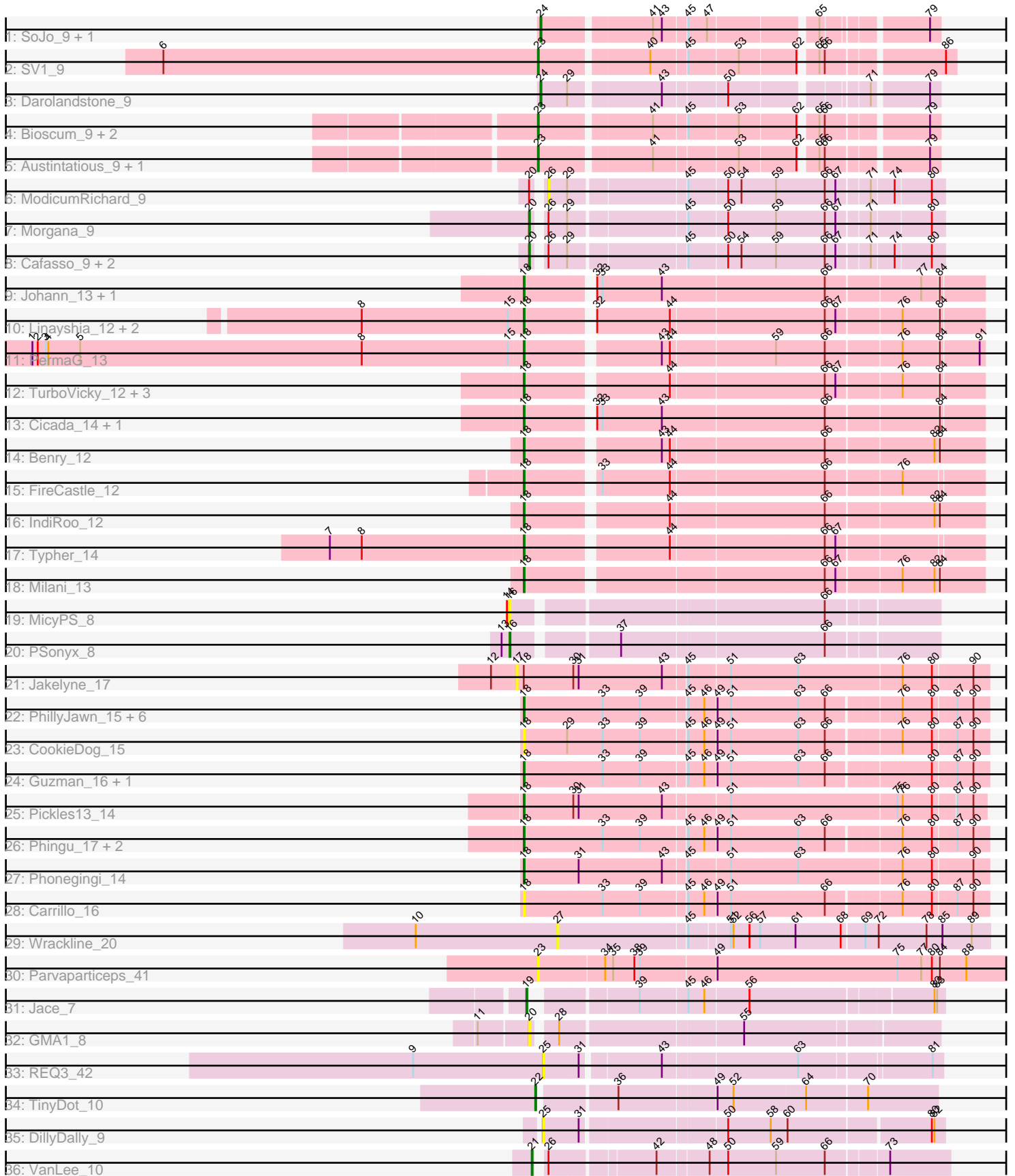


Pham 223159



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 223159 Report

This analysis was run 03/28/25 on database version 593.

Pham number 223159 has 58 members, 18 are drafts.

Phages represented in each track:

- Track 1 : SoJo_9, Tubberson_9
- Track 2 : SV1_9
- Track 3 : Darolandstone_9
- Track 4 : Bioscum_9, PapayaSalad_9, Ididsumtinwong_9
- Track 5 : Austintatious_9, Lishka_9
- Track 6 : ModicumRichard_9
- Track 7 : Morgana_9
- Track 8 : Cafasso_9, Aleemily_9, ObLaDi_9
- Track 9 : Johann_13, Goodman_13
- Track 10 : Linayshia_12, Htur_12, Rasovi_12
- Track 11 : PermaG_13
- Track 12 : TurboVicky_12, SBlackberry_12, Jera_13, Zanella_12
- Track 13 : Cicada_14, Olympi_13
- Track 14 : Benry_12
- Track 15 : FireCastle_12
- Track 16 : IndiRoo_12
- Track 17 : Typher_14
- Track 18 : Milani_13
- Track 19 : MicyPS_8
- Track 20 : PSonyx_8
- Track 21 : Jakelyne_17
- Track 22 : PhillyJawn_15, Bush_15, MenE_15, Antuna_15, Losacky_17, Violeta_16, Appa_14
- Track 23 : CookieDog_15
- Track 24 : Guzman_16, Dropshot_14
- Track 25 : Pickles13_14
- Track 26 : Phingu_17, Blett_15, Warren_15
- Track 27 : Phonegingi_14
- Track 28 : Carrillo_16
- Track 29 : Wrackline_20
- Track 30 : Parvaparticeps_41
- Track 31 : Jace_7
- Track 32 : GMA1_8
- Track 33 : REQ3_42
- Track 34 : TinyDot_10
- Track 35 : DillyDally_9
- Track 36 : VanLee_10

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

The start number called the most often in the published annotations is 18, it was called in 24 of the 40 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Antuna_15, Appa_14, Benry_12, Blett_15, Bush_15, Carrillo_16, Cicada_14, CookieDog_15, Dropshot_14, FireCastle_12, Goodman_13, Guzman_16, Htur_12, IndiRoo_12, Jera_13, Johann_13, Linayshia_12, Losacky_17, MenE_15, Milani_13, Olympi_13, PermaG_13, PhillyJawn_15, Phingu_17, Phonegingi_14, Pickles13_14, Rasovi_12, SBlackberry_12, TurboVicky_12, Typher_14, Violeta_16, Warren_15, Zanella_12,

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

- Jakelyne_17,

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

- Aleemily_9, Austintatious_9, Bioscum_9, Cafasso_9, Darolandstone_9, DillyDally_9, GMA1_8, Ididsumtinwong_9, Jace_7, Lishka_9, MicyPS_8, ModicumRichard_9, Morgana_9, ObLaDi_9, PSonyx_8, PapayaSalad_9, Parvaparticeps_41, REQ3_42, SV1_9, SoJo_9, TinyDot_10, Tubberson_9, VanLee_10, Wrackline_20,

Summary by start number:

Start 16:

- Found in 2 of 58 (3.4%) of genes in pham
- Manual Annotations of this start: 1 of 40
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MicyPS_8 (EQ), PSonyx_8 (EQ),

Start 17:

- Found in 1 of 58 (1.7%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Jakelyne_17 (GA),

Start 18:

- Found in 34 of 58 (58.6%) of genes in pham
- Manual Annotations of this start: 24 of 40
- Called 97.1% of time when present
- Phage (with cluster) where this start called: Antuna_15 (GA), Appa_14 (GA), Benry_12 (EJ), Blett_15 (GA), Bush_15 (GA), Carrillo_16 (GA), Cicada_14 (EJ), CookieDog_15 (GA), Dropshot_14 (GA), FireCastle_12 (EJ), Goodman_13 (EJ), Guzman_16 (GA), Htur_12 (EJ), IndiRoo_12 (EJ), Jera_13 (EJ), Johann_13 (EJ), Linayshia_12 (EJ), Losacky_17 (GA), MenE_15 (GA), Milani_13 (EJ), Olympi_13 (EJ), PermaG_13 (EJ), PhillyJawn_15 (GA), Phingu_17 (GA), Phonegingi_14 (GA), Pickles13_14 (GA), Rasovi_12 (EJ), SBlackberry_12 (EJ), TurboVicky_12 (EJ), Typher_14 (EJ), Violeta_16 (GA), Warren_15 (GA), Zanella_12 (EJ),

Start 19:

- Found in 1 of 58 (1.7%) of genes in pham
- Manual Annotations of this start: 1 of 40
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Jace_7 (singleton),

Start 20:

- Found in 6 of 58 (10.3%) of genes in pham
- Manual Annotations of this start: 4 of 40
- Called 83.3% of time when present
- Phage (with cluster) where this start called: Aleemily_9 (DZ), Cafasso_9 (DZ), GMA1_8 (singleton), Morgana_9 (DZ), ObLaDi_9 (DZ),

Start 21:

- Found in 1 of 58 (1.7%) of genes in pham
- Manual Annotations of this start: 1 of 40
- Called 100.0% of time when present
- Phage (with cluster) where this start called: VanLee_10 (singleton),

Start 22:

- Found in 1 of 58 (1.7%) of genes in pham
- Manual Annotations of this start: 1 of 40
- Called 100.0% of time when present
- Phage (with cluster) where this start called: TinyDot_10 (singleton),

Start 23:

- Found in 7 of 58 (12.1%) of genes in pham
- Manual Annotations of this start: 5 of 40
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Austintatious_9 (BC3), Bioscum_9 (BC3), Ididsumtinwong_9 (BC3), Lishka_9 (BC3), PapayaSalad_9 (BC3), Parvapaticeps_41 (UNK), SV1_9 (BC1),

Start 24:

- Found in 3 of 58 (5.2%) of genes in pham
- Manual Annotations of this start: 3 of 40
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Darolandstone_9 (BC2), SoJo_9 (BC1), Tubberson_9 (BC1),

Start 25:

- Found in 2 of 58 (3.4%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DillyDally_9 (singleton), REQ3_42 (singleton),

Start 26:

- Found in 6 of 58 (10.3%) of genes in pham
- No Manual Annotations of this start.
- Called 16.7% of time when present
- Phage (with cluster) where this start called: ModicumRichard_9 (DZ),

Start 27:

- Found in 1 of 58 (1.7%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Wrackline_20 (GF),

Summary by clusters:

There are 10 clusters represented in this pham: singleton, EJ, GF, DZ, GA, UNK, EQ, BC1, BC2, BC3,

Info for manual annotations of cluster BC1:

- Start number 23 was manually annotated 1 time for cluster BC1.
- Start number 24 was manually annotated 2 times for cluster BC1.

Info for manual annotations of cluster BC2:

- Start number 24 was manually annotated 1 time for cluster BC2.

Info for manual annotations of cluster BC3:

- Start number 23 was manually annotated 4 times for cluster BC3.

Info for manual annotations of cluster DZ:

- Start number 20 was manually annotated 4 times for cluster DZ.

Info for manual annotations of cluster EJ:

- Start number 18 was manually annotated 15 times for cluster EJ.

Info for manual annotations of cluster EQ:

- Start number 16 was manually annotated 1 time for cluster EQ.

Info for manual annotations of cluster GA:

- Start number 18 was manually annotated 9 times for cluster GA.

Gene Information:

Gene: Aleemily_9 Start: 7322, Stop: 7741, Start Num: 20

Candidate Starts for Aleemily_9:

(Start: 20 @7322 has 4 MA's), (26, 7331), (29, 7352), (45, 7472), (50, 7514), (54, 7529), (59, 7568), (66, 7619), (67, 7631), (71, 7664), (74, 7688), (80, 7727),

Gene: Antuna_15 Start: 8492, Stop: 8986, Start Num: 18

Candidate Starts for Antuna_15:

(Start: 18 @8492 has 24 MA's), (33, 8579), (39, 8621), (45, 8669), (46, 8687), (49, 8699), (51, 8714), (63, 8786), (66, 8816), (76, 8894), (80, 8927), (87, 8951), (90, 8969),

Gene: Appa_14 Start: 8354, Stop: 8848, Start Num: 18

Candidate Starts for Appa_14:

(Start: 18 @8354 has 24 MA's), (33, 8441), (39, 8483), (45, 8531), (46, 8549), (49, 8561), (51, 8576), (63, 8648), (66, 8678), (76, 8756), (80, 8789), (87, 8813), (90, 8831),

Gene: Austintatious_9 Start: 7121, Stop: 7519, Start Num: 23

Candidate Starts for Austintatious_9:

(Start: 23 @7121 has 5 MA's), (41, 7238), (53, 7325), (62, 7385), (65, 7400), (66, 7406), (79, 7508),

Gene: Benry_12 Start: 8598, Stop: 9080, Start Num: 18

Candidate Starts for Benry_12:

(Start: 18 @8598 has 24 MA's), (43, 8736), (44, 8745), (66, 8910), (82, 9027), (84, 9030),

Gene: Bioscum_9 Start: 7157, Stop: 7555, Start Num: 23

Candidate Starts for Bioscum_9:

(Start: 23 @7157 has 5 MA's), (41, 7274), (45, 7307), (53, 7361), (62, 7421), (65, 7436), (66, 7442), (79, 7544),

Gene: Blett_15 Start: 8507, Stop: 9001, Start Num: 18

Candidate Starts for Blett_15:

(Start: 18 @8507 has 24 MA's), (33, 8594), (39, 8636), (45, 8684), (46, 8702), (49, 8714), (51, 8729), (63, 8801), (66, 8831), (76, 8909), (80, 8942), (87, 8966), (90, 8984),

Gene: Bush_15 Start: 8488, Stop: 8982, Start Num: 18

Candidate Starts for Bush_15:

(Start: 18 @8488 has 24 MA's), (33, 8575), (39, 8617), (45, 8665), (46, 8683), (49, 8695), (51, 8710), (63, 8782), (66, 8812), (76, 8890), (80, 8923), (87, 8947), (90, 8965),

Gene: Cafasso_9 Start: 7322, Stop: 7741, Start Num: 20

Candidate Starts for Cafasso_9:

(Start: 20 @7322 has 4 MA's), (26, 7331), (29, 7352), (45, 7472), (50, 7514), (54, 7529), (59, 7568), (66, 7619), (67, 7631), (71, 7664), (74, 7688), (80, 7727),

Gene: Carrillo_16 Start: 8461, Stop: 8955, Start Num: 18

Candidate Starts for Carrillo_16:

(Start: 18 @8461 has 24 MA's), (33, 8548), (39, 8590), (45, 8638), (46, 8656), (49, 8668), (51, 8683), (66, 8785), (76, 8863), (80, 8896), (87, 8920), (90, 8938),

Gene: Cicada_14 Start: 10667, Stop: 11149, Start Num: 18

Candidate Starts for Cicada_14:

(Start: 18 @10667 has 24 MA's), (32, 10733), (33, 10739), (43, 10805), (66, 10982), (84, 11102),

Gene: CookieDog_15 Start: 8488, Stop: 8982, Start Num: 18

Candidate Starts for CookieDog_15:

(Start: 18 @8488 has 24 MA's), (29, 8536), (33, 8575), (39, 8617), (45, 8665), (46, 8683), (49, 8695), (51, 8710), (63, 8782), (66, 8812), (76, 8890), (80, 8923), (87, 8947), (90, 8965),

Gene: Darolandstone_9 Start: 7600, Stop: 7989, Start Num: 24

Candidate Starts for Darolandstone_9:

(Start: 24 @7600 has 3 MA's), (29, 7630), (43, 7723), (50, 7789), (71, 7921), (79, 7978),

Gene: DillyDally_9 Start: 7083, Stop: 7502, Start Num: 25

Candidate Starts for DillyDally_9:

(25, 7083), (31, 7122), (50, 7272), (58, 7320), (60, 7335), (80, 7488), (82, 7491),

Gene: Dropshot_14 Start: 8354, Stop: 8848, Start Num: 18

Candidate Starts for Dropshot_14:

(Start: 18 @8354 has 24 MA's), (33, 8441), (39, 8483), (45, 8531), (46, 8549), (49, 8561), (51, 8576), (63, 8648), (66, 8678), (80, 8789), (87, 8813), (90, 8831),

Gene: FireCastle_12 Start: 10331, Stop: 10810, Start Num: 18

Candidate Starts for FireCastle_12:

(Start: 18 @10331 has 24 MA's), (33, 10403), (44, 10478), (66, 10643), (76, 10724),

Gene: GMA1_8 Start: 6454, Stop: 6870, Start Num: 20

Candidate Starts for GMA1_8:

(11, 6400), (Start: 20 @6454 has 4 MA's), (28, 6475), (55, 6667),

Gene: Goodman_13 Start: 10579, Stop: 11061, Start Num: 18

Candidate Starts for Goodman_13:

(Start: 18 @10579 has 24 MA's), (32, 10645), (33, 10651), (43, 10717), (66, 10894), (77, 10996), (84, 11014),

Gene: Guzman_16 Start: 8769, Stop: 9263, Start Num: 18

Candidate Starts for Guzman_16:

(Start: 18 @8769 has 24 MA's), (33, 8856), (39, 8898), (45, 8946), (46, 8964), (49, 8976), (51, 8991), (63, 9063), (66, 9093), (80, 9204), (87, 9228), (90, 9246),

Gene: Htur_12 Start: 10585, Stop: 11064, Start Num: 18

Candidate Starts for Htur_12:

(8, 10405), (15, 10570), (Start: 18 @10585 has 24 MA's), (32, 10651), (44, 10732), (66, 10897), (67, 10909), (76, 10978), (84, 11017),

Gene: Ididsumtinwong_9 Start: 7157, Stop: 7555, Start Num: 23

Candidate Starts for Ididsumtinwong_9:

(Start: 23 @7157 has 5 MA's), (41, 7274), (45, 7307), (53, 7361), (62, 7421), (65, 7436), (66, 7442), (79, 7544),

Gene: IndiRoo_12 Start: 8606, Stop: 9088, Start Num: 18

Candidate Starts for IndiRoo_12:

(Start: 18 @8606 has 24 MA's), (44, 8753), (66, 8918), (82, 9035), (84, 9038),

Gene: Jace_7 Start: 6635, Stop: 7051, Start Num: 19

Candidate Starts for Jace_7:

(Start: 19 @6635 has 1 MA's), (39, 6734), (45, 6782), (46, 6800), (56, 6848), (82, 7040), (83, 7043),

Gene: Jakelyne_17 Start: 8498, Stop: 9004, Start Num: 17

Candidate Starts for Jakelyne_17:

(12, 8471), (17, 8498), (Start: 18 @8504 has 24 MA's), (30, 8558), (31, 8564), (43, 8657), (45, 8681), (51, 8726), (63, 8798), (76, 8912), (80, 8945), (90, 8987),

Gene: Jera_13 Start: 9661, Stop: 10140, Start Num: 18

Candidate Starts for Jera_13:

(Start: 18 @9661 has 24 MA's), (44, 9808), (66, 9973), (67, 9985), (76, 10054), (84, 10093),

Gene: Johann_13 Start: 10579, Stop: 11061, Start Num: 18

Candidate Starts for Johann_13:

(Start: 18 @10579 has 24 MA's), (32, 10645), (33, 10651), (43, 10717), (66, 10894), (77, 10996), (84, 11014),

Gene: Linayshia_12 Start: 10577, Stop: 11056, Start Num: 18

Candidate Starts for Linayshia_12:

(8, 10397), (15, 10562), (Start: 18 @10577 has 24 MA's), (32, 10643), (44, 10724), (66, 10889), (67, 10901), (76, 10970), (84, 11009),

Gene: Lishka_9 Start: 7121, Stop: 7519, Start Num: 23

Candidate Starts for Lishka_9:

(Start: 23 @7121 has 5 MA's), (41, 7238), (53, 7325), (62, 7385), (65, 7400), (66, 7406), (79, 7508),

Gene: Losacky_17 Start: 8634, Stop: 9128, Start Num: 18

Candidate Starts for Losacky_17:

(Start: 18 @8634 has 24 MA's), (33, 8721), (39, 8763), (45, 8811), (46, 8829), (49, 8841), (51, 8856), (63, 8928), (66, 8958), (76, 9036), (80, 9069), (87, 9093), (90, 9111),

Gene: MenE_15 Start: 8622, Stop: 9116, Start Num: 18

Candidate Starts for MenE_15:

(Start: 18 @8622 has 24 MA's), (33, 8709), (39, 8751), (45, 8799), (46, 8817), (49, 8829), (51, 8844), (63, 8916), (66, 8946), (76, 9024), (80, 9057), (87, 9081), (90, 9099),

Gene: MicyPS_8 Start: 7128, Stop: 7565, Start Num: 16

Candidate Starts for MicyPS_8:

(14, 7125), (Start: 16 @7128 has 1 MA's), (66, 7449),

Gene: Milani_13 Start: 9257, Stop: 9739, Start Num: 18

Candidate Starts for Milani_13:

(Start: 18 @9257 has 24 MA's), (66, 9569), (67, 9581), (76, 9650), (82, 9686), (84, 9689),

Gene: ModicumRichard_9 Start: 7331, Stop: 7741, Start Num: 26

Candidate Starts for ModicumRichard_9:

(Start: 20 @7322 has 4 MA's), (26, 7331), (29, 7352), (45, 7472), (50, 7514), (54, 7529), (59, 7568), (66, 7619), (67, 7631), (71, 7664), (74, 7688), (80, 7727),

Gene: Morgana_9 Start: 7326, Stop: 7745, Start Num: 20

Candidate Starts for Morgana_9:

(Start: 20 @7326 has 4 MA's), (26, 7335), (29, 7356), (45, 7476), (50, 7518), (59, 7572), (66, 7623), (67, 7635), (71, 7668), (80, 7731),

Gene: ObLaDi_9 Start: 7322, Stop: 7741, Start Num: 20

Candidate Starts for ObLaDi_9:

(Start: 20 @7322 has 4 MA's), (26, 7331), (29, 7352), (45, 7472), (50, 7514), (54, 7529), (59, 7568), (66, 7619), (67, 7631), (71, 7664), (74, 7688), (80, 7727),

Gene: Olympi_13 Start: 10570, Stop: 11052, Start Num: 18

Candidate Starts for Olympi_13:

(Start: 18 @10570 has 24 MA's), (32, 10636), (33, 10642), (43, 10708), (66, 10885), (84, 11005),

Gene: PSonyx_8 Start: 7275, Stop: 7712, Start Num: 16

Candidate Starts for PSonyx_8:

(13, 7266), (Start: 16 @7275 has 1 MA's), (37, 7380), (66, 7596),

Gene: PapayaSalad_9 Start: 7129, Stop: 7527, Start Num: 23

Candidate Starts for PapayaSalad_9:

(Start: 23 @7129 has 5 MA's), (41, 7246), (45, 7279), (53, 7333), (62, 7393), (65, 7408), (66, 7414), (79, 7516),

Gene: Parvarticeps_41 Start: 29683, Stop: 29165, Start Num: 23

Candidate Starts for Parvarticeps_41:

(Start: 23 @29683 has 5 MA's), (34, 29611), (35, 29602), (38, 29578), (39, 29572), (49, 29491), (75, 29293), (77, 29266), (80, 29254), (84, 29248), (88, 29218),

Gene: PermaG_13 Start: 10645, Stop: 11124, Start Num: 18

Candidate Starts for PermaG_13:

(1, 10093), (2, 10099), (3, 10108), (4, 10111), (5, 10147), (8, 10465), (15, 10630), (Start: 18 @10645 has 24 MA's), (43, 10783), (44, 10792), (59, 10906), (66, 10957), (76, 11038), (84, 11077), (91, 11119),

Gene: PhillyJawn_15 Start: 8354, Stop: 8848, Start Num: 18

Candidate Starts for PhillyJawn_15:

(Start: 18 @8354 has 24 MA's), (33, 8441), (39, 8483), (45, 8531), (46, 8549), (49, 8561), (51, 8576), (63, 8648), (66, 8678), (76, 8756), (80, 8789), (87, 8813), (90, 8831),

Gene: Phingu_17 Start: 8513, Stop: 9007, Start Num: 18

Candidate Starts for Phingu_17:

(Start: 18 @8513 has 24 MA's), (33, 8600), (39, 8642), (45, 8690), (46, 8708), (49, 8720), (51, 8735), (63, 8807), (66, 8837), (76, 8915), (80, 8948), (87, 8972), (90, 8990),

Gene: Phonegingi_14 Start: 8348, Stop: 8848, Start Num: 18

Candidate Starts for Phonegingi_14:

(Start: 18 @8348 has 24 MA's), (31, 8408), (43, 8501), (45, 8525), (51, 8570), (63, 8642), (76, 8756), (80, 8789), (90, 8831),

Gene: Pickles13_14 Start: 8518, Stop: 9012, Start Num: 18

Candidate Starts for Pickles13_14:

(Start: 18 @8518 has 24 MA's), (30, 8572), (31, 8578), (43, 8671), (51, 8740), (75, 8920), (76, 8926), (80, 8959), (87, 8980), (90, 8998),

Gene: REQ3_42 Start: 23499, Stop: 23909, Start Num: 25

Candidate Starts for REQ3_42:

(9, 23352), (25, 23499), (31, 23538), (43, 23619), (63, 23760), (81, 23898),

Gene: Rasovi_12 Start: 10585, Stop: 11064, Start Num: 18

Candidate Starts for Rasovi_12:

(8, 10405), (15, 10570), (Start: 18 @10585 has 24 MA's), (32, 10651), (44, 10732), (66, 10897), (67, 10909), (76, 10978), (84, 11017),

Gene: SBlackberry_12 Start: 10420, Stop: 10899, Start Num: 18

Candidate Starts for SBlackberry_12:

(Start: 18 @10420 has 24 MA's), (44, 10567), (66, 10732), (67, 10744), (76, 10813), (84, 10852),

Gene: SV1_9 Start: 7311, Stop: 7727, Start Num: 23

Candidate Starts for SV1_9:

(6, 6888), (Start: 23 @7311 has 5 MA's), (40, 7425), (45, 7461), (53, 7515), (62, 7575), (65, 7590), (66, 7596), (86, 7716),

Gene: SoJo_9 Start: 7360, Stop: 7749, Start Num: 24

Candidate Starts for SoJo_9:

(Start: 24 @7360 has 3 MA's), (41, 7474), (43, 7483), (45, 7507), (47, 7528), (65, 7636), (79, 7738),

Gene: TinyDot_10 Start: 7216, Stop: 7635, Start Num: 22

Candidate Starts for TinyDot_10:

(Start: 22 @7216 has 1 MA's), (36, 7294), (49, 7396), (52, 7414), (64, 7492), (70, 7558),

Gene: Tubberson_9 Start: 7360, Stop: 7749, Start Num: 24

Candidate Starts for Tubberson_9:

(Start: 24 @7360 has 3 MA's), (41, 7474), (43, 7483), (45, 7507), (47, 7528), (65, 7636), (79, 7738),

Gene: TurboVicky_12 Start: 10414, Stop: 10893, Start Num: 18

Candidate Starts for TurboVicky_12:

(Start: 18 @10414 has 24 MA's), (44, 10561), (66, 10726), (67, 10738), (76, 10807), (84, 10846),

Gene: Typher_14 Start: 10548, Stop: 11027, Start Num: 18

Candidate Starts for Typher_14:

(7, 10332), (8, 10368), (Start: 18 @10548 has 24 MA's), (44, 10695), (66, 10860), (67, 10872),

Gene: VanLee_10 Start: 7200, Stop: 7619, Start Num: 21

Candidate Starts for VanLee_10:

(Start: 21 @7200 has 1 MA's), (26, 7206), (42, 7314), (48, 7365), (50, 7386), (59, 7440), (66, 7491), (73, 7554),

Gene: Violeta_16 Start: 8452, Stop: 8946, Start Num: 18

Candidate Starts for Violeta_16:

(Start: 18 @8452 has 24 MA's), (33, 8539), (39, 8581), (45, 8629), (46, 8647), (49, 8659), (51, 8674), (63, 8746), (66, 8776), (76, 8854), (80, 8887), (87, 8911), (90, 8929),

Gene: Warren_15 Start: 8551, Stop: 9045, Start Num: 18

Candidate Starts for Warren_15:

(Start: 18 @8551 has 24 MA's), (33, 8638), (39, 8680), (45, 8728), (46, 8746), (49, 8758), (51, 8773), (63, 8845), (66, 8875), (76, 8953), (80, 8986), (87, 9010), (90, 9028),

Gene: Wrackline_20 Start: 9814, Stop: 10284, Start Num: 27

Candidate Starts for Wrackline_20:

(10, 9655), (27, 9814), (45, 9955), (51, 9997), (52, 10000), (56, 10018), (57, 10030), (61, 10069), (68, 10120), (69, 10144), (72, 10159), (78, 10213), (85, 10231), (89, 10264),

Gene: Zanella_12 Start: 10417, Stop: 10896, Start Num: 18

Candidate Starts for Zanella_12:

(Start: 18 @10417 has 24 MA's), (44, 10564), (66, 10729), (67, 10741), (76, 10810), (84, 10849),