

Pham 196522



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 196522 Report

This analysis was run 12/09/24 on database version 580.

Pham number 196522 has 68 members, 18 are drafts.

Phages represented in each track:

- Track 1 : Ranunculus_16
- Track 2 : Tank_16, Wilde_16
- Track 3 : Rizwana_15
- Track 4 : MellowYellow_18, Pureglobe5_23, NyleyClemson_18, Pointis_21, Odyssey395_23
- Track 5 : Beagle_22
- Track 6 : BruhMoment_17
- Track 7 : AWGoat_16
- Track 8 : SilentRX_17
- Track 9 : Sillytadpoles_21, Quammi_19, Kyva_23, StrawberryJamm_23, Teehee_22, Grassboy_22, Viceroy_20, Rudy_19
- Track 10 : Llemily_21, Hyperion_19, Mashley_18, SallyK_22
- Track 11 : EverythinBagel_21
- Track 12 : MorillMayhem_19, Nike_21, Blab_18, Squash_23
- Track 13 : Phinky_27
- Track 14 : CandC_19, Kelcole_19, Romm_21, RobinRose_21
- Track 15 : Jehoshaphat_23, DonaldDuck_21, Lonelysoil_20, Wayne3_22, Casend_22, Wheelie_20
- Track 16 : Fransoyer_22
- Track 17 : RubyRalph_22
- Track 18 : Zhafia_24, Namago_21
- Track 19 : Judebell_23, Phabia_21
- Track 20 : Gazebo_20
- Track 21 : FrankDeliGuy_19
- Track 22 : AluminumJesus_18
- Track 23 : BirdInFrench_20, Wilca_20
- Track 24 : Statler_22
- Track 25 : Tissue_20
- Track 26 : BabyDotz_20
- Track 27 : Pepe25_19
- Track 28 : OneinaGillian_20, Tempo_20
- Track 29 : Marcie_25
- Track 30 : Fizzles_21
- Track 31 : Rowlf_17, Zagie_21
- Track 32 : Altheas_22
- Track 33 : Fregley_21
- Track 34 : SadLad_23

- Track 35 : RomansRevenge_12
- Track 36 : Kithara_21
- Track 37 : Sunfish_24

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

The start number called the most often in the published annotations is 19, it was called in 39 of the 50 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Altheas_22, AluminumJesus_18, BabyDotz_20, Blab_18, BruhMoment_17, Casend_22, DonaldDuck_21, EverythinBagel_21, Fizzles_21, FrankDeliGuy_19, Fransoyer_22, Gazebo_20, Grassboy_22, Hyperion_19, Jehoshaphat_23, Judebell_23, Kyva_23, Llemily_21, Lonelysoil_20, Mashley_18, MellowYellow_18, MorillMayhem_19, Namago_21, Nike_21, NyleyClemson_18, Odyssey395_23, Phabia_21, Phinky_27, Pointis_21, Pureglobe5_23, Quammi_19, Ranunculus_16, Rizwana_15, RomansRevenge_12, Rowlf_17, RubyRalph_22, Rudy_19, SadLad_23, SallyK_22, Sillytadpoles_21, Squash_23, Statler_22, StrawberryJamm_23, Sunfish_24, Tank_16, Teehee_22, Tissue_20, Viceroy_20, Wayne3_22, Wheelie_20, Wilde_16, Zagie_21, Zhafia_24,

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

- AWGoat_16, Beagle_22, SilentRX_17,

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

- BirdInFrench_20, CandC_19, Fregley_21, Kelcole_19, Kithara_21, Marcie_25, OneinaGillian_20, Pepe25_19, RobinRose_21, Romm_21, Tempo_20, Wilca_20,

Summary by start number:

Start 17:

- Found in 1 of 68 (1.5%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kithara_21 (singleton),

Start 18:

- Found in 11 of 68 (16.2%) of genes in pham
- Manual Annotations of this start: 8 of 50
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BirdInFrench_20 (EG), CandC_19 (EG), Fregley_21 (EG), Kelcole_19 (EG), Marcie_25 (EG), OneinaGillian_20 (EG), Pepe25_19 (EG), RobinRose_21 (EG), Romm_21 (EG), Tempo_20 (EG), Wilca_20 (EG),

Start 19:

- Found in 56 of 68 (82.4%) of genes in pham
- Manual Annotations of this start: 39 of 50
- Called 94.6% of time when present

- Phage (with cluster) where this start called: Altheas_22 (EG), AluminumJesus_18 (EG), BabyDotz_20 (EG), Blab_18 (EG), BruhMoment_17 (AP3), Casend_22 (EG), DonaldDuck_21 (EG), EverythinBagel_21 (EG), Fizzles_21 (EG), FrankDeliGuy_19 (EG), Fransoyer_22 (EG), Gazebo_20 (EG), Grassboy_22 (EG), Hyperion_19 (EG), Jehoshaphat_23 (EG), Judebell_23 (EG), Kyva_23 (EG), Lemily_21 (EG), Lonelysoil_20 (EG), Mashley_18 (EG), MellowYellow_18 (AP2), MorillMayhem_19 (EG), Namago_21 (EG), Nike_21 (EG), NyleyClemson_18 (AP2), Odyssey395_23 (AP2), Phabia_21 (EG), Phinky_27 (EG), Pointis_21 (AP2), Pureglobe5_23 (AP2), Quammi_19 (EG), Ranunculus_16 (AP), Rizwana_15 (AP1), RomansRevenge_12 (singleton), Rowlf_17 (EG), RubyRalph_22 (EG), Rudy_19 (EG), SadLad_23 (EG), SallyK_22 (EG), Sillytadpoles_21 (EG), Squash_23 (EG), Statler_22 (EG), StrawberryJamm_23 (EG), Sunfish_24 (singleton), Tank_16 (AP1), Teehee_22 (EG), Tissue_20 (EG), Viceroy_20 (EG), Wayne3_22 (EG), Wheelie_20 (EG), Wilde_16 (AP1), Zagie_21 (EG), Zhafia_24 (EG),

Start 20:

- Found in 12 of 68 (17.6%) of genes in pham
- Manual Annotations of this start: 2 of 50
- Called 16.7% of time when present
- Phage (with cluster) where this start called: Beagle_22 (AP2), SilentRX_17 (AP4),

Start 22:

- Found in 2 of 68 (2.9%) of genes in pham
- Manual Annotations of this start: 1 of 50
- Called 50.0% of time when present
- Phage (with cluster) where this start called: AWGoat_16 (AP4),

Summary by clusters:

There are 7 clusters represented in this pham: singleton, AP2, AP3, EG, AP1, AP4, AP,

Info for manual annotations of cluster AP:

- Start number 19 was manually annotated 1 time for cluster AP.

Info for manual annotations of cluster AP1:

- Start number 19 was manually annotated 3 times for cluster AP1.

Info for manual annotations of cluster AP2:

- Start number 19 was manually annotated 4 times for cluster AP2.
- Start number 20 was manually annotated 1 time for cluster AP2.

Info for manual annotations of cluster AP3:

- Start number 19 was manually annotated 1 time for cluster AP3.

Info for manual annotations of cluster AP4:

- Start number 20 was manually annotated 1 time for cluster AP4.
- Start number 22 was manually annotated 1 time for cluster AP4.

Info for manual annotations of cluster EG:

- Start number 18 was manually annotated 8 times for cluster EG.
- Start number 19 was manually annotated 30 times for cluster EG.

Gene Information:

Gene: AWGoat_16 Start: 8424, Stop: 8723, Start Num: 22

Candidate Starts for AWGoat_16:

(4, 7521), (7, 7770), (12, 7998), (Start: 19 @8409 has 39 MA's), (Start: 20 @8412 has 2 MA's), (Start: 22 @8424 has 1 MA's), (23, 8430), (40, 8583), (47, 8667), (48, 8691),

Gene: Altheas_22 Start: 8371, Stop: 8715, Start Num: 19

Candidate Starts for Altheas_22:

(13, 8140), (Start: 19 @8371 has 39 MA's), (21, 8380), (28, 8428), (44, 8614), (48, 8680), (50, 8689),

Gene: AluminumJesus_18 Start: 7735, Stop: 8079, Start Num: 19

Candidate Starts for AluminumJesus_18:

(11, 7315), (13, 7504), (Start: 19 @7735 has 39 MA's), (21, 7744), (28, 7792), (44, 7978), (48, 8044), (50, 8053),

Gene: BabyDotz_20 Start: 8186, Stop: 8524, Start Num: 19

Candidate Starts for BabyDotz_20:

(13, 7955), (Start: 19 @8186 has 39 MA's), (21, 8195), (27, 8234), (28, 8243), (48, 8495), (50, 8504),

Gene: Beagle_22 Start: 8934, Stop: 9242, Start Num: 20

Candidate Starts for Beagle_22:

(Start: 19 @8931 has 39 MA's), (Start: 20 @8934 has 2 MA's), (27, 8964), (40, 9105), (46, 9186), (48, 9213),

Gene: BirdInFrench_20 Start: 7061, Stop: 7405, Start Num: 18

Candidate Starts for BirdInFrench_20:

(14, 6932), (Start: 18 @7061 has 8 MA's), (28, 7118), (30, 7148), (38, 7226), (48, 7370), (50, 7379),

Gene: Blab_18 Start: 7511, Stop: 7855, Start Num: 19

Candidate Starts for Blab_18:

(Start: 19 @7511 has 39 MA's), (21, 7520), (28, 7568), (44, 7754), (48, 7820), (50, 7829),

Gene: BruhMoment_17 Start: 8281, Stop: 8610, Start Num: 19

Candidate Starts for BruhMoment_17:

(16, 8251), (Start: 19 @8281 has 39 MA's), (33, 8398), (35, 8407), (48, 8584),

Gene: CandC_19 Start: 6747, Stop: 7091, Start Num: 18

Candidate Starts for CandC_19:

(10, 6162), (11, 6306), (14, 6618), (Start: 18 @6747 has 8 MA's), (24, 6777), (25, 6783), (28, 6804), (30, 6834), (38, 6912), (44, 6990), (48, 7056), (50, 7065),

Gene: Casend_22 Start: 8510, Stop: 8848, Start Num: 19

Candidate Starts for Casend_22:

(5, 7655), (8, 7904), (10, 7949), (13, 8279), (Start: 19 @8510 has 39 MA's), (21, 8519), (28, 8567), (48, 8819), (50, 8828),

Gene: DonaldDuck_21 Start: 7856, Stop: 8194, Start Num: 19

Candidate Starts for DonaldDuck_21:

(5, 7001), (8, 7250), (10, 7295), (13, 7625), (Start: 19 @7856 has 39 MA's), (21, 7865), (28, 7913), (48, 8165), (50, 8174),

Gene: EverythinBagel_21 Start: 8257, Stop: 8601, Start Num: 19
Candidate Starts for EverythinBagel_21:
(Start: 19 @8257 has 39 MA's), (21, 8266), (27, 8305), (28, 8314), (44, 8500), (48, 8566), (50, 8575),

Gene: Fizzles_21 Start: 7811, Stop: 8155, Start Num: 19
Candidate Starts for Fizzles_21:
(Start: 19 @7811 has 39 MA's), (28, 7868), (44, 8054), (48, 8120), (50, 8129),

Gene: FrankDeliGuy_19 Start: 7715, Stop: 8053, Start Num: 19
Candidate Starts for FrankDeliGuy_19:
(5, 6860), (8, 7109), (13, 7484), (Start: 19 @7715 has 39 MA's), (21, 7724), (27, 7763), (28, 7772), (44, 7958), (48, 8024), (50, 8033),

Gene: Fransoyer_22 Start: 8000, Stop: 8341, Start Num: 19
Candidate Starts for Fransoyer_22:
(1, 6860), (2, 6881), (5, 7121), (8, 7370), (9, 7382), (14, 7868), (Start: 19 @8000 has 39 MA's), (28, 8057), (37, 8129), (44, 8243), (48, 8309), (49, 8312), (50, 8318),

Gene: Fregley_21 Start: 7285, Stop: 7629, Start Num: 18
Candidate Starts for Fregley_21:
(11, 6844), (14, 7156), (Start: 18 @7285 has 8 MA's), (24, 7315), (25, 7321), (28, 7342), (30, 7372), (38, 7450), (44, 7528), (48, 7594), (50, 7603),

Gene: Gazebo_20 Start: 8077, Stop: 8421, Start Num: 19
Candidate Starts for Gazebo_20:
(5, 7222), (8, 7471), (11, 7657), (13, 7846), (Start: 19 @8077 has 39 MA's), (21, 8086), (28, 8134), (44, 8320), (48, 8386), (50, 8395),

Gene: Grassboy_22 Start: 8532, Stop: 8870, Start Num: 19
Candidate Starts for Grassboy_22:
(Start: 19 @8532 has 39 MA's), (21, 8541), (28, 8589), (48, 8841), (50, 8850),

Gene: Hyperion_19 Start: 7780, Stop: 8124, Start Num: 19
Candidate Starts for Hyperion_19:
(5, 6925), (8, 7174), (13, 7549), (Start: 19 @7780 has 39 MA's), (21, 7789), (28, 7837), (48, 8089), (50, 8098),

Gene: Jehoshaphat_23 Start: 8775, Stop: 9113, Start Num: 19
Candidate Starts for Jehoshaphat_23:
(5, 7920), (8, 8169), (10, 8214), (13, 8544), (Start: 19 @8775 has 39 MA's), (21, 8784), (28, 8832), (48, 9084), (50, 9093),

Gene: Judebell_23 Start: 8316, Stop: 8654, Start Num: 19
Candidate Starts for Judebell_23:
(13, 8085), (Start: 19 @8316 has 39 MA's), (21, 8325), (28, 8373), (48, 8625), (50, 8634),

Gene: Kelcole_19 Start: 7138, Stop: 7482, Start Num: 18
Candidate Starts for Kelcole_19:
(10, 6553), (11, 6697), (14, 7009), (Start: 18 @7138 has 8 MA's), (24, 7168), (25, 7174), (28, 7195), (30, 7225), (38, 7303), (44, 7381), (48, 7447), (50, 7456),

Gene: Kithara_21 Start: 9380, Stop: 9730, Start Num: 17

Candidate Starts for Kithara_21:

(17, 9380), (28, 9440), (29, 9467), (32, 9476), (35, 9503), (36, 9509), (42, 9587), (44, 9626), (49, 9695),

Gene: Kyva_23 Start: 8567, Stop: 8905, Start Num: 19

Candidate Starts for Kyva_23:

(Start: 19 @8567 has 39 MA's), (21, 8576), (28, 8624), (48, 8876), (50, 8885),

Gene: Llemily_21 Start: 7551, Stop: 7889, Start Num: 19

Candidate Starts for Llemily_21:

(5, 6696), (8, 6945), (13, 7320), (Start: 19 @7551 has 39 MA's), (21, 7560), (28, 7608), (48, 7860), (50, 7869),

Gene: Lonelysoil_20 Start: 7796, Stop: 8134, Start Num: 19

Candidate Starts for Lonelysoil_20:

(5, 6941), (8, 7190), (10, 7235), (13, 7565), (Start: 19 @7796 has 39 MA's), (21, 7805), (28, 7853), (48, 8105), (50, 8114),

Gene: Marcie_25 Start: 7843, Stop: 8187, Start Num: 18

Candidate Starts for Marcie_25:

(11, 7402), (14, 7714), (Start: 18 @7843 has 8 MA's), (28, 7900), (29, 7927), (30, 7930), (38, 8008), (44, 8086), (48, 8152), (50, 8161),

Gene: Mashley_18 Start: 7591, Stop: 7935, Start Num: 19

Candidate Starts for Mashley_18:

(5, 6736), (8, 6985), (13, 7360), (Start: 19 @7591 has 39 MA's), (21, 7600), (28, 7648), (48, 7900), (50, 7909),

Gene: MellowYellow_18 Start: 7675, Stop: 7986, Start Num: 19

Candidate Starts for MellowYellow_18:

(Start: 19 @7675 has 39 MA's), (Start: 20 @7678 has 2 MA's), (27, 7708), (40, 7849), (46, 7930), (48, 7957),

Gene: MorillMayhem_19 Start: 7599, Stop: 7943, Start Num: 19

Candidate Starts for MorillMayhem_19:

(Start: 19 @7599 has 39 MA's), (21, 7608), (28, 7656), (44, 7842), (48, 7908), (50, 7917),

Gene: Namago_21 Start: 7611, Stop: 7955, Start Num: 19

Candidate Starts for Namago_21:

(13, 7380), (Start: 19 @7611 has 39 MA's), (21, 7620), (28, 7668), (44, 7854), (48, 7920), (50, 7929),

Gene: Nike_21 Start: 8517, Stop: 8861, Start Num: 19

Candidate Starts for Nike_21:

(Start: 19 @8517 has 39 MA's), (21, 8526), (28, 8574), (44, 8760), (48, 8826), (50, 8835),

Gene: NyleyClemson_18 Start: 7617, Stop: 7928, Start Num: 19

Candidate Starts for NyleyClemson_18:

(Start: 19 @7617 has 39 MA's), (Start: 20 @7620 has 2 MA's), (27, 7650), (40, 7791), (46, 7872), (48, 7899),

Gene: Odyssey395_23 Start: 9132, Stop: 9443, Start Num: 19

Candidate Starts for Odyssey395_23:

(Start: 19 @9132 has 39 MA's), (Start: 20 @9135 has 2 MA's), (27, 9165), (40, 9306), (46, 9387), (48, 9414),

Gene: OneinaGillian_20 Start: 6820, Stop: 7164, Start Num: 18

Candidate Starts for OneinaGillian_20:

(14, 6691), (Start: 18 @6820 has 8 MA's), (24, 6850), (25, 6856), (28, 6877), (30, 6907), (38, 6985), (44, 7063), (48, 7129), (50, 7138),

Gene: Pepe25_19 Start: 7078, Stop: 7422, Start Num: 18

Candidate Starts for Pepe25_19:

(3, 6037), (6, 6271), (10, 6493), (14, 6949), (Start: 18 @7078 has 8 MA's), (28, 7135), (30, 7165), (38, 7243), (48, 7387), (50, 7396),

Gene: Phabia_21 Start: 7969, Stop: 8307, Start Num: 19

Candidate Starts for Phabia_21:

(13, 7738), (Start: 19 @7969 has 39 MA's), (21, 7978), (28, 8026), (48, 8278), (50, 8287),

Gene: Phinky_27 Start: 8832, Stop: 9176, Start Num: 19

Candidate Starts for Phinky_27:

(Start: 19 @8832 has 39 MA's), (29, 8916), (31, 8922), (44, 9075), (48, 9141), (50, 9150),

Gene: Pointis_21 Start: 9130, Stop: 9441, Start Num: 19

Candidate Starts for Pointis_21:

(Start: 19 @9130 has 39 MA's), (Start: 20 @9133 has 2 MA's), (27, 9163), (40, 9304), (46, 9385), (48, 9412),

Gene: Pureglobe5_23 Start: 9146, Stop: 9457, Start Num: 19

Candidate Starts for Pureglobe5_23:

(Start: 19 @9146 has 39 MA's), (Start: 20 @9149 has 2 MA's), (27, 9179), (40, 9320), (46, 9401), (48, 9428),

Gene: Quammi_19 Start: 7540, Stop: 7878, Start Num: 19

Candidate Starts for Quammi_19:

(Start: 19 @7540 has 39 MA's), (21, 7549), (28, 7597), (48, 7849), (50, 7858),

Gene: Ranunculus_16 Start: 8071, Stop: 8382, Start Num: 19

Candidate Starts for Ranunculus_16:

(Start: 19 @8071 has 39 MA's), (Start: 20 @8074 has 2 MA's), (34, 8170), (35, 8176), (36, 8182), (40, 8245), (45, 8302), (48, 8353),

Gene: Rizwana_15 Start: 8050, Stop: 8361, Start Num: 19

Candidate Starts for Rizwana_15:

(Start: 19 @8050 has 39 MA's), (Start: 20 @8053 has 2 MA's), (35, 8155), (40, 8224), (48, 8332),

Gene: RobinRose_21 Start: 6973, Stop: 7317, Start Num: 18

Candidate Starts for RobinRose_21:

(10, 6388), (11, 6532), (14, 6844), (Start: 18 @6973 has 8 MA's), (24, 7003), (25, 7009), (28, 7030), (30, 7060), (38, 7138), (44, 7216), (48, 7282), (50, 7291),

Gene: RomansRevenge_12 Start: 6049, Stop: 6360, Start Num: 19

Candidate Starts for RomansRevenge_12:

(Start: 19 @6049 has 39 MA's), (34, 6148), (48, 6331),

Gene: Romm_21 Start: 6973, Stop: 7317, Start Num: 18

Candidate Starts for Romm_21:

(10, 6388), (11, 6532), (14, 6844), (Start: 18 @6973 has 8 MA's), (24, 7003), (25, 7009), (28, 7030), (30, 7060), (38, 7138), (44, 7216), (48, 7282), (50, 7291),

Gene: Rowlf_17 Start: 7306, Stop: 7644, Start Num: 19

Candidate Starts for Rowlf_17:

(Start: 19 @7306 has 39 MA's), (21, 7315), (27, 7354), (28, 7363), (44, 7549), (48, 7615), (50, 7624),

Gene: RubyRalph_22 Start: 7934, Stop: 8275, Start Num: 19

Candidate Starts for RubyRalph_22:

(1, 6794), (5, 7055), (8, 7304), (9, 7316), (14, 7802), (Start: 19 @7934 has 39 MA's), (28, 7991), (37, 8063), (44, 8177), (48, 8243), (49, 8246), (50, 8252),

Gene: Rudy_19 Start: 7540, Stop: 7878, Start Num: 19

Candidate Starts for Rudy_19:

(Start: 19 @7540 has 39 MA's), (21, 7549), (28, 7597), (48, 7849), (50, 7858),

Gene: SadLad_23 Start: 8391, Stop: 8732, Start Num: 19

Candidate Starts for SadLad_23:

(8, 7761), (9, 7773), (14, 8259), (Start: 19 @8391 has 39 MA's), (28, 8448), (37, 8520), (44, 8634), (48, 8700), (49, 8703), (50, 8709),

Gene: SallyK_22 Start: 8701, Stop: 9039, Start Num: 19

Candidate Starts for SallyK_22:

(5, 7846), (8, 8095), (13, 8470), (Start: 19 @8701 has 39 MA's), (21, 8710), (28, 8758), (48, 9010), (50, 9019),

Gene: SilentRX_17 Start: 8205, Stop: 8516, Start Num: 20

Candidate Starts for SilentRX_17:

(15, 8109), (Start: 19 @8202 has 39 MA's), (Start: 20 @8205 has 2 MA's), (Start: 22 @8217 has 1 MA's), (23, 8223), (47, 8460), (48, 8484),

Gene: Sillytadpoles_21 Start: 7538, Stop: 7876, Start Num: 19

Candidate Starts for Sillytadpoles_21:

(Start: 19 @7538 has 39 MA's), (21, 7547), (28, 7595), (48, 7847), (50, 7856),

Gene: Squash_23 Start: 8572, Stop: 8916, Start Num: 19

Candidate Starts for Squash_23:

(Start: 19 @8572 has 39 MA's), (21, 8581), (28, 8629), (44, 8815), (48, 8881), (50, 8890),

Gene: Statler_22 Start: 8077, Stop: 8421, Start Num: 19

Candidate Starts for Statler_22:

(13, 7846), (Start: 19 @8077 has 39 MA's), (21, 8086), (28, 8134), (44, 8320), (48, 8386), (50, 8395),

Gene: StrawberryJamm_23 Start: 7840, Stop: 8178, Start Num: 19

Candidate Starts for StrawberryJamm_23:

(Start: 19 @7840 has 39 MA's), (21, 7849), (28, 7897), (48, 8149), (50, 8158),

Gene: Sunfish_24 Start: 9142, Stop: 9498, Start Num: 19

Candidate Starts for Sunfish_24:

(Start: 19 @9142 has 39 MA's), (25, 9175), (26, 9184), (31, 9229), (43, 9394), (45, 9412), (48, 9463),

Gene: Tank_16 Start: 8065, Stop: 8376, Start Num: 19

Candidate Starts for Tank_16:

(15, 7972), (Start: 19 @8065 has 39 MA's), (Start: 20 @8068 has 2 MA's), (39, 8218), (40, 8239), (41, 8245), (47, 8323), (48, 8347),

Gene: Teehee_22 Start: 8775, Stop: 9113, Start Num: 19

Candidate Starts for Teehee_22:

(Start: 19 @8775 has 39 MA's), (21, 8784), (28, 8832), (48, 9084), (50, 9093),

Gene: Tempo_20 Start: 7165, Stop: 7509, Start Num: 18

Candidate Starts for Tempo_20:

(14, 7036), (Start: 18 @7165 has 8 MA's), (24, 7195), (25, 7201), (28, 7222), (30, 7252), (38, 7330), (44, 7408), (48, 7474), (50, 7483),

Gene: Tissue_20 Start: 7909, Stop: 8253, Start Num: 19

Candidate Starts for Tissue_20:

(Start: 19 @7909 has 39 MA's), (21, 7918), (28, 7966), (44, 8152), (48, 8218), (50, 8227),

Gene: Viceroy_20 Start: 7540, Stop: 7878, Start Num: 19

Candidate Starts for Viceroy_20:

(Start: 19 @7540 has 39 MA's), (21, 7549), (28, 7597), (48, 7849), (50, 7858),

Gene: Wayne3_22 Start: 8505, Stop: 8843, Start Num: 19

Candidate Starts for Wayne3_22:

(5, 7650), (8, 7899), (10, 7944), (13, 8274), (Start: 19 @8505 has 39 MA's), (21, 8514), (28, 8562), (48, 8814), (50, 8823),

Gene: Wheelie_20 Start: 7856, Stop: 8194, Start Num: 19

Candidate Starts for Wheelie_20:

(5, 7001), (8, 7250), (10, 7295), (13, 7625), (Start: 19 @7856 has 39 MA's), (21, 7865), (28, 7913), (48, 8165), (50, 8174),

Gene: Wilca_20 Start: 7061, Stop: 7405, Start Num: 18

Candidate Starts for Wilca_20:

(14, 6932), (Start: 18 @7061 has 8 MA's), (28, 7118), (30, 7148), (38, 7226), (48, 7370), (50, 7379),

Gene: Wilde_16 Start: 7993, Stop: 8304, Start Num: 19

Candidate Starts for Wilde_16:

(15, 7900), (Start: 19 @7993 has 39 MA's), (Start: 20 @7996 has 2 MA's), (39, 8146), (40, 8167), (41, 8173), (47, 8251), (48, 8275),

Gene: Zagie_21 Start: 8043, Stop: 8381, Start Num: 19

Candidate Starts for Zagie_21:

(Start: 19 @8043 has 39 MA's), (21, 8052), (27, 8091), (28, 8100), (44, 8286), (48, 8352), (50, 8361),

Gene: Zhafia_24 Start: 8281, Stop: 8625, Start Num: 19

Candidate Starts for Zhafia_24:

(13, 8050), (Start: 19 @8281 has 39 MA's), (21, 8290), (28, 8338), (44, 8524), (48, 8590), (50, 8599),