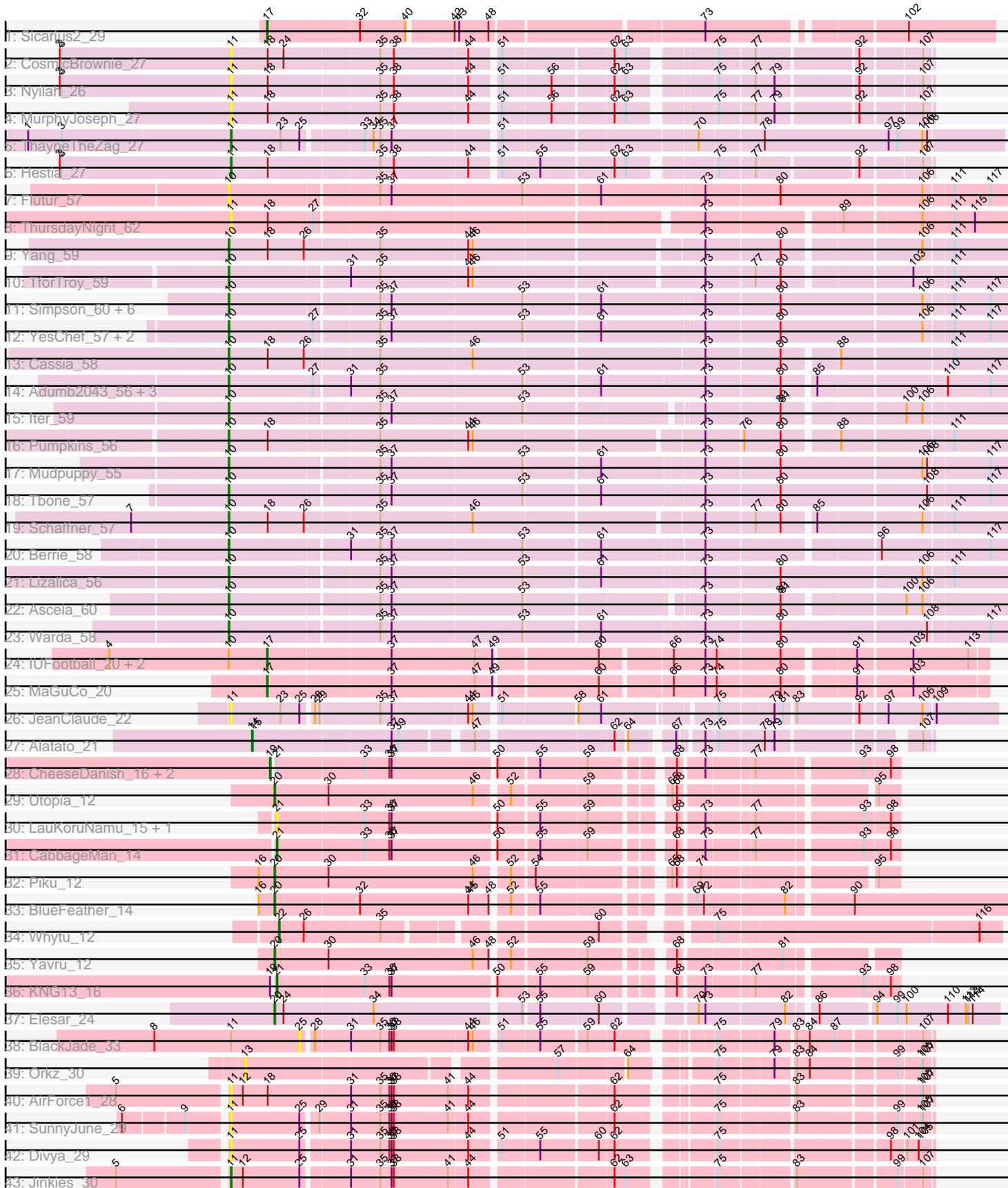# Pham 283834

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 283834 Report

This analysis was run 02/23/26 on database version 636.

Pham number 283834 has 59 members, 21 are drafts.

Phages represented in each track:
• Track 1 : Sicarius2_29
• Track 2 : CosmicBrownie_27
• Track 3 : Nyilah_26
• Track 4 : MurphyJoseph_27
• Track 5 : ThayneTheZag_27
• Track 6 : Hestia_27
• Track 7 : Flutur_57
• Track 8 : ThursdayNight_62
• Track 9 : Yang_59
• Track 10 : TforTroy_59
• Track 11 : Simpson_60, Lego_57, Cyan_58, JohnDoe_58, Kaylissa_59, Tutumahutu_59, Joemato_58
• Track 12 : YesChef_57, AGrandiflora_59, Powerpuff_59
• Track 13 : Cassia_58
• Track 14 : Adumb2043_56, Amploria_57, AEgle_55, Turab_56
• Track 15 : Iter_59
• Track 16 : Pumpkins_56
• Track 17 : Mudpuppy_55
• Track 18 : Tbone_57
• Track 19 : Schaffner_57
• Track 20 : Berrie_58
• Track 21 : Lizalica_56
• Track 22 : Ascela_60
• Track 23 : Warda_58
• Track 24 : IUFootball_20, Maureen_20, Liebe_20
• Track 25 : MaGuCo_20
• Track 26 : JeanClaude_22
• Track 27 : Alatato_21
• Track 28 : CheeseDanish_16, Corgi_16, Nebulanyx_16
• Track 29 : Utopia_12
• Track 30 : LauKoruNamu_15, Pauu_15
• Track 31 : CabbageMan_14
• Track 32 : Piku_12
• Track 33 : BlueFeather_14
• Track 34 : Whytu_12
• Track 35 : Yavru_12
• Track 36 : KNG13_16

• Track 37 : Elesar_24
• Track 38 : BlackJade_33
• Track 39 : Orkz_30
• Track 40 : AirForce1_28
• Track 41 : SunnyJune_29
• Track 42 : Divya_29
• Track 43 : Jinkies_30

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 21 of the 38 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• AEgle_55, AGrandiflora_59, Adumb2043_56, Amploria_57, Ascela_60, Berrie_58, Cassia_58, Cyan_58, Flutur_57, Iter_59, Joemato_58, JohnDoe_58, Kaylissa_59, Lego_57, Lizalica_56, Mudpuppy_55, Powerpuff_59, Pumpkins_56, Schaffner_57, Simpson_60, Tbone_57, TforTroy_59, Turab_56, Tutumahutu_59, Warda_58, Yang_59, YesChef_57,

Genes that have the "Most Annotated" start but do not call it:
• IUFootball_20, Liebe_20, Maureen_20,

Genes that do not have the "Most Annotated" start:
• AirForce1_28, Alatato_21, BlackJade_33, BlueFeather_14, CabbageMan_14, CheeseDanish_16, Corgi_16, CosmicBrownie_27, Divya_29, Elesar_24, Hestia_27, JeanClaude_22, Jinkies_30, KNG13_16, LauKoruNamu_15, MaGuCo_20, MurphyJoseph_27, Nebulanyx_16, Nyilah_26, Orkz_30, Pauu_15, Piku_12, Sicarius2_29, SunnyJune_29, ThayneTheZag_27, ThursdayNight_62, Utopia_12, Whytu_12, Yavru_12,

Summary by start number:

Start 10:
• Found in 30 of 59 (50.8%) of genes in pham
• Manual Annotations of this start: 21 of 38
• Called 90.0% of time when present
• Phage (with cluster) where this start called: AEgle_55 (AZ1), AGrandiflora_59 (AZ1), Adumb2043_56 (AZ1), Amploria_57 (AZ1), Ascela_60 (AZ1), Berrie_58 (AZ1), Cassia_58 (AZ1), Cyan_58 (AZ1), Flutur_57 (AZ), Iter_59 (AZ1), Joemato_58 (AZ1), JohnDoe_58 (AZ1), Kaylissa_59 (AZ1), Lego_57 (AZ1), Lizalica_56 (AZ1), Mudpuppy_55 (AZ1), Powerpuff_59 (AZ1), Pumpkins_56 (AZ1), Schaffner_57 (AZ1), Simpson_60 (AZ1), Tbone_57 (AZ1), TforTroy_59 (AZ1), Turab_56 (AZ1), Tutumahutu_59 (AZ1), Warda_58 (AZ1), Yang_59 (AZ1), YesChef_57 (AZ1),

Start 11:
• Found in 12 of 59 (20.3%) of genes in pham
• Manual Annotations of this start: 3 of 38
• Called 91.7% of time when present

• Phage (with cluster) where this start called: AirForce1_28 (FL), CosmicBrownie_27 (AY), Divya_29 (FL), Hestia_27 (AY), JeanClaude_22 (FB), Jinkies_30 (FL), MurphyJoseph_27 (AY), Nyilah_26 (AY), SunnyJune_29 (FL), ThayneTheZag_27 (AY), ThursdayNight_62 (AZ),

Start 13:
• 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: Orkz_30 (FL),

Start 14:
• Found in 1 of 59 (1.7%) of genes in pham
• Manual Annotations of this start: 1 of 38
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Alatato_21 (FB),

Start 17:
• Found in 5 of 59 (8.5%) of genes in pham
• Manual Annotations of this start: 4 of 38
• Called 100.0% of time when present
• Phage (with cluster) where this start called: IUFootball_20 (AZ2), Liebe_20 (AZ2), MaGuCo_20 (AZ2), Maureen_20 (AZ2), Sicarius2_29 (AO2),

Start 19:
• Found in 4 of 59 (6.8%) of genes in pham
• Manual Annotations of this start: 1 of 38
• Called 75.0% of time when present
• Phage (with cluster) where this start called: CheeseDanish_16 (FE), Corgi_16 (FE), Nebulanyx_16 (FE),

Start 20:
• Found in 5 of 59 (8.5%) of genes in pham
• Manual Annotations of this start: 5 of 38
• Called 100.0% of time when present
• Phage (with cluster) where this start called: BlueFeather_14 (FE), Elesar_24 (FF), Piku_12 (FE), Utopia_12 (FE), Yavru_12 (FE),

Start 21:
• Found in 7 of 59 (11.9%) of genes in pham
• Manual Annotations of this start: 2 of 38
• Called 57.1% of time when present
• Phage (with cluster) where this start called: CabbageMan_14 (FE), KNG13_16 (FE), LauKoruNamu_15 (FE), Pauu_15 (FE),

Start 22:
• Found in 1 of 59 (1.7%) of genes in pham
• Manual Annotations of this start: 1 of 38
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Whytu_12 (FE),

Start 25:
• Found in 6 of 59 (10.2%) of genes in pham

• No Manual Annotations of this start.
• Called 16.7% of time when present
• Phage (with cluster) where this start called: BlackJade_33 (FL),

Summary by clusters:

There are 9 clusters represented in this pham: FB, FE, FF, AY, AZ1, AZ2, AZ, FL, AO2,

Info for manual annotations of cluster AO2:
•Start number 17 was manually annotated 1 time for cluster AO2.

Info for manual annotations of cluster AY:
•Start number 11 was manually annotated 2 times for cluster AY.

Info for manual annotations of cluster AZ1:
•Start number 10 was manually annotated 21 times for cluster AZ1.

Info for manual annotations of cluster AZ2:
•Start number 17 was manually annotated 3 times for cluster AZ2.

Info for manual annotations of cluster FB:
•Start number 14 was manually annotated 1 time for cluster FB.

Info for manual annotations of cluster FE:
•Start number 19 was manually annotated 1 time for cluster FE.
•Start number 20 was manually annotated 4 times for cluster FE.
•Start number 21 was manually annotated 2 times for cluster FE.
•Start number 22 was manually annotated 1 time for cluster FE.

Info for manual annotations of cluster FF:
•Start number 20 was manually annotated 1 time for cluster FF.

Info for manual annotations of cluster FL:
•Start number 11 was manually annotated 1 time for cluster FL.

Gene Information:

Gene: AEgle_55 Start: 38287, Stop: 39267, Start Num: 10
Candidate Starts for AEgle_55:
(Start: 10 @38287 has 21 MA's), (27, 38392), (31, 38434), (35, 38473), (53, 38656), (61, 38752), (73, 38884), (80, 38980), (85, 39016), (110, 39172), (117, 39229),

Gene: AGrandiflora_59 Start: 39228, Stop: 40220, Start Num: 10
Candidate Starts for AGrandiflora_59:
(Start: 10 @39228 has 21 MA's), (27, 39333), (35, 39414), (37, 39429), (53, 39597), (61, 39693), (73, 39822), (80, 39918), (106, 40098), (111, 40134), (117, 40182),

Gene: Adumb2043_56 Start: 38310, Stop: 39290, Start Num: 10
Candidate Starts for Adumb2043_56:

(Start: 10 @38310 has 21 MA's), (27, 38415), (31, 38457), (35, 38496), (53, 38679), (61, 38775), (73, 38907), (80, 39003), (85, 39039), (110, 39195), (117, 39252),

Gene: AirForce1_28 Start: 21441, Stop: 22262, Start Num: 11
Candidate Starts for AirForce1_28:
(5, 21303), (Start: 11 @21441 has 3 MA's), (12, 21456), (18, 21489), (31, 21591), (35, 21630), (36, 21642), (37, 21645), (38, 21648), (41, 21717), (44, 21741), (62, 21912), (75, 22017), (83, 22104), (105, 22248), (107, 22251),

Gene: Alatato_21 Start: 16711, Stop: 17466, Start Num: 14
Candidate Starts for Alatato_21:
(Start: 14 @16711 has 1 MA's), (15, 16714), (37, 16888), (39, 16897), (47, 16972), (62, 17140), (64, 17152), (67, 17197), (73, 17221), (75, 17236), (78, 17290), (79, 17302), (107, 17455),

Gene: Amploria_57 Start: 38491, Stop: 39471, Start Num: 10
Candidate Starts for Amploria_57:
(Start: 10 @38491 has 21 MA's), (27, 38596), (31, 38638), (35, 38677), (53, 38860), (61, 38956), (73, 39088), (80, 39184), (85, 39220), (110, 39376), (117, 39433),

Gene: Ascela_60 Start: 39485, Stop: 40450, Start Num: 10
Candidate Starts for Ascela_60:
(Start: 10 @39485 has 21 MA's), (35, 39671), (37, 39686), (53, 39854), (73, 40064), (80, 40160), (81, 40163), (100, 40304), (106, 40325),

Gene: Berrie_58 Start: 39288, Stop: 40256, Start Num: 10
Candidate Starts for Berrie_58:
(Start: 10 @39288 has 21 MA's), (31, 39435), (35, 39474), (37, 39489), (53, 39657), (61, 39753), (73, 39876), (96, 40083), (117, 40221),

Gene: BlackJade_33 Start: 24154, Stop: 24873, Start Num: 25
Candidate Starts for BlackJade_33:
(8, 23965), (Start: 11 @24067 has 3 MA's), (25, 24154), (28, 24166), (31, 24208), (35, 24247), (36, 24259), (37, 24262), (38, 24265), (44, 24358), (46, 24364), (51, 24391), (55, 24439), (59, 24496), (62, 24529), (75, 24631), (79, 24697), (83, 24718), (84, 24733), (87, 24763), (107, 24862),

Gene: BlueFeather_14 Start: 10715, Stop: 11602, Start Num: 20
Candidate Starts for BlueFeather_14:
(16, 10694), (Start: 20 @10715 has 5 MA's), (32, 10823), (44, 10967), (45, 10970), (48, 10994), (52, 11012), (55, 11045), (69, 11213), (72, 11222), (82, 11321), (90, 11399),

Gene: CabbageMan_14 Start: 11695, Stop: 12432, Start Num: 21
Candidate Starts for CabbageMan_14:
(Start: 21 @11695 has 2 MA's), (33, 11809), (36, 11842), (37, 11845), (50, 11977), (55, 12028), (59, 12088), (68, 12178), (73, 12208), (77, 12262), (93, 12388), (98, 12421),

Gene: Cassia_58 Start: 39217, Stop: 40194, Start Num: 10
Candidate Starts for Cassia_58:
(Start: 10 @39217 has 21 MA's), (18, 39268), (26, 39313), (35, 39406), (46, 39523), (73, 39814), (80, 39910), (88, 39973), (111, 40111),

Gene: CheeseDanish_16 Start: 11850, Stop: 12590, Start Num: 19
Candidate Starts for CheeseDanish_16:

(Start: 19 @11850 has 1 MA's), (Start: 21 @11853 has 2 MA's), (33, 11967), (36, 12000), (37, 12003), (50, 12135), (55, 12186), (59, 12246), (68, 12336), (73, 12366), (77, 12420), (93, 12546), (98, 12579),

Gene: Corgi_16 Start: 11850, Stop: 12590, Start Num: 19
Candidate Starts for Corgi_16:
(Start: 19 @11850 has 1 MA's), (Start: 21 @11853 has 2 MA's), (33, 11967), (36, 12000), (37, 12003), (50, 12135), (55, 12186), (59, 12246), (68, 12336), (73, 12366), (77, 12420), (93, 12546), (98, 12579),

Gene: CosmicBrownie_27 Start: 19359, Stop: 20186, Start Num: 11
Candidate Starts for CosmicBrownie_27:
(2, 19131), (3, 19134), (Start: 11 @19359 has 3 MA's), (18, 19407), (24, 19425), (35, 19548), (38, 19566), (44, 19659), (51, 19692), (62, 19830), (63, 19845), (75, 19941), (77, 19986), (92, 20100), (107, 20175),

Gene: Cyan_58 Start: 38971, Stop: 39963, Start Num: 10
Candidate Starts for Cyan_58:
(Start: 10 @38971 has 21 MA's), (35, 39157), (37, 39172), (53, 39340), (61, 39436), (73, 39565), (80, 39661), (106, 39841), (111, 39877), (117, 39925),

Gene: Divya_29 Start: 21270, Stop: 22082, Start Num: 11
Candidate Starts for Divya_29:
(Start: 11 @21270 has 3 MA's), (25, 21357), (31, 21411), (35, 21450), (36, 21462), (37, 21465), (38, 21468), (44, 21561), (51, 21594), (55, 21642), (60, 21714), (62, 21732), (75, 21837), (98, 22032), (101, 22050), (104, 22065), (105, 22068),

Gene: Elesar_24 Start: 18815, Stop: 19690, Start Num: 20
Candidate Starts for Elesar_24:
(Start: 20 @18815 has 5 MA's), (24, 18827), (34, 18941), (53, 19127), (55, 19145), (60, 19220), (70, 19322), (73, 19331), (82, 19433), (86, 19463), (94, 19529), (99, 19556), (100, 19568), (110, 19622), (112, 19646), (113, 19649), (114, 19655),

Gene: Flutur_57 Start: 39276, Stop: 40268, Start Num: 10
Candidate Starts for Flutur_57:
(Start: 10 @39276 has 21 MA's), (35, 39462), (37, 39477), (53, 39645), (61, 39741), (73, 39870), (80, 39966), (106, 40146), (111, 40182), (117, 40230),

Gene: Hestia_27 Start: 19579, Stop: 20406, Start Num: 11
Candidate Starts for Hestia_27:
(2, 19351), (3, 19354), (Start: 11 @19579 has 3 MA's), (18, 19627), (35, 19768), (38, 19786), (44, 19879), (51, 19912), (55, 19960), (62, 20050), (63, 20065), (75, 20161), (77, 20206), (92, 20320), (107, 20395),

Gene: IUFootball_20 Start: 17855, Stop: 18736, Start Num: 17
Candidate Starts for IUFootball_20:
(4, 17645), (Start: 10 @17804 has 21 MA's), (Start: 17 @17855 has 4 MA's), (37, 18011), (47, 18116), (49, 18137), (60, 18266), (66, 18353), (73, 18392), (74, 18407), (80, 18488), (91, 18572), (103, 18641), (113, 18713),

Gene: Iter_59 Start: 39256, Stop: 40221, Start Num: 10
Candidate Starts for Iter_59:
(Start: 10 @39256 has 21 MA's), (35, 39442), (37, 39457), (53, 39625), (73, 39835), (80, 39931), (81, 39934), (100, 40075), (106, 40096),

Gene: JeanClaude_22 Start: 17290, Stop: 18198, Start Num: 11
Candidate Starts for JeanClaude_22:
(Start: 11 @17290 has 3 MA's), (23, 17353), (25, 17377), (28, 17389), (29, 17395), (35, 17470), (37, 17485), (44, 17581), (46, 17587), (51, 17614), (58, 17707), (61, 17737), (75, 17866), (79, 17932), (81, 17941), (83, 17953), (92, 18025), (97, 18058), (106, 18103), (109, 18118),

Gene: Jinkies_30 Start: 23927, Stop: 24739, Start Num: 11
Candidate Starts for Jinkies_30:
(5, 23789), (Start: 11 @23927 has 3 MA's), (12, 23942), (25, 24014), (31, 24068), (35, 24107), (37, 24122), (38, 24125), (41, 24194), (44, 24218), (62, 24389), (63, 24404), (75, 24494), (83, 24581), (99, 24698), (107, 24728),

Gene: Joemato_58 Start: 39052, Stop: 40044, Start Num: 10
Candidate Starts for Joemato_58:
(Start: 10 @39052 has 21 MA's), (35, 39238), (37, 39253), (53, 39421), (61, 39517), (73, 39646), (80, 39742), (106, 39922), (111, 39958), (117, 40006),

Gene: JohnDoe_58 Start: 39032, Stop: 40024, Start Num: 10
Candidate Starts for JohnDoe_58:
(Start: 10 @39032 has 21 MA's), (35, 39218), (37, 39233), (53, 39401), (61, 39497), (73, 39626), (80, 39722), (106, 39902), (111, 39938), (117, 39986),

Gene: KNG13_16 Start: 11850, Stop: 12587, Start Num: 21
Candidate Starts for KNG13_16:
(Start: 19 @11847 has 1 MA's), (Start: 21 @11850 has 2 MA's), (33, 11964), (36, 11997), (37, 12000), (50, 12132), (55, 12183), (59, 12243), (68, 12333), (73, 12363), (77, 12417), (93, 12543), (98, 12576),

Gene: Kaylissa_59 Start: 39430, Stop: 40422, Start Num: 10
Candidate Starts for Kaylissa_59:
(Start: 10 @39430 has 21 MA's), (35, 39616), (37, 39631), (53, 39799), (61, 39895), (73, 40024), (80, 40120), (106, 40300), (111, 40336), (117, 40384),

Gene: LauKoruNamu_15 Start: 11695, Stop: 12432, Start Num: 21
Candidate Starts for LauKoruNamu_15:
(Start: 21 @11695 has 2 MA's), (33, 11809), (36, 11842), (37, 11845), (50, 11977), (55, 12028), (59, 12088), (68, 12178), (73, 12208), (77, 12262), (93, 12388), (98, 12421),

Gene: Lego_57 Start: 38749, Stop: 39741, Start Num: 10
Candidate Starts for Lego_57:
(Start: 10 @38749 has 21 MA's), (35, 38935), (37, 38950), (53, 39118), (61, 39214), (73, 39343), (80, 39439), (106, 39619), (111, 39655), (117, 39703),

Gene: Liebe_20 Start: 17855, Stop: 18736, Start Num: 17
Candidate Starts for Liebe_20:
(4, 17645), (Start: 10 @17804 has 21 MA's), (Start: 17 @17855 has 4 MA's), (37, 18011), (47, 18116), (49, 18137), (60, 18266), (66, 18353), (73, 18392), (74, 18407), (80, 18488), (91, 18572), (103, 18641), (113, 18713),

Gene: Lizalica_56 Start: 38292, Stop: 39275, Start Num: 10
Candidate Starts for Lizalica_56:
(Start: 10 @38292 has 21 MA's), (35, 38478), (37, 38493), (53, 38661), (61, 38757), (73, 38880), (80, 38976), (106, 39156), (111, 39192),

Gene: MaGuCo_20 Start: 17788, Stop: 18669, Start Num: 17
Candidate Starts for MaGuCo_20:
(Start: 17 @17788 has 4 MA's), (37, 17944), (47, 18049), (49, 18070), (60, 18199), (66, 18286), (73, 18325), (74, 18340), (80, 18421), (91, 18505), (103, 18574),

Gene: Maureen_20 Start: 17855, Stop: 18736, Start Num: 17
Candidate Starts for Maureen_20:
(4, 17645), (Start: 10 @17804 has 21 MA's), (Start: 17 @17855 has 4 MA's), (37, 18011), (47, 18116), (49, 18137), (60, 18266), (66, 18353), (73, 18392), (74, 18407), (80, 18488), (91, 18572), (103, 18641), (113, 18713),

Gene: Mudpuppy_55 Start: 38904, Stop: 39890, Start Num: 10
Candidate Starts for Mudpuppy_55:
(Start: 10 @38904 has 21 MA's), (35, 39090), (37, 39105), (53, 39273), (61, 39369), (73, 39492), (80, 39588), (106, 39768), (108, 39774), (117, 39852),

Gene: MurphyJoseph_27 Start: 19485, Stop: 20312, Start Num: 11
Candidate Starts for MurphyJoseph_27:
(Start: 11 @19485 has 3 MA's), (18, 19533), (35, 19674), (38, 19692), (44, 19785), (51, 19818), (56, 19881), (62, 19956), (63, 19971), (75, 20067), (77, 20112), (79, 20133), (92, 20226), (107, 20301),

Gene: Nebulanyx_16 Start: 11847, Stop: 12587, Start Num: 19
Candidate Starts for Nebulanyx_16:
(Start: 19 @11847 has 1 MA's), (Start: 21 @11850 has 2 MA's), (33, 11964), (36, 11997), (37, 12000), (50, 12132), (55, 12183), (59, 12243), (68, 12333), (73, 12363), (77, 12417), (93, 12543), (98, 12576),

Gene: Nyilah_26 Start: 19391, Stop: 20215, Start Num: 11
Candidate Starts for Nyilah_26:
(2, 19163), (3, 19166), (Start: 11 @19391 has 3 MA's), (18, 19439), (35, 19580), (38, 19598), (44, 19691), (51, 19724), (56, 19787), (62, 19862), (63, 19877), (75, 19973), (77, 20018), (79, 20039), (92, 20132), (107, 20204),

Gene: Orkz_30 Start: 20685, Stop: 21464, Start Num: 13
Candidate Starts for Orkz_30:
(13, 20685), (57, 21051), (64, 21132), (75, 21219), (79, 21285), (83, 21306), (84, 21321), (99, 21423), (105, 21450), (107, 21453),

Gene: Pauu_15 Start: 11695, Stop: 12432, Start Num: 21
Candidate Starts for Pauu_15:
(Start: 21 @11695 has 2 MA's), (33, 11809), (36, 11842), (37, 11845), (50, 11977), (55, 12028), (59, 12088), (68, 12178), (73, 12208), (77, 12262), (93, 12388), (98, 12421),

Gene: Piku_12 Start: 11038, Stop: 11766, Start Num: 20
Candidate Starts for Piku_12:
(16, 11020), (Start: 20 @11038 has 5 MA's), (30, 11110), (46, 11302), (52, 11341), (54, 11368), (65, 11515), (68, 11521), (71, 11545), (95, 11740),

Gene: Powerpuff_59 Start: 39951, Stop: 40943, Start Num: 10
Candidate Starts for Powerpuff_59:
(Start: 10 @39951 has 21 MA's), (27, 40056), (35, 40137), (37, 40152), (53, 40320), (61, 40416), (73, 40545), (80, 40641), (106, 40821), (111, 40857), (117, 40905),

Gene: Pumpkins_56 Start: 39599, Stop: 40567, Start Num: 10

Candidate Starts for Pumpkins_56:
(Start: 10 @39599 has 21 MA's), (18, 39650), (35, 39788), (44, 39899), (46, 39905), (73, 40187), (76, 40235), (80, 40283), (88, 40346), (111, 40484),

Gene: Schaffner_57 Start: 39442, Stop: 40410, Start Num: 10
Candidate Starts for Schaffner_57:
(7, 39316), (Start: 10 @39442 has 21 MA's), (18, 39493), (26, 39538), (35, 39631), (46, 39748), (73, 40030), (77, 40093), (80, 40126), (85, 40162), (106, 40291), (111, 40327),

Gene: Sicarius2_29 Start: 24015, Stop: 24896, Start Num: 17
Candidate Starts for Sicarius2_29:
(Start: 17 @24015 has 4 MA's), (32, 24129), (40, 24189), (42, 24243), (43, 24249), (48, 24288), (73, 24549), (102, 24783),

Gene: Simpson_60 Start: 39056, Stop: 40048, Start Num: 10
Candidate Starts for Simpson_60:
(Start: 10 @39056 has 21 MA's), (35, 39242), (37, 39257), (53, 39425), (61, 39521), (73, 39650), (80, 39746), (106, 39926), (111, 39962), (117, 40010),

Gene: SunnyJune_29 Start: 22626, Stop: 23438, Start Num: 11
Candidate Starts for SunnyJune_29:
(6, 22503), (9, 22578), (Start: 11 @22626 has 3 MA's), (25, 22713), (29, 22731), (31, 22767), (35, 22806), (36, 22818), (37, 22821), (38, 22824), (41, 22893), (44, 22917), (62, 23088), (75, 23193), (83, 23280), (99, 23397), (105, 23424), (107, 23427),

Gene: Tbone_57 Start: 39387, Stop: 40373, Start Num: 10
Candidate Starts for Tbone_57:
(Start: 10 @39387 has 21 MA's), (35, 39573), (37, 39588), (53, 39756), (61, 39852), (73, 39975), (80, 40071), (108, 40257), (117, 40335),

Gene: TforTroy_59 Start: 39527, Stop: 40492, Start Num: 10
Candidate Starts for TforTroy_59:
(Start: 10 @39527 has 21 MA's), (31, 39674), (35, 39713), (44, 39824), (46, 39830), (73, 40112), (77, 40175), (80, 40208), (103, 40361), (111, 40409),

Gene: ThayneTheZag_27 Start: 19570, Stop: 20526, Start Num: 11
Candidate Starts for ThayneTheZag_27:
(1, 19303), (3, 19348), (Start: 11 @19570 has 3 MA's), (23, 19633), (25, 19657), (33, 19729), (34, 19741), (35, 19750), (37, 19765), (51, 19894), (70, 20137), (78, 20218), (97, 20377), (99, 20389), (106, 20422), (108, 20428),

Gene: ThursdayNight_62 Start: 40518, Stop: 41483, Start Num: 11
Candidate Starts for ThursdayNight_62:
(Start: 11 @40518 has 3 MA's), (18, 40566), (27, 40620), (73, 41100), (89, 41262), (106, 41358), (111, 41400), (115, 41427),

Gene: Turab_56 Start: 38331, Stop: 39311, Start Num: 10
Candidate Starts for Turab_56:
(Start: 10 @38331 has 21 MA's), (27, 38436), (31, 38478), (35, 38517), (53, 38700), (61, 38796), (73, 38928), (80, 39024), (85, 39060), (110, 39216), (117, 39273),

Gene: Tutumahutu_59 Start: 39023, Stop: 40015, Start Num: 10
Candidate Starts for Tutumahutu_59:

(Start: 10 @39023 has 21 MA's), (35, 39209), (37, 39224), (53, 39392), (61, 39488), (73, 39617), (80, 39713), (106, 39893), (111, 39929), (117, 39977),

Gene: Utopia_12 Start: 11012, Stop: 11740, Start Num: 20
Candidate Starts for Utopia_12:
(Start: 20 @11012 has 5 MA's), (30, 11084), (46, 11276), (52, 11315), (59, 11408), (65, 11489), (68, 11495), (95, 11714),

Gene: Warda_58 Start: 39113, Stop: 40099, Start Num: 10
Candidate Starts for Warda_58:
(Start: 10 @39113 has 21 MA's), (35, 39299), (37, 39314), (53, 39482), (61, 39578), (73, 39701), (80, 39797), (108, 39983), (117, 40061),

Gene: Whytu_12 Start: 10993, Stop: 11844, Start Num: 22
Candidate Starts for Whytu_12:
(Start: 22 @10993 has 1 MA's), (26, 11026), (35, 11125), (60, 11371), (75, 11482), (116, 11815),

Gene: Yang_59 Start: 39529, Stop: 40497, Start Num: 10
Candidate Starts for Yang_59:
(Start: 10 @39529 has 21 MA's), (18, 39580), (26, 39625), (35, 39718), (44, 39829), (46, 39835), (73, 40117), (80, 40213), (106, 40378), (111, 40414),

Gene: Yavru_12 Start: 11017, Stop: 11745, Start Num: 20
Candidate Starts for Yavru_12:
(Start: 20 @11017 has 5 MA's), (30, 11089), (46, 11281), (48, 11302), (52, 11320), (59, 11413), (68, 11500), (81, 11620),

Gene: YesChef_57 Start: 38810, Stop: 39802, Start Num: 10
Candidate Starts for YesChef_57:
(Start: 10 @38810 has 21 MA's), (27, 38915), (35, 38996), (37, 39011), (53, 39179), (61, 39275), (73, 39404), (80, 39500), (106, 39680), (111, 39716), (117, 39764),