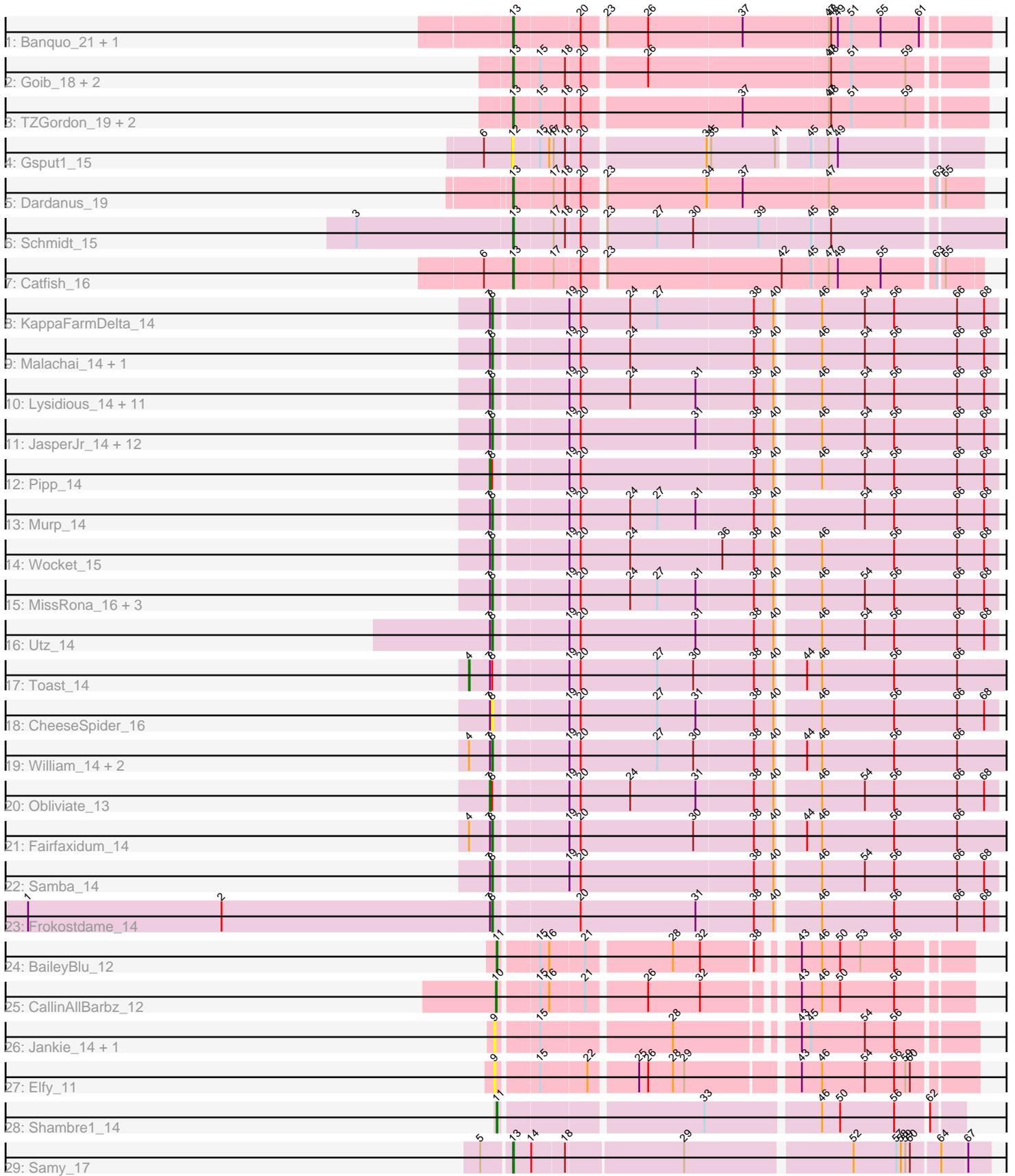


Pham 283797



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 283797 Report

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

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 283797 has 64 members, 7 are drafts.

Phages represented in each track:

- Track 1 : Banquo_21, TinaLin_20
- Track 2 : Goib_18, Vendetta_17, Splinter_17
- Track 3 : TZGordon_19, Huffy_19, DinoDaryn_19
- Track 4 : Gspu1_15
- Track 5 : Dardanus_19
- Track 6 : Schmidt_15
- Track 7 : Catfish_16
- Track 8 : KappaFarmDelta_14
- Track 9 : Malachai_14, Begonia_14
- Track 10 : Lysidious_14, PhrostedPhlake_15, Jalammah_15, Blino_14, Walrus_15, Wisp_13, Mellie_13, Hitter_14, Zilla_14, Petra_16, CarolAnn_14, ZiggyZoo_13
- Track 11 : JasperJr_14, Barco_14, MintFen_14, CaptainKirk2_14, BlingBling_14, Guacamole_14, Fenry_13, Zarbodnamra_14, UmaThurman_14, Delian_14, Melba_14, JuJu_14, Archis_15
- Track 12 : Pipp_14
- Track 13 : Murp_14
- Track 14 : Wocket_15
- Track 15 : MissRona_16, Gambino_16, Blueberry_16, Azula_16
- Track 16 : Utz_14
- Track 17 : Toast_14
- Track 18 : CheeseSpider_16
- Track 19 : William_14, PCoral7_14, PrincePatrick_14
- Track 20 : Obliviate_13
- Track 21 : Fairfaxidum_14
- Track 22 : Samba_14
- Track 23 : Frokostdame_14
- Track 24 : BaileyBlu_12
- Track 25 : CallinAllBarbz_12
- Track 26 : Jankie_14, GrimEater_13
- Track 27 : Elfy_11
- Track 28 : Shambre1_14
- Track 29 : Samy_17

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

The start number called the most often in the published annotations is 8, it was called in 39 of the 57 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Archis_15, Azula_16, Barco_14, Begonia_14, BlingBling_14, Blino_14, Blueberry_16, CaptainKirk2_14, CarolAnn_14, CheeseSpider_16, Delian_14, Fairfaxidum_14, Fenry_13, Frokostdame_14, Gambino_16, Guacamole_14, Hitter_14, Jalammah_15, JasperJr_14, JuJu_14, KappaFarmDelta_14, Lysidious_14, Malachai_14, Melba_14, Mellie_13, MintFen_14, MissRona_16, Murp_14, PCoral7_14, Petra_16, PhrostedPhlake_15, PrincePatrick_14, Samba_14, UmaThurman_14, Utz_14, Walrus_15, William_14, Wisp_13, Wocket_15, Zarbodnamra_14, ZiggyZoo_13, Zilla_14,

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

- Obliviate_13, Pipp_14, Toast_14,

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

- BaileyBlu_12, Banquo_21, CallinAllBarbz_12, Catfish_16, Dardanus_19, DinoDaryn_19, Elfy_11, Goib_18, GrimEater_13, Gspu1_15, Huff_19, Jankie_14, Samy_17, Schmidt_15, Shambre1_14, Splinter_17, TZGordon_19, TinaLin_20, Vendetta_17,

Summary by start number:

Start 4:

- Found in 5 of 64 (7.8%) of genes in pham
- Manual Annotations of this start: 1 of 57
- Called 20.0% of time when present
- Phage (with cluster) where this start called: Toast_14 (CV),

Start 7:

- Found in 45 of 64 (70.3%) of genes in pham
- Manual Annotations of this start: 2 of 57
- Called 4.4% of time when present
- Phage (with cluster) where this start called: Obliviate_13 (CV), Pipp_14 (CV),

Start 8:

- Found in 45 of 64 (70.3%) of genes in pham
- Manual Annotations of this start: 39 of 57
- Called 93.3% of time when present
- Phage (with cluster) where this start called: Archis_15 (CV), Azula_16 (CV), Barco_14 (CV), Begonia_14 (CV), BlingBling_14 (CV), Blino_14 (CV), Blueberry_16 (CV), CaptainKirk2_14 (CV), CarolAnn_14 (CV), CheeseSpider_16 (CV), Delian_14 (CV), Fairfaxidum_14 (CV), Fenry_13 (CV), Frokostdame_14 (CV), Gambino_16 (CV), Guacamole_14 (CV), Hitter_14 (CV), Jalammah_15 (CV), JasperJr_14 (CV), JuJu_14 (CV), KappaFarmDelta_14 (CV), Lysidious_14 (CV), Malachai_14 (CV), Melba_14 (CV), Mellie_13 (CV), MintFen_14 (CV), MissRona_16 (CV), Murp_14 (CV), PCoral7_14 (CV), Petra_16 (CV), PhrostedPhlake_15 (CV), PrincePatrick_14

(CV), Samba_14 (CV), UmaThurman_14 (CV), Utz_14 (CV), Walrus_15 (CV), William_14 (CV), Wisp_13 (CV), Wocket_15 (CV), Z̄arbodnamra_14 (CV), ZiggyZoo_13 (CV), Zilla_14 (CV),

Start 9:

- Found in 3 of 64 (4.7%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Elfy_11 (FP), GrimEater_13 (FP), Jankie_14 (FP),

Start 10:

- Found in 1 of 64 (1.6%) of genes in pham
- Manual Annotations of this start: 1 of 57
- Called 100.0% of time when present
- Phage (with cluster) where this start called: CallinAllBarbz_12 (FP),

Start 11:

- Found in 2 of 64 (3.1%) of genes in pham
- Manual Annotations of this start: 2 of 57
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BaileyBlu_12 (FP), Shambre1_14 (singleton),

Start 12:

- Found in 1 of 64 (1.6%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gspu1_15 (CU2),

Start 13:

- Found in 12 of 64 (18.8%) of genes in pham
- Manual Annotations of this start: 12 of 57
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Banquo_21 (CU1), Catfish_16 (CU5), Dardanus_19 (CU3), DinoDaryn_19 (CU1), Goib_18 (CU1), Huff_19 (CU1), Samy_17 (singleton), Schmidt_15 (CU4), Splinter_17 (CU1), TZGordon_19 (CU1), TinaLin_20 (CU1), Vendetta_17 (CU1),

Summary by clusters:

There are 8 clusters represented in this pham: FP, CU5, CU4, CU3, CU2, CU1, singleton, CV,

Info for manual annotations of cluster CU1:

- Start number 13 was manually annotated 8 times for cluster CU1.

Info for manual annotations of cluster CU3:

- Start number 13 was manually annotated 1 time for cluster CU3.

Info for manual annotations of cluster CU4:

- Start number 13 was manually annotated 1 time for cluster CU4.

Info for manual annotations of cluster CU5:

- Start number 13 was manually annotated 1 time for cluster CU5.

Info for manual annotations of cluster CV:

- Start number 4 was manually annotated 1 time for cluster CV.
- Start number 7 was manually annotated 2 times for cluster CV.
- Start number 8 was manually annotated 39 times for cluster CV.

Info for manual annotations of cluster FP:

- Start number 10 was manually annotated 1 time for cluster FP.
- Start number 11 was manually annotated 1 time for cluster FP.

Gene Information:

Gene: Archis_15 Start: 8891, Stop: 9529, Start Num: 8

Candidate Starts for Archis_15:

(Start: 7 @8888 has 2 MA's), (Start: 8 @8891 has 39 MA's), (19, 8981), (20, 8996), (31, 9149), (38, 9224), (40, 9248), (46, 9296), (54, 9353), (56, 9392), (66, 9476), (68, 9512),

Gene: Azula_16 Start: 9023, Stop: 9661, Start Num: 8

Candidate Starts for Azula_16:

(Start: 7 @9020 has 2 MA's), (Start: 8 @9023 has 39 MA's), (19, 9113), (20, 9128), (24, 9194), (27, 9230), (31, 9281), (38, 9356), (40, 9380), (46, 9428), (54, 9485), (56, 9524), (66, 9608), (68, 9644),

Gene: BaileyBlu_12 Start: 7191, Stop: 7754, Start Num: 11

Candidate Starts for BaileyBlu_12:

(Start: 11 @7191 has 2 MA's), (15, 7236), (16, 7248), (21, 7293), (28, 7398), (32, 7434), (38, 7500), (43, 7539), (46, 7566), (50, 7590), (53, 7617), (56, 7662),

Gene: Banquo_21 Start: 11777, Stop: 12373, Start Num: 13

Candidate Starts for Banquo_21:

(Start: 13 @11777 has 12 MA's), (20, 11861), (23, 11885), (26, 11939), (37, 12062), (47, 12173), (48, 12176), (49, 12185), (51, 12203), (55, 12242), (61, 12293),

Gene: Barco_14 Start: 8679, Stop: 9317, Start Num: 8

Candidate Starts for Barco_14:

(Start: 7 @8676 has 2 MA's), (Start: 8 @8679 has 39 MA's), (19, 8769), (20, 8784), (31, 8937), (38, 9012), (40, 9036), (46, 9084), (54, 9141), (56, 9180), (66, 9264), (68, 9300),

Gene: Begonia_14 Start: 8682, Stop: 9320, Start Num: 8

Candidate Starts for Begonia_14:

(Start: 7 @8679 has 2 MA's), (Start: 8 @8682 has 39 MA's), (19, 8772), (20, 8787), (24, 8853), (38, 9015), (40, 9039), (46, 9087), (54, 9144), (56, 9183), (66, 9267), (68, 9303),

Gene: BlingBling_14 Start: 8679, Stop: 9317, Start Num: 8

Candidate Starts for BlingBling_14:

(Start: 7 @8676 has 2 MA's), (Start: 8 @8679 has 39 MA's), (19, 8769), (20, 8784), (31, 8937), (38, 9012), (40, 9036), (46, 9084), (54, 9141), (56, 9180), (66, 9264), (68, 9300),

Gene: Blino_14 Start: 8579, Stop: 9217, Start Num: 8

Candidate Starts for Blino_14:

(Start: 7 @8576 has 2 MA's), (Start: 8 @8579 has 39 MA's), (19, 8669), (20, 8684), (24, 8750), (31, 8837), (38, 8912), (40, 8936), (46, 8984), (54, 9041), (56, 9080), (66, 9164), (68, 9200),

Gene: Blueberry_16 Start: 9023, Stop: 9661, Start Num: 8

Candidate Starts for Blueberry_16:

(Start: 7 @9020 has 2 MA's), (Start: 8 @9023 has 39 MA's), (19, 9113), (20, 9128), (24, 9194), (27, 9230), (31, 9281), (38, 9356), (40, 9380), (46, 9428), (54, 9485), (56, 9524), (66, 9608), (68, 9644),

Gene: CallinAllBarbz_12 Start: 7199, Stop: 7762, Start Num: 10

Candidate Starts for CallinAllBarbz_12:

(Start: 10 @7199 has 1 MA's), (15, 7244), (16, 7256), (21, 7301), (26, 7373), (32, 7442), (43, 7547), (46, 7574), (50, 7598), (56, 7670),

Gene: CaptainKirk2_14 Start: 8682, Stop: 9320, Start Num: 8

Candidate Starts for CaptainKirk2_14:

(Start: 7 @8679 has 2 MA's), (Start: 8 @8682 has 39 MA's), (19, 8772), (20, 8787), (31, 8940), (38, 9015), (40, 9039), (46, 9087), (54, 9144), (56, 9183), (66, 9267), (68, 9303),

Gene: CarolAnn_14 Start: 8578, Stop: 9216, Start Num: 8

Candidate Starts for CarolAnn_14:

(Start: 7 @8575 has 2 MA's), (Start: 8 @8578 has 39 MA's), (19, 8668), (20, 8683), (24, 8749), (31, 8836), (38, 8911), (40, 8935), (46, 8983), (54, 9040), (56, 9079), (66, 9163), (68, 9199),

Gene: Catfish_16 Start: 9760, Stop: 10344, Start Num: 13

Candidate Starts for Catfish_16:

(6, 9721), (Start: 13 @9760 has 12 MA's), (17, 9811), (20, 9844), (23, 9868), (42, 10096), (45, 10135), (47, 10156), (49, 10168), (55, 10225), (63, 10291), (65, 10297),

Gene: CheeseSpider_16 Start: 9022, Stop: 9660, Start Num: 8

Candidate Starts for CheeseSpider_16:

(Start: 7 @9019 has 2 MA's), (Start: 8 @9022 has 39 MA's), (19, 9112), (20, 9127), (27, 9229), (31, 9280), (38, 9355), (40, 9379), (46, 9427), (56, 9523), (66, 9607), (68, 9643),

Gene: Dardanus_19 Start: 10822, Stop: 11409, Start Num: 13

Candidate Starts for Dardanus_19:

(Start: 13 @10822 has 12 MA's), (17, 10873), (18, 10888), (20, 10906), (23, 10930), (34, 11062), (37, 11107), (47, 11218), (63, 11353), (65, 11359),

Gene: Delian_14 Start: 8682, Stop: 9320, Start Num: 8

Candidate Starts for Delian_14:

(Start: 7 @8679 has 2 MA's), (Start: 8 @8682 has 39 MA's), (19, 8772), (20, 8787), (31, 8940), (38, 9015), (40, 9039), (46, 9087), (54, 9144), (56, 9183), (66, 9267), (68, 9303),

Gene: DinoDaryn_19 Start: 10919, Stop: 11509, Start Num: 13

Candidate Starts for DinoDaryn_19:

(Start: 13 @10919 has 12 MA's), (15, 10952), (18, 10985), (20, 11003), (37, 11204), (47, 11315), (48, 11318), (51, 11345), (59, 11417),

Gene: Elfy_11 Start: 7126, Stop: 7710, Start Num: 9

Candidate Starts for Elfy_11:

(9, 7126), (15, 7174), (22, 7234), (25, 7291), (26, 7303), (28, 7336), (29, 7351), (43, 7489), (46, 7516), (54, 7573), (56, 7612), (59, 7627), (60, 7633),

Gene: Fairfaxidum_14 Start: 8713, Stop: 9366, Start Num: 8

Candidate Starts for Fairfaxidum_14:

(Start: 4 @8683 has 1 MA's), (Start: 7 @8710 has 2 MA's), (Start: 8 @8713 has 39 MA's), (19, 8803), (20, 8818), (30, 8968), (38, 9046), (40, 9070), (44, 9100), (46, 9118), (56, 9214), (66, 9298),

Gene: Fenry_13 Start: 8428, Stop: 9066, Start Num: 8

Candidate Starts for Fenry_13:

(Start: 7 @8425 has 2 MA's), (Start: 8 @8428 has 39 MA's), (19, 8518), (20, 8533), (31, 8686), (38, 8761), (40, 8785), (46, 8833), (54, 8890), (56, 8929), (66, 9013), (68, 9049),

Gene: Frokostdame_14 Start: 8673, Stop: 9311, Start Num: 8

Candidate Starts for Frokostdame_14:

(1, 8058), (2, 8316), (Start: 7 @8670 has 2 MA's), (Start: 8 @8673 has 39 MA's), (20, 8778), (31, 8931), (38, 9006), (40, 9030), (46, 9078), (56, 9174), (66, 9258), (68, 9294),

Gene: Gambino_16 Start: 9023, Stop: 9661, Start Num: 8

Candidate Starts for Gambino_16:

(Start: 7 @9020 has 2 MA's), (Start: 8 @9023 has 39 MA's), (19, 9113), (20, 9128), (24, 9194), (27, 9230), (31, 9281), (38, 9356), (40, 9380), (46, 9428), (54, 9485), (56, 9524), (66, 9608), (68, 9644),

Gene: Goib_18 Start: 10694, Stop: 11284, Start Num: 13

Candidate Starts for Goib_18:

(Start: 13 @10694 has 12 MA's), (15, 10727), (18, 10760), (20, 10778), (26, 10856), (47, 11090), (48, 11093), (51, 11120), (59, 11192),

Gene: GrimEater_13 Start: 7199, Stop: 7771, Start Num: 9

Candidate Starts for GrimEater_13:

(9, 7199), (15, 7247), (28, 7409), (43, 7550), (45, 7562), (54, 7634), (56, 7673),

Gene: Gspu1_15 Start: 9141, Stop: 9716, Start Num: 12

Candidate Starts for Gspu1_15:

(6, 9105), (12, 9141), (15, 9174), (16, 9186), (17, 9192), (18, 9207), (20, 9225), (34, 9381), (35, 9384), (41, 9468), (45, 9504), (47, 9525), (49, 9537),

Gene: Guacamole_14 Start: 8683, Stop: 9321, Start Num: 8

Candidate Starts for Guacamole_14:

(Start: 7 @8680 has 2 MA's), (Start: 8 @8683 has 39 MA's), (19, 8773), (20, 8788), (31, 8941), (38, 9016), (40, 9040), (46, 9088), (54, 9145), (56, 9184), (66, 9268), (68, 9304),

Gene: Hitter_14 Start: 8679, Stop: 9317, Start Num: 8

Candidate Starts for Hitter_14:

(Start: 7 @8676 has 2 MA's), (Start: 8 @8679 has 39 MA's), (19, 8769), (20, 8784), (24, 8850), (31, 8937), (38, 9012), (40, 9036), (46, 9084), (54, 9141), (56, 9180), (66, 9264), (68, 9300),

Gene: Huff_19 Start: 10919, Stop: 11509, Start Num: 13

Candidate Starts for Huff_19:

(Start: 13 @10919 has 12 MA's), (15, 10952), (18, 10985), (20, 11003), (37, 11204), (47, 11315), (48, 11318), (51, 11345), (59, 11417),

Gene: Jalammah_15 Start: 8950, Stop: 9588, Start Num: 8

Candidate Starts for Jalammah_15:

(Start: 7 @8947 has 2 MA's), (Start: 8 @8950 has 39 MA's), (19, 9040), (20, 9055), (24, 9121), (31, 9208), (38, 9283), (40, 9307), (46, 9355), (54, 9412), (56, 9451), (66, 9535), (68, 9571),

Gene: Jankie_14 Start: 7198, Stop: 7770, Start Num: 9

Candidate Starts for Jankie_14:

(9, 7198), (15, 7246), (28, 7408), (43, 7549), (45, 7561), (54, 7633), (56, 7672),

Gene: JasperJr_14 Start: 8683, Stop: 9321, Start Num: 8

Candidate Starts for JasperJr_14:

(Start: 7 @8680 has 2 MA's), (Start: 8 @8683 has 39 MA's), (19, 8773), (20, 8788), (31, 8941), (38, 9016), (40, 9040), (46, 9088), (54, 9145), (56, 9184), (66, 9268), (68, 9304),

Gene: JuJu_14 Start: 8607, Stop: 9245, Start Num: 8

Candidate Starts for JuJu_14:

(Start: 7 @8604 has 2 MA's), (Start: 8 @8607 has 39 MA's), (19, 8697), (20, 8712), (31, 8865), (38, 8940), (40, 8964), (46, 9012), (54, 9069), (56, 9108), (66, 9192), (68, 9228),

Gene: KappaFarmDelta_14 Start: 8832, Stop: 9470, Start Num: 8

Candidate Starts for KappaFarmDelta_14:

(Start: 7 @8829 has 2 MA's), (Start: 8 @8832 has 39 MA's), (19, 8922), (20, 8937), (24, 9003), (27, 9039), (38, 9165), (40, 9189), (46, 9237), (54, 9294), (56, 9333), (66, 9417), (68, 9453),

Gene: Lysidious_14 Start: 8679, Stop: 9317, Start Num: 8

Candidate Starts for Lysidious_14:

(Start: 7 @8676 has 2 MA's), (Start: 8 @8679 has 39 MA's), (19, 8769), (20, 8784), (24, 8850), (31, 8937), (38, 9012), (40, 9036), (46, 9084), (54, 9141), (56, 9180), (66, 9264), (68, 9300),

Gene: Malachai_14 Start: 8682, Stop: 9320, Start Num: 8

Candidate Starts for Malachai_14:

(Start: 7 @8679 has 2 MA's), (Start: 8 @8682 has 39 MA's), (19, 8772), (20, 8787), (24, 8853), (38, 9015), (40, 9039), (46, 9087), (54, 9144), (56, 9183), (66, 9267), (68, 9303),

Gene: Melba_14 Start: 8679, Stop: 9317, Start Num: 8

Candidate Starts for Melba_14:

(Start: 7 @8676 has 2 MA's), (Start: 8 @8679 has 39 MA's), (19, 8769), (20, 8784), (31, 8937), (38, 9012), (40, 9036), (46, 9084), (54, 9141), (56, 9180), (66, 9264), (68, 9300),

Gene: Mellie_13 Start: 8419, Stop: 9057, Start Num: 8

Candidate Starts for Mellie_13:

(Start: 7 @8416 has 2 MA's), (Start: 8 @8419 has 39 MA's), (19, 8509), (20, 8524), (24, 8590), (31, 8677), (38, 8752), (40, 8776), (46, 8824), (54, 8881), (56, 8920), (66, 9004), (68, 9040),

Gene: MintFen_14 Start: 8679, Stop: 9317, Start Num: 8

Candidate Starts for MintFen_14:

(Start: 7 @8676 has 2 MA's), (Start: 8 @8679 has 39 MA's), (19, 8769), (20, 8784), (31, 8937), (38, 9012), (40, 9036), (46, 9084), (54, 9141), (56, 9180), (66, 9264), (68, 9300),

Gene: MissRona_16 Start: 9023, Stop: 9661, Start Num: 8

Candidate Starts for MissRona_16:

(Start: 7 @9020 has 2 MA's), (Start: 8 @9023 has 39 MA's), (19, 9113), (20, 9128), (24, 9194), (27, 9230), (31, 9281), (38, 9356), (40, 9380), (46, 9428), (54, 9485), (56, 9524), (66, 9608), (68, 9644),

Gene: Murp_14 Start: 8672, Stop: 9310, Start Num: 8

Candidate Starts for Murp_14:

(Start: 7 @8669 has 2 MA's), (Start: 8 @8672 has 39 MA's), (19, 8762), (20, 8777), (24, 8843), (27, 8879), (31, 8930), (38, 9005), (40, 9029), (54, 9134), (56, 9173), (66, 9257), (68, 9293),

Gene: Obliviate_13 Start: 8445, Stop: 9086, Start Num: 7

Candidate Starts for Obliviate_13:

(Start: 7 @8445 has 2 MA's), (Start: 8 @8448 has 39 MA's), (19, 8538), (20, 8553), (24, 8619), (31, 8706), (38, 8781), (40, 8805), (46, 8853), (54, 8910), (56, 8949), (66, 9033), (68, 9069),

Gene: PCoral7_14 Start: 8656, Stop: 9306, Start Num: 8

Candidate Starts for PCoral7_14:

(Start: 4 @8626 has 1 MA's), (Start: 7 @8653 has 2 MA's), (Start: 8 @8656 has 39 MA's), (19, 8746), (20, 8761), (27, 8863), (30, 8911), (38, 8989), (40, 9013), (44, 9043), (46, 9061), (56, 9157), (66, 9241),

Gene: Petra_16 Start: 9059, Stop: 9697, Start Num: 8

Candidate Starts for Petra_16:

(Start: 7 @9056 has 2 MA's), (Start: 8 @9059 has 39 MA's), (19, 9149), (20, 9164), (24, 9230), (31, 9317), (38, 9392), (40, 9416), (46, 9464), (54, 9521), (56, 9560), (66, 9644), (68, 9680),

Gene: PhrostedPhlake_15 Start: 9037, Stop: 9675, Start Num: 8

Candidate Starts for PhrostedPhlake_15:

(Start: 7 @9034 has 2 MA's), (Start: 8 @9037 has 39 MA's), (19, 9127), (20, 9142), (24, 9208), (31, 9295), (38, 9370), (40, 9394), (46, 9442), (54, 9499), (56, 9538), (66, 9622), (68, 9658),

Gene: Pipp_14 Start: 8651, Stop: 9292, Start Num: 7

Candidate Starts for Pipp_14:

(Start: 7 @8651 has 2 MA's), (Start: 8 @8654 has 39 MA's), (19, 8744), (20, 8759), (38, 8987), (40, 9011), (46, 9059), (54, 9116), (56, 9155), (66, 9239), (68, 9275),

Gene: PrincePatrick_14 Start: 8714, Stop: 9367, Start Num: 8

Candidate Starts for PrincePatrick_14:

(Start: 4 @8684 has 1 MA's), (Start: 7 @8711 has 2 MA's), (Start: 8 @8714 has 39 MA's), (19, 8804), (20, 8819), (27, 8921), (30, 8969), (38, 9047), (40, 9071), (44, 9101), (46, 9119), (56, 9215), (66, 9299),

Gene: Samba_14 Start: 8787, Stop: 9425, Start Num: 8

Candidate Starts for Samba_14:

(Start: 7 @8784 has 2 MA's), (Start: 8 @8787 has 39 MA's), (19, 8877), (20, 8892), (38, 9120), (40, 9144), (46, 9192), (54, 9249), (56, 9288), (66, 9372), (68, 9408),

Gene: Samy_17 Start: 9940, Stop: 10539, Start Num: 13

Candidate Starts for Samy_17:

(5, 9904), (Start: 13 @9940 has 12 MA's), (14, 9964), (18, 10006), (29, 10156), (52, 10366), (57, 10423), (58, 10429), (59, 10435), (60, 10441), (64, 10477), (67, 10510),

Gene: Schmidt_15 Start: 9115, Stop: 9729, Start Num: 13

Candidate Starts for Schmidt_15:

(3, 8911), (Start: 13 @9115 has 12 MA's), (17, 9166), (18, 9181), (20, 9199), (23, 9223), (27, 9289), (30, 9337), (39, 9421), (45, 9487), (48, 9511),

Gene: Shambre1_14 Start: 9456, Stop: 10025, Start Num: 11

Candidate Starts for Shambre1_14:

(Start: 11 @9456 has 2 MA's), (33, 9705), (46, 9849), (50, 9873), (56, 9945), (62, 9984),

Gene: Splinter_17 Start: 10694, Stop: 11284, Start Num: 13

Candidate Starts for Splinter_17:

(Start: 13 @10694 has 12 MA's), (15, 10727), (18, 10760), (20, 10778), (26, 10856), (47, 11090), (48, 11093), (51, 11120), (59, 11192),

Gene: TZGordon_19 Start: 10836, Stop: 11426, Start Num: 13

Candidate Starts for TZGordon_19:

(Start: 13 @10836 has 12 MA's), (15, 10869), (18, 10902), (20, 10920), (37, 11121), (47, 11232), (48, 11235), (51, 11262), (59, 11334),

Gene: TinaLin_20 Start: 11401, Stop: 11997, Start Num: 13

Candidate Starts for TinaLin_20:

(Start: 13 @11401 has 12 MA's), (20, 11485), (23, 11509), (26, 11563), (37, 11686), (47, 11797), (48, 11800), (49, 11809), (51, 11827), (55, 11866), (61, 11917),

Gene: Toast_14 Start: 8626, Stop: 9306, Start Num: 4

Candidate Starts for Toast_14:

(Start: 4 @8626 has 1 MA's), (Start: 7 @8653 has 2 MA's), (Start: 8 @8656 has 39 MA's), (19, 8746), (20, 8761), (27, 8863), (30, 8911), (38, 8989), (40, 9013), (44, 9043), (46, 9061), (56, 9157), (66, 9241),

Gene: UmaThurman_14 Start: 8786, Stop: 9424, Start Num: 8

Candidate Starts for UmaThurman_14:

(Start: 7 @8783 has 2 MA's), (Start: 8 @8786 has 39 MA's), (19, 8876), (20, 8891), (31, 9044), (38, 9119), (40, 9143), (46, 9191), (54, 9248), (56, 9287), (66, 9371), (68, 9407),

Gene: Utz_14 Start: 8653, Stop: 9291, Start Num: 8

Candidate Starts for Utz_14:

(Start: 7 @8650 has 2 MA's), (Start: 8 @8653 has 39 MA's), (19, 8743), (20, 8758), (31, 8911), (38, 8986), (40, 9010), (46, 9058), (54, 9115), (56, 9154), (66, 9238), (68, 9274),

Gene: Vendetta_17 Start: 10694, Stop: 11284, Start Num: 13

Candidate Starts for Vendetta_17:

(Start: 13 @10694 has 12 MA's), (15, 10727), (18, 10760), (20, 10778), (26, 10856), (47, 11090), (48, 11093), (51, 11120), (59, 11192),

Gene: Walrus_15 Start: 8881, Stop: 9519, Start Num: 8

Candidate Starts for Walrus_15:

(Start: 7 @8878 has 2 MA's), (Start: 8 @8881 has 39 MA's), (19, 8971), (20, 8986), (24, 9052), (31, 9139), (38, 9214), (40, 9238), (46, 9286), (54, 9343), (56, 9382), (66, 9466), (68, 9502),

Gene: William_14 Start: 8602, Stop: 9252, Start Num: 8

Candidate Starts for William_14:

(Start: 4 @8572 has 1 MA's), (Start: 7 @8599 has 2 MA's), (Start: 8 @8602 has 39 MA's), (19, 8692), (20, 8707), (27, 8809), (30, 8857), (38, 8935), (40, 8959), (44, 8989), (46, 9007), (56, 9103), (66, 9187),

Gene: Wisp_13 Start: 8419, Stop: 9057, Start Num: 8

Candidate Starts for Wisp_13:

(Start: 7 @8416 has 2 MA's), (Start: 8 @8419 has 39 MA's), (19, 8509), (20, 8524), (24, 8590), (31, 8677), (38, 8752), (40, 8776), (46, 8824), (54, 8881), (56, 8920), (66, 9004), (68, 9040),

Gene: Wocket_15 Start: 8904, Stop: 9542, Start Num: 8

Candidate Starts for Wocket_15:

(Start: 7 @8901 has 2 MA's), (Start: 8 @8904 has 39 MA's), (19, 8994), (20, 9009), (24, 9075), (36, 9195), (38, 9237), (40, 9261), (46, 9309), (56, 9405), (66, 9489), (68, 9525),

Gene: Zarbodnamra_14 Start: 8678, Stop: 9316, Start Num: 8

Candidate Starts for Zarbodnamra_14:

(Start: 7 @8675 has 2 MA's), (Start: 8 @8678 has 39 MA's), (19, 8768), (20, 8783), (31, 8936), (38, 9011), (40, 9035), (46, 9083), (54, 9140), (56, 9179), (66, 9263), (68, 9299),

Gene: ZiggyZoo_13 Start: 8448, Stop: 9086, Start Num: 8

Candidate Starts for ZiggyZoo_13:

(Start: 7 @8445 has 2 MA's), (Start: 8 @8448 has 39 MA's), (19, 8538), (20, 8553), (24, 8619), (31, 8706), (38, 8781), (40, 8805), (46, 8853), (54, 8910), (56, 8949), (66, 9033), (68, 9069),

Gene: Zilla_14 Start: 8728, Stop: 9366, Start Num: 8

Candidate Starts for Zilla_14:

(Start: 7 @8725 has 2 MA's), (Start: 8 @8728 has 39 MA's), (19, 8818), (20, 8833), (24, 8899), (31, 8986), (38, 9061), (40, 9085), (46, 9133), (54, 9190), (56, 9229), (66, 9313), (68, 9349),