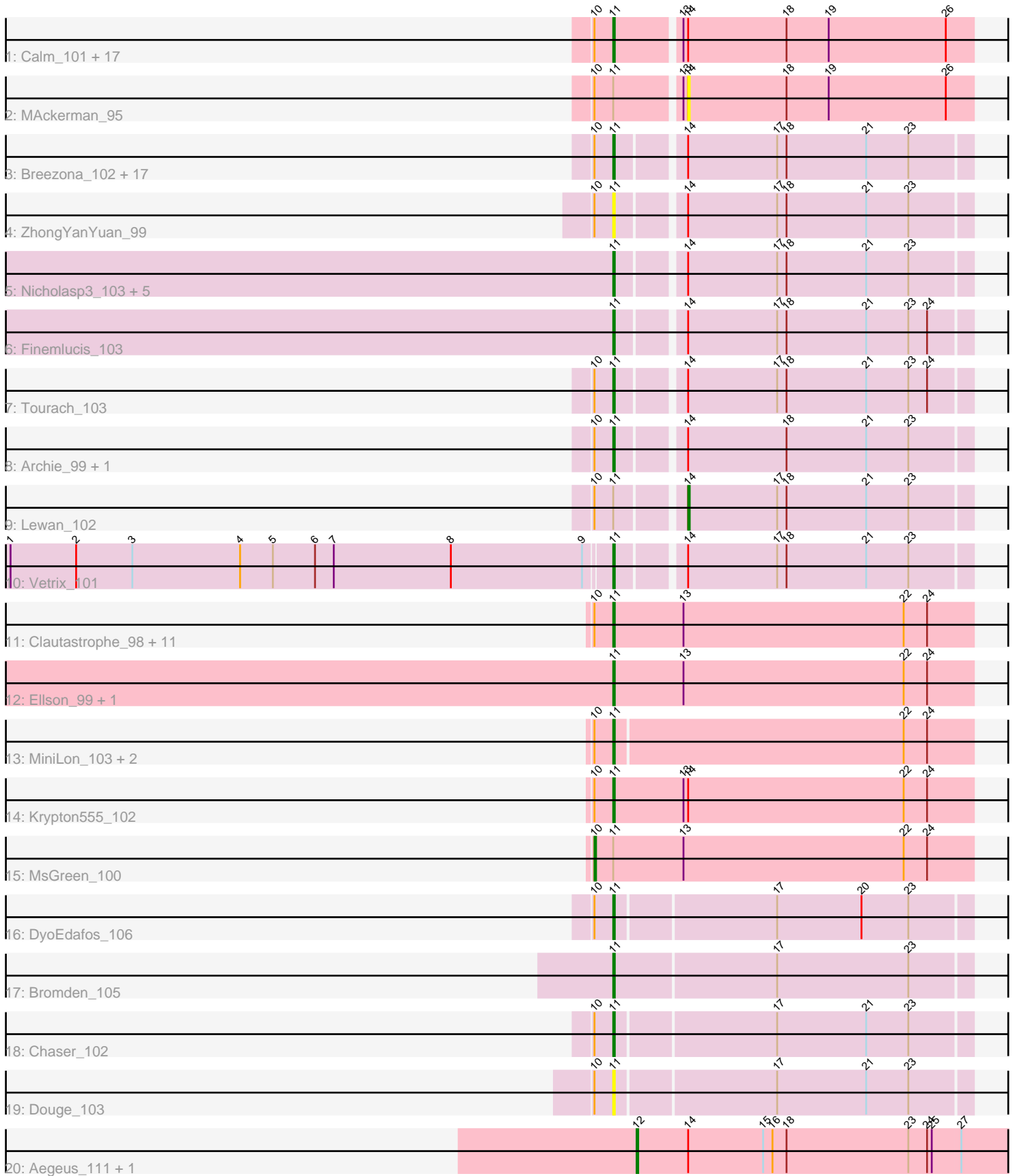


Pham 169939



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 169939 Report

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

Pham number 169939 has 75 members, 8 are drafts.

Phages represented in each track:

- Track 1 : Calm\_101, DirkDirk\_95, JoeDirt\_100, UPIE\_98, LeBron\_98, Enceladus\_95, Tyson\_101, Wyatt2\_100, AvadaKedavra\_99, Zaria\_100, Rose5\_100, OhShagHennessy\_94, Halena\_97, Acquire49\_99, Wamburgexpress\_97, Appletree2\_97, CicholasNage\_95, Silverleaf\_97
- Track 2 : MAckerman\_95
- Track 3 : Breezona\_102, Wilder\_102, Itos\_102, Crossroads\_103, Baoshan\_99, Miley16\_102, DrSeegs\_101, BobsGarage\_101, Zakai\_103, Gabriela\_102, BigCheese\_101, Claus\_101, LilDestine\_100, Faith1\_101, Winky\_102, Wigglewiggles\_101, Loadrie\_100, GuuelaD\_98
- Track 4 : ZhongYanYuan\_99
- Track 5 : Nicholasp3\_103, Gardann\_102, MkaliMitinis3\_103, Rumpelstiltskin\_99, Netyap\_100, Kahlid\_102
- Track 6 : Finemlucis\_103
- Track 7 : Tourach\_103
- Track 8 : Archie\_99, Bazzle\_99
- Track 9 : Lewan\_102
- Track 10 : Vetrix\_101
- Track 11 : Clautastrophe\_98, Bellis\_98, Jubie\_99, Kingsolomon\_97, Lumos\_99, Jobypre\_100, Moostard\_96, Finnry\_100, Snenia\_98, Nicholas\_97, Whirlwind\_100, Samty\_99
- Track 12 : Ellson\_99, DuncansLeg\_101
- Track 13 : MiniLon\_103, Lolly9\_98, MiniMac\_103
- Track 14 : Krypton555\_102
- Track 15 : MsGreen\_100
- Track 16 : DyoEdafos\_106
- Track 17 : Bromden\_105
- Track 18 : Chaser\_102
- Track 19 : Douge\_103
- Track 20 : Aegeus\_111, Baudelaire\_111

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

The start number called the most often in the published annotations is 11, it was called in 63 of the 67 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Acquire49\_99, Appletree2\_97, Archie\_99, AvadaKedavra\_99, Baoshan\_99, Bazzle\_99, Bellis\_98, BigCheese\_101, BobsGarage\_101, Breezona\_102, Bromden\_105, Calm\_101, Chaser\_102, CicholasNage\_95, Claus\_101, Clautastrophe\_98, Crossroads\_103, DirkDirk\_95, Douge\_103, DrSeegs\_101, DuncansLeg\_101, DyoEdafos\_106, Ellson\_99, Enceladus\_95, Faith1\_101, Finemlucis\_103, Finnry\_100, Gabriela\_102, Gardann\_102, GuuelaD\_98, Halena\_97, Itos\_102, Jobypre\_100, JoeDirt\_100, Jubie\_99, Kahlid\_102, Kingsolomon\_97, Krypton555\_102, LeBron\_98, LilDestine\_100, Loadrie\_100, Lolly9\_98, Lumos\_99, Miley16\_102, MiniLon\_103, MiniMac\_103, MkaliMitinis3\_103, Moostard\_96, Netyap\_100, Nicholas\_97, Nicholasp3\_103, OhShagHennessy\_94, Rose5\_100, Rumpelstiltskin\_99, Samty\_99, Silverleaf\_97, Snenia\_98, Tourach\_103, Tyson\_101, UPIE\_98, Vetrix\_101, Wamburgrxpress\_97, Whirlwind\_100, Wigglewiggle\_101, Wilder\_102, Winky\_102, Wyatt2\_100, Zakai\_103, Zaria\_100, ZhongYanYuan\_99,

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

- Lewan\_102, MAckerman\_95, MsGreen\_100,

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

- Aegeus\_111, Baudelaire\_111,

### Summary by start number:

Start 10:

- Found in 62 of 75 ( 82.7% ) of genes in pham
- Manual Annotations of this start: 1 of 67
- Called 1.6% of time when present
- Phage (with cluster) where this start called: MsGreen\_100 (L3),

Start 11:

- Found in 73 of 75 ( 97.3% ) of genes in pham
- Manual Annotations of this start: 63 of 67
- Called 95.9% of time when present
- Phage (with cluster) where this start called: Acquire49\_99 (L1), Appletree2\_97 (L1), Archie\_99 (L2), AvadaKedavra\_99 (L1), Baoshan\_99 (L2), Bazzle\_99 (L2), Bellis\_98 (L3), BigCheese\_101 (L2), BobsGarage\_101 (L2), Breezona\_102 (L2), Bromden\_105 (L4), Calm\_101 (L1), Chaser\_102 (L4), CicholasNage\_95 (L1), Claus\_101 (L2), Clautastrophe\_98 (L3), Crossroads\_103 (L2), DirkDirk\_95 (L1), Douge\_103 (L4), DrSeegs\_101 (L2), DuncansLeg\_101 (L3), DyoEdafos\_106 (L4), Ellson\_99 (L3), Enceladus\_95 (L1), Faith1\_101 (L2), Finemlucis\_103 (L2), Finnry\_100 (L3), Gabriela\_102 (L2), Gardann\_102 (L2), GuuelaD\_98 (L2), Halena\_97 (L1), Itos\_102 (L2), Jobypre\_100 (L3), JoeDirt\_100 (L1), Jubie\_99 (L3), Kahlid\_102 (L2), Kingsolomon\_97 (L3), Krypton555\_102 (L3), LeBron\_98 (L1), LilDestine\_100 (L2), Loadrie\_100 (L2), Lolly9\_98 (L3), Lumos\_99 (L3), Miley16\_102 (L2), MiniLon\_103 (L3), MiniMac\_103 (L3), MkaliMitinis3\_103 (L2), Moostard\_96 (L3), Netyap\_100 (L2), Nicholas\_97 (L3), Nicholasp3\_103 (L2), OhShagHennessy\_94 (L1), Rose5\_100 (L1), Rumpelstiltskin\_99 (L2), Samty\_99 (L3), Silverleaf\_97 (L1), Snenia\_98 (L3), Tourach\_103 (L2), Tyson\_101 (L1), UPIE\_98 (L1), Vetrix\_101 (L2), Wamburgrxpress\_97 (L1), Whirlwind\_100 (L3), Wigglewiggle\_101 (L2), Wilder\_102 (L2), Winky\_102 (L2), Wyatt2\_100 (L1), Zakai\_103 (L2), Zaria\_100 (L1), ZhongYanYuan\_99 (L2),

Start 12:

- Found in 2 of 75 ( 2.7% ) of genes in pham
- Manual Annotations of this start: 2 of 67
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aegeus\_111 (L5), Baudelaire\_111 (L5),

Start 14:

- Found in 53 of 75 ( 70.7% ) of genes in pham
- Manual Annotations of this start: 1 of 67
- Called 3.8% of time when present
- Phage (with cluster) where this start called: Lewan\_102 (L2), MAckerman\_95 (L1),

**Summary by clusters:**

There are 5 clusters represented in this pham: L4, L5, L2, L3, L1,

Info for manual annotations of cluster L1:

- Start number 11 was manually annotated 18 times for cluster L1.

Info for manual annotations of cluster L2:

- Start number 11 was manually annotated 27 times for cluster L2.
- Start number 14 was manually annotated 1 time for cluster L2.

Info for manual annotations of cluster L3:

- Start number 10 was manually annotated 1 time for cluster L3.
- Start number 11 was manually annotated 15 times for cluster L3.

Info for manual annotations of cluster L4:

- Start number 11 was manually annotated 3 times for cluster L4.

Info for manual annotations of cluster L5:

- Start number 12 was manually annotated 2 times for cluster L5.

**Gene Information:**

Gene: Acquire49\_99 Start: 60543, Stop: 60767, Start Num: 11

Candidate Starts for Acquire49\_99:

(Start: 10 @60531 has 1 MA's), (Start: 11 @60543 has 63 MA's), (13, 60582), (Start: 14 @60585 has 1 MA's), (18, 60648), (19, 60675), (26, 60750),

Gene: Aegeus\_111 Start: 63785, Stop: 64024, Start Num: 12

Candidate Starts for Aegeus\_111:

(Start: 12 @63785 has 2 MA's), (Start: 14 @63818 has 1 MA's), (15, 63866), (16, 63872), (18, 63881), (23, 63959), (24, 63971), (25, 63974), (27, 63992),

Gene: Appletree2\_97 Start: 60133, Stop: 60357, Start Num: 11

Candidate Starts for Appletree2\_97:

(Start: 10 @60121 has 1 MA's), (Start: 11 @60133 has 63 MA's), (13, 60172), (Start: 14 @60175 has 1 MA's), (18, 60238), (19, 60265), (26, 60340),

Gene: Archie\_99 Start: 61717, Stop: 61935, Start Num: 11

Candidate Starts for Archie\_99:

(Start: 10 @61705 has 1 MA's), (Start: 11 @61717 has 63 MA's), (Start: 14 @61756 has 1 MA's), (18, 61819), (21, 61870), (23, 61897),

Gene: AvadaKedavra\_99 Start: 60655, Stop: 60879, Start Num: 11

Candidate Starts for AvadaKedavra\_99:

(Start: 10 @60643 has 1 MA's), (Start: 11 @60655 has 63 MA's), (13, 60694), (Start: 14 @60697 has 1 MA's), (18, 60760), (19, 60787), (26, 60862),

Gene: Baoshan\_99 Start: 62502, Stop: 62720, Start Num: 11

Candidate Starts for Baoshan\_99:

(Start: 10 @62490 has 1 MA's), (Start: 11 @62502 has 63 MA's), (Start: 14 @62541 has 1 MA's), (17, 62598), (18, 62604), (21, 62655), (23, 62682),

Gene: Baudelaire\_111 Start: 63785, Stop: 64024, Start Num: 12

Candidate Starts for Baudelaire\_111:

(Start: 12 @63785 has 2 MA's), (Start: 14 @63818 has 1 MA's), (15, 63866), (16, 63872), (18, 63881), (23, 63959), (24, 63971), (25, 63974), (27, 63992),

Gene: Bazzle\_99 Start: 62273, Stop: 62491, Start Num: 11

Candidate Starts for Bazzle\_99:

(Start: 10 @62261 has 1 MA's), (Start: 11 @62273 has 63 MA's), (Start: 14 @62312 has 1 MA's), (18, 62375), (21, 62426), (23, 62453),

Gene: Bellis\_98 Start: 62047, Stop: 62277, Start Num: 11

Candidate Starts for Bellis\_98:

(Start: 10 @62035 has 1 MA's), (Start: 11 @62047 has 63 MA's), (13, 62092), (22, 62233), (24, 62248),

Gene: BigCheese\_101 Start: 62491, Stop: 62709, Start Num: 11

Candidate Starts for BigCheese\_101:

(Start: 10 @62479 has 1 MA's), (Start: 11 @62491 has 63 MA's), (Start: 14 @62530 has 1 MA's), (17, 62587), (18, 62593), (21, 62644), (23, 62671),

Gene: BobsGarage\_101 Start: 62491, Stop: 62709, Start Num: 11

Candidate Starts for BobsGarage\_101:

(Start: 10 @62479 has 1 MA's), (Start: 11 @62491 has 63 MA's), (Start: 14 @62530 has 1 MA's), (17, 62587), (18, 62593), (21, 62644), (23, 62671),

Gene: Breezona\_102 Start: 62826, Stop: 63044, Start Num: 11

Candidate Starts for Breezona\_102:

(Start: 10 @62814 has 1 MA's), (Start: 11 @62826 has 63 MA's), (Start: 14 @62865 has 1 MA's), (17, 62922), (18, 62928), (21, 62979), (23, 63006),

Gene: Bromden\_105 Start: 63686, Stop: 63910, Start Num: 11

Candidate Starts for Bromden\_105:

(Start: 11 @63686 has 63 MA's), (17, 63788), (23, 63872),

Gene: Calm\_101 Start: 60922, Stop: 61146, Start Num: 11

Candidate Starts for Calm\_101:

(Start: 10 @60910 has 1 MA's), (Start: 11 @60922 has 63 MA's), (13, 60961), (Start: 14 @60964 has 1 MA's), (18, 61027), (19, 61054), (26, 61129),

Gene: Chaser\_102 Start: 61886, Stop: 62107, Start Num: 11  
Candidate Starts for Chaser\_102:  
(Start: 10 @61874 has 1 MA's), (Start: 11 @61886 has 63 MA's), (17, 61985), (21, 62042), (23, 62069),

Gene: CicholasNage\_95 Start: 60037, Stop: 60261, Start Num: 11  
Candidate Starts for CicholasNage\_95:  
(Start: 10 @60025 has 1 MA's), (Start: 11 @60037 has 63 MA's), (13, 60076), (Start: 14 @60079 has 1 MA's), (18, 60142), (19, 60169), (26, 60244),

Gene: Claus\_101 Start: 62312, Stop: 62530, Start Num: 11  
Candidate Starts for Claus\_101:  
(Start: 10 @62300 has 1 MA's), (Start: 11 @62312 has 63 MA's), (Start: 14 @62351 has 1 MA's), (17, 62408), (18, 62414), (21, 62465), (23, 62492),

Gene: Clautastrophe\_98 Start: 62042, Stop: 62272, Start Num: 11  
Candidate Starts for Clautastrophe\_98:  
(Start: 10 @62030 has 1 MA's), (Start: 11 @62042 has 63 MA's), (13, 62087), (22, 62228), (24, 62243),

Gene: Crossroads\_103 Start: 62378, Stop: 62596, Start Num: 11  
Candidate Starts for Crossroads\_103:  
(Start: 10 @62366 has 1 MA's), (Start: 11 @62378 has 63 MA's), (Start: 14 @62417 has 1 MA's), (17, 62474), (18, 62480), (21, 62531), (23, 62558),

Gene: DirkDirk\_95 Start: 59748, Stop: 59972, Start Num: 11  
Candidate Starts for DirkDirk\_95:  
(Start: 10 @59736 has 1 MA's), (Start: 11 @59748 has 63 MA's), (13, 59787), (Start: 14 @59790 has 1 MA's), (18, 59853), (19, 59880), (26, 59955),

Gene: Douge\_103 Start: 61957, Stop: 62178, Start Num: 11  
Candidate Starts for Douge\_103:  
(Start: 10 @61945 has 1 MA's), (Start: 11 @61957 has 63 MA's), (17, 62056), (21, 62113), (23, 62140),

Gene: DrSeegs\_101 Start: 62826, Stop: 63044, Start Num: 11  
Candidate Starts for DrSeegs\_101:  
(Start: 10 @62814 has 1 MA's), (Start: 11 @62826 has 63 MA's), (Start: 14 @62865 has 1 MA's), (17, 62922), (18, 62928), (21, 62979), (23, 63006),

Gene: DuncansLeg\_101 Start: 62215, Stop: 62445, Start Num: 11  
Candidate Starts for DuncansLeg\_101:  
(Start: 11 @62215 has 63 MA's), (13, 62260), (22, 62401), (24, 62416),

Gene: DyoEdafos\_106 Start: 62535, Stop: 62756, Start Num: 11  
Candidate Starts for DyoEdafos\_106:  
(Start: 10 @62523 has 1 MA's), (Start: 11 @62535 has 63 MA's), (17, 62634), (20, 62688), (23, 62718),

Gene: Ellson\_99 Start: 62530, Stop: 62760, Start Num: 11  
Candidate Starts for Ellson\_99:  
(Start: 11 @62530 has 63 MA's), (13, 62575), (22, 62716), (24, 62731),

Gene: Enceladus\_95 Start: 60046, Stop: 60270, Start Num: 11

Candidate Starts for Enceladus\_95:

(Start: 10 @60034 has 1 MA's), (Start: 11 @60046 has 63 MA's), (13, 60085), (Start: 14 @60088 has 1 MA's), (18, 60151), (19, 60178), (26, 60253),

Gene: Faith1\_101 Start: 62134, Stop: 62352, Start Num: 11

Candidate Starts for Faith1\_101:

(Start: 10 @62122 has 1 MA's), (Start: 11 @62134 has 63 MA's), (Start: 14 @62173 has 1 MA's), (17, 62230), (18, 62236), (21, 62287), (23, 62314),

Gene: Finemlucis\_103 Start: 63293, Stop: 63511, Start Num: 11

Candidate Starts for Finemlucis\_103:

(Start: 11 @63293 has 63 MA's), (Start: 14 @63332 has 1 MA's), (17, 63389), (18, 63395), (21, 63446), (23, 63473), (24, 63485),

Gene: Finnry\_100 Start: 62395, Stop: 62625, Start Num: 11

Candidate Starts for Finnry\_100:

(Start: 10 @62383 has 1 MA's), (Start: 11 @62395 has 63 MA's), (13, 62440), (22, 62581), (24, 62596),

Gene: Gabriela\_102 Start: 61480, Stop: 61698, Start Num: 11

Candidate Starts for Gabriela\_102:

(Start: 10 @61468 has 1 MA's), (Start: 11 @61480 has 63 MA's), (Start: 14 @61519 has 1 MA's), (17, 61576), (18, 61582), (21, 61633), (23, 61660),

Gene: Gardann\_102 Start: 62332, Stop: 62550, Start Num: 11

Candidate Starts for Gardann\_102:

(Start: 11 @62332 has 63 MA's), (Start: 14 @62371 has 1 MA's), (17, 62428), (18, 62434), (21, 62485), (23, 62512),

Gene: GuuelaD\_98 Start: 62093, Stop: 62311, Start Num: 11

Candidate Starts for GuuelaD\_98:

(Start: 10 @62081 has 1 MA's), (Start: 11 @62093 has 63 MA's), (Start: 14 @62132 has 1 MA's), (17, 62189), (18, 62195), (21, 62246), (23, 62273),

Gene: Halena\_97 Start: 59838, Stop: 60062, Start Num: 11

Candidate Starts for Halena\_97:

(Start: 10 @59826 has 1 MA's), (Start: 11 @59838 has 63 MA's), (13, 59877), (Start: 14 @59880 has 1 MA's), (18, 59943), (19, 59970), (26, 60045),

Gene: Itos\_102 Start: 61040, Stop: 61258, Start Num: 11

Candidate Starts for Itos\_102:

(Start: 10 @61028 has 1 MA's), (Start: 11 @61040 has 63 MA's), (Start: 14 @61079 has 1 MA's), (17, 61136), (18, 61142), (21, 61193), (23, 61220),

Gene: Jobypre\_100 Start: 62042, Stop: 62272, Start Num: 11

Candidate Starts for Jobypre\_100:

(Start: 10 @62030 has 1 MA's), (Start: 11 @62042 has 63 MA's), (13, 62087), (22, 62228), (24, 62243),

Gene: JoeDirt\_100 Start: 60975, Stop: 61199, Start Num: 11

Candidate Starts for JoeDirt\_100:

(Start: 10 @60963 has 1 MA's), (Start: 11 @60975 has 63 MA's), (13, 61014), (Start: 14 @61017 has 1 MA's), (18, 61080), (19, 61107), (26, 61182),

Gene: Jubie\_99 Start: 62177, Stop: 62407, Start Num: 11

Candidate Starts for Jubie\_99:

(Start: 10 @62165 has 1 MA's), (Start: 11 @62177 has 63 MA's), (13, 62222), (22, 62363), (24, 62378),

Gene: Kahlid\_102 Start: 62250, Stop: 62468, Start Num: 11

Candidate Starts for Kahlid\_102:

(Start: 11 @62250 has 63 MA's), (Start: 14 @62289 has 1 MA's), (17, 62346), (18, 62352), (21, 62403), (23, 62430),

Gene: Kingsolomon\_97 Start: 62151, Stop: 62381, Start Num: 11

Candidate Starts for Kingsolomon\_97:

(Start: 10 @62139 has 1 MA's), (Start: 11 @62151 has 63 MA's), (13, 62196), (22, 62337), (24, 62352),

Gene: Krypton555\_102 Start: 62463, Stop: 62693, Start Num: 11

Candidate Starts for Krypton555\_102:

(Start: 10 @62451 has 1 MA's), (Start: 11 @62463 has 63 MA's), (13, 62508), (Start: 14 @62511 has 1 MA's), (22, 62649), (24, 62664),

Gene: LeBron\_98 Start: 60145, Stop: 60369, Start Num: 11

Candidate Starts for LeBron\_98:

(Start: 10 @60133 has 1 MA's), (Start: 11 @60145 has 63 MA's), (13, 60184), (Start: 14 @60187 has 1 MA's), (18, 60250), (19, 60277), (26, 60352),

Gene: Lewan\_102 Start: 62172, Stop: 62351, Start Num: 14

Candidate Starts for Lewan\_102:

(Start: 10 @62121 has 1 MA's), (Start: 11 @62133 has 63 MA's), (Start: 14 @62172 has 1 MA's), (17, 62229), (18, 62235), (21, 62286), (23, 62313),

Gene: LilDestine\_100 Start: 61804, Stop: 62022, Start Num: 11

Candidate Starts for LilDestine\_100:

(Start: 10 @61792 has 1 MA's), (Start: 11 @61804 has 63 MA's), (Start: 14 @61843 has 1 MA's), (17, 61900), (18, 61906), (21, 61957), (23, 61984),

Gene: Loadrie\_100 Start: 62295, Stop: 62513, Start Num: 11

Candidate Starts for Loadrie\_100:

(Start: 10 @62283 has 1 MA's), (Start: 11 @62295 has 63 MA's), (Start: 14 @62334 has 1 MA's), (17, 62391), (18, 62397), (21, 62448), (23, 62475),

Gene: Lolly9\_98 Start: 62136, Stop: 62363, Start Num: 11

Candidate Starts for Lolly9\_98:

(Start: 10 @62124 has 1 MA's), (Start: 11 @62136 has 63 MA's), (22, 62319), (24, 62334),

Gene: Lumos\_99 Start: 62039, Stop: 62269, Start Num: 11

Candidate Starts for Lumos\_99:

(Start: 10 @62027 has 1 MA's), (Start: 11 @62039 has 63 MA's), (13, 62084), (22, 62225), (24, 62240),

Gene: MAckerman\_95 Start: 59873, Stop: 60055, Start Num: 14



Candidate Starts for MAckerman\_95:

(Start: 10 @59819 has 1 MA's), (Start: 11 @59831 has 63 MA's), (13, 59870), (Start: 14 @59873 has 1 MA's), (18, 59936), (19, 59963), (26, 60038),

Gene: Miley16\_102 Start: 62826, Stop: 63044, Start Num: 11

Candidate Starts for Miley16\_102:

(Start: 10 @62814 has 1 MA's), (Start: 11 @62826 has 63 MA's), (Start: 14 @62865 has 1 MA's), (17, 62922), (18, 62928), (21, 62979), (23, 63006),

Gene: MiniLon\_103 Start: 62137, Stop: 62364, Start Num: 11

Candidate Starts for MiniLon\_103:

(Start: 10 @62125 has 1 MA's), (Start: 11 @62137 has 63 MA's), (22, 62320), (24, 62335),

Gene: MiniMac\_103 Start: 62132, Stop: 62359, Start Num: 11

Candidate Starts for MiniMac\_103:

(Start: 10 @62120 has 1 MA's), (Start: 11 @62132 has 63 MA's), (22, 62315), (24, 62330),

Gene: MkaliMitinis3\_103 Start: 62358, Stop: 62576, Start Num: 11

Candidate Starts for MkaliMitinis3\_103:

(Start: 11 @62358 has 63 MA's), (Start: 14 @62397 has 1 MA's), (17, 62454), (18, 62460), (21, 62511), (23, 62538),

Gene: Moostard\_96 Start: 62146, Stop: 62376, Start Num: 11

Candidate Starts for Moostard\_96:

(Start: 10 @62134 has 1 MA's), (Start: 11 @62146 has 63 MA's), (13, 62191), (22, 62332), (24, 62347),

Gene: MsGreen\_100 Start: 62029, Stop: 62271, Start Num: 10

Candidate Starts for MsGreen\_100:

(Start: 10 @62029 has 1 MA's), (Start: 11 @62041 has 63 MA's), (13, 62086), (22, 62227), (24, 62242),

Gene: Netyap\_100 Start: 62540, Stop: 62758, Start Num: 11

Candidate Starts for Netyap\_100:

(Start: 11 @62540 has 63 MA's), (Start: 14 @62579 has 1 MA's), (17, 62636), (18, 62642), (21, 62693), (23, 62720),

Gene: Nicholas\_97 Start: 62151, Stop: 62381, Start Num: 11

Candidate Starts for Nicholas\_97:

(Start: 10 @62139 has 1 MA's), (Start: 11 @62151 has 63 MA's), (13, 62196), (22, 62337), (24, 62352),

Gene: Nicholasp3\_103 Start: 62332, Stop: 62550, Start Num: 11

Candidate Starts for Nicholasp3\_103:

(Start: 11 @62332 has 63 MA's), (Start: 14 @62371 has 1 MA's), (17, 62428), (18, 62434), (21, 62485), (23, 62512),

Gene: OhShagHennessy\_94 Start: 59550, Stop: 59774, Start Num: 11

Candidate Starts for OhShagHennessy\_94:

(Start: 10 @59538 has 1 MA's), (Start: 11 @59550 has 63 MA's), (13, 59589), (Start: 14 @59592 has 1 MA's), (18, 59655), (19, 59682), (26, 59757),

Gene: Rose5\_100 Start: 60817, Stop: 61041, Start Num: 11

Candidate Starts for Rose5\_100:

(Start: 10 @60805 has 1 MA's), (Start: 11 @60817 has 63 MA's), (13, 60856), (Start: 14 @60859 has 1 MA's), (18, 60922), (19, 60949), (26, 61024),

Gene: Rumpelstiltskin\_99 Start: 62125, Stop: 62343, Start Num: 11

Candidate Starts for Rumpelstiltskin\_99:

(Start: 11 @62125 has 63 MA's), (Start: 14 @62164 has 1 MA's), (17, 62221), (18, 62227), (21, 62278), (23, 62305),

Gene: Samty\_99 Start: 62139, Stop: 62369, Start Num: 11

Candidate Starts for Samty\_99:

(Start: 10 @62127 has 1 MA's), (Start: 11 @62139 has 63 MA's), (13, 62184), (22, 62325), (24, 62340),

Gene: Silverleaf\_97 Start: 59957, Stop: 60181, Start Num: 11

Candidate Starts for Silverleaf\_97:

(Start: 10 @59945 has 1 MA's), (Start: 11 @59957 has 63 MA's), (13, 59996), (Start: 14 @59999 has 1 MA's), (18, 60062), (19, 60089), (26, 60164),

Gene: Snenia\_98 Start: 62043, Stop: 62273, Start Num: 11

Candidate Starts for Snenia\_98:

(Start: 10 @62031 has 1 MA's), (Start: 11 @62043 has 63 MA's), (13, 62088), (22, 62229), (24, 62244),

Gene: Tourach\_103 Start: 63186, Stop: 63404, Start Num: 11

Candidate Starts for Tourach\_103:

(Start: 10 @63174 has 1 MA's), (Start: 11 @63186 has 63 MA's), (Start: 14 @63225 has 1 MA's), (17, 63282), (18, 63288), (21, 63339), (23, 63366), (24, 63378),

Gene: Tyson\_101 Start: 61248, Stop: 61472, Start Num: 11

Candidate Starts for Tyson\_101:

(Start: 10 @61236 has 1 MA's), (Start: 11 @61248 has 63 MA's), (13, 61287), (Start: 14 @61290 has 1 MA's), (18, 61353), (19, 61380), (26, 61455),

Gene: UPIE\_98 Start: 60488, Stop: 60712, Start Num: 11

Candidate Starts for UPIE\_98:

(Start: 10 @60476 has 1 MA's), (Start: 11 @60488 has 63 MA's), (13, 60527), (Start: 14 @60530 has 1 MA's), (18, 60593), (19, 60620), (26, 60695),

Gene: Vetrix\_101 Start: 62366, Stop: 62584, Start Num: 11

Candidate Starts for Vetrix\_101:

(1, 61985), (2, 62027), (3, 62063), (4, 62132), (5, 62153), (6, 62180), (7, 62192), (8, 62267), (9, 62351), (Start: 11 @62366 has 63 MA's), (Start: 14 @62405 has 1 MA's), (17, 62462), (18, 62468), (21, 62519), (23, 62546),

Gene: Wamburgrxpress\_97 Start: 60434, Stop: 60658, Start Num: 11

Candidate Starts for Wamburgrxpress\_97:

(Start: 10 @60422 has 1 MA's), (Start: 11 @60434 has 63 MA's), (13, 60473), (Start: 14 @60476 has 1 MA's), (18, 60539), (19, 60566), (26, 60641),

Gene: Whirlwind\_100 Start: 62291, Stop: 62521, Start Num: 11

Candidate Starts for Whirlwind\_100:

(Start: 10 @62279 has 1 MA's), (Start: 11 @62291 has 63 MA's), (13, 62336), (22, 62477), (24, 62492),

Gene: Wigglewigggle\_101 Start: 62057, Stop: 62275, Start Num: 11

Candidate Starts for Wigglewigggle\_101:

(Start: 10 @62045 has 1 MA's), (Start: 11 @62057 has 63 MA's), (Start: 14 @62096 has 1 MA's), (17, 62153), (18, 62159), (21, 62210), (23, 62237),

Gene: Wilder\_102 Start: 62104, Stop: 62322, Start Num: 11

Candidate Starts for Wilder\_102:

(Start: 10 @62092 has 1 MA's), (Start: 11 @62104 has 63 MA's), (Start: 14 @62143 has 1 MA's), (17, 62200), (18, 62206), (21, 62257), (23, 62284),

Gene: Winky\_102 Start: 62826, Stop: 63044, Start Num: 11

Candidate Starts for Winky\_102:

(Start: 10 @62814 has 1 MA's), (Start: 11 @62826 has 63 MA's), (Start: 14 @62865 has 1 MA's), (17, 62922), (18, 62928), (21, 62979), (23, 63006),

Gene: Wyatt2\_100 Start: 60911, Stop: 61135, Start Num: 11

Candidate Starts for Wyatt2\_100:

(Start: 10 @60899 has 1 MA's), (Start: 11 @60911 has 63 MA's), (13, 60950), (Start: 14 @60953 has 1 MA's), (18, 61016), (19, 61043), (26, 61118),

Gene: Zakai\_103 Start: 62536, Stop: 62754, Start Num: 11

Candidate Starts for Zakai\_103:

(Start: 10 @62524 has 1 MA's), (Start: 11 @62536 has 63 MA's), (Start: 14 @62575 has 1 MA's), (17, 62632), (18, 62638), (21, 62689), (23, 62716),

Gene: Zaria\_100 Start: 60387, Stop: 60611, Start Num: 11

Candidate Starts for Zaria\_100:

(Start: 10 @60375 has 1 MA's), (Start: 11 @60387 has 63 MA's), (13, 60426), (Start: 14 @60429 has 1 MA's), (18, 60492), (19, 60519), (26, 60594),

Gene: ZhongYanYuan\_99 Start: 62250, Stop: 62468, Start Num: 11

Candidate Starts for ZhongYanYuan\_99:

(Start: 10 @62238 has 1 MA's), (Start: 11 @62250 has 63 MA's), (Start: 14 @62289 has 1 MA's), (17, 62346), (18, 62352), (21, 62403), (23, 62430),