

Pham 169971



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 169971 Report

This analysis was run 07/09/24 on database version 566.

Pham number 169971 has 66 members, 9 are drafts.

Phages represented in each track:

- Track 1 : Atuin\_169
- Track 2 : DunneganBoMo\_167
- Track 3 : DirkDirk\_90
- Track 4 : JoeDirt\_94, OhShagHennessy\_89, Appletree2\_92
- Track 5 : UPIE\_92, CicholasNage\_90
- Track 6 : Enceladus\_90, Rose5\_94, Calm\_94, Tyson\_94, Zaria\_93, AvadaKedavra\_93, MAckerman\_89, LeBron\_92, Silverleaf\_92, Acquire49\_93, Wamburgxpress\_92, Halena\_90, Wyatt2\_94
- Track 7 : Wilder\_98, MkaliMitinis3\_99, Gabriela\_97, DrSeegs\_96, BobsGarage\_96, Breezona\_97, Zakai\_98, Wigglewiggle\_97, LilDestine\_95, Netyap\_96, Itos\_97, Winky\_97, Vetric\_95, Faith1\_97, BigCheese\_97, Crossroads\_97, Miley16\_97, Loadrie\_96, GuuelaD\_94
- Track 8 : Hafay\_98, Claus\_96
- Track 9 : Tourach\_97
- Track 10 : Lewan\_98
- Track 11 : ZhongYanYuan\_94
- Track 12 : DuncansLeg\_94, MiniMac\_98, Kingsolomon\_92, MiniLon\_98, Ellson\_93, Lolly9\_93, Nicholas\_92
- Track 13 : Clautastrophe\_92, Jobypre\_95, Bellis\_92, Jubie\_93, Krypton555\_96, Moostard\_91, Snenia\_93, Samty\_93, Lumos\_94, Finnry\_94, MsGreen\_94, Whirlwind\_95
- Track 14 : Bromden\_98
- Track 15 : Chaser\_97

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

The start number called the most often in the published annotations is 8, it was called in 56 of the 57 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Acquire49\_93, Appletree2\_92, AvadaKedavra\_93, Bellis\_92, BigCheese\_97, BobsGarage\_96, Breezona\_97, Bromden\_98, Calm\_94, Chaser\_97, CicholasNage\_90, Claus\_96, Clautastrophe\_92, Crossroads\_97, DirkDirk\_90, DrSeegs\_96, DuncansLeg\_94, Ellson\_93, Enceladus\_90, Faith1\_97, Finnry\_94,

Gabriela\_97, GuuelaD\_94, Hafay\_98, Halena\_90, Itos\_97, Jobypre\_95, JoeDirt\_94, Jubie\_93, Kingsolomon\_92, Krypton555\_96, LeBron\_92, LilDestine\_95, Loadrie\_96, Lolly9\_93, Lumos\_94, MAckerman\_89, Miley16\_97, MiniLon\_98, MiniMac\_98, MkaliMitinis3\_99, Moostard\_91, MsGreen\_94, Netyap\_96, Nicholas\_92, OhShagHennessy\_89, Rose5\_94, Samty\_93, Silverleaf\_92, Snenia\_93, Tourach\_97, Tyson\_94, UPIE\_92, Vetrix\_95, Wamburggrxpress\_92, Whirlwind\_95, Wigglewiggles\_97, Wilder\_98, Winky\_97, Wyatt2\_94, Zakai\_98, Zaria\_93, ZhongYanYuan\_94,

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

- Lewan\_98,

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

- Atuin\_169, DunneganBoMo\_167,

### Summary by start number:

Start 5:

- Found in 2 of 66 ( 3.0% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Atuin\_169 (FC), DunneganBoMo\_167 (FC),

Start 8:

- Found in 64 of 66 ( 97.0% ) of genes in pham
- Manual Annotations of this start: 56 of 57
- Called 98.4% of time when present
- Phage (with cluster) where this start called: Acquire49\_93 (L1), Appletree2\_92 (L1), AvadaKedavra\_93 (L1), Bellis\_92 (L3), BigCheese\_97 (L2), BobsGarage\_96 (L2), Breezona\_97 (L2), Bromden\_98 (L4), Calm\_94 (L1), Chaser\_97 (L4), CicholasNage\_90 (L1), Claus\_96 (L2), Clautastrophe\_92 (L3), Crossroads\_97 (L2), DirkDirk\_90 (L1), DrSeegs\_96 (L2), DuncansLeg\_94 (L3), Ellson\_93 (L3), Enceladus\_90 (L1), Faith1\_97 (L2), Finnry\_94 (L3), Gabriela\_97 (L2), GuuelaD\_94 (L2), Hafay\_98 (L2), Halena\_90 (L1), Itos\_97 (L2), Jobypre\_95 (L3), JoeDirt\_94 (L1), Jubie\_93 (L3), Kingsolomon\_92 (L3), Krypton555\_96 (L3), LeBron\_92 (L1), LilDestine\_95 (L2), Loadrie\_96 (L2), Lolly9\_93 (L3), Lumos\_94 (L3), MAckerman\_89 (L1), Miley16\_97 (L2), MiniLon\_98 (L3), MiniMac\_98 (L3), MkaliMitinis3\_99 (L2), Moostard\_91 (L3), MsGreen\_94 (L3), Netyap\_96 (L2), Nicholas\_92 (L3), OhShagHennessy\_89 (L1), Rose5\_94 (L1), Samty\_93 (L3), Silverleaf\_92 (L1), Snenia\_93 (L3), Tourach\_97 (L2), Tyson\_94 (L1), UPIE\_92 (L1), Vetrix\_95 (L2), Wamburggrxpress\_92 (L1), Whirlwind\_95 (L3), Wigglewiggles\_97 (L2), Wilder\_98 (L2), Winky\_97 (L2), Wyatt2\_94 (L1), Zakai\_98 (L2), Zaria\_93 (L1), ZhongYanYuan\_94 (L2),

Start 9:

- Found in 21 of 66 ( 31.8% ) of genes in pham
- Manual Annotations of this start: 1 of 57
- Called 4.8% of time when present
- Phage (with cluster) where this start called: Lewan\_98 (L2),

### Summary by clusters:

There are 5 clusters represented in this pham: L4, FC, L2, L3, L1,

Info for manual annotations of cluster L1:

- Start number 8 was manually annotated 18 times for cluster L1.

Info for manual annotations of cluster L2:

- Start number 8 was manually annotated 20 times for cluster L2.
- Start number 9 was manually annotated 1 time for cluster L2.

Info for manual annotations of cluster L3:

- Start number 8 was manually annotated 16 times for cluster L3.

Info for manual annotations of cluster L4:

- Start number 8 was manually annotated 2 times for cluster L4.

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

Gene: Acquire49\_93 Start: 58116, Stop: 58478, Start Num: 8

Candidate Starts for Acquire49\_93:

(Start: 8 @58116 has 56 MA's), (11, 58200), (12, 58224), (21, 58422), (23, 58428),

Gene: Appletree2\_92 Start: 57876, Stop: 58238, Start Num: 8

Candidate Starts for Appletree2\_92:

(Start: 8 @57876 has 56 MA's), (11, 57960), (13, 58011), (20, 58173),

Gene: Atuin\_169 Start: 113494, Stop: 113901, Start Num: 5

Candidate Starts for Atuin\_169:

(5, 113494), (11, 113623), (19, 113812),

Gene: AvadaKedavra\_93 Start: 58228, Stop: 58590, Start Num: 8

Candidate Starts for AvadaKedavra\_93:

(Start: 8 @58228 has 56 MA's), (11, 58312), (12, 58336), (21, 58534), (23, 58540),

Gene: Bellis\_92 Start: 59981, Stop: 60322, Start Num: 8

Candidate Starts for Bellis\_92:

(1, 59900), (4, 59927), (Start: 8 @59981 has 56 MA's), (11, 60065), (14, 60164), (22, 60269), (27, 60302),

Gene: BigCheese\_97 Start: 60561, Stop: 60977, Start Num: 8

Candidate Starts for BigCheese\_97:

(3, 60492), (4, 60510), (7, 60549), (Start: 8 @60561 has 56 MA's), (Start: 9 @60579 has 1 MA's), (11, 60699), (12, 60723), (16, 60861), (24, 60933), (26, 60942),

Gene: BobsGarage\_96 Start: 60561, Stop: 60977, Start Num: 8

Candidate Starts for BobsGarage\_96:

(3, 60492), (4, 60510), (7, 60549), (Start: 8 @60561 has 56 MA's), (Start: 9 @60579 has 1 MA's), (11, 60699), (12, 60723), (16, 60861), (24, 60933), (26, 60942),

Gene: Breezona\_97 Start: 60567, Stop: 60983, Start Num: 8

Candidate Starts for Breezona\_97:

(3, 60498), (4, 60516), (7, 60555), (Start: 8 @60567 has 56 MA's), (Start: 9 @60585 has 1 MA's), (11, 60705), (12, 60729), (16, 60867), (24, 60939), (26, 60948),

Gene: Bromden\_98 Start: 61150, Stop: 61488, Start Num: 8

Candidate Starts for Bromden\_98:

(6, 61123), (Start: 8 @61150 has 56 MA's), (17, 61405), (24, 61444), (26, 61453),

Gene: Calm\_94 Start: 58127, Stop: 58489, Start Num: 8

Candidate Starts for Calm\_94:

(Start: 8 @58127 has 56 MA's), (11, 58211), (12, 58235), (21, 58433), (23, 58439),

Gene: Chaser\_97 Start: 59573, Stop: 59935, Start Num: 8

Candidate Starts for Chaser\_97:

(6, 59546), (Start: 8 @59573 has 56 MA's), (11, 59657), (12, 59681), (24, 59891), (26, 59900),

Gene: CicholasNage\_90 Start: 57780, Stop: 58142, Start Num: 8

Candidate Starts for CicholasNage\_90:

(Start: 8 @57780 has 56 MA's), (11, 57864), (12, 57888), (21, 58086), (23, 58092), (28, 58131),

Gene: Claus\_96 Start: 60276, Stop: 60638, Start Num: 8

Candidate Starts for Claus\_96:

(Start: 8 @60276 has 56 MA's), (11, 60360), (12, 60384), (24, 60594), (26, 60603),

Gene: Clautastrophe\_92 Start: 59976, Stop: 60317, Start Num: 8

Candidate Starts for Clautastrophe\_92:

(1, 59895), (4, 59922), (Start: 8 @59976 has 56 MA's), (11, 60060), (14, 60159), (22, 60264), (27, 60297),

Gene: Crossroads\_97 Start: 60279, Stop: 60695, Start Num: 8

Candidate Starts for Crossroads\_97:

(3, 60210), (4, 60228), (7, 60267), (Start: 8 @60279 has 56 MA's), (Start: 9 @60297 has 1 MA's), (11, 60417), (12, 60441), (16, 60579), (24, 60651), (26, 60660),

Gene: DirkDirk\_90 Start: 57456, Stop: 57818, Start Num: 8

Candidate Starts for DirkDirk\_90:

(Start: 8 @57456 has 56 MA's), (11, 57540), (12, 57564), (13, 57591), (20, 57753),

Gene: DrSeegs\_96 Start: 60567, Stop: 60983, Start Num: 8

Candidate Starts for DrSeegs\_96:

(3, 60498), (4, 60516), (7, 60555), (Start: 8 @60567 has 56 MA's), (Start: 9 @60585 has 1 MA's), (11, 60705), (12, 60729), (16, 60867), (24, 60939), (26, 60948),

Gene: DuncansLeg\_94 Start: 59995, Stop: 60336, Start Num: 8

Candidate Starts for DuncansLeg\_94:

(1, 59914), (4, 59941), (Start: 8 @59995 has 56 MA's), (14, 60178), (22, 60283), (27, 60316),

Gene: DunneganBoMo\_167 Start: 110317, Stop: 110694, Start Num: 5

Candidate Starts for DunneganBoMo\_167:

(2, 110281), (5, 110317), (10, 110401), (11, 110428), (12, 110452), (15, 110551), (16, 110569), (25, 110644),

Gene: Ellson\_93 Start: 60310, Stop: 60651, Start Num: 8

Candidate Starts for Ellson\_93:

(1, 60229), (4, 60256), (Start: 8 @60310 has 56 MA's), (14, 60493), (22, 60598), (27, 60631),

Gene: Enceladus\_90 Start: 58157, Stop: 58519, Start Num: 8

Candidate Starts for Enceladus\_90:

(Start: 8 @58157 has 56 MA's), (11, 58241), (12, 58265), (21, 58463), (23, 58469),

Gene: Faith1\_97 Start: 60204, Stop: 60620, Start Num: 8

Candidate Starts for Faith1\_97:

(3, 60135), (4, 60153), (7, 60192), (Start: 8 @60204 has 56 MA's), (Start: 9 @60222 has 1 MA's), (11, 60342), (12, 60366), (16, 60504), (24, 60576), (26, 60585),

Gene: Finnry\_94 Start: 60329, Stop: 60670, Start Num: 8

Candidate Starts for Finnry\_94:

(1, 60248), (4, 60275), (Start: 8 @60329 has 56 MA's), (11, 60413), (14, 60512), (22, 60617), (27, 60650),

Gene: Gabriela\_97 Start: 59550, Stop: 59966, Start Num: 8

Candidate Starts for Gabriela\_97:

(3, 59481), (4, 59499), (7, 59538), (Start: 8 @59550 has 56 MA's), (Start: 9 @59568 has 1 MA's), (11, 59688), (12, 59712), (16, 59850), (24, 59922), (26, 59931),

Gene: GuuelaD\_94 Start: 60163, Stop: 60579, Start Num: 8

Candidate Starts for GuuelaD\_94:

(3, 60094), (4, 60112), (7, 60151), (Start: 8 @60163 has 56 MA's), (Start: 9 @60181 has 1 MA's), (11, 60301), (12, 60325), (16, 60463), (24, 60535), (26, 60544),

Gene: Hafay\_98 Start: 60271, Stop: 60633, Start Num: 8

Candidate Starts for Hafay\_98:

(Start: 8 @60271 has 56 MA's), (11, 60355), (12, 60379), (24, 60589), (26, 60598),

Gene: Halena\_90 Start: 57043, Stop: 57405, Start Num: 8

Candidate Starts for Halena\_90:

(Start: 8 @57043 has 56 MA's), (11, 57127), (12, 57151), (21, 57349), (23, 57355),

Gene: Itos\_97 Start: 59110, Stop: 59526, Start Num: 8

Candidate Starts for Itos\_97:

(3, 59041), (4, 59059), (7, 59098), (Start: 8 @59110 has 56 MA's), (Start: 9 @59128 has 1 MA's), (11, 59248), (12, 59272), (16, 59410), (24, 59482), (26, 59491),

Gene: Jobypre\_95 Start: 59976, Stop: 60317, Start Num: 8

Candidate Starts for Jobypre\_95:

(1, 59895), (4, 59922), (Start: 8 @59976 has 56 MA's), (11, 60060), (14, 60159), (22, 60264), (27, 60297),

Gene: JoeDirt\_94 Start: 58718, Stop: 59080, Start Num: 8

Candidate Starts for JoeDirt\_94:

(Start: 8 @58718 has 56 MA's), (11, 58802), (13, 58853), (20, 59015),

Gene: Jubie\_93 Start: 60111, Stop: 60452, Start Num: 8

Candidate Starts for Jubie\_93:

(1, 60030), (4, 60057), (Start: 8 @60111 has 56 MA's), (11, 60195), (14, 60294), (22, 60399), (27, 60432),

Gene: Kingsolomon\_92 Start: 60085, Stop: 60426, Start Num: 8  
Candidate Starts for Kingsolomon\_92:  
(1, 60004), (4, 60031), (Start: 8 @60085 has 56 MA's), (14, 60268), (22, 60373), (27, 60406),

Gene: Krypton555\_96 Start: 60488, Stop: 60829, Start Num: 8  
Candidate Starts for Krypton555\_96:  
(1, 60407), (4, 60434), (Start: 8 @60488 has 56 MA's), (11, 60572), (14, 60671), (22, 60776), (27, 60809),

Gene: LeBron\_92 Start: 57350, Stop: 57712, Start Num: 8  
Candidate Starts for LeBron\_92:  
(Start: 8 @57350 has 56 MA's), (11, 57434), (12, 57458), (21, 57656), (23, 57662),

Gene: Lewan\_98 Start: 60221, Stop: 60619, Start Num: 9  
Candidate Starts for Lewan\_98:  
(3, 60134), (4, 60152), (7, 60191), (Start: 8 @60203 has 56 MA's), (Start: 9 @60221 has 1 MA's), (11, 60341), (12, 60365), (16, 60503), (24, 60575), (26, 60584),

Gene: LilDestine\_95 Start: 59874, Stop: 60290, Start Num: 8  
Candidate Starts for LilDestine\_95:  
(3, 59805), (4, 59823), (7, 59862), (Start: 8 @59874 has 56 MA's), (Start: 9 @59892 has 1 MA's), (11, 60012), (12, 60036), (16, 60174), (24, 60246), (26, 60255),

Gene: Loadrie\_96 Start: 60365, Stop: 60781, Start Num: 8  
Candidate Starts for Loadrie\_96:  
(3, 60296), (4, 60314), (7, 60353), (Start: 8 @60365 has 56 MA's), (Start: 9 @60383 has 1 MA's), (11, 60503), (12, 60527), (16, 60665), (24, 60737), (26, 60746),

Gene: Lolly9\_93 Start: 60161, Stop: 60502, Start Num: 8  
Candidate Starts for Lolly9\_93:  
(1, 60080), (4, 60107), (Start: 8 @60161 has 56 MA's), (14, 60344), (22, 60449), (27, 60482),

Gene: Lumos\_94 Start: 59973, Stop: 60314, Start Num: 8  
Candidate Starts for Lumos\_94:  
(1, 59892), (4, 59919), (Start: 8 @59973 has 56 MA's), (11, 60057), (14, 60156), (22, 60261), (27, 60294),

Gene: MAckerman\_89 Start: 57036, Stop: 57398, Start Num: 8  
Candidate Starts for MAckerman\_89:  
(Start: 8 @57036 has 56 MA's), (11, 57120), (12, 57144), (21, 57342), (23, 57348),

Gene: Miley16\_97 Start: 60567, Stop: 60983, Start Num: 8  
Candidate Starts for Miley16\_97:  
(3, 60498), (4, 60516), (7, 60555), (Start: 8 @60567 has 56 MA's), (Start: 9 @60585 has 1 MA's), (11, 60705), (12, 60729), (16, 60867), (24, 60939), (26, 60948),

Gene: MiniLon\_98 Start: 60162, Stop: 60503, Start Num: 8  
Candidate Starts for MiniLon\_98:  
(1, 60081), (4, 60108), (Start: 8 @60162 has 56 MA's), (14, 60345), (22, 60450), (27, 60483),

Gene: MiniMac\_98 Start: 60157, Stop: 60498, Start Num: 8  
Candidate Starts for MiniMac\_98:  
(1, 60076), (4, 60103), (Start: 8 @60157 has 56 MA's), (14, 60340), (22, 60445), (27, 60478),

Gene: MkaliMitinis3\_99 Start: 60329, Stop: 60745, Start Num: 8

Candidate Starts for MkaliMitinis3\_99:

(3, 60260), (4, 60278), (7, 60317), (Start: 8 @60329 has 56 MA's), (Start: 9 @60347 has 1 MA's), (11, 60467), (12, 60491), (16, 60629), (24, 60701), (26, 60710),

Gene: Moostard\_91 Start: 60080, Stop: 60421, Start Num: 8

Candidate Starts for Moostard\_91:

(1, 59999), (4, 60026), (Start: 8 @60080 has 56 MA's), (11, 60164), (14, 60263), (22, 60368), (27, 60401),

Gene: MsGreen\_94 Start: 59975, Stop: 60316, Start Num: 8

Candidate Starts for MsGreen\_94:

(1, 59894), (4, 59921), (Start: 8 @59975 has 56 MA's), (11, 60059), (14, 60158), (22, 60263), (27, 60296),

Gene: Netyap\_96 Start: 60205, Stop: 60621, Start Num: 8

Candidate Starts for Netyap\_96:

(3, 60136), (4, 60154), (7, 60193), (Start: 8 @60205 has 56 MA's), (Start: 9 @60223 has 1 MA's), (11, 60343), (12, 60367), (16, 60505), (24, 60577), (26, 60586),

Gene: Nicholas\_92 Start: 60085, Stop: 60426, Start Num: 8

Candidate Starts for Nicholas\_92:

(1, 60004), (4, 60031), (Start: 8 @60085 has 56 MA's), (14, 60268), (22, 60373), (27, 60406),

Gene: OhShagHennessy\_89 Start: 57293, Stop: 57655, Start Num: 8

Candidate Starts for OhShagHennessy\_89:

(Start: 8 @57293 has 56 MA's), (11, 57377), (13, 57428), (20, 57590),

Gene: Rose5\_94 Start: 58560, Stop: 58922, Start Num: 8

Candidate Starts for Rose5\_94:

(Start: 8 @58560 has 56 MA's), (11, 58644), (12, 58668), (21, 58866), (23, 58872),

Gene: Samty\_93 Start: 60073, Stop: 60414, Start Num: 8

Candidate Starts for Samty\_93:

(1, 59992), (4, 60019), (Start: 8 @60073 has 56 MA's), (11, 60157), (14, 60256), (22, 60361), (27, 60394),

Gene: Silverleaf\_92 Start: 58056, Stop: 58418, Start Num: 8

Candidate Starts for Silverleaf\_92:

(Start: 8 @58056 has 56 MA's), (11, 58140), (12, 58164), (21, 58362), (23, 58368),

Gene: Snenia\_93 Start: 59977, Stop: 60318, Start Num: 8

Candidate Starts for Snenia\_93:

(1, 59896), (4, 59923), (Start: 8 @59977 has 56 MA's), (11, 60061), (14, 60160), (22, 60265), (27, 60298),

Gene: Tourach\_97 Start: 60937, Stop: 61290, Start Num: 8

Candidate Starts for Tourach\_97:

(Start: 8 @60937 has 56 MA's), (11, 61021), (12, 61045), (18, 61219), (24, 61246),

Gene: Tyson\_94 Start: 58453, Stop: 58815, Start Num: 8

Candidate Starts for Tyson\_94:



(Start: 8 @58453 has 56 MA's), (11, 58537), (12, 58561), (21, 58759), (23, 58765),

Gene: UPIE\_92 Start: 58049, Stop: 58411, Start Num: 8

Candidate Starts for UPIE\_92:

(Start: 8 @58049 has 56 MA's), (11, 58133), (12, 58157), (21, 58355), (23, 58361), (28, 58400),

Gene: Vetrix\_95 Start: 59819, Stop: 60235, Start Num: 8

Candidate Starts for Vetrix\_95:

(3, 59750), (4, 59768), (7, 59807), (Start: 8 @59819 has 56 MA's), (Start: 9 @59837 has 1 MA's), (11, 59957), (12, 59981), (16, 60119), (24, 60191), (26, 60200),

Gene: Wamburgrxpress\_92 Start: 58177, Stop: 58539, Start Num: 8

Candidate Starts for Wamburgrxpress\_92:

(Start: 8 @58177 has 56 MA's), (11, 58261), (12, 58285), (21, 58483), (23, 58489),

Gene: Whirlwind\_95 Start: 60316, Stop: 60657, Start Num: 8

Candidate Starts for Whirlwind\_95:

(1, 60235), (4, 60262), (Start: 8 @60316 has 56 MA's), (11, 60400), (14, 60499), (22, 60604), (27, 60637),

Gene: Wigglewigggle\_97 Start: 60127, Stop: 60543, Start Num: 8

Candidate Starts for Wigglewigggle\_97:

(3, 60058), (4, 60076), (7, 60115), (Start: 8 @60127 has 56 MA's), (Start: 9 @60145 has 1 MA's), (11, 60265), (12, 60289), (16, 60427), (24, 60499), (26, 60508),

Gene: Wilder\_98 Start: 59963, Stop: 60379, Start Num: 8

Candidate Starts for Wilder\_98:

(3, 59894), (4, 59912), (7, 59951), (Start: 8 @59963 has 56 MA's), (Start: 9 @59981 has 1 MA's), (11, 60101), (12, 60125), (16, 60263), (24, 60335), (26, 60344),

Gene: Winky\_97 Start: 60567, Stop: 60983, Start Num: 8

Candidate Starts for Winky\_97:

(3, 60498), (4, 60516), (7, 60555), (Start: 8 @60567 has 56 MA's), (Start: 9 @60585 has 1 MA's), (11, 60705), (12, 60729), (16, 60867), (24, 60939), (26, 60948),

Gene: Wyatt2\_94 Start: 58484, Stop: 58846, Start Num: 8

Candidate Starts for Wyatt2\_94:

(Start: 8 @58484 has 56 MA's), (11, 58568), (12, 58592), (21, 58790), (23, 58796),

Gene: Zakai\_98 Start: 60606, Stop: 61022, Start Num: 8

Candidate Starts for Zakai\_98:

(3, 60537), (4, 60555), (7, 60594), (Start: 8 @60606 has 56 MA's), (Start: 9 @60624 has 1 MA's), (11, 60744), (12, 60768), (16, 60906), (24, 60978), (26, 60987),

Gene: Zaria\_93 Start: 57592, Stop: 57954, Start Num: 8

Candidate Starts for Zaria\_93:

(Start: 8 @57592 has 56 MA's), (11, 57676), (12, 57700), (21, 57898), (23, 57904),

Gene: ZhongYanYuan\_94 Start: 60018, Stop: 60434, Start Num: 8

Candidate Starts for ZhongYanYuan\_94:

(3, 59949), (4, 59967), (7, 60006), (Start: 8 @60018 has 56 MA's), (Start: 9 @60036 has 1 MA's), (11, 60156), (12, 60180), (24, 60390), (26, 60399),