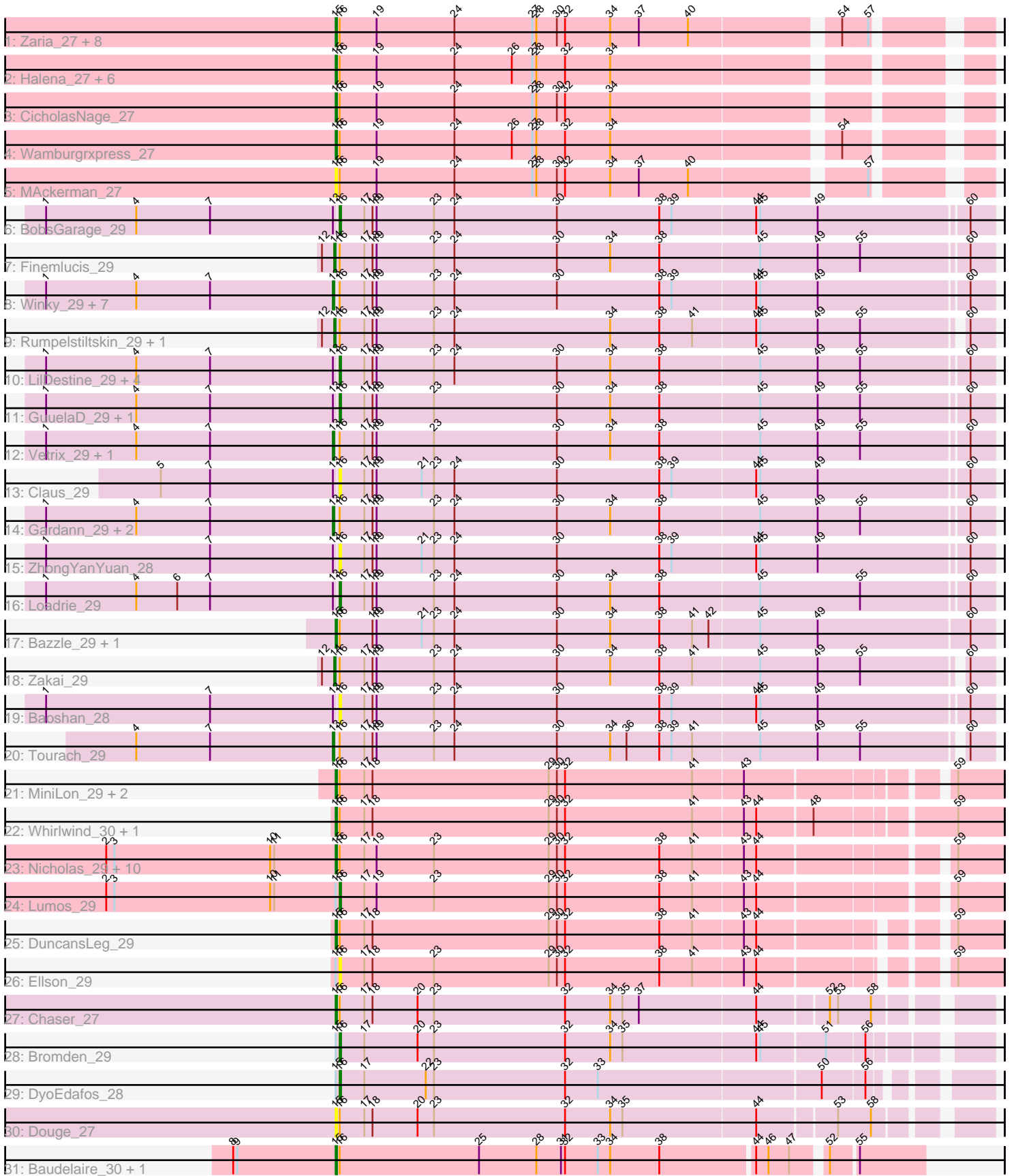


Pham 169927



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 169927 Report

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

Pham number 169927 has 76 members, 9 are drafts.

Phages represented in each track:

- Track 1 : Zaria_27, OhShagHennessy_27, Enceladus_27, Calm_27, Appletree2_27, JoeDirt_27, UPIE_27, DirkDirk_27, LeBron_27
- Track 2 : Halena_27, AvadaKedavra_27, Wyatt2_27, Acquire49_27, Silverleaf_27, Rose5_27, Tyson_27
- Track 3 : CicholasNage_27
- Track 4 : Wamburgxpress_27
- Track 5 : MAckerman_27
- Track 6 : BobsGarage_29
- Track 7 : Finemlucis_29
- Track 8 : Winky_29, BigCheese_29, Breezona_29, Miley16_29, Faith1_29, Itos_29, Netyap_29, DrSeegs_29
- Track 9 : Rumpelstiltskin_29, Gabriela_29
- Track 10 : LilDestine_29, Nicholasp3_29, Wigglewiggles_29, Kahlid_29, Hafay_29
- Track 11 : GuuelaD_29, Crossroads_29
- Track 12 : Vetrix_29, Lewan_29
- Track 13 : Claus_29
- Track 14 : Gardann_29, Wilder_29, MkaliMitinis3_29
- Track 15 : ZhongYanYuan_28
- Track 16 : Loadie_29
- Track 17 : Bazzle_29, Archie_29
- Track 18 : Zakai_29
- Track 19 : Baoshan_28
- Track 20 : Tourach_29
- Track 21 : MiniLon_29, MiniMac_29, Lolly9_29
- Track 22 : Whirlwind_30, Krypton555_29
- Track 23 : Nicholas_29, Snenia_29, Samty_29, Jubie_29, Finnry_29, Bellis_29, MsGreen_29, Moostard_29, Jobypre_29, Kingsolomon_29, Clautastrophe_29
- Track 24 : Lumos_29
- Track 25 : DuncansLeg_29
- Track 26 : Ellson_29
- Track 27 : Chaser_27
- Track 28 : Bromden_29
- Track 29 : DyoEdafos_28
- Track 30 : Douge_27
- Track 31 : Baudelaire_30, Aegeus_30

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

The start number called the most often in the published annotations is 15, it was called in 38 of the 67 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Acquire49_27, Aegeus_30, Appletree2_27, Archie_29, AvadaKedavra_27, Baudelaire_30, Bazzle_29, Bellis_29, Calm_27, Chaser_27, CicholasNage_27, Clautastrophe_29, DirkDirk_27, Douge_27, DuncansLeg_29, Enceladus_27, Finnry_29, Halena_27, Jobypre_29, JoeDirt_27, Jubie_29, Kingsolomon_29, Krypton555_29, LeBron_27, Lolly9_29, MAckerman_27, MiniLon_29, MiniMac_29, Moostard_29, MsGreen_29, Nicholas_29, OhShagHennessy_27, Rose5_27, Samty_29, Silverleaf_27, Snenia_29, Tyson_27, UPIE_27, Wamburggrxpress_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:

- Baoshan_28, BigCheese_29, BobsGarage_29, Breezona_29, Claus_29, Crossroads_29, DrSeegs_29, Faith1_29, Finemlucis_29, Gabriela_29, Gardann_29, GuuelaD_29, Hafay_29, Itos_29, Kahlid_29, Lewan_29, LilDestine_29, Loadrie_29, Miley16_29, MkaliMitinis3_29, Netyap_29, Nicholasp3_29, Rumpelstiltskin_29, Tourach_29, Vetrix_29, Wigglewiggle_29, Wilder_29, Winky_29, Zakai_29, ZhongYanYuan_28,

Summary by start number:

Start 13:

- Found in 26 of 76 (34.2%) of genes in pham
- Manual Annotations of this start: 14 of 67
- Called 53.8% of time when present
- Phage (with cluster) where this start called: BigCheese_29 (L2), Breezona_29 (L2), DrSeegs_29 (L2), Faith1_29 (L2), Gardann_29 (L2), Itos_29 (L2), Lewan_29 (L2), Miley16_29 (L2), MkaliMitinis3_29 (L2), Netyap_29 (L2), Tourach_29 (L2), Vetrix_29 (L2), Wilder_29 (L2), Winky_29 (L2),

Start 14:

- Found in 4 of 76 (5.3%) of genes in pham
- Manual Annotations of this start: 4 of 67
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Finemlucis_29 (L2), Gabriela_29 (L2), Rumpelstiltskin_29 (L2), Zakai_29 (L2),

Start 15:

- Found in 46 of 76 (60.5%) of genes in pham
- Manual Annotations of this start: 38 of 67
- Called 91.3% of time when present
- Phage (with cluster) where this start called: Acquire49_27 (L1), Aegeus_30 (L5), Appletree2_27 (L1), Archie_29 (L2), AvadaKedavra_27 (L1), Baudelaire_30 (L5), Bazzle_29 (L2), Bellis_29 (L3), Calm_27 (L1), Chaser_27 (L4), CicholasNage_27 (L1), Clautastrophe_29 (L3), DirkDirk_27 (L1), Douge_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), Krypton555_29 (L3), LeBron_27 (L1), Lolly9_29 (L3), MAckerman_27 (L1), MiniLon_29 (L3), MiniMac_29 (L3), Moostard_29 (L3), MsGreen_29 (L3), Nicholas_29 (L3), OhShagHennessy_27 (L1), Rose5_27 (L1), Samty_29 (L3), Silverleaf_27 (L1), Snenia_29 (L3), Tyson_27 (L1), UPIE_27 (L1), Wamburgxpress_27 (L1), Whirlwind_30 (L3), Wyatt2_27 (L1), Zaria_27 (L1),

Start 16:

- Found in 76 of 76 (100.0%) of genes in pham
- Manual Annotations of this start: 11 of 67
- Called 21.1% of time when present
- Phage (with cluster) where this start called: Baoshan_28 (L2), BobsGarage_29 (L2), Bromden_29 (L4), Claus_29 (L2), Crossroads_29 (L2), DyoEdafos_28 (L4), Ellson_29 (L3), GuuelaD_29 (L2), Hafay_29 (L2), Kahlid_29 (L2), LilDestine_29 (L2), Loadrie_29 (L2), Lumos_29 (L3), Nicholasp3_29 (L2), Wigglewiggle_29 (L2), ZhongYanYuan_28 (L2),

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 15 was manually annotated 18 times for cluster L1.

Info for manual annotations of cluster L2:

- Start number 13 was manually annotated 14 times for cluster L2.
- Start number 14 was manually annotated 4 times for cluster L2.
- Start number 15 was manually annotated 2 times for cluster L2.
- Start number 16 was manually annotated 8 times for cluster L2.

Info for manual annotations of cluster L3:

- Start number 15 was manually annotated 15 times for cluster L3.
- Start number 16 was manually annotated 1 time for cluster L3.

Info for manual annotations of cluster L4:

- Start number 15 was manually annotated 1 time for cluster L4.
- Start number 16 was manually annotated 2 times for cluster L4.

Info for manual annotations of cluster L5:

- Start number 15 was manually annotated 2 times for cluster L5.

Gene Information:

Gene: Acquire49_27 Start: 26579, Stop: 27022, Start Num: 15

Candidate Starts for Acquire49_27:

(Start: 15 @26579 has 38 MA's), (Start: 16 @26582 has 11 MA's), (19, 26609), (24, 26666), (26, 26708), (27, 26723), (28, 26726), (32, 26747), (34, 26780),

Gene: Aegeus_30 Start: 26730, Stop: 27143, Start Num: 15

Candidate Starts for Aegeus_30:

(8, 26655), (9, 26658), (Start: 15 @26730 has 38 MA's), (Start: 16 @26733 has 11 MA's), (25, 26835), (28, 26877), (31, 26895), (32, 26898), (33, 26922), (34, 26931), (38, 26967), (44, 27033), (46, 27042), (47, 27057), (52, 27078), (55, 27096),

Gene: Appletree2_27 Start: 26522, Stop: 26965, Start Num: 15

Candidate Starts for Appletree2_27:

(Start: 15 @26522 has 38 MA's), (Start: 16 @26525 has 11 MA's), (19, 26552), (24, 26609), (27, 26666), (28, 26669), (30, 26684), (32, 26690), (34, 26723), (37, 26744), (40, 26780), (54, 26879), (57, 26897),

Gene: Archie_29 Start: 27765, Stop: 28241, Start Num: 15

Candidate Starts for Archie_29:

(Start: 15 @27765 has 38 MA's), (Start: 16 @27768 has 11 MA's), (18, 27792), (19, 27795), (21, 27828), (23, 27837), (24, 27852), (30, 27927), (34, 27966), (38, 28002), (41, 28026), (42, 28038), (45, 28074), (49, 28116), (60, 28224),

Gene: AvadaKedavra_27 Start: 26589, Stop: 27032, Start Num: 15

Candidate Starts for AvadaKedavra_27:

(Start: 15 @26589 has 38 MA's), (Start: 16 @26592 has 11 MA's), (19, 26619), (24, 26676), (26, 26718), (27, 26733), (28, 26736), (32, 26757), (34, 26790),

Gene: Baoshan_28 Start: 27103, Stop: 27573, Start Num: 16

Candidate Starts for Baoshan_28:

(1, 26890), (7, 27010), (Start: 13 @27100 has 14 MA's), (Start: 16 @27103 has 11 MA's), (17, 27121), (18, 27127), (19, 27130), (23, 27172), (24, 27187), (30, 27262), (38, 27337), (39, 27346), (44, 27406), (45, 27409), (49, 27451), (60, 27556),

Gene: Baudelaire_30 Start: 26730, Stop: 27143, Start Num: 15

Candidate Starts for Baudelaire_30:

(8, 26655), (9, 26658), (Start: 15 @26730 has 38 MA's), (Start: 16 @26733 has 11 MA's), (25, 26835), (28, 26877), (31, 26895), (32, 26898), (33, 26922), (34, 26931), (38, 26967), (44, 27033), (46, 27042), (47, 27057), (52, 27078), (55, 27096),

Gene: Bazzle_29 Start: 27514, Stop: 27990, Start Num: 15

Candidate Starts for Bazzle_29:

(Start: 15 @27514 has 38 MA's), (Start: 16 @27517 has 11 MA's), (18, 27541), (19, 27544), (21, 27577), (23, 27586), (24, 27601), (30, 27676), (34, 27715), (38, 27751), (41, 27775), (42, 27787), (45, 27823), (49, 27865), (60, 27973),

Gene: Bellis_29 Start: 27910, Stop: 28374, Start Num: 15

Candidate Starts for Bellis_29:

(2, 27742), (3, 27748), (10, 27862), (11, 27865), (Start: 15 @27910 has 38 MA's), (Start: 16 @27913 has 11 MA's), (17, 27931), (19, 27940), (23, 27982), (29, 28066), (30, 28072), (32, 28078), (38, 28147), (41, 28171), (43, 28207), (44, 28216), (59, 28342),

Gene: BigCheese_29 Start: 27279, Stop: 27752, Start Num: 13

Candidate Starts for BigCheese_29:

(1, 27069), (4, 27135), (7, 27189), (Start: 13 @27279 has 14 MA's), (Start: 16 @27282 has 11 MA's), (17, 27300), (18, 27306), (19, 27309), (23, 27351), (24, 27366), (30, 27441), (38, 27516), (39, 27525), (44, 27585), (45, 27588), (49, 27630), (60, 27735),

Gene: BobsGarage_29 Start: 27282, Stop: 27752, Start Num: 16

Candidate Starts for BobsGarage_29:

(1, 27069), (4, 27135), (7, 27189), (Start: 13 @27279 has 14 MA's), (Start: 16 @27282 has 11 MA's), (17, 27300), (18, 27306), (19, 27309), (23, 27351), (24, 27366), (30, 27441), (38, 27516), (39, 27525), (44, 27585), (45, 27588), (49, 27630), (60, 27735),

Gene: Breezona_29 Start: 27279, Stop: 27752, Start Num: 13

Candidate Starts for Breezona_29:

(1, 27069), (4, 27135), (7, 27189), (Start: 13 @27279 has 14 MA's), (Start: 16 @27282 has 11 MA's), (17, 27300), (18, 27306), (19, 27309), (23, 27351), (24, 27366), (30, 27441), (38, 27516), (39, 27525), (44, 27585), (45, 27588), (49, 27630), (60, 27735),

Gene: Bromden_29 Start: 26939, Stop: 27391, Start Num: 16

Candidate Starts for Bromden_29:

(Start: 15 @26936 has 38 MA's), (Start: 16 @26939 has 11 MA's), (17, 26957), (20, 26996), (23, 27008), (32, 27104), (34, 27137), (35, 27146), (44, 27242), (45, 27245), (51, 27290), (56, 27317),

Gene: Calm_27 Start: 26593, Stop: 27036, Start Num: 15

Candidate Starts for Calm_27:

(Start: 15 @26593 has 38 MA's), (Start: 16 @26596 has 11 MA's), (19, 26623), (24, 26680), (27, 26737), (28, 26740), (30, 26755), (32, 26761), (34, 26794), (37, 26815), (40, 26851), (54, 26950), (57, 26968),

Gene: Chaser_27 Start: 26350, Stop: 26802, Start Num: 15

Candidate Starts for Chaser_27:

(Start: 15 @26350 has 38 MA's), (Start: 16 @26353 has 11 MA's), (17, 26371), (18, 26377), (20, 26410), (23, 26422), (32, 26518), (34, 26551), (35, 26560), (37, 26572), (44, 26656), (52, 26704), (53, 26710), (58, 26734),

Gene: CicholasNage_27 Start: 26581, Stop: 27024, Start Num: 15

Candidate Starts for CicholasNage_27:

(Start: 15 @26581 has 38 MA's), (Start: 16 @26584 has 11 MA's), (19, 26611), (24, 26668), (27, 26725), (28, 26728), (30, 26743), (32, 26749), (34, 26782),

Gene: Claus_29 Start: 27259, Stop: 27729, Start Num: 16

Candidate Starts for Claus_29:

(5, 27130), (7, 27166), (Start: 13 @27256 has 14 MA's), (Start: 16 @27259 has 11 MA's), (17, 27277), (18, 27283), (19, 27286), (21, 27319), (23, 27328), (24, 27343), (30, 27418), (38, 27493), (39, 27502), (44, 27562), (45, 27565), (49, 27607), (60, 27712),

Gene: Clautastrophe_29 Start: 27907, Stop: 28371, Start Num: 15

Candidate Starts for Clautastrophe_29:

(2, 27739), (3, 27745), (10, 27859), (11, 27862), (Start: 15 @27907 has 38 MA's), (Start: 16 @27910 has 11 MA's), (17, 27928), (19, 27937), (23, 27979), (29, 28063), (30, 28069), (32, 28075), (38, 28144), (41, 28168), (43, 28204), (44, 28213), (59, 28339),

Gene: Crossroads_29 Start: 27282, Stop: 27752, Start Num: 16

Candidate Starts for Crossroads_29:

(1, 27069), (4, 27135), (7, 27189), (Start: 13 @27279 has 14 MA's), (Start: 16 @27282 has 11 MA's), (17, 27300), (18, 27306), (19, 27309), (23, 27351), (30, 27441), (34, 27480), (38, 27516), (45, 27588), (49, 27630), (55, 27660), (60, 27735),

Gene: DirkDirk_27 Start: 26562, Stop: 27005, Start Num: 15

Candidate Starts for DirkDirk_27:

(Start: 15 @26562 has 38 MA's), (Start: 16 @26565 has 11 MA's), (19, 26592), (24, 26649), (27, 26706), (28, 26709), (30, 26724), (32, 26730), (34, 26763), (37, 26784), (40, 26820), (54, 26919), (57, 26937),

Gene: Douge_27 Start: 26288, Stop: 26740, Start Num: 15

Candidate Starts for Douge_27:

(Start: 15 @26288 has 38 MA's), (Start: 16 @26291 has 11 MA's), (17, 26309), (18, 26315), (20, 26348), (23, 26360), (32, 26456), (34, 26489), (35, 26498), (44, 26594), (53, 26648), (58, 26672),

Gene: DrSeegs_29 Start: 27279, Stop: 27752, Start Num: 13

Candidate Starts for DrSeegs_29:

(1, 27069), (4, 27135), (7, 27189), (Start: 13 @27279 has 14 MA's), (Start: 16 @27282 has 11 MA's), (17, 27300), (18, 27306), (19, 27309), (23, 27351), (24, 27366), (30, 27441), (38, 27516), (39, 27525), (44, 27585), (45, 27588), (49, 27630), (60, 27735),

Gene: DuncansLeg_29 Start: 27890, Stop: 28345, Start Num: 15

Candidate Starts for DuncansLeg_29:

(Start: 15 @27890 has 38 MA's), (Start: 16 @27893 has 11 MA's), (17, 27911), (18, 27917), (29, 28046), (30, 28052), (32, 28058), (38, 28127), (41, 28151), (43, 28187), (44, 28196), (59, 28313),

Gene: DyoEdafos_28 Start: 26498, Stop: 26944, Start Num: 16

Candidate Starts for DyoEdafos_28:

(Start: 15 @26495 has 38 MA's), (Start: 16 @26498 has 11 MA's), (17, 26516), (22, 26561), (23, 26567), (32, 26663), (33, 26687), (50, 26846), (56, 26876),

Gene: Ellson_29 Start: 27880, Stop: 28332, Start Num: 16

Candidate Starts for Ellson_29:

(Start: 15 @27877 has 38 MA's), (Start: 16 @27880 has 11 MA's), (17, 27898), (18, 27904), (23, 27949), (29, 28033), (30, 28039), (32, 28045), (38, 28114), (41, 28138), (43, 28174), (44, 28183), (59, 28300),

Gene: Enceladus_27 Start: 26563, Stop: 27006, Start Num: 15

Candidate Starts for Enceladus_27:

(Start: 15 @26563 has 38 MA's), (Start: 16 @26566 has 11 MA's), (19, 26593), (24, 26650), (27, 26707), (28, 26710), (30, 26725), (32, 26731), (34, 26764), (37, 26785), (40, 26821), (54, 26920), (57, 26938),

Gene: Faith1_29 Start: 27279, Stop: 27752, Start Num: 13

Candidate Starts for Faith1_29:

(1, 27069), (4, 27135), (7, 27189), (Start: 13 @27279 has 14 MA's), (Start: 16 @27282 has 11 MA's), (17, 27300), (18, 27306), (19, 27309), (23, 27351), (24, 27366), (30, 27441), (38, 27516), (39, 27525), (44, 27585), (45, 27588), (49, 27630), (60, 27735),

Gene: Finemlucis_29 Start: 27555, Stop: 28028, Start Num: 14

Candidate Starts for Finemlucis_29:

(12, 27546), (Start: 14 @27555 has 4 MA's), (Start: 16 @27558 has 11 MA's), (17, 27576), (18, 27582), (19, 27585), (23, 27627), (24, 27642), (30, 27717), (34, 27756), (38, 27792), (45, 27864), (49, 27906), (55, 27936), (60, 28011),

Gene: Finnry_29 Start: 27911, Stop: 28375, Start Num: 15

Candidate Starts for Finnry_29:

(2, 27743), (3, 27749), (10, 27863), (11, 27866), (Start: 15 @27911 has 38 MA's), (Start: 16 @27914 has 11 MA's), (17, 27932), (19, 27941), (23, 27983), (29, 28067), (30, 28073), (32, 28079), (38,

28148), (41, 28172), (43, 28208), (44, 28217), (59, 28343),

Gene: Gabriela_29 Start: 27547, Stop: 28014, Start Num: 14

Candidate Starts for Gabriela_29:

(12, 27538), (Start: 14 @27547 has 4 MA's), (Start: 16 @27550 has 11 MA's), (17, 27568), (18, 27574), (19, 27577), (23, 27619), (24, 27634), (34, 27748), (38, 27784), (41, 27808), (44, 27853), (45, 27856), (49, 27898), (55, 27928), (60, 27997),

Gene: Gardann_29 Start: 27281, Stop: 27754, Start Num: 13

Candidate Starts for Gardann_29:

(1, 27071), (4, 27137), (7, 27191), (Start: 13 @27281 has 14 MA's), (Start: 16 @27284 has 11 MA's), (17, 27302), (18, 27308), (19, 27311), (23, 27353), (24, 27368), (30, 27443), (34, 27482), (38, 27518), (45, 27590), (49, 27632), (55, 27662), (60, 27737),

Gene: GuuelaD_29 Start: 27316, Stop: 27786, Start Num: 16

Candidate Starts for GuuelaD_29:

(1, 27103), (4, 27169), (7, 27223), (Start: 13 @27313 has 14 MA's), (Start: 16 @27316 has 11 MA's), (17, 27334), (18, 27340), (19, 27343), (23, 27385), (30, 27475), (34, 27514), (38, 27550), (45, 27622), (49, 27664), (55, 27694), (60, 27769),

Gene: Hafay_29 Start: 27315, Stop: 27785, Start Num: 16

Candidate Starts for Hafay_29:

(1, 27102), (4, 27168), (7, 27222), (Start: 13 @27312 has 14 MA's), (Start: 16 @27315 has 11 MA's), (17, 27333), (18, 27339), (19, 27342), (23, 27384), (24, 27399), (30, 27474), (34, 27513), (38, 27549), (45, 27621), (49, 27663), (55, 27693), (60, 27768),

Gene: Halena_27 Start: 26590, Stop: 27033, Start Num: 15

Candidate Starts for Halena_27:

(Start: 15 @26590 has 38 MA's), (Start: 16 @26593 has 11 MA's), (19, 26620), (24, 26677), (26, 26719), (27, 26734), (28, 26737), (32, 26758), (34, 26791),

Gene: Itos_29 Start: 27279, Stop: 27752, Start Num: 13

Candidate Starts for Itos_29:

(1, 27069), (4, 27135), (7, 27189), (Start: 13 @27279 has 14 MA's), (Start: 16 @27282 has 11 MA's), (17, 27300), (18, 27306), (19, 27309), (23, 27351), (24, 27366), (30, 27441), (38, 27516), (39, 27525), (44, 27585), (45, 27588), (49, 27630), (60, 27735),

Gene: Jobypre_29 Start: 27907, Stop: 28371, Start Num: 15

Candidate Starts for Jobypre_29:

(2, 27739), (3, 27745), (10, 27859), (11, 27862), (Start: 15 @27907 has 38 MA's), (Start: 16 @27910 has 11 MA's), (17, 27928), (19, 27937), (23, 27979), (29, 28063), (30, 28069), (32, 28075), (38, 28144), (41, 28168), (43, 28204), (44, 28213), (59, 28339),

Gene: JoeDirt_27 Start: 26561, Stop: 27004, Start Num: 15

Candidate Starts for JoeDirt_27:

(Start: 15 @26561 has 38 MA's), (Start: 16 @26564 has 11 MA's), (19, 26591), (24, 26648), (27, 26705), (28, 26708), (30, 26723), (32, 26729), (34, 26762), (37, 26783), (40, 26819), (54, 26918), (57, 26936),

Gene: Jubie_29 Start: 27908, Stop: 28372, Start Num: 15

Candidate Starts for Jubie_29:

(2, 27740), (3, 27746), (10, 27860), (11, 27863), (Start: 15 @27908 has 38 MA's), (Start: 16 @27911 has 11 MA's), (17, 27929), (19, 27938), (23, 27980), (29, 28064), (30, 28070), (32, 28076), (38,

28145), (41, 28169), (43, 28205), (44, 28214), (59, 28340),

Gene: Kahlid_29 Start: 27287, Stop: 27757, Start Num: 16

Candidate Starts for Kahlid_29:

(1, 27074), (4, 27140), (7, 27194), (Start: 13 @27284 has 14 MA's), (Start: 16 @27287 has 11 MA's), (17, 27305), (18, 27311), (19, 27314), (23, 27356), (24, 27371), (30, 27446), (34, 27485), (38, 27521), (45, 27593), (49, 27635), (55, 27665), (60, 27740),

Gene: Kingsolomon_29 Start: 27907, Stop: 28371, Start Num: 15

Candidate Starts for Kingsolomon_29:

(2, 27739), (3, 27745), (10, 27859), (11, 27862), (Start: 15 @27907 has 38 MA's), (Start: 16 @27910 has 11 MA's), (17, 27928), (19, 27937), (23, 27979), (29, 28063), (30, 28069), (32, 28075), (38, 28144), (41, 28168), (43, 28204), (44, 28213), (59, 28339),

Gene: Krypton555_29 Start: 27808, Stop: 28269, Start Num: 15

Candidate Starts for Krypton555_29:

(Start: 15 @27808 has 38 MA's), (Start: 16 @27811 has 11 MA's), (17, 27829), (18, 27835), (29, 27964), (30, 27970), (32, 27976), (41, 28069), (43, 28105), (44, 28114), (48, 28153), (59, 28237),

Gene: LeBron_27 Start: 26605, Stop: 27048, Start Num: 15

Candidate Starts for LeBron_27:

(Start: 15 @26605 has 38 MA's), (Start: 16 @26608 has 11 MA's), (19, 26635), (24, 26692), (27, 26749), (28, 26752), (30, 26767), (32, 26773), (34, 26806), (37, 26827), (40, 26863), (54, 26962), (57, 26980),

Gene: Lewan_29 Start: 27279, Stop: 27752, Start Num: 13

Candidate Starts for Lewan_29:

(1, 27069), (4, 27135), (7, 27189), (Start: 13 @27279 has 14 MA's), (Start: 16 @27282 has 11 MA's), (17, 27300), (18, 27306), (19, 27309), (23, 27351), (30, 27441), (34, 27480), (38, 27516), (45, 27588), (49, 27630), (55, 27660), (60, 27735),

Gene: LilDestine_29 Start: 27281, Stop: 27751, Start Num: 16

Candidate Starts for LilDestine_29:

(1, 27068), (4, 27134), (7, 27188), (Start: 13 @27278 has 14 MA's), (Start: 16 @27281 has 11 MA's), (17, 27299), (18, 27305), (19, 27308), (23, 27350), (24, 27365), (30, 27440), (34, 27479), (38, 27515), (45, 27587), (49, 27629), (55, 27659), (60, 27734),

Gene: Loadrie_29 Start: 27314, Stop: 27784, Start Num: 16

Candidate Starts for Loadrie_29:

(1, 27101), (4, 27167), (6, 27197), (7, 27221), (Start: 13 @27311 has 14 MA's), (Start: 16 @27314 has 11 MA's), (17, 27332), (18, 27338), (19, 27341), (23, 27383), (24, 27398), (30, 27473), (34, 27512), (38, 27548), (45, 27620), (55, 27692), (60, 27767),

Gene: Lolly9_29 Start: 27674, Stop: 28135, Start Num: 15

Candidate Starts for Lolly9_29:

(Start: 15 @27674 has 38 MA's), (Start: 16 @27677 has 11 MA's), (17, 27695), (18, 27701), (29, 27830), (30, 27836), (32, 27842), (41, 27935), (43, 27971), (59, 28103),

Gene: Lumos_29 Start: 27907, Stop: 28368, Start Num: 16

Candidate Starts for Lumos_29:

(2, 27736), (3, 27742), (10, 27856), (11, 27859), (Start: 15 @27904 has 38 MA's), (Start: 16 @27907 has 11 MA's), (17, 27925), (19, 27934), (23, 27976), (29, 28060), (30, 28066), (32, 28072), (38, 28141), (41, 28165), (43, 28201), (44, 28210), (59, 28336),

Gene: MAckerman_27 Start: 26579, Stop: 27022, Start Num: 15

Candidate Starts for MAckerman_27:

(Start: 15 @26579 has 38 MA's), (Start: 16 @26582 has 11 MA's), (19, 26609), (24, 26666), (27, 26723), (28, 26726), (30, 26741), (32, 26747), (34, 26780), (37, 26801), (40, 26837), (57, 26954),

Gene: Miley16_29 Start: 27279, Stop: 27752, Start Num: 13

Candidate Starts for Miley16_29:

(1, 27069), (4, 27135), (7, 27189), (Start: 13 @27279 has 14 MA's), (Start: 16 @27282 has 11 MA's), (17, 27300), (18, 27306), (19, 27309), (23, 27351), (24, 27366), (30, 27441), (38, 27516), (39, 27525), (44, 27585), (45, 27588), (49, 27630), (60, 27735),

Gene: MiniLon_29 Start: 27674, Stop: 28135, Start Num: 15

Candidate Starts for MiniLon_29:

(Start: 15 @27674 has 38 MA's), (Start: 16 @27677 has 11 MA's), (17, 27695), (18, 27701), (29, 27830), (30, 27836), (32, 27842), (41, 27935), (43, 27971), (59, 28103),

Gene: MiniMac_29 Start: 27675, Stop: 28136, Start Num: 15

Candidate Starts for MiniMac_29:

(Start: 15 @27675 has 38 MA's), (Start: 16 @27678 has 11 MA's), (17, 27696), (18, 27702), (29, 27831), (30, 27837), (32, 27843), (41, 27936), (43, 27972), (59, 28104),

Gene: MkaliMitinis3_29 Start: 27279, Stop: 27752, Start Num: 13

Candidate Starts for MkaliMitinis3_29:

(1, 27069), (4, 27135), (7, 27189), (Start: 13 @27279 has 14 MA's), (Start: 16 @27282 has 11 MA's), (17, 27300), (18, 27306), (19, 27309), (23, 27351), (24, 27366), (30, 27441), (34, 27480), (38, 27516), (45, 27588), (49, 27630), (55, 27660), (60, 27735),

Gene: Moostard_29 Start: 27910, Stop: 28374, Start Num: 15

Candidate Starts for Moostard_29:

(2, 27742), (3, 27748), (10, 27862), (11, 27865), (Start: 15 @27910 has 38 MA's), (Start: 16 @27913 has 11 MA's), (17, 27931), (19, 27940), (23, 27982), (29, 28066), (30, 28072), (32, 28078), (38, 28147), (41, 28171), (43, 28207), (44, 28216), (59, 28342),

Gene: MsGreen_29 Start: 27907, Stop: 28371, Start Num: 15

Candidate Starts for MsGreen_29:

(2, 27739), (3, 27745), (10, 27859), (11, 27862), (Start: 15 @27907 has 38 MA's), (Start: 16 @27910 has 11 MA's), (17, 27928), (19, 27937), (23, 27979), (29, 28063), (30, 28069), (32, 28075), (38, 28144), (41, 28168), (43, 28204), (44, 28213), (59, 28339),

Gene: Netyap_29 Start: 27279, Stop: 27752, Start Num: 13

Candidate Starts for Netyap_29:

(1, 27069), (4, 27135), (7, 27189), (Start: 13 @27279 has 14 MA's), (Start: 16 @27282 has 11 MA's), (17, 27300), (18, 27306), (19, 27309), (23, 27351), (24, 27366), (30, 27441), (38, 27516), (39, 27525), (44, 27585), (45, 27588), (49, 27630), (60, 27735),

Gene: Nicholas_29 Start: 27907, Stop: 28371, Start Num: 15

Candidate Starts for Nicholas_29:

(2, 27739), (3, 27745), (10, 27859), (11, 27862), (Start: 15 @27907 has 38 MA's), (Start: 16 @27910 has 11 MA's), (17, 27928), (19, 27937), (23, 27979), (29, 28063), (30, 28069), (32, 28075), (38, 28144), (41, 28168), (43, 28204), (44, 28213), (59, 28339),

Gene: Nicholasp3_29 Start: 27284, Stop: 27754, Start Num: 16

Candidate Starts for Nicholasp3_29:

(1, 27071), (4, 27137), (7, 27191), (Start: 13 @27281 has 14 MA's), (Start: 16 @27284 has 11 MA's), (17, 27302), (18, 27308), (19, 27311), (23, 27353), (24, 27368), (30, 27443), (34, 27482), (38, 27518), (45, 27590), (49, 27632), (55, 27662), (60, 27737),

Gene: OhShagHennessy_27 Start: 26544, Stop: 26987, Start Num: 15

Candidate Starts for OhShagHennessy_27:

(Start: 15 @26544 has 38 MA's), (Start: 16 @26547 has 11 MA's), (19, 26574), (24, 26631), (27, 26688), (28, 26691), (30, 26706), (32, 26712), (34, 26745), (37, 26766), (40, 26802), (54, 26901), (57, 26919),

Gene: Rose5_27 Start: 26579, Stop: 27022, Start Num: 15

Candidate Starts for Rose5_27:

(Start: 15 @26579 has 38 MA's), (Start: 16 @26582 has 11 MA's), (19, 26609), (24, 26666), (26, 26708), (27, 26723), (28, 26726), (32, 26747), (34, 26780),

Gene: Rumpelstiltskin_29 Start: 27553, Stop: 28020, Start Num: 14

Candidate Starts for Rumpelstiltskin_29:

(12, 27544), (Start: 14 @27553 has 4 MA's), (Start: 16 @27556 has 11 MA's), (17, 27574), (18, 27580), (19, 27583), (23, 27625), (24, 27640), (34, 27754), (38, 27790), (41, 27814), (44, 27859), (45, 27862), (49, 27904), (55, 27934), (60, 28003),

Gene: Samty_29 Start: 27910, Stop: 28374, Start Num: 15

Candidate Starts for Samty_29:

(2, 27742), (3, 27748), (10, 27862), (11, 27865), (Start: 15 @27910 has 38 MA's), (Start: 16 @27913 has 11 MA's), (17, 27931), (19, 27940), (23, 27982), (29, 28066), (30, 28072), (32, 28078), (38, 28147), (41, 28171), (43, 28207), (44, 28216), (59, 28342),

Gene: Silverleaf_27 Start: 26579, Stop: 27022, Start Num: 15

Candidate Starts for Silverleaf_27:

(Start: 15 @26579 has 38 MA's), (Start: 16 @26582 has 11 MA's), (19, 26609), (24, 26666), (26, 26708), (27, 26723), (28, 26726), (32, 26747), (34, 26780),

Gene: Snenia_29 Start: 27908, Stop: 28372, Start Num: 15

Candidate Starts for Snenia_29:

(2, 27740), (3, 27746), (10, 27860), (11, 27863), (Start: 15 @27908 has 38 MA's), (Start: 16 @27911 has 11 MA's), (17, 27929), (19, 27938), (23, 27980), (29, 28064), (30, 28070), (32, 28076), (38, 28145), (41, 28169), (43, 28205), (44, 28214), (59, 28340),

Gene: Tourach_29 Start: 27276, Stop: 27743, Start Num: 13

Candidate Starts for Tourach_29:

(4, 27132), (7, 27186), (Start: 13 @27276 has 14 MA's), (Start: 16 @27279 has 11 MA's), (17, 27297), (18, 27303), (19, 27306), (23, 27348), (24, 27363), (30, 27438), (34, 27477), (36, 27489), (38, 27513), (39, 27522), (41, 27537), (45, 27585), (49, 27627), (55, 27657), (60, 27726),

Gene: Tyson_27 Start: 26579, Stop: 27022, Start Num: 15

Candidate Starts for Tyson_27:

(Start: 15 @26579 has 38 MA's), (Start: 16 @26582 has 11 MA's), (19, 26609), (24, 26666), (26, 26708), (27, 26723), (28, 26726), (32, 26747), (34, 26780),

Gene: UPIE_27 Start: 26577, Stop: 27020, Start Num: 15

Candidate Starts for UPIE_27:

(Start: 15 @26577 has 38 MA's), (Start: 16 @26580 has 11 MA's), (19, 26607), (24, 26664), (27, 26721), (28, 26724), (30, 26739), (32, 26745), (34, 26778), (37, 26799), (40, 26835), (54, 26934), (57, 26952),

Gene: Vetrix_29 Start: 27285, Stop: 27758, Start Num: 13

Candidate Starts for Vetrix_29:

(1, 27075), (4, 27141), (7, 27195), (Start: 13 @27285 has 14 MA's), (Start: 16 @27288 has 11 MA's), (17, 27306), (18, 27312), (19, 27315), (23, 27357), (30, 27447), (34, 27486), (38, 27522), (45, 27594), (49, 27636), (55, 27666), (60, 27741),

Gene: Wamburgexpress_27 Start: 26592, Stop: 27035, Start Num: 15

Candidate Starts for Wamburgexpress_27:

(Start: 15 @26592 has 38 MA's), (Start: 16 @26595 has 11 MA's), (19, 26622), (24, 26679), (26, 26721), (27, 26736), (28, 26739), (32, 26760), (34, 26793), (54, 26949),

Gene: Whirlwind_30 Start: 27642, Stop: 28112, Start Num: 15

Candidate Starts for Whirlwind_30:

(Start: 15 @27642 has 38 MA's), (Start: 16 @27645 has 11 MA's), (17, 27663), (18, 27669), (29, 27798), (30, 27804), (32, 27810), (41, 27903), (43, 27939), (44, 27948), (48, 27987), (59, 28080),

Gene: Wigglewobble_29 Start: 27314, Stop: 27784, Start Num: 16

Candidate Starts for Wigglewobble_29:

(1, 27101), (4, 27167), (7, 27221), (Start: 13 @27311 has 14 MA's), (Start: 16 @27314 has 11 MA's), (17, 27332), (18, 27338), (19, 27341), (23, 27383), (24, 27398), (30, 27473), (34, 27512), (38, 27548), (45, 27620), (49, 27662), (55, 27692), (60, 27767),

Gene: Wilder_29 Start: 27284, Stop: 27757, Start Num: 13

Candidate Starts for Wilder_29:

(1, 27074), (4, 27140), (7, 27194), (Start: 13 @27284 has 14 MA's), (Start: 16 @27287 has 11 MA's), (17, 27305), (18, 27311), (19, 27314), (23, 27356), (24, 27371), (30, 27446), (34, 27485), (38, 27521), (45, 27593), (49, 27635), (55, 27665), (60, 27740),

Gene: Winky_29 Start: 27279, Stop: 27752, Start Num: 13

Candidate Starts for Winky_29:

(1, 27069), (4, 27135), (7, 27189), (Start: 13 @27279 has 14 MA's), (Start: 16 @27282 has 11 MA's), (17, 27300), (18, 27306), (19, 27309), (23, 27351), (24, 27366), (30, 27441), (38, 27516), (39, 27525), (44, 27585), (45, 27588), (49, 27630), (60, 27735),

Gene: Wyatt2_27 Start: 26579, Stop: 27022, Start Num: 15

Candidate Starts for Wyatt2_27:

(Start: 15 @26579 has 38 MA's), (Start: 16 @26582 has 11 MA's), (19, 26609), (24, 26666), (26, 26708), (27, 26723), (28, 26726), (32, 26747), (34, 26780),

Gene: Zakai_29 Start: 27541, Stop: 28008, Start Num: 14

Candidate Starts for Zakai_29:

(12, 27532), (Start: 14 @27541 has 4 MA's), (Start: 16 @27544 has 11 MA's), (17, 27562), (18, 27568), (19, 27571), (23, 27613), (24, 27628), (30, 27703), (34, 27742), (38, 27778), (41, 27802), (45, 27850), (49, 27892), (55, 27922), (60, 27991),

Gene: Zaria_27 Start: 26593, Stop: 27036, Start Num: 15

Candidate Starts for Zaria_27:

(Start: 15 @26593 has 38 MA's), (Start: 16 @26596 has 11 MA's), (19, 26623), (24, 26680), (27, 26737), (28, 26740), (30, 26755), (32, 26761), (34, 26794), (37, 26815), (40, 26851), (54, 26950), (57,

26968),

Gene: ZhongYanYuan_28 Start: 27103, Stop: 27573, Start Num: 16

Candidate Starts for ZhongYanYuan_28:

(1, 26890), (7, 27010), (Start: 13 @27100 has 14 MA's), (Start: 16 @27103 has 11 MA's), (17, 27121), (18, 27127), (19, 27130), (21, 27163), (23, 27172), (24, 27187), (30, 27262), (38, 27337), (39, 27346), (44, 27406), (45, 27409), (49, 27451), (60, 27556),