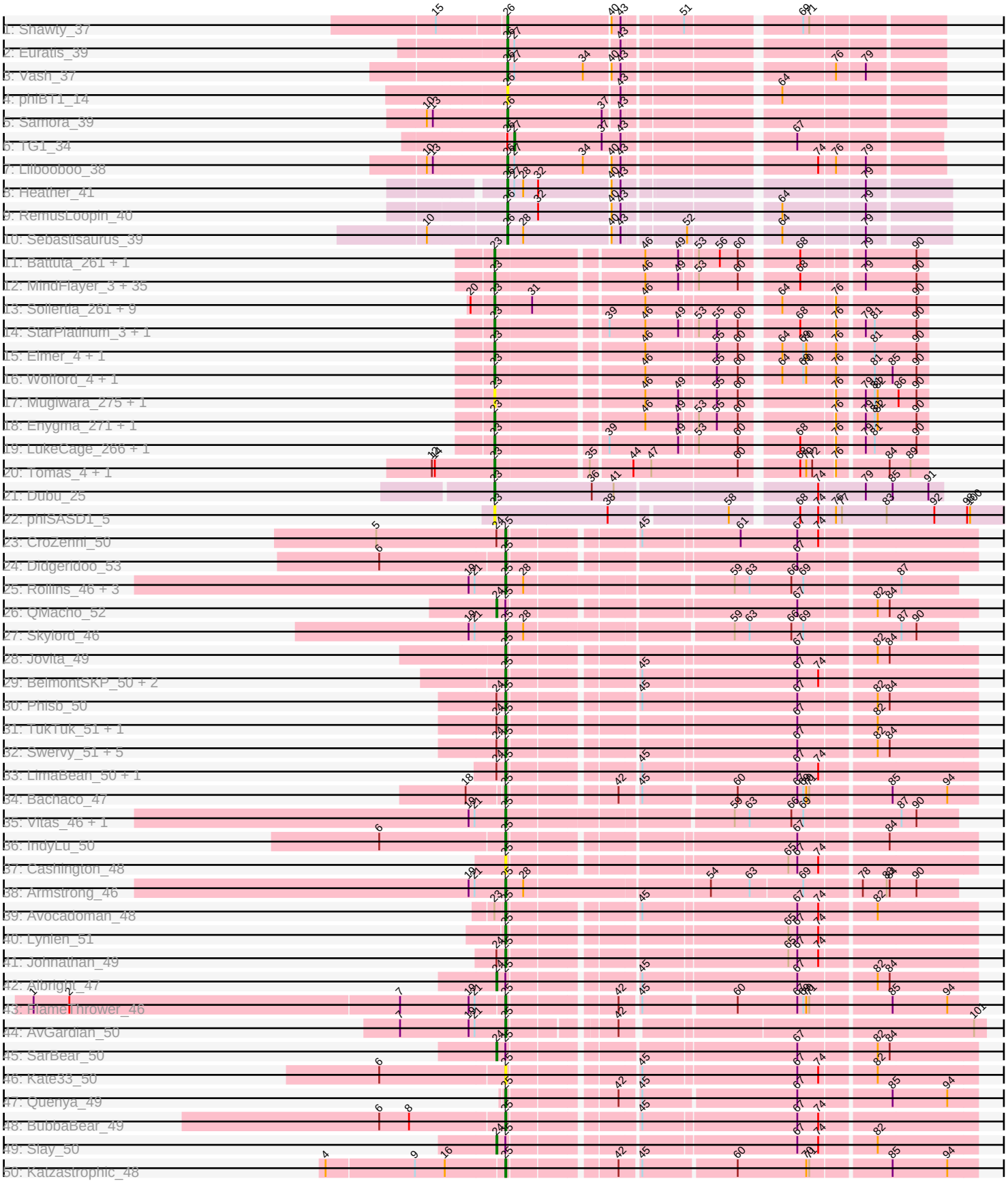
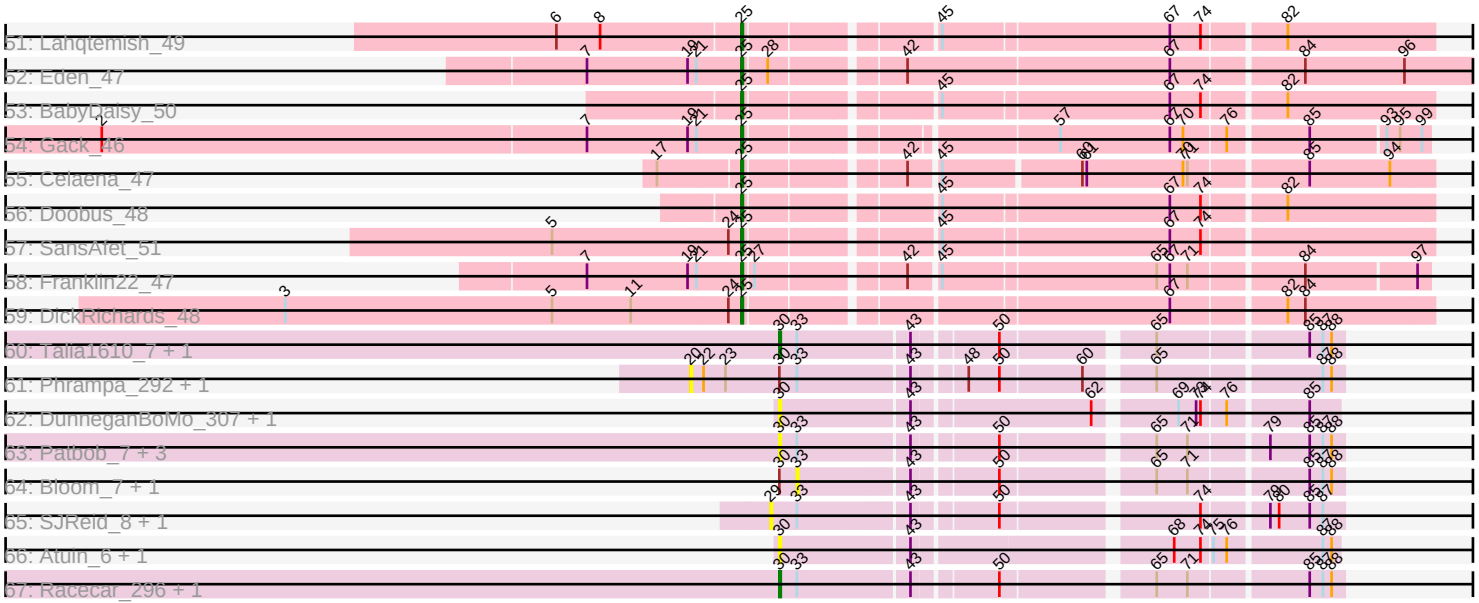
Pham 191128


1: Shawty_37
2: Euratis_39
3: Vash_37
4: phiBT1_14
5: Samora_39
6: TG1_34
7: Liboooboo_38
8: Heather_41
9: RemusLoopin_40
10: Sebastisaurus_39
11: Battuta_261 + 1
12: MindFlayer_3 + 35
13: Solientia_261 + 9
14: StarPlatinum_3 + 1
15: Elmer_4 + 1
16: Wofford_4 + 1
17: Mugiwara_275 + 1
18: Enygma_271 + 1
19: LukeCage_266 + 1
20: Tomas_4 + 1
21: Dubu_25
22: phiSASD1_5
23: CroZenni_50
24: Didgeridoo_53
25: Rollins_46 + 3
26: QMacho_52
27: Skylord_46
28: Jovita_49
29: BelmontSKP_50 + 2
30: Phisb_50
31: TukTuk_51 + 1
32: Swervy_51 + 5
33: LimaBean_50 + 1
34: Bachaco_47
35: Vitas_46 + 1
36: IndyLu_50
37: Cashington_48
38: Armstrong_46
39: Avocadoman_48
40: Lynlen_51
41: Johnathan_49
42: Albright_47
43: FlameThrower_46
44: AvGardian_50
45: SanBear_50
46: Kate33_50
47: Quenya_49
48: BubbaBear_49
49: Slay_50
50: Katzastrophic_48

Pham 191128


51: Lanqtemish_49
52: Eden_47
53: BabyDaisy_50
54: Gack_46
55: Celaena_47
56: Doobus_48
57: SansAlet_51
58: Franklin22_47
59: DickRichards_48
60: Talia1610_7 + 1
61: Phrampa_292 + 1
62: DunneganBoMo_307 + 1
63: Patbob_7 + 3
64: Bloom_7 + 1
65: SJReid_8 + 1
66: Atuin_6 + 1
67: Racecar_296 + 1

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 191128 Report

This analysis was run 11/02/24 on database version 579.

WARNING: Pham size does not match number of genes in report. Either unphamerated genes have been added (by you) or starterator has removed genes due to invalid start codon.

Pham number 191128 has 142 members, 24 are drafts.

Phages represented in each track:
- Track 1 : Shawty_37
- Track 2 : Euratis_39
- Track 3 : Vash_37
- Track 4 : phiBT1_14
- Track 5 : Samora_39
- Track 6 : TG1_34
- Track 7 : Lilbooboo_38
- Track 8 : Heather_41
- Track 9 : RemusLoopin_40
- Track 10 : Sebastisaurus_39
- Track 11 : Battuta_261, Battuta_4
- Track 12 : MindFlayer_3, Karimac_4, Gibbi_3, Jollison_261, Spilled_3, JimJam_272, SaltySpitoon_4, PumpkinSpice_4, PumpkinSpice_268, MindFlayer_255, Starbow_261, Quaran19_265, TomSawyer_269, KentuckyRacer_3, KentuckyRacer_271, Bordeaux_4, CeilingFan_277, Wipeout_3, Starbow_4, TomSawyer_4, Spelly_270, Gibbi_274, Bordeaux_261, Amabiko_4, Spilled_271, Amabiko_268, SaltySpitoon_264, Wipeout_256, Jollison_4, JimJam_4, Spelly_4, CeilingFan_3, Karimac_262, Quaran19_4, IchabodCrane_3, IchabodCrane_256
- Track 13 : Sollertia_261, Yaboi_5, Yaboi_266, BoomerJR_260, Stanimal_5, Genie2_5, Sollertia_5, BoomerJR_5, Stanimal_260, Genie2_260
- Track 14 : StarPlatinum_3, StarPlatinum_273
- Track 15 : Elmer_4, Elmer_271
- Track 16 : Wofford_4, Wofford_262
- Track 17 : Mugiwara_275, Mugiwara_3
- Track 18 : Enygma_271, Enygma_3
- Track 19 : LukeCage_266, LukeCage_3
- Track 20 : Tomas_4, Tomas_260
- Track 21 : Dubu_25
- Track 22 : phiSASD1_5
- Track 23 : CroZenni_50
- Track 24 : Didgeridoo_53
- Track 25 : Rollins_46, Bernstein_46, Brahms_46, Coltrane_46
- Track 26 : QMacho_52

• Track 27 : Skylord_46
• Track 28 : Jovita_49
• Track 29 : BelmontSKP_50, AnnaLie_50, Arroyo_50
• Track 30 : Phisb_50
• Track 31 : TukTuk_51, Eula_50
• Track 32 : Swervy_51, Finalfrontier_51, Kenzers_50, Albedo_51, Burritobowl_50, Nicky22_51
• Track 33 : LimaBean_50, Abigail_49
• Track 34 : Bachaco_47
• Track 35 : Vitas_46, Clayda5_47
• Track 36 : IndyLu_50
• Track 37 : Cashington_48
• Track 38 : Armstrong_46
• Track 39 : Avocadoman_48
• Track 40 : Lynlen_51
• Track 41 : Johnathan_49
• Track 42 : Albright_47
• Track 43 : FlameThrower_46
• Track 44 : AvGardian_50
• Track 45 : SarBear_50
• Track 46 : Kate33_50
• Track 47 : Quenya_49
• Track 48 : BubbaBear_49
• Track 49 : Slay_50
• Track 50 : Katzastrophic_48
• Track 51 : Lahqtemish_49
• Track 52 : Eden_47
• Track 53 : BabyDaisy_50
• Track 54 : Gack_46
• Track 55 : Celaena_47
• Track 56 : Doobus_48
• Track 57 : SansAfet_51
• Track 58 : Franklin22_47
• Track 59 : DickRichards_48
• Track 60 : Talia1610_7, Talia1610_293
• Track 61 : Phrampa_292, Phrampa_7
• Track 62 : DunneganBoMo_307, DunneganBoMo_4
• Track 63 : Patbob_7, Mimi_298, Patbob_297, Mimi_8
• Track 64 : Bloom_7, Bloom_294
• Track 65 : SJReid_8, SJReid_319
• Track 66 : Atuin_6, Atuin_313
• Track 67 : Racecar_296, Racecar_7

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

The start number called the most often in the published annotations is 23, it was called in 57 of the 118 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

• Amabiko_268, Amabiko_4, Battuta_261, Battuta_4, BoomerJR_260, BoomerJR_5, Bordeaux_261, Bordeaux_4, CeilingFan_277, CeilingFan_3, Dubu_25, Elmer_271, Elmer_4, Enygma_271, Enygma_3, Genie2_260, Genie2_5, Gibbi_274, Gibbi_3, IchabodCrane_256, IchabodCrane_3, JimJam_272, JimJam_4, Jollison_261, Jollison_4, Karimac_262, Karimac_4, KentuckyRacer_271, KentuckyRacer_3, LukeCage_266, LukeCage_3, MindFlayer_255, MindFlayer_3, Mugiwara_275, Mugiwara_3, PumpkinSpice_268, PumpkinSpice_4, Quaran19_265, Quaran19_4, SaltySpitoon_264, SaltySpitoon_4, Sollertia_261, Sollertia_5, Spelly_270, Spelly_4, Spilled_271, Spilled_3, Stanimal_260, Stanimal_5, StarPlatinum_273, StarPlatinum_3, Starbow_261, Starbow_4, TomSawyer_269, TomSawyer_4, Tomas_260, Tomas_4, Wipeout_256, Wipeout_3, Wofford_262, Wofford_4, Yaboi_266, Yaboi_5, phiSASD1_5,

Genes that have the "Most Annotated" start but do not call it:
• Avocadoman_48, Phrampa_292, Phrampa_7,

Genes that do not have the "Most Annotated" start:
• Abigail_49, Albedo_51, Albright_47, AnnaLie_50, Armstrong_46, Arroyo_50, Atuin_313, Atuin_6, AvGardian_50, BabyDaisy_50, Bachaco_47, BelmontSKP_50, Bernstein_46, Bloom_294, Bloom_7, Brahms_46, BubbaBear_49, Burritobowl_50, Cashington_48, Celaena_47, Clayda5_47, Coltrane_46, CroZenni_50, DickRichards_48, Didgeridoo_53, Doobus_48, DunneganBoMo_307, DunneganBoMo_4, Eden_47, Eula_50, Euratis_39, Finalfrontier_51, FlameThrower_46, Franklin22_47, Gack_46, Heather_41, IndyLu_50, Johnathan_49, Jovita_49, Kate33_50, Katzastrophic_48, Kenzers_50, Lahqtemish_49, Lilbooboo_38, LimaBean_50, Lynlen_51, Mimi_298, Mimi_8, Nicky22_51, Patbob_297, Patbob_7, Phisb_50, QMacho_52, Quenya_49, Racecar_296, Racecar_7, RemusLoopin_40, Rollins_46, SJReid_319, SJReid_8, Samora_39, SansAfet_51, SarBear_50, Sebastisaurus_39, Shawty_37, Skylord_46, Slay_50, Swervy_51, TG1_34, Talia1610_293, Talia1610_7, TukTuk_51, Vash_37, Vitas_46, phiBT1_14,

Summary by start number:

Start 20:
• Found in 12 of 142 (8.5%) of genes in pham
• No Manual Annotations of this start.
• Called 16.7% of time when present
• Phage (with cluster) where this start called: Phrampa_292 (FC), Phrampa_7 (FC),

Start 23:
• Found in 67 of 142 (47.2%) of genes in pham
• Manual Annotations of this start: 57 of 118
• Called 95.5% of time when present
• Phage (with cluster) where this start called: Amabiko_268 (BE2), Amabiko_4 (BE2), Battuta_261 (BE2), Battuta_4 (BE2), BoomerJR_260 (BE2), BoomerJR_5 (BE2), Bordeaux_261 (BE2), Bordeaux_4 (BE2), CeilingFan_277 (BE2), CeilingFan_3 (BE2), Dubu_25 (BJ), Elmer_271 (BE2), Elmer_4 (BE2), Enygma_271 (BE2), Enygma_3 (BE2), Genie2_260 (BE2), Genie2_5 (BE2), Gibbi_274 (BE2), Gibbi_3 (BE2), IchabodCrane_256 (BE2), IchabodCrane_3 (BE2), JimJam_272 (BE2), JimJam_4 (BE2), Jollison_261 (BE2), Jollison_4 (BE2), Karimac_262 (BE2), Karimac_4 (BE2), KentuckyRacer_271 (BE2), KentuckyRacer_3 (BE2), LukeCage_266 (BE2), LukeCage_3 (BE2), MindFlayer_255 (BE2), MindFlayer_3

(BE2), Mugiwara_275 (BE2), Mugiwara_3 (BE2), PumpkinSpice_268 (BE2), PumpkinSpice_4 (BE2), Quaran19_265 (BE2), Quaran19_4 (BE2), SaltySpitoon_264 (BE2), SaltySpitoon_4 (BE2), Sollertia_261 (BE2), Sollertia_5 (BE2), Spelly_270 (BE2), Spelly_4 (BE2), Spilled_271 (BE2), Spilled_3 (BE2), Stanimal_260 (BE2), Stanimal_5 (BE2), StarPlatinum_273 (BE2), StarPlatinum_3 (BE2), Starbow_261 (BE2), Starbow_4 (BE2), TomSawyer_269 (BE2), TomSawyer_4 (BE2), Tomas_260 (BE2), Tomas_4 (BE2), Wipeout_256 (BE2), Wipeout_3 (BE2), Wofford_262 (BE2), Wofford_4 (BE2), Yaboi_266 (BE2), Yaboi_5 (BE2), phiSASD1_5 (BJ),

Start 24:
• Found in 19 of 142 (13.4%) of genes in pham
• Manual Annotations of this start: 4 of 118
• Called 21.1% of time when present
• Phage (with cluster) where this start called: Albright_47 (EB), QMacho_52 (EB), SarBear_50 (EB), Slay_50 (EB),

Start 25:
• Found in 50 of 142 (35.2%) of genes in pham
• Manual Annotations of this start: 44 of 118
• Called 92.0% of time when present
• Phage (with cluster) where this start called: Abigail_49 (EB), Albedo_51 (EB), AnnaLie_50 (EB), Armstrong_46 (EB), Arroyo_50 (EB), AvGardian_50 (EB), Avocadoman_48 (EB), BabyDaisy_50 (EB), Bachaco_47 (EB), BelmontSKP_50 (EB), Bernstein_46 (EB), Brahms_46 (EB), BubbaBear_49 (EB), Burritobowl_50 (EB), Cashington_48 (EB), Celaena_47 (EB), Clayda5_47 (EB), Coltrane_46 (EB), CroZenni_50 (EB), DickRichards_48 (EB), Didgeridoo_53 (EB), Doobus_48 (EB), Eden_47 (EB), Eula_50 (EB), Finalfrontier_51 (EB), FlameThrower_46 (EB), Franklin22_47 (EB), Gack_46 (EB), IndyLu_50 (EB), Johnathan_49 (EB), Jovita_49 (EB), Kate33_50 (EB), Katzastrophic_48 (EB), Kenzers_50 (EB), Lahqtemish_49 (EB), LimaBean_50 (EB), Lynlen_51 (EB), Nicky22_51 (EB), Phisb_50 (EB), Quenya_49 (EB), Rollins_46 (EB), SansAfet_51 (EB), Skylord_46 (EB), Swervy_51 (EB), TukTuk_51 (EB), Vitas_46 (EB),

Start 26:
• Found in 10 of 142 (7.0%) of genes in pham
• Manual Annotations of this start: 8 of 118
• Called 90.0% of time when present
• Phage (with cluster) where this start called: Euratis_39 (BB1), Heather_41 (BB2), Lilbooboo_38 (BB1), RemusLoopin_40 (BB2), Samora_39 (BB1), Sebastisaurus_39 (BB2), Shawty_37 (BB1), Vash_37 (BB1), phiBT1_14 (BB1),

Start 27:
• Found in 6 of 142 (4.2%) of genes in pham
• Manual Annotations of this start: 1 of 118
• Called 16.7% of time when present
• Phage (with cluster) where this start called: TG1_34 (BB1),

Start 29:
• Found in 2 of 142 (1.4%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: SJReid_319 (FC), SJReid_8 (FC),

Start 30:
• Found in 16 of 142 (11.3%) of genes in pham
• Manual Annotations of this start: 4 of 118
• Called 75.0% of time when present
• Phage (with cluster) where this start called: Atuin_313 (FC), Atuin_6 (FC), DunneganBoMo_307 (FC), DunneganBoMo_4 (FC), Mimi_298 (FC), Mimi_8 (FC), Patbob_297 (FC), Patbob_7 (FC), Racecar_296 (FC), Racecar_7 (FC), Talia1610_293 (FC), Talia1610_7 (FC),

Start 33:
• Found in 14 of 142 (9.9%) of genes in pham
• No Manual Annotations of this start.
• Called 14.3% of time when present
• Phage (with cluster) where this start called: Bloom_294 (FC), Bloom_7 (FC),

Summary by clusters:

There are 6 clusters represented in this pham: BJ, EB, FC, BE2, BB2, BB1,

Info for manual annotations of cluster BB1:
•Start number 26 was manually annotated 5 times for cluster BB1.
•Start number 27 was manually annotated 1 time for cluster BB1.

Info for manual annotations of cluster BB2:
•Start number 26 was manually annotated 3 times for cluster BB2.

Info for manual annotations of cluster BE2:
•Start number 23 was manually annotated 56 times for cluster BE2.

Info for manual annotations of cluster BJ:
•Start number 23 was manually annotated 1 time for cluster BJ.

Info for manual annotations of cluster EB:
•Start number 24 was manually annotated 4 times for cluster EB.
•Start number 25 was manually annotated 44 times for cluster EB.

Info for manual annotations of cluster FC:
•Start number 30 was manually annotated 4 times for cluster FC.

Gene Information:

Gene: Abigail_49 Start: 33436, Stop: 33870, Start Num: 25
Candidate Starts for Abigail_49:
(Start: 24 @33427 has 4 MA's), (Start: 25 @33436 has 44 MA's), (45, 33550), (67, 33700), (74, 33721),

Gene: Albedo_51 Start: 34047, Stop: 34481, Start Num: 25
Candidate Starts for Albedo_51:
(Start: 24 @34038 has 4 MA's), (Start: 25 @34047 has 44 MA's), (67, 34311), (82, 34383), (84, 34395),

Gene: Albright_47 Start: 32744, Stop: 33187, Start Num: 24
Candidate Starts for Albright_47:
(Start: 24 @32744 has 4 MA's), (Start: 25 @32753 has 44 MA's), (45, 32867), (67, 33017), (82, 33089), (84, 33101),

Gene: Amabiko_4 Start: 3239, Stop: 2847, Start Num: 23
Candidate Starts for Amabiko_4:
(Start: 23 @3239 has 57 MA's), (46, 3101), (49, 3068), (53, 3053), (60, 3014), (68, 2963), (79, 2909), (90, 2858),

Gene: Amabiko_268 Start: 122065, Stop: 121673, Start Num: 23
Candidate Starts for Amabiko_268:
(Start: 23 @122065 has 57 MA's), (46, 121927), (49, 121894), (53, 121879), (60, 121840), (68, 121789), (79, 121735), (90, 121684),

Gene: AnnaLie_50 Start: 34096, Stop: 34530, Start Num: 25
Candidate Starts for AnnaLie_50:
(Start: 25 @34096 has 44 MA's), (45, 34210), (67, 34360), (74, 34381),

Gene: Armstrong_46 Start: 31424, Stop: 31855, Start Num: 25
Candidate Starts for Armstrong_46:
(19, 31388), (21, 31394), (Start: 25 @31424 has 44 MA's), (28, 31442), (54, 31619), (63, 31658), (69, 31709), (78, 31760), (83, 31784), (84, 31787), (90, 31814),

Gene: Arroyo_50 Start: 34204, Stop: 34638, Start Num: 25
Candidate Starts for Arroyo_50:
(Start: 25 @34204 has 44 MA's), (45, 34318), (67, 34468), (74, 34489),

Gene: Atuin_6 Start: 3678, Stop: 4025, Start Num: 30
Candidate Starts for Atuin_6:
(Start: 30 @3678 has 4 MA's), (43, 3762), (68, 3921), (74, 3939), (75, 3945), (76, 3954), (87, 4014), (88, 4020),

Gene: Atuin_313 Start: 180566, Stop: 180913, Start Num: 30
Candidate Starts for Atuin_313:
(Start: 30 @180566 has 4 MA's), (43, 180650), (68, 180809), (74, 180827), (75, 180833), (76, 180842), (87, 180902), (88, 180908),

Gene: AvGardian_50 Start: 33876, Stop: 34307, Start Num: 25
Candidate Starts for AvGardian_50:
(7, 33771), (19, 33840), (21, 33846), (Start: 25 @33876 has 44 MA's), (42, 33966), (101, 34296),

Gene: Avocadoman_48 Start: 32960, Stop: 33394, Start Num: 25
Candidate Starts for Avocadoman_48:
(Start: 23 @32951 has 57 MA's), (Start: 25 @32960 has 44 MA's), (45, 33074), (67, 33224), (74, 33245), (82, 33296),

Gene: BabyDaisy_50 Start: 34118, Stop: 34552, Start Num: 25
Candidate Starts for BabyDaisy_50:
(Start: 25 @34118 has 44 MA's), (45, 34232), (67, 34382), (74, 34403), (82, 34454),

Gene: Bachaco_47 Start: 34966, Stop: 35400, Start Num: 25
Candidate Starts for Bachaco_47:

(18, 34933), (Start: 25 @34966 has 44 MA's), (42, 35062), (45, 35080), (60, 35170), (67, 35230), (69, 35236), (70, 35239), (71, 35242), (85, 35317), (94, 35371),

Gene: Battuta_261 Start: 121394, Stop: 121002, Start Num: 23
Candidate Starts for Battuta_261:
(Start: 23 @121394 has 57 MA's), (46, 121256), (49, 121223), (53, 121208), (56, 121187), (60, 121169), (68, 121118), (79, 121064), (90, 121013),

Gene: Battuta_4 Start: 3239, Stop: 2847, Start Num: 23
Candidate Starts for Battuta_4:
(Start: 23 @3239 has 57 MA's), (46, 3101), (49, 3068), (53, 3053), (56, 3032), (60, 3014), (68, 2963), (79, 2909), (90, 2858),

Gene: BelmontSKP_50 Start: 34096, Stop: 34530, Start Num: 25
Candidate Starts for BelmontSKP_50:
(Start: 25 @34096 has 44 MA's), (45, 34210), (67, 34360), (74, 34381),

Gene: Bernstein_46 Start: 31506, Stop: 31931, Start Num: 25
Candidate Starts for Bernstein_46:
(19, 31470), (21, 31476), (Start: 25 @31506 has 44 MA's), (28, 31524), (59, 31716), (63, 31731), (66, 31773), (69, 31785), (87, 31875),

Gene: Bloom_7 Start: 4103, Stop: 4438, Start Num: 33
Candidate Starts for Bloom_7:
(Start: 30 @4091 has 4 MA's), (33, 4103), (43, 4175), (50, 4226), (65, 4319), (71, 4340), (85, 4415), (87, 4424), (88, 4430),

Gene: Bloom_294 Start: 177578, Stop: 177913, Start Num: 33
Candidate Starts for Bloom_294:
(Start: 30 @177566 has 4 MA's), (33, 177578), (43, 177650), (50, 177701), (65, 177794), (71, 177815), (85, 177890), (87, 177899), (88, 177905),

Gene: BoomerJR_260 Start: 122007, Stop: 121615, Start Num: 23
Candidate Starts for BoomerJR_260:
(20, 122028), (Start: 23 @122007 has 57 MA's), (31, 121971), (46, 121869), (64, 121749), (76, 121701), (90, 121626),

Gene: BoomerJR_5 Start: 3219, Stop: 2827, Start Num: 23
Candidate Starts for BoomerJR_5:
(20, 3240), (Start: 23 @3219 has 57 MA's), (31, 3183), (46, 3081), (64, 2961), (76, 2913), (90, 2838),

Gene: Bordeaux_4 Start: 3239, Stop: 2847, Start Num: 23
Candidate Starts for Bordeaux_4:
(Start: 23 @3239 has 57 MA's), (46, 3101), (49, 3068), (53, 3053), (60, 3014), (68, 2963), (79, 2909), (90, 2858),

Gene: Bordeaux_261 Start: 121977, Stop: 121585, Start Num: 23
Candidate Starts for Bordeaux_261:
(Start: 23 @121977 has 57 MA's), (46, 121839), (49, 121806), (53, 121791), (60, 121752), (68, 121701), (79, 121647), (90, 121596),

Gene: Brahms_46 Start: 31426, Stop: 31851, Start Num: 25
Candidate Starts for Brahms_46:

(19, 31390), (21, 31396), (Start: 25 @31426 has 44 MA's), (28, 31444), (59, 31636), (63, 31651), (66, 31693), (69, 31705), (87, 31795),

Gene: BubbaBear_49 Start: 33737, Stop: 34171, Start Num: 25
Candidate Starts for BubbaBear_49:
(6, 33614), (8, 33644), (Start: 25 @33737 has 44 MA's), (45, 33851), (67, 34001), (74, 34022),

Gene: Burritobowl_50 Start: 33661, Stop: 34095, Start Num: 25
Candidate Starts for Burritobowl_50:
(Start: 24 @33652 has 4 MA's), (Start: 25 @33661 has 44 MA's), (67, 33925), (82, 33997), (84, 34009),

Gene: Cashington_48 Start: 33017, Stop: 33451, Start Num: 25
Candidate Starts for Cashington_48:
(Start: 25 @33017 has 44 MA's), (65, 33272), (67, 33281), (74, 33302),

Gene: CeilingFan_277 Start: 123457, Stop: 123065, Start Num: 23
Candidate Starts for CeilingFan_277:
(Start: 23 @123457 has 57 MA's), (46, 123319), (49, 123286), (53, 123271), (60, 123232), (68, 123181), (79, 123127), (90, 123076),

Gene: CeilingFan_3 Start: 2850, Stop: 2458, Start Num: 23
Candidate Starts for CeilingFan_3:
(Start: 23 @2850 has 57 MA's), (46, 2712), (49, 2679), (53, 2664), (60, 2625), (68, 2574), (79, 2520), (90, 2469),

Gene: Celaena_47 Start: 34695, Stop: 35129, Start Num: 25
Candidate Starts for Celaena_47:
(17, 34641), (Start: 25 @34695 has 44 MA's), (42, 34791), (45, 34809), (60, 34899), (61, 34902), (70, 34968), (71, 34971), (85, 35046), (94, 35100),

Gene: Clayda5_47 Start: 31413, Stop: 31838, Start Num: 25
Candidate Starts for Clayda5_47:
(19, 31377), (21, 31383), (Start: 25 @31413 has 44 MA's), (59, 31623), (63, 31638), (66, 31680), (69, 31692), (87, 31782), (90, 31797),

Gene: Coltrane_46 Start: 31426, Stop: 31851, Start Num: 25
Candidate Starts for Coltrane_46:
(19, 31390), (21, 31396), (Start: 25 @31426 has 44 MA's), (28, 31444), (59, 31636), (63, 31651), (66, 31693), (69, 31705), (87, 31795),

Gene: CroZenni_50 Start: 33550, Stop: 33984, Start Num: 25
Candidate Starts for CroZenni_50:
(5, 33421), (Start: 24 @33541 has 4 MA's), (Start: 25 @33550 has 44 MA's), (45, 33664), (61, 33757), (67, 33814), (74, 33835),

Gene: DickRichards_48 Start: 33773, Stop: 34207, Start Num: 25
Candidate Starts for DickRichards_48:
(3, 33461), (5, 33644), (11, 33698), (Start: 24 @33764 has 4 MA's), (Start: 25 @33773 has 44 MA's), (67, 34037), (82, 34109), (84, 34121),

Gene: Didgeridoo_53 Start: 34464, Stop: 34898, Start Num: 25
Candidate Starts for Didgeridoo_53:

(6, 34341), (Start: 25 @34464 has 44 MA's), (67, 34728),

Gene: Doobus_48 Start: 33211, Stop: 33645, Start Num: 25
Candidate Starts for Doobus_48:
(Start: 25 @33211 has 44 MA's), (45, 33325), (67, 33475), (74, 33496), (82, 33547),

Gene: Dubu_25 Start: 20964, Stop: 21389, Start Num: 23
Candidate Starts for Dubu_25:
(Start: 23 @20964 has 57 MA's), (36, 21060), (41, 21081), (74, 21267), (79, 21312), (85, 21339), (91, 21375),

Gene: DunneganBoMo_307 Start: 182381, Stop: 182728, Start Num: 30
Candidate Starts for DunneganBoMo_307:
(Start: 30 @182381 has 4 MA's), (43, 182465), (62, 182579), (69, 182627), (73, 182639), (74, 182642), (76, 182657), (85, 182708),

Gene: DunneganBoMo_4 Start: 2969, Stop: 3316, Start Num: 30
Candidate Starts for DunneganBoMo_4:
(Start: 30 @2969 has 4 MA's), (43, 3053), (62, 3167), (69, 3215), (73, 3227), (74, 3230), (76, 3245), (85, 3296),

Gene: Eden_47 Start: 32399, Stop: 32896, Start Num: 25
Candidate Starts for Eden_47:
(7, 32294), (19, 32363), (21, 32369), (Start: 25 @32399 has 44 MA's), (28, 32414), (42, 32495), (67, 32672), (84, 32756), (96, 32822),

Gene: Elmer_4 Start: 3119, Stop: 2724, Start Num: 23
Candidate Starts for Elmer_4:
(Start: 23 @3119 has 57 MA's), (46, 2981), (55, 2915), (60, 2894), (64, 2861), (69, 2840), (70, 2837), (76, 2810), (81, 2777), (90, 2735),

Gene: Elmer_271 Start: 125487, Stop: 125092, Start Num: 23
Candidate Starts for Elmer_271:
(Start: 23 @125487 has 57 MA's), (46, 125349), (55, 125283), (60, 125262), (64, 125229), (69, 125208), (70, 125205), (76, 125178), (81, 125145), (90, 125103),

Gene: Enygma_271 Start: 125224, Stop: 124832, Start Num: 23
Candidate Starts for Enygma_271:
(Start: 23 @125224 has 57 MA's), (46, 125086), (49, 125053), (53, 125038), (55, 125020), (60, 124999), (76, 124918), (79, 124894), (81, 124885), (82, 124882), (90, 124843),

Gene: Enygma_3 Start: 2800, Stop: 2408, Start Num: 23
Candidate Starts for Enygma_3:
(Start: 23 @2800 has 57 MA's), (46, 2662), (49, 2629), (53, 2614), (55, 2596), (60, 2575), (76, 2494), (79, 2470), (81, 2461), (82, 2458), (90, 2419),

Gene: Eula_50 Start: 33553, Stop: 33987, Start Num: 25
Candidate Starts for Eula_50:
(Start: 24 @33544 has 4 MA's), (Start: 25 @33553 has 44 MA's), (67, 33817), (82, 33889),

Gene: Euratis_39 Start: 30726, Stop: 31124, Start Num: 26
Candidate Starts for Euratis_39:
(Start: 26 @30726 has 8 MA's), (Start: 27 @30732 has 1 MA's), (43, 30834),

Gene: Finalfrontier_51 Start: 34555, Stop: 34989, Start Num: 25
Candidate Starts for Finalfrontier_51:
(Start: 24 @34546 has 4 MA's), (Start: 25 @34555 has 44 MA's), (67, 34819), (82, 34891), (84, 34903),

Gene: FlameThrower_46 Start: 33765, Stop: 34199, Start Num: 25
Candidate Starts for FlameThrower_46:
(1, 33297), (2, 33333), (7, 33663), (19, 33732), (21, 33738), (Start: 25 @33765 has 44 MA's), (42, 33861), (45, 33879), (60, 33969), (67, 34029), (69, 34035), (70, 34038), (71, 34041), (85, 34116), (94, 34170),

Gene: Franklin22_47 Start: 32020, Stop: 32448, Start Num: 25
Candidate Starts for Franklin22_47:
(7, 31915), (19, 31984), (21, 31990), (Start: 25 @32020 has 44 MA's), (Start: 27 @32026 has 1 MA's), (42, 32116), (45, 32134), (65, 32275), (67, 32284), (71, 32296), (84, 32368), (97, 32440),

Gene: Gack_46 Start: 32064, Stop: 32492, Start Num: 25
Candidate Starts for Gack_46:
(2, 31629), (7, 31959), (19, 32028), (21, 32034), (Start: 25 @32064 has 44 MA's), (57, 32253), (67, 32328), (70, 32337), (76, 32364), (85, 32415), (93, 32463), (95, 32472), (99, 32487),

Gene: Genie2_5 Start: 3219, Stop: 2827, Start Num: 23
Candidate Starts for Genie2_5:
(20, 3240), (Start: 23 @3219 has 57 MA's), (31, 3183), (46, 3081), (64, 2961), (76, 2913), (90, 2838),

Gene: Genie2_260 Start: 122120, Stop: 121728, Start Num: 23
Candidate Starts for Genie2_260:
(20, 122141), (Start: 23 @122120 has 57 MA's), (31, 122084), (46, 121982), (64, 121862), (76, 121814), (90, 121739),

Gene: Gibbi_3 Start: 2850, Stop: 2458, Start Num: 23
Candidate Starts for Gibbi_3:
(Start: 23 @2850 has 57 MA's), (46, 2712), (49, 2679), (53, 2664), (60, 2625), (68, 2574), (79, 2520), (90, 2469),

Gene: Gibbi_274 Start: 122950, Stop: 122558, Start Num: 23
Candidate Starts for Gibbi_274:
(Start: 23 @122950 has 57 MA's), (46, 122812), (49, 122779), (53, 122764), (60, 122725), (68, 122674), (79, 122620), (90, 122569),

Gene: Heather_41 Start: 32025, Stop: 32429, Start Num: 26
Candidate Starts for Heather_41:
(Start: 26 @32025 has 8 MA's), (Start: 27 @32031 has 1 MA's), (28, 32040), (32, 32055), (40, 32124), (43, 32133), (79, 32349),

Gene: IchabodCrane_3 Start: 2847, Stop: 2455, Start Num: 23
Candidate Starts for IchabodCrane_3:
(Start: 23 @2847 has 57 MA's), (46, 2709), (49, 2676), (53, 2661), (60, 2622), (68, 2571), (79, 2517), (90, 2466),

Gene: IchabodCrane_256 Start: 121390, Stop: 120998, Start Num: 23
Candidate Starts for IchabodCrane_256:

(Start: 23 @121390 has 57 MA's), (46, 121252), (49, 121219), (53, 121204), (60, 121165), (68, 121114), (79, 121060), (90, 121009),

Gene: IndyLu_50 Start: 34038, Stop: 34472, Start Num: 25
Candidate Starts for IndyLu_50:
(6, 33915), (Start: 25 @34038 has 44 MA's), (67, 34302), (84, 34386),

Gene: JimJam_272 Start: 124775, Stop: 124383, Start Num: 23
Candidate Starts for JimJam_272:
(Start: 23 @124775 has 57 MA's), (46, 124637), (49, 124604), (53, 124589), (60, 124550), (68, 124499), (79, 124445), (90, 124394),

Gene: JimJam_4 Start: 3239, Stop: 2847, Start Num: 23
Candidate Starts for JimJam_4:
(Start: 23 @3239 has 57 MA's), (46, 3101), (49, 3068), (53, 3053), (60, 3014), (68, 2963), (79, 2909), (90, 2858),

Gene: Johnathan_49 Start: 33043, Stop: 33477, Start Num: 25
Candidate Starts for Johnathan_49:
(Start: 24 @33034 has 4 MA's), (Start: 25 @33043 has 44 MA's), (65, 33298), (67, 33307), (74, 33328),

Gene: Jollison_261 Start: 121914, Stop: 121522, Start Num: 23
Candidate Starts for Jollison_261:
(Start: 23 @121914 has 57 MA's), (46, 121776), (49, 121743), (53, 121728), (60, 121689), (68, 121638), (79, 121584), (90, 121533),

Gene: Jollison_4 Start: 3239, Stop: 2847, Start Num: 23
Candidate Starts for Jollison_4:
(Start: 23 @3239 has 57 MA's), (46, 3101), (49, 3068), (53, 3053), (60, 3014), (68, 2963), (79, 2909), (90, 2858),

Gene: Jovita_49 Start: 33427, Stop: 33861, Start Num: 25
Candidate Starts for Jovita_49:
(Start: 25 @33427 has 44 MA's), (67, 33691), (82, 33763), (84, 33775),

Gene: Karimac_4 Start: 3241, Stop: 2849, Start Num: 23
Candidate Starts for Karimac_4:
(Start: 23 @3241 has 57 MA's), (46, 3103), (49, 3070), (53, 3055), (60, 3016), (68, 2965), (79, 2911), (90, 2860),

Gene: Karimac_262 Start: 122560, Stop: 122168, Start Num: 23
Candidate Starts for Karimac_262:
(Start: 23 @122560 has 57 MA's), (46, 122422), (49, 122389), (53, 122374), (60, 122335), (68, 122284), (79, 122230), (90, 122179),

Gene: Kate33_50 Start: 33755, Stop: 34189, Start Num: 25
Candidate Starts for Kate33_50:
(6, 33632), (Start: 25 @33755 has 44 MA's), (45, 33869), (67, 34019), (74, 34040), (82, 34091),

Gene: Katzastrophic_48 Start: 34275, Stop: 34709, Start Num: 25
Candidate Starts for Katzastrophic_48:

(4, 34101), (9, 34188), (16, 34218), (Start: 25 @34275 has 44 MA's), (42, 34371), (45, 34389), (60, 34479), (70, 34548), (71, 34551), (85, 34626), (94, 34680),

Gene: KentuckyRacer_3 Start: 2851, Stop: 2459, Start Num: 23
Candidate Starts for KentuckyRacer_3:
(Start: 23 @2851 has 57 MA's), (46, 2713), (49, 2680), (53, 2665), (60, 2626), (68, 2575), (79, 2521), (90, 2470),

Gene: KentuckyRacer_271 Start: 124302, Stop: 123910, Start Num: 23
Candidate Starts for KentuckyRacer_271:
(Start: 23 @124302 has 57 MA's), (46, 124164), (49, 124131), (53, 124116), (60, 124077), (68, 124026), (79, 123972), (90, 123921),

Gene: Kenzers_50 Start: 33579, Stop: 34013, Start Num: 25
Candidate Starts for Kenzers_50:
(Start: 24 @33570 has 4 MA's), (Start: 25 @33579 has 44 MA's), (67, 33843), (82, 33915), (84, 33927),

Gene: Lahqtemish_49 Start: 34037, Stop: 34471, Start Num: 25
Candidate Starts for Lahqtemish_49:
(6, 33914), (8, 33944), (Start: 25 @34037 has 44 MA's), (45, 34151), (67, 34301), (74, 34322), (82, 34373),

Gene: Lilbooboo_38 Start: 30841, Stop: 31239, Start Num: 26
Candidate Starts for Lilbooboo_38:
(10, 30763), (13, 30769), (Start: 26 @30841 has 8 MA's), (Start: 27 @30847 has 1 MA's), (34, 30916), (40, 30940), (43, 30949), (74, 31123), (76, 31138), (79, 31165),

Gene: LimaBean_50 Start: 33314, Stop: 33748, Start Num: 25
Candidate Starts for LimaBean_50:
(Start: 24 @33305 has 4 MA's), (Start: 25 @33314 has 44 MA's), (45, 33428), (67, 33578), (74, 33599),

Gene: LukeCage_266 Start: 123746, Stop: 123354, Start Num: 23
Candidate Starts for LukeCage_266:
(Start: 23 @123746 has 57 MA's), (39, 123644), (49, 123575), (53, 123560), (60, 123521), (68, 123470), (76, 123440), (79, 123416), (81, 123407), (90, 123365),

Gene: LukeCage_3 Start: 2842, Stop: 2450, Start Num: 23
Candidate Starts for LukeCage_3:
(Start: 23 @2842 has 57 MA's), (39, 2740), (49, 2671), (53, 2656), (60, 2617), (68, 2566), (76, 2536), (79, 2512), (81, 2503), (90, 2461),

Gene: Lynlen_51 Start: 33867, Stop: 34301, Start Num: 25
Candidate Starts for Lynlen_51:
(Start: 25 @33867 has 44 MA's), (65, 34122), (67, 34131), (74, 34152),

Gene: Mimi_298 Start: 176687, Stop: 177034, Start Num: 30
Candidate Starts for Mimi_298:
(Start: 30 @176687 has 4 MA's), (33, 176699), (43, 176771), (50, 176822), (65, 176915), (71, 176936), (79, 176984), (85, 177011), (87, 177020), (88, 177026),

Gene: Mimi_8 Start: 4027, Stop: 4374, Start Num: 30

Candidate Starts for Mimi_8:
(Start: 30 @4027 has 4 MA's), (33, 4039), (43, 4111), (50, 4162), (65, 4255), (71, 4276), (79, 4324), (85, 4351), (87, 4360), (88, 4366),

Gene: MindFlayer_3 Start: 2849, Stop: 2457, Start Num: 23
Candidate Starts for MindFlayer_3:
(Start: 23 @2849 has 57 MA's), (46, 2711), (49, 2678), (53, 2663), (60, 2624), (68, 2573), (79, 2519), (90, 2468),

Gene: MindFlayer_255 Start: 120909, Stop: 120517, Start Num: 23
Candidate Starts for MindFlayer_255:
(Start: 23 @120909 has 57 MA's), (46, 120771), (49, 120738), (53, 120723), (60, 120684), (68, 120633), (79, 120579), (90, 120528),

Gene: Mugiwara_275 Start: 124214, Stop: 123822, Start Num: 23
Candidate Starts for Mugiwara_275:
(Start: 23 @124214 has 57 MA's), (46, 124076), (49, 124043), (55, 124010), (60, 123989), (76, 123908), (79, 123884), (81, 123875), (82, 123872), (86, 123851), (90, 123833),

Gene: Mugiwara_3 Start: 2829, Stop: 2437, Start Num: 23
Candidate Starts for Mugiwara_3:
(Start: 23 @2829 has 57 MA's), (46, 2691), (49, 2658), (55, 2625), (60, 2604), (76, 2523), (79, 2499), (81, 2490), (82, 2487), (86, 2466), (90, 2448),

Gene: Nicky22_51 Start: 34214, Stop: 34648, Start Num: 25
Candidate Starts for Nicky22_51:
(Start: 24 @34205 has 4 MA's), (Start: 25 @34214 has 44 MA's), (67, 34478), (82, 34550), (84, 34562),

Gene: Patbob_7 Start: 4133, Stop: 4480, Start Num: 30
Candidate Starts for Patbob_7:
(Start: 30 @4133 has 4 MA's), (33, 4145), (43, 4217), (50, 4268), (65, 4361), (71, 4382), (79, 4430), (85, 4457), (87, 4466), (88, 4472),

Gene: Patbob_297 Start: 179592, Stop: 179939, Start Num: 30
Candidate Starts for Patbob_297:
(Start: 30 @179592 has 4 MA's), (33, 179604), (43, 179676), (50, 179727), (65, 179820), (71, 179841), (79, 179889), (85, 179916), (87, 179925), (88, 179931),

Gene: Phisb_50 Start: 33626, Stop: 34060, Start Num: 25
Candidate Starts for Phisb_50:
(Start: 24 @33617 has 4 MA's), (Start: 25 @33626 has 44 MA's), (45, 33740), (67, 33890), (82, 33962), (84, 33974),

Gene: Phrampa_292 Start: 180451, Stop: 180858, Start Num: 20
Candidate Starts for Phrampa_292:
(20, 180451), (22, 180460), (Start: 23 @180475 has 57 MA's), (Start: 30 @180511 has 4 MA's), (33, 180523), (43, 180595), (48, 180625), (50, 180646), (60, 180700), (65, 180739), (87, 180844), (88, 180850),

Gene: Phrampa_7 Start: 4080, Stop: 4487, Start Num: 20
Candidate Starts for Phrampa_7:

(20, 4080), (22, 4089), (Start: 23 @4104 has 57 MA's), (Start: 30 @4140 has 4 MA's), (33, 4152), (43, 4224), (48, 4254), (50, 4275), (60, 4329), (65, 4368), (87, 4473), (88, 4479),

Gene: PumpkinSpice_4 Start: 3239, Stop: 2847, Start Num: 23
Candidate Starts for PumpkinSpice_4:
(Start: 23 @3239 has 57 MA's), (46, 3101), (49, 3068), (53, 3053), (60, 3014), (68, 2963), (79, 2909), (90, 2858),

Gene: PumpkinSpice_268 Start: 123131, Stop: 122739, Start Num: 23
Candidate Starts for PumpkinSpice_268:
(Start: 23 @123131 has 57 MA's), (46, 122993), (49, 122960), (53, 122945), (60, 122906), (68, 122855), (79, 122801), (90, 122750),

Gene: QMacho_52 Start: 34198, Stop: 34641, Start Num: 24
Candidate Starts for QMacho_52:
(Start: 24 @34198 has 4 MA's), (Start: 25 @34207 has 44 MA's), (67, 34471), (82, 34543), (84, 34555),

Gene: Quaran19_265 Start: 122421, Stop: 122029, Start Num: 23
Candidate Starts for Quaran19_265:
(Start: 23 @122421 has 57 MA's), (46, 122283), (49, 122250), (53, 122235), (60, 122196), (68, 122145), (79, 122091), (90, 122040),

Gene: Quaran19_4 Start: 3239, Stop: 2847, Start Num: 23
Candidate Starts for Quaran19_4:
(Start: 23 @3239 has 57 MA's), (46, 3101), (49, 3068), (53, 3053), (60, 3014), (68, 2963), (79, 2909), (90, 2858),

Gene: Quenya_49 Start: 34399, Stop: 34833, Start Num: 25
Candidate Starts for Quenya_49:
(Start: 25 @34399 has 44 MA's), (42, 34495), (45, 34513), (67, 34663), (85, 34750), (94, 34804),

Gene: Racecar_296 Start: 177796, Stop: 178143, Start Num: 30
Candidate Starts for Racecar_296:
(Start: 30 @177796 has 4 MA's), (33, 177808), (43, 177880), (50, 177931), (65, 178024), (71, 178045), (85, 178120), (87, 178129), (88, 178135),

Gene: Racecar_7 Start: 4087, Stop: 4434, Start Num: 30
Candidate Starts for Racecar_7:
(Start: 30 @4087 has 4 MA's), (33, 4099), (43, 4171), (50, 4222), (65, 4315), (71, 4336), (85, 4411), (87, 4420), (88, 4426),

Gene: RemusLoopin_40 Start: 32252, Stop: 32656, Start Num: 26
Candidate Starts for RemusLoopin_40:
(Start: 26 @32252 has 8 MA's), (32, 32282), (40, 32351), (43, 32360), (64, 32498), (79, 32576),

Gene: Rollins_46 Start: 31506, Stop: 31931, Start Num: 25
Candidate Starts for Rollins_46:
(19, 31470), (21, 31476), (Start: 25 @31506 has 44 MA's), (28, 31524), (59, 31716), (63, 31731), (66, 31773), (69, 31785), (87, 31875),

Gene: SJReid_8 Start: 4281, Stop: 4634, Start Num: 29
Candidate Starts for SJReid_8:

(29, 4281), (33, 4299), (43, 4371), (50, 4422), (74, 4545), (79, 4584), (80, 4590), (85, 4611), (87, 4620),

Gene: SJReid_319 Start: 177120, Stop: 177473, Start Num: 29
Candidate Starts for SJReid_319:
(29, 177120), (33, 177138), (43, 177210), (50, 177261), (74, 177384), (79, 177423), (80, 177429), (85, 177450), (87, 177459),

Gene: SaltySpitoon_4 Start: 3239, Stop: 2847, Start Num: 23
Candidate Starts for SaltySpitoon_4:
(Start: 23 @3239 has 57 MA's), (46, 3101), (49, 3068), (53, 3053), (60, 3014), (68, 2963), (79, 2909), (90, 2858),

Gene: SaltySpitoon_264 Start: 121503, Stop: 121111, Start Num: 23
Candidate Starts for SaltySpitoon_264:
(Start: 23 @121503 has 57 MA's), (46, 121365), (49, 121332), (53, 121317), (60, 121278), (68, 121227), (79, 121173), (90, 121122),

Gene: Samora_39 Start: 31416, Stop: 31814, Start Num: 26
Candidate Starts for Samora_39:
(10, 31338), (13, 31344), (Start: 26 @31416 has 8 MA's), (37, 31509), (43, 31524),

Gene: SansAfet_51 Start: 33622, Stop: 34056, Start Num: 25
Candidate Starts for SansAfet_51:
(5, 33493), (Start: 24 @33613 has 4 MA's), (Start: 25 @33622 has 44 MA's), (45, 33736), (67, 33886), (74, 33907),

Gene: SarBear_50 Start: 33394, Stop: 33837, Start Num: 24
Candidate Starts for SarBear_50:
(Start: 24 @33394 has 4 MA's), (Start: 25 @33403 has 44 MA's), (67, 33667), (82, 33739), (84, 33751),

Gene: Sebastisaurus_39 Start: 31926, Stop: 32330, Start Num: 26
Candidate Starts for Sebastisaurus_39:
(10, 31851), (Start: 26 @31926 has 8 MA's), (28, 31941), (40, 32025), (43, 32034), (52, 32091), (64, 32172), (79, 32250),

Gene: Shawty_37 Start: 30679, Stop: 31077, Start Num: 26
Candidate Starts for Shawty_37:
(15, 30613), (Start: 26 @30679 has 8 MA's), (40, 30778), (43, 30787), (51, 30841), (69, 30946), (71, 30952),

Gene: Skylord_46 Start: 31437, Stop: 31862, Start Num: 25
Candidate Starts for Skylord_46:
(19, 31401), (21, 31407), (Start: 25 @31437 has 44 MA's), (28, 31455), (59, 31647), (63, 31662), (66, 31704), (69, 31716), (87, 31806), (90, 31821),

Gene: Slay_50 Start: 33935, Stop: 34378, Start Num: 24
Candidate Starts for Slay_50:
(Start: 24 @33935 has 4 MA's), (Start: 25 @33944 has 44 MA's), (67, 34208), (74, 34229), (82, 34280),

Gene: Sollertia_261 Start: 122109, Stop: 121717, Start Num: 23

Candidate Starts for Sollertia_261:
(20, 122130), (Start: 23 @122109 has 57 MA's), (31, 122073), (46, 121971), (64, 121851), (76, 121803), (90, 121728),

Gene: Sollertia_5 Start: 3219, Stop: 2827, Start Num: 23
Candidate Starts for Sollertia_5:
(20, 3240), (Start: 23 @3219 has 57 MA's), (31, 3183), (46, 3081), (64, 2961), (76, 2913), (90, 2838),

Gene: Spelly_270 Start: 122043, Stop: 121651, Start Num: 23
Candidate Starts for Spelly_270:
(Start: 23 @122043 has 57 MA's), (46, 121905), (49, 121872), (53, 121857), (60, 121818), (68, 121767), (79, 121713), (90, 121662),

Gene: Spelly_4 Start: 3239, Stop: 2847, Start Num: 23
Candidate Starts for Spelly_4:
(Start: 23 @3239 has 57 MA's), (46, 3101), (49, 3068), (53, 3053), (60, 3014), (68, 2963), (79, 2909), (90, 2858),

Gene: Spilled_3 Start: 2849, Stop: 2457, Start Num: 23
Candidate Starts for Spilled_3:
(Start: 23 @2849 has 57 MA's), (46, 2711), (49, 2678), (53, 2663), (60, 2624), (68, 2573), (79, 2519), (90, 2468),

Gene: Spilled_271 Start: 123318, Stop: 122926, Start Num: 23
Candidate Starts for Spilled_271:
(Start: 23 @123318 has 57 MA's), (46, 123180), (49, 123147), (53, 123132), (60, 123093), (68, 123042), (79, 122988), (90, 122937),

Gene: Stanimal_5 Start: 3219, Stop: 2827, Start Num: 23
Candidate Starts for Stanimal_5:
(20, 3240), (Start: 23 @3219 has 57 MA's), (31, 3183), (46, 3081), (64, 2961), (76, 2913), (90, 2838),

Gene: Stanimal_260 Start: 122493, Stop: 122101, Start Num: 23
Candidate Starts for Stanimal_260:
(20, 122514), (Start: 23 @122493 has 57 MA's), (31, 122457), (46, 122355), (64, 122235), (76, 122187), (90, 122112),

Gene: StarPlatinum_3 Start: 2983, Stop: 2591, Start Num: 23
Candidate Starts for StarPlatinum_3:
(Start: 23 @2983 has 57 MA's), (39, 2881), (46, 2845), (49, 2812), (53, 2797), (55, 2779), (60, 2758), (68, 2707), (76, 2677), (79, 2653), (81, 2644), (90, 2602),

Gene: StarPlatinum_273 Start: 124670, Stop: 124278, Start Num: 23
Candidate Starts for StarPlatinum_273:
(Start: 23 @124670 has 57 MA's), (39, 124568), (46, 124532), (49, 124499), (53, 124484), (55, 124466), (60, 124445), (68, 124394), (76, 124364), (79, 124340), (81, 124331), (90, 124289),

Gene: Starbow_261 Start: 122087, Stop: 121695, Start Num: 23
Candidate Starts for Starbow_261:
(Start: 23 @122087 has 57 MA's), (46, 121949), (49, 121916), (53, 121901), (60, 121862), (68, 121811), (79, 121757), (90, 121706),

Gene: Starbow_4 Start: 3239, Stop: 2847, Start Num: 23

Candidate Starts for Starbow_4:
(Start: 23 @3239 has 57 MA's), (46, 3101), (49, 3068), (53, 3053), (60, 3014), (68, 2963), (79, 2909), (90, 2858),

Gene: Swervy_51 Start: 33675, Stop: 34109, Start Num: 25
Candidate Starts for Swervy_51:
(Start: 24 @33666 has 4 MA's), (Start: 25 @33675 has 44 MA's), (67, 33939), (82, 34011), (84, 34023),

Gene: TG1_34 Start: 29721, Stop: 30113, Start Num: 27
Candidate Starts for TG1_34:
(Start: 26 @29715 has 8 MA's), (Start: 27 @29721 has 1 MA's), (37, 29808), (43, 29826), (67, 29979),

Gene: Talia1610_7 Start: 4042, Stop: 4389, Start Num: 30
Candidate Starts for Talia1610_7:
(Start: 30 @4042 has 4 MA's), (33, 4054), (43, 4126), (50, 4177), (65, 4270), (85, 4366), (87, 4375), (88, 4381),

Gene: Talia1610_293 Start: 178514, Stop: 178861, Start Num: 30
Candidate Starts for Talia1610_293:
(Start: 30 @178514 has 4 MA's), (33, 178526), (43, 178598), (50, 178649), (65, 178742), (85, 178838), (87, 178847), (88, 178853),

Gene: TomSawyer_269 Start: 124612, Stop: 124220, Start Num: 23
Candidate Starts for TomSawyer_269:
(Start: 23 @124612 has 57 MA's), (46, 124474), (49, 124441), (53, 124426), (60, 124387), (68, 124336), (79, 124282), (90, 124231),

Gene: TomSawyer_4 Start: 2833, Stop: 2441, Start Num: 23
Candidate Starts for TomSawyer_4:
(Start: 23 @2833 has 57 MA's), (46, 2695), (49, 2662), (53, 2647), (60, 2608), (68, 2557), (79, 2503), (90, 2452),

Gene: Tomas_4 Start: 3256, Stop: 2858, Start Num: 23
Candidate Starts for Tomas_4:
(12, 3319), (14, 3316), (Start: 23 @3256 has 57 MA's), (35, 3169), (44, 3130), (47, 3112), (60, 3028), (68, 2977), (70, 2971), (72, 2965), (76, 2944), (84, 2896), (89, 2875),

Gene: Tomas_260 Start: 124963, Stop: 124565, Start Num: 23
Candidate Starts for Tomas_260:
(12, 125026), (14, 125023), (Start: 23 @124963 has 57 MA's), (35, 124876), (44, 124837), (47, 124819), (60, 124735), (68, 124684), (70, 124678), (72, 124672), (76, 124651), (84, 124603), (89, 124582),

Gene: TukTuk_51 Start: 33683, Stop: 34117, Start Num: 25
Candidate Starts for TukTuk_51:
(Start: 24 @33674 has 4 MA's), (Start: 25 @33683 has 44 MA's), (67, 33947), (82, 34019),

Gene: Vash_37 Start: 30660, Stop: 31058, Start Num: 26
Candidate Starts for Vash_37:
(Start: 26 @30660 has 8 MA's), (Start: 27 @30666 has 1 MA's), (34, 30735), (40, 30759), (43, 30768), (76, 30957), (79, 30984),

Gene: Vitas_46 Start: 31419, Stop: 31844, Start Num: 25
Candidate Starts for Vitas_46:
(19, 31383), (21, 31389), (Start: 25 @31419 has 44 MA's), (59, 31629), (63, 31644), (66, 31686), (69, 31698), (87, 31788), (90, 31803),

Gene: Wipeout_3 Start: 2854, Stop: 2462, Start Num: 23
Candidate Starts for Wipeout_3:
(Start: 23 @2854 has 57 MA's), (46, 2716), (49, 2683), (53, 2668), (60, 2629), (68, 2578), (79, 2524), (90, 2473),

Gene: Wipeout_256 Start: 123585, Stop: 123193, Start Num: 23
Candidate Starts for Wipeout_256:
(Start: 23 @123585 has 57 MA's), (46, 123447), (49, 123414), (53, 123399), (60, 123360), (68, 123309), (79, 123255), (90, 123204),

Gene: Wofford_4 Start: 3125, Stop: 2730, Start Num: 23
Candidate Starts for Wofford_4:
(Start: 23 @3125 has 57 MA's), (46, 2987), (55, 2921), (60, 2900), (64, 2867), (69, 2846), (70, 2843), (76, 2816), (81, 2783), (85, 2765), (90, 2741),

Gene: Wofford_262 Start: 124918, Stop: 124523, Start Num: 23
Candidate Starts for Wofford_262:
(Start: 23 @124918 has 57 MA's), (46, 124780), (55, 124714), (60, 124693), (64, 124660), (69, 124639), (70, 124636), (76, 124609), (81, 124576), (85, 124558), (90, 124534),

Gene: Yaboi_5 Start: 3219, Stop: 2827, Start Num: 23
Candidate Starts for Yaboi_5:
(20, 3240), (Start: 23 @3219 has 57 MA's), (31, 3183), (46, 3081), (64, 2961), (76, 2913), (90, 2838),

Gene: Yaboi_266 Start: 122037, Stop: 121645, Start Num: 23
Candidate Starts for Yaboi_266:
(20, 122058), (Start: 23 @122037 has 57 MA's), (31, 122001), (46, 121899), (64, 121779), (76, 121731), (90, 121656),

Gene: phiBT1_14 Start: 32102, Stop: 32500, Start Num: 26
Candidate Starts for phiBT1_14:
(Start: 26 @32102 has 8 MA's), (43, 32210), (64, 32348),

Gene: phiSASD1_5 Start: 21806, Stop: 22309, Start Num: 23
Candidate Starts for phiSASD1_5:
(Start: 23 @21806 has 57 MA's), (38, 21917), (58, 22025), (68, 22085), (74, 22103), (76, 22118), (77, 22124), (83, 22169), (92, 22217), (98, 22250), (100, 22253),