

Pham 330846



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 330846 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 330846 has 65 members, 3 are drafts.

Phages represented in each track:

- Track 1 : Ashballer_9, Rubeus_11, Fajezeel_12, Jerm2_11, PattyP_12, Rufus_11, Pippin_12, Rutherferd_12, DreamCatcher_13, BigMau_12, Greg_12, Fushigi_11, Bruns_9, GageAP_12, Museum_12, Marge_11, Kenmech_13, Niza_12, Treddle_12, SpikeBT_12, Gyzlar_12, Sibs6_12, Monet_12, Burton_11, Mkhusele_10, Acme_12
- Track 2 : Corvo_25, Target_27, Snazzy_23, Noxious_27, Atkinbua_26, Pinto_27, Hermia_27, Zeeculate_24, GroundGoblin_26
- Track 3 : Wheeler_80
- Track 4 : Ashballer_24, Trouble_25, GrecoEtereo_26, Beatrix_24, KikiBouba_27, Petruccio_25, SwissCheese_25, ConceptII_26, Ajay_25
- Track 5 : Blesser_65
- Track 6 : Wheeler_74
- Track 7 : Seabiscuit_76
- Track 8 : Euratis_31
- Track 9 : Samora_32
- Track 10 : Lilbooboo_30
- Track 11 : TG1_29
- Track 12 : Vash_30
- Track 13 : Shawty_30
- Track 14 : phiBT1_7
- Track 15 : Heather_33
- Track 16 : RemusLoopin_32
- Track 17 : Sebastisaurus_32
- Track 18 : Rowa_39
- Track 19 : GrootJr_1, NatB6_1, NovumRegina_1
- Track 20 : Vine_1
- Track 21 : Mayweather_1
- Track 22 : Bavilard_1

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

The start number called the most often in the published annotations is 16, it was called in 25 of the 62 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Acme_12, Ashballer_9, BigMau_12, Bruns_9, Burton_11, DreamCatcher_13, Fajezeel_12, Fushigi_11, GageAP_12, Greg_12, Gyzlar_12, Jerm2_11, Kenmech_13, Marge_11, Mkhusele_10, Monet_12, Museum_12, Niza_12, PattyP_12, Pippin_12, Rubeus_11, Rufus_11, Rutherford_12, Sibs6_12, SpikeBT_12, Treddle_12,

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

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

- Ajay_25, Ashballer_24, Atkinbua_26, Babilard_1, Beatrix_24, Blesser_65, ConceptII_26, Corvo_25, Euratis_31, GrecoEtereo_26, GrootJr_1, GroundGoblin_26, Heather_33, Hermia_27, KikiBouba_27, Lilbooboo_30, Mayweather_1, NatB6_1, NovumRegina_1, Noxious_27, Petruchio_25, Pinto_27, RemusLoopin_32, Rowa_39, Samora_32, Seabiscuit_76, Sebastisaurus_32, Shawty_30, Snazzy_23, SwissCheese_25, TG1_29, Target_27, Trouble_25, Vash_30, Vine_1, Wheeler_74, Wheeler_80, Zeeculate_24, phiBT1_7,

Summary by start number:

Start 8:

- Found in 2 of 65 (3.1%) of genes in pham
- Manual Annotations of this start: 1 of 62
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Blesser_65 (A1), Wheeler_74 (A1),

Start 10:

- Found in 18 of 65 (27.7%) of genes in pham
- Manual Annotations of this start: 9 of 62
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Atkinbua_26 (A1), Corvo_25 (A1), GroundGoblin_26 (A1), Hermia_27 (A1), Noxious_27 (A1), Pinto_27 (A1), Snazzy_23 (A1), Target_27 (A1), Zeeculate_24 (A1),

Start 11:

- Found in 2 of 65 (3.1%) of genes in pham
- Manual Annotations of this start: 1 of 62
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Wheeler_80 (A1),

Start 12:

- Found in 20 of 65 (30.8%) of genes in pham
- Manual Annotations of this start: 10 of 62
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Ajay_25 (A1), Ashballer_24 (A1), Beatrix_24 (A1), ConceptII_26 (A1), GrecoEtereo_26 (A1), KikiBouba_27 (A1), Petruchio_25 (A1), Seabiscuit_76 (A1), SwissCheese_25 (A1), Trouble_25 (A1),

Start 14:

- Found in 4 of 65 (6.2%) of genes in pham
- Manual Annotations of this start: 4 of 62
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bavidard_1 (CT), GrootJr_1 (CR2), NatB6_1 (CR2), NovumRegina_1 (CR2),

Start 16:

- Found in 26 of 65 (40.0%) of genes in pham
- Manual Annotations of this start: 25 of 62
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Acme_12 (A1), Ashballer_9 (A1), BigMau_12 (A1), Bruns_9 (A1), Burton_11 (A1), DreamCatcher_13 (A1), Fajezeel_12 (A1), Fushigi_11 (A1), GageAP_12 (A1), Greg_12 (A1), Gyzlar_12 (A1), Jerm2_11 (A1), Kenmech_13 (A1), Marge_11 (A1), Mkhusele_10 (A1), Monet_12 (A1), Museum_12 (A1), Niza_12 (A1), PattyP_12 (A1), Pippin_12 (A1), Rubeus_11 (A1), Rufus_11 (A1), Rutherford_12 (A1), Sibs6_12 (A1), SpikeBT_12 (A1), Treddle_12 (A1),

Start 19:

- Found in 2 of 65 (3.1%) of genes in pham
- Manual Annotations of this start: 1 of 62
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Mayweather_1 (CT),

Start 24:

- Found in 1 of 65 (1.5%) of genes in pham
- Manual Annotations of this start: 1 of 62
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Vine_1 (CT),

Start 25:

- Found in 2 of 65 (3.1%) of genes in pham
- Manual Annotations of this start: 1 of 62
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Sebastisaurus_32 (BB2),

Start 26:

- Found in 3 of 65 (4.6%) of genes in pham
- Manual Annotations of this start: 1 of 62
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Heather_33 (BB2),

Start 27:

- Found in 3 of 65 (4.6%) of genes in pham
- Manual Annotations of this start: 2 of 62
- Called 66.7% of time when present
- Phage (with cluster) where this start called: RemusLoopin_32 (BB2), Rowa_39 (BL),

Start 36:

- Found in 7 of 65 (10.8%) of genes in pham
- Manual Annotations of this start: 6 of 62
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Euratis_31 (BB1), Lilbooboo_30 (BB1), Samora_32 (BB1), Shawty_30 (BB1), TG1_29 (BB1), Vash_30 (BB1), phiBT1_7 (BB1),

Summary by clusters:

There are 6 clusters represented in this pham: CR2, BL, A1, BB2, BB1, CT,

Info for manual annotations of cluster A1:

- Start number 8 was manually annotated 1 time for cluster A1.
- Start number 10 was manually annotated 9 times for cluster A1.
- Start number 11 was manually annotated 1 time for cluster A1.
- Start number 12 was manually annotated 10 times for cluster A1.
- Start number 16 was manually annotated 25 times for cluster A1.

Info for manual annotations of cluster BB1:

- Start number 36 was manually annotated 6 times for cluster BB1.

Info for manual annotations of cluster BB2:

- Start number 25 was manually annotated 1 time for cluster BB2.
- Start number 26 was manually annotated 1 time for cluster BB2.
- Start number 27 was manually annotated 1 time for cluster BB2.

Info for manual annotations of cluster BL:

- Start number 27 was manually annotated 1 time for cluster BL.

Info for manual annotations of cluster CR2:

- Start number 14 was manually annotated 3 times for cluster CR2.

Info for manual annotations of cluster CT:

- Start number 14 was manually annotated 1 time for cluster CT.
- Start number 19 was manually annotated 1 time for cluster CT.
- Start number 24 was manually annotated 1 time for cluster CT.

Gene Information:

Gene: Acme_12 Start: 6852, Stop: 7370, Start Num: 16

Candidate Starts for Acme_12:

(Start: 16 @6852 has 25 MA's), (23, 6918), (48, 7215), (50, 7221), (61, 7323),

Gene: Ajay_25 Start: 18878, Stop: 19372, Start Num: 12

Candidate Starts for Ajay_25:

(Start: 10 @18872 has 9 MA's), (Start: 12 @18878 has 10 MA's), (34, 19034), (40, 19094), (55, 19274), (60, 19325),

Gene: Ashballe_9 Start: 6492, Stop: 7010, Start Num: 16

Candidate Starts for Ashballe_9:

(Start: 16 @6492 has 25 MA's), (23, 6558), (48, 6855), (50, 6861), (61, 6963),

Gene: Ashballe_24 Start: 18821, Stop: 19315, Start Num: 12

Candidate Starts for Ashballe_24:

(Start: 10 @18815 has 9 MA's), (Start: 12 @18821 has 10 MA's), (34, 18977), (40, 19037), (55, 19217), (60, 19268),

Gene: Atkinbua_26 Start: 18768, Stop: 19268, Start Num: 10

Candidate Starts for Atkinbua_26:

(Start: 10 @18768 has 9 MA's), (Start: 12 @18774 has 10 MA's), (34, 18930), (40, 18990), (55, 19170), (60, 19221),

Gene: Bavilard_1 Start: 3, Stop: 542, Start Num: 14

Candidate Starts for Bavilard_1:

(Start: 14 @3 has 4 MA's), (Start: 19 @39 has 1 MA's), (42, 285), (50, 378), (53, 396),

Gene: Beatrix_24 Start: 19780, Stop: 20274, Start Num: 12

Candidate Starts for Beatrix_24:

(Start: 10 @19774 has 9 MA's), (Start: 12 @19780 has 10 MA's), (34, 19936), (40, 19996), (55, 20176), (60, 20227),

Gene: BigMau_12 Start: 6719, Stop: 7237, Start Num: 16

Candidate Starts for BigMau_12:

(Start: 16 @6719 has 25 MA's), (23, 6785), (48, 7082), (50, 7088), (61, 7190),

Gene: Blesser_65 Start: 43215, Stop: 42592, Start Num: 8

Candidate Starts for Blesser_65:

(6, 43224), (Start: 8 @43215 has 1 MA's), (9, 43203), (38, 42936), (41, 42876), (52, 42717), (53, 42711), (58, 42657),

Gene: Bruns_9 Start: 6422, Stop: 6940, Start Num: 16

Candidate Starts for Bruns_9:

(Start: 16 @6422 has 25 MA's), (23, 6488), (48, 6785), (50, 6791), (61, 6893),

Gene: Burton_11 Start: 6622, Stop: 7140, Start Num: 16

Candidate Starts for Burton_11:

(Start: 16 @6622 has 25 MA's), (23, 6688), (48, 6985), (50, 6991), (61, 7093),

Gene: ConceptII_26 Start: 19302, Stop: 19796, Start Num: 12

Candidate Starts for ConceptII_26:

(Start: 10 @19296 has 9 MA's), (Start: 12 @19302 has 10 MA's), (34, 19458), (40, 19518), (55, 19698), (60, 19749),

Gene: Corvo_25 Start: 19271, Stop: 19771, Start Num: 10

Candidate Starts for Corvo_25:

(Start: 10 @19271 has 9 MA's), (Start: 12 @19277 has 10 MA's), (34, 19433), (40, 19493), (55, 19673), (60, 19724),

Gene: DreamCatcher_13 Start: 7699, Stop: 8217, Start Num: 16

Candidate Starts for DreamCatcher_13:

(Start: 16 @7699 has 25 MA's), (23, 7765), (48, 8062), (50, 8068), (61, 8170),

Gene: Euratis_31 Start: 22823, Stop: 23176, Start Num: 36

Candidate Starts for Euratis_31:

(29, 22784), (30, 22790), (31, 22796), (Start: 36 @22823 has 6 MA's), (39, 22910), (43, 22961), (47, 22994), (56, 23096), (57, 23099),

Gene: Fajezeel_12 Start: 6818, Stop: 7336, Start Num: 16
Candidate Starts for Fajezeel_12:
(Start: 16 @6818 has 25 MA's), (23, 6884), (48, 7181), (50, 7187), (61, 7289),

Gene: Fushigi_11 Start: 6909, Stop: 7427, Start Num: 16
Candidate Starts for Fushigi_11:
(Start: 16 @6909 has 25 MA's), (23, 6975), (48, 7272), (50, 7278), (61, 7380),

Gene: GageAP_12 Start: 7234, Stop: 7752, Start Num: 16
Candidate Starts for GageAP_12:
(Start: 16 @7234 has 25 MA's), (23, 7300), (48, 7597), (50, 7603), (61, 7705),

Gene: GrecoEtereo_26 Start: 19123, Stop: 19617, Start Num: 12
Candidate Starts for GrecoEtereo_26:
(Start: 10 @19117 has 9 MA's), (Start: 12 @19123 has 10 MA's), (34, 19279), (40, 19339), (55, 19519), (60, 19570),

Gene: Greg_12 Start: 6818, Stop: 7336, Start Num: 16
Candidate Starts for Greg_12:
(Start: 16 @6818 has 25 MA's), (23, 6884), (48, 7181), (50, 7187), (61, 7289),

Gene: GrootJr_1 Start: 214, Stop: 828, Start Num: 14
Candidate Starts for GrootJr_1:
(3, 67), (13, 196), (Start: 14 @214 has 4 MA's), (15, 217), (20, 271), (43, 547), (46, 577), (54, 673), (61, 742), (62, 754),

Gene: GroundGoblin_26 Start: 19663, Stop: 20163, Start Num: 10
Candidate Starts for GroundGoblin_26:
(Start: 10 @19663 has 9 MA's), (Start: 12 @19669 has 10 MA's), (34, 19825), (40, 19885), (55, 20065), (60, 20116),

Gene: Gyzlar_12 Start: 7448, Stop: 7966, Start Num: 16
Candidate Starts for Gyzlar_12:
(Start: 16 @7448 has 25 MA's), (23, 7514), (48, 7811), (50, 7817), (61, 7919),

Gene: Heather_33 Start: 23706, Stop: 24128, Start Num: 26
Candidate Starts for Heather_33:
(17, 23640), (22, 23691), (Start: 26 @23706 has 1 MA's), (47, 23940), (49, 23991), (56, 24042), (59, 24069), (64, 24123),

Gene: Hermia_27 Start: 19855, Stop: 20355, Start Num: 10
Candidate Starts for Hermia_27:
(Start: 10 @19855 has 9 MA's), (Start: 12 @19861 has 10 MA's), (34, 20017), (40, 20077), (55, 20257), (60, 20308),

Gene: Jerm2_11 Start: 6719, Stop: 7237, Start Num: 16
Candidate Starts for Jerm2_11:
(Start: 16 @6719 has 25 MA's), (23, 6785), (48, 7082), (50, 7088), (61, 7190),

Gene: Kenmech_13 Start: 7591, Stop: 8109, Start Num: 16
Candidate Starts for Kenmech_13:
(Start: 16 @7591 has 25 MA's), (23, 7657), (48, 7954), (50, 7960), (61, 8062),

Gene: KikiBouba_27 Start: 19670, Stop: 20164, Start Num: 12

Candidate Starts for KikiBouba_27:

(Start: 10 @19664 has 9 MA's), (Start: 12 @19670 has 10 MA's), (34, 19826), (40, 19886), (55, 20066), (60, 20117),

Gene: Lilbooboo_30 Start: 22871, Stop: 23233, Start Num: 36

Candidate Starts for Lilbooboo_30:

(33, 22853), (Start: 36 @22871 has 6 MA's), (47, 23042), (51, 23102), (56, 23144),

Gene: Marge_11 Start: 6955, Stop: 7473, Start Num: 16

Candidate Starts for Marge_11:

(Start: 16 @6955 has 25 MA's), (23, 7021), (48, 7318), (50, 7324), (61, 7426),

Gene: Mayweather_1 Start: 38, Stop: 541, Start Num: 19

Candidate Starts for Mayweather_1:

(Start: 19 @38 has 1 MA's), (42, 284), (50, 377), (53, 395),

Gene: Mkhuseli_10 Start: 6576, Stop: 7094, Start Num: 16

Candidate Starts for Mkhuseli_10:

(Start: 16 @6576 has 25 MA's), (23, 6642), (48, 6939), (50, 6945), (61, 7047),

Gene: Monet_12 Start: 7472, Stop: 7990, Start Num: 16

Candidate Starts for Monet_12:

(Start: 16 @7472 has 25 MA's), (23, 7538), (48, 7835), (50, 7841), (61, 7943),

Gene: Museum_12 Start: 6561, Stop: 7079, Start Num: 16

Candidate Starts for Museum_12:

(Start: 16 @6561 has 25 MA's), (23, 6627), (48, 6924), (50, 6930), (61, 7032),

Gene: NatB6_1 Start: 214, Stop: 828, Start Num: 14

Candidate Starts for NatB6_1:

(3, 67), (13, 196), (Start: 14 @214 has 4 MA's), (15, 217), (20, 271), (43, 547), (46, 577), (54, 673), (61, 742), (62, 754),

Gene: Niza_12 Start: 7581, Stop: 8099, Start Num: 16

Candidate Starts for Niza_12:

(Start: 16 @7581 has 25 MA's), (23, 7647), (48, 7944), (50, 7950), (61, 8052),

Gene: NovumRegina_1 Start: 214, Stop: 828, Start Num: 14

Candidate Starts for NovumRegina_1:

(3, 67), (13, 196), (Start: 14 @214 has 4 MA's), (15, 217), (20, 271), (43, 547), (46, 577), (54, 673), (61, 742), (62, 754),

Gene: Noxious_27 Start: 19855, Stop: 20355, Start Num: 10

Candidate Starts for Noxious_27:

(Start: 10 @19855 has 9 MA's), (Start: 12 @19861 has 10 MA's), (34, 20017), (40, 20077), (55, 20257), (60, 20308),

Gene: PattyP_12 Start: 6770, Stop: 7288, Start Num: 16

Candidate Starts for PattyP_12:

(Start: 16 @6770 has 25 MA's), (23, 6836), (48, 7133), (50, 7139), (61, 7241),

Gene: Petruchio_25 Start: 18798, Stop: 19292, Start Num: 12

Candidate Starts for Petruchio_25:

(Start: 10 @18792 has 9 MA's), (Start: 12 @18798 has 10 MA's), (34, 18954), (40, 19014), (55, 19194), (60, 19245),

Gene: Pinto_27 Start: 18931, Stop: 19431, Start Num: 10

Candidate Starts for Pinto_27:

(Start: 10 @18931 has 9 MA's), (Start: 12 @18937 has 10 MA's), (34, 19093), (40, 19153), (55, 19333), (60, 19384),

Gene: Pippin_12 Start: 6820, Stop: 7338, Start Num: 16

Candidate Starts for Pippin_12:

(Start: 16 @6820 has 25 MA's), (23, 6886), (48, 7183), (50, 7189), (61, 7291),

Gene: RemusLoopin_32 Start: 23906, Stop: 24322, Start Num: 27

Candidate Starts for RemusLoopin_32:

(18, 23837), (Start: 25 @23894 has 1 MA's), (Start: 26 @23897 has 1 MA's), (Start: 27 @23906 has 2 MA's), (28, 23912), (47, 24134), (49, 24185), (56, 24236), (64, 24317),

Gene: Rowa_39 Start: 26669, Stop: 27115, Start Num: 27

Candidate Starts for Rowa_39:

(Start: 27 @26669 has 2 MA's), (28, 26675), (51, 26957),

Gene: Rubeus_11 Start: 6578, Stop: 7096, Start Num: 16

Candidate Starts for Rubeus_11:

(Start: 16 @6578 has 25 MA's), (23, 6644), (48, 6941), (50, 6947), (61, 7049),

Gene: Rufus_11 Start: 6635, Stop: 7153, Start Num: 16

Candidate Starts for Rufus_11:

(Start: 16 @6635 has 25 MA's), (23, 6701), (48, 6998), (50, 7004), (61, 7106),

Gene: Rutherferd_12 Start: 7096, Stop: 7614, Start Num: 16

Candidate Starts for Rutherferd_12:

(Start: 16 @7096 has 25 MA's), (23, 7162), (48, 7459), (50, 7465), (61, 7567),

Gene: Samora_32 Start: 23469, Stop: 23831, Start Num: 36

Candidate Starts for Samora_32:

(33, 23457), (34, 23460), (Start: 36 @23469 has 6 MA's), (47, 23640), (51, 23700), (56, 23742),

Gene: Seabiscuit_76 Start: 46023, Stop: 45430, Start Num: 12

Candidate Starts for Seabiscuit_76:

(4, 46128), (Start: 11 @46026 has 1 MA's), (Start: 12 @46023 has 10 MA's), (21, 45912), (35, 45831), (59, 45501), (63, 45459),

Gene: Sebastisaurus_32 Start: 23688, Stop: 24116, Start Num: 25

Candidate Starts for Sebastisaurus_32:

(18, 23631), (Start: 25 @23688 has 1 MA's), (Start: 26 @23691 has 1 MA's), (Start: 27 @23700 has 2 MA's), (28, 23706), (47, 23928), (56, 24030), (64, 24111),

Gene: Shawty_30 Start: 23340, Stop: 23774, Start Num: 36

Candidate Starts for Shawty_30:

(33, 23328), (34, 23331), (Start: 36 @23340 has 6 MA's), (47, 23514), (51, 23574), (56, 23616), (59, 23643),

Gene: Sibs6_12 Start: 6771, Stop: 7289, Start Num: 16

Candidate Starts for Sibs6_12:

(Start: 16 @6771 has 25 MA's), (23, 6837), (48, 7134), (50, 7140), (61, 7242),

Gene: Snazzy_23 Start: 18265, Stop: 18765, Start Num: 10

Candidate Starts for Snazzy_23:

(Start: 10 @18265 has 9 MA's), (Start: 12 @18271 has 10 MA's), (34, 18427), (40, 18487), (55, 18667), (60, 18718),

Gene: SpikeBT_12 Start: 7407, Stop: 7925, Start Num: 16

Candidate Starts for SpikeBT_12:

(Start: 16 @7407 has 25 MA's), (23, 7473), (48, 7770), (50, 7776), (61, 7878),

Gene: SwissCheese_25 Start: 18840, Stop: 19334, Start Num: 12

Candidate Starts for SwissCheese_25:

(Start: 10 @18834 has 9 MA's), (Start: 12 @18840 has 10 MA's), (34, 18996), (40, 19056), (55, 19236), (60, 19287),

Gene: TG1_29 Start: 22916, Stop: 23344, Start Num: 36

Candidate Starts for TG1_29:

(32, 22892), (Start: 36 @22916 has 6 MA's), (44, 23063), (47, 23087), (56, 23189), (65, 23297),

Gene: Target_27 Start: 19834, Stop: 20334, Start Num: 10

Candidate Starts for Target_27:

(Start: 10 @19834 has 9 MA's), (Start: 12 @19840 has 10 MA's), (34, 19996), (40, 20056), (55, 20236), (60, 20287),

Gene: Treddle_12 Start: 7473, Stop: 7991, Start Num: 16

Candidate Starts for Treddle_12:

(Start: 16 @7473 has 25 MA's), (23, 7539), (48, 7836), (50, 7842), (61, 7944),

Gene: Trouble_25 Start: 19144, Stop: 19638, Start Num: 12

Candidate Starts for Trouble_25:

(Start: 10 @19138 has 9 MA's), (Start: 12 @19144 has 10 MA's), (34, 19300), (40, 19360), (55, 19540), (60, 19591),

Gene: Vash_30 Start: 22721, Stop: 23083, Start Num: 36

Candidate Starts for Vash_30:

(Start: 36 @22721 has 6 MA's), (47, 22892), (51, 22952), (56, 22994),

Gene: Vine_1 Start: 257, Stop: 790, Start Num: 24

Candidate Starts for Vine_1:

(5, 65), (7, 104), (Start: 24 @257 has 1 MA's), (37, 368), (44, 497), (45, 500), (66, 785),

Gene: Wheeler_80 Start: 48775, Stop: 48179, Start Num: 11

Candidate Starts for Wheeler_80:

(4, 48877), (Start: 11 @48775 has 1 MA's), (Start: 12 @48772 has 10 MA's), (21, 48661), (35, 48580), (59, 48250), (63, 48208),

Gene: Wheeler_74 Start: 46185, Stop: 45562, Start Num: 8

Candidate Starts for Wheeler_74:

(1, 46296), (2, 46287), (6, 46194), (Start: 8 @46185 has 1 MA's), (9, 46173), (41, 45846), (52, 45687), (53, 45681), (58, 45627),

Gene: Zeeculate_24 Start: 19013, Stop: 19513, Start Num: 10

Candidate Starts for Zeeculate_24:

(Start: 10 @19013 has 9 MA's), (Start: 12 @19019 has 10 MA's), (34, 19175), (40, 19235), (55, 19415), (60, 19466),

Gene: phiBT1_7 Start: 24178, Stop: 24540, Start Num: 36

Candidate Starts for phiBT1_7:

(33, 24166), (34, 24169), (Start: 36 @24178 has 6 MA's), (47, 24349), (51, 24409), (56, 24451),