

Pham 304906



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 304906 Report

This analysis was run 06/08/26 on database version 649.

Pham number 304906 has 91 members, 7 are drafts.

Phages represented in each track:

- Track 1 : Orange\_61, MaCh\_62, Bowtie\_63, Et2Brutus\_61, Gilberta\_63, Petersenfast\_60, Sham4\_62, Timothy\_62, TinyTimmy\_62, Wolpertinger\_60, Bud\_61, Salz\_61, Saskia\_62, Flaverint\_63, Hutc2\_61, Fibonacci\_62, Insomnia\_63, Mulciber\_61, Kimba\_61, Joselito\_63, Lucivia\_63, Bachome\_64, Jabith\_63, Snape\_62, Ebony\_62, Munch\_62, Aneem\_63
- Track 2 : Mabel\_62
- Track 3 : Gail\_64, Sunhee\_65
- Track 4 : Luchador\_65
- Track 5 : SororFago\_63
- Track 6 : Fameo\_63, Heffalump\_62, QueenB2\_62
- Track 7 : AbbyPaige\_65, Jerm\_65, SemperFi\_64, LilTurb\_64, Agape74\_65, Turbido\_64, Buggy\_65, Georgie2\_64, Crucio\_63
- Track 8 : Leogania\_63, BiancaTri92\_63
- Track 9 : AN9\_65, ANI8\_65, VC3\_65
- Track 10 : NothingSpecial\_60
- Track 11 : Rachaly\_61, BobSwaget\_58, Lokk\_59
- Track 12 : Travvers\_63, Pomar16\_63, D29\_59.1, Kerberos\_64, D32\_63, Tomathan\_64, Naji\_64, Duplo\_64, DBQu4n\_64, StarStuff\_64
- Track 13 : Kalpine\_61
- Track 14 : TarsusIV\_60, XianYue\_61
- Track 15 : FiringLine\_63, QueenBeesly\_63
- Track 16 : Retro23\_64, DudeLittle\_62, Dalmatian\_64, Anselm\_64
- Track 17 : SwirlSquare\_67
- Track 18 : BabyBack\_61
- Track 19 : Power\_62
- Track 20 : NicoleTera\_61
- Track 21 : ForesterFrank\_58
- Track 22 : Changeling\_62
- Track 23 : SnapTap\_63, SweetiePie\_63
- Track 24 : Miko\_59
- Track 25 : MissWhite\_61
- Track 26 : Benvolio\_60, Echild\_63
- Track 27 : Loser\_64
- Track 28 : ArcherNM\_57
- Track 29 : EZMoney23\_59
- Track 30 : Iwokeuplikedis\_65
- Track 31 : Trooper\_64

- Track 32 : Drake55\_65
- Track 33 : Chargerpower\_61

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

The start number called the most often in the published annotations is 9, it was called in 55 of the 84 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AbbyPaige\_65, Agape74\_65, Aneem\_63, ArcherNM\_57, Bachome\_64, BobSwaget\_58, Bowtie\_63, Bud\_61, Buggy\_65, Changeling\_62, Crucio\_63, D29\_59.1, D32\_63, DBQu4n\_64, Duplo\_64, EZMoney23\_59, Ebony\_62, Et2Brutus\_61, Fibonacci\_62, FiringLine\_63, Flaverint\_63, ForesterFrank\_58, Georgie2\_64, Gilberta\_63, Hutc2\_61, Insomnia\_63, Jabith\_63, Jerm\_65, Joselito\_63, Kerberos\_64, Kimba\_61, LilTurb\_64, Lokk\_59, Loser\_64, Lucivia\_63, MaCh\_62, Mabel\_62, Miko\_59, MissWhite\_61, Mulciber\_61, Munch\_62, Naji\_64, NicoleTera\_61, Orange\_61, Petersenfast\_60, Pomar16\_63, QueenBeesly\_63, Rachaly\_61, Salz\_61, Saskia\_62, SemperFi\_64, Sham4\_62, Snape\_62, StarStuff\_64, TarsusIV\_60, Timothy\_62, TinyTimmy\_62, Tomathan\_64, Travvers\_63, Turbido\_64, Wolpertinger\_60, XianYue\_61,

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

- SnapTap\_63, SweetiePie\_63,

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

- AN9\_65, ANI8\_65, Anselm\_64, BabyBack\_61, Benvolio\_60, BiancaTri92\_63, Chargerpower\_61, Dalmatian\_64, Drake55\_65, DudeLittle\_62, Echid\_63, Fameo\_63, Gail\_64, Heffalump\_62, Iwokeuplikedis\_65, Kalpine\_61, Leogania\_63, Luchador\_65, NothingSpecial\_60, Power\_62, QueenB2\_62, Retro23\_64, SororFago\_63, Sunhee\_65, SwirlSquare\_67, Trooper\_64, VC3\_65,

### **Summary by start number:**

Start 7:

- Found in 4 of 91 ( 4.4% ) of genes in pham
- Manual Annotations of this start: 4 of 84
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AN9\_65 (A2), ANI8\_65 (A2), SwirlSquare\_67 (A2), VC3\_65 (A2),

Start 9:

- Found in 64 of 91 ( 70.3% ) of genes in pham
- Manual Annotations of this start: 55 of 84
- Called 96.9% of time when present
- Phage (with cluster) where this start called: AbbyPaige\_65 (A2), Agape74\_65 (A2), Aneem\_63 (A11), ArcherNM\_57 (A2), Bachome\_64 (A11), BobSwaget\_58 (A2), Bowtie\_63 (A11), Bud\_61 (A11), Buggy\_65 (A2), Changeling\_62 (A2), Crucio\_63 (A2), D29\_59.1 (A2), D32\_63 (A2), DBQu4n\_64 (A2), Duplo\_64 (A2), EZMoney23\_59 (A2), Ebony\_62 (A11), Et2Brutus\_61 (A11), Fibonacci\_62 (A11), FiringLine\_63 (A2), Flaverint\_63 (A11), ForesterFrank\_58 (A2), Georgie2\_64 (A2), Gilberta\_63 (A11),

Hutc2\_61 (A11), Insomnia\_63 (A11), Jabith\_63 (A11), Jerm\_65 (A2), Joselito\_63 (A11), Kerberos\_64 (A2), Kimba\_61 (A11), LilTurb\_64 (A2), Lokk\_59 (A2), Loser\_64 (A2), Lucivia\_63 (A11), MaCh\_62 (A11), Mabel\_62 (A11), Miko\_59 (A2), MissWhite\_61 (A2), Mulciber\_61 (A11), Munch\_62 (A11), Naji\_64 (A2), NicoleTera\_61 (A2), Orange\_61 (A11), Petersenfast\_60 (A11), Pomar16\_63 (A2), QueenBeesly\_63 (A2), Rachaly\_61 (A2), Salz\_61 (A11), Saskia\_62 (A11), SemperFi\_64 (A2), Sham4\_62 (A11), Snape\_62 (A11), StarStuff\_64 (A2), TarsusIV\_60 (A2), Timothy\_62 (A11), TinyTimmy\_62 (A11), Tomathan\_64 (A2), Travvers\_63 (A2), Turbido\_64 (A2), Wolpertinger\_60 (A11), XianYue\_61 (A2),

Start 10:

- Found in 2 of 91 ( 2.2% ) of genes in pham
- Manual Annotations of this start: 2 of 84
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gail\_64 (A14), Sunhee\_65 (A14),

Start 11:

- Found in 10 of 91 ( 11.0% ) of genes in pham
- Manual Annotations of this start: 9 of 84
- Called 90.0% of time when present
- Phage (with cluster) where this start called: BabyBack\_61 (A2), BiancaTri92\_63 (A2), Drake55\_65 (A2), Iwokeuplikedis\_65 (A2), Leogania\_63 (A2), Luchador\_65 (A14), NothingSpecial\_60 (A2), SororFago\_63 (A14), Trooper\_64 (A2),

Start 12:

- Found in 12 of 91 ( 13.2% ) of genes in pham
- Manual Annotations of this start: 12 of 84
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Anselm\_64 (A2), Benvolio\_60 (A2), Chargerpower\_61 (A22), Dalmatian\_64 (A2), DudeLittle\_62 (A2), Echid\_63 (A2), Fameo\_63 (A2), Heffalump\_62 (A2), Kalpine\_61 (A2), Power\_62 (A2), QueenB2\_62 (A2), Retro23\_64 (A2),

Start 13:

- Found in 29 of 91 ( 31.9% ) of genes in pham
- Manual Annotations of this start: 2 of 84
- Called 6.9% of time when present
- Phage (with cluster) where this start called: SnapTap\_63 (A2), SweetiePie\_63 (A2),

### **Summary by clusters:**

There are 4 clusters represented in this pham: A14, A22, A2, A11,

Info for manual annotations of cluster A11:

- Start number 9 was manually annotated 24 times for cluster A11.

Info for manual annotations of cluster A14:

- Start number 10 was manually annotated 2 times for cluster A14.
- Start number 11 was manually annotated 2 times for cluster A14.

Info for manual annotations of cluster A2:

- Start number 7 was manually annotated 4 times for cluster A2.
- Start number 9 was manually annotated 31 times for cluster A2.

- Start number 11 was manually annotated 7 times for cluster A2.
- Start number 12 was manually annotated 11 times for cluster A2.
- Start number 13 was manually annotated 2 times for cluster A2.

Info for manual annotations of cluster A22:

- Start number 12 was manually annotated 1 time for cluster A22.

### **Gene Information:**

Gene: AN9\_65 Start: 40106, Stop: 39975, Start Num: 7

Candidate Starts for AN9\_65:

(3, 40136), (Start: 7 @40106 has 4 MA's), (17, 40088), (26, 40043), (28, 40037), (31, 39983),

Gene: ANI8\_65 Start: 40106, Stop: 39975, Start Num: 7

Candidate Starts for ANI8\_65:

(3, 40136), (Start: 7 @40106 has 4 MA's), (17, 40088), (26, 40043), (28, 40037), (31, 39983),

Gene: AbbyPaige\_65 Start: 40341, Stop: 40210, Start Num: 9

Candidate Starts for AbbyPaige\_65:

(Start: 9 @40341 has 55 MA's), (Start: 13 @40332 has 2 MA's), (18, 40305),

Gene: Agape74\_65 Start: 40335, Stop: 40204, Start Num: 9

Candidate Starts for Agape74\_65:

(Start: 9 @40335 has 55 MA's), (Start: 13 @40326 has 2 MA's), (18, 40299),

Gene: Aneem\_63 Start: 39459, Stop: 39322, Start Num: 9

Candidate Starts for Aneem\_63:

(Start: 9 @39459 has 55 MA's), (28, 39387),

Gene: Anselm\_64 Start: 40239, Stop: 40120, Start Num: 12

Candidate Starts for Anselm\_64:

(Start: 12 @40239 has 12 MA's), (15, 40230),

Gene: ArcherNM\_57 Start: 39573, Stop: 39427, Start Num: 9

Candidate Starts for ArcherNM\_57:

(2, 39663), (Start: 9 @39573 has 55 MA's), (21, 39522), (32, 39435),

Gene: BabyBack\_61 Start: 40331, Stop: 40191, Start Num: 11

Candidate Starts for BabyBack\_61:

(2, 40424), (6, 40349), (Start: 11 @40331 has 9 MA's), (17, 40322), (27, 40274), (32, 40199),

Gene: Bachome\_64 Start: 39439, Stop: 39302, Start Num: 9

Candidate Starts for Bachome\_64:

(Start: 9 @39439 has 55 MA's), (28, 39367),

Gene: Benvolio\_60 Start: 39343, Stop: 39227, Start Num: 12

Candidate Starts for Benvolio\_60:

(Start: 12 @39343 has 12 MA's),

Gene: BiancaTri92\_63 Start: 40390, Stop: 40262, Start Num: 11

Candidate Starts for BiancaTri92\_63:

(Start: 11 @40390 has 9 MA's), (17, 40381), (32, 40270),

Gene: BobSwaget\_58 Start: 38604, Stop: 38473, Start Num: 9

Candidate Starts for BobSwaget\_58:

(Start: 9 @38604 has 55 MA's), (Start: 13 @38595 has 2 MA's), (16, 38586), (27, 38535),

Gene: Bowtie\_63 Start: 39466, Stop: 39329, Start Num: 9

Candidate Starts for Bowtie\_63:

(Start: 9 @39466 has 55 MA's), (28, 39394),

Gene: Bud\_61 Start: 39013, Stop: 38876, Start Num: 9

Candidate Starts for Bud\_61:

(Start: 9 @39013 has 55 MA's), (28, 38941),

Gene: Buggy\_65 Start: 40392, Stop: 40261, Start Num: 9

Candidate Starts for Buggy\_65:

(Start: 9 @40392 has 55 MA's), (Start: 13 @40383 has 2 MA's), (18, 40356),

Gene: Changeling\_62 Start: 40439, Stop: 40296, Start Num: 9

Candidate Starts for Changeling\_62:

(2, 40529), (Start: 9 @40439 has 55 MA's), (20, 40391), (27, 40370), (28, 40367), (32, 40304),

Gene: Chargerpower\_61 Start: 38578, Stop: 38429, Start Num: 12

Candidate Starts for Chargerpower\_61:

(4, 38617), (5, 38602), (Start: 11 @38581 has 9 MA's), (Start: 12 @38578 has 12 MA's), (17, 38560), (24, 38518), (33, 38437),

Gene: Crucio\_63 Start: 40018, Stop: 39887, Start Num: 9

Candidate Starts for Crucio\_63:

(Start: 9 @40018 has 55 MA's), (Start: 13 @40009 has 2 MA's), (18, 39982),

Gene: D29\_59.1 Start: 39706, Stop: 39563, Start Num: 9

Candidate Starts for D29\_59.1:

(Start: 9 @39706 has 55 MA's), (Start: 13 @39697 has 2 MA's), (20, 39658), (28, 39634),

Gene: D32\_63 Start: 39706, Stop: 39563, Start Num: 9

Candidate Starts for D32\_63:

(Start: 9 @39706 has 55 MA's), (Start: 13 @39697 has 2 MA's), (20, 39658), (28, 39634),

Gene: DBQu4n\_64 Start: 39687, Stop: 39544, Start Num: 9

Candidate Starts for DBQu4n\_64:

(Start: 9 @39687 has 55 MA's), (Start: 13 @39678 has 2 MA's), (20, 39639), (28, 39615),

Gene: Dalmatian\_64 Start: 40212, Stop: 40093, Start Num: 12

Candidate Starts for Dalmatian\_64:

(Start: 12 @40212 has 12 MA's), (15, 40203),

Gene: Drake55\_65 Start: 40115, Stop: 39984, Start Num: 11

Candidate Starts for Drake55\_65:

(Start: 11 @40115 has 9 MA's),

Gene: DudeLittle\_62 Start: 39978, Stop: 39859, Start Num: 12

Candidate Starts for DudeLittle\_62:

(Start: 12 @39978 has 12 MA's), (15, 39969),

Gene: Duplo\_64 Start: 39743, Stop: 39600, Start Num: 9

Candidate Starts for Duplo\_64:

(Start: 9 @39743 has 55 MA's), (Start: 13 @39734 has 2 MA's), (20, 39695), (28, 39671),

Gene: EZMoney23\_59 Start: 39508, Stop: 39365, Start Num: 9

Candidate Starts for EZMoney23\_59:

(Start: 9 @39508 has 55 MA's), (25, 39445), (32, 39373),

Gene: Ebony\_62 Start: 39030, Stop: 38893, Start Num: 9

Candidate Starts for Ebony\_62:

(Start: 9 @39030 has 55 MA's), (28, 38958),

Gene: Echild\_63 Start: 39367, Stop: 39251, Start Num: 12

Candidate Starts for Echild\_63:

(Start: 12 @39367 has 12 MA's),

Gene: Et2Brutus\_61 Start: 38993, Stop: 38856, Start Num: 9

Candidate Starts for Et2Brutus\_61:

(Start: 9 @38993 has 55 MA's), (28, 38921),

Gene: Fameo\_63 Start: 40337, Stop: 40218, Start Num: 12

Candidate Starts for Fameo\_63:

(2, 40430), (Start: 12 @40337 has 12 MA's), (15, 40328),

Gene: Fibonacci\_62 Start: 38999, Stop: 38862, Start Num: 9

Candidate Starts for Fibonacci\_62:

(Start: 9 @38999 has 55 MA's), (28, 38927),

Gene: FiringLine\_63 Start: 39999, Stop: 39868, Start Num: 9

Candidate Starts for FiringLine\_63:

(Start: 9 @39999 has 55 MA's), (Start: 13 @39990 has 2 MA's), (18, 39963),

Gene: Flaverint\_63 Start: 39457, Stop: 39320, Start Num: 9

Candidate Starts for Flaverint\_63:

(Start: 9 @39457 has 55 MA's), (28, 39385),

Gene: ForesterFrank\_58 Start: 40183, Stop: 40052, Start Num: 9

Candidate Starts for ForesterFrank\_58:

(2, 40273), (Start: 9 @40183 has 55 MA's),

Gene: Gail\_64 Start: 40781, Stop: 40653, Start Num: 10

Candidate Starts for Gail\_64:

(8, 40787), (Start: 10 @40781 has 2 MA's),

Gene: Georgie2\_64 Start: 40044, Stop: 39913, Start Num: 9

Candidate Starts for Georgie2\_64:

(Start: 9 @40044 has 55 MA's), (Start: 13 @40035 has 2 MA's), (18, 40008),

Gene: Gilberta\_63 Start: 39450, Stop: 39313, Start Num: 9

Candidate Starts for Gilberta\_63:

(Start: 9 @39450 has 55 MA's), (28, 39378),

Gene: Heffalump\_62 Start: 40805, Stop: 40686, Start Num: 12

Candidate Starts for Heffalump\_62:

(2, 40898), (Start: 12 @40805 has 12 MA's), (15, 40796),

Gene: Hutc2\_61 Start: 38999, Stop: 38862, Start Num: 9

Candidate Starts for Hutc2\_61:

(Start: 9 @38999 has 55 MA's), (28, 38927),

Gene: Insomnia\_63 Start: 39510, Stop: 39373, Start Num: 9

Candidate Starts for Insomnia\_63:

(Start: 9 @39510 has 55 MA's), (28, 39438),

Gene: Iwokeuplikedis\_65 Start: 39836, Stop: 39705, Start Num: 11

Candidate Starts for Iwokeuplikedis\_65:

(1, 40247), (2, 39926), (Start: 11 @39836 has 9 MA's), (19, 39809), (20, 39800), (21, 39797), (22, 39794), (23, 39788),

Gene: Jabith\_63 Start: 39511, Stop: 39374, Start Num: 9

Candidate Starts for Jabith\_63:

(Start: 9 @39511 has 55 MA's), (28, 39439),

Gene: Jerm\_65 Start: 40407, Stop: 40276, Start Num: 9

Candidate Starts for Jerm\_65:

(Start: 9 @40407 has 55 MA's), (Start: 13 @40398 has 2 MA's), (18, 40371),

Gene: Joselito\_63 Start: 39459, Stop: 39322, Start Num: 9

Candidate Starts for Joselito\_63:

(Start: 9 @39459 has 55 MA's), (28, 39387),

Gene: Kalpine\_61 Start: 40096, Stop: 39965, Start Num: 12

Candidate Starts for Kalpine\_61:

(5, 40117), (Start: 12 @40096 has 12 MA's), (29, 40030), (32, 39973),

Gene: Kerberos\_64 Start: 39705, Stop: 39562, Start Num: 9

Candidate Starts for Kerberos\_64:

(Start: 9 @39705 has 55 MA's), (Start: 13 @39696 has 2 MA's), (20, 39657), (28, 39633),

Gene: Kimba\_61 Start: 39031, Stop: 38894, Start Num: 9

Candidate Starts for Kimba\_61:

(Start: 9 @39031 has 55 MA's), (28, 38959),

Gene: Leogania\_63 Start: 40768, Stop: 40640, Start Num: 11

Candidate Starts for Leogania\_63:

(Start: 11 @40768 has 9 MA's), (17, 40759), (32, 40648),

Gene: LilTurb\_64 Start: 40289, Stop: 40158, Start Num: 9

Candidate Starts for LilTurb\_64:

(Start: 9 @40289 has 55 MA's), (Start: 13 @40280 has 2 MA's), (18, 40253),

Gene: Lokk\_59 Start: 39228, Stop: 39097, Start Num: 9

Candidate Starts for Lokk\_59:

(Start: 9 @39228 has 55 MA's), (Start: 13 @39219 has 2 MA's), (16, 39210), (27, 39159),

Gene: Loser\_64 Start: 40496, Stop: 40356, Start Num: 9  
Candidate Starts for Loser\_64:  
(Start: 9 @40496 has 55 MA's), (Start: 13 @40487 has 2 MA's), (27, 40427), (28, 40424), (32, 40364),

Gene: Luchador\_65 Start: 41349, Stop: 41215, Start Num: 11  
Candidate Starts for Luchador\_65:  
(Start: 11 @41349 has 9 MA's),

Gene: Lucivia\_63 Start: 39508, Stop: 39371, Start Num: 9  
Candidate Starts for Lucivia\_63:  
(Start: 9 @39508 has 55 MA's), (28, 39436),

Gene: MaCh\_62 Start: 39438, Stop: 39301, Start Num: 9  
Candidate Starts for MaCh\_62:  
(Start: 9 @39438 has 55 MA's), (28, 39366),

Gene: Mabel\_62 Start: 39455, Stop: 39318, Start Num: 9  
Candidate Starts for Mabel\_62:  
(Start: 9 @39455 has 55 MA's), (28, 39383), (30, 39341),

Gene: Miko\_59 Start: 40006, Stop: 39875, Start Num: 9  
Candidate Starts for Miko\_59:  
(Start: 9 @40006 has 55 MA's), (Start: 13 @39997 has 2 MA's), (27, 39937),

Gene: MissWhite\_61 Start: 38488, Stop: 38360, Start Num: 9  
Candidate Starts for MissWhite\_61:  
(5, 38506), (Start: 9 @38488 has 55 MA's), (16, 38479),

Gene: Mulciber\_61 Start: 38996, Stop: 38859, Start Num: 9  
Candidate Starts for Mulciber\_61:  
(Start: 9 @38996 has 55 MA's), (28, 38924),

Gene: Munch\_62 Start: 39459, Stop: 39322, Start Num: 9  
Candidate Starts for Munch\_62:  
(Start: 9 @39459 has 55 MA's), (28, 39387),

Gene: Naji\_64 Start: 39706, Stop: 39563, Start Num: 9  
Candidate Starts for Naji\_64:  
(Start: 9 @39706 has 55 MA's), (Start: 13 @39697 has 2 MA's), (20, 39658), (28, 39634),

Gene: NicoleTera\_61 Start: 39996, Stop: 39865, Start Num: 9  
Candidate Starts for NicoleTera\_61:  
(Start: 9 @39996 has 55 MA's), (25, 39933),

Gene: NothingSpecial\_60 Start: 40211, Stop: 40077, Start Num: 11  
Candidate Starts for NothingSpecial\_60:  
(2, 40301), (6, 40229), (Start: 11 @40211 has 9 MA's), (27, 40154), (32, 40085),

Gene: Orange\_61 Start: 39008, Stop: 38871, Start Num: 9  
Candidate Starts for Orange\_61:  
(Start: 9 @39008 has 55 MA's), (28, 38936),

Gene: Petersenfast\_60 Start: 39007, Stop: 38870, Start Num: 9  
Candidate Starts for Petersenfast\_60:  
(Start: 9 @39007 has 55 MA's), (28, 38935),

Gene: Pomar16\_63 Start: 39746, Stop: 39603, Start Num: 9  
Candidate Starts for Pomar16\_63:  
(Start: 9 @39746 has 55 MA's), (Start: 13 @39737 has 2 MA's), (20, 39698), (28, 39674),

Gene: Power\_62 Start: 40040, Stop: 39921, Start Num: 12  
Candidate Starts for Power\_62:  
(Start: 12 @40040 has 12 MA's), (15, 40031),

Gene: QueenB2\_62 Start: 40018, Stop: 39899, Start Num: 12  
Candidate Starts for QueenB2\_62:  
(2, 40111), (Start: 12 @40018 has 12 MA's), (15, 40009),

Gene: QueenBeesly\_63 Start: 39999, Stop: 39868, Start Num: 9  
Candidate Starts for QueenBeesly\_63:  
(Start: 9 @39999 has 55 MA's), (Start: 13 @39990 has 2 MA's), (18, 39963),

Gene: Rachaly\_61 Start: 40151, Stop: 40020, Start Num: 9  
Candidate Starts for Rachaly\_61:  
(Start: 9 @40151 has 55 MA's), (Start: 13 @40142 has 2 MA's), (16, 40133), (27, 40082),

Gene: Retro23\_64 Start: 40232, Stop: 40113, Start Num: 12  
Candidate Starts for Retro23\_64:  
(Start: 12 @40232 has 12 MA's), (15, 40223),

Gene: Salz\_61 Start: 38978, Stop: 38841, Start Num: 9  
Candidate Starts for Salz\_61:  
(Start: 9 @38978 has 55 MA's), (28, 38906),

Gene: Saskia\_62 Start: 39006, Stop: 38869, Start Num: 9  
Candidate Starts for Saskia\_62:  
(Start: 9 @39006 has 55 MA's), (28, 38934),

Gene: SemperFi\_64 Start: 40267, Stop: 40136, Start Num: 9  
Candidate Starts for SemperFi\_64:  
(Start: 9 @40267 has 55 MA's), (Start: 13 @40258 has 2 MA's), (18, 40231),

Gene: Sham4\_62 Start: 39006, Stop: 38869, Start Num: 9  
Candidate Starts for Sham4\_62:  
(Start: 9 @39006 has 55 MA's), (28, 38934),

Gene: SnapTap\_63 Start: 40069, Stop: 39947, Start Num: 13  
Candidate Starts for SnapTap\_63:  
(Start: 9 @40078 has 55 MA's), (Start: 13 @40069 has 2 MA's), (18, 40042),

Gene: Snape\_62 Start: 38998, Stop: 38861, Start Num: 9  
Candidate Starts for Snape\_62:  
(Start: 9 @38998 has 55 MA's), (28, 38926),

Gene: SororFago\_63 Start: 40687, Stop: 40544, Start Num: 11

Candidate Starts for SororFago\_63:

(Start: 11 @40687 has 9 MA's),

Gene: StarStuff\_64 Start: 39708, Stop: 39565, Start Num: 9

Candidate Starts for StarStuff\_64:

(Start: 9 @39708 has 55 MA's), (Start: 13 @39699 has 2 MA's), (20, 39660), (28, 39636),

Gene: Sunhee\_65 Start: 39237, Stop: 39109, Start Num: 10

Candidate Starts for Sunhee\_65:

(8, 39243), (Start: 10 @39237 has 2 MA's),

Gene: SweetiePie\_63 Start: 40201, Stop: 40079, Start Num: 13

Candidate Starts for SweetiePie\_63:

(Start: 9 @40210 has 55 MA's), (Start: 13 @40201 has 2 MA's), (18, 40174),

Gene: SwirlSquare\_67 Start: 39598, Stop: 39446, Start Num: 7

Candidate Starts for SwirlSquare\_67:

(3, 39631), (Start: 7 @39598 has 4 MA's), (17, 39580), (26, 39535), (27, 39532), (28, 39529), (33, 39454),

Gene: TarsusIV\_60 Start: 39672, Stop: 39541, Start Num: 9

Candidate Starts for TarsusIV\_60:

(Start: 9 @39672 has 55 MA's), (27, 39603),

Gene: Timothy\_62 Start: 38975, Stop: 38838, Start Num: 9

Candidate Starts for Timothy\_62:

(Start: 9 @38975 has 55 MA's), (28, 38903),

Gene: TinyTimmy\_62 Start: 39024, Stop: 38887, Start Num: 9

Candidate Starts for TinyTimmy\_62:

(Start: 9 @39024 has 55 MA's), (28, 38952),

Gene: Tomathan\_64 Start: 39755, Stop: 39612, Start Num: 9

Candidate Starts for Tomathan\_64:

(Start: 9 @39755 has 55 MA's), (Start: 13 @39746 has 2 MA's), (20, 39707), (28, 39683),

Gene: Travvers\_63 Start: 39705, Stop: 39562, Start Num: 9

Candidate Starts for Travvers\_63:

(Start: 9 @39705 has 55 MA's), (Start: 13 @39696 has 2 MA's), (20, 39657), (28, 39633),

Gene: Trooper\_64 Start: 40399, Stop: 40268, Start Num: 11

Candidate Starts for Trooper\_64:

(Start: 11 @40399 has 9 MA's), (Start: 13 @40390 has 2 MA's), (14, 40384), (18, 40363), (26, 40333), (27, 40330),

Gene: Turbido\_64 Start: 40285, Stop: 40154, Start Num: 9

Candidate Starts for Turbido\_64:

(Start: 9 @40285 has 55 MA's), (Start: 13 @40276 has 2 MA's), (18, 40249),

Gene: VC3\_65 Start: 40106, Stop: 39975, Start Num: 7

Candidate Starts for VC3\_65:

(3, 40136), (Start: 7 @40106 has 4 MA's), (17, 40088), (26, 40043), (28, 40037), (31, 39983),

Gene: Wolpertinger\_60 Start: 39007, Stop: 38870, Start Num: 9  
Candidate Starts for Wolpertinger\_60:  
(Start: 9 @39007 has 55 MA's), (28, 38935),

Gene: XianYue\_61 Start: 39423, Stop: 39307, Start Num: 9  
Candidate Starts for XianYue\_61:  
(Start: 9 @39423 has 55 MA's), (27, 39369),