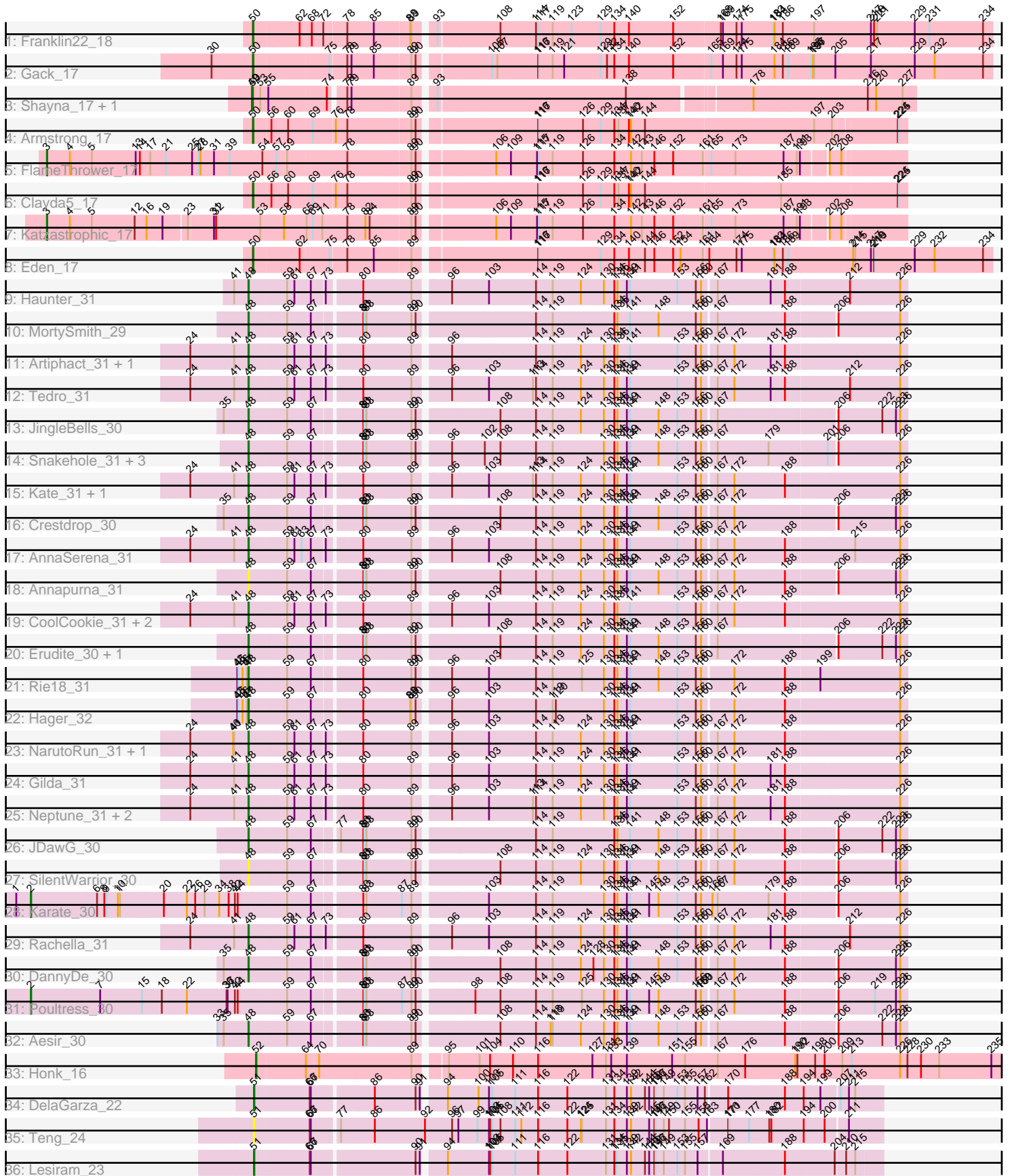


Pham 203038



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 203038 Report

This analysis was run 01/18/25 on database version 583.

Pham number 203038 has 48 members, 5 are drafts.

Phages represented in each track:

- Track 1 : Franklin22_18
- Track 2 : Gack_17
- Track 3 : Shayna_17, SunnyD_17
- Track 4 : Armstrong_17
- Track 5 : FlameThrower_17
- Track 6 : Clayda5_17
- Track 7 : Katzastrophic_17
- Track 8 : Eden_17
- Track 9 : Haunter_31
- Track 10 : MortySmith_29
- Track 11 : Artiphact_31, Pharpay_31
- Track 12 : Tedro_31
- Track 13 : JingleBells_30
- Track 14 : Snakehole_31, Chivey_30, Hiddenleaf_30, FreddieHg_30
- Track 15 : Kate_31, OverHedge_31
- Track 16 : Crestdrop_30
- Track 17 : AnnaSerena_31
- Track 18 : Annapurna_31
- Track 19 : CoolCookie_31, Potty_31, Krampus_31
- Track 20 : Erudite_30, Dauntless_30
- Track 21 : Rie18_31
- Track 22 : Hager_32
- Track 23 : NarutoRun_31, Anakin_31
- Track 24 : Gilda_31
- Track 25 : Neptune_31, PhunaPhoke_31, Cybele_31
- Track 26 : JDawG_30
- Track 27 : SilentWarrior_30
- Track 28 : Karate_30
- Track 29 : Rachella_31
- Track 30 : DannyDe_30
- Track 31 : Poultruss_30
- Track 32 : Aesir_30
- Track 33 : Honk_16
- Track 34 : DelaGarza_22
- Track 35 : Teng_24
- Track 36 : Lesiram_23

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

The start number called the most often in the published annotations is 48, it was called in 29 of the 43 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Aesir_30, Anakin_31, AnnaSerena_31, Annapurna_31, Artiphact_31, Chivey_30, CoolCookie_31, Crestdrop_30, Cybele_31, DannyDe_30, Dauntless_30, Erudite_30, FreddieHg_30, Gilda_31, Hager_32, Haunter_31, Hiddenleaf_30, JDawG_30, JingleBells_30, Kate_31, Krampus_31, MortySmith_29, NarutoRun_31, Neptune_31, OverHedge_31, Pharpay_31, PhunaPhoke_31, Potty_31, Rachella_31, Rie18_31, SilentWarrior_30, Snakehole_31, Tedro_31,

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

-

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

- Armstrong_17, Clayda5_17, DelaGarza_22, Eden_17, FlameThrower_17, Franklin22_18, Gack_17, Honk_16, Karate_30, Katzastrophic_17, Lesiram_23, Poultruss_30, Shayna_17, SunnyD_17, Teng_24,

Summary by start number:

Start 2:

- Found in 2 of 48 (4.2%) of genes in pham
- Manual Annotations of this start: 2 of 43
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Karate_30 (EF), Poultruss_30 (EF),

Start 3:

- Found in 2 of 48 (4.2%) of genes in pham
- Manual Annotations of this start: 2 of 43
- Called 100.0% of time when present
- Phage (with cluster) where this start called: FlameThrower_17 (EB), Katzastrophic_17 (EB),

Start 48:

- Found in 33 of 48 (68.8%) of genes in pham
- Manual Annotations of this start: 29 of 43
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aesir_30 (EF), Anakin_31 (EF), AnnaSerena_31 (EF), Annapurna_31 (EF), Artiphact_31 (EF), Chivey_30 (EF), CoolCookie_31 (EF), Crestdrop_30 (EF), Cybele_31 (EF), DannyDe_30 (EF), Dauntless_30 (EF), Erudite_30 (EF), FreddieHg_30 (EF), Gilda_31 (EF), Hager_32 (EF), Haunter_31 (EF), Hiddenleaf_30 (EF), JDawG_30 (EF), JingleBells_30 (EF), Kate_31 (EF), Krampus_31 (EF), MortySmith_29 (EF), NarutoRun_31 (EF), Neptune_31 (EF), OverHedge_31 (EF), Pharpay_31 (EF), PhunaPhoke_31 (EF), Potty_31 (EF), Rachella_31 (EF), Rie18_31 (EF), SilentWarrior_30 (EF), Snakehole_31 (EF), Tedro_31 (EF),

Start 49:

- Found in 2 of 48 (4.2%) of genes in pham
- Manual Annotations of this start: 2 of 43
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Shayna_17 (EB), SunnyD_17 (EB),

Start 50:

- Found in 7 of 48 (14.6%) of genes in pham
- Manual Annotations of this start: 5 of 43
- Called 71.4% of time when present
- Phage (with cluster) where this start called: Armstrong_17 (EB), Clayda5_17 (EB), Eden_17 (EB), Franklin22_18 (EB), Gack_17 (EB),

Start 51:

- Found in 3 of 48 (6.2%) of genes in pham
- Manual Annotations of this start: 2 of 43
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DelaGarza_22 (GF), Lesiram_23 (GF), Teng_24 (GF),

Start 52:

- Found in 1 of 48 (2.1%) of genes in pham
- Manual Annotations of this start: 1 of 43
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Honk_16 (EH),

Summary by clusters:

There are 4 clusters represented in this pham: GF, EF, EH, EB,

Info for manual annotations of cluster EB:

- Start number 3 was manually annotated 2 times for cluster EB.
- Start number 49 was manually annotated 2 times for cluster EB.
- Start number 50 was manually annotated 5 times for cluster EB.

Info for manual annotations of cluster EF:

- Start number 2 was manually annotated 2 times for cluster EF.
- Start number 48 was manually annotated 29 times for cluster EF.

Info for manual annotations of cluster EH:

- Start number 52 was manually annotated 1 time for cluster EH.

Info for manual annotations of cluster GF:

- Start number 51 was manually annotated 2 times for cluster GF.

Gene Information:

Gene: Aesir_30 Start: 18424, Stop: 20193, Start Num: 48

Candidate Starts for Aesir_30:

(33, 18337), (35, 18355), (Start: 48 @18424 has 29 MA's), (59, 18526), (67, 18589), (80, 18712), (81, 18715), (83, 18721), (89, 18850), (90, 18862), (108, 19075), (114, 19177), (118, 19219), (119, 19225),

(124, 19306), (130, 19372), (134, 19402), (136, 19411), (139, 19438), (141, 19447), (148, 19528), (153, 19582), (156, 19633), (160, 19648), (167, 19684), (188, 19867), (206, 19996), (222, 20122), (223, 20161), (226, 20173),

Gene: Anakin_31 Start: 18678, Stop: 20456, Start Num: 48

Candidate Starts for Anakin_31:

(24, 18513), (40, 18636), (41, 18639), (Start: 48 @18678 has 29 MA's), (59, 18780), (61, 18801), (67, 18843), (73, 18879), (80, 18966), (89, 19104), (96, 19194), (103, 19296), (114, 19431), (119, 19479), (124, 19560), (130, 19626), (134, 19656), (136, 19665), (139, 19692), (141, 19701), (153, 19836), (156, 19887), (160, 19902), (167, 19938), (172, 19986), (188, 20121), (226, 20436),

Gene: AnnaSerena_31 Start: 18687, Stop: 20465, Start Num: 48

Candidate Starts for AnnaSerena_31:

(24, 18522), (41, 18648), (Start: 48 @18687 has 29 MA's), (59, 18789), (61, 18810), (63, 18831), (67, 18852), (73, 18888), (80, 18975), (89, 19113), (96, 19203), (103, 19305), (114, 19440), (119, 19488), (124, 19569), (130, 19635), (134, 19665), (136, 19674), (139, 19701), (141, 19710), (153, 19845), (156, 19896), (160, 19911), (167, 19947), (172, 19995), (188, 20130), (215, 20316), (226, 20445),

Gene: Annapurna_31 Start: 17886, Stop: 19655, Start Num: 48

Candidate Starts for Annapurna_31:

(Start: 48 @17886 has 29 MA's), (59, 17988), (67, 18051), (80, 18174), (81, 18177), (83, 18183), (89, 18312), (90, 18324), (108, 18537), (114, 18639), (119, 18687), (124, 18768), (130, 18834), (134, 18864), (136, 18873), (139, 18900), (141, 18909), (148, 18990), (153, 19044), (156, 19095), (160, 19110), (167, 19146), (172, 19194), (188, 19329), (206, 19458), (223, 19623), (226, 19635),

Gene: Armstrong_17 Start: 12466, Stop: 14193, Start Num: 50

Candidate Starts for Armstrong_17:

(Start: 50 @12466 has 5 MA's), (56, 12514), (60, 12559), (69, 12625), (76, 12682), (78, 12712), (89, 12886), (90, 12898), (116, 13204), (117, 13207), (126, 13333), (129, 13384), (134, 13423), (137, 13435), (140, 13465), (142, 13471), (144, 13507), (197, 13963), (203, 14011), (224, 14167), (225, 14170),

Gene: Artiphact_31 Start: 18679, Stop: 20457, Start Num: 48

Candidate Starts for Artiphact_31:

(24, 18514), (41, 18640), (Start: 48 @18679 has 29 MA's), (59, 18781), (61, 18802), (67, 18844), (73, 18880), (80, 18967), (89, 19105), (96, 19195), (114, 19432), (119, 19480), (124, 19561), (130, 19627), (134, 19657), (136, 19666), (141, 19702), (153, 19837), (156, 19888), (160, 19903), (167, 19939), (172, 19987), (181, 20083), (188, 20122), (226, 20437),

Gene: Chivey_30 Start: 17840, Stop: 19609, Start Num: 48

Candidate Starts for Chivey_30:

(Start: 48 @17840 has 29 MA's), (59, 17942), (67, 18005), (80, 18128), (81, 18131), (83, 18137), (89, 18266), (90, 18278), (96, 18356), (102, 18446), (108, 18491), (114, 18593), (119, 18641), (130, 18788), (134, 18818), (136, 18827), (139, 18854), (141, 18863), (148, 18944), (153, 18998), (156, 19049), (160, 19064), (167, 19100), (179, 19238), (201, 19394), (206, 19412), (226, 19589),

Gene: Clayda5_17 Start: 12466, Stop: 14199, Start Num: 50

Candidate Starts for Clayda5_17:

(Start: 50 @12466 has 5 MA's), (56, 12514), (60, 12559), (69, 12625), (76, 12682), (78, 12712), (89, 12886), (90, 12898), (116, 13204), (117, 13207), (126, 13333), (129, 13384), (134, 13423), (137, 13435), (140, 13465), (142, 13471), (144, 13507), (185, 13873), (224, 14173), (225, 14176),

Gene: CoolCookie_31 Start: 18685, Stop: 20463, Start Num: 48

Candidate Starts for CoolCookie_31:

(24, 18520), (41, 18646), (Start: 48 @18685 has 29 MA's), (59, 18787), (61, 18808), (67, 18850), (73, 18886), (80, 18973), (89, 19111), (96, 19201), (103, 19303), (114, 19438), (119, 19486), (124, 19567), (130, 19633), (134, 19663), (136, 19672), (141, 19708), (153, 19843), (156, 19894), (160, 19909), (167, 19945), (172, 19993), (188, 20128), (226, 20443),

Gene: Crestdrop_30 Start: 17749, Stop: 19518, Start Num: 48

Candidate Starts for Crestdrop_30:

(35, 17680), (Start: 48 @17749 has 29 MA's), (59, 17851), (67, 17914), (80, 18037), (81, 18040), (83, 18046), (89, 18175), (90, 18187), (108, 18400), (114, 18502), (119, 18550), (124, 18631), (130, 18697), (134, 18727), (136, 18736), (139, 18763), (141, 18772), (148, 18853), (153, 18907), (156, 18958), (160, 18973), (167, 19009), (172, 19057), (206, 19321), (223, 19486), (226, 19498),

Gene: Cybele_31 Start: 18655, Stop: 20433, Start Num: 48

Candidate Starts for Cybele_31:

(24, 18490), (41, 18616), (Start: 48 @18655 has 29 MA's), (59, 18757), (61, 18778), (67, 18820), (73, 18856), (80, 18943), (89, 19081), (96, 19171), (103, 19273), (113, 19399), (114, 19408), (119, 19456), (124, 19537), (130, 19603), (134, 19633), (136, 19642), (139, 19669), (141, 19678), (153, 19813), (156, 19864), (160, 19879), (167, 19915), (172, 19963), (181, 20059), (188, 20098), (226, 20413),

Gene: DannyDe_30 Start: 17832, Stop: 19601, Start Num: 48

Candidate Starts for DannyDe_30:

(35, 17763), (Start: 48 @17832 has 29 MA's), (59, 17934), (67, 17997), (80, 18120), (81, 18123), (83, 18129), (89, 18258), (90, 18270), (108, 18483), (114, 18585), (119, 18633), (124, 18714), (128, 18750), (130, 18780), (134, 18810), (136, 18819), (139, 18846), (141, 18855), (148, 18936), (153, 18990), (156, 19041), (160, 19056), (167, 19092), (172, 19140), (188, 19275), (206, 19404), (223, 19569), (226, 19581),

Gene: Dauntless_30 Start: 18392, Stop: 20161, Start Num: 48

Candidate Starts for Dauntless_30:

(Start: 48 @18392 has 29 MA's), (59, 18494), (67, 18557), (80, 18680), (81, 18683), (83, 18689), (89, 18818), (90, 18830), (108, 19043), (114, 19145), (119, 19193), (124, 19274), (130, 19340), (134, 19370), (136, 19379), (139, 19406), (141, 19415), (148, 19496), (153, 19550), (156, 19601), (160, 19616), (167, 19652), (206, 19964), (222, 20090), (223, 20129), (226, 20141),

Gene: DelaGarza_22 Start: 15128, Stop: 16816, Start Num: 51

Candidate Starts for DelaGarza_22:

(Start: 51 @15128 has 2 MA's), (66, 15275), (67, 15278), (86, 15440), (90, 15557), (91, 15569), (94, 15623), (100, 15710), (103, 15740), (105, 15749), (111, 15815), (116, 15881), (122, 15965), (131, 16073), (134, 16097), (139, 16133), (142, 16145), (144, 16181), (145, 16193), (146, 16208), (147, 16211), (149, 16235), (153, 16274), (155, 16295), (157, 16331), (162, 16352), (170, 16409), (188, 16556), (194, 16607), (199, 16652), (207, 16697), (211, 16721), (215, 16739),

Gene: Eden_17 Start: 12590, Stop: 14578, Start Num: 50

Candidate Starts for Eden_17:

(Start: 50 @12590 has 5 MA's), (62, 12713), (75, 12791), (78, 12833), (85, 12908), (89, 13007), (116, 13325), (117, 13328), (129, 13505), (134, 13544), (140, 13586), (144, 13628), (146, 13655), (152, 13709), (154, 13730), (161, 13790), (164, 13799), (174, 13877), (175, 13892), (183, 13976), (184, 13979), (186, 14000), (189, 14015), (214, 14192), (215, 14198), (217, 14240), (218, 14249), (219, 14252), (229, 14360), (232, 14417), (234, 14552),

Gene: Erudite_30 Start: 18392, Stop: 20161, Start Num: 48

Candidate Starts for Erudite_30:

(Start: 48 @18392 has 29 MA's), (59, 18494), (67, 18557), (80, 18680), (81, 18683), (83, 18689), (89, 18818), (90, 18830), (108, 19043), (114, 19145), (119, 19193), (124, 19274), (130, 19340), (134, 19370), (136, 19379), (139, 19406), (141, 19415), (148, 19496), (153, 19550), (156, 19601), (160, 19616), (167, 19652), (206, 19964), (222, 20090), (223, 20129), (226, 20141),

Gene: FlameThrower_17 Start: 13345, Stop: 15654, Start Num: 3

Candidate Starts for FlameThrower_17:

(Start: 3 @13345 has 2 MA's), (4, 13411), (5, 13474), (13, 13600), (14, 13612), (17, 13642), (21, 13687), (25, 13762), (27, 13780), (28, 13786), (31, 13825), (39, 13870), (54, 13957), (57, 13996), (59, 14026), (78, 14194), (89, 14368), (90, 14380), (106, 14566), (109, 14608), (115, 14683), (117, 14689), (119, 14728), (126, 14815), (134, 14905), (142, 14953), (143, 14980), (146, 15016), (152, 15070), (161, 15151), (165, 15166), (173, 15235), (187, 15358), (191, 15394), (193, 15403), (202, 15463), (208, 15490),

Gene: Franklin22_18 Start: 12769, Stop: 14757, Start Num: 50

Candidate Starts for Franklin22_18:

(Start: 50 @12769 has 5 MA's), (62, 12892), (68, 12922), (72, 12955), (78, 13015), (85, 13090), (88, 13186), (89, 13189), (93, 13234), (108, 13399), (114, 13501), (117, 13510), (119, 13549), (123, 13603), (129, 13687), (134, 13726), (140, 13768), (152, 13891), (168, 14014), (169, 14020), (174, 14059), (175, 14074), (183, 14158), (184, 14161), (186, 14182), (197, 14269), (217, 14419), (218, 14428), (221, 14437), (229, 14539), (231, 14581), (234, 14731),

Gene: FreddieHg_30 Start: 17856, Stop: 19625, Start Num: 48

Candidate Starts for FreddieHg_30:

(Start: 48 @17856 has 29 MA's), (59, 17958), (67, 18021), (80, 18144), (81, 18147), (83, 18153), (89, 18282), (90, 18294), (96, 18372), (102, 18462), (108, 18507), (114, 18609), (119, 18657), (130, 18804), (134, 18834), (136, 18843), (139, 18870), (141, 18879), (148, 18960), (153, 19014), (156, 19065), (160, 19080), (167, 19116), (179, 19254), (201, 19410), (206, 19428), (226, 19605),

Gene: Gack_17 Start: 12658, Stop: 14643, Start Num: 50

Candidate Starts for Gack_17:

(30, 12544), (Start: 50 @12658 has 5 MA's), (75, 12859), (78, 12901), (79, 12913), (85, 12976), (89, 13075), (90, 13087), (105, 13261), (107, 13276), (116, 13393), (117, 13396), (119, 13435), (121, 13468), (129, 13573), (132, 13591), (134, 13612), (140, 13654), (152, 13777), (165, 13873), (169, 13906), (174, 13945), (175, 13960), (184, 14047), (186, 14068), (189, 14083), (195, 14146), (196, 14152), (197, 14155), (205, 14209), (217, 14305), (229, 14425), (232, 14482), (234, 14617),

Gene: Gilda_31 Start: 18679, Stop: 20457, Start Num: 48

Candidate Starts for Gilda_31:

(24, 18514), (41, 18640), (Start: 48 @18679 has 29 MA's), (59, 18781), (61, 18802), (67, 18844), (73, 18880), (80, 18967), (89, 19105), (96, 19195), (103, 19297), (114, 19432), (119, 19480), (124, 19561), (130, 19627), (134, 19657), (136, 19666), (139, 19693), (141, 19702), (153, 19837), (156, 19888), (160, 19903), (167, 19939), (172, 19987), (181, 20083), (188, 20122), (226, 20437),

Gene: Hager_32 Start: 18239, Stop: 20017, Start Num: 48

Candidate Starts for Hager_32:

(43, 18209), (45, 18212), (46, 18224), (47, 18236), (Start: 48 @18239 has 29 MA's), (59, 18341), (67, 18404), (80, 18527), (88, 18662), (89, 18665), (90, 18677), (96, 18755), (103, 18857), (114, 18992), (119, 19040), (120, 19049), (130, 19187), (134, 19217), (136, 19226), (139, 19253), (141, 19262), (153, 19397), (156, 19448), (160, 19463), (172, 19547), (188, 19682), (226, 19997),

Gene: Haunter_31 Start: 18092, Stop: 19870, Start Num: 48

Candidate Starts for Haunter_31:

(41, 18053), (Start: 48 @18092 has 29 MA's), (59, 18194), (61, 18215), (67, 18257), (73, 18293), (80, 18380), (89, 18518), (96, 18608), (103, 18710), (114, 18845), (119, 18893), (124, 18974), (130, 19040), (134, 19070), (136, 19079), (139, 19106), (141, 19115), (153, 19250), (156, 19301), (160, 19316), (167, 19352), (181, 19496), (188, 19535), (212, 19706), (226, 19850),

Gene: Hiddenleaf_30 Start: 17840, Stop: 19609, Start Num: 48

Candidate Starts for Hiddenleaf_30:

(Start: 48 @17840 has 29 MA's), (59, 17942), (67, 18005), (80, 18128), (81, 18131), (83, 18137), (89, 18266), (90, 18278), (96, 18356), (102, 18446), (108, 18491), (114, 18593), (119, 18641), (130, 18788), (134, 18818), (136, 18827), (139, 18854), (141, 18863), (148, 18944), (153, 18998), (156, 19049), (160, 19064), (167, 19100), (179, 19238), (201, 19394), (206, 19412), (226, 19589),

Gene: Honk_16 Start: 12148, Stop: 14262, Start Num: 52

Candidate Starts for Honk_16:

(Start: 52 @12148 has 1 MA's), (64, 12286), (70, 12322), (89, 12580), (95, 12649), (101, 12733), (104, 12760), (110, 12826), (116, 12898), (127, 13054), (131, 13093), (133, 13108), (139, 13153), (151, 13279), (155, 13315), (167, 13405), (176, 13483), (190, 13627), (192, 13633), (198, 13684), (200, 13711), (209, 13762), (213, 13789), (226, 13927), (228, 13948), (230, 13987), (233, 14038), (235, 14188),

Gene: JDawG_30 Start: 18422, Stop: 20188, Start Num: 48

Candidate Starts for JDawG_30:

(Start: 48 @18422 has 29 MA's), (59, 18524), (67, 18587), (77, 18647), (80, 18710), (81, 18713), (83, 18719), (89, 18848), (90, 18860), (114, 19172), (119, 19220), (134, 19397), (136, 19406), (141, 19442), (148, 19523), (153, 19577), (156, 19628), (160, 19643), (167, 19679), (172, 19727), (188, 19862), (206, 19991), (222, 20117), (223, 20156), (226, 20168),

Gene: JingleBells_30 Start: 17956, Stop: 19725, Start Num: 48

Candidate Starts for JingleBells_30:

(35, 17887), (Start: 48 @17956 has 29 MA's), (59, 18058), (67, 18121), (80, 18244), (81, 18247), (83, 18253), (89, 18382), (90, 18394), (108, 18607), (114, 18709), (119, 18757), (124, 18838), (130, 18904), (134, 18934), (136, 18943), (139, 18970), (141, 18979), (148, 19060), (153, 19114), (156, 19165), (160, 19180), (167, 19216), (206, 19528), (222, 19654), (223, 19693), (226, 19705),

Gene: Karate_30 Start: 18091, Stop: 20484, Start Num: 2

Candidate Starts for Karate_30:

(1, 18049), (Start: 2 @18091 has 2 MA's), (6, 18280), (8, 18301), (9, 18307), (10, 18340), (11, 18346), (20, 18466), (22, 18532), (26, 18556), (29, 18583), (34, 18625), (38, 18652), (42, 18670), (44, 18676), (59, 18808), (67, 18871), (80, 18994), (83, 19003), (87, 19105), (89, 19132), (103, 19321), (114, 19456), (119, 19504), (130, 19651), (134, 19681), (136, 19690), (139, 19717), (141, 19726), (145, 19780), (148, 19807), (153, 19861), (156, 19912), (160, 19927), (166, 19960), (167, 19975), (179, 20113), (188, 20158), (206, 20287), (226, 20464),

Gene: Kate_31 Start: 18687, Stop: 20465, Start Num: 48

Candidate Starts for Kate_31:

(24, 18522), (41, 18648), (Start: 48 @18687 has 29 MA's), (59, 18789), (61, 18810), (67, 18852), (73, 18888), (80, 18975), (89, 19113), (96, 19203), (103, 19305), (113, 19431), (114, 19440), (119, 19488), (124, 19569), (130, 19635), (134, 19665), (136, 19674), (139, 19701), (141, 19710), (153, 19845), (156, 19896), (160, 19911), (167, 19947), (172, 19995), (188, 20130), (226, 20445),

Gene: Katzastrophic_17 Start: 13520, Stop: 15796, Start Num: 3

Candidate Starts for Katzastrophic_17:

(Start: 3 @13520 has 2 MA's), (4, 13586), (5, 13649), (12, 13772), (16, 13805), (19, 13847), (23, 13910), (31, 13976), (32, 13982), (53, 14102), (58, 14159), (65, 14219), (69, 14237), (71, 14264), (78, 14336), (82, 14387), (84, 14399), (89, 14510), (90, 14522), (106, 14708), (109, 14750), (115, 14825), (117, 14831), (119, 14870), (126, 14957), (134, 15047), (142, 15095), (143, 15122), (146, 15158), (152, 15212), (161, 15293), (165, 15308), (173, 15377), (187, 15500), (191, 15536), (193, 15545), (202, 15605), (208, 15632),

Gene: Krampus_31 Start: 18685, Stop: 20463, Start Num: 48

Candidate Starts for Krampus_31:

(24, 18520), (41, 18646), (Start: 48 @18685 has 29 MA's), (59, 18787), (61, 18808), (67, 18850), (73, 18886), (80, 18973), (89, 19111), (96, 19201), (103, 19303), (114, 19438), (119, 19486), (124, 19567), (130, 19633), (134, 19663), (136, 19672), (141, 19708), (153, 19843), (156, 19894), (160, 19909), (167, 19945), (172, 19993), (188, 20128), (226, 20443),

Gene: Lesiram_23 Start: 15098, Stop: 16786, Start Num: 51

Candidate Starts for Lesiram_23:

(Start: 51 @15098 has 2 MA's), (66, 15245), (67, 15248), (90, 15527), (91, 15539), (94, 15593), (103, 15710), (104, 15713), (105, 15719), (111, 15785), (116, 15851), (122, 15935), (131, 16043), (134, 16067), (135, 16073), (139, 16103), (142, 16115), (144, 16151), (145, 16163), (146, 16178), (147, 16181), (149, 16205), (153, 16244), (155, 16265), (157, 16301), (169, 16364), (188, 16526), (204, 16661), (210, 16688), (215, 16712),

Gene: MortySmith_29 Start: 17815, Stop: 19581, Start Num: 48

Candidate Starts for MortySmith_29:

(Start: 48 @17815 has 29 MA's), (59, 17917), (67, 17980), (80, 18103), (81, 18106), (83, 18112), (89, 18241), (90, 18253), (114, 18565), (119, 18613), (134, 18790), (136, 18799), (141, 18835), (148, 18916), (156, 19021), (160, 19036), (167, 19072), (188, 19255), (206, 19384), (226, 19561),

Gene: NarutoRun_31 Start: 18678, Stop: 20456, Start Num: 48

Candidate Starts for NarutoRun_31:

(24, 18513), (40, 18636), (41, 18639), (Start: 48 @18678 has 29 MA's), (59, 18780), (61, 18801), (67, 18843), (73, 18879), (80, 18966), (89, 19104), (96, 19194), (103, 19296), (114, 19431), (119, 19479), (124, 19560), (130, 19626), (134, 19656), (136, 19665), (139, 19692), (141, 19701), (153, 19836), (156, 19887), (160, 19902), (167, 19938), (172, 19986), (188, 20121), (226, 20436),

Gene: Neptune_31 Start: 18655, Stop: 20433, Start Num: 48

Candidate Starts for Neptune_31:

(24, 18490), (41, 18616), (Start: 48 @18655 has 29 MA's), (59, 18757), (61, 18778), (67, 18820), (73, 18856), (80, 18943), (89, 19081), (96, 19171), (103, 19273), (113, 19399), (114, 19408), (119, 19456), (124, 19537), (130, 19603), (134, 19633), (136, 19642), (139, 19669), (141, 19678), (153, 19813), (156, 19864), (160, 19879), (167, 19915), (172, 19963), (181, 20059), (188, 20098), (226, 20413),

Gene: OverHedge_31 Start: 18645, Stop: 20423, Start Num: 48

Candidate Starts for OverHedge_31:

(24, 18480), (41, 18606), (Start: 48 @18645 has 29 MA's), (59, 18747), (61, 18768), (67, 18810), (73, 18846), (80, 18933), (89, 19071), (96, 19161), (103, 19263), (113, 19389), (114, 19398), (119, 19446), (124, 19527), (130, 19593), (134, 19623), (136, 19632), (139, 19659), (141, 19668), (153, 19803), (156, 19854), (160, 19869), (167, 19905), (172, 19953), (188, 20088), (226, 20403),

Gene: Pharpay_31 Start: 18700, Stop: 20478, Start Num: 48

Candidate Starts for Pharpay_31:

(24, 18535), (41, 18661), (Start: 48 @18700 has 29 MA's), (59, 18802), (61, 18823), (67, 18865), (73, 18901), (80, 18988), (89, 19126), (96, 19216), (114, 19453), (119, 19501), (124, 19582), (130, 19648),

(134, 19678), (136, 19687), (141, 19723), (153, 19858), (156, 19909), (160, 19924), (167, 19960), (172, 20008), (181, 20104), (188, 20143), (226, 20458),

Gene: PhunaPhoke_31 Start: 18673, Stop: 20451, Start Num: 48

Candidate Starts for PhunaPhoke_31:

(24, 18508), (41, 18634), (Start: 48 @18673 has 29 MA's), (59, 18775), (61, 18796), (67, 18838), (73, 18874), (80, 18961), (89, 19099), (96, 19189), (103, 19291), (113, 19417), (114, 19426), (119, 19474), (124, 19555), (130, 19621), (134, 19651), (136, 19660), (139, 19687), (141, 19696), (153, 19831), (156, 19882), (160, 19897), (167, 19933), (172, 19981), (181, 20077), (188, 20116), (226, 20431),

Gene: Potty_31 Start: 18678, Stop: 20456, Start Num: 48

Candidate Starts for Potty_31:

(24, 18513), (41, 18639), (Start: 48 @18678 has 29 MA's), (59, 18780), (61, 18801), (67, 18843), (73, 18879), (80, 18966), (89, 19104), (96, 19194), (103, 19296), (114, 19431), (119, 19479), (124, 19560), (130, 19626), (134, 19656), (136, 19665), (141, 19701), (153, 19836), (156, 19887), (160, 19902), (167, 19938), (172, 19986), (188, 20121), (226, 20436),

Gene: Poultruss_30 Start: 18442, Stop: 20820, Start Num: 2

Candidate Starts for Poultruss_30:

(Start: 2 @18442 has 2 MA's), (7, 18637), (15, 18751), (18, 18808), (22, 18880), (36, 18994), (37, 18997), (42, 19018), (44, 19024), (59, 19156), (67, 19219), (80, 19342), (81, 19345), (83, 19351), (87, 19453), (89, 19480), (90, 19492), (98, 19633), (108, 19702), (114, 19804), (119, 19852), (125, 19936), (130, 19999), (134, 20029), (136, 20038), (139, 20065), (141, 20074), (145, 20128), (148, 20155), (156, 20260), (159, 20272), (160, 20275), (167, 20311), (172, 20359), (188, 20494), (206, 20623), (219, 20728), (223, 20788), (226, 20800),

Gene: Rachella_31 Start: 18681, Stop: 20459, Start Num: 48

Candidate Starts for Rachella_31:

(24, 18516), (41, 18642), (Start: 48 @18681 has 29 MA's), (59, 18783), (61, 18804), (67, 18846), (73, 18882), (80, 18969), (89, 19107), (96, 19197), (103, 19299), (114, 19434), (119, 19482), (124, 19563), (130, 19629), (134, 19659), (136, 19668), (139, 19695), (141, 19704), (153, 19839), (156, 19890), (160, 19905), (167, 19941), (172, 19989), (181, 20085), (188, 20124), (212, 20295), (226, 20439),

Gene: Rie18_31 Start: 18192, Stop: 19970, Start Num: 48

Candidate Starts for Rie18_31:

(43, 18162), (45, 18165), (46, 18177), (47, 18189), (Start: 48 @18192 has 29 MA's), (59, 18294), (67, 18357), (80, 18480), (89, 18618), (90, 18630), (96, 18708), (103, 18810), (114, 18945), (119, 18993), (125, 19077), (130, 19140), (134, 19170), (136, 19179), (139, 19206), (141, 19215), (148, 19296), (153, 19350), (156, 19401), (160, 19416), (172, 19500), (188, 19635), (199, 19725), (226, 19950),

Gene: Shayna_17 Start: 13717, Stop: 15447, Start Num: 49

Candidate Starts for Shayna_17:

(Start: 49 @13717 has 2 MA's), (Start: 50 @13720 has 5 MA's), (53, 13741), (55, 13759), (74, 13918), (78, 13948), (79, 13960), (89, 14122), (93, 14167), (138, 14692), (178, 15013), (216, 15313), (220, 15337), (227, 15409),

Gene: SilentWarrior_30 Start: 17848, Stop: 19617, Start Num: 48

Candidate Starts for SilentWarrior_30:

(Start: 48 @17848 has 29 MA's), (59, 17950), (67, 18013), (80, 18136), (81, 18139), (83, 18145), (89, 18274), (90, 18286), (108, 18499), (114, 18601), (119, 18649), (124, 18730), (130, 18796), (134, 18826), (136, 18835), (139, 18862), (141, 18871), (148, 18952), (153, 19006), (156, 19057), (160, 19072), (167, 19108), (172, 19156), (188, 19291), (206, 19420), (223, 19585), (226, 19597),

Gene: Snakehole_31 Start: 17937, Stop: 19706, Start Num: 48

Candidate Starts for Snakehole_31:

(Start: 48 @17937 has 29 MA's), (59, 18039), (67, 18102), (80, 18225), (81, 18228), (83, 18234), (89, 18363), (90, 18375), (96, 18453), (102, 18543), (108, 18588), (114, 18690), (119, 18738), (130, 18885), (134, 18915), (136, 18924), (139, 18951), (141, 18960), (148, 19041), (153, 19095), (156, 19146), (160, 19161), (167, 19197), (179, 19335), (201, 19491), (206, 19509), (226, 19686),

Gene: SunnyD_17 Start: 13717, Stop: 15447, Start Num: 49

Candidate Starts for SunnyD_17:

(Start: 49 @13717 has 2 MA's), (Start: 50 @13720 has 5 MA's), (53, 13741), (55, 13759), (74, 13918), (78, 13948), (79, 13960), (89, 14122), (93, 14167), (138, 14692), (178, 15013), (216, 15313), (220, 15337), (227, 15409),

Gene: Tedro_31 Start: 18151, Stop: 19929, Start Num: 48

Candidate Starts for Tedro_31:

(24, 17986), (41, 18112), (Start: 48 @18151 has 29 MA's), (59, 18253), (61, 18274), (67, 18316), (73, 18352), (80, 18439), (89, 18577), (96, 18667), (103, 18769), (113, 18895), (114, 18904), (119, 18952), (124, 19033), (130, 19099), (134, 19129), (136, 19138), (139, 19165), (141, 19174), (153, 19309), (156, 19360), (160, 19375), (167, 19411), (172, 19459), (181, 19555), (188, 19594), (212, 19765), (226, 19909),

Gene: Teng_24 Start: 15125, Stop: 16837, Start Num: 51

Candidate Starts for Teng_24:

(Start: 51 @15125 has 2 MA's), (66, 15272), (67, 15275), (77, 15341), (86, 15437), (92, 15581), (96, 15659), (97, 15677), (99, 15731), (103, 15764), (104, 15767), (105, 15773), (108, 15797), (111, 15839), (112, 15857), (116, 15905), (122, 15989), (124, 16028), (125, 16031), (131, 16097), (134, 16121), (139, 16157), (142, 16169), (145, 16217), (146, 16232), (147, 16235), (149, 16259), (150, 16274), (155, 16319), (158, 16358), (163, 16382), (170, 16433), (171, 16436), (177, 16490), (180, 16541), (182, 16547), (194, 16631), (200, 16688), (211, 16745),