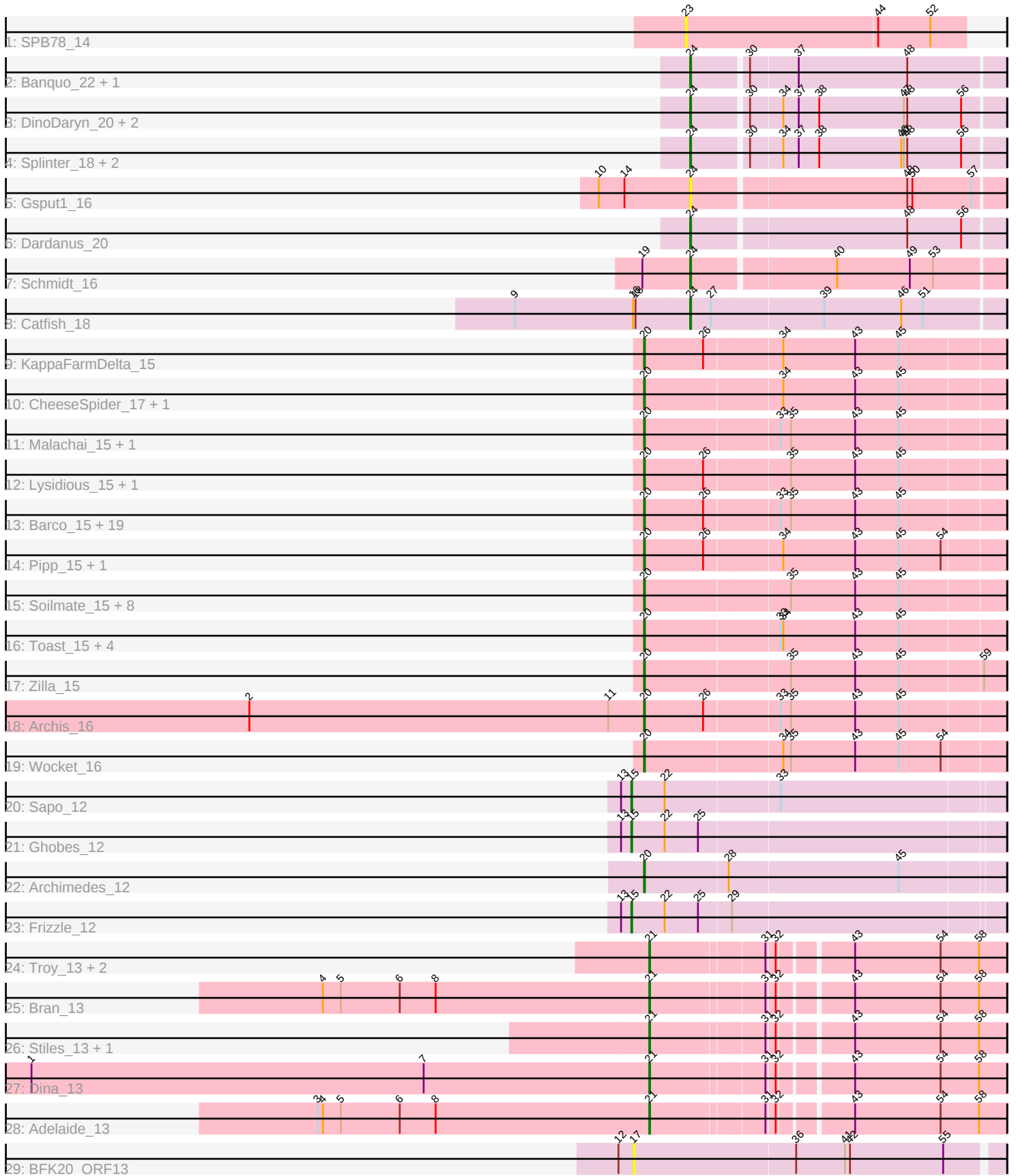


Pham 317485



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 317485 Report

This analysis was run 09/05/26 on database version 662.

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 317485 has 72 members, 5 are drafts.

Phages represented in each track:

- Track 1 : SPB78_14
- Track 2 : Banquo_22, TinaLin_21
- Track 3 : DinoDaryn_20, TZGordon_20, Huffy_20
- Track 4 : Splinter_18, Goib_19, Vendetta_18
- Track 5 : Gspu1_16
- Track 6 : Dardanus_20
- Track 7 : Schmidt_16
- Track 8 : Catfish_18
- Track 9 : KappaFarmDelta_15
- Track 10 : CheeseSpider_17, Frokostdame_15
- Track 11 : Malachai_15, Begonia_15
- Track 12 : Lysidious_15, PhrostedPhlake_16
- Track 13 : Barco_15, Murp_15, MintFen_15, Jalammah_16, CaptainKirk2_15, Guacamole_15, BlingBling_15, Wisp_14, JasperJr_15, Fenry_14, Zarbodnamra_15, Mellie_14, UmaThurman_15, Delian_15, Melba_15, Samba_15, Hitter_15, Obliviate_14, ZiggyZoo_14, Utz_15
- Track 14 : Pipp_15, JuJu_15
- Track 15 : Soilmate_15, MissRona_17, Blino_15, Walrus_16, Blueberry_17, Gambino_17, Petra_17, CarolAnn_15, Azula_17
- Track 16 : Toast_15, PrincePatrick_15, William_15, PCoral7_15, Fairfaxidum_15
- Track 17 : Zilla_15
- Track 18 : Archis_16
- Track 19 : Wocket_16
- Track 20 : Sapo_12
- Track 21 : Ghobes_12
- Track 22 : Archimedes_12
- Track 23 : Frizzle_12
- Track 24 : Troy_13, SamW_13, Lederberg_13
- Track 25 : Bran_13
- Track 26 : Stiles_13, StAB_13
- Track 27 : Dina_13
- Track 28 : Adelaide_13
- Track 29 : BFK20_ORF13

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

The start number called the most often in the published annotations is 20, it was called in 45 of the 67 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Archimedes_12, Archis_16, Azula_17, Barco_15, Begonia_15, BlingBling_15, Blino_15, Blueberry_17, CaptainKirk2_15, CarolAnn_15, CheeseSpider_17, Delian_15, Fairfaxidum_15, Fenry_14, Frokostdame_15, Gambino_17, Guacamole_15, Hitter_15, Jalammah_16, JasperJr_15, JuJu_15, KappaFarmDelta_15, Lysidious_15, Malachai_15, Melba_15, Mellie_14, MintFen_15, MissRona_17, Murp_15, Obliviate_14, PCoral7_15, Petra_17, PhrostedPhlake_16, Pipp_15, PrincePatrick_15, Samba_15, Soilmate_15, Toast_15, UmaThurman_15, Utz_15, Walrus_16, William_15, Wisp_14, Wocket_16, Zarbodnamra_15, ZiggyZoo_14, Zilla_15,

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

-

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

- Adelaide_13, BFK20_ORF13, Banquo_22, Bran_13, Catfish_18, Dardanus_20, Dina_13, DinoDaryn_20, Frizzle_12, Ghobes_12, Goib_19, Gsput1_16, Huffy_20, Lederberg_13, SPB78_14, SamW_13, Sapo_12, Schmidt_16, Splinter_18, StAB_13, Stiles_13, TZGordon_20, TinaLin_21, Troy_13, Vendetta_18,

Summary by start number:

Start 15:

- Found in 3 of 72 (4.2%) of genes in pham
- Manual Annotations of this start: 3 of 67
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Frizzle_12 (DA), Ghobes_12 (DA), Sapo_12 (DA),

Start 17:

- Found in 1 of 72 (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: BFK20_ORF13 (singleton),

Start 20:

- Found in 47 of 72 (65.3%) of genes in pham
- Manual Annotations of this start: 45 of 67
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Archimedes_12 (DA), Archis_16 (CV), Azula_17 (CV), Barco_15 (CV), Begonia_15 (CV), BlingBling_15 (CV), Blino_15 (CV), Blueberry_17 (CV), CaptainKirk2_15 (CV), CarolAnn_15 (CV), CheeseSpider_17 (CV), Delian_15 (CV), Fairfaxidum_15 (CV), Fenry_14 (CV), Frokostdame_15 (CV), Gambino_17 (CV), Guacamole_15 (CV), Hitter_15 (CV), Jalammah_16 (CV),

JasperJr_15 (CV), JuJu_15 (CV), KappaFarmDelta_15 (CV), Lysidious_15 (CV), Malachai_15 (CV), Melba_15 (CV), Mellie_14 (CV), MintFen_15 (CV), MissRona_17 (CV), Murp_15 (CV), Obliviate_14 (CV), PCoral7_15 (CV), Petra_17 (CV), PhrostedPhlake_16 (CV), Pipp_15 (CV), PrincePatrick_15 (CV), Samba_15 (CV), Soilmate_15 (CV), Toast_15 (CV), UmaThurman_15 (CV), Utz_15 (CV), Walrus_16 (CV), William_15 (CV), Wisp_14 (CV), Wocket_16 (CV), Zarbodnamra_15 (CV), ZiggyZoo_14 (CV), Zilla_15 (CV),

Start 21:

- Found in 8 of 72 (11.1%) of genes in pham
- Manual Annotations of this start: 8 of 67
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Adelaide_13 (EP), Bran_13 (EP), Dina_13 (EP), Lederberg_13 (EP), SamW_13 (EP), StAB_13 (EP), Stiles_13 (EP), Troy_13 (EP),

Start 23:

- Found in 1 of 72 (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: SPB78_14 (BA),

Start 24:

- Found in 12 of 72 (16.7%) of genes in pham
- Manual Annotations of this start: 11 of 67
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Banquo_22 (CU1), Catfish_18 (CU5), Dardanus_20 (CU3), DinoDaryn_20 (CU1), Goib_19 (CU1), Gsput1_16 (CU2), Huffy_20 (CU1), Schmidt_16 (CU4), Splinter_18 (CU1), TZGordon_20 (CU1), TinaLin_21 (CU1), Vendetta_18 (CU1),

Summary by clusters:

There are 10 clusters represented in this pham: CU5, CU4, CU3, BA, CU1, singleton, CV, DA, EP, CU2,

Info for manual annotations of cluster CU1:

- Start number 24 was manually annotated 8 times for cluster CU1.

Info for manual annotations of cluster CU3:

- Start number 24 was manually annotated 1 time for cluster CU3.

Info for manual annotations of cluster CU4:

- Start number 24 was manually annotated 1 time for cluster CU4.

Info for manual annotations of cluster CU5:

- Start number 24 was manually annotated 1 time for cluster CU5.

Info for manual annotations of cluster CV:

- Start number 20 was manually annotated 44 times for cluster CV.

Info for manual annotations of cluster DA:

- Start number 15 was manually annotated 3 times for cluster DA.
- Start number 20 was manually annotated 1 time for cluster DA.

Info for manual annotations of cluster EP:

- Start number 21 was manually annotated 8 times for cluster EP.

Gene Information:

Gene: Adelaide_13 Start: 8955, Stop: 9341, Start Num: 21

Candidate Starts for Adelaide_13:

(3, 8568), (4, 8574), (5, 8595), (6, 8664), (8, 8706), (Start: 21 @8955 has 8 MA's), (31, 9081), (32, 9090), (43, 9165), (54, 9264), (58, 9309),

Gene: Archimedes_12 Start: 8298, Stop: 8705, Start Num: 20

Candidate Starts for Archimedes_12:

(Start: 20 @8298 has 45 MA's), (28, 8394), (45, 8589),

Gene: Archis_16 Start: 9631, Stop: 10041, Start Num: 20

Candidate Starts for Archis_16:

(2, 9169), (11, 9589), (Start: 20 @9631 has 45 MA's), (26, 9700), (33, 9784), (35, 9796), (43, 9871), (45, 9922),

Gene: Azula_17 Start: 9765, Stop: 10175, Start Num: 20

Candidate Starts for Azula_17:

(Start: 20 @9765 has 45 MA's), (35, 9930), (43, 10005), (45, 10056),

Gene: BFK20_ORF13 Start: 8927, Stop: 9343, Start Num: 17

Candidate Starts for BFK20_ORF13:

(12, 8909), (17, 8927), (36, 9110), (41, 9167), (42, 9173), (55, 9281),

Gene: Banquo_22 Start: 12518, Stop: 12868, Start Num: 24

Candidate Starts for Banquo_22:

(Start: 24 @12518 has 11 MA's), (30, 12578), (37, 12632), (48, 12758),

Gene: Barco_15 Start: 9420, Stop: 9830, Start Num: 20

Candidate Starts for Barco_15:

(Start: 20 @9420 has 45 MA's), (26, 9489), (33, 9573), (35, 9585), (43, 9660), (45, 9711),

Gene: Begonia_15 Start: 9425, Stop: 9835, Start Num: 20

Candidate Starts for Begonia_15:

(Start: 20 @9425 has 45 MA's), (33, 9578), (35, 9590), (43, 9665), (45, 9716),

Gene: BlingBling_15 Start: 9420, Stop: 9830, Start Num: 20

Candidate Starts for BlingBling_15:

(Start: 20 @9420 has 45 MA's), (26, 9489), (33, 9573), (35, 9585), (43, 9660), (45, 9711),

Gene: Blino_15 Start: 9319, Stop: 9729, Start Num: 20

Candidate Starts for Blino_15:

(Start: 20 @9319 has 45 MA's), (35, 9484), (43, 9559), (45, 9610),

Gene: Blueberry_17 Start: 9765, Stop: 10175, Start Num: 20
Candidate Starts for Blueberry_17:
(Start: 20 @9765 has 45 MA's), (35, 9930), (43, 10005), (45, 10056),

Gene: Bran_13 Start: 8960, Stop: 9346, Start Num: 21
Candidate Starts for Bran_13:
(4, 8579), (5, 8600), (6, 8669), (8, 8711), (Start: 21 @8960 has 8 MA's), (31, 9086), (32, 9095), (43, 9170), (54, 9269), (58, 9314),

Gene: CaptainKirk2_15 Start: 9423, Stop: 9833, Start Num: 20
Candidate Starts for CaptainKirk2_15:
(Start: 20 @9423 has 45 MA's), (26, 9492), (33, 9576), (35, 9588), (43, 9663), (45, 9714),

Gene: CarolAnn_15 Start: 9318, Stop: 9728, Start Num: 20
Candidate Starts for CarolAnn_15:
(Start: 20 @9318 has 45 MA's), (35, 9483), (43, 9558), (45, 9609),

Gene: Catfish_18 Start: 12571, Stop: 12930, Start Num: 24
Candidate Starts for Catfish_18:
(9, 12367), (16, 12505), (18, 12508), (Start: 24 @12571 has 11 MA's), (27, 12595), (39, 12724), (46, 12814), (51, 12838),

Gene: CheeseSpider_17 Start: 9765, Stop: 10175, Start Num: 20
Candidate Starts for CheeseSpider_17:
(Start: 20 @9765 has 45 MA's), (34, 9921), (43, 10005), (45, 10056),

Gene: Dardanus_20 Start: 11510, Stop: 11860, Start Num: 24
Candidate Starts for Dardanus_20:
(Start: 24 @11510 has 11 MA's), (48, 11750), (56, 11813),

Gene: Delian_15 Start: 9423, Stop: 9833, Start Num: 20
Candidate Starts for Delian_15:
(Start: 20 @9423 has 45 MA's), (26, 9492), (33, 9576), (35, 9588), (43, 9663), (45, 9714),

Gene: Dina_13 Start: 8944, Stop: 9330, Start Num: 21
Candidate Starts for Dina_13:
(1, 8221), (7, 8680), (Start: 21 @8944 has 8 MA's), (31, 9070), (32, 9079), (43, 9154), (54, 9253), (58, 9298),

Gene: DinoDaryn_20 Start: 11657, Stop: 12007, Start Num: 24
Candidate Starts for DinoDaryn_20:
(Start: 24 @11657 has 11 MA's), (30, 11717), (34, 11753), (37, 11771), (38, 11795), (47, 11894), (48, 11897), (56, 11960),

Gene: Fairfaxidum_15 Start: 9483, Stop: 9893, Start Num: 20
Candidate Starts for Fairfaxidum_15:
(Start: 20 @9483 has 45 MA's), (33, 9636), (34, 9639), (43, 9723), (45, 9774),

Gene: Fenry_14 Start: 9169, Stop: 9579, Start Num: 20
Candidate Starts for Fenry_14:
(Start: 20 @9169 has 45 MA's), (26, 9238), (33, 9322), (35, 9334), (43, 9409), (45, 9460),

Gene: Frizzle_12 Start: 8387, Stop: 8809, Start Num: 15

Candidate Starts for Frizzle_12:

(13, 8375), (Start: 15 @8387 has 3 MA's), (22, 8426), (25, 8465), (29, 8501),

Gene: Frokostdame_15 Start: 9413, Stop: 9823, Start Num: 20

Candidate Starts for Frokostdame_15:

(Start: 20 @9413 has 45 MA's), (34, 9569), (43, 9653), (45, 9704),

Gene: Gambino_17 Start: 9765, Stop: 10175, Start Num: 20

Candidate Starts for Gambino_17:

(Start: 20 @9765 has 45 MA's), (35, 9930), (43, 10005), (45, 10056),

Gene: Ghobes_12 Start: 8385, Stop: 8807, Start Num: 15

Candidate Starts for Ghobes_12:

(13, 8373), (Start: 15 @8385 has 3 MA's), (22, 8424), (25, 8463),

Gene: Goib_19 Start: 11432, Stop: 11782, Start Num: 24

Candidate Starts for Goib_19:

(Start: 24 @11432 has 11 MA's), (30, 11492), (34, 11528), (37, 11546), (38, 11570), (46, 11666), (47, 11669), (48, 11672), (56, 11735),

Gene: Gspu1_16 Start: 9894, Stop: 10244, Start Num: 24

Candidate Starts for Gspu1_16:

(10, 9789), (14, 9819), (Start: 24 @9894 has 11 MA's), (48, 10134), (50, 10140), (57, 10209),

Gene: Guacamole_15 Start: 9424, Stop: 9834, Start Num: 20

Candidate Starts for Guacamole_15:

(Start: 20 @9424 has 45 MA's), (26, 9493), (33, 9577), (35, 9589), (43, 9664), (45, 9715),

Gene: Hitter_15 Start: 9420, Stop: 9830, Start Num: 20

Candidate Starts for Hitter_15:

(Start: 20 @9420 has 45 MA's), (26, 9489), (33, 9573), (35, 9585), (43, 9660), (45, 9711),

Gene: Huffy_20 Start: 11657, Stop: 12007, Start Num: 24

Candidate Starts for Huffy_20:

(Start: 24 @11657 has 11 MA's), (30, 11717), (34, 11753), (37, 11771), (38, 11795), (47, 11894), (48, 11897), (56, 11960),

Gene: Jalamah_16 Start: 9691, Stop: 10101, Start Num: 20

Candidate Starts for Jalamah_16:

(Start: 20 @9691 has 45 MA's), (26, 9760), (33, 9844), (35, 9856), (43, 9931), (45, 9982),

Gene: JasperJr_15 Start: 9424, Stop: 9834, Start Num: 20

Candidate Starts for JasperJr_15:

(Start: 20 @9424 has 45 MA's), (26, 9493), (33, 9577), (35, 9589), (43, 9664), (45, 9715),

Gene: JuJu_15 Start: 9348, Stop: 9758, Start Num: 20

Candidate Starts for JuJu_15:

(Start: 20 @9348 has 45 MA's), (26, 9417), (34, 9504), (43, 9588), (45, 9639), (54, 9687),

Gene: KappaFarmDelta_15 Start: 9573, Stop: 9983, Start Num: 20

Candidate Starts for KappaFarmDelta_15:

(Start: 20 @9573 has 45 MA's), (26, 9642), (34, 9729), (43, 9813), (45, 9864),

Gene: Lederberg_13 Start: 8942, Stop: 9328, Start Num: 21

Candidate Starts for Lederberg_13:

(Start: 21 @8942 has 8 MA's), (31, 9068), (32, 9077), (43, 9152), (54, 9251), (58, 9296),

Gene: Lysidious_15 Start: 9420, Stop: 9830, Start Num: 20

Candidate Starts for Lysidious_15:

(Start: 20 @9420 has 45 MA's), (26, 9489), (35, 9585), (43, 9660), (45, 9711),

Gene: Malachai_15 Start: 9425, Stop: 9835, Start Num: 20

Candidate Starts for Malachai_15:

(Start: 20 @9425 has 45 MA's), (33, 9578), (35, 9590), (43, 9665), (45, 9716),

Gene: Melba_15 Start: 9420, Stop: 9830, Start Num: 20

Candidate Starts for Melba_15:

(Start: 20 @9420 has 45 MA's), (26, 9489), (33, 9573), (35, 9585), (43, 9660), (45, 9711),

Gene: Mellie_14 Start: 9160, Stop: 9570, Start Num: 20

Candidate Starts for Mellie_14:

(Start: 20 @9160 has 45 MA's), (26, 9229), (33, 9313), (35, 9325), (43, 9400), (45, 9451),

Gene: MintFen_15 Start: 9420, Stop: 9830, Start Num: 20

Candidate Starts for MintFen_15:

(Start: 20 @9420 has 45 MA's), (26, 9489), (33, 9573), (35, 9585), (43, 9660), (45, 9711),

Gene: MissRona_17 Start: 9765, Stop: 10175, Start Num: 20

Candidate Starts for MissRona_17:

(Start: 20 @9765 has 45 MA's), (35, 9930), (43, 10005), (45, 10056),

Gene: Murp_15 Start: 9413, Stop: 9823, Start Num: 20

Candidate Starts for Murp_15:

(Start: 20 @9413 has 45 MA's), (26, 9482), (33, 9566), (35, 9578), (43, 9653), (45, 9704),

Gene: Obliviate_14 Start: 9189, Stop: 9599, Start Num: 20

Candidate Starts for Obliviate_14:

(Start: 20 @9189 has 45 MA's), (26, 9258), (33, 9342), (35, 9354), (43, 9429), (45, 9480),

Gene: PCoral7_15 Start: 9411, Stop: 9821, Start Num: 20

Candidate Starts for PCoral7_15:

(Start: 20 @9411 has 45 MA's), (33, 9564), (34, 9567), (43, 9651), (45, 9702),

Gene: Petra_17 Start: 9800, Stop: 10210, Start Num: 20

Candidate Starts for Petra_17:

(Start: 20 @9800 has 45 MA's), (35, 9965), (43, 10040), (45, 10091),

Gene: PhrostedPhlake_16 Start: 9778, Stop: 10188, Start Num: 20

Candidate Starts for PhrostedPhlake_16:

(Start: 20 @9778 has 45 MA's), (26, 9847), (35, 9943), (43, 10018), (45, 10069),

Gene: Pipp_15 Start: 9395, Stop: 9805, Start Num: 20

Candidate Starts for Pipp_15:

(Start: 20 @9395 has 45 MA's), (26, 9464), (34, 9551), (43, 9635), (45, 9686), (54, 9734),

Gene: PrincePatrick_15 Start: 9479, Stop: 9889, Start Num: 20

Candidate Starts for PrincePatrick_15:

(Start: 20 @9479 has 45 MA's), (33, 9632), (34, 9635), (43, 9719), (45, 9770),

Gene: SPB78_14 Start: 9269, Stop: 9592, Start Num: 23

Candidate Starts for SPB78_14:

(23, 9269), (44, 9491), (52, 9551),

Gene: SamW_13 Start: 8942, Stop: 9328, Start Num: 21

Candidate Starts for SamW_13:

(Start: 21 @8942 has 8 MA's), (31, 9068), (32, 9077), (43, 9152), (54, 9251), (58, 9296),

Gene: Samba_15 Start: 9528, Stop: 9938, Start Num: 20

Candidate Starts for Samba_15:

(Start: 20 @9528 has 45 MA's), (26, 9597), (33, 9681), (35, 9693), (43, 9768), (45, 9819),

Gene: Sapo_12 Start: 8370, Stop: 8792, Start Num: 15

Candidate Starts for Sapo_12:

(13, 8358), (Start: 15 @8370 has 3 MA's), (22, 8409), (33, 8538),

Gene: Schmidt_16 Start: 9836, Stop: 10186, Start Num: 24

Candidate Starts for Schmidt_16:

(19, 9782), (Start: 24 @9836 has 11 MA's), (40, 9995), (49, 10079), (53, 10106),

Gene: Soilmate_15 Start: 9318, Stop: 9728, Start Num: 20

Candidate Starts for Soilmate_15:

(Start: 20 @9318 has 45 MA's), (35, 9483), (43, 9558), (45, 9609),

Gene: Splinter_18 Start: 11432, Stop: 11782, Start Num: 24

Candidate Starts for Splinter_18:

(Start: 24 @11432 has 11 MA's), (30, 11492), (34, 11528), (37, 11546), (38, 11570), (46, 11666), (47, 11669), (48, 11672), (56, 11735),

Gene: StAB_13 Start: 8948, Stop: 9334, Start Num: 21

Candidate Starts for StAB_13:

(Start: 21 @8948 has 8 MA's), (31, 9074), (32, 9083), (43, 9158), (54, 9257), (58, 9302),

Gene: Stiles_13 Start: 8942, Stop: 9328, Start Num: 21

Candidate Starts for Stiles_13:

(Start: 21 @8942 has 8 MA's), (31, 9068), (32, 9077), (43, 9152), (54, 9251), (58, 9296),

Gene: TZGordon_20 Start: 11574, Stop: 11924, Start Num: 24

Candidate Starts for TZGordon_20:

(Start: 24 @11574 has 11 MA's), (30, 11634), (34, 11670), (37, 11688), (38, 11712), (47, 11811), (48, 11814), (56, 11877),

Gene: TinaLin_21 Start: 12142, Stop: 12492, Start Num: 24

Candidate Starts for TinaLin_21:

(Start: 24 @12142 has 11 MA's), (30, 12202), (37, 12256), (48, 12382),

Gene: Toast_15 Start: 9411, Stop: 9821, Start Num: 20

Candidate Starts for Toast_15:

(Start: 20 @9411 has 45 MA's), (33, 9564), (34, 9567), (43, 9651), (45, 9702),

Gene: Troy_13 Start: 8942, Stop: 9328, Start Num: 21

Candidate Starts for Troy_13:

(Start: 21 @8942 has 8 MA's), (31, 9068), (32, 9077), (43, 9152), (54, 9251), (58, 9296),

Gene: UmaThurman_15 Start: 9527, Stop: 9937, Start Num: 20

Candidate Starts for UmaThurman_15:

(Start: 20 @9527 has 45 MA's), (26, 9596), (33, 9680), (35, 9692), (43, 9767), (45, 9818),

Gene: Utz_15 Start: 9394, Stop: 9804, Start Num: 20

Candidate Starts for Utz_15:

(Start: 20 @9394 has 45 MA's), (26, 9463), (33, 9547), (35, 9559), (43, 9634), (45, 9685),

Gene: Vendetta_18 Start: 11432, Stop: 11782, Start Num: 24

Candidate Starts for Vendetta_18:

(Start: 24 @11432 has 11 MA's), (30, 11492), (34, 11528), (37, 11546), (38, 11570), (46, 11666), (47, 11669), (48, 11672), (56, 11735),

Gene: Walrus_16 Start: 9622, Stop: 10032, Start Num: 20

Candidate Starts for Walrus_16:

(Start: 20 @9622 has 45 MA's), (35, 9787), (43, 9862), (45, 9913),

Gene: William_15 Start: 9357, Stop: 9767, Start Num: 20

Candidate Starts for William_15:

(Start: 20 @9357 has 45 MA's), (33, 9510), (34, 9513), (43, 9597), (45, 9648),

Gene: Wisp_14 Start: 9160, Stop: 9570, Start Num: 20

Candidate Starts for Wisp_14:

(Start: 20 @9160 has 45 MA's), (26, 9229), (33, 9313), (35, 9325), (43, 9400), (45, 9451),

Gene: Wocket_16 Start: 9645, Stop: 10055, Start Num: 20

Candidate Starts for Wocket_16:

(Start: 20 @9645 has 45 MA's), (34, 9801), (35, 9810), (43, 9885), (45, 9936), (54, 9984),

Gene: Zarbodnamra_15 Start: 9419, Stop: 9829, Start Num: 20

Candidate Starts for Zarbodnamra_15:

(Start: 20 @9419 has 45 MA's), (26, 9488), (33, 9572), (35, 9584), (43, 9659), (45, 9710),

Gene: ZiggyZoo_14 Start: 9189, Stop: 9599, Start Num: 20

Candidate Starts for ZiggyZoo_14:

(Start: 20 @9189 has 45 MA's), (26, 9258), (33, 9342), (35, 9354), (43, 9429), (45, 9480),

Gene: Zilla_15 Start: 9470, Stop: 9880, Start Num: 20

Candidate Starts for Zilla_15:

(Start: 20 @9470 has 45 MA's), (35, 9635), (43, 9710), (45, 9761), (59, 9854),