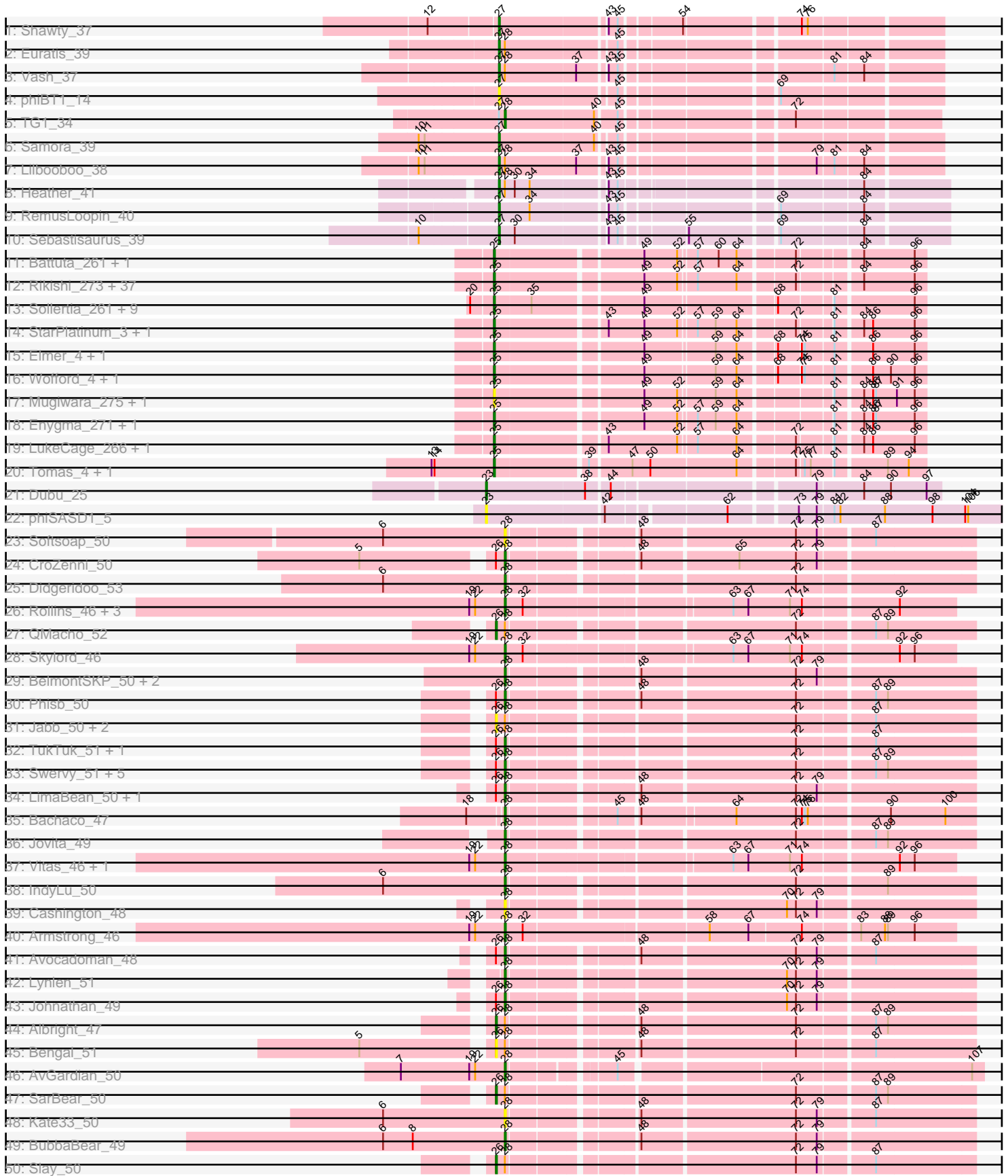
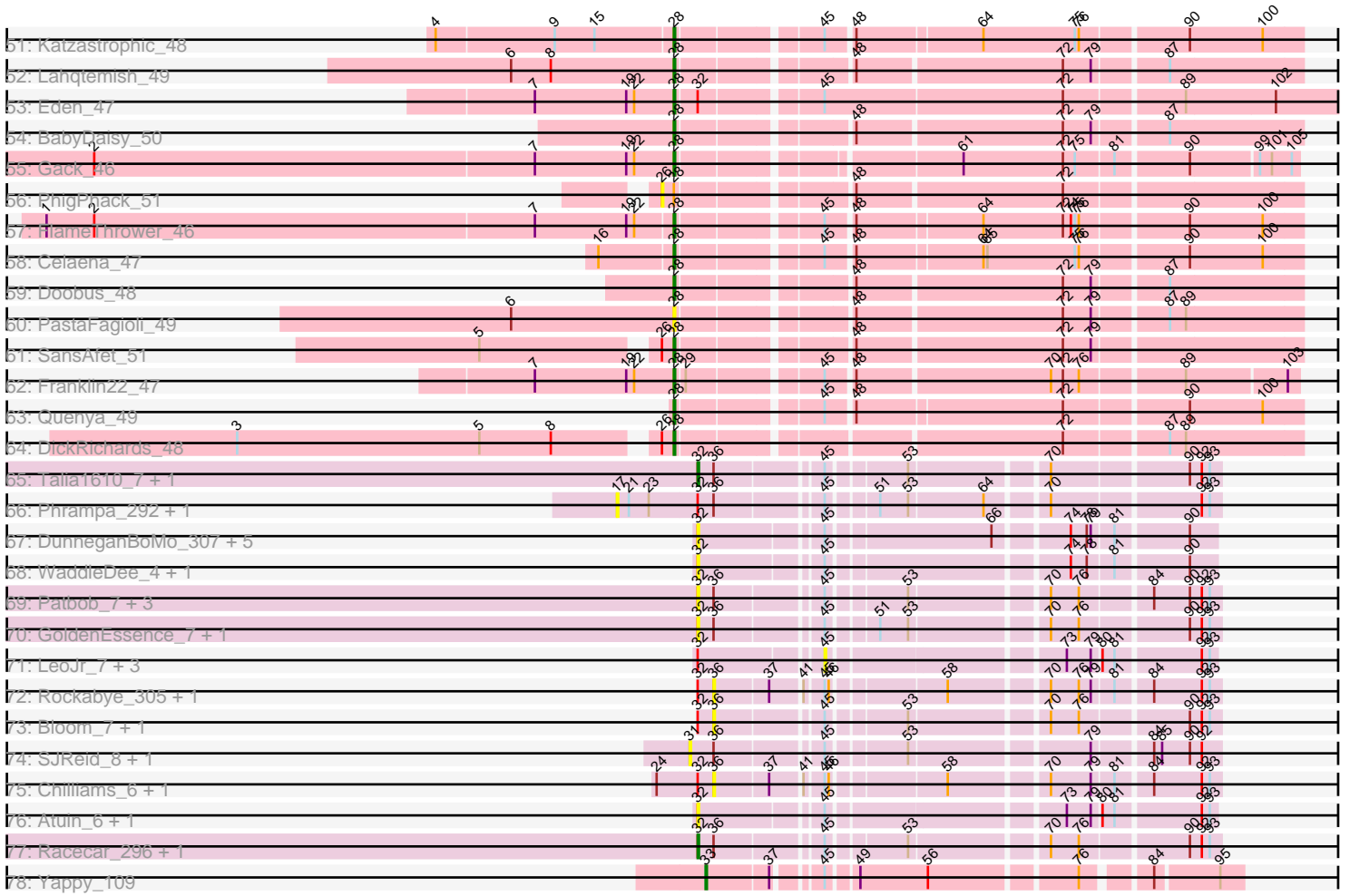


Pham 202720



Pham 202720



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 202720 Report

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

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 202720 has 168 members, 49 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 : TG1_34
- Track 6 : Samora_39
- Track 7 : Lilbooboo_38
- Track 8 : Heather_41
- Track 9 : RemusLoopin_40
- Track 10 : Sebastisaurus_39
- Track 11 : Battuta_261, Battuta_4
- Track 12 : Rikishi_273, MindFlayer_3, Karimac_4, Gibbi_3, Jollison_261, Spilled_3, JimJam_272, SaltySpitoon_4, PumpkinSpice_4, PumpkinSpice_268, MindFlayer_255, Starbow_261, Quaran19_265, Rikishi_3, 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, Genie2_260, Yaboi_266, BoomerJR_260, Stanimal_5, Genie2_5, Sollertia_5, BoomerJR_5, Stanimal_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 : Softsoap_50
- Track 24 : CroZenni_50
- Track 25 : Didgeridoo_53

- Track 26 : Rollins_46, Bernstein_46, Brahms_46, Coltrane_46
- Track 27 : QMacho_52
- Track 28 : Skylord_46
- Track 29 : BelmontSKP_50, AnnaLie_50, Arroyo_50
- Track 30 : Phisb_50
- Track 31 : Jabb_50, MsUbiquitous_50, CupcakePrincess_50
- Track 32 : TukTuk_51, Eula_50
- Track 33 : Swervy_51, Finalfrontier_51, Kenzers_50, Albedo_51, Burritobowl_50, Nicky22_51
- Track 34 : LimaBean_50, Abigail_49
- Track 35 : Bachaco_47
- Track 36 : Jovita_49
- Track 37 : Vitas_46, Clayda5_47
- Track 38 : IndyLu_50
- Track 39 : Cashington_48
- Track 40 : Armstrong_46
- Track 41 : Avocadoman_48
- Track 42 : Lynlen_51
- Track 43 : Johnathan_49
- Track 44 : Albright_47
- Track 45 : Bengal_51
- Track 46 : AvGardian_50
- Track 47 : SarBear_50
- Track 48 : Kate33_50
- Track 49 : BubbaBear_49
- Track 50 : Slay_50
- Track 51 : Katzastrophic_48
- Track 52 : Lahqtemish_49
- Track 53 : Eden_47
- Track 54 : BabyDaisy_50
- Track 55 : Gack_46
- Track 56 : PhigPhack_51
- Track 57 : FlameThrower_46
- Track 58 : Celaena_47
- Track 59 : Doobus_48
- Track 60 : PastaFagioli_49
- Track 61 : SansAfet_51
- Track 62 : Franklin22_47
- Track 63 : Quenya_49
- Track 64 : DickRichards_48
- Track 65 : Talia1610_7, Talia1610_293
- Track 66 : Phrampa_292, Phrampa_7
- Track 67 : DunneganBoMo_307, Ellewin_304, KSunshine22_298, DunneganBoMo_4, Ellewin_5, KSunshine22_6
- Track 68 : WaddleDee_4, WaddleDee_306
- Track 69 : Patbob_7, Mimi_298, Patbob_297, Mimi_8
- Track 70 : GoldenEssence_7, GoldenEssence_289
- Track 71 : LeoJr_7, ReginaGlobina_317, LeoJr_320, ReginaGlobina_6
- Track 72 : Rockabye_305, Rockabye_6
- Track 73 : Bloom_7, Bloom_294
- Track 74 : SJReid_8, SJReid_319
- Track 75 : Chilliams_6, Chilliams_297
- Track 76 : Atuin_6, Atuin_313

- Track 77 : Racecar_296, Racecar_7
- Track 78 : Yappy_109

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

The start number called the most often in the published annotations is 25, it was called in 56 of the 119 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, 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, Quarant19_265, Quarant19_4, Rikishi_273, Rikishi_3, SaltySpittoon_264, SaltySpittoon_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,

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

-

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, Avocadoman_48, BabyDaisy_50, Bachaco_47, BelmontSKP_50, Bengal_51, Bernstein_46, Bloom_294, Bloom_7, Brahms_46, BubbaBear_49, Burritobowl_50, Cashington_48, Celaena_47, Chilliams_297, Chilliams_6, Clayda5_47, Coltrane_46, CroZenni_50, CupcakePrincess_50, DickRichards_48, Didgeridoo_53, Doobus_48, Dubu_25, DunneganBoMo_307, DunneganBoMo_4, Eden_47, Ellewin_304, Ellewin_5, Eula_50, Euratis_39, Finalfrontier_51, FlameThrower_46, Franklin22_47, Gack_46, GoldenEssence_289, GoldenEssence_7, Heather_41, IndyLu_50, Jabb_50, Johnathan_49, Jovita_49, KSunshine22_298, KSunshine22_6, Kate33_50, Katzastrophic_48, Kenzers_50, Lahqtemish_49, LeoJr_320, LeoJr_7, Lilbooboo_38, LimaBean_50, Lynlen_51, Mimi_298, Mimi_8, MsUbiquitous_50, Nicky22_51, PastaFagioli_49, Patbob_297, Patbob_7, PhigPhack_51, Phisb_50, Phrampa_292, Phrampa_7, QMacho_52, Quenya_49, Racecar_296, Racecar_7, ReginaGlobina_317, ReginaGlobina_6, RemusLoopin_40, Rockabye_305, Rockabye_6, Rollins_46, SJReid_319, SJReid_8, Samora_39, SansAfet_51, SarBear_50, Sebastisaurus_39, Shawty_37, Skylord_46, Slay_50, Softsoap_50, Swervy_51, TG1_34, Talia1610_293, Talia1610_7, TukTuk_51, Vash_37, Vitas_46, WaddleDee_306, WaddleDee_4, Yappy_109, phiBT1_14, phiSASD1_5,

Summary by start number:

Start 17:

- Found in 2 of 168 (1.2%) of genes in pham

- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Phrampa_292 (FC), Phrampa_7 (FC),

Start 23:

- Found in 4 of 168 (2.4%) of genes in pham
- Manual Annotations of this start: 1 of 119
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Dubu_25 (BJ), phiSASD1_5 (BJ),

Start 25:

- Found in 64 of 168 (38.1%) of genes in pham
- Manual Annotations of this start: 56 of 119
- Called 100.0% 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), 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), Rikishi_273 (BE2), Rikishi_3 (BE2), SaltySpittoon_264 (BE2), SaltySpittoon_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),

Start 26:

- Found in 25 of 168 (14.9%) of genes in pham
- Manual Annotations of this start: 4 of 119
- Called 36.0% of time when present
- Phage (with cluster) where this start called: Albright_47 (EB), Bengal_51 (EB), CupcakePrincess_50 (EB), Jabb_50 (EB), MsUbiquitous_50 (EB), PhigPhack_51 (EB), QMacho_52 (EB), SarBear_50 (EB), Slay_50 (EB),

Start 27:

- Found in 10 of 168 (6.0%) of genes in pham
- Manual Annotations of this start: 8 of 119
- 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 28:

- Found in 62 of 168 (36.9%) of genes in pham
- Manual Annotations of this start: 45 of 119
- Called 79.0% 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), PastaFagioli_49 (EB), Phisb_50 (EB), Quenya_49 (EB), Rollins_46 (EB), SansAfet_51 (EB), Skylord_46 (EB), Softsoap_50 (EB), Swervy_51 (EB), TG1_34 (BB1), TukTuk_51 (EB), Vitas_46 (EB),

Start 31:

- Found in 2 of 168 (1.2%) 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 32:

- Found in 39 of 168 (23.2%) of genes in pham
- Manual Annotations of this start: 4 of 119
- Called 51.3% of time when present
- Phage (with cluster) where this start called: Atuin_313 (FC), Atuin_6 (FC), DunneganBoMo_307 (FC), DunneganBoMo_4 (FC), Ellewin_304 (FC), Ellewin_5 (FC), GoldenEssence_289 (FC), GoldenEssence_7 (FC), KSunshine22_298 (FC), KSunshine22_6 (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), WaddleDee_306 (FC), WaddleDee_4 (FC),

Start 33:

- Found in 1 of 168 (0.6%) of genes in pham
- Manual Annotations of this start: 1 of 119
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Yappy_109 (singleton),

Start 36:

- Found in 20 of 168 (11.9%) of genes in pham
- No Manual Annotations of this start.
- Called 30.0% of time when present
- Phage (with cluster) where this start called: Bloom_294 (FC), Bloom_7 (FC), Chilliams_297 (FC), Chilliams_6 (FC), Rockabye_305 (FC), Rockabye_6 (FC),

Start 45:

- Found in 53 of 168 (31.5%) of genes in pham
- No Manual Annotations of this start.
- Called 7.5% of time when present
- Phage (with cluster) where this start called: LeoJr_320 (FC), LeoJr_7 (FC), ReginaGlobina_317 (FC), ReginaGlobina_6 (FC),

Summary by clusters:

There are 7 clusters represented in this pham: singleton, BJ, EB, FC, BE2, BB2, BB1,

Info for manual annotations of cluster BB1:

- Start number 27 was manually annotated 5 times for cluster BB1.
- Start number 28 was manually annotated 1 time for cluster BB1.

Info for manual annotations of cluster BB2:

- Start number 27 was manually annotated 3 times for cluster BB2.

Info for manual annotations of cluster BE2:

- Start number 25 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 26 was manually annotated 4 times for cluster EB.
- Start number 28 was manually annotated 44 times for cluster EB.

Info for manual annotations of cluster FC:

- Start number 32 was manually annotated 4 times for cluster FC.

Gene Information:

Gene: Abigail_49 Start: 33436, Stop: 33870, Start Num: 28

Candidate Starts for Abigail_49:

(Start: 26 @33427 has 4 MA's), (Start: 28 @33436 has 45 MA's), (48, 33550), (72, 33700), (79, 33721),

Gene: Albedo_51 Start: 34047, Stop: 34481, Start Num: 28

Candidate Starts for Albedo_51:

(Start: 26 @34038 has 4 MA's), (Start: 28 @34047 has 45 MA's), (72, 34311), (87, 34383), (89, 34395),

Gene: Albright_47 Start: 32744, Stop: 33187, Start Num: 26

Candidate Starts for Albright_47:

(Start: 26 @32744 has 4 MA's), (Start: 28 @32753 has 45 MA's), (48, 32867), (72, 33017), (87, 33089), (89, 33101),

Gene: Amabiko_4 Start: 3239, Stop: 2847, Start Num: 25

Candidate Starts for Amabiko_4:

(Start: 25 @3239 has 56 MA's), (49, 3101), (52, 3068), (57, 3053), (64, 3014), (72, 2963), (84, 2909), (96, 2858),

Gene: Amabiko_268 Start: 122065, Stop: 121673, Start Num: 25

Candidate Starts for Amabiko_268:

(Start: 25 @122065 has 56 MA's), (49, 121927), (52, 121894), (57, 121879), (64, 121840), (72, 121789), (84, 121735), (96, 121684),

Gene: AnnaLie_50 Start: 34096, Stop: 34530, Start Num: 28

Candidate Starts for AnnaLie_50:

(Start: 28 @34096 has 45 MA's), (48, 34210), (72, 34360), (79, 34381),

Gene: Armstrong_46 Start: 31424, Stop: 31855, Start Num: 28
Candidate Starts for Armstrong_46:
(19, 31388), (22, 31394), (Start: 28 @31424 has 45 MA's), (Start: 32 @31442 has 4 MA's), (58, 31619),
(67, 31658), (74, 31709), (83, 31760), (88, 31784), (89, 31787), (96, 31814),

Gene: Arroyo_50 Start: 34204, Stop: 34638, Start Num: 28
Candidate Starts for Arroyo_50:
(Start: 28 @34204 has 45 MA's), (48, 34318), (72, 34468), (79, 34489),

Gene: Atuin_6 Start: 3678, Stop: 4025, Start Num: 32
Candidate Starts for Atuin_6:
(Start: 32 @3678 has 4 MA's), (45, 3762), (73, 3921), (79, 3939), (80, 3945), (81, 3954), (92, 4014),
(93, 4020),

Gene: Atuin_313 Start: 180566, Stop: 180913, Start Num: 32
Candidate Starts for Atuin_313:
(Start: 32 @180566 has 4 MA's), (45, 180650), (73, 180809), (79, 180827), (80, 180833), (81, 180842),
(92, 180902), (93, 180908),

Gene: AvGardian_50 Start: 33876, Stop: 34307, Start Num: 28
Candidate Starts for AvGardian_50:
(7, 33771), (19, 33840), (22, 33846), (Start: 28 @33876 has 45 MA's), (45, 33966), (107, 34296),

Gene: Avocadoman_48 Start: 32960, Stop: 33394, Start Num: 28
Candidate Starts for Avocadoman_48:
(Start: 26 @32951 has 4 MA's), (Start: 28 @32960 has 45 MA's), (48, 33074), (72, 33224), (79, 33245),
(87, 33296),

Gene: BabyDaisy_50 Start: 34118, Stop: 34552, Start Num: 28
Candidate Starts for BabyDaisy_50:
(Start: 28 @34118 has 45 MA's), (48, 34232), (72, 34382), (79, 34403), (87, 34454),

Gene: Bachaco_47 Start: 34966, Stop: 35400, Start Num: 28
Candidate Starts for Bachaco_47:
(18, 34933), (Start: 28 @34966 has 45 MA's), (45, 35062), (48, 35080), (64, 35170), (72, 35230), (74,
35236), (75, 35239), (76, 35242), (90, 35317), (100, 35371),

Gene: Battuta_261 Start: 121394, Stop: 121002, Start Num: 25
Candidate Starts for Battuta_261:
(Start: 25 @121394 has 56 MA's), (49, 121256), (52, 121223), (57, 121208), (60, 121187), (64,
121169), (72, 121118), (84, 121064), (96, 121013),

Gene: Battuta_4 Start: 3239, Stop: 2847, Start Num: 25
Candidate Starts for Battuta_4:
(Start: 25 @3239 has 56 MA's), (49, 3101), (52, 3068), (57, 3053), (60, 3032), (64, 3014), (72, 2963),
(84, 2909), (96, 2858),

Gene: BelmontSKP_50 Start: 34096, Stop: 34530, Start Num: 28
Candidate Starts for BelmontSKP_50:
(Start: 28 @34096 has 45 MA's), (48, 34210), (72, 34360), (79, 34381),

Gene: Bengal_51 Start: 33691, Stop: 34134, Start Num: 26
Candidate Starts for Bengal_51:

(5, 33571), (Start: 26 @33691 has 4 MA's), (Start: 28 @33700 has 45 MA's), (48, 33814), (72, 33964), (87, 34036),

Gene: Bernstein_46 Start: 31506, Stop: 31931, Start Num: 28

Candidate Starts for Bernstein_46:

(19, 31470), (22, 31476), (Start: 28 @31506 has 45 MA's), (Start: 32 @31524 has 4 MA's), (63, 31716), (67, 31731), (71, 31773), (74, 31785), (92, 31875),

Gene: Bloom_7 Start: 4103, Stop: 4438, Start Num: 36

Candidate Starts for Bloom_7:

(Start: 32 @4091 has 4 MA's), (36, 4103), (45, 4175), (53, 4226), (70, 4319), (76, 4340), (90, 4415), (92, 4424), (93, 4430),

Gene: Bloom_294 Start: 177578, Stop: 177913, Start Num: 36

Candidate Starts for Bloom_294:

(Start: 32 @177566 has 4 MA's), (36, 177578), (45, 177650), (53, 177701), (70, 177794), (76, 177815), (90, 177890), (92, 177899), (93, 177905),

Gene: BoomerJR_260 Start: 122007, Stop: 121615, Start Num: 25

Candidate Starts for BoomerJR_260:

(20, 122028), (Start: 25 @122007 has 56 MA's), (35, 121971), (49, 121869), (68, 121749), (81, 121701), (96, 121626),

Gene: BoomerJR_5 Start: 3219, Stop: 2827, Start Num: 25

Candidate Starts for BoomerJR_5:

(20, 3240), (Start: 25 @3219 has 56 MA's), (35, 3183), (49, 3081), (68, 2961), (81, 2913), (96, 2838),

Gene: Bordeaux_4 Start: 3239, Stop: 2847, Start Num: 25

Candidate Starts for Bordeaux_4:

(Start: 25 @3239 has 56 MA's), (49, 3101), (52, 3068), (57, 3053), (64, 3014), (72, 2963), (84, 2909), (96, 2858),

Gene: Bordeaux_261 Start: 121977, Stop: 121585, Start Num: 25

Candidate Starts for Bordeaux_261:

(Start: 25 @121977 has 56 MA's), (49, 121839), (52, 121806), (57, 121791), (64, 121752), (72, 121701), (84, 121647), (96, 121596),

Gene: Brahms_46 Start: 31426, Stop: 31851, Start Num: 28

Candidate Starts for Brahms_46:

(19, 31390), (22, 31396), (Start: 28 @31426 has 45 MA's), (Start: 32 @31444 has 4 MA's), (63, 31636), (67, 31651), (71, 31693), (74, 31705), (92, 31795),

Gene: BubbaBear_49 Start: 33737, Stop: 34171, Start Num: 28

Candidate Starts for BubbaBear_49:

(6, 33614), (8, 33644), (Start: 28 @33737 has 45 MA's), (48, 33851), (72, 34001), (79, 34022),

Gene: Burritobowl_50 Start: 33661, Stop: 34095, Start Num: 28

Candidate Starts for Burritobowl_50:

(Start: 26 @33652 has 4 MA's), (Start: 28 @33661 has 45 MA's), (72, 33925), (87, 33997), (89, 34009),

Gene: Cashington_48 Start: 33017, Stop: 33451, Start Num: 28

Candidate Starts for Cashington_48:

(Start: 28 @33017 has 45 MA's), (70, 33272), (72, 33281), (79, 33302),

Gene: CeilingFan_277 Start: 123457, Stop: 123065, Start Num: 25

Candidate Starts for CeilingFan_277:

(Start: 25 @123457 has 56 MA's), (49, 123319), (52, 123286), (57, 123271), (64, 123232), (72, 123181), (84, 123127), (96, 123076),

Gene: CeilingFan_3 Start: 2850, Stop: 2458, Start Num: 25

Candidate Starts for CeilingFan_3:

(Start: 25 @2850 has 56 MA's), (49, 2712), (52, 2679), (57, 2664), (64, 2625), (72, 2574), (84, 2520), (96, 2469),

Gene: Celaena_47 Start: 34695, Stop: 35129, Start Num: 28

Candidate Starts for Celaena_47:

(16, 34641), (Start: 28 @34695 has 45 MA's), (45, 34791), (48, 34809), (64, 34899), (65, 34902), (75, 34968), (76, 34971), (90, 35046), (100, 35100),

Gene: Chilliams_6 Start: 3781, Stop: 4116, Start Num: 36

Candidate Starts for Chilliams_6:

(24, 3739), (Start: 32 @3769 has 4 MA's), (36, 3781), (37, 3820), (41, 3841), (45, 3853), (46, 3856), (58, 3931), (70, 3997), (79, 4027), (81, 4042), (84, 4066), (92, 4102), (93, 4108),

Gene: Chilliams_297 Start: 176515, Stop: 176850, Start Num: 36

Candidate Starts for Chilliams_297:

(24, 176473), (Start: 32 @176503 has 4 MA's), (36, 176515), (37, 176554), (41, 176575), (45, 176587), (46, 176590), (58, 176665), (70, 176731), (79, 176761), (81, 176776), (84, 176800), (92, 176836), (93, 176842),

Gene: Clayda5_47 Start: 31413, Stop: 31838, Start Num: 28

Candidate Starts for Clayda5_47:

(19, 31377), (22, 31383), (Start: 28 @31413 has 45 MA's), (63, 31623), (67, 31638), (71, 31680), (74, 31692), (92, 31782), (96, 31797),

Gene: Coltrane_46 Start: 31426, Stop: 31851, Start Num: 28

Candidate Starts for Coltrane_46:

(19, 31390), (22, 31396), (Start: 28 @31426 has 45 MA's), (Start: 32 @31444 has 4 MA's), (63, 31636), (67, 31651), (71, 31693), (74, 31705), (92, 31795),

Gene: CroZenni_50 Start: 33550, Stop: 33984, Start Num: 28

Candidate Starts for CroZenni_50:

(5, 33421), (Start: 26 @33541 has 4 MA's), (Start: 28 @33550 has 45 MA's), (48, 33664), (65, 33757), (72, 33814), (79, 33835),

Gene: CupcakePrincess_50 Start: 33558, Stop: 34001, Start Num: 26

Candidate Starts for CupcakePrincess_50:

(Start: 26 @33558 has 4 MA's), (Start: 28 @33567 has 45 MA's), (72, 33831), (87, 33903),

Gene: DickRichards_48 Start: 33773, Stop: 34207, Start Num: 28

Candidate Starts for DickRichards_48:

(3, 33461), (5, 33644), (8, 33698), (Start: 26 @33764 has 4 MA's), (Start: 28 @33773 has 45 MA's), (72, 34037), (87, 34109), (89, 34121),

Gene: Didgeridoo_53 Start: 34464, Stop: 34898, Start Num: 28

Candidate Starts for Didgeridoo_53:

(6, 34341), (Start: 28 @34464 has 45 MA's), (72, 34728),

Gene: Doobus_48 Start: 33211, Stop: 33645, Start Num: 28

Candidate Starts for Doobus_48:

(Start: 28 @33211 has 45 MA's), (48, 33325), (72, 33475), (79, 33496), (87, 33547),

Gene: Dubu_25 Start: 20964, Stop: 21389, Start Num: 23

Candidate Starts for Dubu_25:

(Start: 23 @20964 has 1 MA's), (38, 21060), (44, 21081), (79, 21267), (84, 21312), (90, 21339), (97, 21375),

Gene: DunneganBoMo_307 Start: 182381, Stop: 182728, Start Num: 32

Candidate Starts for DunneganBoMo_307:

(Start: 32 @182381 has 4 MA's), (45, 182465), (66, 182579), (74, 182627), (78, 182639), (79, 182642), (81, 182657), (90, 182708),

Gene: DunneganBoMo_4 Start: 2969, Stop: 3316, Start Num: 32

Candidate Starts for DunneganBoMo_4:

(Start: 32 @2969 has 4 MA's), (45, 3053), (66, 3167), (74, 3215), (78, 3227), (79, 3230), (81, 3245), (90, 3296),

Gene: Eden_47 Start: 32399, Stop: 32896, Start Num: 28

Candidate Starts for Eden_47:

(7, 32294), (19, 32363), (22, 32369), (Start: 28 @32399 has 45 MA's), (Start: 32 @32414 has 4 MA's), (45, 32495), (72, 32672), (89, 32756), (102, 32822),

Gene: Ellewin_304 Start: 182013, Stop: 182360, Start Num: 32

Candidate Starts for Ellewin_304:

(Start: 32 @182013 has 4 MA's), (45, 182097), (66, 182211), (74, 182259), (78, 182271), (79, 182274), (81, 182289), (90, 182340),

Gene: Ellewin_5 Start: 2899, Stop: 3246, Start Num: 32

Candidate Starts for Ellewin_5:

(Start: 32 @2899 has 4 MA's), (45, 2983), (66, 3097), (74, 3145), (78, 3157), (79, 3160), (81, 3175), (90, 3226),

Gene: Elmer_4 Start: 3119, Stop: 2724, Start Num: 25

Candidate Starts for Elmer_4:

(Start: 25 @3119 has 56 MA's), (49, 2981), (59, 2915), (64, 2894), (68, 2861), (74, 2840), (75, 2837), (81, 2810), (86, 2777), (96, 2735),

Gene: Elmer_271 Start: 125487, Stop: 125092, Start Num: 25

Candidate Starts for Elmer_271:

(Start: 25 @125487 has 56 MA's), (49, 125349), (59, 125283), (64, 125262), (68, 125229), (74, 125208), (75, 125205), (81, 125178), (86, 125145), (96, 125103),

Gene: Enygma_271 Start: 125224, Stop: 124832, Start Num: 25

Candidate Starts for Enygma_271:

(Start: 25 @125224 has 56 MA's), (49, 125086), (52, 125053), (57, 125038), (59, 125020), (64, 124999), (81, 124918), (84, 124894), (86, 124885), (87, 124882), (96, 124843),

Gene: Enygma_3 Start: 2800, Stop: 2408, Start Num: 25

Candidate Starts for Enygma_3:

(Start: 25 @2800 has 56 MA's), (49, 2662), (52, 2629), (57, 2614), (59, 2596), (64, 2575), (81, 2494), (84, 2470), (86, 2461), (87, 2458), (96, 2419),

Gene: Eula_50 Start: 33553, Stop: 33987, Start Num: 28

Candidate Starts for Eula_50:

(Start: 26 @33544 has 4 MA's), (Start: 28 @33553 has 45 MA's), (72, 33817), (87, 33889),

Gene: Euratis_39 Start: 30726, Stop: 31124, Start Num: 27

Candidate Starts for Euratis_39:

(Start: 27 @30726 has 8 MA's), (Start: 28 @30732 has 45 MA's), (45, 30834),

Gene: Finalfrontier_51 Start: 34555, Stop: 34989, Start Num: 28

Candidate Starts for Finalfrontier_51:

(Start: 26 @34546 has 4 MA's), (Start: 28 @34555 has 45 MA's), (72, 34819), (87, 34891), (89, 34903),

Gene: FlameThrower_46 Start: 33765, Stop: 34199, Start Num: 28

Candidate Starts for FlameThrower_46:

(1, 33297), (2, 33333), (7, 33663), (19, 33732), (22, 33738), (Start: 28 @33765 has 45 MA's), (45, 33861), (48, 33879), (64, 33969), (72, 34029), (74, 34035), (75, 34038), (76, 34041), (90, 34116), (100, 34170),

Gene: Franklin22_47 Start: 32020, Stop: 32448, Start Num: 28

Candidate Starts for Franklin22_47:

(7, 31915), (19, 31984), (22, 31990), (Start: 28 @32020 has 45 MA's), (29, 32026), (45, 32116), (48, 32134), (70, 32275), (72, 32284), (76, 32296), (89, 32368), (103, 32440),

Gene: Gack_46 Start: 32064, Stop: 32492, Start Num: 28

Candidate Starts for Gack_46:

(2, 31629), (7, 31959), (19, 32028), (22, 32034), (Start: 28 @32064 has 45 MA's), (61, 32253), (72, 32328), (75, 32337), (81, 32364), (90, 32415), (99, 32463), (101, 32472), (105, 32487),

Gene: Genie2_260 Start: 122120, Stop: 121728, Start Num: 25

Candidate Starts for Genie2_260:

(20, 122141), (Start: 25 @122120 has 56 MA's), (35, 122084), (49, 121982), (68, 121862), (81, 121814), (96, 121739),

Gene: Genie2_5 Start: 3219, Stop: 2827, Start Num: 25

Candidate Starts for Genie2_5:

(20, 3240), (Start: 25 @3219 has 56 MA's), (35, 3183), (49, 3081), (68, 2961), (81, 2913), (96, 2838),

Gene: Gibbi_3 Start: 2850, Stop: 2458, Start Num: 25

Candidate Starts for Gibbi_3:

(Start: 25 @2850 has 56 MA's), (49, 2712), (52, 2679), (57, 2664), (64, 2625), (72, 2574), (84, 2520), (96, 2469),

Gene: Gibbi_274 Start: 122950, Stop: 122558, Start Num: 25

Candidate Starts for Gibbi_274:

(Start: 25 @122950 has 56 MA's), (49, 122812), (52, 122779), (57, 122764), (64, 122725), (72, 122674), (84, 122620), (96, 122569),

Gene: GoldenEssence_7 Start: 4085, Stop: 4432, Start Num: 32

Candidate Starts for GoldenEssence_7:

(Start: 32 @4085 has 4 MA's), (36, 4097), (45, 4169), (51, 4199), (53, 4220), (70, 4313), (76, 4334), (90, 4409), (92, 4418), (93, 4424),

Gene: GoldenEssence_289 Start: 174638, Stop: 174985, Start Num: 32

Candidate Starts for GoldenEssence_289:

(Start: 32 @174638 has 4 MA's), (36, 174650), (45, 174722), (51, 174752), (53, 174773), (70, 174866), (76, 174887), (90, 174962), (92, 174971), (93, 174977),

Gene: Heather_41 Start: 32025, Stop: 32429, Start Num: 27

Candidate Starts for Heather_41:

(Start: 27 @32025 has 8 MA's), (Start: 28 @32031 has 45 MA's), (30, 32040), (34, 32055), (43, 32124), (45, 32133), (84, 32349),

Gene: IchabodCrane_3 Start: 2847, Stop: 2455, Start Num: 25

Candidate Starts for IchabodCrane_3:

(Start: 25 @2847 has 56 MA's), (49, 2709), (52, 2676), (57, 2661), (64, 2622), (72, 2571), (84, 2517), (96, 2466),

Gene: IchabodCrane_256 Start: 121390, Stop: 120998, Start Num: 25

Candidate Starts for IchabodCrane_256:

(Start: 25 @121390 has 56 MA's), (49, 121252), (52, 121219), (57, 121204), (64, 121165), (72, 121114), (84, 121060), (96, 121009),

Gene: IndyLu_50 Start: 34038, Stop: 34472, Start Num: 28

Candidate Starts for IndyLu_50:

(6, 33915), (Start: 28 @34038 has 45 MA's), (72, 34302), (89, 34386),

Gene: Jabb_50 Start: 33558, Stop: 34001, Start Num: 26

Candidate Starts for Jabb_50:

(Start: 26 @33558 has 4 MA's), (Start: 28 @33567 has 45 MA's), (72, 33831), (87, 33903),

Gene: JimJam_272 Start: 124775, Stop: 124383, Start Num: 25

Candidate Starts for JimJam_272:

(Start: 25 @124775 has 56 MA's), (49, 124637), (52, 124604), (57, 124589), (64, 124550), (72, 124499), (84, 124445), (96, 124394),

Gene: JimJam_4 Start: 3239, Stop: 2847, Start Num: 25

Candidate Starts for JimJam_4:

(Start: 25 @3239 has 56 MA's), (49, 3101), (52, 3068), (57, 3053), (64, 3014), (72, 2963), (84, 2909), (96, 2858),

Gene: Johnathan_49 Start: 33043, Stop: 33477, Start Num: 28

Candidate Starts for Johnathan_49:

(Start: 26 @33034 has 4 MA's), (Start: 28 @33043 has 45 MA's), (70, 33298), (72, 33307), (79, 33328),

Gene: Jollison_261 Start: 121914, Stop: 121522, Start Num: 25

Candidate Starts for Jollison_261:

(Start: 25 @121914 has 56 MA's), (49, 121776), (52, 121743), (57, 121728), (64, 121689), (72, 121638), (84, 121584), (96, 121533),

Gene: Jollison_4 Start: 3239, Stop: 2847, Start Num: 25

Candidate Starts for Jollison_4:

(Start: 25 @3239 has 56 MA's), (49, 3101), (52, 3068), (57, 3053), (64, 3014), (72, 2963), (84, 2909), (96, 2858),

Gene: Jovita_49 Start: 33427, Stop: 33861, Start Num: 28

Candidate Starts for Jovita_49:

(Start: 28 @33427 has 45 MA's), (72, 33691), (87, 33763), (89, 33775),

Gene: KSunshine22_298 Start: 180460, Stop: 180807, Start Num: 32

Candidate Starts for KSunshine22_298:

(Start: 32 @180460 has 4 MA's), (45, 180544), (66, 180658), (74, 180706), (78, 180718), (79, 180721), (81, 180736), (90, 180787),

Gene: KSunshine22_6 Start: 3559, Stop: 3906, Start Num: 32

Candidate Starts for KSunshine22_6:

(Start: 32 @3559 has 4 MA's), (45, 3643), (66, 3757), (74, 3805), (78, 3817), (79, 3820), (81, 3835), (90, 3886),

Gene: Karimac_4 Start: 3241, Stop: 2849, Start Num: 25

Candidate Starts for Karimac_4:

(Start: 25 @3241 has 56 MA's), (49, 3103), (52, 3070), (57, 3055), (64, 3016), (72, 2965), (84, 2911), (96, 2860),

Gene: Karimac_262 Start: 122560, Stop: 122168, Start Num: 25

Candidate Starts for Karimac_262:

(Start: 25 @122560 has 56 MA's), (49, 122422), (52, 122389), (57, 122374), (64, 122335), (72, 122284), (84, 122230), (96, 122179),

Gene: Kate33_50 Start: 33755, Stop: 34189, Start Num: 28

Candidate Starts for Kate33_50:

(6, 33632), (Start: 28 @33755 has 45 MA's), (48, 33869), (72, 34019), (79, 34040), (87, 34091),

Gene: Katzastrophic_48 Start: 34275, Stop: 34709, Start Num: 28

Candidate Starts for Katzastrophic_48:

(4, 34101), (9, 34188), (15, 34218), (Start: 28 @34275 has 45 MA's), (45, 34371), (48, 34389), (64, 34479), (75, 34548), (76, 34551), (90, 34626), (100, 34680),

Gene: KentuckyRacer_3 Start: 2851, Stop: 2459, Start Num: 25

Candidate Starts for KentuckyRacer_3:

(Start: 25 @2851 has 56 MA's), (49, 2713), (52, 2680), (57, 2665), (64, 2626), (72, 2575), (84, 2521), (96, 2470),

Gene: KentuckyRacer_271 Start: 124302, Stop: 123910, Start Num: 25

Candidate Starts for KentuckyRacer_271:

(Start: 25 @124302 has 56 MA's), (49, 124164), (52, 124131), (57, 124116), (64, 124077), (72, 124026), (84, 123972), (96, 123921),

Gene: Kenzers_50 Start: 33579, Stop: 34013, Start Num: 28

Candidate Starts for Kenzers_50:

(Start: 26 @33570 has 4 MA's), (Start: 28 @33579 has 45 MA's), (72, 33843), (87, 33915), (89, 33927),

Gene: Lahqtemish_49 Start: 34037, Stop: 34471, Start Num: 28

Candidate Starts for Lahqtemish_49:

(6, 33914), (8, 33944), (Start: 28 @34037 has 45 MA's), (48, 34151), (72, 34301), (79, 34322), (87, 34373),

Gene: LeoJr_7 Start: 3916, Stop: 4179, Start Num: 45

Candidate Starts for LeoJr_7:

(Start: 32 @3832 has 4 MA's), (45, 3916), (73, 4075), (79, 4093), (80, 4099), (81, 4108), (92, 4168), (93, 4174),

Gene: LeoJr_320 Start: 181219, Stop: 181482, Start Num: 45

Candidate Starts for LeoJr_320:

(Start: 32 @181135 has 4 MA's), (45, 181219), (73, 181378), (79, 181396), (80, 181402), (81, 181411), (92, 181471), (93, 181477),

Gene: Lilbooboo_38 Start: 30841, Stop: 31239, Start Num: 27

Candidate Starts for Lilbooboo_38:

(10, 30763), (11, 30769), (Start: 27 @30841 has 8 MA's), (Start: 28 @30847 has 45 MA's), (37, 30916), (43, 30940), (45, 30949), (79, 31123), (81, 31138), (84, 31165),

Gene: LimaBean_50 Start: 33314, Stop: 33748, Start Num: 28

Candidate Starts for LimaBean_50:

(Start: 26 @33305 has 4 MA's), (Start: 28 @33314 has 45 MA's), (48, 33428), (72, 33578), (79, 33599),

Gene: LukeCage_266 Start: 123746, Stop: 123354, Start Num: 25

Candidate Starts for LukeCage_266:

(Start: 25 @123746 has 56 MA's), (43, 123644), (52, 123575), (57, 123560), (64, 123521), (72, 123470), (81, 123440), (84, 123416), (86, 123407), (96, 123365),

Gene: LukeCage_3 Start: 2842, Stop: 2450, Start Num: 25

Candidate Starts for LukeCage_3:

(Start: 25 @2842 has 56 MA's), (43, 2740), (52, 2671), (57, 2656), (64, 2617), (72, 2566), (81, 2536), (84, 2512), (86, 2503), (96, 2461),

Gene: Lynlen_51 Start: 33867, Stop: 34301, Start Num: 28

Candidate Starts for Lynlen_51:

(Start: 28 @33867 has 45 MA's), (70, 34122), (72, 34131), (79, 34152),

Gene: Mimi_298 Start: 176687, Stop: 177034, Start Num: 32

Candidate Starts for Mimi_298:

(Start: 32 @176687 has 4 MA's), (36, 176699), (45, 176771), (53, 176822), (70, 176915), (76, 176936), (84, 176984), (90, 177011), (92, 177020), (93, 177026),

Gene: Mimi_8 Start: 4027, Stop: 4374, Start Num: 32

Candidate Starts for Mimi_8:

(Start: 32 @4027 has 4 MA's), (36, 4039), (45, 4111), (53, 4162), (70, 4255), (76, 4276), (84, 4324), (90, 4351), (92, 4360), (93, 4366),

Gene: MindFlayer_3 Start: 2849, Stop: 2457, Start Num: 25

Candidate Starts for MindFlayer_3:

(Start: 25 @2849 has 56 MA's), (49, 2711), (52, 2678), (57, 2663), (64, 2624), (72, 2573), (84, 2519), (96, 2468),

Gene: MindFlayer_255 Start: 120909, Stop: 120517, Start Num: 25

Candidate Starts for MindFlayer_255:

(Start: 25 @120909 has 56 MA's), (49, 120771), (52, 120738), (57, 120723), (64, 120684), (72, 120633), (84, 120579), (96, 120528),

Gene: MsUbiquitous_50 Start: 33558, Stop: 34001, Start Num: 26

Candidate Starts for MsUbiquitous_50:

(Start: 26 @33558 has 4 MA's), (Start: 28 @33567 has 45 MA's), (72, 33831), (87, 33903),

Gene: Mugiwara_275 Start: 124214, Stop: 123822, Start Num: 25

Candidate Starts for Mugiwara_275:

(Start: 25 @124214 has 56 MA's), (49, 124076), (52, 124043), (59, 124010), (64, 123989), (81, 123908), (84, 123884), (86, 123875), (87, 123872), (91, 123851), (96, 123833),

Gene: Mugiwara_3 Start: 2829, Stop: 2437, Start Num: 25

Candidate Starts for Mugiwara_3:

(Start: 25 @2829 has 56 MA's), (49, 2691), (52, 2658), (59, 2625), (64, 2604), (81, 2523), (84, 2499), (86, 2490), (87, 2487), (91, 2466), (96, 2448),

Gene: Nicky22_51 Start: 34214, Stop: 34648, Start Num: 28

Candidate Starts for Nicky22_51:

(Start: 26 @34205 has 4 MA's), (Start: 28 @34214 has 45 MA's), (72, 34478), (87, 34550), (89, 34562),

Gene: PastaFagioli_49 Start: 34281, Stop: 34715, Start Num: 28

Candidate Starts for PastaFagioli_49:

(6, 34158), (Start: 28 @34281 has 45 MA's), (48, 34395), (72, 34545), (79, 34566), (87, 34617), (89, 34629),

Gene: Patbob_7 Start: 4133, Stop: 4480, Start Num: 32

Candidate Starts for Patbob_7:

(Start: 32 @4133 has 4 MA's), (36, 4145), (45, 4217), (53, 4268), (70, 4361), (76, 4382), (84, 4430), (90, 4457), (92, 4466), (93, 4472),

Gene: Patbob_297 Start: 179592, Stop: 179939, Start Num: 32

Candidate Starts for Patbob_297:

(Start: 32 @179592 has 4 MA's), (36, 179604), (45, 179676), (53, 179727), (70, 179820), (76, 179841), (84, 179889), (90, 179916), (92, 179925), (93, 179931),

Gene: PhigPhack_51 Start: 33552, Stop: 33995, Start Num: 26

Candidate Starts for PhigPhack_51:

(Start: 26 @33552 has 4 MA's), (Start: 28 @33561 has 45 MA's), (48, 33675), (72, 33825),

Gene: Phisb_50 Start: 33626, Stop: 34060, Start Num: 28

Candidate Starts for Phisb_50:

(Start: 26 @33617 has 4 MA's), (Start: 28 @33626 has 45 MA's), (48, 33740), (72, 33890), (87, 33962), (89, 33974),

Gene: Phrampa_292 Start: 180451, Stop: 180858, Start Num: 17

Candidate Starts for Phrampa_292:

(17, 180451), (21, 180460), (Start: 23 @180475 has 1 MA's), (Start: 32 @180511 has 4 MA's), (36, 180523), (45, 180595), (51, 180625), (53, 180646), (64, 180700), (70, 180739), (92, 180844), (93, 180850),

Gene: Phrampa_7 Start: 4080, Stop: 4487, Start Num: 17

Candidate Starts for Phrampa_7:

(17, 4080), (21, 4089), (Start: 23 @4104 has 1 MA's), (Start: 32 @4140 has 4 MA's), (36, 4152), (45, 4224), (51, 4254), (53, 4275), (64, 4329), (70, 4368), (92, 4473), (93, 4479),

Gene: PumpkinSpice_4 Start: 3239, Stop: 2847, Start Num: 25

Candidate Starts for PumpkinSpice_4:

(Start: 25 @3239 has 56 MA's), (49, 3101), (52, 3068), (57, 3053), (64, 3014), (72, 2963), (84, 2909), (96, 2858),

Gene: PumpkinSpice_268 Start: 123131, Stop: 122739, Start Num: 25

Candidate Starts for PumpkinSpice_268:

(Start: 25 @123131 has 56 MA's), (49, 122993), (52, 122960), (57, 122945), (64, 122906), (72, 122855), (84, 122801), (96, 122750),

Gene: QMacho_52 Start: 34198, Stop: 34641, Start Num: 26

Candidate Starts for QMacho_52:

(Start: 26 @34198 has 4 MA's), (Start: 28 @34207 has 45 MA's), (72, 34471), (87, 34543), (89, 34555),

Gene: Quaran19_265 Start: 122421, Stop: 122029, Start Num: 25

Candidate Starts for Quaran19_265:

(Start: 25 @122421 has 56 MA's), (49, 122283), (52, 122250), (57, 122235), (64, 122196), (72, 122145), (84, 122091), (96, 122040),

Gene: Quaran19_4 Start: 3239, Stop: 2847, Start Num: 25

Candidate Starts for Quaran19_4:

(Start: 25 @3239 has 56 MA's), (49, 3101), (52, 3068), (57, 3053), (64, 3014), (72, 2963), (84, 2909), (96, 2858),

Gene: Quenya_49 Start: 34399, Stop: 34833, Start Num: 28

Candidate Starts for Quenya_49:

(Start: 28 @34399 has 45 MA's), (45, 34495), (48, 34513), (72, 34663), (90, 34750), (100, 34804),

Gene: Racecar_296 Start: 177796, Stop: 178143, Start Num: 32

Candidate Starts for Racecar_296:

(Start: 32 @177796 has 4 MA's), (36, 177808), (45, 177880), (53, 177931), (70, 178024), (76, 178045), (90, 178120), (92, 178129), (93, 178135),

Gene: Racecar_7 Start: 4087, Stop: 4434, Start Num: 32

Candidate Starts for Racecar_7:

(Start: 32 @4087 has 4 MA's), (36, 4099), (45, 4171), (53, 4222), (70, 4315), (76, 4336), (90, 4411), (92, 4420), (93, 4426),

Gene: ReginaGlobina_317 Start: 181215, Stop: 181478, Start Num: 45

Candidate Starts for ReginaGlobina_317:

(Start: 32 @181131 has 4 MA's), (45, 181215), (73, 181374), (79, 181392), (80, 181398), (81, 181407), (92, 181467), (93, 181473),

Gene: ReginaGlobina_6 Start: 3768, Stop: 4031, Start Num: 45

Candidate Starts for ReginaGlobina_6:

(Start: 32 @3684 has 4 MA's), (45, 3768), (73, 3927), (79, 3945), (80, 3951), (81, 3960), (92, 4020), (93, 4026),

Gene: RemusLoopin_40 Start: 32252, Stop: 32656, Start Num: 27

Candidate Starts for RemusLoopin_40:

(Start: 27 @32252 has 8 MA's), (34, 32282), (43, 32351), (45, 32360), (69, 32498), (84, 32576),

Gene: Rikishi_273 Start: 122922, Stop: 122530, Start Num: 25

Candidate Starts for Rikishi_273:

(Start: 25 @122922 has 56 MA's), (49, 122784), (52, 122751), (57, 122736), (64, 122697), (72, 122646), (84, 122592), (96, 122541),

Gene: Rikishi_3 Start: 2849, Stop: 2457, Start Num: 25

Candidate Starts for Rikishi_3:

(Start: 25 @2849 has 56 MA's), (49, 2711), (52, 2678), (57, 2663), (64, 2624), (72, 2573), (84, 2519), (96, 2468),

Gene: Rockabye_305 Start: 176666, Stop: 177001, Start Num: 36

Candidate Starts for Rockabye_305:

(Start: 32 @176654 has 4 MA's), (36, 176666), (37, 176705), (41, 176726), (45, 176738), (46, 176741), (58, 176816), (70, 176882), (76, 176903), (79, 176912), (81, 176927), (84, 176951), (92, 176987), (93, 176993),

Gene: Rockabye_6 Start: 4053, Stop: 4388, Start Num: 36

Candidate Starts for Rockabye_6:

(Start: 32 @4041 has 4 MA's), (36, 4053), (37, 4092), (41, 4113), (45, 4125), (46, 4128), (58, 4203), (70, 4269), (76, 4290), (79, 4299), (81, 4314), (84, 4338), (92, 4374), (93, 4380),

Gene: Rollins_46 Start: 31506, Stop: 31931, Start Num: 28

Candidate Starts for Rollins_46:

(19, 31470), (22, 31476), (Start: 28 @31506 has 45 MA's), (Start: 32 @31524 has 4 MA's), (63, 31716), (67, 31731), (71, 31773), (74, 31785), (92, 31875),

Gene: SJReid_8 Start: 4281, Stop: 4634, Start Num: 31

Candidate Starts for SJReid_8:

(31, 4281), (36, 4299), (45, 4371), (53, 4422), (79, 4545), (84, 4584), (85, 4590), (90, 4611), (92, 4620),

Gene: SJReid_319 Start: 177120, Stop: 177473, Start Num: 31

Candidate Starts for SJReid_319:

(31, 177120), (36, 177138), (45, 177210), (53, 177261), (79, 177384), (84, 177423), (85, 177429), (90, 177450), (92, 177459),

Gene: SaltySpittoon_4 Start: 3239, Stop: 2847, Start Num: 25

Candidate Starts for SaltySpittoon_4:

(Start: 25 @3239 has 56 MA's), (49, 3101), (52, 3068), (57, 3053), (64, 3014), (72, 2963), (84, 2909), (96, 2858),

Gene: SaltySpittoon_264 Start: 121503, Stop: 121111, Start Num: 25

Candidate Starts for SaltySpittoon_264:

(Start: 25 @121503 has 56 MA's), (49, 121365), (52, 121332), (57, 121317), (64, 121278), (72, 121227), (84, 121173), (96, 121122),

Gene: Samora_39 Start: 31416, Stop: 31814, Start Num: 27

Candidate Starts for Samora_39:

(10, 31338), (11, 31344), (Start: 27 @31416 has 8 MA's), (40, 31509), (45, 31524),

Gene: SansAfet_51 Start: 33622, Stop: 34056, Start Num: 28

Candidate Starts for SansAfet_51:

(5, 33493), (Start: 26 @33613 has 4 MA's), (Start: 28 @33622 has 45 MA's), (48, 33736), (72, 33886), (79, 33907),

Gene: SarBear_50 Start: 33394, Stop: 33837, Start Num: 26

Candidate Starts for SarBear_50:

(Start: 26 @33394 has 4 MA's), (Start: 28 @33403 has 45 MA's), (72, 33667), (87, 33739), (89, 33751),

Gene: Sebastisaurus_39 Start: 31926, Stop: 32330, Start Num: 27

Candidate Starts for Sebastisaurus_39:

(10, 31851), (Start: 27 @31926 has 8 MA's), (30, 31941), (43, 32025), (45, 32034), (55, 32091), (69, 32172), (84, 32250),

Gene: Shawty_37 Start: 30679, Stop: 31077, Start Num: 27

Candidate Starts for Shawty_37:

(12, 30613), (Start: 27 @30679 has 8 MA's), (43, 30778), (45, 30787), (54, 30841), (74, 30946), (76, 30952),

Gene: Skylord_46 Start: 31437, Stop: 31862, Start Num: 28

Candidate Starts for Skylord_46:

(19, 31401), (22, 31407), (Start: 28 @31437 has 45 MA's), (Start: 32 @31455 has 4 MA's), (63, 31647), (67, 31662), (71, 31704), (74, 31716), (92, 31806), (96, 31821),

Gene: Slay_50 Start: 33935, Stop: 34378, Start Num: 26

Candidate Starts for Slay_50:

(Start: 26 @33935 has 4 MA's), (Start: 28 @33944 has 45 MA's), (72, 34208), (79, 34229), (87, 34280),

Gene: Softsoap_50 Start: 33602, Stop: 34036, Start Num: 28

Candidate Starts for Softsoap_50:

(6, 33479), (Start: 28 @33602 has 45 MA's), (48, 33716), (72, 33866), (79, 33887), (87, 33938),

Gene: Sollertia_261 Start: 122109, Stop: 121717, Start Num: 25

Candidate Starts for Sollertia_261:

(20, 122130), (Start: 25 @122109 has 56 MA's), (35, 122073), (49, 121971), (68, 121851), (81, 121803), (96, 121728),

Gene: Sollertia_5 Start: 3219, Stop: 2827, Start Num: 25

Candidate Starts for Sollertia_5:

(20, 3240), (Start: 25 @3219 has 56 MA's), (35, 3183), (49, 3081), (68, 2961), (81, 2913), (96, 2838),

Gene: Spelly_270 Start: 122043, Stop: 121651, Start Num: 25

Candidate Starts for Spelly_270:

(Start: 25 @122043 has 56 MA's), (49, 121905), (52, 121872), (57, 121857), (64, 121818), (72, 121767), (84, 121713), (96, 121662),

Gene: Spelly_4 Start: 3239, Stop: 2847, Start Num: 25

Candidate Starts for Spelly_4:

(Start: 25 @3239 has 56 MA's), (49, 3101), (52, 3068), (57, 3053), (64, 3014), (72, 2963), (84, 2909), (96, 2858),

Gene: Spilled_3 Start: 2849, Stop: 2457, Start Num: 25

Candidate Starts for Spilled_3:

(Start: 25 @2849 has 56 MA's), (49, 2711), (52, 2678), (57, 2663), (64, 2624), (72, 2573), (84, 2519), (96, 2468),

Gene: Spilled_271 Start: 123318, Stop: 122926, Start Num: 25

Candidate Starts for Spilled_271:

(Start: 25 @123318 has 56 MA's), (49, 123180), (52, 123147), (57, 123132), (64, 123093), (72, 123042), (84, 122988), (96, 122937),

Gene: Stanimal_5 Start: 3219, Stop: 2827, Start Num: 25

Candidate Starts for Stanimal_5:

(20, 3240), (Start: 25 @3219 has 56 MA's), (35, 3183), (49, 3081), (68, 2961), (81, 2913), (96, 2838),

Gene: Stanimal_260 Start: 122493, Stop: 122101, Start Num: 25

Candidate Starts for Stanimal_260:

(20, 122514), (Start: 25 @122493 has 56 MA's), (35, 122457), (49, 122355), (68, 122235), (81, 122187), (96, 122112),

Gene: StarPlatinum_3 Start: 2983, Stop: 2591, Start Num: 25

Candidate Starts for StarPlatinum_3:

(Start: 25 @2983 has 56 MA's), (43, 2881), (49, 2845), (52, 2812), (57, 2797), (59, 2779), (64, 2758), (72, 2707), (81, 2677), (84, 2653), (86, 2644), (96, 2602),

Gene: StarPlatinum_273 Start: 124670, Stop: 124278, Start Num: 25

Candidate Starts for StarPlatinum_273:

(Start: 25 @124670 has 56 MA's), (43, 124568), (49, 124532), (52, 124499), (57, 124484), (59, 124466), (64, 124445), (72, 124394), (81, 124364), (84, 124340), (86, 124331), (96, 124289),

Gene: Starbow_261 Start: 122087, Stop: 121695, Start Num: 25

Candidate Starts for Starbow_261:

(Start: 25 @122087 has 56 MA's), (49, 121949), (52, 121916), (57, 121901), (64, 121862), (72, 121811), (84, 121757), (96, 121706),

Gene: Starbow_4 Start: 3239, Stop: 2847, Start Num: 25

Candidate Starts for Starbow_4:

(Start: 25 @3239 has 56 MA's), (49, 3101), (52, 3068), (57, 3053), (64, 3014), (72, 2963), (84, 2909), (96, 2858),

Gene: Swervy_51 Start: 33675, Stop: 34109, Start Num: 28

Candidate Starts for Swervy_51:

(Start: 26 @33666 has 4 MA's), (Start: 28 @33675 has 45 MA's), (72, 33939), (87, 34011), (89, 34023),

Gene: TG1_34 Start: 29721, Stop: 30113, Start Num: 28

Candidate Starts for TG1_34:

(Start: 27 @29715 has 8 MA's), (Start: 28 @29721 has 45 MA's), (40, 29808), (45, 29826), (72, 29979),

Gene: Talia1610_7 Start: 4042, Stop: 4389, Start Num: 32

Candidate Starts for Talia1610_7:

(Start: 32 @4042 has 4 MA's), (36, 4054), (45, 4126), (53, 4177), (70, 4270), (90, 4366), (92, 4375), (93, 4381),

Gene: Talia1610_293 Start: 178514, Stop: 178861, Start Num: 32

Candidate Starts for Talia1610_293:

(Start: 32 @178514 has 4 MA's), (36, 178526), (45, 178598), (53, 178649), (70, 178742), (90, 178838), (92, 178847), (93, 178853),

Gene: TomSawyer_269 Start: 124612, Stop: 124220, Start Num: 25

Candidate Starts for TomSawyer_269:

(Start: 25 @124612 has 56 MA's), (49, 124474), (52, 124441), (57, 124426), (64, 124387), (72, 124336), (84, 124282), (96, 124231),

Gene: TomSawyer_4 Start: 2833, Stop: 2441, Start Num: 25

Candidate Starts for TomSawyer_4:

(Start: 25 @2833 has 56 MA's), (49, 2695), (52, 2662), (57, 2647), (64, 2608), (72, 2557), (84, 2503), (96, 2452),

Gene: Tomas_4 Start: 3256, Stop: 2858, Start Num: 25

Candidate Starts for Tomas_4:

(13, 3319), (14, 3316), (Start: 25 @3256 has 56 MA's), (39, 3169), (47, 3130), (50, 3112), (64, 3028), (72, 2977), (75, 2971), (77, 2965), (81, 2944), (89, 2896), (94, 2875),

Gene: Tomas_260 Start: 124963, Stop: 124565, Start Num: 25

Candidate Starts for Tomas_260:

(13, 125026), (14, 125023), (Start: 25 @124963 has 56 MA's), (39, 124876), (47, 124837), (50, 124819), (64, 124735), (72, 124684), (75, 124678), (77, 124672), (81, 124651), (89, 124603), (94, 124582),

Gene: TukTuk_51 Start: 33683, Stop: 34117, Start Num: 28

Candidate Starts for TukTuk_51:

(Start: 26 @33674 has 4 MA's), (Start: 28 @33683 has 45 MA's), (72, 33947), (87, 34019),

Gene: Vash_37 Start: 30660, Stop: 31058, Start Num: 27

Candidate Starts for Vash_37:

(Start: 27 @30660 has 8 MA's), (Start: 28 @30666 has 45 MA's), (37, 30735), (43, 30759), (45, 30768), (81, 30957), (84, 30984),

Gene: Vitas_46 Start: 31419, Stop: 31844, Start Num: 28

Candidate Starts for Vitas_46:

(19, 31383), (22, 31389), (Start: 28 @31419 has 45 MA's), (63, 31629), (67, 31644), (71, 31686), (74, 31698), (92, 31788), (96, 31803),

Gene: WaddleDee_4 Start: 2969, Stop: 3316, Start Num: 32

Candidate Starts for WaddleDee_4:

(Start: 32 @2969 has 4 MA's), (45, 3053), (74, 3215), (78, 3227), (81, 3245), (90, 3296),

Gene: WaddleDee_306 Start: 181164, Stop: 181511, Start Num: 32

Candidate Starts for WaddleDee_306:

(Start: 32 @181164 has 4 MA's), (45, 181248), (74, 181410), (78, 181422), (81, 181440), (90, 181491),

Gene: Wipeout_3 Start: 2854, Stop: 2462, Start Num: 25

Candidate Starts for Wipeout_3:

(Start: 25 @2854 has 56 MA's), (49, 2716), (52, 2683), (57, 2668), (64, 2629), (72, 2578), (84, 2524), (96, 2473),

Gene: Wipeout_256 Start: 123585, Stop: 123193, Start Num: 25

Candidate Starts for Wipeout_256:

(Start: 25 @123585 has 56 MA's), (49, 123447), (52, 123414), (57, 123399), (64, 123360), (72, 123309), (84, 123255), (96, 123204),

Gene: Wofford_4 Start: 3125, Stop: 2730, Start Num: 25

Candidate Starts for Wofford_4:

(Start: 25 @3125 has 56 MA's), (49, 2987), (59, 2921), (64, 2900), (68, 2867), (74, 2846), (75, 2843), (81, 2816), (86, 2783), (90, 2765), (96, 2741),

Gene: Wofford_262 Start: 124918, Stop: 124523, Start Num: 25

Candidate Starts for Wofford_262:

(Start: 25 @124918 has 56 MA's), (49, 124780), (59, 124714), (64, 124693), (68, 124660), (74, 124639), (75, 124636), (81, 124609), (86, 124576), (90, 124558), (96, 124534),

Gene: Yaboi_5 Start: 3219, Stop: 2827, Start Num: 25

Candidate Starts for Yaboi_5:

(20, 3240), (Start: 25 @3219 has 56 MA's), (35, 3183), (49, 3081), (68, 2961), (81, 2913), (96, 2838),

Gene: Yaboi_266 Start: 122037, Stop: 121645, Start Num: 25

Candidate Starts for Yaboi_266:

(20, 122058), (Start: 25 @122037 has 56 MA's), (35, 122001), (49, 121899), (68, 121779), (81, 121731), (96, 121656),

Gene: Yappy_109 Start: 56080, Stop: 55733, Start Num: 33

Candidate Starts for Yappy_109:

(Start: 33 @56080 has 1 MA's), (37, 56035), (45, 56008), (49, 55990), (56, 55939), (76, 55837), (84, 55795), (95, 55750),

Gene: phiBT1_14 Start: 32102, Stop: 32500, Start Num: 27

Candidate Starts for phiBT1_14:

(Start: 27 @32102 has 8 MA's), (45, 32210), (69, 32348),

Gene: phiSASD1_5 Start: 21806, Stop: 22309, Start Num: 23

Candidate Starts for phiSASD1_5:

(Start: 23 @21806 has 1 MA's), (42, 21917), (62, 22025), (73, 22085), (79, 22103), (81, 22118), (82, 22124), (88, 22169), (98, 22217), (104, 22250), (106, 22253),