

Pham 202775



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 202775 Report

This analysis was run 01/18/25 on database version 583.

Pham number 202775 has 128 members, 8 are drafts.

Phages represented in each track:

- Track 1 : Cornie\_9
- Track 2 : Babsiella\_10
- Track 3 : QueenHazel\_10, HC\_10, Xula\_9
- Track 4 : Brujita\_10, Island3\_10
- Track 5 : Che9c\_9
- Track 6 : Sbash\_9
- Track 7 : BAKA\_23, Minerva\_26, ThreeRngTarjay\_25, HokkenD\_21, Yeet\_24, EricMillard\_26, Pound\_26, Dallas\_26, Constella\_21, Odette\_25, Bobby\_27, Duke13\_23, Wanda\_27, Halley\_26, Redno2\_25, Bagrid\_24, Ejimix\_27, Klein\_26, Kalah2\_27, DmpstrDiver\_25, JuicyJay\_28, Phoebus\_26, Beem\_26, Zelink\_27
- Track 8 : Squint\_23, Courthouse\_24, Porcelain\_24, Ariel\_24, Gonephishing\_22, Superphikiman\_24, LittleE\_24, MiaZeal\_24
- Track 9 : NihilNomen\_25, Schatzie\_24, Hughesyang\_25, Dove\_24, Bombitas\_23
- Track 10 : KashFlow\_18, Lucky2013\_24, Omega\_26
- Track 11 : Optimus\_24, Thibault\_22
- Track 12 : Hannaconda\_21
- Track 13 : Melville\_9, Xerxes\_9, Carcharodon\_9, Fulbright\_9, Bosection6\_9, Gex\_9, Philonius\_9, Andies\_9, Duplicity\_9, Scitech\_9, Xeno\_9, Aggie\_9, Schnauzer\_9, Silvafighter\_9, EGUnicorn\_9, Tapioca\_9, Journey\_9, Magsby\_9, Charlie\_9, Parmesanjohn\_9, Silvy\_9, Smurph\_9, Pipsqueaks\_9, Phloss\_9, Chewbacca\_9
- Track 14 : SkinnyPete\_9, Snekmaggon\_9, PhancyPhin\_9, Hanako\_9, Phrann\_9, Raymond7\_9, Shweta\_9, Jamie19\_9, Redi\_9, SpongeBob\_9, Nенаe\_9, ShrimpFriedEgg\_9, Panchino\_9, Rebel\_9, BabeRuth\_9, Purgamenstris\_9
- Track 15 : MichelleMyBell\_9, Rubeelu\_9, Kevin1\_9, Butters\_9
- Track 16 : Familton\_44, Mori\_42, Corndog\_45, Zebo\_42, Krili\_42, Murai\_43, Winget\_44, Alkhayr\_41, YungJamal\_46, Wildflower\_43, Dylan\_42, Blessica\_44, SchoolBus\_43, JangDynasty\_43, Firecracker\_43, MadKillah\_44, NiebruSaylor\_42, Shida\_43, TelAviv\_40, Catdawg\_43, Ryadel\_47, Vorrrps\_42, Zakhe101\_43, FoulBall\_43, Idergollasper\_43, Ashwin\_44, Vagabond\_43, Bora\_40, Schuy\_44
- Track 17 : Smooch\_45
- Track 18 : MooMoo\_8

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

The start number called the most often in the published annotations is 10, it was called in 70 of the 120 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Aggie\_9, Alkhayr\_41, Andies\_9, Ashwin\_44, BabeRuth\_9, Blessica\_44, Bora\_40, Bosection6\_9, Butters\_9, Carcharodon\_9, Catdawg\_43, Charlie\_9, Chewbacca\_9, Corndog\_45, Duplicity\_9, Dylan\_42, EGUnicorn\_9, Familton\_44, Firecracker\_43, FoulBall\_43, Fulbright\_9, Gex\_9, Hanako\_9, Idergollasper\_43, Jamie19\_9, JangDynasty\_43, Journey\_9, Kevin1\_9, Krili\_42, MadKillah\_44, Magsby\_9, Melville\_9, MichelleMyBell\_9, Mori\_42, Murai\_43, Nenae\_9, NiebruSaylor\_42, Panchino\_9, Parmesanjohn\_9, PhancyPhin\_9, Philonius\_9, Phloss\_9, Phrann\_9, Pipsqueaks\_9, Purgamenstris\_9, Raymond7\_9, Rebel\_9, Redi\_9, Rubeelu\_9, Ryadel\_47, Schnauzer\_9, SchoolBus\_43, Schuy\_44, Scitech\_9, Shida\_43, ShrimpFriedEgg\_9, Shweta\_9, Silvafighter\_9, Silvy\_9, SkinnyPete\_9, Smooch\_45, Smurph\_9, Snekmaggon\_9, SpongeBob\_9, Tapioca\_9, TelAviv\_40, Vagabond\_43, Vorrrps\_42, Wildflower\_43, Winget\_44, Xeno\_9, Xerxes\_9, YungJamal\_46, Zakhe101\_43, Zebo\_42,

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

- 

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

- Ariel\_24, BAKA\_23, Babsiella\_10, Bagrid\_24, Beem\_26, Bobby\_27, Bombitas\_23, Brujita\_10, Che9c\_9, Constella\_21, Cornie\_9, Courthouse\_24, Dallas\_26, DmpstrDiver\_25, Dove\_24, Duke13\_23, Ejimix\_27, EricMillard\_26, Gonephishing\_22, HC\_10, Halley\_26, Hannaconda\_21, HokkenD\_21, Hughesyang\_25, Island3\_10, JuicyJay\_28, Kalah2\_27, KashFlow\_18, Klein\_26, LittleE\_24, Lucky2013\_24, MiaZeal\_24, Minerva\_26, MooMoo\_8, NihilNomen\_25, Odette\_25, Omega\_26, Optimus\_24, Phoebus\_26, Porcelain\_24, Pound\_26, QueenHazel\_10, Redno2\_25, Sbash\_9, Schatzie\_24, Squint\_23, Superphikiman\_24, Thibault\_22, ThreeRngTarjay\_25, Wanda\_27, Xula\_9, Yeet\_24, Zelink\_27,

### Summary by start number:

Start 8:

- Found in 1 of 128 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 120
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cornie\_9 (F5),

Start 9:

- Found in 9 of 128 ( 7.0% ) of genes in pham
- Manual Annotations of this start: 8 of 120
- Called 88.9% of time when present
- Phage (with cluster) where this start called: Babsiella\_10 (I1), Brujita\_10 (I1), Che9c\_9 (I2), HC\_10 (I1), Island3\_10 (I1), QueenHazel\_10 (I1), Sbash\_9 (I2), Xula\_9 (I1),

Start 10:

- Found in 75 of 128 ( 58.6% ) of genes in pham
- Manual Annotations of this start: 70 of 120
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Aggie\_9 (N), Alkhayr\_41 (O), Andies\_9 (N), Ashwin\_44 (O), BabeRuth\_9 (N), Blessica\_44 (O), Bora\_40 (O), Bosection6\_9 (N), Butters\_9 (N), Carcharodon\_9 (N), Catdawg\_43 (O), Charlie\_9 (N), Chewbacca\_9 (N), Corndog\_45 (O), Duplicity\_9 (N), Dylan\_42 (O), EGUnicorn\_9 (N), Familton\_44 (O), Firecracker\_43 (O), FoulBall\_43 (O), Fulbright\_9 (N), Gex\_9 (N), Hanako\_9 (N), Idergollasper\_43 (O), Jamie19\_9 (N), JangDynasty\_43 (O), Journey\_9 (N), Kevin1\_9 (N), Krili\_42 (O), MadKillah\_44 (O), Magsby\_9 (N), Melville\_9 (N), MichelleMyBell\_9 (N), Mori\_42 (O), Murai\_43 (O), Nenae\_9 (N), NiebruSaylor\_42 (O), Panchino\_9 (N), Parmesanjohn\_9 (N), PhancyPhin\_9 (N), Philonius\_9 (N), Phloss\_9 (N), Phrann\_9 (N), Pipsqueaks\_9 (N), Purgamenstris\_9 (N), Raymond7\_9 (N), Rebel\_9 (N), Redi\_9 (N), Rubeelu\_9 (N), Ryadel\_47 (O), Schnauzer\_9 (N), SchoolBus\_43 (O), Schuy\_44 (O), Scitech\_9 (N), Shida\_43 (O), ShrimpFriedEgg\_9 (N), Shweta\_9 (N), Silvafighter\_9 (N), Silvy\_9 (N), SkinnyPete\_9 (N), Smooch\_45 (O), Smurph\_9 (N), Snekmaggedon\_9 (N), SpongeBob\_9 (N), Tapioca\_9 (N), TelAviv\_40 (O), Vagabond\_43 (O), Vorrrps\_42 (O), Wildflower\_43 (O), Winget\_44 (O), Xeno\_9 (N), Xerxes\_9 (N), YungJamal\_46 (O), Zakhe101\_43 (O), Zebo\_42 (O),

Start 11:

- Found in 43 of 128 ( 33.6% ) of genes in pham
- Manual Annotations of this start: 39 of 120
- Called 97.7% of time when present
- Phage (with cluster) where this start called: Ariel\_24 (J), BAKA\_23 (J), Bagrid\_24 (J), Beem\_26 (J), Bobby\_27 (J), Bombitas\_23 (J), Constella\_21 (J), Courthouse\_24 (J), Dallas\_26 (J), DmpstrDiver\_25 (J), Dove\_24 (J), Duke13\_23 (J), Ejimix\_27 (J), EricMillard\_26 (J), Gonephishing\_22 (J), Halley\_26 (J), HokkenD\_21 (J), Hughesyang\_25 (J), JuicyJay\_28 (J), Kalah2\_27 (J), KashFlow\_18 (J), Klein\_26 (J), LittleE\_24 (J), Lucky2013\_24 (J), MiaZeal\_24 (J), Minerva\_26 (J), NihilNomen\_25 (J), Odette\_25 (J), Omega\_26 (J), Optimus\_24 (J), Phoebus\_26 (J), Porcelain\_24 (J), Pound\_26 (J), Redno2\_25 (J), Schatzie\_24 (J), Squint\_23 (J), Superphikiman\_24 (J), Thibault\_22 (J), ThreeRngTarjay\_25 (J), Wanda\_27 (J), Yeet\_24 (J), Zelink\_27 (J),

Start 12:

- Found in 1 of 128 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 120
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MooMoo\_8 (singleton),

Start 16:

- Found in 128 of 128 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 1 of 120
- Called 0.8% of time when present
- Phage (with cluster) where this start called: Hannaconda\_21 (J),

### Summary by clusters:

There are 7 clusters represented in this pham: singleton, J, F5, I1, I2, O, N,

Info for manual annotations of cluster F5:

- Start number 8 was manually annotated 1 time for cluster F5.

Info for manual annotations of cluster I1:

- Start number 9 was manually annotated 6 times for cluster I1.

Info for manual annotations of cluster I2:

- Start number 9 was manually annotated 2 times for cluster I2.

Info for manual annotations of cluster J:

- Start number 11 was manually annotated 39 times for cluster J.
- Start number 16 was manually annotated 1 time for cluster J.

Info for manual annotations of cluster N:

- Start number 10 was manually annotated 42 times for cluster N.

Info for manual annotations of cluster O:

- Start number 10 was manually annotated 28 times for cluster O.

### **Gene Information:**

Gene: Aggie\_9 Start: 6438, Stop: 6782, Start Num: 10

Candidate Starts for Aggie\_9:

(3, 6360), (Start: 10 @6438 has 70 MA's), (Start: 16 @6471 has 1 MA's), (20, 6540), (23, 6594), (25, 6609), (26, 6612), (29, 6645), (36, 6729), (38, 6750),

Gene: Alkhayr\_41 Start: 22248, Stop: 22607, Start Num: 10

Candidate Starts for Alkhayr\_41:

(Start: 10 @22248 has 70 MA's), (Start: 16 @22278 has 1 MA's), (18, 22329), (19, 22341), (24, 22407), (33, 22515), (34, 22539),

Gene: Andies\_9 Start: 6438, Stop: 6782, Start Num: 10

Candidate Starts for Andies\_9:

(3, 6360), (Start: 10 @6438 has 70 MA's), (Start: 16 @6471 has 1 MA's), (20, 6540), (23, 6594), (25, 6609), (26, 6612), (29, 6645), (36, 6729), (38, 6750),

Gene: Ariel\_24 Start: 14093, Stop: 14437, Start Num: 11

Candidate Starts for Ariel\_24:

(Start: 11 @14093 has 39 MA's), (Start: 16 @14123 has 1 MA's), (19, 14189), (29, 14300), (30, 14303), (31, 14327), (38, 14405), (41, 14432),

Gene: Ashwin\_44 Start: 22246, Stop: 22605, Start Num: 10

Candidate Starts for Ashwin\_44:

(Start: 10 @22246 has 70 MA's), (Start: 16 @22276 has 1 MA's), (18, 22327), (19, 22339), (24, 22405), (33, 22513), (34, 22537),

Gene: BAKA\_23 Start: 16200, Stop: 16544, Start Num: 11

Candidate Starts for BAKA\_23:

(Start: 11 @16200 has 39 MA's), (Start: 16 @16230 has 1 MA's), (22, 16344), (29, 16407), (30, 16410),

Gene: BabeRuth\_9 Start: 6479, Stop: 6823, Start Num: 10

Candidate Starts for BabeRuth\_9:

(3, 6401), (Start: 10 @6479 has 70 MA's), (Start: 16 @6512 has 1 MA's), (20, 6581), (23, 6635), (25, 6650), (26, 6653), (28, 6683), (29, 6686), (36, 6770), (38, 6791),

Gene: Babsiella\_10 Start: 7526, Stop: 7921, Start Num: 9

Candidate Starts for Babsiella\_10:

(1, 7277), (5, 7454), (Start: 9 @7526 has 8 MA's), (Start: 16 @7562 has 1 MA's), (19, 7625), (20, 7631), (24, 7691), (29, 7736), (35, 7853), (37, 7880), (38, 7889), (40, 7898),

Gene: Bagrid\_24 Start: 15989, Stop: 16333, Start Num: 11

Candidate Starts for Bagrid\_24:

(Start: 11 @15989 has 39 MA's), (Start: 16 @16019 has 1 MA's), (22, 16133), (29, 16196), (30, 16199),

Gene: Beem\_26 Start: 16555, Stop: 16899, Start Num: 11

Candidate Starts for Beem\_26:

(Start: 11 @16555 has 39 MA's), (Start: 16 @16585 has 1 MA's), (22, 16699), (29, 16762), (30, 16765),

Gene: Blessica\_44 Start: 22649, Stop: 23008, Start Num: 10

Candidate Starts for Blessica\_44:

(Start: 10 @22649 has 70 MA's), (Start: 16 @22679 has 1 MA's), (18, 22730), (19, 22742), (24, 22808), (33, 22916), (34, 22940),

Gene: Bobby\_27 Start: 16508, Stop: 16852, Start Num: 11

Candidate Starts for Bobby\_27:

(Start: 11 @16508 has 39 MA's), (Start: 16 @16538 has 1 MA's), (22, 16652), (29, 16715), (30, 16718),

Gene: Bombitas\_23 Start: 15865, Stop: 16209, Start Num: 11

Candidate Starts for Bombitas\_23:

(4, 15799), (Start: 11 @15865 has 39 MA's), (Start: 16 @15895 has 1 MA's), (22, 16009), (29, 16072), (30, 16075),

Gene: Bora\_40 Start: 21699, Stop: 22058, Start Num: 10

Candidate Starts for Bora\_40:

(Start: 10 @21699 has 70 MA's), (Start: 16 @21729 has 1 MA's), (18, 21780), (19, 21792), (24, 21858), (33, 21966), (34, 21990),

Gene: Bosection6\_9 Start: 6438, Stop: 6782, Start Num: 10

Candidate Starts for Bosection6\_9:

(3, 6360), (Start: 10 @6438 has 70 MA's), (Start: 16 @6471 has 1 MA's), (20, 6540), (23, 6594), (25, 6609), (26, 6612), (29, 6645), (36, 6729), (38, 6750),

Gene: Brujita\_10 Start: 7530, Stop: 7922, Start Num: 9

Candidate Starts for Brujita\_10:

(5, 7458), (Start: 9 @7530 has 8 MA's), (Start: 16 @7566 has 1 MA's), (19, 7629), (20, 7635), (24, 7695), (29, 7740), (35, 7857), (37, 7881), (38, 7890), (40, 7899),

Gene: Butters\_9 Start: 6458, Stop: 6799, Start Num: 10

Candidate Starts for Butters\_9:

(Start: 10 @6458 has 70 MA's), (Start: 16 @6488 has 1 MA's), (23, 6611), (29, 6662), (36, 6746), (38, 6767),

Gene: Carcharodon\_9 Start: 6438, Stop: 6782, Start Num: 10

Candidate Starts for Carcharodon\_9:

(3, 6360), (Start: 10 @6438 has 70 MA's), (Start: 16 @6471 has 1 MA's), (20, 6540), (23, 6594), (25, 6609), (26, 6612), (29, 6645), (36, 6729), (38, 6750),

Gene: Catdawg\_43 Start: 22338, Stop: 22697, Start Num: 10

Candidate Starts for Catdawg\_43:

(Start: 10 @22338 has 70 MA's), (Start: 16 @22368 has 1 MA's), (18, 22419), (19, 22431), (24, 22497), (33, 22605), (34, 22629),

Gene: Charlie\_9 Start: 6438, Stop: 6782, Start Num: 10

Candidate Starts for Charlie\_9:

(3, 6360), (Start: 10 @6438 has 70 MA's), (Start: 16 @6471 has 1 MA's), (20, 6540), (23, 6594), (25, 6609), (26, 6612), (29, 6645), (36, 6729), (38, 6750),

Gene: Che9c\_9 Start: 7131, Stop: 7526, Start Num: 9

Candidate Starts for Che9c\_9:

(5, 7056), (Start: 9 @7131 has 8 MA's), (14, 7158), (15, 7164), (Start: 16 @7167 has 1 MA's), (21, 7245), (24, 7296), (29, 7341), (31, 7368), (35, 7458), (37, 7485), (38, 7494), (40, 7503),

Gene: Chewbacca\_9 Start: 6438, Stop: 6782, Start Num: 10

Candidate Starts for Chewbacca\_9:

(3, 6360), (Start: 10 @6438 has 70 MA's), (Start: 16 @6471 has 1 MA's), (20, 6540), (23, 6594), (25, 6609), (26, 6612), (29, 6645), (36, 6729), (38, 6750),

Gene: Constella\_21 Start: 15378, Stop: 15722, Start Num: 11

Candidate Starts for Constella\_21:

(Start: 11 @15378 has 39 MA's), (Start: 16 @15408 has 1 MA's), (22, 15522), (29, 15585), (30, 15588),

Gene: Corndog\_45 Start: 22796, Stop: 23155, Start Num: 10

Candidate Starts for Corndog\_45:

(Start: 10 @22796 has 70 MA's), (Start: 16 @22826 has 1 MA's), (18, 22877), (19, 22889), (24, 22955), (33, 23063), (34, 23087),

Gene: Cornie\_9 Start: 6660, Stop: 7010, Start Num: 8

Candidate Starts for Cornie\_9:

(6, 6645), (7, 6657), (Start: 8 @6660 has 1 MA's), (Start: 9 @6666 has 8 MA's), (Start: 16 @6702 has 1 MA's), (17, 6741), (23, 6822), (24, 6828), (27, 6864), (32, 6906), (39, 6984),

Gene: Courthouse\_24 Start: 14495, Stop: 14839, Start Num: 11

Candidate Starts for Courthouse\_24:

(Start: 11 @14495 has 39 MA's), (Start: 16 @14525 has 1 MA's), (19, 14591), (29, 14702), (30, 14705), (31, 14729), (38, 14807), (41, 14834),

Gene: Dallas\_26 Start: 16095, Stop: 16439, Start Num: 11

Candidate Starts for Dallas\_26:

(Start: 11 @16095 has 39 MA's), (Start: 16 @16125 has 1 MA's), (22, 16239), (29, 16302), (30, 16305),

Gene: DmpstrDiver\_25 Start: 16731, Stop: 17075, Start Num: 11

Candidate Starts for DmpstrDiver\_25:

(Start: 11 @16731 has 39 MA's), (Start: 16 @16761 has 1 MA's), (22, 16875), (29, 16938), (30, 16941),

Gene: Dove\_24 Start: 15864, Stop: 16208, Start Num: 11

Candidate Starts for Dove\_24:

(4, 15798), (Start: 11 @15864 has 39 MA's), (Start: 16 @15894 has 1 MA's), (22, 16008), (29, 16071), (30, 16074),

Gene: Duke13\_23 Start: 16129, Stop: 16473, Start Num: 11

Candidate Starts for Duke13\_23:

(Start: 11 @16129 has 39 MA's), (Start: 16 @16159 has 1 MA's), (22, 16273), (29, 16336), (30, 16339),

Gene: Duplicity\_9 Start: 6438, Stop: 6782, Start Num: 10

Candidate Starts for Duplicity\_9:

(3, 6360), (Start: 10 @6438 has 70 MA's), (Start: 16 @6471 has 1 MA's), (20, 6540), (23, 6594), (25, 6609), (26, 6612), (29, 6645), (36, 6729), (38, 6750),

Gene: Dylan\_42 Start: 22051, Stop: 22410, Start Num: 10

Candidate Starts for Dylan\_42:

(Start: 10 @22051 has 70 MA's), (Start: 16 @22081 has 1 MA's), (18, 22132), (19, 22144), (24, 22210), (33, 22318), (34, 22342),

Gene: EGUunicorn\_9 Start: 6438, Stop: 6782, Start Num: 10

Candidate Starts for EGUunicorn\_9:

(3, 6360), (Start: 10 @6438 has 70 MA's), (Start: 16 @6471 has 1 MA's), (20, 6540), (23, 6594), (25, 6609), (26, 6612), (29, 6645), (36, 6729), (38, 6750),

Gene: Ejimix\_27 Start: 17305, Stop: 17649, Start Num: 11

Candidate Starts for Ejimix\_27:

(Start: 11 @17305 has 39 MA's), (Start: 16 @17335 has 1 MA's), (22, 17449), (29, 17512), (30, 17515),

Gene: EricMillard\_26 Start: 16841, Stop: 17185, Start Num: 11

Candidate Starts for EricMillard\_26:

(Start: 11 @16841 has 39 MA's), (Start: 16 @16871 has 1 MA's), (22, 16985), (29, 17048), (30, 17051),

Gene: Familton\_44 Start: 22342, Stop: 22701, Start Num: 10

Candidate Starts for Familton\_44:

(Start: 10 @22342 has 70 MA's), (Start: 16 @22372 has 1 MA's), (18, 22423), (19, 22435), (24, 22501), (33, 22609), (34, 22633),

Gene: Firecracker\_43 Start: 21949, Stop: 22308, Start Num: 10

Candidate Starts for Firecracker\_43:

(Start: 10 @21949 has 70 MA's), (Start: 16 @21979 has 1 MA's), (18, 22030), (19, 22042), (24, 22108), (33, 22216), (34, 22240),

Gene: FoulBall\_43 Start: 22336, Stop: 22695, Start Num: 10

Candidate Starts for FoulBall\_43:

(Start: 10 @22336 has 70 MA's), (Start: 16 @22366 has 1 MA's), (18, 22417), (19, 22429), (24, 22495), (33, 22603), (34, 22627),

Gene: Fulbright\_9 Start: 6438, Stop: 6782, Start Num: 10

Candidate Starts for Fulbright\_9:

(3, 6360), (Start: 10 @6438 has 70 MA's), (Start: 16 @6471 has 1 MA's), (20, 6540), (23, 6594), (25, 6609), (26, 6612), (29, 6645), (36, 6729), (38, 6750),

Gene: Gex\_9 Start: 6438, Stop: 6782, Start Num: 10

Candidate Starts for Gex\_9:

(3, 6360), (Start: 10 @6438 has 70 MA's), (Start: 16 @6471 has 1 MA's), (20, 6540), (23, 6594), (25, 6609), (26, 6612), (29, 6645), (36, 6729), (38, 6750),

Gene: Gonephishing\_22 Start: 14668, Stop: 15012, Start Num: 11

Candidate Starts for Gonephishing\_22:

(Start: 11 @14668 has 39 MA's), (Start: 16 @14698 has 1 MA's), (19, 14764), (29, 14875), (30, 14878), (31, 14902), (38, 14980), (41, 15007),



Gene: HC\_10 Start: 7529, Stop: 7921, Start Num: 9

Candidate Starts for HC\_10:

(1, 7280), (5, 7457), (Start: 9 @7529 has 8 MA's), (Start: 16 @7565 has 1 MA's), (19, 7628), (20, 7634), (24, 7694), (29, 7739), (35, 7856), (37, 7880), (38, 7889), (40, 7898),

Gene: Halley\_26 Start: 16554, Stop: 16898, Start Num: 11

Candidate Starts for Halley\_26:

(Start: 11 @16554 has 39 MA's), (Start: 16 @16584 has 1 MA's), (22, 16698), (29, 16761), (30, 16764),

Gene: Hanako\_9 Start: 6479, Stop: 6823, Start Num: 10

Candidate Starts for Hanako\_9:

(3, 6401), (Start: 10 @6479 has 70 MA's), (Start: 16 @6512 has 1 MA's), (20, 6581), (23, 6635), (25, 6650), (26, 6653), (28, 6683), (29, 6686), (36, 6770), (38, 6791),

Gene: Hannaconda\_21 Start: 13205, Stop: 13519, Start Num: 16

Candidate Starts for Hannaconda\_21:

(Start: 11 @13175 has 39 MA's), (Start: 16 @13205 has 1 MA's), (19, 13271), (29, 13382), (30, 13385), (31, 13409), (38, 13487), (41, 13514),

Gene: HokkenD\_21 Start: 16124, Stop: 16468, Start Num: 11

Candidate Starts for HokkenD\_21:

(Start: 11 @16124 has 39 MA's), (Start: 16 @16154 has 1 MA's), (22, 16268), (29, 16331), (30, 16334),

Gene: Hughesyang\_25 Start: 16737, Stop: 17081, Start Num: 11

Candidate Starts for Hughesyang\_25:

(4, 16671), (Start: 11 @16737 has 39 MA's), (Start: 16 @16767 has 1 MA's), (22, 16881), (29, 16944), (30, 16947),

Gene: Idergollasper\_43 Start: 22336, Stop: 22695, Start Num: 10

Candidate Starts for Idergollasper\_43:

(Start: 10 @22336 has 70 MA's), (Start: 16 @22366 has 1 MA's), (18, 22417), (19, 22429), (24, 22495), (33, 22603), (34, 22627),

Gene: Island3\_10 Start: 7530, Stop: 7922, Start Num: 9

Candidate Starts for Island3\_10:

(5, 7458), (Start: 9 @7530 has 8 MA's), (Start: 16 @7566 has 1 MA's), (19, 7629), (20, 7635), (24, 7695), (29, 7740), (35, 7857), (37, 7881), (38, 7890), (40, 7899),

Gene: Jamie19\_9 Start: 6479, Stop: 6823, Start Num: 10

Candidate Starts for Jamie19\_9:

(3, 6401), (Start: 10 @6479 has 70 MA's), (Start: 16 @6512 has 1 MA's), (20, 6581), (23, 6635), (25, 6650), (26, 6653), (28, 6683), (29, 6686), (36, 6770), (38, 6791),

Gene: JangDynasty\_43 Start: 22431, Stop: 22790, Start Num: 10

Candidate Starts for JangDynasty\_43:

(Start: 10 @22431 has 70 MA's), (Start: 16 @22461 has 1 MA's), (18, 22512), (19, 22524), (24, 22590), (33, 22698), (34, 22722),

Gene: Journey\_9 Start: 6438, Stop: 6782, Start Num: 10

Candidate Starts for Journey\_9:

(3, 6360), (Start: 10 @6438 has 70 MA's), (Start: 16 @6471 has 1 MA's), (20, 6540), (23, 6594), (25, 6609), (26, 6612), (29, 6645), (36, 6729), (38, 6750),

Gene: JuicyJay\_28 Start: 17388, Stop: 17732, Start Num: 11  
Candidate Starts for JuicyJay\_28:  
(Start: 11 @17388 has 39 MA's), (Start: 16 @17418 has 1 MA's), (22, 17532), (29, 17595), (30, 17598),

Gene: Kalah2\_27 Start: 17156, Stop: 17500, Start Num: 11  
Candidate Starts for Kalah2\_27:  
(Start: 11 @17156 has 39 MA's), (Start: 16 @17186 has 1 MA's), (22, 17300), (29, 17363), (30, 17366),

Gene: KashFlow\_18 Start: 12741, Stop: 13085, Start Num: 11  
Candidate Starts for KashFlow\_18:  
(Start: 11 @12741 has 39 MA's), (Start: 16 @12771 has 1 MA's), (19, 12837), (22, 12885), (29, 12948),  
(30, 12951), (31, 12975), (38, 13053), (41, 13080),

Gene: Kevin1\_9 Start: 6458, Stop: 6799, Start Num: 10  
Candidate Starts for Kevin1\_9:  
(Start: 10 @6458 has 70 MA's), (Start: 16 @6488 has 1 MA's), (23, 6611), (29, 6662), (36, 6746), (38, 6767),

Gene: Klein\_26 Start: 16134, Stop: 16478, Start Num: 11  
Candidate Starts for Klein\_26:  
(Start: 11 @16134 has 39 MA's), (Start: 16 @16164 has 1 MA's), (22, 16278), (29, 16341), (30, 16344),

Gene: Krili\_42 Start: 22053, Stop: 22412, Start Num: 10  
Candidate Starts for Krili\_42:  
(Start: 10 @22053 has 70 MA's), (Start: 16 @22083 has 1 MA's), (18, 22134), (19, 22146), (24, 22212),  
(33, 22320), (34, 22344),

Gene: LittleE\_24 Start: 15880, Stop: 16224, Start Num: 11  
Candidate Starts for LittleE\_24:  
(Start: 11 @15880 has 39 MA's), (Start: 16 @15910 has 1 MA's), (19, 15976), (29, 16087), (30, 16090),  
(31, 16114), (38, 16192), (41, 16219),

Gene: Lucky2013\_24 Start: 14623, Stop: 14967, Start Num: 11  
Candidate Starts for Lucky2013\_24:  
(Start: 11 @14623 has 39 MA's), (Start: 16 @14653 has 1 MA's), (19, 14719), (22, 14767), (29, 14830),  
(30, 14833), (31, 14857), (38, 14935), (41, 14962),

Gene: MadKillah\_44 Start: 22275, Stop: 22634, Start Num: 10  
Candidate Starts for MadKillah\_44:  
(Start: 10 @22275 has 70 MA's), (Start: 16 @22305 has 1 MA's), (18, 22356), (19, 22368), (24, 22434),  
(33, 22542), (34, 22566),

Gene: Magsby\_9 Start: 6438, Stop: 6782, Start Num: 10  
Candidate Starts for Magsby\_9:  
(3, 6360), (Start: 10 @6438 has 70 MA's), (Start: 16 @6471 has 1 MA's), (20, 6540), (23, 6594), (25, 6609),  
(26, 6612), (29, 6645), (36, 6729), (38, 6750),

Gene: Melville\_9 Start: 6438, Stop: 6782, Start Num: 10  
Candidate Starts for Melville\_9:  
(3, 6360), (Start: 10 @6438 has 70 MA's), (Start: 16 @6471 has 1 MA's), (20, 6540), (23, 6594), (25, 6609),  
(26, 6612), (29, 6645), (36, 6729), (38, 6750),

Gene: MiaZeal\_24 Start: 14314, Stop: 14658, Start Num: 11

Candidate Starts for MiaZeal\_24:

(Start: 11 @14314 has 39 MA's), (Start: 16 @14344 has 1 MA's), (19, 14410), (29, 14521), (30, 14524), (31, 14548), (38, 14626), (41, 14653),

Gene: MichelleMyBell\_9 Start: 6478, Stop: 6819, Start Num: 10

Candidate Starts for MichelleMyBell\_9:

(Start: 10 @6478 has 70 MA's), (Start: 16 @6508 has 1 MA's), (23, 6631), (29, 6682), (36, 6766), (38, 6787),

Gene: Minerva\_26 Start: 16619, Stop: 16963, Start Num: 11

Candidate Starts for Minerva\_26:

(Start: 11 @16619 has 39 MA's), (Start: 16 @16649 has 1 MA's), (22, 16763), (29, 16826), (30, 16829),

Gene: MooMoo\_8 Start: 5816, Stop: 6202, Start Num: 12

Candidate Starts for MooMoo\_8:

(2, 5720), (Start: 12 @5816 has 1 MA's), (Start: 16 @5846 has 1 MA's), (19, 5909), (29, 6020), (39, 6176), (40, 6179),

Gene: Mori\_42 Start: 21924, Stop: 22283, Start Num: 10

Candidate Starts for Mori\_42:

(Start: 10 @21924 has 70 MA's), (Start: 16 @21954 has 1 MA's), (18, 22005), (19, 22017), (24, 22083), (33, 22191), (34, 22215),

Gene: Murai\_43 Start: 22114, Stop: 22473, Start Num: 10

Candidate Starts for Murai\_43:

(Start: 10 @22114 has 70 MA's), (Start: 16 @22144 has 1 MA's), (18, 22195), (19, 22207), (24, 22273), (33, 22381), (34, 22405),

Gene: Nenae\_9 Start: 6479, Stop: 6823, Start Num: 10

Candidate Starts for Nenae\_9:

(3, 6401), (Start: 10 @6479 has 70 MA's), (Start: 16 @6512 has 1 MA's), (20, 6581), (23, 6635), (25, 6650), (26, 6653), (28, 6683), (29, 6686), (36, 6770), (38, 6791),

Gene: NiebruSaylor\_42 Start: 21925, Stop: 22284, Start Num: 10

Candidate Starts for NiebruSaylor\_42:

(Start: 10 @21925 has 70 MA's), (Start: 16 @21955 has 1 MA's), (18, 22006), (19, 22018), (24, 22084), (33, 22192), (34, 22216),

Gene: NihilNomen\_25 Start: 16616, Stop: 16960, Start Num: 11

Candidate Starts for NihilNomen\_25:

(4, 16550), (Start: 11 @16616 has 39 MA's), (Start: 16 @16646 has 1 MA's), (22, 16760), (29, 16823), (30, 16826),

Gene: Odette\_25 Start: 16097, Stop: 16441, Start Num: 11

Candidate Starts for Odette\_25:

(Start: 11 @16097 has 39 MA's), (Start: 16 @16127 has 1 MA's), (22, 16241), (29, 16304), (30, 16307),

Gene: Omega\_26 Start: 18240, Stop: 18584, Start Num: 11

Candidate Starts for Omega\_26:

(Start: 11 @18240 has 39 MA's), (Start: 16 @18270 has 1 MA's), (19, 18336), (22, 18384), (29, 18447), (30, 18450), (31, 18474), (38, 18552), (41, 18579),

Gene: Optimus\_24 Start: 16194, Stop: 16538, Start Num: 11

Candidate Starts for Optimus\_24:

(Start: 11 @16194 has 39 MA's), (Start: 16 @16224 has 1 MA's), (29, 16401), (30, 16404),

Gene: Panchino\_9 Start: 6455, Stop: 6799, Start Num: 10

Candidate Starts for Panchino\_9:

(3, 6377), (Start: 10 @6455 has 70 MA's), (Start: 16 @6488 has 1 MA's), (20, 6557), (23, 6611), (25, 6626), (26, 6629), (28, 6659), (29, 6662), (36, 6746), (38, 6767),

Gene: Parmesanjohn\_9 Start: 6438, Stop: 6782, Start Num: 10

Candidate Starts for Parmesanjohn\_9:

(3, 6360), (Start: 10 @6438 has 70 MA's), (Start: 16 @6471 has 1 MA's), (20, 6540), (23, 6594), (25, 6609), (26, 6612), (29, 6645), (36, 6729), (38, 6750),

Gene: PhancyPhin\_9 Start: 6479, Stop: 6823, Start Num: 10

Candidate Starts for PhancyPhin\_9:

(3, 6401), (Start: 10 @6479 has 70 MA's), (Start: 16 @6512 has 1 MA's), (20, 6581), (23, 6635), (25, 6650), (26, 6653), (28, 6683), (29, 6686), (36, 6770), (38, 6791),

Gene: Philonius\_9 Start: 6438, Stop: 6782, Start Num: 10

Candidate Starts for Philonius\_9:

(3, 6360), (Start: 10 @6438 has 70 MA's), (Start: 16 @6471 has 1 MA's), (20, 6540), (23, 6594), (25, 6609), (26, 6612), (29, 6645), (36, 6729), (38, 6750),

Gene: Phloss\_9 Start: 6438, Stop: 6782, Start Num: 10

Candidate Starts for Phloss\_9:

(3, 6360), (Start: 10 @6438 has 70 MA's), (Start: 16 @6471 has 1 MA's), (20, 6540), (23, 6594), (25, 6609), (26, 6612), (29, 6645), (36, 6729), (38, 6750),

Gene: Phoebus\_26 Start: 16841, Stop: 17185, Start Num: 11

Candidate Starts for Phoebus\_26:

(Start: 11 @16841 has 39 MA's), (Start: 16 @16871 has 1 MA's), (22, 16985), (29, 17048), (30, 17051),

Gene: Phrann\_9 Start: 6479, Stop: 6823, Start Num: 10

Candidate Starts for Phrann\_9:

(3, 6401), (Start: 10 @6479 has 70 MA's), (Start: 16 @6512 has 1 MA's), (20, 6581), (23, 6635), (25, 6650), (26, 6653), (28, 6683), (29, 6686), (36, 6770), (38, 6791),

Gene: Pipsqueaks\_9 Start: 6438, Stop: 6782, Start Num: 10

Candidate Starts for Pipsqueaks\_9:

(3, 6360), (Start: 10 @6438 has 70 MA's), (Start: 16 @6471 has 1 MA's), (20, 6540), (23, 6594), (25, 6609), (26, 6612), (29, 6645), (36, 6729), (38, 6750),

Gene: Porcelain\_24 Start: 14314, Stop: 14658, Start Num: 11

Candidate Starts for Porcelain\_24:

(Start: 11 @14314 has 39 MA's), (Start: 16 @14344 has 1 MA's), (19, 14410), (29, 14521), (30, 14524), (31, 14548), (38, 14626), (41, 14653),

Gene: Pound\_26 Start: 16933, Stop: 17277, Start Num: 11

Candidate Starts for Pound\_26:

(Start: 11 @16933 has 39 MA's), (Start: 16 @16963 has 1 MA's), (22, 17077), (29, 17140), (30, 17143),

Gene: Purgamenstris\_9 Start: 6479, Stop: 6823, Start Num: 10

Candidate Starts for Purgamenstris\_9:

(3, 6401), (Start: 10 @6479 has 70 MA's), (Start: 16 @6512 has 1 MA's), (20, 6581), (23, 6635), (25, 6650), (26, 6653), (28, 6683), (29, 6686), (36, 6770), (38, 6791),

Gene: QueenHazel\_10 Start: 7532, Stop: 7927, Start Num: 9

Candidate Starts for QueenHazel\_10:

(1, 7283), (5, 7460), (Start: 9 @7532 has 8 MA's), (Start: 16 @7568 has 1 MA's), (19, 7631), (20, 7637), (24, 7697), (29, 7742), (35, 7859), (37, 7886), (38, 7895), (40, 7904),

Gene: Raymond7\_9 Start: 6479, Stop: 6823, Start Num: 10

Candidate Starts for Raymond7\_9:

(3, 6401), (Start: 10 @6479 has 70 MA's), (Start: 16 @6512 has 1 MA's), (20, 6581), (23, 6635), (25, 6650), (26, 6653), (28, 6683), (29, 6686), (36, 6770), (38, 6791),

Gene: Rebel\_9 Start: 6479, Stop: 6823, Start Num: 10

Candidate Starts for Rebel\_9:

(3, 6401), (Start: 10 @6479 has 70 MA's), (Start: 16 @6512 has 1 MA's), (20, 6581), (23, 6635), (25, 6650), (26, 6653), (28, 6683), (29, 6686), (36, 6770), (38, 6791),

Gene: Redi\_9 Start: 6479, Stop: 6823, Start Num: 10

Candidate Starts for Redi\_9:

(3, 6401), (Start: 10 @6479 has 70 MA's), (Start: 16 @6512 has 1 MA's), (20, 6581), (23, 6635), (25, 6650), (26, 6653), (28, 6683), (29, 6686), (36, 6770), (38, 6791),

Gene: Redno2\_25 Start: 16325, Stop: 16669, Start Num: 11

Candidate Starts for Redno2\_25:

(Start: 11 @16325 has 39 MA's), (Start: 16 @16355 has 1 MA's), (22, 16469), (29, 16532), (30, 16535),

Gene: Rubeelu\_9 Start: 6458, Stop: 6799, Start Num: 10

Candidate Starts for Rubeelu\_9:

(Start: 10 @6458 has 70 MA's), (Start: 16 @6488 has 1 MA's), (23, 6611), (29, 6662), (36, 6746), (38, 6767),

Gene: Ryadel\_47 Start: 23398, Stop: 23757, Start Num: 10

Candidate Starts for Ryadel\_47:

(Start: 10 @23398 has 70 MA's), (Start: 16 @23428 has 1 MA's), (18, 23479), (19, 23491), (24, 23557), (33, 23665), (34, 23689),

Gene: Sbash\_9 Start: 7109, Stop: 7504, Start Num: 9

Candidate Starts for Sbash\_9:

(5, 7034), (Start: 9 @7109 has 8 MA's), (13, 7133), (Start: 16 @7145 has 1 MA's), (37, 7463), (38, 7472), (40, 7481),

Gene: Schatzie\_24 Start: 15866, Stop: 16210, Start Num: 11

Candidate Starts for Schatzie\_24:

(4, 15800), (Start: 11 @15866 has 39 MA's), (Start: 16 @15896 has 1 MA's), (22, 16010), (29, 16073), (30, 16076),

Gene: Schnauzer\_9 Start: 6438, Stop: 6782, Start Num: 10

Candidate Starts for Schnauzer\_9:

(3, 6360), (Start: 10 @6438 has 70 MA's), (Start: 16 @6471 has 1 MA's), (20, 6540), (23, 6594), (25, 6609), (26, 6612), (29, 6645), (36, 6729), (38, 6750),

Gene: SchoolBus\_43 Start: 22339, Stop: 22698, Start Num: 10

Candidate Starts for SchoolBus\_43:

(Start: 10 @22339 has 70 MA's), (Start: 16 @22369 has 1 MA's), (18, 22420), (19, 22432), (24, 22498), (33, 22606), (34, 22630),

Gene: Schuy\_44 Start: 22272, Stop: 22631, Start Num: 10

Candidate Starts for Schuy\_44:

(Start: 10 @22272 has 70 MA's), (Start: 16 @22302 has 1 MA's), (18, 22353), (19, 22365), (24, 22431), (33, 22539), (34, 22563),

Gene: Scitech\_9 Start: 6438, Stop: 6782, Start Num: 10

Candidate Starts for Scitech\_9:

(3, 6360), (Start: 10 @6438 has 70 MA's), (Start: 16 @6471 has 1 MA's), (20, 6540), (23, 6594), (25, 6609), (26, 6612), (29, 6645), (36, 6729), (38, 6750),

Gene: Shida\_43 Start: 22179, Stop: 22538, Start Num: 10

Candidate Starts for Shida\_43:

(Start: 10 @22179 has 70 MA's), (Start: 16 @22209 has 1 MA's), (18, 22260), (19, 22272), (24, 22338), (33, 22446), (34, 22470),

Gene: ShrimpFriedEgg\_9 Start: 6479, Stop: 6823, Start Num: 10

Candidate Starts for ShrimpFriedEgg\_9:

(3, 6401), (Start: 10 @6479 has 70 MA's), (Start: 16 @6512 has 1 MA's), (20, 6581), (23, 6635), (25, 6650), (26, 6653), (28, 6683), (29, 6686), (36, 6770), (38, 6791),

Gene: Shweta\_9 Start: 6479, Stop: 6823, Start Num: 10

Candidate Starts for Shweta\_9:

(3, 6401), (Start: 10 @6479 has 70 MA's), (Start: 16 @6512 has 1 MA's), (20, 6581), (23, 6635), (25, 6650), (26, 6653), (28, 6683), (29, 6686), (36, 6770), (38, 6791),

Gene: Silvafighter\_9 Start: 6438, Stop: 6782, Start Num: 10

Candidate Starts for Silvafighter\_9:

(3, 6360), (Start: 10 @6438 has 70 MA's), (Start: 16 @6471 has 1 MA's), (20, 6540), (23, 6594), (25, 6609), (26, 6612), (29, 6645), (36, 6729), (38, 6750),

Gene: Silvy\_9 Start: 6438, Stop: 6782, Start Num: 10

Candidate Starts for Silvy\_9:

(3, 6360), (Start: 10 @6438 has 70 MA's), (Start: 16 @6471 has 1 MA's), (20, 6540), (23, 6594), (25, 6609), (26, 6612), (29, 6645), (36, 6729), (38, 6750),

Gene: SkinnyPete\_9 Start: 6479, Stop: 6823, Start Num: 10

Candidate Starts for SkinnyPete\_9:

(3, 6401), (Start: 10 @6479 has 70 MA's), (Start: 16 @6512 has 1 MA's), (20, 6581), (23, 6635), (25, 6650), (26, 6653), (28, 6683), (29, 6686), (36, 6770), (38, 6791),

Gene: Smooch\_45 Start: 23467, Stop: 23826, Start Num: 10

Candidate Starts for Smooch\_45:

(Start: 10 @23467 has 70 MA's), (Start: 16 @23497 has 1 MA's), (18, 23548), (19, 23560), (24, 23626), (33, 23734), (34, 23758),

Gene: Smurph\_9 Start: 6438, Stop: 6782, Start Num: 10

Candidate Starts for Smurph\_9:

(3, 6360), (Start: 10 @6438 has 70 MA's), (Start: 16 @6471 has 1 MA's), (20, 6540), (23, 6594), (25, 6609), (26, 6612), (29, 6645), (36, 6729), (38, 6750),

Gene: Snekmaggedon\_9 Start: 6479, Stop: 6823, Start Num: 10

Candidate Starts for Snekmaggedon\_9:

(3, 6401), (Start: 10 @6479 has 70 MA's), (Start: 16 @6512 has 1 MA's), (20, 6581), (23, 6635), (25, 6650), (26, 6653), (28, 6683), (29, 6686), (36, 6770), (38, 6791),

Gene: SpongeBob\_9 Start: 6479, Stop: 6823, Start Num: 10

Candidate Starts for SpongeBob\_9:

(3, 6401), (Start: 10 @6479 has 70 MA's), (Start: 16 @6512 has 1 MA's), (20, 6581), (23, 6635), (25, 6650), (26, 6653), (28, 6683), (29, 6686), (36, 6770), (38, 6791),

Gene: Squint\_23 Start: 14441, Stop: 14785, Start Num: 11

Candidate Starts for Squint\_23:

(Start: 11 @14441 has 39 MA's), (Start: 16 @14471 has 1 MA's), (19, 14537), (29, 14648), (30, 14651), (31, 14675), (38, 14753), (41, 14780),

Gene: Superphikiman\_24 Start: 14495, Stop: 14839, Start Num: 11

Candidate Starts for Superphikiman\_24:

(Start: 11 @14495 has 39 MA's), (Start: 16 @14525 has 1 MA's), (19, 14591), (29, 14702), (30, 14705), (31, 14729), (38, 14807), (41, 14834),

Gene: Tapioca\_9 Start: 6438, Stop: 6782, Start Num: 10

Candidate Starts for Tapioca\_9:

(3, 6360), (Start: 10 @6438 has 70 MA's), (Start: 16 @6471 has 1 MA's), (20, 6540), (23, 6594), (25, 6609), (26, 6612), (29, 6645), (36, 6729), (38, 6750),

Gene: TelAviv\_40 Start: 22333, Stop: 22692, Start Num: 10

Candidate Starts for TelAviv\_40:

(Start: 10 @22333 has 70 MA's), (Start: 16 @22363 has 1 MA's), (18, 22414), (19, 22426), (24, 22492), (33, 22600), (34, 22624),

Gene: Thibault\_22 Start: 16125, Stop: 16469, Start Num: 11

Candidate Starts for Thibault\_22:

(Start: 11 @16125 has 39 MA's), (Start: 16 @16155 has 1 MA's), (29, 16332), (30, 16335),

Gene: ThreeRngTarjay\_25 Start: 16691, Stop: 17035, Start Num: 11

Candidate Starts for ThreeRngTarjay\_25:

(Start: 11 @16691 has 39 MA's), (Start: 16 @16721 has 1 MA's), (22, 16835), (29, 16898), (30, 16901),

Gene: Vagabond\_43 Start: 22166, Stop: 22525, Start Num: 10

Candidate Starts for Vagabond\_43:

(Start: 10 @22166 has 70 MA's), (Start: 16 @22196 has 1 MA's), (18, 22247), (19, 22259), (24, 22325), (33, 22433), (34, 22457),

Gene: Vorrrps\_42 Start: 21925, Stop: 22284, Start Num: 10

Candidate Starts for Vorrrps\_42:

(Start: 10 @21925 has 70 MA's), (Start: 16 @21955 has 1 MA's), (18, 22006), (19, 22018), (24, 22084), (33, 22192), (34, 22216),

Gene: Wanda\_27 Start: 16134, Stop: 16478, Start Num: 11

Candidate Starts for Wanda\_27:

(Start: 11 @16134 has 39 MA's), (Start: 16 @16164 has 1 MA's), (22, 16278), (29, 16341), (30, 16344),

Gene: Wildflower\_43 Start: 21911, Stop: 22270, Start Num: 10

Candidate Starts for Wildflower\_43:

(Start: 10 @21911 has 70 MA's), (Start: 16 @21941 has 1 MA's), (18, 21992), (19, 22004), (24, 22070), (33, 22178), (34, 22202),

Gene: Winget\_44 Start: 22605, Stop: 22964, Start Num: 10

Candidate Starts for Winget\_44:

(Start: 10 @22605 has 70 MA's), (Start: 16 @22635 has 1 MA's), (18, 22686), (19, 22698), (24, 22764), (33, 22872), (34, 22896),

Gene: Xeno\_9 Start: 6438, Stop: 6782, Start Num: 10

Candidate Starts for Xeno\_9:

(3, 6360), (Start: 10 @6438 has 70 MA's), (Start: 16 @6471 has 1 MA's), (20, 6540), (23, 6594), (25, 6609), (26, 6612), (29, 6645), (36, 6729), (38, 6750),

Gene: Xerxes\_9 Start: 6438, Stop: 6782, Start Num: 10

Candidate Starts for Xerxes\_9:

(3, 6360), (Start: 10 @6438 has 70 MA's), (Start: 16 @6471 has 1 MA's), (20, 6540), (23, 6594), (25, 6609), (26, 6612), (29, 6645), (36, 6729), (38, 6750),

Gene: Xula\_9 Start: 7161, Stop: 7556, Start Num: 9

Candidate Starts for Xula\_9:

(1, 6912), (5, 7089), (Start: 9 @7161 has 8 MA's), (Start: 16 @7197 has 1 MA's), (19, 7260), (20, 7266), (24, 7326), (29, 7371), (35, 7488), (37, 7515), (38, 7524), (40, 7533),

Gene: Yeet\_24 Start: 15867, Stop: 16211, Start Num: 11

Candidate Starts for Yeet\_24:

(Start: 11 @15867 has 39 MA's), (Start: 16 @15897 has 1 MA's), (22, 16011), (29, 16074), (30, 16077),

Gene: YungJamal\_46 Start: 22644, Stop: 23003, Start Num: 10

Candidate Starts for YungJamal\_46:

(Start: 10 @22644 has 70 MA's), (Start: 16 @22674 has 1 MA's), (18, 22725), (19, 22737), (24, 22803), (33, 22911), (34, 22935),

Gene: Zakhe101\_43 Start: 22055, Stop: 22414, Start Num: 10

Candidate Starts for Zakhe101\_43:

(Start: 10 @22055 has 70 MA's), (Start: 16 @22085 has 1 MA's), (18, 22136), (19, 22148), (24, 22214), (33, 22322), (34, 22346),

Gene: Zebo\_42 Start: 22339, Stop: 22698, Start Num: 10

Candidate Starts for Zebo\_42:

(Start: 10 @22339 has 70 MA's), (Start: 16 @22369 has 1 MA's), (18, 22420), (19, 22432), (24, 22498), (33, 22606), (34, 22630),

Gene: Zelink\_27 Start: 16719, Stop: 17063, Start Num: 11

Candidate Starts for Zelink\_27:

(Start: 11 @16719 has 39 MA's), (Start: 16 @16749 has 1 MA's), (22, 16863), (29, 16926), (30, 16929),