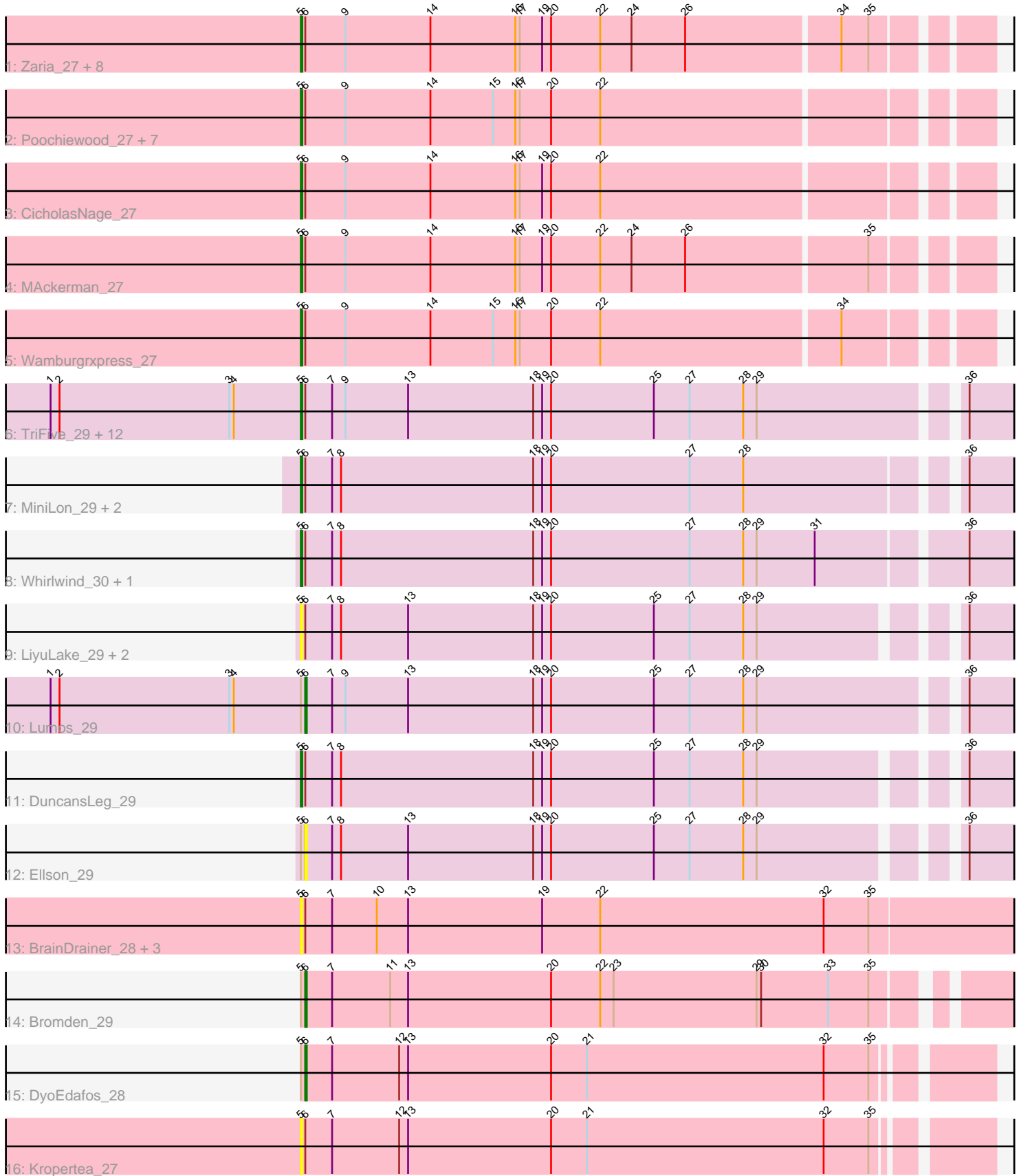


# Pham 221506



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 221506 Report

This analysis was run 03/28/25 on database version 593.

Pham number 221506 has 51 members, 13 are drafts.

Phages represented in each track:

- Track 1 : Zaria\_27, OhShagHennessy\_27, DirkDirk\_27, Enceladus\_27, JoeDirt\_27, Calm\_27, Appletree2\_27, LeBron\_27, UPIE\_27
- Track 2 : Poochiewood\_27, AvadaKedavra\_27, Halena\_27, Wyatt2\_27, Acquire49\_27, Silverleaf\_27, Rose5\_27, Tyson\_27
- Track 3 : CicholasNage\_27
- Track 4 : MAckerman\_27
- Track 5 : Wamburggrxpress\_27
- Track 6 : TriFive\_29, Nicholas\_29, Snenia\_29, Samty\_29, Jubie\_29, Finnry\_29, MsGreen\_29, Kingsolomon\_29, Moostard\_29, Red305\_29, Jobypre\_29, Bellis\_29, Clautastrophe\_29
- Track 7 : MiniLon\_29, MiniMac\_29, Lolly9\_29
- Track 8 : Whirlwind\_30, Krypton555\_29
- Track 9 : LiyuLake\_29, BourbonZero\_28, KirDoubleO7\_27
- Track 10 : Lumos\_29
- Track 11 : DuncansLeg\_29
- Track 12 : Ellson\_29
- Track 13 : BrainDrainer\_28, Douzhi\_27, PYPDinur\_27, Sheng711\_27
- Track 14 : Bromden\_29
- Track 15 : DyoEdafos\_28
- Track 16 : Kropertea\_27

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

The start number called the most often in the published annotations is 5, it was called in 35 of the 38 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Acquire49\_27, Appletree2\_27, AvadaKedavra\_27, Bellis\_29, BourbonZero\_28, BrainDrainer\_28, Calm\_27, CicholasNage\_27, Clautastrophe\_29, DirkDirk\_27, Douzhi\_27, DuncansLeg\_29, Enceladus\_27, Finnry\_29, Halena\_27, Jobypre\_29, JoeDirt\_27, Jubie\_29, Kingsolomon\_29, KirDoubleO7\_27, Kropertea\_27, Krypton555\_29, LeBron\_27, LiyuLake\_29, Lolly9\_29, MAckerman\_27, MiniLon\_29, MiniMac\_29, Moostard\_29, MsGreen\_29, Nicholas\_29, OhShagHennessy\_27, PYPDinur\_27, Poochiewood\_27, Red305\_29, Rose5\_27, Samty\_29, Sheng711\_27,

Silverleaf\_27, Snenia\_29, TriFive\_29, Tyson\_27, UPIE\_27, Wamburgxpress\_27, Whirlwind\_30, Wyatt2\_27, Zaria\_27,

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

- Bromden\_29, DyoEdafos\_28, Ellson\_29, Lumos\_29,

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

- 

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

Start 5:

- Found in 51 of 51 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 35 of 38
- Called 92.2% of time when present
- Phage (with cluster) where this start called: Acquire49\_27 (L1), Appletree2\_27 (L1), AvadaKedavra\_27 (L1), Bellis\_29 (L3), BourbonZero\_28 (L3), BrainDrainer\_28 (L4), Calm\_27 (L1), CicholasNage\_27 (L1), Clautastrophe\_29 (L3), DirkDirk\_27 (L1), Douzhi\_27 (L4), DuncansLeg\_29 (L3), Enceladus\_27 (L1), Finnry\_29 (L3), Halena\_27 (L1), Jobypre\_29 (L3), JoeDirt\_27 (L1), Jubie\_29 (L3), Kingsolomon\_29 (L3), KirDoubleO7\_27 (L3), Kropertea\_27 (L4), Krypton555\_29 (L3), LeBron\_27 (L1), LiyuLake\_29 (L3), Lolly9\_29 (L3), MAckerman\_27 (L1), MiniLon\_29 (L3), MiniMac\_29 (L3), Moostard\_29 (L3), MsGreen\_29 (L3), Nicholas\_29 (L3), OhShagHennessey\_27 (L1), PYPDinur\_27 (L4), Poochiewood\_27 (L1), Red305\_29 (L3), Rose5\_27 (L1), Samty\_29 (L3), Sheng711\_27 (L4), Silverleaf\_27 (L1), Snenia\_29 (L3), TriFive\_29 (L3), Tyson\_27 (L1), UPIE\_27 (L1), Wamburgxpress\_27 (L1), Whirlwind\_30 (L3), Wyatt2\_27 (L1), Zaria\_27 (L1),

Start 6:

- Found in 51 of 51 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 3 of 38
- Called 7.8% of time when present
- Phage (with cluster) where this start called: Bromden\_29 (L4), DyoEdafos\_28 (L4), Ellson\_29 (L3), Lumos\_29 (L3),

### **Summary by clusters:**

There are 3 clusters represented in this pham: L4, L3, L1,

Info for manual annotations of cluster L1:

- Start number 5 was manually annotated 19 times for cluster L1.

Info for manual annotations of cluster L3:

- Start number 5 was manually annotated 16 times for cluster L3.
- Start number 6 was manually annotated 1 time for cluster L3.

Info for manual annotations of cluster L4:

- Start number 6 was manually annotated 2 times for cluster L4.

### **Gene Information:**

Gene: Acquire49\_27 Start: 26579, Stop: 27022, Start Num: 5

Candidate Starts for Acquire49\_27:

(Start: 5 @26579 has 35 MA's), (Start: 6 @26582 has 3 MA's), (9, 26609), (14, 26666), (15, 26708), (16, 26723), (17, 26726), (20, 26747), (22, 26780),

Gene: Appletree2\_27 Start: 26522, Stop: 26965, Start Num: 5

Candidate Starts for Appletree2\_27:

(Start: 5 @26522 has 35 MA's), (Start: 6 @26525 has 3 MA's), (9, 26552), (14, 26609), (16, 26666), (17, 26669), (19, 26684), (20, 26690), (22, 26723), (24, 26744), (26, 26780), (34, 26879), (35, 26897),

Gene: AvadaKedavra\_27 Start: 26589, Stop: 27032, Start Num: 5

Candidate Starts for AvadaKedavra\_27:

(Start: 5 @26589 has 35 MA's), (Start: 6 @26592 has 3 MA's), (9, 26619), (14, 26676), (15, 26718), (16, 26733), (17, 26736), (20, 26757), (22, 26790),

Gene: Bellis\_29 Start: 27910, Stop: 28374, Start Num: 5

Candidate Starts for Bellis\_29:

(1, 27742), (2, 27748), (3, 27862), (4, 27865), (Start: 5 @27910 has 35 MA's), (Start: 6 @27913 has 3 MA's), (7, 27931), (9, 27940), (13, 27982), (18, 28066), (19, 28072), (20, 28078), (25, 28147), (27, 28171), (28, 28207), (29, 28216), (36, 28342),

Gene: BourbonZero\_28 Start: 27867, Stop: 28322, Start Num: 5

Candidate Starts for BourbonZero\_28:

(Start: 5 @27867 has 35 MA's), (Start: 6 @27870 has 3 MA's), (7, 27888), (8, 27894), (13, 27939), (18, 28023), (19, 28029), (20, 28035), (25, 28104), (27, 28128), (28, 28164), (29, 28173), (36, 28290),

Gene: BrainDrainer\_28 Start: 26508, Stop: 26984, Start Num: 5

Candidate Starts for BrainDrainer\_28:

(Start: 5 @26508 has 35 MA's), (Start: 6 @26511 has 3 MA's), (7, 26529), (10, 26559), (13, 26580), (19, 26670), (22, 26709), (32, 26859), (35, 26889),

Gene: Bromden\_29 Start: 26939, Stop: 27391, Start Num: 6

Candidate Starts for Bromden\_29:

(Start: 5 @26936 has 35 MA's), (Start: 6 @26939 has 3 MA's), (7, 26957), (11, 26996), (13, 27008), (20, 27104), (22, 27137), (23, 27146), (29, 27242), (30, 27245), (33, 27290), (35, 27317),

Gene: Calm\_27 Start: 26593, Stop: 27036, Start Num: 5

Candidate Starts for Calm\_27:

(Start: 5 @26593 has 35 MA's), (Start: 6 @26596 has 3 MA's), (9, 26623), (14, 26680), (16, 26737), (17, 26740), (19, 26755), (20, 26761), (22, 26794), (24, 26815), (26, 26851), (34, 26950), (35, 26968),

Gene: CicholasNage\_27 Start: 26581, Stop: 27024, Start Num: 5

Candidate Starts for CicholasNage\_27:

(Start: 5 @26581 has 35 MA's), (Start: 6 @26584 has 3 MA's), (9, 26611), (14, 26668), (16, 26725), (17, 26728), (19, 26743), (20, 26749), (22, 26782),

Gene: Clautastrophe\_29 Start: 27907, Stop: 28371, Start Num: 5

Candidate Starts for Clautastrophe\_29:

(1, 27739), (2, 27745), (3, 27859), (4, 27862), (Start: 5 @27907 has 35 MA's), (Start: 6 @27910 has 3 MA's), (7, 27928), (9, 27937), (13, 27979), (18, 28063), (19, 28069), (20, 28075), (25, 28144), (27, 28168), (28, 28204), (29, 28213), (36, 28339),

Gene: DirkDirk\_27 Start: 26562, Stop: 27005, Start Num: 5

Candidate Starts for DirkDirk\_27:

(Start: 5 @26562 has 35 MA's), (Start: 6 @26565 has 3 MA's), (9, 26592), (14, 26649), (16, 26706), (17, 26709), (19, 26724), (20, 26730), (22, 26763), (24, 26784), (26, 26820), (34, 26919), (35, 26937),

Gene: Douzhi\_27 Start: 26369, Stop: 26845, Start Num: 5

Candidate Starts for Douzhi\_27:

(Start: 5 @26369 has 35 MA's), (Start: 6 @26372 has 3 MA's), (7, 26390), (10, 26420), (13, 26441), (19, 26531), (22, 26570), (32, 26720), (35, 26750),

Gene: DuncansLeg\_29 Start: 27890, Stop: 28345, Start Num: 5

Candidate Starts for DuncansLeg\_29:

(Start: 5 @27890 has 35 MA's), (Start: 6 @27893 has 3 MA's), (7, 27911), (8, 27917), (18, 28046), (19, 28052), (20, 28058), (25, 28127), (27, 28151), (28, 28187), (29, 28196), (36, 28313),

Gene: DyoEdafos\_28 Start: 26498, Stop: 26944, Start Num: 6

Candidate Starts for DyoEdafos\_28:

(Start: 5 @26495 has 35 MA's), (Start: 6 @26498 has 3 MA's), (7, 26516), (12, 26561), (13, 26567), (20, 26663), (21, 26687), (32, 26846), (35, 26876),

Gene: Ellson\_29 Start: 27880, Stop: 28332, Start Num: 6

Candidate Starts for Ellson\_29:

(Start: 5 @27877 has 35 MA's), (Start: 6 @27880 has 3 MA's), (7, 27898), (8, 27904), (13, 27949), (18, 28033), (19, 28039), (20, 28045), (25, 28114), (27, 28138), (28, 28174), (29, 28183), (36, 28300),

Gene: Enceladus\_27 Start: 26563, Stop: 27006, Start Num: 5

Candidate Starts for Enceladus\_27:

(Start: 5 @26563 has 35 MA's), (Start: 6 @26566 has 3 MA's), (9, 26593), (14, 26650), (16, 26707), (17, 26710), (19, 26725), (20, 26731), (22, 26764), (24, 26785), (26, 26821), (34, 26920), (35, 26938),

Gene: Finnry\_29 Start: 27911, Stop: 28375, Start Num: 5

Candidate Starts for Finnry\_29:

(1, 27743), (2, 27749), (3, 27863), (4, 27866), (Start: 5 @27911 has 35 MA's), (Start: 6 @27914 has 3 MA's), (7, 27932), (9, 27941), (13, 27983), (18, 28067), (19, 28073), (20, 28079), (25, 28148), (27, 28172), (28, 28208), (29, 28217), (36, 28343),

Gene: Halena\_27 Start: 26590, Stop: 27033, Start Num: 5

Candidate Starts for Halena\_27:

(Start: 5 @26590 has 35 MA's), (Start: 6 @26593 has 3 MA's), (9, 26620), (14, 26677), (15, 26719), (16, 26734), (17, 26737), (20, 26758), (22, 26791),

Gene: Jobypre\_29 Start: 27907, Stop: 28371, Start Num: 5

Candidate Starts for Jobypre\_29:

(1, 27739), (2, 27745), (3, 27859), (4, 27862), (Start: 5 @27907 has 35 MA's), (Start: 6 @27910 has 3 MA's), (7, 27928), (9, 27937), (13, 27979), (18, 28063), (19, 28069), (20, 28075), (25, 28144), (27, 28168), (28, 28204), (29, 28213), (36, 28339),

Gene: JoeDirt\_27 Start: 26561, Stop: 27004, Start Num: 5

Candidate Starts for JoeDirt\_27:

(Start: 5 @26561 has 35 MA's), (Start: 6 @26564 has 3 MA's), (9, 26591), (14, 26648), (16, 26705), (17, 26708), (19, 26723), (20, 26729), (22, 26762), (24, 26783), (26, 26819), (34, 26918), (35, 26936),

Gene: Jubie\_29 Start: 27908, Stop: 28372, Start Num: 5

Candidate Starts for Jubie\_29:

(1, 27740), (2, 27746), (3, 27860), (4, 27863), (Start: 5 @27908 has 35 MA's), (Start: 6 @27911 has 3 MA's), (7, 27929), (9, 27938), (13, 27980), (18, 28064), (19, 28070), (20, 28076), (25, 28145), (27, 28169), (28, 28205), (29, 28214), (36, 28340),

Gene: Kingsolomon\_29 Start: 27907, Stop: 28371, Start Num: 5

Candidate Starts for Kingsolomon\_29:

(1, 27739), (2, 27745), (3, 27859), (4, 27862), (Start: 5 @27907 has 35 MA's), (Start: 6 @27910 has 3 MA's), (7, 27928), (9, 27937), (13, 27979), (18, 28063), (19, 28069), (20, 28075), (25, 28144), (27, 28168), (28, 28204), (29, 28213), (36, 28339),

Gene: KirDoubleO7\_27 Start: 27899, Stop: 28354, Start Num: 5

Candidate Starts for KirDoubleO7\_27:

(Start: 5 @27899 has 35 MA's), (Start: 6 @27902 has 3 MA's), (7, 27920), (8, 27926), (13, 27971), (18, 28055), (19, 28061), (20, 28067), (25, 28136), (27, 28160), (28, 28196), (29, 28205), (36, 28322),

Gene: Kropertea\_27 Start: 26302, Stop: 26751, Start Num: 5

Candidate Starts for Kropertea\_27:

(Start: 5 @26302 has 35 MA's), (Start: 6 @26305 has 3 MA's), (7, 26323), (12, 26368), (13, 26374), (20, 26470), (21, 26494), (32, 26653), (35, 26683),

Gene: Krypton555\_29 Start: 27808, Stop: 28269, Start Num: 5

Candidate Starts for Krypton555\_29:

(Start: 5 @27808 has 35 MA's), (Start: 6 @27811 has 3 MA's), (7, 27829), (8, 27835), (18, 27964), (19, 27970), (20, 27976), (27, 28069), (28, 28105), (29, 28114), (31, 28153), (36, 28237),

Gene: LeBron\_27 Start: 26605, Stop: 27048, Start Num: 5

Candidate Starts for LeBron\_27:

(Start: 5 @26605 has 35 MA's), (Start: 6 @26608 has 3 MA's), (9, 26635), (14, 26692), (16, 26749), (17, 26752), (19, 26767), (20, 26773), (22, 26806), (24, 26827), (26, 26863), (34, 26962), (35, 26980),

Gene: LiyuLake\_29 Start: 27869, Stop: 28324, Start Num: 5

Candidate Starts for LiyuLake\_29:

(Start: 5 @27869 has 35 MA's), (Start: 6 @27872 has 3 MA's), (7, 27890), (8, 27896), (13, 27941), (18, 28025), (19, 28031), (20, 28037), (25, 28106), (27, 28130), (28, 28166), (29, 28175), (36, 28292),

Gene: Lolly9\_29 Start: 27674, Stop: 28135, Start Num: 5

Candidate Starts for Lolly9\_29:

(Start: 5 @27674 has 35 MA's), (Start: 6 @27677 has 3 MA's), (7, 27695), (8, 27701), (18, 27830), (19, 27836), (20, 27842), (27, 27935), (28, 27971), (36, 28103),

Gene: Lumos\_29 Start: 27907, Stop: 28368, Start Num: 6

Candidate Starts for Lumos\_29:

(1, 27736), (2, 27742), (3, 27856), (4, 27859), (Start: 5 @27904 has 35 MA's), (Start: 6 @27907 has 3 MA's), (7, 27925), (9, 27934), (13, 27976), (18, 28060), (19, 28066), (20, 28072), (25, 28141), (27, 28165), (28, 28201), (29, 28210), (36, 28336),

Gene: MAckerman\_27 Start: 26579, Stop: 27022, Start Num: 5

Candidate Starts for MAckerman\_27:

(Start: 5 @26579 has 35 MA's), (Start: 6 @26582 has 3 MA's), (9, 26609), (14, 26666), (16, 26723), (17, 26726), (19, 26741), (20, 26747), (22, 26780), (24, 26801), (26, 26837), (35, 26954),

Gene: MiniLon\_29 Start: 27674, Stop: 28135, Start Num: 5

Candidate Starts for MiniLon\_29:

(Start: 5 @27674 has 35 MA's), (Start: 6 @27677 has 3 MA's), (7, 27695), (8, 27701), (18, 27830), (19, 27836), (20, 27842), (27, 27935), (28, 27971), (36, 28103),

Gene: MiniMac\_29 Start: 27675, Stop: 28136, Start Num: 5

Candidate Starts for MiniMac\_29:

(Start: 5 @27675 has 35 MA's), (Start: 6 @27678 has 3 MA's), (7, 27696), (8, 27702), (18, 27831), (19, 27837), (20, 27843), (27, 27936), (28, 27972), (36, 28104),

Gene: Moostard\_29 Start: 27910, Stop: 28374, Start Num: 5

Candidate Starts for Moostard\_29:

(1, 27742), (2, 27748), (3, 27862), (4, 27865), (Start: 5 @27910 has 35 MA's), (Start: 6 @27913 has 3 MA's), (7, 27931), (9, 27940), (13, 27982), (18, 28066), (19, 28072), (20, 28078), (25, 28147), (27, 28171), (28, 28207), (29, 28216), (36, 28342),

Gene: MsGreen\_29 Start: 27907, Stop: 28371, Start Num: 5

Candidate Starts for MsGreen\_29:

(1, 27739), (2, 27745), (3, 27859), (4, 27862), (Start: 5 @27907 has 35 MA's), (Start: 6 @27910 has 3 MA's), (7, 27928), (9, 27937), (13, 27979), (18, 28063), (19, 28069), (20, 28075), (25, 28144), (27, 28168), (28, 28204), (29, 28213), (36, 28339),

Gene: Nicholas\_29 Start: 27907, Stop: 28371, Start Num: 5

Candidate Starts for Nicholas\_29:

(1, 27739), (2, 27745), (3, 27859), (4, 27862), (Start: 5 @27907 has 35 MA's), (Start: 6 @27910 has 3 MA's), (7, 27928), (9, 27937), (13, 27979), (18, 28063), (19, 28069), (20, 28075), (25, 28144), (27, 28168), (28, 28204), (29, 28213), (36, 28339),

Gene: OhShagHennessy\_27 Start: 26544, Stop: 26987, Start Num: 5

Candidate Starts for OhShagHennessy\_27:

(Start: 5 @26544 has 35 MA's), (Start: 6 @26547 has 3 MA's), (9, 26574), (14, 26631), (16, 26688), (17, 26691), (19, 26706), (20, 26712), (22, 26745), (24, 26766), (26, 26802), (34, 26901), (35, 26919),

Gene: PYPDinur\_27 Start: 26369, Stop: 26845, Start Num: 5

Candidate Starts for PYPDinur\_27:

(Start: 5 @26369 has 35 MA's), (Start: 6 @26372 has 3 MA's), (7, 26390), (10, 26420), (13, 26441), (19, 26531), (22, 26570), (32, 26720), (35, 26750),

Gene: Pochiewood\_27 Start: 26579, Stop: 27022, Start Num: 5

Candidate Starts for Pochiewood\_27:

(Start: 5 @26579 has 35 MA's), (Start: 6 @26582 has 3 MA's), (9, 26609), (14, 26666), (15, 26708), (16, 26723), (17, 26726), (20, 26747), (22, 26780),

Gene: Red305\_29 Start: 27907, Stop: 28371, Start Num: 5

Candidate Starts for Red305\_29:

(1, 27739), (2, 27745), (3, 27859), (4, 27862), (Start: 5 @27907 has 35 MA's), (Start: 6 @27910 has 3 MA's), (7, 27928), (9, 27937), (13, 27979), (18, 28063), (19, 28069), (20, 28075), (25, 28144), (27, 28168), (28, 28204), (29, 28213), (36, 28339),

Gene: Rose5\_27 Start: 26579, Stop: 27022, Start Num: 5

Candidate Starts for Rose5\_27:

(Start: 5 @26579 has 35 MA's), (Start: 6 @26582 has 3 MA's), (9, 26609), (14, 26666), (15, 26708), (16, 26723), (17, 26726), (20, 26747), (22, 26780),

Gene: Samty\_29 Start: 27910, Stop: 28374, Start Num: 5

Candidate Starts for Samty\_29:

(1, 27742), (2, 27748), (3, 27862), (4, 27865), (Start: 5 @27910 has 35 MA's), (Start: 6 @27913 has 3 MA's), (7, 27931), (9, 27940), (13, 27982), (18, 28066), (19, 28072), (20, 28078), (25, 28147), (27, 28171), (28, 28207), (29, 28216), (36, 28342),

Gene: Sheng711\_27 Start: 26369, Stop: 26845, Start Num: 5

Candidate Starts for Sheng711\_27:

(Start: 5 @26369 has 35 MA's), (Start: 6 @26372 has 3 MA's), (7, 26390), (10, 26420), (13, 26441), (19, 26531), (22, 26570), (32, 26720), (35, 26750),

Gene: Silverleaf\_27 Start: 26579, Stop: 27022, Start Num: 5

Candidate Starts for Silverleaf\_27:

(Start: 5 @26579 has 35 MA's), (Start: 6 @26582 has 3 MA's), (9, 26609), (14, 26666), (15, 26708), (16, 26723), (17, 26726), (20, 26747), (22, 26780),

Gene: Snenia\_29 Start: 27908, Stop: 28372, Start Num: 5

Candidate Starts for Snenia\_29:

(1, 27740), (2, 27746), (3, 27860), (4, 27863), (Start: 5 @27908 has 35 MA's), (Start: 6 @27911 has 3 MA's), (7, 27929), (9, 27938), (13, 27980), (18, 28064), (19, 28070), (20, 28076), (25, 28145), (27, 28169), (28, 28205), (29, 28214), (36, 28340),

Gene: TriFive\_29 Start: 27907, Stop: 28371, Start Num: 5

Candidate Starts for TriFive\_29:

(1, 27739), (2, 27745), (3, 27859), (4, 27862), (Start: 5 @27907 has 35 MA's), (Start: 6 @27910 has 3 MA's), (7, 27928), (9, 27937), (13, 27979), (18, 28063), (19, 28069), (20, 28075), (25, 28144), (27, 28168), (28, 28204), (29, 28213), (36, 28339),

Gene: Tyson\_27 Start: 26579, Stop: 27022, Start Num: 5

Candidate Starts for Tyson\_27:

(Start: 5 @26579 has 35 MA's), (Start: 6 @26582 has 3 MA's), (9, 26609), (14, 26666), (15, 26708), (16, 26723), (17, 26726), (20, 26747), (22, 26780),

Gene: UPIE\_27 Start: 26577, Stop: 27020, Start Num: 5

Candidate Starts for UPIE\_27:

(Start: 5 @26577 has 35 MA's), (Start: 6 @26580 has 3 MA's), (9, 26607), (14, 26664), (16, 26721), (17, 26724), (19, 26739), (20, 26745), (22, 26778), (24, 26799), (26, 26835), (34, 26934), (35, 26952),

Gene: Wamburgexpress\_27 Start: 26592, Stop: 27035, Start Num: 5

Candidate Starts for Wamburgexpress\_27:

(Start: 5 @26592 has 35 MA's), (Start: 6 @26595 has 3 MA's), (9, 26622), (14, 26679), (15, 26721), (16, 26736), (17, 26739), (20, 26760), (22, 26793), (34, 26949),

Gene: Whirlwind\_30 Start: 27642, Stop: 28112, Start Num: 5

Candidate Starts for Whirlwind\_30:

(Start: 5 @27642 has 35 MA's), (Start: 6 @27645 has 3 MA's), (7, 27663), (8, 27669), (18, 27798), (19, 27804), (20, 27810), (27, 27903), (28, 27939), (29, 27948), (31, 27987), (36, 28080),

Gene: Wyatt2\_27 Start: 26579, Stop: 27022, Start Num: 5

Candidate Starts for Wyatt2\_27:

(Start: 5 @26579 has 35 MA's), (Start: 6 @26582 has 3 MA's), (9, 26609), (14, 26666), (15, 26708), (16, 26723), (17, 26726), (20, 26747), (22, 26780),

Gene: Zaria\_27 Start: 26593, Stop: 27036, Start Num: 5



Candidate Starts for Zaria\_27:

(Start: 5 @26593 has 35 MA's), (Start: 6 @26596 has 3 MA's), (9, 26623), (14, 26680), (16, 26737), (17, 26740), (19, 26755), (20, 26761), (22, 26794), (24, 26815), (26, 26851), (34, 26950), (35, 26968),