

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 168245 Report

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

Pham number 168245 has 59 members, 9 are drafts.

Phages represented in each track:

- Track 1 : Quhwah_27, Hermeonysus_24, LittleFortune_26, Savannah_24, Jefe_25, CrazyRich_24, BrazzalePHS_24, KaiHaiDragon_25, Crisis_26, Selwyn23_26, Pulchra_26, Ramiel05_24, Cranjis_26, Honeyfin_26, Kowalski_24, Antares_25, EarickHC_25, Scumberland_26
- Track 2 : Shotgun_24
- Track 3 : Paschalis_24, PierreOrion_25, Piperis_25, Jollipop_25, PiperSansNom_25, Phrancesco_25
- Track 4 : Ganandorf_24, Busephilis_24
- Track 5 : Gina_26
- Track 6 : Jayden_26
- Track 7 : Phorgeous_24
- Track 8 : Megan_19
- Track 9 : Onika_24
- Track 10 : Tyumbra_23, RobsFeet_26, Metamorphoo_25
- Track 11 : Fireman_25
- Track 12 : Yeti_25
- Track 13 : Nicole72_20
- Track 14 : ClearAsMud_27
- Track 15 : Smarties_33, Ariadne_33
- Track 16 : NoodlelyBoi_24
- Track 17 : Teamocil_26
- Track 18 : Matzah_21
- Track 19 : Cinna_20
- Track 20 : Margaery_19
- Track 21 : Kozie_21
- Track 22 : Cressida_22
- Track 23 : MementoMori_21
- Track 24 : Terij_20
- Track 25 : Bloom_84, Talia1610_84, Racecar_81, Mimi_87
- Track 26 : SJReid_85
- Track 27 : DunneganBoMo_74
- Track 28 : Patbob_81
- Track 29 : Atuin_78
- Track 30 : FuzzBuster_27

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

The start number called the most often in the published annotations is 10, it was called in 48 of the 50 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Antares_25, Ariadne_33, BrazzalePHS_24, Busephilis_24, Cinna_20, ClearAsMud_27, Cranjis_26, CrazyRich_24, Cressida_22, Crisis_26, EarickHC_25, Fireman_25, Ganandorf_24, Gina_26, Hermeonysus_24, Honeyfin_26, Jayden_26, Jefe_25, Jollipop_25, KaiHaiDragon_25, Kowalski_24, Kozi_21, LittleFortune_26, Margaery_19, Matzah_21, Megan_19, MementoMori_21, Metamorphoo_25, Nicole72_20, NoodlelyBoi_24, Onika_24, Paschalis_24, Phorgeous_24, Phrancesco_25, PierreOrion_25, PiperSansNom_25, Piperis_25, Pulchra_26, Quhwah_27, Ramiel05_24, RobsFeet_26, Savannah_24, Scumberland_26, Selwyn23_26, Shotgun_24, Smarties_33, Teamocil_26, Terij_20, Tyrumbra_23, Yeti_25,

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

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

- Atuin_78, Bloom_84, DunneganBoMo_74, FuzzBuster_27, Mimi_87, Patbob_81, Racecar_81, SJReid_85, Talia1610_84,

Summary by start number:

Start 9:

- Found in 1 of 59 (1.7%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DunneganBoMo_74 (FC),

Start 10:

- Found in 50 of 59 (84.7%) of genes in pham
- Manual Annotations of this start: 48 of 50
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Antares_25 (EC), Ariadne_33 (EC), BrazzalePHS_24 (EC), Busephilis_24 (EC), Cinna_20 (EI), ClearAsMud_27 (EC), Cranjis_26 (EC), CrazyRich_24 (EC), Cressida_22 (EI), Crisis_26 (EC), EarickHC_25 (EC), Fireman_25 (EC), Ganandorf_24 (EC), Gina_26 (EC), Hermeonysus_24 (EC), Honeyfin_26 (EC), Jayden_26 (EC), Jefe_25 (EC), Jollipop_25 (EC), KaiHaiDragon_25 (EC), Kowalski_24 (EC), Kozi_21 (EI), LittleFortune_26 (EC), Margaery_19 (EI), Matzah_21 (EI), Megan_19 (EC), MementoMori_21 (EI), Metamorphoo_25 (EC), Nicole72_20 (EC), NoodlelyBoi_24 (EC), Onika_24 (EC), Paschalis_24 (EC), Phorgeous_24 (EC), Phrancesco_25 (EC), PierreOrion_25 (EC), PiperSansNom_25 (EC), Piperis_25 (EC), Pulchra_26 (EC), Quhwah_27 (EC), Ramiel05_24 (EC), RobsFeet_26 (EC), Savannah_24 (EC), Scumberland_26 (EC), Selwyn23_26 (EC), Shotgun_24 (EC), Smarties_33 (EC), Teamocil_26 (EC), Terij_20 (EI), Tyrumbra_23 (EC), Yeti_25 (EC),

Start 11:

- Found in 7 of 59 (11.9%) of genes in pham

- Manual Annotations of this start: 1 of 50
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Atuin_78 (FC), Bloom_84 (FC), Mimi_87 (FC), Patbob_81 (FC), Racecar_81 (FC), SJReid_85 (FC), Talia1610_84 (FC),

Start 16:

- Found in 41 of 59 (69.5%) of genes in pham
- Manual Annotations of this start: 1 of 50
- Called 2.4% of time when present
- Phage (with cluster) where this start called: FuzzBuster_27 (singleton),

Summary by clusters:

There are 4 clusters represented in this pham: singleton, FC, EI, EC,

Info for manual annotations of cluster EC:

- Start number 10 was manually annotated 41 times for cluster EC.

Info for manual annotations of cluster EI:

- Start number 10 was manually annotated 7 times for cluster EI.

Info for manual annotations of cluster FC:

- Start number 11 was manually annotated 1 time for cluster FC.

Gene Information:

Gene: Antares_25 Start: 12156, Stop: 13625, Start Num: 10

Candidate Starts for Antares_25:

(Start: 10 @12156 has 48 MA's), (Start: 16 @12213 has 1 MA's), (19, 12225), (21, 12237), (29, 12333), (31, 12351), (35, 12387), (38, 12411), (40, 12423), (44, 12459), (46, 12489), (48, 12516), (54, 12582), (55, 12588), (56, 12597), (58, 12615), (60, 12639), (62, 12648), (63, 12651), (65, 12660), (72, 12723), (75, 12738), (76, 12756), (77, 12759), (83, 12804), (91, 12903), (93, 12930), (96, 12981), (103, 13119), (109, 13212), (111, 13224), (112, 13230), (118, 13308), (125, 13383), (126, 13398), (127, 13419), (128, 13437), (131, 13461), (144, 13590),

Gene: Ariadne_33 Start: 13624, Stop: 15117, Start Num: 10

Candidate Starts for Ariadne_33:

(Start: 10 @13624 has 48 MA's), (19, 13693), (21, 13705), (29, 13801), (31, 13819), (32, 13840), (40, 13891), (44, 13927), (48, 13984), (51, 14020), (53, 14044), (54, 14050), (55, 14056), (56, 14065), (60, 14107), (62, 14116), (63, 14119), (76, 14224), (77, 14227), (89, 14368), (99, 14536), (105, 14632), (111, 14716), (112, 14722), (113, 14743), (117, 14788), (120, 14845), (122, 14854), (126, 14890), (132, 14956), (144, 15082),

Gene: Atuin_78 Start: 45156, Stop: 46664, Start Num: 11

Candidate Starts for Atuin_78:

(6, 45114), (7, 45117), (Start: 11 @45156 has 1 MA's), (12, 45165), (15, 45216), (37, 45411), (39, 45423), (41, 45450), (50, 45552), (70, 45693), (79, 45744), (98, 45981), (108, 46131), (110, 46161), (123, 46314), (140, 46518), (145, 46584), (146, 46587),

Gene: Bloom_84 Start: 46467, Stop: 48026, Start Num: 11

Candidate Starts for Bloom_84:

(Start: 11 @46467 has 1 MA's), (15, 46527), (17, 46542), (37, 46752), (50, 46893), (66, 47007), (70, 47058), (78, 47106), (97, 47340), (106, 47475), (111, 47538), (128, 47757), (140, 47883), (145, 47949),

Gene: BrazzalePHS_24 Start: 11949, Stop: 13418, Start Num: 10

Candidate Starts for BrazzalePHS_24:

(Start: 10 @11949 has 48 MA's), (Start: 16 @12006 has 1 MA's), (19, 12018), (21, 12030), (29, 12126), (31, 12144), (35, 12180), (38, 12204), (40, 12216), (44, 12252), (46, 12282), (48, 12309), (54, 12375), (55, 12381), (56, 12390), (58, 12408), (60, 12432), (62, 12441), (63, 12444), (65, 12453), (72, 12516), (75, 12531), (76, 12549), (77, 12552), (83, 12597), (91, 12696), (93, 12723), (96, 12774), (103, 12912), (109, 13005), (111, 13017), (112, 13023), (118, 13101), (125, 13176), (126, 13191), (127, 13212), (128, 13230), (131, 13254), (144, 13383),

Gene: Busephilis_24 Start: 11887, Stop: 13356, Start Num: 10

Candidate Starts for Busephilis_24:

(Start: 10 @11887 has 48 MA's), (Start: 16 @11944 has 1 MA's), (19, 11956), (21, 11968), (29, 12064), (31, 12082), (35, 12118), (38, 12142), (40, 12154), (44, 12190), (46, 12220), (48, 12247), (54, 12313), (55, 12319), (56, 12328), (58, 12346), (60, 12370), (62, 12379), (63, 12382), (65, 12391), (72, 12454), (75, 12469), (76, 12487), (77, 12490), (82, 12529), (83, 12535), (91, 12634), (93, 12661), (96, 12712), (103, 12850), (109, 12943), (111, 12955), (112, 12961), (118, 13039), (125, 13114), (126, 13129), (127, 13150), (128, 13168), (131, 13192), (144, 13321),

Gene: Cinna_20 Start: 11368, Stop: 12846, Start Num: 10

Candidate Starts for Cinna_20:

(Start: 10 @11368 has 48 MA's), (21, 11461), (23, 11488), (24, 11506), (27, 11542), (31, 11572), (41, 11668), (46, 11713), (48, 11740), (54, 11806), (56, 11821), (58, 11839), (62, 11863), (74, 11923), (77, 11950), (78, 11953), (80, 11971), (81, 11980), (83, 11995), (84, 12028), (85, 12046), (90, 12100), (94, 12145), (95, 12175), (96, 12193), (103, 12331), (105, 12352), (111, 12436), (112, 12442), (118, 12520), (121, 12571), (124, 12589), (125, 12595), (126, 12610), (127, 12631), (128, 12649), (129, 12658), (130, 12670), (132, 12676), (133, 12682), (136, 12721), (141, 12775), (142, 12778), (143, 12796), (144, 12802),

Gene: ClearAsMud_27 Start: 12684, Stop: 14153, Start Num: 10

Candidate Starts for ClearAsMud_27:

(Start: 10 @12684 has 48 MA's), (Start: 16 @12741 has 1 MA's), (19, 12753), (21, 12765), (29, 12861), (31, 12879), (35, 12915), (38, 12939), (40, 12951), (44, 12987), (46, 13017), (48, 13044), (54, 13110), (55, 13116), (56, 13125), (58, 13143), (60, 13167), (62, 13176), (63, 13179), (72, 13248), (75, 13263), (76, 13281), (77, 13284), (83, 13329), (91, 13428), (93, 13455), (96, 13506), (104, 13650), (109, 13737), (111, 13749), (112, 13755), (114, 13779), (116, 13806), (118, 13833), (125, 13908), (128, 13962), (129, 13971), (131, 13986), (144, 14115),

Gene: Cranjis_26 Start: 12111, Stop: 13580, Start Num: 10

Candidate Starts for Cranjis_26:

(Start: 10 @12111 has 48 MA's), (Start: 16 @12168 has 1 MA's), (19, 12180), (21, 12192), (29, 12288), (31, 12306), (35, 12342), (38, 12366), (40, 12378), (44, 12414), (46, 12444), (48, 12471), (54, 12537), (55, 12543), (56, 12552), (58, 12570), (60, 12594), (62, 12603), (63, 12606), (65, 12615), (72, 12678), (75, 12693), (76, 12711), (77, 12714), (83, 12759), (91, 12858), (93, 12885), (96, 12936), (103, 13074), (109, 13167), (111, 13179), (112, 13185), (118, 13263), (125, 13338), (126, 13353), (127, 13374), (128, 13392), (131, 13416), (144, 13545),

Gene: CrazyRich_24 Start: 11921, Stop: 13390, Start Num: 10

Candidate Starts for CrazyRich_24:

(Start: 10 @11921 has 48 MA's), (Start: 16 @11978 has 1 MA's), (19, 11990), (21, 12002), (29, 12098), (31, 12116), (35, 12152), (38, 12176), (40, 12188), (44, 12224), (46, 12254), (48, 12281), (54, 12347), (55, 12353), (56, 12362), (58, 12380), (60, 12404), (62, 12413), (63, 12416), (65, 12425), (72, 12488), (75, 12503), (76, 12521), (77, 12524), (83, 12569), (91, 12668), (93, 12695), (96, 12746), (103, 12884), (109, 12977), (111, 12989), (112, 12995), (118, 13073), (125, 13148), (126, 13163), (127, 13184), (128, 13202), (131, 13226), (144, 13355),

Gene: Cressida_22 Start: 11398, Stop: 12870, Start Num: 10

Candidate Starts for Cressida_22:

(Start: 10 @11398 has 48 MA's), (21, 11491), (22, 11512), (23, 11518), (27, 11575), (31, 11605), (41, 11701), (46, 11746), (48, 11773), (54, 11839), (56, 11854), (58, 11872), (62, 11896), (74, 11956), (77, 11983), (80, 12004), (81, 12013), (83, 12028), (84, 12061), (90, 12136), (94, 12181), (95, 12211), (96, 12229), (103, 12367), (105, 12388), (111, 12472), (112, 12478), (118, 12556), (121, 12607), (124, 12625), (126, 12646), (127, 12667), (128, 12685), (129, 12694), (130, 12706), (132, 12712), (133, 12718), (136, 12757), (142, 12814),

Gene: Crisis_26 Start: 11906, Stop: 13375, Start Num: 10

Candidate Starts for Crisis_26:

(Start: 10 @11906 has 48 MA's), (Start: 16 @11963 has 1 MA's), (19, 11975), (21, 11987), (29, 12083), (31, 12101), (35, 12137), (38, 12161), (40, 12173), (44, 12209), (46, 12239), (48, 12266), (54, 12332), (55, 12338), (56, 12347), (58, 12365), (60, 12389), (62, 12398), (63, 12401), (65, 12410), (72, 12473), (75, 12488), (76, 12506), (77, 12509), (83, 12554), (91, 12653), (93, 12680), (96, 12731), (103, 12869), (109, 12962), (111, 12974), (112, 12980), (118, 13058), (125, 13133), (126, 13148), (127, 13169), (128, 13187), (131, 13211), (144, 13340),

Gene: DunneganBoMo_74 Start: 42015, Stop: 43529, Start Num: 9

Candidate Starts for DunneganBoMo_74:

(3, 41922), (9, 42015), (13, 42048), (15, 42075), (28, 42183), (30, 42201), (33, 42240), (37, 42270), (39, 42282), (42, 42312), (50, 42411), (70, 42558), (71, 42564), (78, 42606), (91, 42726), (98, 42846), (140, 43383), (145, 43449),

Gene: EarickHC_25 Start: 11832, Stop: 13301, Start Num: 10

Candidate Starts for EarickHC_25:

(Start: 10 @11832 has 48 MA's), (Start: 16 @11889 has 1 MA's), (19, 11901), (21, 11913), (29, 12009), (31, 12027), (35, 12063), (38, 12087), (40, 12099), (44, 12135), (46, 12165), (48, 12192), (54, 12258), (55, 12264), (56, 12273), (58, 12291), (60, 12315), (62, 12324), (63, 12327), (65, 12336), (72, 12399), (75, 12414), (76, 12432), (77, 12435), (83, 12480), (91, 12579), (93, 12606), (96, 12657), (103, 12795), (109, 12888), (111, 12900), (112, 12906), (118, 12984), (125, 13059), (126, 13074), (127, 13095), (128, 13113), (131, 13137), (144, 13266),

Gene: Fireman_25 Start: 11529, Stop: 13022, Start Num: 10

Candidate Starts for Fireman_25:

(Start: 10 @11529 has 48 MA's), (Start: 16 @11586 has 1 MA's), (19, 11598), (21, 11610), (29, 11706), (31, 11724), (35, 11760), (38, 11784), (40, 11796), (44, 11832), (48, 11889), (51, 11925), (54, 11955), (55, 11961), (56, 11970), (58, 11988), (60, 12012), (62, 12021), (63, 12024), (75, 12111), (76, 12129), (77, 12132), (89, 12270), (96, 12375), (99, 12438), (105, 12534), (109, 12606), (111, 12618), (112, 12624), (113, 12645), (117, 12690), (122, 12756), (126, 12792), (144, 12984),

Gene: FuzzBuster_27 Start: 11648, Stop: 13237, Start Num: 16

Candidate Starts for FuzzBuster_27:

(Start: 16 @11648 has 1 MA's), (42, 11912), (43, 11915), (45, 11993), (47, 12041), (49, 12056), (52, 12089), (54, 12110), (57, 12137), (63, 12179), (65, 12188), (69, 12239), (73, 12254), (77, 12287), (78, 12290), (79, 12293), (99, 12635), (100, 12656), (105, 12731), (116, 12872), (117, 12887), (119,

12932), (125, 12974), (128, 13031), (131, 13055), (134, 13073), (143, 13181),

Gene: Ganandorf_24 Start: 11968, Stop: 13437, Start Num: 10

Candidate Starts for Ganandorf_24:

(Start: 10 @11968 has 48 MA's), (Start: 16 @12025 has 1 MA's), (19, 12037), (21, 12049), (29, 12145), (31, 12163), (35, 12199), (38, 12223), (40, 12235), (44, 12271), (46, 12301), (48, 12328), (54, 12394), (55, 12400), (56, 12409), (58, 12427), (60, 12451), (62, 12460), (63, 12463), (65, 12472), (72, 12535), (75, 12550), (76, 12568), (77, 12571), (82, 12610), (83, 12616), (91, 12715), (93, 12742), (96, 12793), (103, 12931), (109, 13024), (111, 13036), (112, 13042), (118, 13120), (125, 13195), (126, 13210), (127, 13231), (128, 13249), (131, 13273), (144, 13402),

Gene: Gina_26 Start: 11315, Stop: 12709, Start Num: 10

Candidate Starts for Gina_26:

(Start: 10 @11315 has 48 MA's), (Start: 16 @11372 has 1 MA's), (29, 11393), (31, 11411), (35, 11447), (40, 11483), (44, 11519), (48, 11576), (51, 11612), (54, 11642), (55, 11648), (56, 11657), (60, 11699), (62, 11708), (63, 11711), (64, 11717), (76, 11822), (77, 11825), (83, 11870), (89, 11960), (92, 11990), (99, 12128), (105, 12224), (111, 12308), (112, 12314), (113, 12335), (117, 12380), (122, 12446), (144, 12674),

Gene: Hermeonysus_24 Start: 11838, Stop: 13307, Start Num: 10

Candidate Starts for Hermeonysus_24:

(Start: 10 @11838 has 48 MA's), (Start: 16 @11895 has 1 MA's), (19, 11907), (21, 11919), (29, 12015), (31, 12033), (35, 12069), (38, 12093), (40, 12105), (44, 12141), (46, 12171), (48, 12198), (54, 12264), (55, 12270), (56, 12279), (58, 12297), (60, 12321), (62, 12330), (63, 12333), (65, 12342), (72, 12405), (75, 12420), (76, 12438), (77, 12441), (83, 12486), (91, 12585), (93, 12612), (96, 12663), (103, 12801), (109, 12894), (111, 12906), (112, 12912), (118, 12990), (125, 13065), (126, 13080), (127, 13101), (128, 13119), (131, 13143), (144, 13272),

Gene: Honeyfin_26 Start: 12153, Stop: 13622, Start Num: 10

Candidate Starts for Honeyfin_26:

(Start: 10 @12153 has 48 MA's), (Start: 16 @12210 has 1 MA's), (19, 12222), (21, 12234), (29, 12330), (31, 12348), (35, 12384), (38, 12408), (40, 12420), (44, 12456), (46, 12486), (48, 12513), (54, 12579), (55, 12585), (56, 12594), (58, 12612), (60, 12636), (62, 12645), (63, 12648), (65, 12657), (72, 12720), (75, 12735), (76, 12753), (77, 12756), (83, 12801), (91, 12900), (93, 12927), (96, 12978), (103, 13116), (109, 13209), (111, 13221), (112, 13227), (118, 13305), (125, 13380), (126, 13395), (127, 13416), (128, 13434), (131, 13458), (144, 13587),

Gene: Jayden_26 Start: 11599, Stop: 13095, Start Num: 10

Candidate Starts for Jayden_26:

(Start: 10 @11599 has 48 MA's), (21, 11680), (29, 11776), (31, 11794), (35, 11830), (40, 11866), (44, 11902), (48, 11959), (54, 12025), (55, 12031), (56, 12040), (60, 12082), (62, 12091), (63, 12094), (76, 12202), (77, 12205), (83, 12250), (88, 12328), (89, 12346), (96, 12451), (99, 12514), (105, 12610), (111, 12694), (112, 12700), (113, 12721), (117, 12766), (122, 12832), (129, 12916), (130, 12928), (132, 12934), (135, 12955), (136, 12979), (144, 13060),

Gene: Jefe_25 Start: 11891, Stop: 13360, Start Num: 10

Candidate Starts for Jefe_25:

(Start: 10 @11891 has 48 MA's), (Start: 16 @11948 has 1 MA's), (19, 11960), (21, 11972), (29, 12068), (31, 12086), (35, 12122), (38, 12146), (40, 12158), (44, 12194), (46, 12224), (48, 12251), (54, 12317), (55, 12323), (56, 12332), (58, 12350), (60, 12374), (62, 12383), (63, 12386), (65, 12395), (72, 12458), (75, 12473), (76, 12491), (77, 12494), (83, 12539), (91, 12638), (93, 12665), (96, 12716), (103, 12854), (109, 12947), (111, 12959), (112, 12965), (118, 13043), (125, 13118), (126, 13133), (127, 13154), (128, 13172), (131, 13196), (144, 13325),

Gene: Jollipop_25 Start: 12239, Stop: 13708, Start Num: 10

Candidate Starts for Jollipop_25:

(Start: 10 @12239 has 48 MA's), (Start: 16 @12296 has 1 MA's), (19, 12308), (21, 12320), (29, 12416), (31, 12434), (35, 12470), (38, 12494), (40, 12506), (44, 12542), (46, 12572), (48, 12599), (54, 12665), (55, 12671), (56, 12680), (58, 12698), (60, 12722), (62, 12731), (63, 12734), (65, 12743), (75, 12821), (76, 12839), (77, 12842), (83, 12887), (91, 12986), (93, 13013), (96, 13064), (103, 13202), (109, 13295), (111, 13307), (112, 13313), (118, 13391), (125, 13466), (126, 13481), (127, 13502), (128, 13520), (131, 13544), (144, 13673),

Gene: KaiHaiDragon_25 Start: 11832, Stop: 13301, Start Num: 10

Candidate Starts for KaiHaiDragon_25:

(Start: 10 @11832 has 48 MA's), (Start: 16 @11889 has 1 MA's), (19, 11901), (21, 11913), (29, 12009), (31, 12027), (35, 12063), (38, 12087), (40, 12099), (44, 12135), (46, 12165), (48, 12192), (54, 12258), (55, 12264), (56, 12273), (58, 12291), (60, 12315), (62, 12324), (63, 12327), (65, 12336), (72, 12399), (75, 12414), (76, 12432), (77, 12435), (83, 12480), (91, 12579), (93, 12606), (96, 12657), (103, 12795), (109, 12888), (111, 12900), (112, 12906), (118, 12984), (125, 13059), (126, 13074), (127, 13095), (128, 13113), (131, 13137), (144, 13266),

Gene: Kowalski_24 Start: 11948, Stop: 13417, Start Num: 10

Candidate Starts for Kowalski_24:

(Start: 10 @11948 has 48 MA's), (Start: 16 @12005 has 1 MA's), (19, 12017), (21, 12029), (29, 12125), (31, 12143), (35, 12179), (38, 12203), (40, 12215), (44, 12251), (46, 12281), (48, 12308), (54, 12374), (55, 12380), (56, 12389), (58, 12407), (60, 12431), (62, 12440), (63, 12443), (65, 12452), (72, 12515), (75, 12530), (76, 12548), (77, 12551), (83, 12596), (91, 12695), (93, 12722), (96, 12773), (103, 12911), (109, 13004), (111, 13016), (112, 13022), (118, 13100), (125, 13175), (126, 13190), (127, 13211), (128, 13229), (131, 13253), (144, 13382),

Gene: Kozie_21 Start: 11363, Stop: 12874, Start Num: 10

Candidate Starts for Kozie_21:

(Start: 10 @11363 has 48 MA's), (14, 11420), (20, 11459), (25, 11525), (27, 11561), (29, 11573), (34, 11621), (36, 11645), (38, 11654), (48, 11759), (51, 11795), (54, 11825), (55, 11831), (56, 11840), (58, 11858), (62, 11891), (76, 12002), (77, 12005), (80, 12026), (82, 12044), (83, 12050), (87, 12119), (96, 12233), (102, 12368), (104, 12377), (105, 12392), (111, 12476), (117, 12548), (127, 12671), (128, 12689), (132, 12716), (144, 12842),

Gene: LittleFortune_26 Start: 12195, Stop: 13664, Start Num: 10

Candidate Starts for LittleFortune_26:

(Start: 10 @12195 has 48 MA's), (Start: 16 @12252 has 1 MA's), (19, 12264), (21, 12276), (29, 12372), (31, 12390), (35, 12426), (38, 12450), (40, 12462), (44, 12498), (46, 12528), (48, 12555), (54, 12621), (55, 12627), (56, 12636), (58, 12654), (60, 12678), (62, 12687), (63, 12690), (65, 12699), (72, 12762), (75, 12777), (76, 12795), (77, 12798), (83, 12843), (91, 12942), (93, 12969), (96, 13020), (103, 13158), (109, 13251), (111, 13263), (112, 13269), (118, 13347), (125, 13422), (126, 13437), (127, 13458), (128, 13476), (131, 13500), (144, 13629),

Gene: Margaery_19 Start: 11140, Stop: 12612, Start Num: 10

Candidate Starts for Margaery_19:

(Start: 10 @11140 has 48 MA's), (21, 11233), (23, 11260), (27, 11314), (31, 11344), (41, 11440), (48, 11512), (51, 11548), (54, 11578), (58, 11611), (62, 11635), (74, 11695), (77, 11722), (80, 11743), (81, 11752), (83, 11767), (84, 11800), (90, 11878), (94, 11923), (95, 11953), (96, 11971), (103, 12109), (105, 12130), (111, 12214), (112, 12220), (118, 12298), (121, 12349), (126, 12388), (128, 12427), (133, 12460), (136, 12499),

Gene: Matzah_21 Start: 11345, Stop: 12823, Start Num: 10

Candidate Starts for Matzah_21:

(Start: 10 @11345 has 48 MA's), (21, 11438), (23, 11465), (24, 11483), (27, 11519), (31, 11549), (41, 11645), (46, 11690), (48, 11717), (54, 11783), (56, 11798), (58, 11816), (62, 11840), (74, 11900), (77, 11927), (80, 11948), (81, 11957), (83, 11972), (84, 12005), (85, 12023), (90, 12077), (94, 12122), (95, 12152), (96, 12170), (103, 12308), (105, 12329), (111, 12413), (112, 12419), (118, 12497), (121, 12548), (124, 12566), (125, 12572), (126, 12587), (127, 12608), (128, 12626), (129, 12635), (130, 12647), (132, 12653), (133, 12659), (136, 12698), (141, 12752), (142, 12755), (143, 12773), (144, 12779),

Gene: Megan_19 Start: 12956, Stop: 14425, Start Num: 10

Candidate Starts for Megan_19:

(4, 12860), (5, 12875), (8, 12947), (Start: 10 @12956 has 48 MA's), (Start: 16 @13013 has 1 MA's), (27, 13112), (34, 13172), (36, 13196), (38, 13205), (40, 13217), (41, 13238), (48, 13310), (50, 13343), (53, 13370), (54, 13376), (56, 13391), (59, 13424), (62, 13436), (67, 13457), (76, 13532), (77, 13535), (80, 13556), (83, 13580), (84, 13613), (101, 13895), (104, 13922), (105, 13937), (107, 13964), (111, 14021), (114, 14051), (115, 14066), (117, 14093), (125, 14180), (132, 14261), (133, 14267), (135, 14282), (144, 14387),

Gene: MementoMori_21 Start: 11058, Stop: 12539, Start Num: 10

Candidate Starts for MementoMori_21:

(Start: 10 @11058 has 48 MA's), (21, 11151), (23, 11178), (24, 11196), (27, 11232), (31, 11262), (41, 11358), (46, 11403), (48, 11430), (51, 11466), (54, 11496), (56, 11511), (58, 11529), (62, 11553), (74, 11613), (77, 11640), (80, 11661), (81, 11670), (83, 11685), (84, 11718), (85, 11736), (90, 11793), (94, 11838), (95, 11868), (96, 11886), (103, 12024), (105, 12045), (111, 12129), (112, 12135), (118, 12213), (121, 12264), (124, 12282), (126, 12303), (127, 12324), (128, 12342), (129, 12351), (130, 12363), (132, 12369), (133, 12375), (136, 12414), (141, 12468), (142, 12471), (143, 12489), (144, 12495),

Gene: Metamorphoo_25 Start: 11518, Stop: 13008, Start Num: 10

Candidate Starts for Metamorphoo_25:

(Start: 10 @11518 has 48 MA's), (Start: 16 @11575 has 1 MA's), (19, 11587), (21, 11599), (29, 11695), (31, 11713), (35, 11749), (38, 11773), (40, 11785), (44, 11821), (48, 11878), (51, 11914), (54, 11944), (55, 11950), (56, 11959), (58, 11977), (60, 12001), (62, 12010), (63, 12013), (75, 12100), (76, 12118), (77, 12121), (89, 12256), (96, 12361), (99, 12424), (105, 12520), (111, 12604), (112, 12610), (113, 12631), (117, 12676), (122, 12742), (126, 12778), (144, 12970),

Gene: Mimi_87 Start: 45814, Stop: 47373, Start Num: 11

Candidate Starts for Mimi_87:

(Start: 11 @45814 has 1 MA's), (15, 45874), (17, 45889), (37, 46099), (50, 46240), (66, 46354), (70, 46405), (78, 46453), (97, 46687), (106, 46822), (111, 46885), (128, 47104), (140, 47230), (145, 47296),

Gene: Nicole72_20 Start: 13339, Stop: 14817, Start Num: 10

Candidate Starts for Nicole72_20:

(1, 13222), (Start: 10 @13339 has 48 MA's), (Start: 16 @13396 has 1 MA's), (27, 13495), (34, 13555), (36, 13579), (40, 13600), (41, 13621), (48, 13693), (53, 13753), (54, 13759), (56, 13774), (59, 13807), (62, 13819), (67, 13840), (68, 13864), (76, 13921), (77, 13924), (80, 13945), (83, 13969), (84, 14002), (86, 14032), (95, 14152), (96, 14170), (101, 14287), (104, 14314), (105, 14329), (107, 14356), (109, 14401), (111, 14413), (115, 14458), (119, 14530), (135, 14674), (136, 14698), (144, 14779),

Gene: NoodlelyBoi_24 Start: 11989, Stop: 13458, Start Num: 10

Candidate Starts for NoodlelyBoi_24:

(Start: 10 @11989 has 48 MA's), (Start: 16 @12046 has 1 MA's), (19, 12058), (21, 12070), (29, 12166), (31, 12184), (35, 12220), (38, 12244), (40, 12256), (44, 12292), (46, 12322), (48, 12349), (54, 12415), (55, 12421), (56, 12430), (58, 12448), (60, 12472), (62, 12481), (63, 12484), (72, 12553), (75, 12568), (76, 12586), (77, 12589), (83, 12634), (91, 12733), (93, 12760), (96, 12811), (104, 12955), (111, 13054), (112, 13060), (114, 13084), (118, 13138), (125, 13213), (128, 13267), (129, 13276), (131, 13291), (144, 13420),

Gene: Onika_24 Start: 11922, Stop: 13391, Start Num: 10

Candidate Starts for Onika_24:

(Start: 10 @11922 has 48 MA's), (Start: 16 @11979 has 1 MA's), (19, 11991), (21, 12003), (29, 12099), (31, 12117), (35, 12153), (38, 12177), (40, 12189), (44, 12225), (46, 12255), (48, 12282), (54, 12348), (55, 12354), (56, 12363), (58, 12381), (60, 12405), (62, 12414), (63, 12417), (65, 12426), (72, 12489), (75, 12504), (76, 12522), (77, 12525), (83, 12570), (91, 12669), (93, 12696), (96, 12747), (103, 12885), (109, 12978), (111, 12990), (112, 12996), (118, 13074), (121, 13125), (125, 13149), (126, 13164), (127, 13185), (128, 13203), (131, 13227), (144, 13356),

Gene: Paschalis_24 Start: 11937, Stop: 13406, Start Num: 10

Candidate Starts for Paschalis_24:

(Start: 10 @11937 has 48 MA's), (Start: 16 @11994 has 1 MA's), (19, 12006), (21, 12018), (29, 12114), (31, 12132), (35, 12168), (38, 12192), (40, 12204), (44, 12240), (46, 12270), (48, 12297), (54, 12363), (55, 12369), (56, 12378), (58, 12396), (60, 12420), (62, 12429), (63, 12432), (65, 12441), (75, 12519), (76, 12537), (77, 12540), (83, 12585), (91, 12684), (93, 12711), (96, 12762), (103, 12900), (109, 12993), (111, 13005), (112, 13011), (118, 13089), (125, 13164), (126, 13179), (127, 13200), (128, 13218), (131, 13242), (144, 13371),

Gene: Patbob_81 Start: 46680, Stop: 48245, Start Num: 11

Candidate Starts for Patbob_81:

(Start: 11 @46680 has 1 MA's), (15, 46740), (17, 46755), (18, 46758), (37, 46965), (50, 47106), (66, 47220), (70, 47271), (78, 47319), (97, 47559), (106, 47694), (111, 47757), (128, 47976), (140, 48102), (145, 48168),

Gene: Phorgeous_24 Start: 11789, Stop: 13258, Start Num: 10

Candidate Starts for Phorgeous_24:

(Start: 10 @11789 has 48 MA's), (Start: 16 @11846 has 1 MA's), (19, 11858), (21, 11870), (29, 11966), (31, 11984), (35, 12020), (38, 12044), (40, 12056), (44, 12092), (46, 12122), (48, 12149), (54, 12215), (55, 12221), (56, 12230), (58, 12248), (60, 12272), (62, 12281), (63, 12284), (65, 12293), (72, 12356), (75, 12371), (76, 12389), (77, 12392), (91, 12536), (93, 12563), (96, 12614), (103, 12752), (109, 12845), (111, 12857), (112, 12863), (118, 12941), (125, 13016), (126, 13031), (127, 13052), (128, 13070), (131, 13094), (144, 13223),

Gene: Phrancesco_25 Start: 12068, Stop: 13537, Start Num: 10

Candidate Starts for Phrancesco_25:

(Start: 10 @12068 has 48 MA's), (Start: 16 @12125 has 1 MA's), (19, 12137), (21, 12149), (29, 12245), (31, 12263), (35, 12299), (38, 12323), (40, 12335), (44, 12371), (46, 12401), (48, 12428), (54, 12494), (55, 12500), (56, 12509), (58, 12527), (60, 12551), (62, 12560), (63, 12563), (65, 12572), (75, 12650), (76, 12668), (77, 12671), (83, 12716), (91, 12815), (93, 12842), (96, 12893), (103, 13031), (109, 13124), (111, 13136), (112, 13142), (118, 13220), (125, 13295), (126, 13310), (127, 13331), (128, 13349), (131, 13373), (144, 13502),

Gene: PierreOrion_25 Start: 12092, Stop: 13561, Start Num: 10

Candidate Starts for PierreOrion_25:

(Start: 10 @12092 has 48 MA's), (Start: 16 @12149 has 1 MA's), (19, 12161), (21, 12173), (29, 12269), (31, 12287), (35, 12323), (38, 12347), (40, 12359), (44, 12395), (46, 12425), (48, 12452), (54,

12518), (55, 12524), (56, 12533), (58, 12551), (60, 12575), (62, 12584), (63, 12587), (65, 12596), (75, 12674), (76, 12692), (77, 12695), (83, 12740), (91, 12839), (93, 12866), (96, 12917), (103, 13055), (109, 13148), (111, 13160), (112, 13166), (118, 13244), (125, 13319), (126, 13334), (127, 13355), (128, 13373), (131, 13397), (144, 13526),

Gene: PiperSansNom_25 Start: 12244, Stop: 13713, Start Num: 10

Candidate Starts for PiperSansNom_25:

(Start: 10 @12244 has 48 MA's), (Start: 16 @12301 has 1 MA's), (19, 12313), (21, 12325), (29, 12421), (31, 12439), (35, 12475), (38, 12499), (40, 12511), (44, 12547), (46, 12577), (48, 12604), (54, 12670), (55, 12676), (56, 12685), (58, 12703), (60, 12727), (62, 12736), (63, 12739), (65, 12748), (75, 12826), (76, 12844), (77, 12847), (83, 12892), (91, 12991), (93, 13018), (96, 13069), (103, 13207), (109, 13300), (111, 13312), (112, 13318), (118, 13396), (125, 13471), (126, 13486), (127, 13507), (128, 13525), (131, 13549), (144, 13678),

Gene: Piperis_25 Start: 11914, Stop: 13383, Start Num: 10

Candidate Starts for Piperis_25:

(Start: 10 @11914 has 48 MA's), (Start: 16 @11971 has 1 MA's), (19, 11983), (21, 11995), (29, 12091), (31, 12109), (35, 12145), (38, 12169), (40, 12181), (44, 12217), (46, 12247), (48, 12274), (54, 12340), (55, 12346), (56, 12355), (58, 12373), (60, 12397), (62, 12406), (63, 12409), (65, 12418), (75, 12496), (76, 12514), (77, 12517), (83, 12562), (91, 12661), (93, 12688), (96, 12739), (103, 12877), (109, 12970), (111, 12982), (112, 12988), (118, 13066), (125, 13141), (126, 13156), (127, 13177), (128, 13195), (131, 13219), (144, 13348),

Gene: Pulchra_26 Start: 12313, Stop: 13782, Start Num: 10

Candidate Starts for Pulchra_26:

(Start: 10 @12313 has 48 MA's), (Start: 16 @12370 has 1 MA's), (19, 12382), (21, 12394), (29, 12490), (31, 12508), (35, 12544), (38, 12568), (40, 12580), (44, 12616), (46, 12646), (48, 12673), (54, 12739), (55, 12745), (56, 12754), (58, 12772), (60, 12796), (62, 12805), (63, 12808), (65, 12817), (72, 12880), (75, 12895), (76, 12913), (77, 12916), (83, 12961), (91, 13060), (93, 13087), (96, 13138), (103, 13276), (109, 13369), (111, 13381), (112, 13387), (118, 13465), (125, 13540), (126, 13555), (127, 13576), (128, 13594), (131, 13618), (144, 13747),

Gene: Quhwah_27 Start: 12304, Stop: 13773, Start Num: 10

Candidate Starts for Quhwah_27:

(Start: 10 @12304 has 48 MA's), (Start: 16 @12361 has 1 MA's), (19, 12373), (21, 12385), (29, 12481), (31, 12499), (35, 12535), (38, 12559), (40, 12571), (44, 12607), (46, 12637), (48, 12664), (54, 12730), (55, 12736), (56, 12745), (58, 12763), (60, 12787), (62, 12796), (63, 12799), (65, 12808), (72, 12871), (75, 12886), (76, 12904), (77, 12907), (83, 12952), (91, 13051), (93, 13078), (96, 13129), (103, 13267), (109, 13360), (111, 13372), (112, 13378), (118, 13456), (125, 13531), (126, 13546), (127, 13567), (128, 13585), (131, 13609), (144, 13738),

Gene: Racecar_81 Start: 46467, Stop: 48026, Start Num: 11

Candidate Starts for Racecar_81:

(Start: 11 @46467 has 1 MA's), (15, 46527), (17, 46542), (37, 46752), (50, 46893), (66, 47007), (70, 47058), (78, 47106), (97, 47340), (106, 47475), (111, 47538), (128, 47757), (140, 47883), (145, 47949),

Gene: Ramiel05_24 Start: 11948, Stop: 13417, Start Num: 10

Candidate Starts for Ramiel05_24:

(Start: 10 @11948 has 48 MA's), (Start: 16 @12005 has 1 MA's), (19, 12017), (21, 12029), (29, 12125), (31, 12143), (35, 12179), (38, 12203), (40, 12215), (44, 12251), (46, 12281), (48, 12308), (54, 12374), (55, 12380), (56, 12389), (58, 12407), (60, 12431), (62, 12440), (63, 12443), (65, 12452), (72, 12515), (75, 12530), (76, 12548), (77, 12551), (83, 12596), (91, 12695), (93, 12722), (96, 12773),

(103, 12911), (109, 13004), (111, 13016), (112, 13022), (118, 13100), (125, 13175), (126, 13190), (127, 13211), (128, 13229), (131, 13253), (144, 13382),

Gene: RobsFeet_26 Start: 11796, Stop: 13289, Start Num: 10

Candidate Starts for RobsFeet_26:

(Start: 10 @11796 has 48 MA's), (Start: 16 @11853 has 1 MA's), (19, 11865), (21, 11877), (29, 11973), (31, 11991), (35, 12027), (38, 12051), (40, 12063), (44, 12099), (48, 12156), (51, 12192), (54, 12222), (55, 12228), (56, 12237), (58, 12255), (60, 12279), (62, 12288), (63, 12291), (75, 12378), (76, 12396), (77, 12399), (89, 12537), (96, 12642), (99, 12705), (105, 12801), (111, 12885), (112, 12891), (113, 12912), (117, 12957), (122, 13023), (126, 13059), (144, 13251),

Gene: SJReid_85 Start: 47777, Stop: 49324, Start Num: 11

Candidate Starts for SJReid_85:

(2, 47672), (6, 47735), (7, 47738), (Start: 11 @47777 has 1 MA's), (12, 47786), (15, 47837), (17, 47852), (26, 47942), (29, 47981), (37, 48062), (43, 48107), (50, 48203), (61, 48290), (70, 48353), (78, 48401), (98, 48641), (137, 49130), (140, 49178), (145, 49244),

Gene: Savannah_24 Start: 11972, Stop: 13441, Start Num: 10

Candidate Starts for Savannah_24:

(Start: 10 @11972 has 48 MA's), (Start: 16 @12029 has 1 MA's), (19, 12041), (21, 12053), (29, 12149), (31, 12167), (35, 12203), (38, 12227), (40, 12239), (44, 12275), (46, 12305), (48, 12332), (54, 12398), (55, 12404), (56, 12413), (58, 12431), (60, 12455), (62, 12464), (63, 12467), (65, 12476), (72, 12539), (75, 12554), (76, 12572), (77, 12575), (83, 12620), (91, 12719), (93, 12746), (96, 12797), (103, 12935), (109, 13028), (111, 13040), (112, 13046), (118, 13124), (125, 13199), (126, 13214), (127, 13235), (128, 13253), (131, 13277), (144, 13406),

Gene: Scumberland_26 Start: 12163, Stop: 13632, Start Num: 10

Candidate Starts for Scumberland_26:

(Start: 10 @12163 has 48 MA's), (Start: 16 @12220 has 1 MA's), (19, 12232), (21, 12244), (29, 12340), (31, 12358), (35, 12394), (38, 12418), (40, 12430), (44, 12466), (46, 12496), (48, 12523), (54, 12589), (55, 12595), (56, 12604), (58, 12622), (60, 12646), (62, 12655), (63, 12658), (65, 12667), (72, 12730), (75, 12745), (76, 12763), (77, 12766), (83, 12811), (91, 12910), (93, 12937), (96, 12988), (103, 13126), (109, 13219), (111, 13231), (112, 13237), (118, 13315), (125, 13390), (126, 13405), (127, 13426), (128, 13444), (131, 13468), (144, 13597),

Gene: Selwyn23_26 Start: 12141, Stop: 13610, Start Num: 10

Candidate Starts for Selwyn23_26:

(Start: 10 @12141 has 48 MA's), (Start: 16 @12198 has 1 MA's), (19, 12210), (21, 12222), (29, 12318), (31, 12336), (35, 12372), (38, 12396), (40, 12408), (44, 12444), (46, 12474), (48, 12501), (54, 12567), (55, 12573), (56, 12582), (58, 12600), (60, 12624), (62, 12633), (63, 12636), (65, 12645), (72, 12708), (75, 12723), (76, 12741), (77, 12744), (83, 12789), (91, 12888), (93, 12915), (96, 12966), (103, 13104), (109, 13197), (111, 13209), (112, 13215), (118, 13293), (125, 13368), (126, 13383), (127, 13404), (128, 13422), (131, 13446), (144, 13575),

Gene: Shotgun_24 Start: 11770, Stop: 13239, Start Num: 10

Candidate Starts for Shotgun_24:

(Start: 10 @11770 has 48 MA's), (Start: 16 @11827 has 1 MA's), (19, 11839), (21, 11851), (29, 11947), (31, 11965), (35, 12001), (38, 12025), (40, 12037), (44, 12073), (46, 12103), (48, 12130), (54, 12196), (55, 12202), (56, 12211), (58, 12229), (60, 12253), (62, 12262), (63, 12265), (65, 12274), (72, 12337), (75, 12352), (76, 12370), (77, 12373), (83, 12418), (91, 12517), (93, 12544), (96, 12595), (103, 12733), (109, 12826), (111, 12838), (112, 12844), (118, 12922), (125, 12997), (126, 13012), (127, 13033), (128, 13051), (144, 13204),

Gene: Smarties_33 Start: 13624, Stop: 15117, Start Num: 10

Candidate Starts for Smarties_33:

(Start: 10 @13624 has 48 MA's), (19, 13693), (21, 13705), (29, 13801), (31, 13819), (32, 13840), (40, 13891), (44, 13927), (48, 13984), (51, 14020), (53, 14044), (54, 14050), (55, 14056), (56, 14065), (60, 14107), (62, 14116), (63, 14119), (76, 14224), (77, 14227), (89, 14368), (99, 14536), (105, 14632), (111, 14716), (112, 14722), (113, 14743), (117, 14788), (120, 14845), (122, 14854), (126, 14890), (132, 14956), (144, 15082),

Gene: Talia1610_84 Start: 45832, Stop: 47391, Start Num: 11

Candidate Starts for Talia1610_84:

(Start: 11 @45832 has 1 MA's), (15, 45892), (17, 45907), (37, 46117), (50, 46258), (66, 46372), (70, 46423), (78, 46471), (97, 46705), (106, 46840), (111, 46903), (128, 47122), (140, 47248), (145, 47314),

Gene: Teamocil_26 Start: 11315, Stop: 12808, Start Num: 10

Candidate Starts for Teamocil_26:

(Start: 10 @11315 has 48 MA's), (Start: 16 @11372 has 1 MA's), (19, 11384), (21, 11396), (29, 11492), (31, 11510), (35, 11546), (40, 11582), (44, 11618), (48, 11675), (51, 11711), (54, 11741), (55, 11747), (56, 11756), (60, 11798), (62, 11807), (63, 11810), (64, 11816), (76, 11921), (77, 11924), (83, 11969), (89, 12059), (92, 12089), (99, 12227), (105, 12323), (111, 12407), (112, 12413), (113, 12434), (117, 12479), (122, 12545), (144, 12773),

Gene: Terij_20 Start: 11194, Stop: 12684, Start Num: 10

Candidate Starts for Terij_20:

(Start: 10 @11194 has 48 MA's), (23, 11311), (27, 11368), (31, 11398), (41, 11494), (48, 11566), (54, 11632), (56, 11647), (58, 11665), (62, 11689), (74, 11749), (77, 11776), (80, 11797), (81, 11806), (82, 11815), (83, 11821), (84, 11854), (85, 11872), (94, 11983), (96, 12031), (103, 12169), (105, 12190), (112, 12280), (118, 12358), (121, 12409), (126, 12448), (130, 12508), (132, 12514), (133, 12520), (138, 12568), (139, 12604), (142, 12616), (143, 12634), (144, 12640),

Gene: Tyrumbra_23 Start: 10872, Stop: 12365, Start Num: 10

Candidate Starts for Tyrumbra_23:

(Start: 10 @10872 has 48 MA's), (Start: 16 @10929 has 1 MA's), (19, 10941), (21, 10953), (29, 11049), (31, 11067), (35, 11103), (38, 11127), (40, 11139), (44, 11175), (48, 11232), (51, 11268), (54, 11298), (55, 11304), (56, 11313), (58, 11331), (60, 11355), (62, 11364), (63, 11367), (75, 11454), (76, 11472), (77, 11475), (89, 11613), (96, 11718), (99, 11781), (105, 11877), (111, 11961), (112, 11967), (113, 11988), (117, 12033), (122, 12099), (126, 12135), (144, 12327),

Gene: Yeti_25 Start: 11944, Stop: 13413, Start Num: 10

Candidate Starts for Yeti_25:

(Start: 10 @11944 has 48 MA's), (Start: 16 @12001 has 1 MA's), (19, 12013), (21, 12025), (29, 12121), (31, 12139), (35, 12175), (38, 12199), (40, 12211), (44, 12247), (48, 12304), (54, 12370), (55, 12376), (56, 12385), (58, 12403), (60, 12427), (62, 12436), (63, 12439), (65, 12448), (75, 12526), (76, 12544), (77, 12547), (83, 12592), (91, 12691), (93, 12718), (96, 12769), (103, 12907), (109, 13000), (111, 13012), (112, 13018), (118, 13096), (125, 13171), (126, 13186), (127, 13207), (128, 13225), (131, 13249), (144, 13378),