop: 6005, Start Num: 51

Candidate Starts for Bioscum\_6:

(Start: 51 @5214 has 2 MA's), (Start: 55 @5268 has 14 MA's), (76, 5583), (102, 5910), (103, 5934),

Gene: Blett\_12 Start: 6287, Stop: 7066, Start Num: 44

Candidate Starts for Blett\_12:

(Start: 37 @6260 has 10 MA's), (Start: 44 @6287 has 1 MA's), (46, 6299), (48, 6305), (71, 6587), (81, 6677), (100, 6908), (102, 6971), (104, 7055),

Gene: Bush\_12 Start: 6255, Stop: 7058, Start Num: 37

Candidate Starts for Bush\_12:

(Start: 37 @6255 has 10 MA's), (Start: 44 @6282 has 1 MA's), (46, 6294), (48, 6300), (71, 6579), (73, 6597), (81, 6669), (100, 6900), (102, 6963), (104, 7047),

Gene: Carrillo\_13 Start: 6215, Stop: 7021, Start Num: 37

Candidate Starts for Carrillo\_13:

(Start: 37 @6215 has 10 MA's), (Start: 44 @6242 has 1 MA's), (46, 6254), (48, 6260), (71, 6542), (81, 6632), (100, 6863), (102, 6926), (104, 7010),

Gene: Cicada\_11 Start: 8447, Stop: 9187, Start Num: 52

Candidate Starts for Cicada\_11:

(1, 7577), (2, 7580), (3, 7610), (4, 7679), (5, 7742), (6, 7907), (7, 7952), (8, 7967), (9, 8021), (10, 8033), (11, 8066), (28, 8285), (32, 8336), (40, 8393), (50, 8438), (Start: 52 @8447 has 16 MA's), (Start: 62 @8576 has 3 MA's), (101, 9086), (103, 9113),

Gene: CookieDog\_12 Start: 6255, Stop: 7058, Start Num: 37  
Candidate Starts for CookieDog\_12:  
(Start: 37 @6255 has 10 MA's), (Start: 44 @6282 has 1 MA's), (46, 6294), (48, 6300), (71, 6579), (73, 6597), (81, 6669), (100, 6900), (102, 6963), (104, 7047),

Gene: Cumberbatch\_7 Start: 5592, Stop: 6266, Start Num: 55  
Candidate Starts for Cumberbatch\_7:  
(28, 5394), (31, 5430), (Start: 55 @5592 has 14 MA's), (79, 5868), (96, 6066), (103, 6198),

Gene: DaRealMyers\_6 Start: 5536, Stop: 6282, Start Num: 43  
Candidate Starts for DaRealMyers\_6:  
(Start: 43 @5536 has 2 MA's), (84, 5926), (87, 5962), (88, 5974), (92, 6037), (96, 6079), (97, 6100), (103, 6211),

Gene: DelaGarza\_11 Start: 6593, Stop: 7396, Start Num: 42  
Candidate Starts for DelaGarza\_11:  
(33, 6536), (34, 6545), (39, 6578), (Start: 42 @6593 has 2 MA's), (Start: 45 @6605 has 1 MA's), (54, 6653), (68, 6857), (77, 6974), (82, 7010), (96, 7184), (99, 7223), (103, 7325),

Gene: Dropshot\_11 Start: 6111, Stop: 6914, Start Num: 37  
Candidate Starts for Dropshot\_11:  
(Start: 37 @6111 has 10 MA's), (Start: 44 @6138 has 1 MA's), (46, 6150), (48, 6156), (71, 6435), (73, 6453), (81, 6525), (100, 6756), (102, 6819), (104, 6903),

Gene: Eastland\_7 Start: 5593, Stop: 6267, Start Num: 55  
Candidate Starts for Eastland\_7:  
(28, 5395), (31, 5431), (Start: 55 @5593 has 14 MA's), (79, 5869), (96, 6067), (103, 6199),

Gene: Eklok\_7 Start: 5605, Stop: 6279, Start Num: 55  
Candidate Starts for Eklok\_7:  
(28, 5407), (31, 5443), (Start: 55 @5605 has 14 MA's), (79, 5881), (96, 6079), (103, 6211),

Gene: FireCastle\_9 Start: 8109, Stop: 8858, Start Num: 52  
Candidate Starts for FireCastle\_9:  
(32, 7998), (40, 8055), (Start: 51 @8100 has 2 MA's), (Start: 52 @8109 has 16 MA's), (56, 8175), (Start: 62 @8247 has 3 MA's), (65, 8268), (70, 8349), (83, 8472), (101, 8757), (103, 8784),

Gene: FrumpyGal\_7 Start: 5593, Stop: 6267, Start Num: 55  
Candidate Starts for FrumpyGal\_7:  
(28, 5395), (31, 5431), (Start: 55 @5593 has 14 MA's), (79, 5869), (96, 6067), (103, 6199),

Gene: Gingerbug\_8 Start: 5806, Stop: 6582, Start Num: 45  
Candidate Starts for Gingerbug\_8:  
(Start: 45 @5806 has 1 MA's), (63, 5980), (77, 6160), (82, 6196), (86, 6250), (91, 6313), (93, 6331), (96, 6370), (99, 6409), (103, 6511),

Gene: Goodman\_10 Start: 8356, Stop: 9096, Start Num: 52  
Candidate Starts for Goodman\_10:  
(14, 8020), (15, 8029), (16, 8035), (17, 8041), (26, 8140), (32, 8245), (40, 8302), (50, 8347), (Start: 52 @8356 has 16 MA's), (Start: 62 @8485 has 3 MA's), (63, 8491), (101, 8995), (103, 9022),

Gene: Guzman\_13 Start: 6526, Stop: 7329, Start Num: 37  
Candidate Starts for Guzman\_13:

(Start: 37 @6526 has 10 MA's), (Start: 44 @6553 has 1 MA's), (46, 6565), (48, 6571), (71, 6850), (81, 6940), (100, 7171), (102, 7234), (104, 7318),

Gene: HFrancette\_7 Start: 5597, Stop: 6271, Start Num: 55

Candidate Starts for HFrancette\_7:

(28, 5399), (31, 5435), (Start: 55 @5597 has 14 MA's), (79, 5873), (88, 5966), (96, 6071), (98, 6095), (103, 6203),

Gene: Htur\_9 Start: 8424, Stop: 9035, Start Num: 62

Candidate Starts for Htur\_9:

(Start: 52 @8250 has 16 MA's), (54, 8274), (Start: 62 @8424 has 3 MA's), (64, 8439), (66, 8451), (70, 8526), (80, 8634), (101, 8934), (103, 8961),

Gene: Ididsumtinwong\_6 Start: 5214, Stop: 6005, Start Num: 51

Candidate Starts for Ididsumtinwong\_6:

(Start: 51 @5214 has 2 MA's), (Start: 55 @5268 has 14 MA's), (76, 5583), (102, 5910), (103, 5934),

Gene: Ignacio\_7 Start: 5597, Stop: 6271, Start Num: 55

Candidate Starts for Ignacio\_7:

(28, 5399), (31, 5435), (Start: 55 @5597 has 14 MA's), (79, 5873), (88, 5966), (96, 6071), (98, 6095), (103, 6203),

Gene: IndiRoo\_9 Start: 6360, Stop: 7124, Start Num: 52

Candidate Starts for IndiRoo\_9:

(40, 6306), (Start: 52 @6360 has 16 MA's), (54, 6384), (Start: 62 @6513 has 3 MA's), (69, 6597), (72, 6651), (101, 7023), (103, 7050),

Gene: Jakelyne\_14 Start: 6259, Stop: 7065, Start Num: 37

Candidate Starts for Jakelyne\_14:

(Start: 37 @6259 has 10 MA's), (Start: 44 @6286 has 1 MA's), (46, 6298), (48, 6304), (71, 6586), (81, 6676), (100, 6907), (102, 6970), (104, 7054),

Gene: Jera\_10 Start: 7446, Stop: 8177, Start Num: 52

Candidate Starts for Jera\_10:

(Start: 52 @7446 has 16 MA's), (Start: 62 @7566 has 3 MA's), (101, 8076), (103, 8103),

Gene: Johann\_10 Start: 8356, Stop: 9096, Start Num: 52

Candidate Starts for Johann\_10:

(14, 8020), (15, 8029), (16, 8035), (17, 8041), (26, 8140), (32, 8245), (40, 8302), (50, 8347), (Start: 52 @8356 has 16 MA's), (Start: 62 @8485 has 3 MA's), (63, 8491), (101, 8995), (103, 9022),

Gene: Labella\_11 Start: 8333, Stop: 9064, Start Num: 52

Candidate Starts for Labella\_11:

(Start: 52 @8333 has 16 MA's), (Start: 62 @8453 has 3 MA's), (101, 8963), (103, 8990),

Gene: Lesiram\_11 Start: 6569, Stop: 7369, Start Num: 42

Candidate Starts for Lesiram\_11:

(33, 6512), (34, 6521), (39, 6554), (Start: 42 @6569 has 2 MA's), (Start: 45 @6581 has 1 MA's), (54, 6629), (68, 6830), (77, 6947), (82, 6983), (96, 7157), (99, 7196), (103, 7298),

Gene: Linayshia\_9 Start: 8418, Stop: 9029, Start Num: 62

Candidate Starts for Linayshia\_9:

(Start: 52 @8250 has 16 MA's), (54, 8274), (Start: 62 @8418 has 3 MA's), (64, 8433), (66, 8445), (70, 8520), (80, 8628), (101, 8928), (103, 8955),

Gene: Lishka\_6 Start: 5252, Stop: 5971, Start Num: 55

Candidate Starts for Lishka\_6:

(12, 4865), (13, 4868), (18, 4934), (23, 4982), (28, 5066), (31, 5102), (Start: 55 @5252 has 14 MA's), (76, 5555), (78, 5561), (90, 5702), (102, 5876), (103, 5900),

Gene: Losacky\_13 Start: 6401, Stop: 7204, Start Num: 37

Candidate Starts for Losacky\_13:

(Start: 37 @6401 has 10 MA's), (Start: 44 @6428 has 1 MA's), (46, 6440), (48, 6446), (71, 6725), (73, 6743), (81, 6815), (100, 7046), (102, 7109), (104, 7193),

Gene: Mariel\_15 Start: 6419, Stop: 7225, Start Num: 37

Candidate Starts for Mariel\_15:

(Start: 37 @6419 has 10 MA's), (Start: 44 @6446 has 1 MA's), (46, 6458), (48, 6464), (71, 6746), (81, 6836), (100, 7067), (102, 7130), (104, 7214),

Gene: MenE\_12 Start: 6376, Stop: 7182, Start Num: 37

Candidate Starts for MenE\_12:

(Start: 37 @6376 has 10 MA's), (Start: 44 @6403 has 1 MA's), (46, 6415), (48, 6421), (71, 6703), (81, 6793), (100, 7024), (102, 7087), (104, 7171),

Gene: Milani\_10 Start: 7008, Stop: 7781, Start Num: 52

Candidate Starts for Milani\_10:

(19, 6720), (20, 6741), (21, 6744), (22, 6747), (24, 6759), (25, 6780), (27, 6837), (30, 6864), (32, 6897), (38, 6948), (40, 6954), (Start: 52 @7008 has 16 MA's), (54, 7032), (57, 7077), (60, 7149), (Start: 62 @7170 has 3 MA's), (72, 7308), (101, 7680), (103, 7707),

Gene: Mojarita\_6 Start: 5599, Stop: 6231, Start Num: 53

Candidate Starts for Mojarita\_6:

(Start: 53 @5599 has 2 MA's), (92, 6040), (96, 6082), (98, 6106),

Gene: NCRodriguez\_13 Start: 6379, Stop: 7182, Start Num: 37

Candidate Starts for NCRodriguez\_13:

(Start: 37 @6379 has 10 MA's), (Start: 44 @6406 has 1 MA's), (46, 6418), (48, 6424), (71, 6703), (73, 6721), (81, 6793), (100, 7024), (102, 7087), (104, 7171),

Gene: Olympi\_11 Start: 8347, Stop: 9087, Start Num: 52

Candidate Starts for Olympi\_11:

(14, 8011), (15, 8020), (16, 8026), (17, 8032), (26, 8131), (32, 8236), (40, 8293), (50, 8338), (Start: 52 @8347 has 16 MA's), (Start: 62 @8476 has 3 MA's), (63, 8482), (101, 8986), (103, 9013),

Gene: PapayaSalad\_6 Start: 5252, Stop: 5977, Start Num: 55

Candidate Starts for PapayaSalad\_6:

(12, 4865), (13, 4868), (18, 4934), (23, 4982), (28, 5066), (31, 5102), (Start: 55 @5252 has 14 MA's), (76, 5555), (78, 5561), (102, 5882), (103, 5906),

Gene: Parvaparticeps\_44 Start: 31885, Stop: 31091, Start Num: 41

Candidate Starts for Parvaparticeps\_44:

(36, 31900), (41, 31885), (49, 31852), (74, 31549), (75, 31528), (89, 31396), (103, 31162),

Gene: PermaG\_10 Start: 8378, Stop: 9118, Start Num: 52

Candidate Starts for PermaG\_10:

(32, 8267), (40, 8324), (50, 8369), (Start: 52 @8378 has 16 MA's), (Start: 62 @8507 has 3 MA's), (65, 8528), (101, 9017), (103, 9044),

Gene: PhillyJawn\_12 Start: 6111, Stop: 6914, Start Num: 37

Candidate Starts for PhillyJawn\_12:

(Start: 37 @6111 has 10 MA's), (Start: 44 @6138 has 1 MA's), (46, 6150), (48, 6156), (71, 6435), (73, 6453), (81, 6525), (100, 6756), (102, 6819), (104, 6903),

Gene: Phingu\_14 Start: 6266, Stop: 7072, Start Num: 37

Candidate Starts for Phingu\_14:

(Start: 37 @6266 has 10 MA's), (Start: 44 @6293 has 1 MA's), (46, 6305), (48, 6311), (71, 6593), (81, 6683), (100, 6914), (102, 6977), (104, 7061),

Gene: Phonegingi\_11 Start: 6105, Stop: 6908, Start Num: 37

Candidate Starts for Phonegingi\_11:

(Start: 37 @6105 has 10 MA's), (Start: 44 @6132 has 1 MA's), (46, 6144), (48, 6150), (102, 6813), (104, 6897),

Gene: Picard\_6 Start: 5599, Stop: 6231, Start Num: 53

Candidate Starts for Picard\_6:

(Start: 53 @5599 has 2 MA's), (85, 5941), (92, 6040), (96, 6082),

Gene: Piccadilly\_7 Start: 5592, Stop: 6266, Start Num: 55

Candidate Starts for Piccadilly\_7:

(28, 5394), (31, 5430), (Start: 55 @5592 has 14 MA's), (79, 5868), (96, 6066), (103, 6198),

Gene: Pickles13\_11 Start: 6248, Stop: 7060, Start Num: 37

Candidate Starts for Pickles13\_11:

(Start: 37 @6248 has 10 MA's), (Start: 44 @6275 has 1 MA's), (46, 6287), (48, 6293), (81, 6671), (100, 6902), (102, 6965), (104, 7049),

Gene: Rasovi\_9 Start: 8424, Stop: 9035, Start Num: 62

Candidate Starts for Rasovi\_9:

(Start: 52 @8250 has 16 MA's), (54, 8274), (Start: 62 @8424 has 3 MA's), (64, 8439), (66, 8451), (70, 8526), (80, 8634), (101, 8934), (103, 8961),

Gene: Rootkit7\_9 Start: 8202, Stop: 8933, Start Num: 52

Candidate Starts for Rootkit7\_9:

(Start: 52 @8202 has 16 MA's), (Start: 62 @8322 has 3 MA's), (101, 8832), (103, 8859),

Gene: SBlackberry\_9 Start: 8205, Stop: 8936, Start Num: 52

Candidate Starts for SBlackberry\_9:

(Start: 52 @8205 has 16 MA's), (Start: 62 @8325 has 3 MA's), (101, 8835), (103, 8862),

Gene: Schlegelian\_7 Start: 5592, Stop: 6266, Start Num: 55

Candidate Starts for Schlegelian\_7:

(28, 5394), (31, 5430), (Start: 55 @5592 has 14 MA's), (79, 5868), (96, 6066), (103, 6198),

Gene: SoJo\_6 Start: 5536, Stop: 6282, Start Num: 43

Candidate Starts for SoJo\_6:

(Start: 43 @5536 has 2 MA's), (84, 5926), (87, 5962), (88, 5974), (92, 6037), (96, 6079), (97, 6100), (103, 6211),

Gene: Sucha\_9 Start: 6355, Stop: 7119, Start Num: 52

Candidate Starts for Sucha\_9:

(40, 6301), (Start: 52 @6355 has 16 MA's), (54, 6379), (Start: 62 @6508 has 3 MA's), (69, 6592), (72, 6646), (101, 7018), (103, 7045),

Gene: Sweetums\_11 Start: 6724, Stop: 7467, Start Num: 54

Candidate Starts for Sweetums\_11:

(33, 6607), (39, 6649), (Start: 42 @6664 has 2 MA's), (Start: 45 @6676 has 1 MA's), (54, 6724), (68, 6928), (96, 7255), (99, 7294), (103, 7396),

Gene: Teng\_12 Start: 6653, Stop: 7393, Start Num: 54

Candidate Starts for Teng\_12:

(34, 6545), (39, 6578), (Start: 42 @6593 has 2 MA's), (Start: 45 @6605 has 1 MA's), (54, 6653), (68, 6854), (96, 7181), (99, 7220), (103, 7322),

Gene: Tubberson\_6 Start: 5536, Stop: 6282, Start Num: 43

Candidate Starts for Tubberson\_6:

(Start: 43 @5536 has 2 MA's), (84, 5926), (87, 5962), (88, 5974), (92, 6037), (96, 6079), (97, 6100), (103, 6211),

Gene: TurboVicky\_9 Start: 8202, Stop: 8933, Start Num: 52

Candidate Starts for TurboVicky\_9:

(Start: 52 @8202 has 16 MA's), (Start: 62 @8322 has 3 MA's), (101, 8832), (103, 8859),

Gene: Typher\_11 Start: 8332, Stop: 9063, Start Num: 52

Candidate Starts for Typher\_11:

(Start: 52 @8332 has 16 MA's), (Start: 62 @8452 has 3 MA's), (101, 8962), (103, 8989),

Gene: Violeta\_13 Start: 6206, Stop: 7012, Start Num: 37

Candidate Starts for Violeta\_13:

(Start: 37 @6206 has 10 MA's), (Start: 44 @6233 has 1 MA's), (46, 6245), (48, 6251), (71, 6533), (81, 6623), (100, 6854), (102, 6917), (104, 7001),

Gene: Vondra\_7 Start: 5594, Stop: 6271, Start Num: 55

Candidate Starts for Vondra\_7:

(31, 5432), (Start: 55 @5594 has 14 MA's), (79, 5873), (88, 5966), (96, 6071), (98, 6095), (103, 6203),

Gene: Warren\_12 Start: 6290, Stop: 7093, Start Num: 37

Candidate Starts for Warren\_12:

(Start: 37 @6290 has 10 MA's), (Start: 44 @6317 has 1 MA's), (46, 6329), (48, 6335), (81, 6704), (100, 6935), (102, 6998), (104, 7082),

Gene: Winchester007\_27 Start: 12228, Stop: 13031, Start Num: 37

Candidate Starts for Winchester007\_27:

(Start: 37 @12228 has 10 MA's), (Start: 44 @12255 has 1 MA's), (46, 12267), (48, 12273), (71, 12552), (73, 12570), (81, 12642), (100, 12873), (102, 12936), (104, 13020),

Gene: Wrackline\_16 Start: 7378, Stop: 8154, Start Num: 52

Candidate Starts for Wrackline\_16:

(29, 7231), (35, 7297), (47, 7360), (Start: 52 @7378 has 16 MA's), (58, 7477), (61, 7534), (67, 7585), (74, 7696), (81, 7753), (94, 7909), (95, 7930), (99, 7984), (102, 8059), (103, 8083),

Gene: Zanella\_9 Start: 8202, Stop: 8933, Start Num: 52

Candidate Starts for Zanella\_9:

(Start: 52 @8202 has 16 MA's), (Start: 62 @8322 has 3 MA's), (101, 8832), (103, 8859),