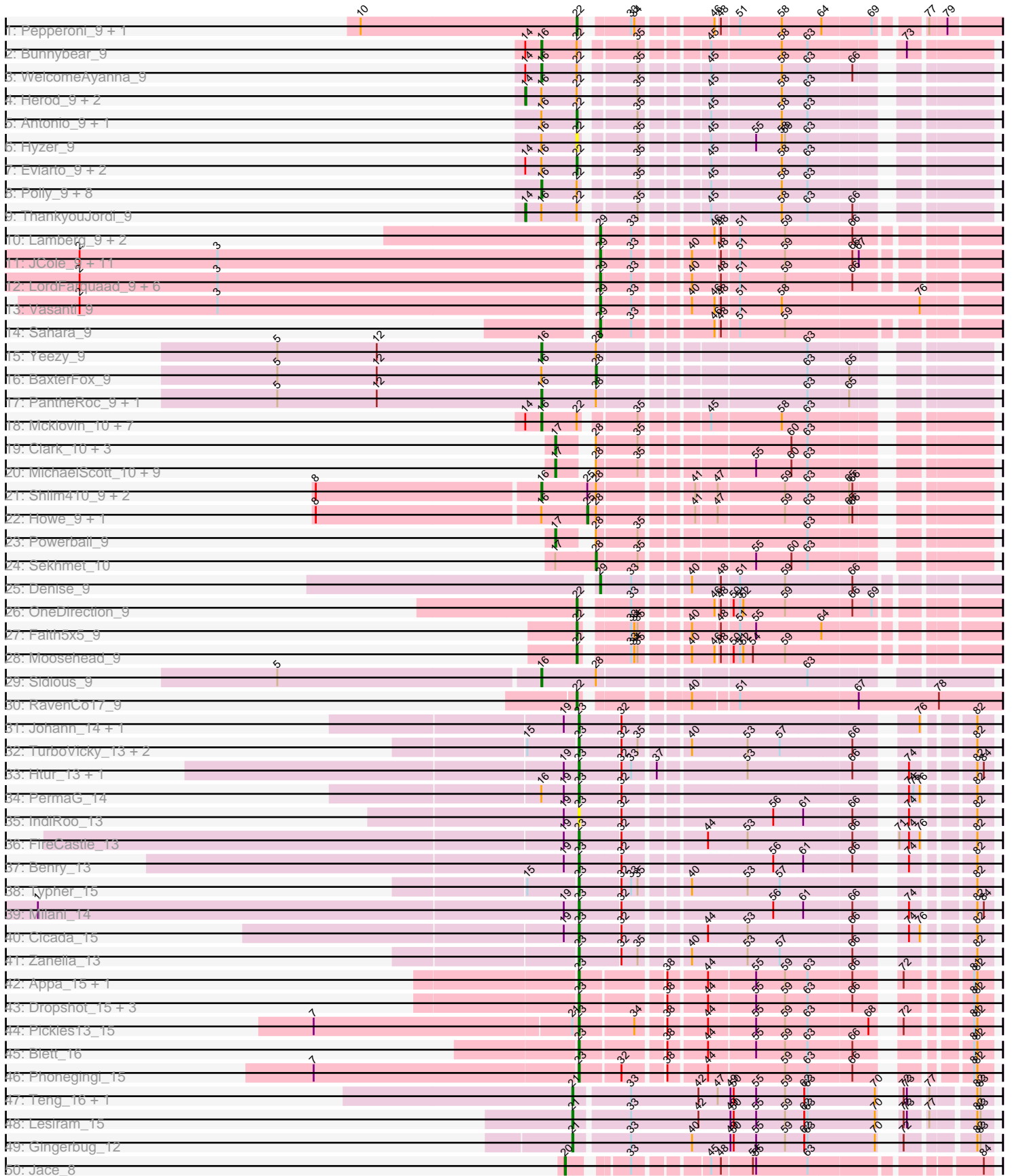
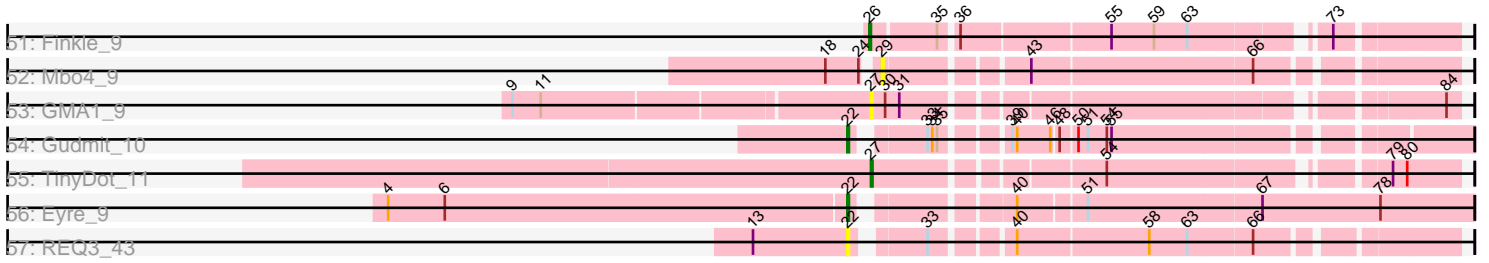


Pham 196380



Pham 196380



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 196380 Report

This analysis was run 12/09/24 on database version 580.

Pham number 196380 has 122 members, 11 are drafts.

Phages represented in each track:

- Track 1 : Pepperoni\_9, Lton\_9
- Track 2 : Bunnybear\_9
- Track 3 : WelcomeAyanna\_9
- Track 4 : Herod\_9, BatStarr\_9, Zirinka\_9
- Track 5 : Antonio\_9, Maridalia\_9
- Track 6 : Hyzer\_9
- Track 7 : Eviarto\_9, Hugley\_9, TimTam\_9
- Track 8 : Polly\_9, Manasvini\_9, Trumpet\_9, Suscepit\_9, Kita\_9, Zameen\_9, Eudoria\_9, Tayonia\_9, Neobush\_9
- Track 9 : ThankyouJordi\_9
- Track 10 : Lamberg\_9, EdnaMode\_9, Nettuno\_9
- Track 11 : JCole\_9, Cynthia\_9, Clap\_9, GemG\_9, Whiteclaw\_9, Sproutie\_9, Gizermo\_9, Ebert\_9, Savage\_9, Mocha12\_9, Haley23\_9, TuertoX\_9
- Track 12 : LordFarquaad\_9, Yeet412\_9, Attis\_9, SoilAssassin\_9, Matteo\_9, Bjanes7\_9, Pickett\_9
- Track 13 : Vasanti\_9
- Track 14 : Sahara\_9
- Track 15 : Yeezy\_9
- Track 16 : BaxterFox\_9
- Track 17 : PantheRoc\_9, Ohgeesy\_9
- Track 18 : Mcklovin\_10, Agueybana\_9, Nymphadora\_9, AlumE\_9, Bialota\_9, BoyNamedSue\_9, Madeline\_9, Bosnia\_9
- Track 19 : Clark\_10, Annalisa\_10, Dorito\_9, PhriskyACE\_9
- Track 20 : MichaelScott\_10, DobbysSock\_9, Suerte\_9, WinkNick\_10, Easley\_10, Dolores\_10, Oregano\_10, Samman98\_10, Beenie\_10, Thimann\_10
- Track 21 : Shlim410\_9, Hortense\_9, Adora\_9
- Track 22 : Howe\_9, Twinkle\_9
- Track 23 : Powerball\_9
- Track 24 : Sekhmet\_10
- Track 25 : Denise\_9
- Track 26 : OneDirection\_9
- Track 27 : Faith5x5\_9
- Track 28 : Moosehead\_9
- Track 29 : Sidious\_9
- Track 30 : RavenCo17\_9
- Track 31 : Johann\_14, Goodman\_14
- Track 32 : TurboVicky\_13, Jera\_14, SBlackberry\_13

- Track 33 : Htur\_13, Rasovi\_13
- Track 34 : PermaG\_14
- Track 35 : IndiRoo\_13
- Track 36 : FireCastle\_13
- Track 37 : Benry\_13
- Track 38 : Typher\_15
- Track 39 : Milani\_14
- Track 40 : Cicada\_15
- Track 41 : Zanella\_13
- Track 42 : Appa\_15, Warren\_16
- Track 43 : Dropshot\_15, MenE\_16, Antuna\_16, Bush\_16
- Track 44 : Pickles13\_15
- Track 45 : Blett\_16
- Track 46 : Phonegingi\_15
- Track 47 : Teng\_16, DelaGarza\_15
- Track 48 : Lesiram\_15
- Track 49 : Gingerbug\_12
- Track 50 : Jace\_8
- Track 51 : Finkle\_9
- Track 52 : Mbo4\_9
- Track 53 : GMA1\_9
- Track 54 : Gudmit\_10
- Track 55 : TinyDot\_11
- Track 56 : Eyre\_9
- Track 57 : REQ3\_43

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

The start number called the most often in the published annotations is 16, it was called in 26 of the 111 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Adora\_9, Agueybana\_9, AlumE\_9, Bialota\_9, Bosnia\_9, BoyNamedSue\_9, Bunnybear\_9, Eudoria\_9, Hortense\_9, Kita\_9, Madeline\_9, Manasvini\_9, Mcklovin\_10, Neobush\_9, Nymphadora\_9, Ohgeesy\_9, PantheRoc\_9, Polly\_9, Shlim410\_9, Sidious\_9, Suscepit\_9, Tayonia\_9, Trumpet\_9, WelcomeAyanna\_9, Yeezy\_9, Zameen\_9,

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

- Antonio\_9, BatStarr\_9, BaxterFox\_9, Eviarto\_9, Herod\_9, Howe\_9, Hugley\_9, Hyzer\_9, Maridalia\_9, PermaG\_14, ThankyouJordi\_9, TimTam\_9, Twinkle\_9, Zirinka\_9,

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

- Annalisa\_10, Antuna\_16, Appa\_15, Attis\_9, Beenie\_10, Benry\_13, Bjaner7\_9, Blett\_16, Bush\_16, Cicada\_15, Clap\_9, Clark\_10, Cynthia\_9, DelaGarza\_15, Denise\_9, DobbysSock\_9, Dolores\_10, Dorito\_9, Dropshot\_15, Easley\_10, Ebert\_9, EdnaMode\_9, Eyre\_9, Faith5x5\_9, Finkle\_9, FireCastle\_13, GMA1\_9, GemG\_9, Gingerbug\_12, Gizermo\_9, Goodman\_14, Gudmit\_10, Haley23\_9, Htur\_13, IndiRoo\_13, JCole\_9, Jace\_8, Jera\_14, Johann\_14, Lamberg\_9, Lesiram\_15,

LordFarquaad\_9, Lton\_9, Matteo\_9, Mbo4\_9, MenE\_16, MichaelScott\_10, Milani\_14, Mocha12\_9, Moosehead\_9, Nettuno\_9, OneDirection\_9, Oregano\_10, Pepperoni\_9, Phoningi\_15, PhriskyACE\_9, Pickett\_9, Pickles13\_15, Powerball\_9, REQ3\_43, Rasovi\_13, RavenCo17\_9, SBlackberry\_13, Sahara\_9, Samman98\_10, Savage\_9, Sekhmet\_10, SoilAssassin\_9, Sproutie\_9, Suerte\_9, Teng\_16, Thimann\_10, TinyDot\_11, TuertoX\_9, TurboVicky\_13, Typher\_15, Vasanti\_9, Warren\_16, Whiteclaw\_9, WinkNick\_10, Yeet412\_9, Zanella\_13,

### Summary by start number:

#### Start 14:

- Found in 17 of 122 ( 13.9% ) of genes in pham
- Manual Annotations of this start: 4 of 111
- Called 23.5% of time when present
- Phage (with cluster) where this start called: BatStarr\_9 (CZ1), Herod\_9 (CZ1), ThankyouJordi\_9 (CZ1), Zirinka\_9 (CZ1),

#### Start 16:

- Found in 40 of 122 ( 32.8% ) of genes in pham
- Manual Annotations of this start: 26 of 111
- Called 65.0% of time when present
- Phage (with cluster) where this start called: Adora\_9 (CZ4), Agueybana\_9 (CZ1), AlumE\_9 (CZ1), Bialota\_9 (CZ1), Bosnia\_9 (CZ1), BoyNamedSue\_9 (CZ1), Bunnybear\_9 (CZ), Eudoria\_9 (CZ1), Hortense\_9 (CZ4), Kita\_9 (CZ1), Madeline\_9 (CZ1), Manasvini\_9 (CZ1), Mcklovin\_10 (CZ4), Neobush\_9 (CZ1), Nymphadora\_9 (CZ1), Ohgeesy\_9 (CZ), PantheRoc\_9 (CZ3), Polly\_9 (CZ1), Shlim410\_9 (CZ4), Sidious\_9 (CZ7), Suscepit\_9 (CZ1), Tayonia\_9 (CZ1), Trumpet\_9 (CZ1), WelcomeAyanna\_9 (CZ1), Yeezy\_9 (CZ3), Zameen\_9 (CZ1),

#### Start 17:

- Found in 16 of 122 ( 13.1% ) of genes in pham
- Manual Annotations of this start: 13 of 111
- Called 93.8% of time when present
- Phage (with cluster) where this start called: Annalisa\_10 (CZ4), Beenie\_10 (CZ4), Clark\_10 (CZ4), DobbysSock\_9 (CZ4), Dolores\_10 (CZ4), Dorito\_9 (CZ4), Easley\_10 (CZ4), MichaelScott\_10 (CZ4), Oregano\_10 (CZ4), PhriskyACE\_9 (CZ4), Powerball\_9 (CZ4), Samman98\_10 (CZ4), Suerte\_9 (CZ4), Thimann\_10 (CZ4), WinkNick\_10 (CZ4),

#### Start 20:

- Found in 1 of 122 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 111
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Jace\_8 (singleton),

#### Start 21:

- Found in 5 of 122 ( 4.1% ) of genes in pham
- Manual Annotations of this start: 3 of 111
- Called 80.0% of time when present
- Phage (with cluster) where this start called: DelaGarza\_15 (GF), Gingerbug\_12 (GF), Lesiram\_15 (GF), Teng\_16 (GF),

#### Start 22:

- Found in 38 of 122 ( 31.1% ) of genes in pham
- Manual Annotations of this start: 11 of 111
- Called 39.5% of time when present
- Phage (with cluster) where this start called: Antonio\_9 (CZ1), Eviarto\_9 (CZ1), Eyre\_9 (singleton), Faith5x5\_9 (CZ6), Gudmit\_10 (singleton), Hugley\_9 (CZ1), Hyzer\_9 (CZ1), Lton\_9 (CZ), Maridalia\_9 (CZ1), Moosehead\_9 (CZ6), OneDirection\_9 (CZ6), Pepperoni\_9 (CZ), REQ3\_43 (singleton), RavenCo17\_9 (CZ8), TimTam\_9 (CZ1),

#### Start 23:

- Found in 24 of 122 ( 19.7% ) of genes in pham
- Manual Annotations of this start: 23 of 111
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Antuna\_16 (GA), Appa\_15 (GA), Benry\_13 (EJ), Blett\_16 (GA), Bush\_16 (GA), Cicada\_15 (EJ), Dropshot\_15 (GA), FireCastle\_13 (EJ), Goodman\_14 (EJ), Htur\_13 (EJ), IndiRoo\_13 (EJ), Jera\_14 (EJ), Johann\_14 (EJ), MenE\_16 (GA), Milani\_14 (EJ), PermaG\_14 (EJ), Phonegingi\_15 (GA), Pickles13\_15 (GA), Rasovi\_13 (EJ), SBlackberry\_13 (EJ), TurboVicky\_13 (EJ), Typher\_15 (EJ), Warren\_16 (GA), Zanella\_13 (EJ),

#### Start 25:

- Found in 5 of 122 ( 4.1% ) of genes in pham
- Manual Annotations of this start: 2 of 111
- Called 40.0% of time when present
- Phage (with cluster) where this start called: Howe\_9 (CZ4), Twinkle\_9 (CZ4),

#### Start 26:

- Found in 1 of 122 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 111
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Finkle\_9 (singleton),

#### Start 27:

- Found in 2 of 122 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 1 of 111
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GMA1\_9 (singleton), TinyDot\_11 (singleton),

#### Start 28:

- Found in 26 of 122 ( 21.3% ) of genes in pham
- Manual Annotations of this start: 2 of 111
- Called 7.7% of time when present
- Phage (with cluster) where this start called: BaxterFox\_9 (CZ3), Sekhmet\_10 (CZ4),

#### Start 29:

- Found in 26 of 122 ( 21.3% ) of genes in pham
- Manual Annotations of this start: 24 of 111
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Attis\_9 (CZ2), Bjaner7\_9 (CZ2), Clap\_9 (CZ2), Cynthia\_9 (CZ2), Denise\_9 (CZ5), Ebert\_9 (CZ2), EdnaMode\_9 (CZ2), GemG\_9 (CZ2), Gizermo\_9 (CZ2), Haley23\_9 (CZ2), JCole\_9 (CZ2), Lamberg\_9 (CZ2), LordFarquaad\_9 (CZ2), Matteo\_9 (CZ2), Mbo4\_9 (singleton), Mocha12\_9

(CZ2), Nettuno\_9 (CZ2), Pickett\_9 (CZ2), Sahara\_9 (CZ2), Savage\_9 (CZ2), SoilAssassin\_9 (CZ2), Sproutie\_9 (CZ2), TuertoX\_9 (CZ2), Vasanti\_9 (CZ2), Whiteclaw\_9 (CZ2), Yeet412\_9 (CZ2),

### **Summary by clusters:**

There are 13 clusters represented in this pham: singleton, EJ, CZ2, CZ3, CZ8, CZ1, CZ6, CZ7, CZ4, CZ5, GF, GA, CZ,

Info for manual annotations of cluster CZ:

- Start number 16 was manually annotated 2 times for cluster CZ.
- Start number 22 was manually annotated 1 time for cluster CZ.

Info for manual annotations of cluster CZ1:

- Start number 14 was manually annotated 4 times for cluster CZ1.
- Start number 16 was manually annotated 17 times for cluster CZ1.
- Start number 22 was manually annotated 4 times for cluster CZ1.

Info for manual annotations of cluster CZ2:

- Start number 29 was manually annotated 23 times for cluster CZ2.

Info for manual annotations of cluster CZ3:

- Start number 16 was manually annotated 2 times for cluster CZ3.
- Start number 28 was manually annotated 1 time for cluster CZ3.

Info for manual annotations of cluster CZ4:

- Start number 16 was manually annotated 4 times for cluster CZ4.
- Start number 17 was manually annotated 13 times for cluster CZ4.
- Start number 25 was manually annotated 2 times for cluster CZ4.
- Start number 28 was manually annotated 1 time for cluster CZ4.

Info for manual annotations of cluster CZ5:

- Start number 29 was manually annotated 1 time for cluster CZ5.

Info for manual annotations of cluster CZ6:

- Start number 22 was manually annotated 3 times for cluster CZ6.

Info for manual annotations of cluster CZ7:

- Start number 16 was manually annotated 1 time for cluster CZ7.

Info for manual annotations of cluster CZ8:

- Start number 22 was manually annotated 1 time for cluster CZ8.

Info for manual annotations of cluster EJ:

- Start number 23 was manually annotated 14 times for cluster EJ.

Info for manual annotations of cluster GA:

- Start number 23 was manually annotated 9 times for cluster GA.

Info for manual annotations of cluster GF:

- Start number 21 was manually annotated 3 times for cluster GF.

**Gene Information:**

Gene: Adora\_9 Start: 6677, Stop: 7039, Start Num: 16

Candidate Starts for Adora\_9:

(8, 6473), (Start: 16 @6677 has 26 MA's), (Start: 25 @6719 has 2 MA's), (Start: 28 @6725 has 2 MA's), (41, 6800), (47, 6818), (59, 6878), (63, 6899), (65, 6935), (66, 6938),

Gene: Agueybana\_9 Start: 7344, Stop: 7697, Start Num: 16

Candidate Starts for Agueybana\_9:

(Start: 14 @7329 has 4 MA's), (Start: 16 @7344 has 26 MA's), (Start: 22 @7377 has 11 MA's), (35, 7419), (45, 7470), (58, 7533), (63, 7557),

Gene: AlumE\_9 Start: 7344, Stop: 7697, Start Num: 16

Candidate Starts for AlumE\_9:

(Start: 14 @7329 has 4 MA's), (Start: 16 @7344 has 26 MA's), (Start: 22 @7377 has 11 MA's), (35, 7419), (45, 7470), (58, 7533), (63, 7557),

Gene: Annalisa\_10 Start: 7010, Stop: 7345, Start Num: 17

Candidate Starts for Annalisa\_10:

(Start: 17 @7010 has 13 MA's), (Start: 28 @7031 has 2 MA's), (35, 7067), (60, 7190), (63, 7205),

Gene: Antonio\_9 Start: 7377, Stop: 7697, Start Num: 22

Candidate Starts for Antonio\_9:

(Start: 16 @7344 has 26 MA's), (Start: 22 @7377 has 11 MA's), (35, 7419), (45, 7470), (58, 7533), (63, 7557),

Gene: Antuna\_16 Start: 8983, Stop: 9306, Start Num: 23

Candidate Starts for Antuna\_16:

(Start: 23 @8983 has 23 MA's), (38, 9052), (44, 9085), (55, 9127), (59, 9154), (63, 9175), (66, 9214), (81, 9289), (82, 9292),

Gene: Appa\_15 Start: 8845, Stop: 9168, Start Num: 23

Candidate Starts for Appa\_15:

(Start: 23 @8845 has 23 MA's), (38, 8914), (44, 8947), (55, 8989), (59, 9016), (63, 9037), (66, 9076), (72, 9103), (81, 9151), (82, 9154),

Gene: Attis\_9 Start: 6508, Stop: 6834, Start Num: 29

Candidate Starts for Attis\_9:

(2, 6034), (3, 6163), (Start: 29 @6508 has 24 MA's), (33, 6535), (40, 6577), (48, 6601), (51, 6616), (59, 6658), (66, 6718),

Gene: BatStarr\_9 Start: 7329, Stop: 7697, Start Num: 14

Candidate Starts for BatStarr\_9:

(Start: 14 @7329 has 4 MA's), (Start: 16 @7344 has 26 MA's), (Start: 22 @7377 has 11 MA's), (35, 7419), (45, 7470), (58, 7533), (63, 7557),

Gene: BaxterFox\_9 Start: 6731, Stop: 7045, Start Num: 28

Candidate Starts for BaxterFox\_9:

(5, 6434), (12, 6527), (Start: 16 @6680 has 26 MA's), (Start: 28 @6731 has 2 MA's), (63, 6905), (65, 6941),

Gene: Beenie\_10 Start: 7004, Stop: 7339, Start Num: 17

Candidate Starts for Beenie\_10:



(Start: 17 @7004 has 13 MA's), (Start: 28 @7025 has 2 MA's), (35, 7061), (55, 7151), (60, 7184), (63, 7199),

Gene: Benry\_13 Start: 9080, Stop: 9403, Start Num: 23

Candidate Starts for Benry\_13:

(19, 9071), (Start: 23 @9080 has 23 MA's), (32, 9116), (56, 9242), (61, 9269), (66, 9311), (74, 9344), (82, 9389),

Gene: Bialota\_9 Start: 7344, Stop: 7697, Start Num: 16

Candidate Starts for Bialota\_9:

(Start: 14 @7329 has 4 MA's), (Start: 16 @7344 has 26 MA's), (Start: 22 @7377 has 11 MA's), (35, 7419), (45, 7470), (58, 7533), (63, 7557),

Gene: Bjaner7\_9 Start: 6508, Stop: 6834, Start Num: 29

Candidate Starts for Bjaner7\_9:

(2, 6034), (3, 6163), (Start: 29 @6508 has 24 MA's), (33, 6535), (40, 6577), (48, 6601), (51, 6616), (59, 6658), (66, 6718),

Gene: Blett\_16 Start: 8998, Stop: 9321, Start Num: 23

Candidate Starts for Blett\_16:

(Start: 23 @8998 has 23 MA's), (38, 9067), (44, 9100), (55, 9142), (59, 9169), (63, 9190), (66, 9229), (81, 9304), (82, 9307),

Gene: Bosnia\_9 Start: 7344, Stop: 7697, Start Num: 16

Candidate Starts for Bosnia\_9:

(Start: 14 @7329 has 4 MA's), (Start: 16 @7344 has 26 MA's), (Start: 22 @7377 has 11 MA's), (35, 7419), (45, 7470), (58, 7533), (63, 7557),

Gene: BoyNamedSue\_9 Start: 7344, Stop: 7697, Start Num: 16

Candidate Starts for BoyNamedSue\_9:

(Start: 14 @7329 has 4 MA's), (Start: 16 @7344 has 26 MA's), (Start: 22 @7377 has 11 MA's), (35, 7419), (45, 7470), (58, 7533), (63, 7557),

Gene: Bunnybear\_9 Start: 7335, Stop: 7688, Start Num: 16

Candidate Starts for Bunnybear\_9:

(Start: 14 @7320 has 4 MA's), (Start: 16 @7335 has 26 MA's), (Start: 22 @7368 has 11 MA's), (35, 7410), (45, 7461), (58, 7524), (63, 7548), (73, 7617),

Gene: Bush\_16 Start: 8979, Stop: 9302, Start Num: 23

Candidate Starts for Bush\_16:

(Start: 23 @8979 has 23 MA's), (38, 9048), (44, 9081), (55, 9123), (59, 9150), (63, 9171), (66, 9210), (81, 9285), (82, 9288),

Gene: Cicada\_15 Start: 11149, Stop: 11472, Start Num: 23

Candidate Starts for Cicada\_15:

(19, 11140), (Start: 23 @11149 has 23 MA's), (32, 11185), (44, 11251), (53, 11287), (66, 11380), (74, 11413), (76, 11422), (82, 11458),

Gene: Clap\_9 Start: 6508, Stop: 6834, Start Num: 29

Candidate Starts for Clap\_9:

(2, 6034), (3, 6163), (Start: 29 @6508 has 24 MA's), (33, 6535), (40, 6577), (48, 6601), (51, 6616), (59, 6658), (66, 6718), (67, 6724),

Gene: Clark\_10 Start: 7010, Stop: 7345, Start Num: 17

Candidate Starts for Clark\_10:

(Start: 17 @7010 has 13 MA's), (Start: 28 @7031 has 2 MA's), (35, 7067), (60, 7190), (63, 7205),

Gene: Cynthia\_9 Start: 6508, Stop: 6834, Start Num: 29

Candidate Starts for Cynthia\_9:

(2, 6034), (3, 6163), (Start: 29 @6508 has 24 MA's), (33, 6535), (40, 6577), (48, 6601), (51, 6616), (59, 6658), (66, 6718), (67, 6724),

Gene: DelaGarza\_15 Start: 9604, Stop: 9954, Start Num: 21

Candidate Starts for DelaGarza\_15:

(Start: 21 @9604 has 3 MA's), (33, 9652), (42, 9715), (47, 9733), (49, 9745), (50, 9748), (55, 9769), (59, 9796), (62, 9814), (63, 9817), (70, 9880), (72, 9886), (73, 9889), (77, 9904), (82, 9940), (83, 9943),

Gene: Denise\_9 Start: 6517, Stop: 6843, Start Num: 29

Candidate Starts for Denise\_9:

(Start: 29 @6517 has 24 MA's), (33, 6544), (40, 6586), (48, 6610), (51, 6625), (59, 6667), (66, 6727),

Gene: DobbysSock\_9 Start: 6502, Stop: 6837, Start Num: 17

Candidate Starts for DobbysSock\_9:

(Start: 17 @6502 has 13 MA's), (Start: 28 @6523 has 2 MA's), (35, 6559), (55, 6649), (60, 6682), (63, 6697),

Gene: Dolores\_10 Start: 7004, Stop: 7339, Start Num: 17

Candidate Starts for Dolores\_10:

(Start: 17 @7004 has 13 MA's), (Start: 28 @7025 has 2 MA's), (35, 7061), (55, 7151), (60, 7184), (63, 7199),

Gene: Dorito\_9 Start: 6508, Stop: 6843, Start Num: 17

Candidate Starts for Dorito\_9:

(Start: 17 @6508 has 13 MA's), (Start: 28 @6529 has 2 MA's), (35, 6565), (60, 6688), (63, 6703),

Gene: Dropshot\_15 Start: 8845, Stop: 9168, Start Num: 23

Candidate Starts for Dropshot\_15:

(Start: 23 @8845 has 23 MA's), (38, 8914), (44, 8947), (55, 8989), (59, 9016), (63, 9037), (66, 9076), (81, 9151), (82, 9154),

Gene: Easley\_10 Start: 7004, Stop: 7339, Start Num: 17

Candidate Starts for Easley\_10:

(Start: 17 @7004 has 13 MA's), (Start: 28 @7025 has 2 MA's), (35, 7061), (55, 7151), (60, 7184), (63, 7199),

Gene: Ebert\_9 Start: 6508, Stop: 6834, Start Num: 29

Candidate Starts for Ebert\_9:

(2, 6034), (3, 6163), (Start: 29 @6508 has 24 MA's), (33, 6535), (40, 6577), (48, 6601), (51, 6616), (59, 6658), (66, 6718), (67, 6724),

Gene: EdnaMode\_9 Start: 6508, Stop: 6834, Start Num: 29

Candidate Starts for EdnaMode\_9:

(Start: 29 @6508 has 24 MA's), (33, 6535), (46, 6598), (48, 6601), (51, 6616), (59, 6658), (66, 6718),

Gene: Eudoria\_9 Start: 7344, Stop: 7697, Start Num: 16

Candidate Starts for Eudoria\_9:

(Start: 16 @7344 has 26 MA's), (Start: 22 @7377 has 11 MA's), (35, 7419), (45, 7470), (58, 7533), (63, 7557),

Gene: Eviarto\_9 Start: 7377, Stop: 7697, Start Num: 22

Candidate Starts for Eviarto\_9:

(Start: 14 @7329 has 4 MA's), (Start: 16 @7344 has 26 MA's), (Start: 22 @7377 has 11 MA's), (35, 7419), (45, 7470), (58, 7533), (63, 7557),

Gene: Eyre\_9 Start: 7136, Stop: 7498, Start Num: 22

Candidate Starts for Eyre\_9:

(4, 6848), (6, 6884), (Start: 22 @7136 has 11 MA's), (40, 7217), (51, 7256), (67, 7364), (78, 7439),

Gene: Faith5x5\_9 Start: 6467, Stop: 6802, Start Num: 22

Candidate Starts for Faith5x5\_9:

(Start: 22 @6467 has 11 MA's), (33, 6503), (34, 6506), (35, 6509), (40, 6545), (48, 6569), (51, 6584), (55, 6599), (64, 6659),

Gene: Finkle\_9 Start: 6638, Stop: 6967, Start Num: 26

Candidate Starts for Finkle\_9:

(Start: 26 @6638 has 1 MA's), (35, 6677), (36, 6686), (55, 6776), (59, 6803), (63, 6824), (73, 6896),

Gene: FireCastle\_13 Start: 10810, Stop: 11133, Start Num: 23

Candidate Starts for FireCastle\_13:

(19, 10801), (Start: 23 @10810 has 23 MA's), (32, 10846), (44, 10912), (53, 10948), (66, 11041), (71, 11065), (74, 11074), (76, 11083), (82, 11119),

Gene: GMA1\_9 Start: 6867, Stop: 7187, Start Num: 27

Candidate Starts for GMA1\_9:

(9, 6651), (11, 6669), (Start: 27 @6867 has 1 MA's), (30, 6876), (31, 6885), (84, 7179),

Gene: GemG\_9 Start: 6508, Stop: 6834, Start Num: 29

Candidate Starts for GemG\_9:

(2, 6034), (3, 6163), (Start: 29 @6508 has 24 MA's), (33, 6535), (40, 6577), (48, 6601), (51, 6616), (59, 6658), (66, 6718), (67, 6724),

Gene: Gingerbug\_12 Start: 8787, Stop: 9137, Start Num: 21

Candidate Starts for Gingerbug\_12:

(Start: 21 @8787 has 3 MA's), (33, 8835), (40, 8892), (49, 8928), (50, 8931), (55, 8952), (59, 8979), (62, 8997), (63, 9000), (70, 9063), (72, 9069), (82, 9123), (83, 9126),

Gene: Gizermo\_9 Start: 6508, Stop: 6834, Start Num: 29

Candidate Starts for Gizermo\_9:

(2, 6034), (3, 6163), (Start: 29 @6508 has 24 MA's), (33, 6535), (40, 6577), (48, 6601), (51, 6616), (59, 6658), (66, 6718), (67, 6724),

Gene: Goodman\_14 Start: 11061, Stop: 11384, Start Num: 23

Candidate Starts for Goodman\_14:

(19, 11052), (Start: 23 @11061 has 23 MA's), (32, 11097), (76, 11334), (82, 11370),

Gene: Gudmit\_10 Start: 7283, Stop: 7618, Start Num: 22

Candidate Starts for Gudmit\_10:

(Start: 22 @7283 has 11 MA's), (33, 7319), (34, 7322), (35, 7325), (39, 7358), (40, 7361), (46, 7382), (48, 7385), (50, 7394), (51, 7400), (54, 7412), (55, 7415),

Gene: Haley23\_9 Start: 6508, Stop: 6834, Start Num: 29

Candidate Starts for Haley23\_9:

(2, 6034), (3, 6163), (Start: 29 @6508 has 24 MA's), (33, 6535), (40, 6577), (48, 6601), (51, 6616), (59, 6658), (66, 6718), (67, 6724),

Gene: Herod\_9 Start: 7329, Stop: 7697, Start Num: 14

Candidate Starts for Herod\_9:

(Start: 14 @7329 has 4 MA's), (Start: 16 @7344 has 26 MA's), (Start: 22 @7377 has 11 MA's), (35, 7419), (45, 7470), (58, 7533), (63, 7557),

Gene: Hortense\_9 Start: 6677, Stop: 7039, Start Num: 16

Candidate Starts for Hortense\_9:

(8, 6473), (Start: 16 @6677 has 26 MA's), (Start: 25 @6719 has 2 MA's), (Start: 28 @6725 has 2 MA's), (41, 6800), (47, 6818), (59, 6878), (63, 6899), (65, 6935), (66, 6938),

Gene: Howe\_9 Start: 6719, Stop: 7039, Start Num: 25

Candidate Starts for Howe\_9:

(8, 6473), (Start: 16 @6677 has 26 MA's), (Start: 25 @6719 has 2 MA's), (Start: 28 @6725 has 2 MA's), (41, 6800), (47, 6818), (59, 6878), (63, 6899), (65, 6935), (66, 6938),

Gene: Htur\_13 Start: 11064, Stop: 11387, Start Num: 23

Candidate Starts for Htur\_13:

(19, 11055), (Start: 23 @11064 has 23 MA's), (32, 11100), (33, 11109), (37, 11127), (53, 11202), (66, 11295), (74, 11328), (82, 11373), (84, 11379),

Gene: Hugley\_9 Start: 7377, Stop: 7697, Start Num: 22

Candidate Starts for Hugley\_9:

(Start: 14 @7329 has 4 MA's), (Start: 16 @7344 has 26 MA's), (Start: 22 @7377 has 11 MA's), (35, 7419), (45, 7470), (58, 7533), (63, 7557),

Gene: Hyzer\_9 Start: 7378, Stop: 7698, Start Num: 22

Candidate Starts for Hyzer\_9:

(Start: 16 @7345 has 26 MA's), (Start: 22 @7378 has 11 MA's), (35, 7420), (45, 7471), (55, 7510), (58, 7534), (59, 7537), (63, 7558),

Gene: IndiRoo\_13 Start: 9088, Stop: 9411, Start Num: 23

Candidate Starts for IndiRoo\_13:

(19, 9079), (Start: 23 @9088 has 23 MA's), (32, 9124), (56, 9250), (61, 9277), (66, 9319), (74, 9352), (82, 9397),

Gene: JCole\_9 Start: 6508, Stop: 6834, Start Num: 29

Candidate Starts for JCole\_9:

(2, 6034), (3, 6163), (Start: 29 @6508 has 24 MA's), (33, 6535), (40, 6577), (48, 6601), (51, 6616), (59, 6658), (66, 6718), (67, 6724),

Gene: Jace\_8 Start: 7053, Stop: 7382, Start Num: 20

Candidate Starts for Jace\_8:

(Start: 20 @7053 has 1 MA's), (33, 7095), (45, 7152), (48, 7161), (54, 7188), (55, 7191), (63, 7239), (84, 7374),

Gene: Jera\_14 Start: 10142, Stop: 10465, Start Num: 23

Candidate Starts for Jera\_14:

(15, 10097), (Start: 23 @10142 has 23 MA's), (32, 10178), (35, 10193), (40, 10229), (53, 10280), (57, 10310), (66, 10373), (82, 10451),

Gene: Johann\_14 Start: 11061, Stop: 11384, Start Num: 23

Candidate Starts for Johann\_14:

(19, 11052), (Start: 23 @11061 has 23 MA's), (32, 11097), (76, 11334), (82, 11370),

Gene: Kita\_9 Start: 7344, Stop: 7697, Start Num: 16

Candidate Starts for Kita\_9:

(Start: 16 @7344 has 26 MA's), (Start: 22 @7377 has 11 MA's), (35, 7419), (45, 7470), (58, 7533), (63, 7557),

Gene: Lamberg\_9 Start: 6508, Stop: 6834, Start Num: 29

Candidate Starts for Lamberg\_9:

(Start: 29 @6508 has 24 MA's), (33, 6535), (46, 6598), (48, 6601), (51, 6616), (59, 6658), (66, 6718),

Gene: Lesiram\_15 Start: 9580, Stop: 9930, Start Num: 21

Candidate Starts for Lesiram\_15:

(Start: 21 @9580 has 3 MA's), (33, 9628), (42, 9691), (49, 9721), (50, 9724), (55, 9745), (59, 9772), (62, 9790), (63, 9793), (70, 9856), (72, 9862), (73, 9865), (77, 9880), (82, 9916), (83, 9919),

Gene: LordFarquaad\_9 Start: 6508, Stop: 6834, Start Num: 29

Candidate Starts for LordFarquaad\_9:

(2, 6034), (3, 6163), (Start: 29 @6508 has 24 MA's), (33, 6535), (40, 6577), (48, 6601), (51, 6616), (59, 6658), (66, 6718),

Gene: Lton\_9 Start: 6521, Stop: 6856, Start Num: 22

Candidate Starts for Lton\_9:

(10, 6320), (Start: 22 @6521 has 11 MA's), (33, 6557), (34, 6560), (46, 6620), (48, 6623), (51, 6638), (58, 6677), (64, 6713), (69, 6758), (77, 6794), (79, 6809),

Gene: Madeline\_9 Start: 7344, Stop: 7697, Start Num: 16

Candidate Starts for Madeline\_9:

(Start: 14 @7329 has 4 MA's), (Start: 16 @7344 has 26 MA's), (Start: 22 @7377 has 11 MA's), (35, 7419), (45, 7470), (58, 7533), (63, 7557),

Gene: Manasvini\_9 Start: 7344, Stop: 7697, Start Num: 16

Candidate Starts for Manasvini\_9:

(Start: 16 @7344 has 26 MA's), (Start: 22 @7377 has 11 MA's), (35, 7419), (45, 7470), (58, 7533), (63, 7557),

Gene: Maridalia\_9 Start: 7377, Stop: 7697, Start Num: 22

Candidate Starts for Maridalia\_9:

(Start: 16 @7344 has 26 MA's), (Start: 22 @7377 has 11 MA's), (35, 7419), (45, 7470), (58, 7533), (63, 7557),

Gene: Matteo\_9 Start: 6508, Stop: 6834, Start Num: 29

Candidate Starts for Matteo\_9:

(2, 6034), (3, 6163), (Start: 29 @6508 has 24 MA's), (33, 6535), (40, 6577), (48, 6601), (51, 6616), (59, 6658), (66, 6718),

Gene: Mbo4\_9 Start: 7186, Stop: 7509, Start Num: 29  
Candidate Starts for Mbo4\_9:  
(18, 7159), (24, 7180), (Start: 29 @7186 has 24 MA's), (43, 7264), (66, 7399),

Gene: Mcklovin\_10 Start: 7803, Stop: 8156, Start Num: 16  
Candidate Starts for Mcklovin\_10:  
(Start: 14 @7788 has 4 MA's), (Start: 16 @7803 has 26 MA's), (Start: 22 @7836 has 11 MA's), (35, 7878), (45, 7929), (58, 7992), (63, 8016),

Gene: MenE\_16 Start: 9113, Stop: 9436, Start Num: 23  
Candidate Starts for MenE\_16:  
(Start: 23 @9113 has 23 MA's), (38, 9182), (44, 9215), (55, 9257), (59, 9284), (63, 9305), (66, 9344), (81, 9419), (82, 9422),

Gene: MichaelScott\_10 Start: 7004, Stop: 7339, Start Num: 17  
Candidate Starts for MichaelScott\_10:  
(Start: 17 @7004 has 13 MA's), (Start: 28 @7025 has 2 MA's), (35, 7061), (55, 7151), (60, 7184), (63, 7199),

Gene: Milani\_14 Start: 9739, Stop: 10062, Start Num: 23  
Candidate Starts for Milani\_14:  
(1, 9241), (19, 9730), (Start: 23 @9739 has 23 MA's), (32, 9775), (56, 9901), (61, 9928), (66, 9970), (74, 10003), (82, 10048), (84, 10054),

Gene: Mocha12\_9 Start: 6508, Stop: 6834, Start Num: 29  
Candidate Starts for Mocha12\_9:  
(2, 6034), (3, 6163), (Start: 29 @6508 has 24 MA's), (33, 6535), (40, 6577), (48, 6601), (51, 6616), (59, 6658), (66, 6718), (67, 6724),

Gene: Moosehead\_9 Start: 6464, Stop: 6799, Start Num: 22  
Candidate Starts for Moosehead\_9:  
(Start: 22 @6464 has 11 MA's), (33, 6500), (34, 6503), (35, 6506), (40, 6542), (46, 6563), (48, 6566), (50, 6575), (51, 6581), (52, 6584), (54, 6593), (59, 6623),

Gene: Neobush\_9 Start: 7344, Stop: 7697, Start Num: 16  
Candidate Starts for Neobush\_9:  
(Start: 16 @7344 has 26 MA's), (Start: 22 @7377 has 11 MA's), (35, 7419), (45, 7470), (58, 7533), (63, 7557),

Gene: Nettuno\_9 Start: 6508, Stop: 6834, Start Num: 29  
Candidate Starts for Nettuno\_9:  
(Start: 29 @6508 has 24 MA's), (33, 6535), (46, 6598), (48, 6601), (51, 6616), (59, 6658), (66, 6718),

Gene: Nymphadora\_9 Start: 7344, Stop: 7697, Start Num: 16  
Candidate Starts for Nymphadora\_9:  
(Start: 14 @7329 has 4 MA's), (Start: 16 @7344 has 26 MA's), (Start: 22 @7377 has 11 MA's), (35, 7419), (45, 7470), (58, 7533), (63, 7557),

Gene: Ohgeesy\_9 Start: 6680, Stop: 7045, Start Num: 16  
Candidate Starts for Ohgeesy\_9:  
(5, 6434), (12, 6527), (Start: 16 @6680 has 26 MA's), (Start: 28 @6731 has 2 MA's), (63, 6905), (65, 6941),

Gene: OneDirection\_9 Start: 6465, Stop: 6800, Start Num: 22

Candidate Starts for OneDirection\_9:

(Start: 22 @6465 has 11 MA's), (33, 6501), (46, 6564), (48, 6567), (50, 6576), (51, 6582), (52, 6585), (59, 6624), (66, 6684), (69, 6702),

Gene: Oregano\_10 Start: 6675, Stop: 7010, Start Num: 17

Candidate Starts for Oregano\_10:

(Start: 17 @6675 has 13 MA's), (Start: 28 @6696 has 2 MA's), (35, 6732), (55, 6822), (60, 6855), (63, 6870),

Gene: PantheRoc\_9 Start: 6680, Stop: 7045, Start Num: 16

Candidate Starts for PantheRoc\_9:

(5, 6434), (12, 6527), (Start: 16 @6680 has 26 MA's), (Start: 28 @6731 has 2 MA's), (63, 6905), (65, 6941),

Gene: Pepperoni\_9 Start: 6815, Stop: 7150, Start Num: 22

Candidate Starts for Pepperoni\_9:

(10, 6614), (Start: 22 @6815 has 11 MA's), (33, 6851), (34, 6854), (46, 6914), (48, 6917), (51, 6932), (58, 6971), (64, 7007), (69, 7052), (77, 7088), (79, 7103),

Gene: PermaG\_14 Start: 11124, Stop: 11447, Start Num: 23

Candidate Starts for PermaG\_14:

(Start: 16 @11094 has 26 MA's), (19, 11115), (Start: 23 @11124 has 23 MA's), (32, 11160), (74, 11388), (75, 11391), (76, 11397), (82, 11433),

Gene: Phonegingi\_15 Start: 8845, Stop: 9168, Start Num: 23

Candidate Starts for Phonegingi\_15:

(7, 8602), (Start: 23 @8845 has 23 MA's), (32, 8881), (38, 8914), (44, 8947), (59, 9016), (63, 9037), (66, 9076), (81, 9151), (82, 9154),

Gene: PhriskyACE\_9 Start: 6508, Stop: 6843, Start Num: 17

Candidate Starts for PhriskyACE\_9:

(Start: 17 @6508 has 13 MA's), (Start: 28 @6529 has 2 MA's), (35, 6565), (60, 6688), (63, 6703),

Gene: Pickett\_9 Start: 6508, Stop: 6834, Start Num: 29

Candidate Starts for Pickett\_9:

(2, 6034), (3, 6163), (Start: 29 @6508 has 24 MA's), (33, 6535), (40, 6577), (48, 6601), (51, 6616), (59, 6658), (66, 6718),

Gene: Pickles13\_15 Start: 9015, Stop: 9338, Start Num: 23

Candidate Starts for Pickles13\_15:

(7, 8772), (Start: 21 @9009 has 3 MA's), (Start: 23 @9015 has 23 MA's), (34, 9063), (38, 9084), (44, 9117), (55, 9159), (59, 9186), (63, 9207), (68, 9261), (72, 9273), (81, 9321), (82, 9324),

Gene: Polly\_9 Start: 7344, Stop: 7697, Start Num: 16

Candidate Starts for Polly\_9:

(Start: 16 @7344 has 26 MA's), (Start: 22 @7377 has 11 MA's), (35, 7419), (45, 7470), (58, 7533), (63, 7557),

Gene: Powerball\_9 Start: 6508, Stop: 6843, Start Num: 17

Candidate Starts for Powerball\_9:

(Start: 17 @6508 has 13 MA's), (Start: 28 @6529 has 2 MA's), (35, 6565), (63, 6703),

Gene: REQ3\_43 Start: 23906, Stop: 24238, Start Num: 22

Candidate Starts for REQ3\_43:

(13, 23846), (Start: 22 @23906 has 11 MA's), (33, 23942), (40, 23984), (58, 24065), (63, 24089), (66, 24128),

Gene: Rasovi\_13 Start: 11064, Stop: 11387, Start Num: 23

Candidate Starts for Rasovi\_13:

(19, 11055), (Start: 23 @11064 has 23 MA's), (32, 11100), (33, 11109), (37, 11127), (53, 11202), (66, 11295), (74, 11328), (82, 11373), (84, 11379),

Gene: RavenCo17\_9 Start: 7317, Stop: 7679, Start Num: 22

Candidate Starts for RavenCo17\_9:

(Start: 22 @7317 has 11 MA's), (40, 7398), (51, 7437), (67, 7545), (78, 7620),

Gene: SBlackberry\_13 Start: 10901, Stop: 11224, Start Num: 23

Candidate Starts for SBlackberry\_13:

(15, 10856), (Start: 23 @10901 has 23 MA's), (32, 10937), (35, 10952), (40, 10988), (53, 11039), (57, 11069), (66, 11132), (82, 11210),

Gene: Sahara\_9 Start: 6524, Stop: 6850, Start Num: 29

Candidate Starts for Sahara\_9:

(Start: 29 @6524 has 24 MA's), (33, 6551), (46, 6614), (48, 6617), (51, 6632), (59, 6674),

Gene: Samman98\_10 Start: 7004, Stop: 7339, Start Num: 17

Candidate Starts for Samman98\_10:

(Start: 17 @7004 has 13 MA's), (Start: 28 @7025 has 2 MA's), (35, 7061), (55, 7151), (60, 7184), (63, 7199),

Gene: Savage\_9 Start: 6508, Stop: 6834, Start Num: 29

Candidate Starts for Savage\_9:

(2, 6034), (3, 6163), (Start: 29 @6508 has 24 MA's), (33, 6535), (40, 6577), (48, 6601), (51, 6616), (59, 6658), (66, 6718), (67, 6724),

Gene: Sekhmet\_10 Start: 7025, Stop: 7339, Start Num: 28

Candidate Starts for Sekhmet\_10:

(Start: 17 @7004 has 13 MA's), (Start: 28 @7025 has 2 MA's), (35, 7061), (55, 7151), (60, 7184), (63, 7199),

Gene: Shlim410\_9 Start: 6677, Stop: 7039, Start Num: 16

Candidate Starts for Shlim410\_9:

(8, 6473), (Start: 16 @6677 has 26 MA's), (Start: 25 @6719 has 2 MA's), (Start: 28 @6725 has 2 MA's), (41, 6800), (47, 6818), (59, 6878), (63, 6899), (65, 6935), (66, 6938),

Gene: Sidious\_9 Start: 6674, Stop: 7039, Start Num: 16

Candidate Starts for Sidious\_9:

(5, 6434), (Start: 16 @6674 has 26 MA's), (Start: 28 @6725 has 2 MA's), (63, 6899),

Gene: SoilAssassin\_9 Start: 6508, Stop: 6834, Start Num: 29

Candidate Starts for SoilAssassin\_9:

(2, 6034), (3, 6163), (Start: 29 @6508 has 24 MA's), (33, 6535), (40, 6577), (48, 6601), (51, 6616), (59, 6658), (66, 6718),

Gene: Sproutie\_9 Start: 6508, Stop: 6834, Start Num: 29



Candidate Starts for Sproutie\_9:

(2, 6034), (3, 6163), (Start: 29 @6508 has 24 MA's), (33, 6535), (40, 6577), (48, 6601), (51, 6616), (59, 6658), (66, 6718), (67, 6724),

Gene: Suerte\_9 Start: 6502, Stop: 6837, Start Num: 17

Candidate Starts for Suerte\_9:

(Start: 17 @6502 has 13 MA's), (Start: 28 @6523 has 2 MA's), (35, 6559), (55, 6649), (60, 6682), (63, 6697),

Gene: Suscepit\_9 Start: 7344, Stop: 7697, Start Num: 16

Candidate Starts for Suscepit\_9:

(Start: 16 @7344 has 26 MA's), (Start: 22 @7377 has 11 MA's), (35, 7419), (45, 7470), (58, 7533), (63, 7557),

Gene: Tayonia\_9 Start: 7344, Stop: 7697, Start Num: 16

Candidate Starts for Tayonia\_9:

(Start: 16 @7344 has 26 MA's), (Start: 22 @7377 has 11 MA's), (35, 7419), (45, 7470), (58, 7533), (63, 7557),

Gene: Teng\_16 Start: 9601, Stop: 9951, Start Num: 21

Candidate Starts for Teng\_16:

(Start: 21 @9601 has 3 MA's), (33, 9649), (42, 9712), (47, 9730), (49, 9742), (50, 9745), (55, 9766), (59, 9793), (62, 9811), (63, 9814), (70, 9877), (72, 9883), (73, 9886), (77, 9901), (82, 9937), (83, 9940),

Gene: ThankyouJordi\_9 Start: 7327, Stop: 7695, Start Num: 14

Candidate Starts for ThankyouJordi\_9:

(Start: 14 @7327 has 4 MA's), (Start: 16 @7342 has 26 MA's), (Start: 22 @7375 has 11 MA's), (35, 7417), (45, 7468), (58, 7531), (63, 7555), (66, 7594),

Gene: Thimann\_10 Start: 7004, Stop: 7339, Start Num: 17

Candidate Starts for Thimann\_10:

(Start: 17 @7004 has 13 MA's), (Start: 28 @7025 has 2 MA's), (35, 7061), (55, 7151), (60, 7184), (63, 7199),

Gene: TimTam\_9 Start: 7377, Stop: 7697, Start Num: 22

Candidate Starts for TimTam\_9:

(Start: 14 @7329 has 4 MA's), (Start: 16 @7344 has 26 MA's), (Start: 22 @7377 has 11 MA's), (35, 7419), (45, 7470), (58, 7533), (63, 7557),

Gene: TinyDot\_11 Start: 7635, Stop: 7961, Start Num: 27

Candidate Starts for TinyDot\_11:

(Start: 27 @7635 has 1 MA's), (54, 7764), (79, 7920), (80, 7929),

Gene: Trumpet\_9 Start: 7344, Stop: 7697, Start Num: 16

Candidate Starts for Trumpet\_9:

(Start: 16 @7344 has 26 MA's), (Start: 22 @7377 has 11 MA's), (35, 7419), (45, 7470), (58, 7533), (63, 7557),

Gene: TuertoX\_9 Start: 6508, Stop: 6834, Start Num: 29

Candidate Starts for TuertoX\_9:

(2, 6034), (3, 6163), (Start: 29 @6508 has 24 MA's), (33, 6535), (40, 6577), (48, 6601), (51, 6616), (59, 6658), (66, 6718), (67, 6724),

Gene: TurboVicky\_13 Start: 10895, Stop: 11218, Start Num: 23

Candidate Starts for TurboVicky\_13:

(15, 10850), (Start: 23 @10895 has 23 MA's), (32, 10931), (35, 10946), (40, 10982), (53, 11033), (57, 11063), (66, 11126), (82, 11204),

Gene: Twinkle\_9 Start: 6719, Stop: 7039, Start Num: 25

Candidate Starts for Twinkle\_9:

(8, 6473), (Start: 16 @6677 has 26 MA's), (Start: 25 @6719 has 2 MA's), (Start: 28 @6725 has 2 MA's), (41, 6800), (47, 6818), (59, 6878), (63, 6899), (65, 6935), (66, 6938),

Gene: Typher\_15 Start: 11029, Stop: 11352, Start Num: 23

Candidate Starts for Typher\_15:

(15, 10984), (Start: 23 @11029 has 23 MA's), (32, 11065), (33, 11074), (35, 11080), (40, 11116), (53, 11167), (57, 11197), (82, 11338),

Gene: Vasanti\_9 Start: 6512, Stop: 6853, Start Num: 29

Candidate Starts for Vasanti\_9:

(2, 6038), (3, 6167), (Start: 29 @6512 has 24 MA's), (33, 6539), (40, 6581), (46, 6602), (48, 6605), (51, 6620), (58, 6659), (76, 6785),

Gene: Warren\_16 Start: 9042, Stop: 9365, Start Num: 23

Candidate Starts for Warren\_16:

(Start: 23 @9042 has 23 MA's), (38, 9111), (44, 9144), (55, 9186), (59, 9213), (63, 9234), (66, 9273), (72, 9300), (81, 9348), (82, 9351),

Gene: WelcomeAyanna\_9 Start: 7342, Stop: 7695, Start Num: 16

Candidate Starts for WelcomeAyanna\_9:

(Start: 14 @7327 has 4 MA's), (Start: 16 @7342 has 26 MA's), (Start: 22 @7375 has 11 MA's), (35, 7417), (45, 7468), (58, 7531), (63, 7555), (66, 7594),

Gene: Whiteclaw\_9 Start: 6508, Stop: 6834, Start Num: 29

Candidate Starts for Whiteclaw\_9:

(2, 6034), (3, 6163), (Start: 29 @6508 has 24 MA's), (33, 6535), (40, 6577), (48, 6601), (51, 6616), (59, 6658), (66, 6718), (67, 6724),

Gene: WinkNick\_10 Start: 7004, Stop: 7339, Start Num: 17

Candidate Starts for WinkNick\_10:

(Start: 17 @7004 has 13 MA's), (Start: 28 @7025 has 2 MA's), (35, 7061), (55, 7151), (60, 7184), (63, 7199),

Gene: Yeet412\_9 Start: 6508, Stop: 6834, Start Num: 29

Candidate Starts for Yeet412\_9:

(2, 6034), (3, 6163), (Start: 29 @6508 has 24 MA's), (33, 6535), (40, 6577), (48, 6601), (51, 6616), (59, 6658), (66, 6718),

Gene: Yeezy\_9 Start: 6677, Stop: 7042, Start Num: 16

Candidate Starts for Yeezy\_9:

(5, 6431), (12, 6524), (Start: 16 @6677 has 26 MA's), (Start: 28 @6728 has 2 MA's), (63, 6902),

Gene: Zameen\_9 Start: 7344, Stop: 7697, Start Num: 16

Candidate Starts for Zameen\_9:

(Start: 16 @7344 has 26 MA's), (Start: 22 @7377 has 11 MA's), (35, 7419), (45, 7470), (58, 7533), (63, 7557),

Gene: Zanella\_13 Start: 10898, Stop: 11221, Start Num: 23

Candidate Starts for Zanella\_13:

(Start: 23 @10898 has 23 MA's), (32, 10934), (35, 10949), (40, 10985), (53, 11036), (57, 11066), (66, 11129), (82, 11207),

Gene: Zirinka\_9 Start: 7329, Stop: 7697, Start Num: 14

Candidate Starts for Zirinka\_9:

(Start: 14 @7329 has 4 MA's), (Start: 16 @7344 has 26 MA's), (Start: 22 @7377 has 11 MA's), (35, 7419), (45, 7470), (58, 7533), (63, 7557),