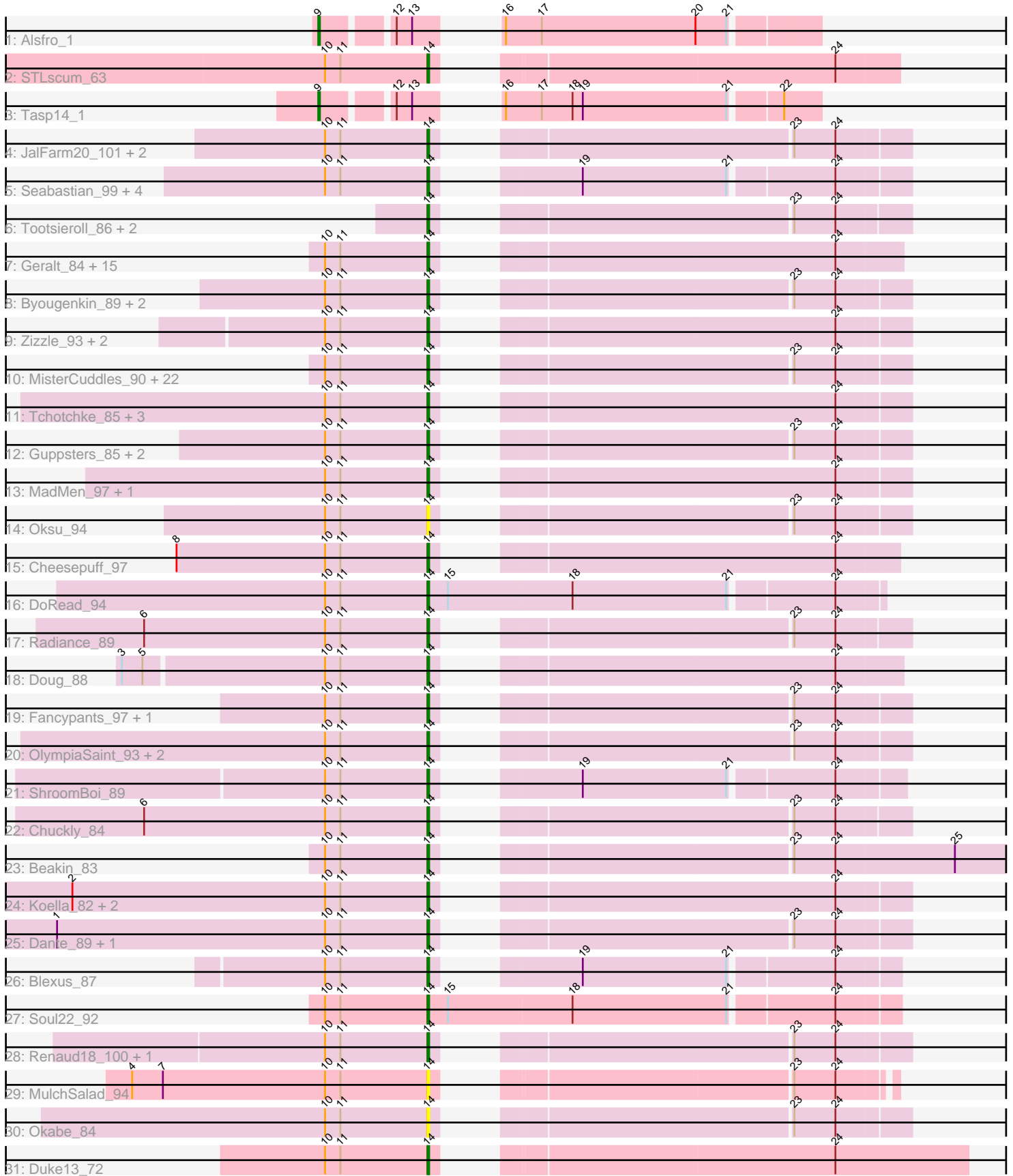


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Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. 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 311452 Report

This analysis was run 06/27/26 on database version 652.

Pham number 311452 has 93 members, 11 are drafts.

Phages represented in each track:

- Track 1 : Alsfro\_1
- Track 2 : STLscum\_63
- Track 3 : Tasp14\_1
- Track 4 : JalFarm20\_101, Brushbloom\_92, Eradicator\_84
- Track 5 : Seabastian\_99, AlpineSix\_90, Modragons\_96, OfUltron\_99, Jinglebell\_98
- Track 6 : Tootsieroll\_86, Phasih\_88, Avani\_97
- Track 7 : Geralt\_84, RitaG\_90, MulchExplorer\_91, GigiOuiOui\_86, Bagrid\_68, Juice456\_90, Deb65\_84, Leozinho\_88, Nimbo\_83, OldBen\_88, PHappiness\_91, Rita\_92, Ogopogo\_97, Ruby\_87, QuickMath\_92, Daenerys\_89
- Track 8 : Byougenkin\_89, Firehouse51\_86, OwlsT2W\_90
- Track 9 : Zizzle\_93, Xiaokay\_62, Jennelsea\_86
- Track 10 : MisterCuddles\_90, Beanstalk\_87, IbOuu\_82, Enzomatic\_101, Bubbles123\_85, Polka14\_95, Girr\_89, Sandalphon\_89, Empress\_91, Che8\_98, Fastidio\_94, KingMidas\_91, Polo2Bam\_100, Cornie\_88, Scottish\_91, Gandalph\_91, Whatsapiecost\_84, Donkeykong\_98, Bipolar\_93, SeaLumen\_97, NewHope4\_96, SuperGrey\_92, Wachhund\_88
- Track 11 : Tchotchke\_85, Mattes\_90, RockyHorror\_95, GUmbie\_90
- Track 12 : Guppsters\_85, Melissauren88\_80, MinionDave\_90
- Track 13 : MadMen\_97, TDanisky\_101
- Track 14 : Oksu\_94
- Track 15 : Cheesepuff\_97
- Track 16 : DoRead\_94
- Track 17 : Radiance\_89
- Track 18 : Doug\_88
- Track 19 : Fancypants\_97, Latretium\_93
- Track 20 : OlympiaSaint\_93, Jarcob\_93, Spoonbill\_89
- Track 21 : ShroomBoi\_89
- Track 22 : Chuckly\_84
- Track 23 : Beakin\_83
- Track 24 : Koella\_82, NormanBulbieJr\_88, Priscilla\_90
- Track 25 : Dante\_89, Sabbb\_94
- Track 26 : Blexus\_87
- Track 27 : Soul22\_92
- Track 28 : Renaud18\_100, DosHalletts\_88
- Track 29 : MulchSalad\_94
- Track 30 : Okabe\_84
- Track 31 : Duke13\_72

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

The start number called the most often in the published annotations is 14, it was called in 80 of the 82 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AlpineSix\_90, Avani\_97, Bagrid\_68, Beakin\_83, Beanstalk\_87, Bipolar\_93, Blexus\_87, Brushbloom\_92, Bubbles123\_85, Byougenkin\_89, Che8\_98, CheesePuff\_97, Chuckly\_84, Cornie\_88, Daenerys\_89, Dante\_89, Deb65\_84, DoRead\_94, Donkeykong\_98, DosHalletts\_88, Doug\_88, Duke13\_72, Empress\_91, Enzomatic\_101, Eradicator\_84, Fancypants\_97, Fastidio\_94, Firehouse51\_86, GUmBie\_90, Gandolph\_91, Geralt\_84, GigiOuiOui\_86, Girr\_89, Guppsters\_85, IbOuu\_82, JalFarm20\_101, Jarcob\_93, Jennelsea\_86, Jinglebell\_98, Juice456\_90, KingMidas\_91, Koella\_82, Latretium\_93, Leozinho\_88, MadMen\_97, Mattes\_90, Melissauren88\_80, MinionDave\_90, MisterCuddles\_90, Modragons\_96, MulchExplorer\_91, MulchSalad\_94, NewHope4\_96, Nimbo\_83, NormanBulbieJr\_88, OfUltron\_99, OgoPogo\_97, Okabe\_84, Oksu\_94, OldBen\_88, OlympiaSaint\_93, OwlsT2W\_90, PHappiness\_91, Phasih\_88, Polka14\_95, Polo2Bam\_100, Priscilla\_90, QuickMath\_92, Radiance\_89, Renaud18\_100, RitaG\_90, Rita\_92, RockyHorror\_95, Ruby\_87, STLscum\_63, Sabbb\_94, Sandalphon\_89, Scottish\_91, SeaLumen\_97, Sebastian\_99, ShroomBoi\_89, Soul22\_92, Spoonbill\_89, SuperGrey\_92, TDanisky\_101, Tchotchke\_85, Tootsieroll\_86, Wachhund\_88, Whatsapiecost\_84, Xiaokay\_62, Zizzle\_93,

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

- 

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

- Alsfro\_1, Tasp14\_1,

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

Start 9:

- Found in 2 of 93 ( 2.2% ) of genes in pham
- Manual Annotations of this start: 2 of 82
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Alsfro\_1 (A1), Tasp14\_1 (A1),

Start 14:

- Found in 91 of 93 ( 97.8% ) of genes in pham
- Manual Annotations of this start: 80 of 82
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AlpineSix\_90 (F1), Avani\_97 (F2), Bagrid\_68 (J), Beakin\_83 (F1), Beanstalk\_87 (F1), Bipolar\_93 (F1), Blexus\_87 (F1), Brushbloom\_92 (F1), Bubbles123\_85 (F1), Byougenkin\_89 (F1), Che8\_98 (F1), CheesePuff\_97 (F1), Chuckly\_84 (F1), Cornie\_88 (F5), Daenerys\_89 (F1), Dante\_89 (F1), Deb65\_84 (F1), DoRead\_94 (F1), Donkeykong\_98 (F1), DosHalletts\_88 (F1), Doug\_88 (F1), Duke13\_72 (J), Empress\_91 (F1), Enzomatic\_101 (F1), Eradicator\_84 (F1), Fancypants\_97 (F1), Fastidio\_94 (F1), Firehouse51\_86 (F1), GUmBie\_90 (F1),

Gandolph\_91 (F1), Geralt\_84 (F1), GigiOuiOui\_86 (F1), Girr\_89 (F1), Guppsters\_85 (F1), IbOuu\_82 (F1), JalFarm20\_101 (F1), Jarcob\_93 (F1), Jennelsea\_86 (F1), Jinglebell\_98 (F1), Juice456\_90 (F1), KingMidas\_91 (F1), Koella\_82 (F1), Latretium\_93 (F1), Leozinho\_88 (F1), MadMen\_97 (F1), Mattes\_90 (F1), Melissauren88\_80 (F1), MinionDave\_90 (F1), MisterCuddles\_90 (F1), Modragons\_96 (F1), MulchExplorer\_91 (F1), MulchSalad\_94 (F7), NewHope4\_96 (F1), Nimbo\_83 (F1), NormanBulbieJr\_88 (F1), OfUltron\_99 (F1), Ogoopogo\_97 (F1), Okabe\_84 (F8), Oksu\_94 (F1), OldBen\_88 (F1), OlympiaSaint\_93 (F1), OwlsT2W\_90 (F1), PHappiness\_91 (F1), Phasih\_88 (F1), Polka14\_95 (F1), Polo2Bam\_100 (F1), Priscilla\_90 (F1), QuickMath\_92 (F1), Radiance\_89 (F1), Renaud18\_100 (F4), RitaG\_90 (F1), Rita\_92 (F1), RockyHorror\_95 (F1), Ruby\_87 (F1), STLscum\_63 (A1), Sabb\_94 (F1), Sandalphon\_89 (F1), Scottish\_91 (F1), SeaLumen\_97 (F1), Seabastian\_99 (F1), ShroomBoi\_89 (F1), Soul22\_92 (F2), Spoonbill\_89 (F1), SuperGrey\_92 (F1), TDanisky\_101 (F1), Tchotchke\_85 (F1), Tootsieroll\_86 (F1), Wachhund\_88 (F1), Whatsapiecost\_84 (F1), Xiaokay\_62 (J), Zizzle\_93 (F1),

### **Summary by clusters:**

There are 8 clusters represented in this pham: F1, F2, F4, F5, F7, F8, J, A1,

Info for manual annotations of cluster A1:

- Start number 9 was manually annotated 2 times for cluster A1.
- Start number 14 was manually annotated 1 time for cluster A1.

Info for manual annotations of cluster F1:

- Start number 14 was manually annotated 74 times for cluster F1.

Info for manual annotations of cluster F2:

- Start number 14 was manually annotated 2 times for cluster F2.

Info for manual annotations of cluster F4:

- Start number 14 was manually annotated 1 time for cluster F4.

Info for manual annotations of cluster F5:

- Start number 14 was manually annotated 1 time for cluster F5.

Info for manual annotations of cluster J:

- Start number 14 was manually annotated 1 time for cluster J.

### **Gene Information:**

Gene: AlpineSix\_90 Start: 50889, Stop: 51125, Start Num: 14

Candidate Starts for AlpineSix\_90:

(10, 50829), (11, 50838), (Start: 14 @50889 has 80 MA's), (19, 50943), (21, 51027), (24, 51084),

Gene: Alsfro\_1 Start: 542, Stop: 781, Start Num: 9

Candidate Starts for Alsfro\_1:

(Start: 9 @542 has 2 MA's), (12, 578), (13, 587), (16, 605), (17, 626), (20, 716), (21, 734),

Gene: Avani\_97 Start: 48825, Stop: 49061, Start Num: 14  
Candidate Starts for Avani\_97:  
(Start: 14 @48825 has 80 MA's), (23, 48996), (24, 49020),

Gene: Bagrid\_68 Start: 49050, Stop: 48775, Start Num: 14  
Candidate Starts for Bagrid\_68:  
(10, 49110), (11, 49101), (Start: 14 @49050 has 80 MA's), (24, 48852),

Gene: Beakin\_83 Start: 47922, Stop: 48218, Start Num: 14  
Candidate Starts for Beakin\_83:  
(10, 47862), (11, 47871), (Start: 14 @47922 has 80 MA's), (23, 48093), (24, 48117), (25, 48186),

Gene: Beanstalk\_87 Start: 50321, Stop: 50557, Start Num: 14  
Candidate Starts for Beanstalk\_87:  
(10, 50261), (11, 50270), (Start: 14 @50321 has 80 MA's), (23, 50492), (24, 50516),

Gene: Bipolar\_93 Start: 53088, Stop: 53324, Start Num: 14  
Candidate Starts for Bipolar\_93:  
(10, 53028), (11, 53037), (Start: 14 @53088 has 80 MA's), (23, 53259), (24, 53283),

Gene: Blexus\_87 Start: 51299, Stop: 51529, Start Num: 14  
Candidate Starts for Blexus\_87:  
(10, 51239), (11, 51248), (Start: 14 @51299 has 80 MA's), (19, 51353), (21, 51437), (24, 51494),

Gene: Brushbloom\_92 Start: 52366, Stop: 52602, Start Num: 14  
Candidate Starts for Brushbloom\_92:  
(10, 52306), (11, 52315), (Start: 14 @52366 has 80 MA's), (23, 52537), (24, 52561),

Gene: Bubbles123\_85 Start: 50944, Stop: 51180, Start Num: 14  
Candidate Starts for Bubbles123\_85:  
(10, 50884), (11, 50893), (Start: 14 @50944 has 80 MA's), (23, 51115), (24, 51139),

Gene: Byougenkin\_89 Start: 48702, Stop: 48938, Start Num: 14  
Candidate Starts for Byougenkin\_89:  
(10, 48642), (11, 48651), (Start: 14 @48702 has 80 MA's), (23, 48873), (24, 48897),

Gene: Che8\_98 Start: 52901, Stop: 53140, Start Num: 14  
Candidate Starts for Che8\_98:  
(10, 52841), (11, 52850), (Start: 14 @52901 has 80 MA's), (23, 53075), (24, 53099),

Gene: Cheesepuff\_97 Start: 51357, Stop: 51590, Start Num: 14  
Candidate Starts for Cheesepuff\_97:  
(8, 51210), (10, 51297), (11, 51306), (Start: 14 @51357 has 80 MA's), (24, 51555),

Gene: Chuckly\_84 Start: 47404, Stop: 47640, Start Num: 14  
Candidate Starts for Chuckly\_84:  
(6, 47239), (10, 47344), (11, 47353), (Start: 14 @47404 has 80 MA's), (23, 47575), (24, 47599),

Gene: Cornie\_88 Start: 50388, Stop: 50624, Start Num: 14  
Candidate Starts for Cornie\_88:  
(10, 50328), (11, 50337), (Start: 14 @50388 has 80 MA's), (23, 50559), (24, 50583),

Gene: Daenerys\_89 Start: 52494, Stop: 52730, Start Num: 14

Candidate Starts for Daenerys\_89:

(10, 52434), (11, 52443), (Start: 14 @52494 has 80 MA's), (24, 52692),

Gene: Dante\_89 Start: 52666, Stop: 52902, Start Num: 14

Candidate Starts for Dante\_89:

(1, 52450), (10, 52606), (11, 52615), (Start: 14 @52666 has 80 MA's), (23, 52837), (24, 52861),

Gene: Deb65\_84 Start: 50218, Stop: 50454, Start Num: 14

Candidate Starts for Deb65\_84:

(10, 50158), (11, 50167), (Start: 14 @50218 has 80 MA's), (24, 50416),

Gene: DoRead\_94 Start: 49997, Stop: 50254, Start Num: 14

Candidate Starts for DoRead\_94:

(10, 49937), (11, 49946), (Start: 14 @49997 has 80 MA's), (15, 50009), (18, 50081), (21, 50171), (24, 50228),

Gene: Donkeykong\_98 Start: 53578, Stop: 53814, Start Num: 14

Candidate Starts for Donkeykong\_98:

(10, 53518), (11, 53527), (Start: 14 @53578 has 80 MA's), (23, 53749), (24, 53773),

Gene: DosHalletts\_88 Start: 51582, Stop: 51818, Start Num: 14

Candidate Starts for DosHalletts\_88:

(10, 51522), (11, 51531), (Start: 14 @51582 has 80 MA's), (23, 51753), (24, 51777),

Gene: Doug\_88 Start: 52337, Stop: 52573, Start Num: 14

Candidate Starts for Doug\_88:

(3, 52163), (5, 52175), (10, 52277), (11, 52286), (Start: 14 @52337 has 80 MA's), (24, 52535),

Gene: Duke13\_72 Start: 49484, Stop: 49209, Start Num: 14

Candidate Starts for Duke13\_72:

(10, 49544), (11, 49535), (Start: 14 @49484 has 80 MA's), (24, 49286),

Gene: Empress\_91 Start: 51396, Stop: 51632, Start Num: 14

Candidate Starts for Empress\_91:

(10, 51336), (11, 51345), (Start: 14 @51396 has 80 MA's), (23, 51567), (24, 51591),

Gene: Enzomatic\_101 Start: 50342, Stop: 50572, Start Num: 14

Candidate Starts for Enzomatic\_101:

(10, 50282), (11, 50291), (Start: 14 @50342 has 80 MA's), (23, 50513), (24, 50537),

Gene: Eradicator\_84 Start: 49799, Stop: 50035, Start Num: 14

Candidate Starts for Eradicator\_84:

(10, 49739), (11, 49748), (Start: 14 @49799 has 80 MA's), (23, 49970), (24, 49994),

Gene: Fancypants\_97 Start: 53902, Stop: 54138, Start Num: 14

Candidate Starts for Fancypants\_97:

(10, 53842), (11, 53851), (Start: 14 @53902 has 80 MA's), (23, 54073), (24, 54097),

Gene: Fastidio\_94 Start: 49445, Stop: 49675, Start Num: 14

Candidate Starts for Fastidio\_94:

(10, 49385), (11, 49394), (Start: 14 @49445 has 80 MA's), (23, 49616), (24, 49640),

Gene: Firehouse51\_86 Start: 52035, Stop: 52259, Start Num: 14

Candidate Starts for Firehouse51\_86:  
(10, 51975), (11, 51984), (Start: 14 @52035 has 80 MA's), (23, 52206), (24, 52230),

Gene: GUmbie\_90 Start: 51346, Stop: 51582, Start Num: 14  
Candidate Starts for GUmbie\_90:  
(10, 51286), (11, 51295), (Start: 14 @51346 has 80 MA's), (24, 51544),

Gene: Gandalph\_91 Start: 48872, Stop: 49105, Start Num: 14  
Candidate Starts for Gandalph\_91:  
(10, 48812), (11, 48821), (Start: 14 @48872 has 80 MA's), (23, 49043), (24, 49067),

Gene: Geralt\_84 Start: 50216, Stop: 50452, Start Num: 14  
Candidate Starts for Geralt\_84:  
(10, 50156), (11, 50165), (Start: 14 @50216 has 80 MA's), (24, 50414),

Gene: GigiOuiOui\_86 Start: 50349, Stop: 50585, Start Num: 14  
Candidate Starts for GigiOuiOui\_86:  
(10, 50289), (11, 50298), (Start: 14 @50349 has 80 MA's), (24, 50547),

Gene: Girr\_89 Start: 51613, Stop: 51849, Start Num: 14  
Candidate Starts for Girr\_89:  
(10, 51553), (11, 51562), (Start: 14 @51613 has 80 MA's), (23, 51784), (24, 51808),

Gene: Guppsters\_85 Start: 48781, Stop: 49017, Start Num: 14  
Candidate Starts for Guppsters\_85:  
(10, 48721), (11, 48730), (Start: 14 @48781 has 80 MA's), (23, 48952), (24, 48976),

Gene: lbOuu\_82 Start: 49253, Stop: 49489, Start Num: 14  
Candidate Starts for lbOuu\_82:  
(10, 49193), (11, 49202), (Start: 14 @49253 has 80 MA's), (23, 49424), (24, 49448),

Gene: JalFarm20\_101 Start: 53265, Stop: 53501, Start Num: 14  
Candidate Starts for JalFarm20\_101:  
(10, 53205), (11, 53214), (Start: 14 @53265 has 80 MA's), (23, 53436), (24, 53460),

Gene: Jarcob\_93 Start: 52636, Stop: 52872, Start Num: 14  
Candidate Starts for Jarcob\_93:  
(10, 52576), (11, 52585), (Start: 14 @52636 has 80 MA's), (23, 52807), (24, 52831),

Gene: Jennelsea\_86 Start: 49934, Stop: 50173, Start Num: 14  
Candidate Starts for Jennelsea\_86:  
(10, 49874), (11, 49883), (Start: 14 @49934 has 80 MA's), (24, 50132),

Gene: Jinglebell\_98 Start: 52786, Stop: 53022, Start Num: 14  
Candidate Starts for Jinglebell\_98:  
(10, 52726), (11, 52735), (Start: 14 @52786 has 80 MA's), (19, 52840), (21, 52924), (24, 52981),

Gene: Juice456\_90 Start: 51122, Stop: 51358, Start Num: 14  
Candidate Starts for Juice456\_90:  
(10, 51062), (11, 51071), (Start: 14 @51122 has 80 MA's), (24, 51320),

Gene: KingMidas\_91 Start: 51627, Stop: 51863, Start Num: 14  
Candidate Starts for KingMidas\_91:

(10, 51567), (11, 51576), (Start: 14 @51627 has 80 MA's), (23, 51798), (24, 51822),

Gene: Koella\_82 Start: 47796, Stop: 48035, Start Num: 14

Candidate Starts for Koella\_82:

(2, 47589), (10, 47736), (11, 47745), (Start: 14 @47796 has 80 MA's), (24, 47994),

Gene: Latretium\_93 Start: 51905, Stop: 52129, Start Num: 14

Candidate Starts for Latretium\_93:

(10, 51845), (11, 51854), (Start: 14 @51905 has 80 MA's), (23, 52076), (24, 52100),

Gene: Leozinho\_88 Start: 48663, Stop: 48899, Start Num: 14

Candidate Starts for Leozinho\_88:

(10, 48603), (11, 48612), (Start: 14 @48663 has 80 MA's), (24, 48861),

Gene: MadMen\_97 Start: 51947, Stop: 52186, Start Num: 14

Candidate Starts for MadMen\_97:

(10, 51887), (11, 51896), (Start: 14 @51947 has 80 MA's), (24, 52145),

Gene: Mattes\_90 Start: 51769, Stop: 52008, Start Num: 14

Candidate Starts for Mattes\_90:

(10, 51709), (11, 51718), (Start: 14 @51769 has 80 MA's), (24, 51967),

Gene: Melissauren88\_80 Start: 47616, Stop: 47852, Start Num: 14

Candidate Starts for Melissauren88\_80:

(10, 47556), (11, 47565), (Start: 14 @47616 has 80 MA's), (23, 47787), (24, 47811),

Gene: MinionDave\_90 Start: 51739, Stop: 51969, Start Num: 14

Candidate Starts for MinionDave\_90:

(10, 51679), (11, 51688), (Start: 14 @51739 has 80 MA's), (23, 51910), (24, 51934),

Gene: MisterCuddles\_90 Start: 51613, Stop: 51849, Start Num: 14

Candidate Starts for MisterCuddles\_90:

(10, 51553), (11, 51562), (Start: 14 @51613 has 80 MA's), (23, 51784), (24, 51808),

Gene: Modragons\_96 Start: 52630, Stop: 52866, Start Num: 14

Candidate Starts for Modragons\_96:

(10, 52570), (11, 52579), (Start: 14 @52630 has 80 MA's), (19, 52684), (21, 52768), (24, 52825),

Gene: MulchExplorer\_91 Start: 50893, Stop: 51129, Start Num: 14

Candidate Starts for MulchExplorer\_91:

(10, 50833), (11, 50842), (Start: 14 @50893 has 80 MA's), (24, 51091),

Gene: MulchSalad\_94 Start: 52605, Stop: 52829, Start Num: 14

Candidate Starts for MulchSalad\_94:

(4, 52434), (7, 52452), (10, 52545), (11, 52554), (Start: 14 @52605 has 80 MA's), (23, 52776), (24, 52800),

Gene: NewHope4\_96 Start: 50488, Stop: 50718, Start Num: 14

Candidate Starts for NewHope4\_96:

(10, 50428), (11, 50437), (Start: 14 @50488 has 80 MA's), (23, 50659), (24, 50683),

Gene: Nimbo\_83 Start: 50218, Stop: 50454, Start Num: 14

Candidate Starts for Nimbo\_83:

(10, 50158), (11, 50167), (Start: 14 @50218 has 80 MA's), (24, 50416),

Gene: NormanBulbieJr\_88 Start: 51810, Stop: 52049, Start Num: 14

Candidate Starts for NormanBulbieJr\_88:

(2, 51603), (10, 51750), (11, 51759), (Start: 14 @51810 has 80 MA's), (24, 52008),

Gene: OfUltron\_99 Start: 52786, Stop: 53022, Start Num: 14

Candidate Starts for OfUltron\_99:

(10, 52726), (11, 52735), (Start: 14 @52786 has 80 MA's), (19, 52840), (21, 52924), (24, 52981),

Gene: Ogotogo\_97 Start: 51107, Stop: 51346, Start Num: 14

Candidate Starts for Ogotogo\_97:

(10, 51047), (11, 51056), (Start: 14 @51107 has 80 MA's), (24, 51305),

Gene: Okabe\_84 Start: 47670, Stop: 47906, Start Num: 14

Candidate Starts for Okabe\_84:

(10, 47610), (11, 47619), (Start: 14 @47670 has 80 MA's), (23, 47841), (24, 47865),

Gene: Oksu\_94 Start: 53367, Stop: 53603, Start Num: 14

Candidate Starts for Oksu\_94:

(10, 53307), (11, 53316), (Start: 14 @53367 has 80 MA's), (23, 53538), (24, 53562),

Gene: OldBen\_88 Start: 51610, Stop: 51846, Start Num: 14

Candidate Starts for OldBen\_88:

(10, 51550), (11, 51559), (Start: 14 @51610 has 80 MA's), (24, 51808),

Gene: OlympiaSaint\_93 Start: 51979, Stop: 52215, Start Num: 14

Candidate Starts for OlympiaSaint\_93:

(10, 51919), (11, 51928), (Start: 14 @51979 has 80 MA's), (23, 52150), (24, 52174),

Gene: OwlsT2W\_90 Start: 50280, Stop: 50516, Start Num: 14

Candidate Starts for OwlsT2W\_90:

(10, 50220), (11, 50229), (Start: 14 @50280 has 80 MA's), (23, 50451), (24, 50475),

Gene: PHappiness\_91 Start: 52439, Stop: 52675, Start Num: 14

Candidate Starts for PHappiness\_91:

(10, 52379), (11, 52388), (Start: 14 @52439 has 80 MA's), (24, 52637),

Gene: Phasih\_88 Start: 49971, Stop: 50204, Start Num: 14

Candidate Starts for Phasih\_88:

(Start: 14 @49971 has 80 MA's), (23, 50142), (24, 50166),

Gene: Polka14\_95 Start: 53191, Stop: 53427, Start Num: 14

Candidate Starts for Polka14\_95:

(10, 53131), (11, 53140), (Start: 14 @53191 has 80 MA's), (23, 53362), (24, 53386),

Gene: Polo2Bam\_100 Start: 50342, Stop: 50572, Start Num: 14

Candidate Starts for Polo2Bam\_100:

(10, 50282), (11, 50291), (Start: 14 @50342 has 80 MA's), (23, 50513), (24, 50537),

Gene: Priscilla\_90 Start: 51908, Stop: 52147, Start Num: 14

Candidate Starts for Priscilla\_90:

(2, 51701), (10, 51848), (11, 51857), (Start: 14 @51908 has 80 MA's), (24, 52106),

Gene: QuickMath\_92 Start: 51474, Stop: 51710, Start Num: 14  
Candidate Starts for QuickMath\_92:  
(10, 51414), (11, 51423), (Start: 14 @51474 has 80 MA's), (24, 51672),

Gene: Radiance\_89 Start: 51319, Stop: 51555, Start Num: 14  
Candidate Starts for Radiance\_89:  
(6, 51154), (10, 51259), (11, 51268), (Start: 14 @51319 has 80 MA's), (23, 51490), (24, 51514),

Gene: Renaud18\_100 Start: 51917, Stop: 52153, Start Num: 14  
Candidate Starts for Renaud18\_100:  
(10, 51857), (11, 51866), (Start: 14 @51917 has 80 MA's), (23, 52088), (24, 52112),

Gene: Rita\_92 Start: 52822, Stop: 53061, Start Num: 14  
Candidate Starts for Rita\_92:  
(10, 52762), (11, 52771), (Start: 14 @52822 has 80 MA's), (24, 53020),

Gene: RitaG\_90 Start: 52241, Stop: 52477, Start Num: 14  
Candidate Starts for RitaG\_90:  
(10, 52181), (11, 52190), (Start: 14 @52241 has 80 MA's), (24, 52439),

Gene: RockyHorror\_95 Start: 51354, Stop: 51593, Start Num: 14  
Candidate Starts for RockyHorror\_95:  
(10, 51294), (11, 51303), (Start: 14 @51354 has 80 MA's), (24, 51552),

Gene: Ruby\_87 Start: 51614, Stop: 51850, Start Num: 14  
Candidate Starts for Ruby\_87:  
(10, 51554), (11, 51563), (Start: 14 @51614 has 80 MA's), (24, 51812),

Gene: STLscum\_63 Start: 41682, Stop: 41449, Start Num: 14  
Candidate Starts for STLscum\_63:  
(10, 41742), (11, 41733), (Start: 14 @41682 has 80 MA's), (24, 41484),

Gene: Sabbb\_94 Start: 49914, Stop: 50150, Start Num: 14  
Candidate Starts for Sabbb\_94:  
(1, 49698), (10, 49854), (11, 49863), (Start: 14 @49914 has 80 MA's), (23, 50085), (24, 50109),

Gene: Sandalphon\_89 Start: 52466, Stop: 52702, Start Num: 14  
Candidate Starts for Sandalphon\_89:  
(10, 52406), (11, 52415), (Start: 14 @52466 has 80 MA's), (23, 52637), (24, 52661),

Gene: Scottish\_91 Start: 51066, Stop: 51302, Start Num: 14  
Candidate Starts for Scottish\_91:  
(10, 51006), (11, 51015), (Start: 14 @51066 has 80 MA's), (23, 51237), (24, 51261),

Gene: SeaLumen\_97 Start: 50342, Stop: 50572, Start Num: 14  
Candidate Starts for SeaLumen\_97:  
(10, 50282), (11, 50291), (Start: 14 @50342 has 80 MA's), (23, 50513), (24, 50537),

Gene: Seabastian\_99 Start: 52787, Stop: 53023, Start Num: 14  
Candidate Starts for Seabastian\_99:  
(10, 52727), (11, 52736), (Start: 14 @52787 has 80 MA's), (19, 52841), (21, 52925), (24, 52982),

Gene: ShroomBoi\_89 Start: 51000, Stop: 51233, Start Num: 14  
Candidate Starts for ShroomBoi\_89:  
(10, 50940), (11, 50949), (Start: 14 @51000 has 80 MA's), (19, 51054), (21, 51138), (24, 51195),

Gene: Soul22\_92 Start: 49297, Stop: 49563, Start Num: 14  
Candidate Starts for Soul22\_92:  
(10, 49237), (11, 49246), (Start: 14 @49297 has 80 MA's), (15, 49309), (18, 49381), (21, 49471), (24, 49528),

Gene: Spoonbill\_89 Start: 49405, Stop: 49641, Start Num: 14  
Candidate Starts for Spoonbill\_89:  
(10, 49345), (11, 49354), (Start: 14 @49405 has 80 MA's), (23, 49576), (24, 49600),

Gene: SuperGrey\_92 Start: 53452, Stop: 53688, Start Num: 14  
Candidate Starts for SuperGrey\_92:  
(10, 53392), (11, 53401), (Start: 14 @53452 has 80 MA's), (23, 53623), (24, 53647),

Gene: TDanisky\_101 Start: 50649, Stop: 50888, Start Num: 14  
Candidate Starts for TDanisky\_101:  
(10, 50589), (11, 50598), (Start: 14 @50649 has 80 MA's), (24, 50847),

Gene: Tasp14\_1 Start: 534, Stop: 773, Start Num: 9  
Candidate Starts for Tasp14\_1:  
(Start: 9 @534 has 2 MA's), (12, 570), (13, 579), (16, 597), (17, 618), (18, 636), (19, 642), (21, 726), (22, 753),

Gene: Tchotchke\_85 Start: 50040, Stop: 50279, Start Num: 14  
Candidate Starts for Tchotchke\_85:  
(10, 49980), (11, 49989), (Start: 14 @50040 has 80 MA's), (24, 50238),

Gene: Tootsieroll\_86 Start: 51876, Stop: 52112, Start Num: 14  
Candidate Starts for Tootsieroll\_86:  
(Start: 14 @51876 has 80 MA's), (23, 52047), (24, 52071),

Gene: Wachhund\_88 Start: 48256, Stop: 48486, Start Num: 14  
Candidate Starts for Wachhund\_88:  
(10, 48196), (11, 48205), (Start: 14 @48256 has 80 MA's), (23, 48427), (24, 48451),

Gene: Whatsapiecost\_84 Start: 46263, Stop: 46499, Start Num: 14  
Candidate Starts for Whatsapiecost\_84:  
(10, 46203), (11, 46212), (Start: 14 @46263 has 80 MA's), (23, 46434), (24, 46458),

Gene: Xiaokay\_62 Start: 46427, Stop: 46152, Start Num: 14  
Candidate Starts for Xiaokay\_62:  
(10, 46487), (11, 46478), (Start: 14 @46427 has 80 MA's), (24, 46229),

Gene: Zizzle\_93 Start: 52799, Stop: 53038, Start Num: 14  
Candidate Starts for Zizzle\_93:  
(10, 52739), (11, 52748), (Start: 14 @52799 has 80 MA's), (24, 52997),