



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 283565 Report

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

Pham number 283565 has 149 members, 20 are drafts.

Phages represented in each track:

- Track 1 : Farewell\_24
- Track 2 : WST1\_25, IdentityCrisis\_24
- Track 3 : LastJedi\_22, Koella\_22, Phloss\_24, Fulbright\_24, Brocalys\_23, Pippy\_22, Jennelsea\_22, Squirty\_23, Crumble\_22, Clifton\_22
- Track 4 : Akhila\_22, MilanaBonita\_22
- Track 5 : BigPhil\_23, Cerasum\_23, Velveteen\_23, Sarma624\_23
- Track 6 : StAnnes\_25
- Track 7 : Ochi17\_26
- Track 8 : Tchotchke\_26
- Track 9 : Ms6\_22
- Track 10 : MulchSalad\_24
- Track 11 : QueenHazel\_24, Xula\_23
- Track 12 : Babsiella\_25, HC\_25
- Track 13 : Sbash\_24
- Track 14 : Stuck\_28
- Track 15 : Che9c\_24
- Track 16 : Lucky2013\_42, Porcelain\_41, Courthouse\_42, Superphikiman\_42, Shaboozey\_36, Hannaconda\_39, MiaZeal\_42, Ariel\_42, Nibley\_37, KashFlow\_36, BronnyJames\_36, LittleE\_48, DmpstrDiver\_43, Squint\_41
- Track 17 : Optimus\_46
- Track 18 : BAKA\_45, Omega\_47, Gonephishing\_43
- Track 19 : Xerxes\_25, Silvy\_25, Parmesanjohn\_25, Duplicity\_25, Cubone\_25, Journey\_25, Charlie\_25, Melville\_25, LilSpotty\_28, Gex\_25, Smurph\_25, Bosection6\_25, Aggie\_25, Tapioca\_25, Magsby\_25, Tortoise12\_25
- Track 20 : SkinnyPete\_24
- Track 21 : Nенаe\_24, Hanako\_24, PhancyPhin\_24, Purgamenstris\_24, Redi\_24, Spinach\_24, BabeRuth\_24, ShrimpFriedEgg\_24
- Track 22 : Raymond7\_24, MichelleMyBell\_25
- Track 23 : Snekmaggedon\_24, SpongeBob\_24, Jamie19\_24
- Track 24 : Chewbacca\_25, Pipsqueaks\_25, Carcharodon\_25, EGUunicorn\_25, Schnauzer\_25, Philonius\_25, Silvafighter\_25
- Track 25 : Panchino\_24
- Track 26 : Butters\_25, Rubeelu\_25, Kevin1\_25
- Track 27 : Phrann\_24
- Track 28 : Andies\_24, Shweta\_24, Scitech\_24
- Track 29 : Impisi\_25
- Track 30 : Xeno\_24, Techage\_25

- Track 31 : Rebel\_24
- Track 32 : BronnyJr\_25, GaloreK\_25
- Track 33 : Sonah\_25, Venti\_25, Polkaroo\_25, Fishburne\_25, PeanutPie\_25, StevieRay\_25, FirstPlacePfu\_25, Bunnies\_25, Chubbello\_25, Vidya\_25, Jebeks\_25, Etoile\_25, Donovan\_25, Ksquared\_25, Phegasus\_25, Juniormint\_25
- Track 34 : StressBall\_25, Glaske\_25, KilKor\_25, Phalm\_25, Megiddo\_25, CactusJack\_25
- Track 35 : Bhagsy\_25, Brusacoram\_25, Mangethe\_25, Necropolis\_25, Majeke\_25, Thespis\_25, Malithi\_25, Zilizebeth\_25, Arib1\_25
- Track 36 : Gavriela\_25
- Track 37 : Phineas\_25
- Track 38 : GreaseLightnin\_25
- Track 39 : Dynamo\_25
- Track 40 : Willsammy\_25
- Track 41 : HUHilltop\_25, Langerak\_25
- Track 42 : Tortellini\_25
- Track 43 : Xavia\_25, Atcoo\_25, Camster\_25, Kari\_25
- Track 44 : Nazo\_25, BigNuz\_25
- Track 45 : Phayonce\_25
- Track 46 : ThulaThula\_25
- Track 47 : Purky\_25
- Track 48 : Bluvara\_25

***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 69 of the 129 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Aggie\_25, Akhila\_22, Andies\_24, Arib1\_25, BabeRuth\_24, Bhagsy\_25, BigPhil\_23, Bluvara\_25, Bosection6\_25, Brocalys\_23, Brusacoram\_25, CactusJack\_25, Cerasum\_23, Charlie\_25, Che9c\_24, Clifton\_22, Crumble\_22, Cubone\_25, Duplicity\_25, Fulbright\_24, Gex\_25, Glaske\_25, GreaseLightnin\_25, Hanako\_24, Jamie19\_24, Jennelsea\_22, Journey\_25, KilKor\_25, Koella\_22, LastJedi\_22, LilSpotty\_28, Magsby\_25, Majeke\_25, Malithi\_25, Mangethe\_25, Megiddo\_25, Melville\_25, MilanaBonita\_22, Ms6\_22, MulchSalad\_24, Necropolis\_25, Nenae\_24, Panchino\_24, Parmesanjohn\_25, Phalm\_25, PhancyPhin\_24, Phineas\_25, Phloss\_24, Phrann\_24, Pippy\_22, Purgamenstris\_24, Purky\_25, QueenHazel\_24, Redi\_24, Sarma624\_23, Sbash\_24, Scitech\_24, ShrimpFriedEgg\_24, Shweta\_24, Silvy\_25, Smurph\_25, Snekmaggon\_24, Spinach\_24, SpongeBob\_24, Squirty\_23, StressBall\_25, Stuck\_28, Tapioca\_25, Thespis\_25, Tortellini\_25, Tortoise12\_25, Velveteen\_23, Willsammy\_25, Xerxes\_25, Xula\_23, Zilizebeth\_25,

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

- Atcoo\_25, Babsiella\_25, BigNuz\_25, BronnyJr\_25, Bunnies\_25, Butters\_25, Camster\_25, Carcharodon\_25, Chewbacca\_25, Chubbello\_25, Donovan\_25, Dynamo\_25, EGUnicorn\_25, Etoile\_25, FirstPlacePfu\_25, Fishburne\_25, GaloreK\_25, Gavriela\_25, HC\_25, HUHilltop\_25, Impisi\_25, Jebeks\_25, Juniormint\_25, Kari\_25, Kevin1\_25, Ksquared\_25, Langerak\_25, MichelleMyBell\_25, Nazo\_25, PeanutPie\_25, Phayonce\_25, Phegasus\_25, Philonius\_25,

Pipsqueaks\_25, Polkaroo\_25, Raymond7\_24, Rebel\_24, Rubeelu\_25, Schnauzer\_25, Silvafighter\_25, SkinnyPete\_24, Sonah\_25, StevieRay\_25, Techage\_25, ThulaThula\_25, Venti\_25, Vidya\_25, Xavia\_25, Xeno\_24,

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

- Ariel\_42, BAKA\_45, BronnyJames\_36, Courthouse\_42, DmpstrDiver\_43, Farewell\_24, Gonephishing\_43, Hannaconda\_39, IdentityCrisis\_24, KashFlow\_36, LittleE\_48, Lucky2013\_42, MiaZeal\_42, Nibley\_37, Ochi17\_26, Omega\_47, Optimus\_46, Porcelain\_41, Shaboozey\_36, Squint\_41, StAnnes\_25, Superphikiman\_42, Tchotchke\_26, WST1\_25,

### Summary by start number:

Start 14:

- Found in 24 of 149 ( 16.1% ) of genes in pham
- Manual Annotations of this start: 7 of 129
- Called 29.2% of time when present
- Phage (with cluster) where this start called: Carcharodon\_25 (N), Chewbacca\_25 (N), EGUnicorn\_25 (N), Philonius\_25 (N), Pipsqueaks\_25 (N), Schnauzer\_25 (N), Silvafighter\_25 (N),

Start 15:

- Found in 2 of 149 ( 1.3% ) of genes in pham
- Manual Annotations of this start: 1 of 129
- Called 100.0% of time when present
- Phage (with cluster) where this start called: IdentityCrisis\_24 (AJ), WST1\_25 (AJ),

Start 16:

- Found in 125 of 149 ( 83.9% ) of genes in pham
- Manual Annotations of this start: 69 of 129
- Called 60.8% of time when present
- Phage (with cluster) where this start called: Aggie\_25 (N), Akhila\_22 (F1), Andies\_24 (N), Arib1\_25 (P1), BabeRuth\_24 (N), Bhagsy\_25 (P1), BigPhil\_23 (F1), Bluvara\_25 (UNK), Bosection6\_25 (N), Brocalys\_23 (F1), Brusacoram\_25 (P1), CactusJack\_25 (P1), Cerasum\_23 (F1), Charlie\_25 (N), Che9c\_24 (I2), Clifton\_22 (F1), Crumble\_22 (F1), Cubone\_25 (N), Duplicity\_25 (N), Fulbright\_24 (N), Gex\_25 (N), Glaske\_25 (P1), GreaseLightnin\_25 (P1), Hanako\_24 (N), Jamie19\_24 (N), Jennelsea\_22 (F1), Journey\_25 (N), KilKor\_25 (P1), Koella\_22 (F1), LastJedi\_22 (F1), LilSpotty\_28 (singleton), Magsby\_25 (N), Majeke\_25 (P1), Malithi\_25 (P1), Mangethe\_25 (P1), Megiddo\_25 (P1), Melville\_25 (N), MilanaBonita\_22 (F1), Ms6\_22 (F1), MulchSalad\_24 (F7), Necropolis\_25 (P1), Nенаe\_24 (N), Panchino\_24 (N), Parmesanjohn\_25 (N), Phalm\_25 (P1), PhancyPhin\_24 (N), Phineas\_25 (P1), Phloss\_24 (N), Phrann\_24 (N), Pippy\_22 (F1), Purgamenstris\_24 (N), Purky\_25 (P6), QueenHazel\_24 (I1), Redi\_24 (N), Sarma624\_23 (F1), Sbash\_24 (I2), Scitech\_24 (N), ShrimpFriedEgg\_24 (N), Shweta\_24 (N), Silvy\_25 (N), Smurph\_25 (N), Snekmaggedon\_24 (N), Spinach\_24 (N), SpongeBob\_24 (N), Squirty\_23 (F3), StressBall\_25 (P1), Stuck\_28 (I2), Tapioca\_25 (N), Thespis\_25 (P1), Tortellini\_25 (P2), Tortoise12\_25 (N), Velveteen\_23 (F1), Willsammy\_25 (P1), Xerxes\_25 (N), Xula\_23 (I1), Zilizebeth\_25 (P1),

Start 17:

- Found in 90 of 149 ( 60.4% ) of genes in pham
- Manual Annotations of this start: 51 of 129

- Called 70.0% of time when present
- Phage (with cluster) where this start called: Ariel\_42 (J), Atcoo\_25 (P1), BAKA\_45 (J), Babsiella\_25 (I1), BigNuz\_25 (P4), BronnyJames\_36 (J), BronnyJr\_25 (P1), Bunnies\_25 (P1), Butters\_25 (N), Camster\_25 (P1), Chubbello\_25 (none), Courthouse\_42 (J), DmpstrDiver\_43 (J), Donovan\_25 (P1), Dynamo\_25 (P1), Etoile\_25 (P1), FirstPlacePfu\_25 (P1), Fishburne\_25 (P1), GaloreK\_25 (P1), Gavriela\_25 (P1), Gonephishing\_43 (J), HC\_25 (I1), HUHilltop\_25 (P1), Hannaconda\_39 (J), Impisi\_25 (N), Jebeks\_25 (P1), Juniormint\_25 (P1), Kari\_25 (P1), KashFlow\_36 (J), Kevin1\_25 (N), Ksquared\_25 (P1), Langerak\_25 (P1), LittleE\_48 (J), Lucky2013\_42 (J), MiaZeal\_42 (J), MichelleMyBell\_25 (N), Nazo\_25 (P4), Nibley\_37 (J), Ochi17\_26 (F1), Omega\_47 (J), Optimus\_46 (J), PeanutPie\_25 (P1), Phayonce\_25 (P5), Phegasus\_25 (P1), Polkaroo\_25 (P1), Porcelain\_41 (J), Raymond7\_24 (N), Rebel\_24 (N), Rubeelu\_25 (N), Shaboozey\_36 (J), SkinnyPete\_24 (N), Sonah\_25 (P1), Squint\_41 (J), StAnnes\_25 (F1), StevieRay\_25 (P1), Superphikiman\_42 (J), Tchotchke\_26 (F1), Techage\_25 (P1), ThulaThula\_25 (P5), Venti\_25 (P1), Vidya\_25 (P1), Xavia\_25 (P3), Xeno\_24 (N),

Start 19:

- Found in 67 of 149 ( 45.0% ) of genes in pham
- Manual Annotations of this start: 1 of 129
- Called 1.5% of time when present
- Phage (with cluster) where this start called: Farewell\_24 (AF),

### Summary by clusters:

There are 18 clusters represented in this pham: P2, P3, singleton, P1, P6, P4, F1, I1, F7, J, none, AJ, N, F3, AF, UNK, I2, P5,

Info for manual annotations of cluster AF:

- Start number 19 was manually annotated 1 time for cluster AF.

Info for manual annotations of cluster AJ:

- Start number 15 was manually annotated 1 time for cluster AJ.

Info for manual annotations of cluster F1:

- Start number 16 was manually annotated 12 times for cluster F1.
- Start number 17 was manually annotated 2 times for cluster F1.

Info for manual annotations of cluster F3:

- Start number 16 was manually annotated 1 time for cluster F3.

Info for manual annotations of cluster I1:

- Start number 16 was manually annotated 2 times for cluster I1.
- Start number 17 was manually annotated 2 times for cluster I1.

Info for manual annotations of cluster I2:

- Start number 16 was manually annotated 2 times for cluster I2.

Info for manual annotations of cluster J:

- Start number 17 was manually annotated 14 times for cluster J.

Info for manual annotations of cluster N:

- Start number 14 was manually annotated 7 times for cluster N.
- Start number 16 was manually annotated 31 times for cluster N.
- Start number 17 was manually annotated 8 times for cluster N.

Info for manual annotations of cluster P1:

- Start number 16 was manually annotated 18 times for cluster P1.
- Start number 17 was manually annotated 20 times for cluster P1.

Info for manual annotations of cluster P2:

- Start number 16 was manually annotated 1 time for cluster P2.

Info for manual annotations of cluster P3:

- Start number 17 was manually annotated 1 time for cluster P3.

Info for manual annotations of cluster P4:

- Start number 17 was manually annotated 2 times for cluster P4.

Info for manual annotations of cluster P5:

- Start number 17 was manually annotated 2 times for cluster P5.

Info for manual annotations of cluster P6:

- Start number 16 was manually annotated 1 time for cluster P6.

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

Gene: Aggie\_25 Start: 22170, Stop: 22349, Start Num: 16

Candidate Starts for Aggie\_25:

(Start: 14 @22167 has 7 MA's), (Start: 16 @22170 has 69 MA's), (25, 22254), (26, 22257),

Gene: Akhila\_22 Start: 21918, Stop: 22094, Start Num: 16

Candidate Starts for Akhila\_22:

(Start: 16 @21918 has 69 MA's), (29, 22017), (33, 22050),

Gene: Andies\_24 Start: 21768, Stop: 21941, Start Num: 16

Candidate Starts for Andies\_24:

(Start: 16 @21768 has 69 MA's), (Start: 17 @21771 has 51 MA's), (Start: 19 @21786 has 1 MA's), (26, 21855), (30, 21867), (31, 21879), (33, 21897),

Gene: Arib1\_25 Start: 22882, Stop: 23055, Start Num: 16

Candidate Starts for Arib1\_25:

(13, 22873), (Start: 16 @22882 has 69 MA's), (Start: 17 @22885 has 51 MA's), (Start: 19 @22900 has 1 MA's),

Gene: Ariel\_42 Start: 34845, Stop: 35006, Start Num: 17

Candidate Starts for Ariel\_42:

(Start: 17 @34845 has 51 MA's), (26, 34920), (31, 34944), (33, 34962),

Gene: Atcoo\_25 Start: 23373, Stop: 23543, Start Num: 17

Candidate Starts for Atcoo\_25:

(Start: 16 @23370 has 69 MA's), (Start: 17 @23373 has 51 MA's), (Start: 19 @23388 has 1 MA's), (26, 23457), (27, 23460), (29, 23466),

Gene: BAKA\_45 Start: 38282, Stop: 38443, Start Num: 17

Candidate Starts for BAKA\_45:

(Start: 17 @38282 has 51 MA's), (33, 38399),

Gene: BabeRuth\_24 Start: 21647, Stop: 21823, Start Num: 16

Candidate Starts for BabeRuth\_24:

(3, 21329), (6, 21431), (Start: 16 @21647 has 69 MA's), (26, 21737), (31, 21761), (33, 21779),

Gene: Babsiella\_25 Start: 22893, Stop: 23063, Start Num: 17

Candidate Starts for Babsiella\_25:

(13, 22881), (Start: 16 @22890 has 69 MA's), (Start: 17 @22893 has 51 MA's), (Start: 19 @22908 has 1 MA's), (26, 22977),

Gene: Bhagsy\_25 Start: 22883, Stop: 23056, Start Num: 16

Candidate Starts for Bhagsy\_25:

(13, 22874), (Start: 16 @22883 has 69 MA's), (Start: 17 @22886 has 51 MA's), (Start: 19 @22901 has 1 MA's),

Gene: BigNuz\_25 Start: 23510, Stop: 23683, Start Num: 17

Candidate Starts for BigNuz\_25:

(Start: 16 @23507 has 69 MA's), (Start: 17 @23510 has 51 MA's), (18, 23531), (Start: 19 @23534 has 1 MA's), (20, 23552), (24, 23585), (26, 23597),

Gene: BigPhil\_23 Start: 21863, Stop: 22039, Start Num: 16

Candidate Starts for BigPhil\_23:

(6, 21647), (Start: 16 @21863 has 69 MA's), (26, 21953), (30, 21965), (33, 21995),

Gene: Bluvara\_25 Start: 22957, Stop: 23130, Start Num: 16

Candidate Starts for Bluvara\_25:

(13, 22948), (Start: 16 @22957 has 69 MA's), (Start: 17 @22960 has 51 MA's), (Start: 19 @22975 has 1 MA's), (26, 23044), (29, 23053),

Gene: Bosection6\_25 Start: 22169, Stop: 22348, Start Num: 16

Candidate Starts for Bosection6\_25:

(Start: 14 @22166 has 7 MA's), (Start: 16 @22169 has 69 MA's), (25, 22253), (26, 22256),

Gene: Brocalys\_23 Start: 21674, Stop: 21850, Start Num: 16

Candidate Starts for Brocalys\_23:

(3, 21356), (6, 21458), (Start: 16 @21674 has 69 MA's), (25, 21761), (26, 21764), (30, 21776),

Gene: BronnyJames\_36 Start: 33375, Stop: 33536, Start Num: 17

Candidate Starts for BronnyJames\_36:

(Start: 17 @33375 has 51 MA's), (26, 33450), (31, 33474), (33, 33492),

Gene: BronnyJr\_25 Start: 23344, Stop: 23514, Start Num: 17

Candidate Starts for BronnyJr\_25:

(Start: 16 @23341 has 69 MA's), (Start: 17 @23344 has 51 MA's), (Start: 19 @23359 has 1 MA's), (26, 23428), (29, 23437),

Gene: Brusacoram\_25 Start: 22876, Stop: 23049, Start Num: 16

Candidate Starts for Brusacoram\_25:

(13, 22867), (Start: 16 @22876 has 69 MA's), (Start: 17 @22879 has 51 MA's), (Start: 19 @22894 has 1 MA's),

Gene: Bunnies\_25 Start: 22901, Stop: 23071, Start Num: 17

Candidate Starts for Bunnies\_25:

(13, 22889), (Start: 16 @22898 has 69 MA's), (Start: 17 @22901 has 51 MA's), (Start: 19 @22916 has 1 MA's),

Gene: Butters\_25 Start: 21584, Stop: 21754, Start Num: 17

Candidate Starts for Butters\_25:

(5, 21341), (Start: 16 @21581 has 69 MA's), (Start: 17 @21584 has 51 MA's), (Start: 19 @21599 has 1 MA's), (28, 21671),

Gene: CactusJack\_25 Start: 23141, Stop: 23314, Start Num: 16

Candidate Starts for CactusJack\_25:

(Start: 16 @23141 has 69 MA's), (Start: 17 @23144 has 51 MA's), (Start: 19 @23159 has 1 MA's),

Gene: Camster\_25 Start: 22914, Stop: 23081, Start Num: 17

Candidate Starts for Camster\_25:

(Start: 16 @22911 has 69 MA's), (Start: 17 @22914 has 51 MA's), (Start: 19 @22929 has 1 MA's), (26, 22995), (27, 22998), (29, 23004),

Gene: Carcharodon\_25 Start: 22166, Stop: 22348, Start Num: 14

Candidate Starts for Carcharodon\_25:

(Start: 14 @22166 has 7 MA's), (Start: 16 @22169 has 69 MA's), (25, 22253), (26, 22256),

Gene: Cerasum\_23 Start: 21863, Stop: 22039, Start Num: 16

Candidate Starts for Cerasum\_23:

(6, 21647), (Start: 16 @21863 has 69 MA's), (26, 21953), (30, 21965), (33, 21995),

Gene: Charlie\_25 Start: 22169, Stop: 22348, Start Num: 16

Candidate Starts for Charlie\_25:

(Start: 14 @22166 has 7 MA's), (Start: 16 @22169 has 69 MA's), (25, 22253), (26, 22256),

Gene: Che9c\_24 Start: 23013, Stop: 23189, Start Num: 16

Candidate Starts for Che9c\_24:

(Start: 16 @23013 has 69 MA's), (Start: 17 @23016 has 51 MA's), (Start: 19 @23040 has 1 MA's), (26, 23103), (33, 23145),

Gene: Chewbacca\_25 Start: 22166, Stop: 22348, Start Num: 14

Candidate Starts for Chewbacca\_25:

(Start: 14 @22166 has 7 MA's), (Start: 16 @22169 has 69 MA's), (25, 22253), (26, 22256),

Gene: Chubbello\_25 Start: 22878, Stop: 23048, Start Num: 17

Candidate Starts for Chubbello\_25:

(13, 22866), (Start: 16 @22875 has 69 MA's), (Start: 17 @22878 has 51 MA's), (Start: 19 @22893 has 1 MA's),

Gene: Clifton\_22 Start: 21987, Stop: 22163, Start Num: 16

Candidate Starts for Clifton\_22:

(3, 21669), (6, 21771), (Start: 16 @21987 has 69 MA's), (25, 22074), (26, 22077), (30, 22089),

Gene: Courthouse\_42 Start: 35249, Stop: 35410, Start Num: 17  
Candidate Starts for Courthouse\_42:  
(Start: 17 @35249 has 51 MA's), (26, 35324), (31, 35348), (33, 35366),

Gene: Crumble\_22 Start: 22034, Stop: 22210, Start Num: 16  
Candidate Starts for Crumble\_22:  
(3, 21716), (6, 21818), (Start: 16 @22034 has 69 MA's), (25, 22121), (26, 22124), (30, 22136),

Gene: Cubone\_25 Start: 22191, Stop: 22370, Start Num: 16  
Candidate Starts for Cubone\_25:  
(Start: 14 @22188 has 7 MA's), (Start: 16 @22191 has 69 MA's), (25, 22275), (26, 22278),

Gene: DmpstrDiver\_43 Start: 37897, Stop: 38058, Start Num: 17  
Candidate Starts for DmpstrDiver\_43:  
(Start: 17 @37897 has 51 MA's), (26, 37972), (31, 37996), (33, 38014),

Gene: Donovan\_25 Start: 22868, Stop: 23038, Start Num: 17  
Candidate Starts for Donovan\_25:  
(13, 22856), (Start: 16 @22865 has 69 MA's), (Start: 17 @22868 has 51 MA's), (Start: 19 @22883 has 1 MA's),

Gene: Duplicity\_25 Start: 22169, Stop: 22348, Start Num: 16  
Candidate Starts for Duplicity\_25:  
(Start: 14 @22166 has 7 MA's), (Start: 16 @22169 has 69 MA's), (25, 22253), (26, 22256),

Gene: Dynamo\_25 Start: 23268, Stop: 23438, Start Num: 17  
Candidate Starts for Dynamo\_25:  
(4, 22953), (Start: 16 @23265 has 69 MA's), (Start: 17 @23268 has 51 MA's), (Start: 19 @23283 has 1 MA's), (28, 23355),

Gene: EGUunicorn\_25 Start: 22166, Stop: 22348, Start Num: 14  
Candidate Starts for EGUunicorn\_25:  
(Start: 14 @22166 has 7 MA's), (Start: 16 @22169 has 69 MA's), (25, 22253), (26, 22256),

Gene: Etoile\_25 Start: 22879, Stop: 23049, Start Num: 17  
Candidate Starts for Etoile\_25:  
(13, 22867), (Start: 16 @22876 has 69 MA's), (Start: 17 @22879 has 51 MA's), (Start: 19 @22894 has 1 MA's),

Gene: Farewell\_24 Start: 23918, Stop: 24067, Start Num: 19  
Candidate Starts for Farewell\_24:  
(Start: 19 @23918 has 1 MA's), (26, 23981), (33, 24023),

Gene: FirstPlacePfu\_25 Start: 22879, Stop: 23049, Start Num: 17  
Candidate Starts for FirstPlacePfu\_25:  
(13, 22867), (Start: 16 @22876 has 69 MA's), (Start: 17 @22879 has 51 MA's), (Start: 19 @22894 has 1 MA's),

Gene: Fishburne\_25 Start: 22879, Stop: 23049, Start Num: 17  
Candidate Starts for Fishburne\_25:  
(13, 22867), (Start: 16 @22876 has 69 MA's), (Start: 17 @22879 has 51 MA's), (Start: 19 @22894 has 1 MA's),

Gene: Fulbright\_24 Start: 21973, Stop: 22146, Start Num: 16  
Candidate Starts for Fulbright\_24:  
(3, 21655), (6, 21757), (Start: 16 @21973 has 69 MA's), (25, 22057), (26, 22060), (30, 22072),

Gene: GaloreK\_25 Start: 22875, Stop: 23045, Start Num: 17  
Candidate Starts for GaloreK\_25:  
(Start: 16 @22872 has 69 MA's), (Start: 17 @22875 has 51 MA's), (Start: 19 @22890 has 1 MA's), (26, 22959), (29, 22968),

Gene: Gavriela\_25 Start: 23144, Stop: 23314, Start Num: 17  
Candidate Starts for Gavriela\_25:  
(Start: 16 @23141 has 69 MA's), (Start: 17 @23144 has 51 MA's), (Start: 19 @23159 has 1 MA's),

Gene: Gex\_25 Start: 22165, Stop: 22344, Start Num: 16  
Candidate Starts for Gex\_25:  
(Start: 14 @22162 has 7 MA's), (Start: 16 @22165 has 69 MA's), (25, 22249), (26, 22252),

Gene: Glaske\_25 Start: 23141, Stop: 23314, Start Num: 16  
Candidate Starts for Glaske\_25:  
(Start: 16 @23141 has 69 MA's), (Start: 17 @23144 has 51 MA's), (Start: 19 @23159 has 1 MA's),

Gene: Gonephishing\_43 Start: 36458, Stop: 36619, Start Num: 17  
Candidate Starts for Gonephishing\_43:  
(Start: 17 @36458 has 51 MA's), (33, 36575),

Gene: GreaseLightnin\_25 Start: 23125, Stop: 23301, Start Num: 16  
Candidate Starts for GreaseLightnin\_25:  
(1, 22621), (6, 22909), (Start: 16 @23125 has 69 MA's), (26, 23215),

Gene: HC\_25 Start: 22949, Stop: 23119, Start Num: 17  
Candidate Starts for HC\_25:  
(13, 22937), (Start: 16 @22946 has 69 MA's), (Start: 17 @22949 has 51 MA's), (Start: 19 @22964 has 1 MA's), (26, 23033),

Gene: HUHilltop\_25 Start: 22879, Stop: 23049, Start Num: 17  
Candidate Starts for HUHilltop\_25:  
(13, 22867), (Start: 16 @22876 has 69 MA's), (Start: 17 @22879 has 51 MA's), (Start: 19 @22894 has 1 MA's), (26, 22963), (29, 22972),

Gene: Hanako\_24 Start: 21647, Stop: 21823, Start Num: 16  
Candidate Starts for Hanako\_24:  
(3, 21329), (6, 21431), (Start: 16 @21647 has 69 MA's), (26, 21737), (31, 21761), (33, 21779),

Gene: Hannaconda\_39 Start: 33830, Stop: 33991, Start Num: 17  
Candidate Starts for Hannaconda\_39:  
(Start: 17 @33830 has 51 MA's), (26, 33905), (31, 33929), (33, 33947),

Gene: IdentityCrisis\_24 Start: 20626, Stop: 20802, Start Num: 15  
Candidate Starts for IdentityCrisis\_24:  
(Start: 15 @20626 has 1 MA's), (22, 20686), (25, 20713), (26, 20716), (33, 20758), (34, 20761),

Gene: Impisi\_25 Start: 21790, Stop: 21960, Start Num: 17  
Candidate Starts for Impisi\_25:

(Start: 16 @21787 has 69 MA's), (Start: 17 @21790 has 51 MA's), (Start: 19 @21805 has 1 MA's), (26, 21874), (29, 21883),

Gene: Jamie19\_24 Start: 21647, Stop: 21823, Start Num: 16

Candidate Starts for Jamie19\_24:

(6, 21431), (Start: 16 @21647 has 69 MA's), (26, 21737), (31, 21761), (33, 21779),

Gene: Jebeks\_25 Start: 22864, Stop: 23034, Start Num: 17

Candidate Starts for Jebeks\_25:

(13, 22852), (Start: 16 @22861 has 69 MA's), (Start: 17 @22864 has 51 MA's), (Start: 19 @22879 has 1 MA's),

Gene: Jennelsea\_22 Start: 21987, Stop: 22163, Start Num: 16

Candidate Starts for Jennelsea\_22:

(3, 21669), (6, 21771), (Start: 16 @21987 has 69 MA's), (25, 22074), (26, 22077), (30, 22089),

Gene: Journey\_25 Start: 22169, Stop: 22348, Start Num: 16

Candidate Starts for Journey\_25:

(Start: 14 @22166 has 7 MA's), (Start: 16 @22169 has 69 MA's), (25, 22253), (26, 22256),

Gene: Juniormint\_25 Start: 22923, Stop: 23093, Start Num: 17

Candidate Starts for Juniormint\_25:

(13, 22911), (Start: 16 @22920 has 69 MA's), (Start: 17 @22923 has 51 MA's), (Start: 19 @22938 has 1 MA's),

Gene: Kari\_25 Start: 22879, Stop: 23046, Start Num: 17

Candidate Starts for Kari\_25:

(Start: 16 @22876 has 69 MA's), (Start: 17 @22879 has 51 MA's), (Start: 19 @22894 has 1 MA's), (26, 22960), (27, 22963), (29, 22969),

Gene: KashFlow\_36 Start: 33451, Stop: 33612, Start Num: 17

Candidate Starts for KashFlow\_36:

(Start: 17 @33451 has 51 MA's), (26, 33526), (31, 33550), (33, 33568),

Gene: Kevin1\_25 Start: 21582, Stop: 21752, Start Num: 17

Candidate Starts for Kevin1\_25:

(5, 21339), (Start: 16 @21579 has 69 MA's), (Start: 17 @21582 has 51 MA's), (Start: 19 @21597 has 1 MA's), (28, 21669),

Gene: KilKor\_25 Start: 23141, Stop: 23314, Start Num: 16

Candidate Starts for KilKor\_25:

(Start: 16 @23141 has 69 MA's), (Start: 17 @23144 has 51 MA's), (Start: 19 @23159 has 1 MA's),

Gene: Koella\_22 Start: 21999, Stop: 22175, Start Num: 16

Candidate Starts for Koella\_22:

(3, 21681), (6, 21783), (Start: 16 @21999 has 69 MA's), (25, 22086), (26, 22089), (30, 22101),

Gene: Ksquared\_25 Start: 22901, Stop: 23071, Start Num: 17

Candidate Starts for Ksquared\_25:

(13, 22889), (Start: 16 @22898 has 69 MA's), (Start: 17 @22901 has 51 MA's), (Start: 19 @22916 has 1 MA's),

Gene: Langerak\_25 Start: 22863, Stop: 23033, Start Num: 17

Candidate Starts for Langerak\_25:

(13, 22851), (Start: 16 @22860 has 69 MA's), (Start: 17 @22863 has 51 MA's), (Start: 19 @22878 has 1 MA's), (26, 22947), (29, 22956),

Gene: LastJedi\_22 Start: 22030, Stop: 22206, Start Num: 16

Candidate Starts for LastJedi\_22:

(3, 21712), (6, 21814), (Start: 16 @22030 has 69 MA's), (25, 22117), (26, 22120), (30, 22132),

Gene: LilSpotty\_28 Start: 23137, Stop: 23316, Start Num: 16

Candidate Starts for LilSpotty\_28:

(Start: 14 @23134 has 7 MA's), (Start: 16 @23137 has 69 MA's), (25, 23221), (26, 23224),

Gene: LittleE\_48 Start: 39362, Stop: 39508, Start Num: 17

Candidate Starts for LittleE\_48:

(Start: 17 @39362 has 51 MA's), (26, 39422), (31, 39446), (33, 39464),

Gene: Lucky2013\_42 Start: 35376, Stop: 35537, Start Num: 17

Candidate Starts for Lucky2013\_42:

(Start: 17 @35376 has 51 MA's), (26, 35451), (31, 35475), (33, 35493),

Gene: Magsby\_25 Start: 22166, Stop: 22345, Start Num: 16

Candidate Starts for Magsby\_25:

(Start: 14 @22163 has 7 MA's), (Start: 16 @22166 has 69 MA's), (25, 22250), (26, 22253),

Gene: Majeke\_25 Start: 22882, Stop: 23055, Start Num: 16

Candidate Starts for Majeke\_25:

(13, 22873), (Start: 16 @22882 has 69 MA's), (Start: 17 @22885 has 51 MA's), (Start: 19 @22900 has 1 MA's),

Gene: Malithi\_25 Start: 22801, Stop: 22974, Start Num: 16

Candidate Starts for Malithi\_25:

(13, 22792), (Start: 16 @22801 has 69 MA's), (Start: 17 @22804 has 51 MA's), (Start: 19 @22819 has 1 MA's),

Gene: Mangethe\_25 Start: 22882, Stop: 23055, Start Num: 16

Candidate Starts for Mangethe\_25:

(13, 22873), (Start: 16 @22882 has 69 MA's), (Start: 17 @22885 has 51 MA's), (Start: 19 @22900 has 1 MA's),

Gene: Megiddo\_25 Start: 23141, Stop: 23314, Start Num: 16

Candidate Starts for Megiddo\_25:

(Start: 16 @23141 has 69 MA's), (Start: 17 @23144 has 51 MA's), (Start: 19 @23159 has 1 MA's),

Gene: Melville\_25 Start: 22169, Stop: 22348, Start Num: 16

Candidate Starts for Melville\_25:

(Start: 14 @22166 has 7 MA's), (Start: 16 @22169 has 69 MA's), (25, 22253), (26, 22256),

Gene: MiaZeal\_42 Start: 35060, Stop: 35221, Start Num: 17

Candidate Starts for MiaZeal\_42:

(Start: 17 @35060 has 51 MA's), (26, 35135), (31, 35159), (33, 35177),

Gene: MichelleMyBell\_25 Start: 21653, Stop: 21820, Start Num: 17

Candidate Starts for MichelleMyBell\_25:

(2, 21323), (Start: 16 @21650 has 69 MA's), (Start: 17 @21653 has 51 MA's), (26, 21734),

Gene: MilanaBonita\_22 Start: 21918, Stop: 22094, Start Num: 16

Candidate Starts for MilanaBonita\_22:

(Start: 16 @21918 has 69 MA's), (29, 22017), (33, 22050),

Gene: Ms6\_22 Start: 21500, Stop: 21676, Start Num: 16

Candidate Starts for Ms6\_22:

(6, 21284), (Start: 16 @21500 has 69 MA's), (33, 21632),

Gene: MulchSalad\_24 Start: 21938, Stop: 22111, Start Num: 16

Candidate Starts for MulchSalad\_24:

(Start: 14 @21935 has 7 MA's), (Start: 16 @21938 has 69 MA's), (26, 22025),

Gene: Nazo\_25 Start: 23510, Stop: 23686, Start Num: 17

Candidate Starts for Nazo\_25:

(Start: 16 @23507 has 69 MA's), (Start: 17 @23510 has 51 MA's), (18, 23531), (Start: 19 @23534 has 1 MA's), (20, 23555), (24, 23588), (26, 23600),

Gene: Necropolis\_25 Start: 22876, Stop: 23049, Start Num: 16

Candidate Starts for Necropolis\_25:

(13, 22867), (Start: 16 @22876 has 69 MA's), (Start: 17 @22879 has 51 MA's), (Start: 19 @22894 has 1 MA's),

Gene: Nenae\_24 Start: 21647, Stop: 21823, Start Num: 16

Candidate Starts for Nenae\_24:

(3, 21329), (6, 21431), (Start: 16 @21647 has 69 MA's), (26, 21737), (31, 21761), (33, 21779),

Gene: Nibley\_37 Start: 33891, Stop: 34052, Start Num: 17

Candidate Starts for Nibley\_37:

(Start: 17 @33891 has 51 MA's), (26, 33966), (31, 33990), (33, 34008),

Gene: Ochi17\_26 Start: 25511, Stop: 25684, Start Num: 17

Candidate Starts for Ochi17\_26:

(8, 25340), (9, 25343), (10, 25403), (11, 25427), (Start: 17 @25511 has 51 MA's), (33, 25640),

Gene: Omega\_47 Start: 39998, Stop: 40156, Start Num: 17

Candidate Starts for Omega\_47:

(Start: 17 @39998 has 51 MA's), (33, 40112),

Gene: Optimus\_46 Start: 39166, Stop: 39324, Start Num: 17

Candidate Starts for Optimus\_46:

(Start: 17 @39166 has 51 MA's), (26, 39238), (30, 39250), (33, 39280),

Gene: Panchino\_24 Start: 21760, Stop: 21927, Start Num: 16

Candidate Starts for Panchino\_24:

(5, 21520), (Start: 16 @21760 has 69 MA's), (Start: 17 @21763 has 51 MA's), (Start: 19 @21778 has 1 MA's), (26, 21841), (33, 21883),

Gene: Parmesanjohn\_25 Start: 22169, Stop: 22348, Start Num: 16

Candidate Starts for Parmesanjohn\_25:

(Start: 14 @22166 has 7 MA's), (Start: 16 @22169 has 69 MA's), (25, 22253), (26, 22256),

Gene: PeanutPie\_25 Start: 22886, Stop: 23056, Start Num: 17  
Candidate Starts for PeanutPie\_25:  
(13, 22874), (Start: 16 @22883 has 69 MA's), (Start: 17 @22886 has 51 MA's), (Start: 19 @22901 has 1 MA's),

Gene: Phalm\_25 Start: 23141, Stop: 23314, Start Num: 16  
Candidate Starts for Phalm\_25:  
(Start: 16 @23141 has 69 MA's), (Start: 17 @23144 has 51 MA's), (Start: 19 @23159 has 1 MA's),

Gene: PhancyPhin\_24 Start: 21644, Stop: 21820, Start Num: 16  
Candidate Starts for PhancyPhin\_24:  
(3, 21326), (6, 21428), (Start: 16 @21644 has 69 MA's), (26, 21734), (31, 21758), (33, 21776),

Gene: Phayonce\_25 Start: 23436, Stop: 23615, Start Num: 17  
Candidate Starts for Phayonce\_25:  
(2, 23106), (Start: 16 @23433 has 69 MA's), (Start: 17 @23436 has 51 MA's), (Start: 19 @23460 has 1 MA's), (21, 23487), (28, 23532),

Gene: Phegasus\_25 Start: 22885, Stop: 23055, Start Num: 17  
Candidate Starts for Phegasus\_25:  
(13, 22873), (Start: 16 @22882 has 69 MA's), (Start: 17 @22885 has 51 MA's), (Start: 19 @22900 has 1 MA's),

Gene: Philonius\_25 Start: 22166, Stop: 22348, Start Num: 14  
Candidate Starts for Philonius\_25:  
(Start: 14 @22166 has 7 MA's), (Start: 16 @22169 has 69 MA's), (25, 22253), (26, 22256),

Gene: Phineas\_25 Start: 23247, Stop: 23420, Start Num: 16  
Candidate Starts for Phineas\_25:  
(13, 23238), (Start: 16 @23247 has 69 MA's), (Start: 17 @23250 has 51 MA's), (Start: 19 @23265 has 1 MA's),

Gene: Phloss\_24 Start: 21976, Stop: 22149, Start Num: 16  
Candidate Starts for Phloss\_24:  
(3, 21658), (6, 21760), (Start: 16 @21976 has 69 MA's), (25, 22060), (26, 22063), (30, 22075),

Gene: Phrann\_24 Start: 22023, Stop: 22196, Start Num: 16  
Candidate Starts for Phrann\_24:  
(Start: 16 @22023 has 69 MA's), (Start: 17 @22026 has 51 MA's), (Start: 19 @22041 has 1 MA's), (26, 22110), (27, 22113), (29, 22119),

Gene: Pippy\_22 Start: 22026, Stop: 22202, Start Num: 16  
Candidate Starts for Pippy\_22:  
(3, 21708), (6, 21810), (Start: 16 @22026 has 69 MA's), (25, 22113), (26, 22116), (30, 22128),

Gene: Pipsqueaks\_25 Start: 22166, Stop: 22348, Start Num: 14  
Candidate Starts for Pipsqueaks\_25:  
(Start: 14 @22166 has 7 MA's), (Start: 16 @22169 has 69 MA's), (25, 22253), (26, 22256),

Gene: Polkaroo\_25 Start: 22895, Stop: 23065, Start Num: 17  
Candidate Starts for Polkaroo\_25:  
(13, 22883), (Start: 16 @22892 has 69 MA's), (Start: 17 @22895 has 51 MA's), (Start: 19 @22910 has 1 MA's),

Gene: Porcelain\_41 Start: 35060, Stop: 35221, Start Num: 17  
Candidate Starts for Porcelain\_41:  
(Start: 17 @35060 has 51 MA's), (26, 35135), (31, 35159), (33, 35177),

Gene: Purgamenstris\_24 Start: 21647, Stop: 21823, Start Num: 16  
Candidate Starts for Purgamenstris\_24:  
(3, 21329), (6, 21431), (Start: 16 @21647 has 69 MA's), (26, 21737), (31, 21761), (33, 21779),

Gene: Purky\_25 Start: 23130, Stop: 23306, Start Num: 16  
Candidate Starts for Purky\_25:  
(Start: 16 @23130 has 69 MA's), (Start: 17 @23133 has 51 MA's), (23, 23199), (25, 23217), (26, 23220), (30, 23232), (33, 23262),

Gene: QueenHazel\_24 Start: 23056, Stop: 23232, Start Num: 16  
Candidate Starts for QueenHazel\_24:  
(6, 22840), (Start: 16 @23056 has 69 MA's), (25, 23143),

Gene: Raymond7\_24 Start: 22039, Stop: 22206, Start Num: 17  
Candidate Starts for Raymond7\_24:  
(2, 21709), (Start: 16 @22036 has 69 MA's), (Start: 17 @22039 has 51 MA's), (26, 22120),

Gene: Rebel\_24 Start: 21448, Stop: 21612, Start Num: 17  
Candidate Starts for Rebel\_24:  
(Start: 16 @21445 has 69 MA's), (Start: 17 @21448 has 51 MA's), (Start: 19 @21463 has 1 MA's), (26, 21526), (33, 21568),

Gene: Redi\_24 Start: 21647, Stop: 21823, Start Num: 16  
Candidate Starts for Redi\_24:  
(3, 21329), (6, 21431), (Start: 16 @21647 has 69 MA's), (26, 21737), (31, 21761), (33, 21779),

Gene: Rubeelu\_25 Start: 21584, Stop: 21754, Start Num: 17  
Candidate Starts for Rubeelu\_25:  
(5, 21341), (Start: 16 @21581 has 69 MA's), (Start: 17 @21584 has 51 MA's), (Start: 19 @21599 has 1 MA's), (28, 21671),

Gene: Sarma624\_23 Start: 21863, Stop: 22039, Start Num: 16  
Candidate Starts for Sarma624\_23:  
(6, 21647), (Start: 16 @21863 has 69 MA's), (26, 21953), (30, 21965), (33, 21995),

Gene: Sbash\_24 Start: 23052, Stop: 23234, Start Num: 16  
Candidate Starts for Sbash\_24:  
(2, 22725), (Start: 16 @23052 has 69 MA's), (Start: 17 @23055 has 51 MA's), (Start: 19 @23079 has 1 MA's), (26, 23145), (32, 23175),

Gene: Schnauzer\_25 Start: 22166, Stop: 22348, Start Num: 14  
Candidate Starts for Schnauzer\_25:  
(Start: 14 @22166 has 7 MA's), (Start: 16 @22169 has 69 MA's), (25, 22253), (26, 22256),

Gene: Scitech\_24 Start: 21768, Stop: 21941, Start Num: 16  
Candidate Starts for Scitech\_24:  
(Start: 16 @21768 has 69 MA's), (Start: 17 @21771 has 51 MA's), (Start: 19 @21786 has 1 MA's), (26, 21855), (30, 21867), (31, 21879), (33, 21897),

Gene: Shaboozey\_36 Start: 33375, Stop: 33536, Start Num: 17  
Candidate Starts for Shaboozey\_36:  
(Start: 17 @33375 has 51 MA's), (26, 33450), (31, 33474), (33, 33492),

Gene: ShrimpFriedEgg\_24 Start: 21647, Stop: 21823, Start Num: 16  
Candidate Starts for ShrimpFriedEgg\_24:  
(3, 21329), (6, 21431), (Start: 16 @21647 has 69 MA's), (26, 21737), (31, 21761), (33, 21779),

Gene: Shweta\_24 Start: 21778, Stop: 21951, Start Num: 16  
Candidate Starts for Shweta\_24:  
(Start: 16 @21778 has 69 MA's), (Start: 17 @21781 has 51 MA's), (Start: 19 @21796 has 1 MA's), (26, 21865), (30, 21877), (31, 21889), (33, 21907),

Gene: Silvafighter\_25 Start: 22166, Stop: 22348, Start Num: 14  
Candidate Starts for Silvafighter\_25:  
(Start: 14 @22166 has 7 MA's), (Start: 16 @22169 has 69 MA's), (25, 22253), (26, 22256),

Gene: Silvy\_25 Start: 22170, Stop: 22349, Start Num: 16  
Candidate Starts for Silvy\_25:  
(Start: 14 @22167 has 7 MA's), (Start: 16 @22170 has 69 MA's), (25, 22254), (26, 22257),

Gene: SkinnyPete\_24 Start: 21787, Stop: 21951, Start Num: 17  
Candidate Starts for SkinnyPete\_24:  
(5, 21544), (Start: 16 @21784 has 69 MA's), (Start: 17 @21787 has 51 MA's), (Start: 19 @21802 has 1 MA's), (26, 21865), (33, 21907),

Gene: Smurph\_25 Start: 22169, Stop: 22348, Start Num: 16  
Candidate Starts for Smurph\_25:  
(Start: 14 @22166 has 7 MA's), (Start: 16 @22169 has 69 MA's), (25, 22253), (26, 22256),

Gene: Snekmaggedon\_24 Start: 21647, Stop: 21823, Start Num: 16  
Candidate Starts for Snekmaggedon\_24:  
(6, 21431), (Start: 16 @21647 has 69 MA's), (26, 21737), (31, 21761), (33, 21779),

Gene: Sonah\_25 Start: 22869, Stop: 23039, Start Num: 17  
Candidate Starts for Sonah\_25:  
(13, 22857), (Start: 16 @22866 has 69 MA's), (Start: 17 @22869 has 51 MA's), (Start: 19 @22884 has 1 MA's),

Gene: Spinach\_24 Start: 21647, Stop: 21823, Start Num: 16  
Candidate Starts for Spinach\_24:  
(3, 21329), (6, 21431), (Start: 16 @21647 has 69 MA's), (26, 21737), (31, 21761), (33, 21779),

Gene: SpongeBob\_24 Start: 21647, Stop: 21823, Start Num: 16  
Candidate Starts for SpongeBob\_24:  
(6, 21431), (Start: 16 @21647 has 69 MA's), (26, 21737), (31, 21761), (33, 21779),

Gene: Squint\_41 Start: 35179, Stop: 35340, Start Num: 17  
Candidate Starts for Squint\_41:  
(Start: 17 @35179 has 51 MA's), (26, 35254), (31, 35278), (33, 35296),

Gene: Squirty\_23 Start: 21695, Stop: 21868, Start Num: 16

Candidate Starts for Squirty\_23:

(3, 21377), (6, 21479), (Start: 16 @21695 has 69 MA's), (25, 21779), (26, 21782), (30, 21794),

Gene: StAnnes\_25 Start: 25400, Stop: 25573, Start Num: 17

Candidate Starts for StAnnes\_25:

(7, 25196), (12, 25376), (Start: 17 @25400 has 51 MA's), (31, 25511), (33, 25529),

Gene: StevieRay\_25 Start: 22870, Stop: 23028, Start Num: 17

Candidate Starts for StevieRay\_25:

(13, 22858), (Start: 16 @22867 has 69 MA's), (Start: 17 @22870 has 51 MA's), (Start: 19 @22885 has 1 MA's),

Gene: StressBall\_25 Start: 23141, Stop: 23314, Start Num: 16

Candidate Starts for StressBall\_25:

(Start: 16 @23141 has 69 MA's), (Start: 17 @23144 has 51 MA's), (Start: 19 @23159 has 1 MA's),

Gene: Stuck\_28 Start: 23375, Stop: 23551, Start Num: 16

Candidate Starts for Stuck\_28:

(6, 23159), (Start: 16 @23375 has 69 MA's), (26, 23465), (30, 23477), (33, 23507),

Gene: Superphikiman\_42 Start: 35242, Stop: 35403, Start Num: 17

Candidate Starts for Superphikiman\_42:

(Start: 17 @35242 has 51 MA's), (26, 35317), (31, 35341), (33, 35359),

Gene: Tapioca\_25 Start: 22169, Stop: 22348, Start Num: 16

Candidate Starts for Tapioca\_25:

(Start: 14 @22166 has 7 MA's), (Start: 16 @22169 has 69 MA's), (25, 22253), (26, 22256),

Gene: Tchotchke\_26 Start: 25034, Stop: 25207, Start Num: 17

Candidate Starts for Tchotchke\_26:

(Start: 17 @25034 has 51 MA's), (26, 25121), (30, 25133), (33, 25163),

Gene: Techage\_25 Start: 22870, Stop: 23040, Start Num: 17

Candidate Starts for Techage\_25:

(Start: 16 @22867 has 69 MA's), (Start: 17 @22870 has 51 MA's), (Start: 19 @22885 has 1 MA's), (26, 22954), (29, 22963),

Gene: Thespis\_25 Start: 22876, Stop: 23049, Start Num: 16

Candidate Starts for Thespis\_25:

(13, 22867), (Start: 16 @22876 has 69 MA's), (Start: 17 @22879 has 51 MA's), (Start: 19 @22894 has 1 MA's),

Gene: ThulaThula\_25 Start: 23442, Stop: 23621, Start Num: 17

Candidate Starts for ThulaThula\_25:

(Start: 16 @23439 has 69 MA's), (Start: 17 @23442 has 51 MA's), (Start: 19 @23466 has 1 MA's), (21, 23493), (28, 23538),

Gene: Tortellini\_25 Start: 23480, Stop: 23647, Start Num: 16

Candidate Starts for Tortellini\_25:

(Start: 16 @23480 has 69 MA's), (Start: 17 @23483 has 51 MA's), (Start: 19 @23498 has 1 MA's), (26, 23561), (31, 23585), (33, 23603),

Gene: Tortoise12\_25 Start: 22169, Stop: 22348, Start Num: 16

Candidate Starts for Tortoise12\_25:

(Start: 14 @22166 has 7 MA's), (Start: 16 @22169 has 69 MA's), (25, 22253), (26, 22256),

Gene: Velveteen\_23 Start: 21863, Stop: 22039, Start Num: 16

Candidate Starts for Velveteen\_23:

(6, 21647), (Start: 16 @21863 has 69 MA's), (26, 21953), (30, 21965), (33, 21995),

Gene: Venti\_25 Start: 22879, Stop: 23049, Start Num: 17

Candidate Starts for Venti\_25:

(13, 22867), (Start: 16 @22876 has 69 MA's), (Start: 17 @22879 has 51 MA's), (Start: 19 @22894 has 1 MA's),

Gene: Vidya\_25 Start: 22879, Stop: 23049, Start Num: 17

Candidate Starts for Vidya\_25:

(13, 22867), (Start: 16 @22876 has 69 MA's), (Start: 17 @22879 has 51 MA's), (Start: 19 @22894 has 1 MA's),

Gene: WST1\_25 Start: 20638, Stop: 20814, Start Num: 15

Candidate Starts for WST1\_25:

(Start: 15 @20638 has 1 MA's), (22, 20698), (25, 20725), (26, 20728), (33, 20770), (34, 20773),

Gene: Willsammy\_25 Start: 23145, Stop: 23318, Start Num: 16

Candidate Starts for Willsammy\_25:

(Start: 16 @23145 has 69 MA's), (Start: 17 @23148 has 51 MA's), (Start: 19 @23163 has 1 MA's), (26, 23232), (33, 23274),

Gene: Xavia\_25 Start: 23502, Stop: 23672, Start Num: 17

Candidate Starts for Xavia\_25:

(Start: 16 @23499 has 69 MA's), (Start: 17 @23502 has 51 MA's), (Start: 19 @23517 has 1 MA's), (26, 23586), (27, 23589), (29, 23595),

Gene: Xeno\_24 Start: 21783, Stop: 21953, Start Num: 17

Candidate Starts for Xeno\_24:

(Start: 16 @21780 has 69 MA's), (Start: 17 @21783 has 51 MA's), (Start: 19 @21798 has 1 MA's), (26, 21867), (29, 21876),

Gene: Xerxes\_25 Start: 22166, Stop: 22345, Start Num: 16

Candidate Starts for Xerxes\_25:

(Start: 14 @22163 has 7 MA's), (Start: 16 @22166 has 69 MA's), (25, 22250), (26, 22253),

Gene: Xula\_23 Start: 22578, Stop: 22754, Start Num: 16

Candidate Starts for Xula\_23:

(6, 22362), (Start: 16 @22578 has 69 MA's), (25, 22665),

Gene: Zilizebeth\_25 Start: 22876, Stop: 23049, Start Num: 16

Candidate Starts for Zilizebeth\_25:

(13, 22867), (Start: 16 @22876 has 69 MA's), (Start: 17 @22879 has 51 MA's), (Start: 19 @22894 has 1 MA's),