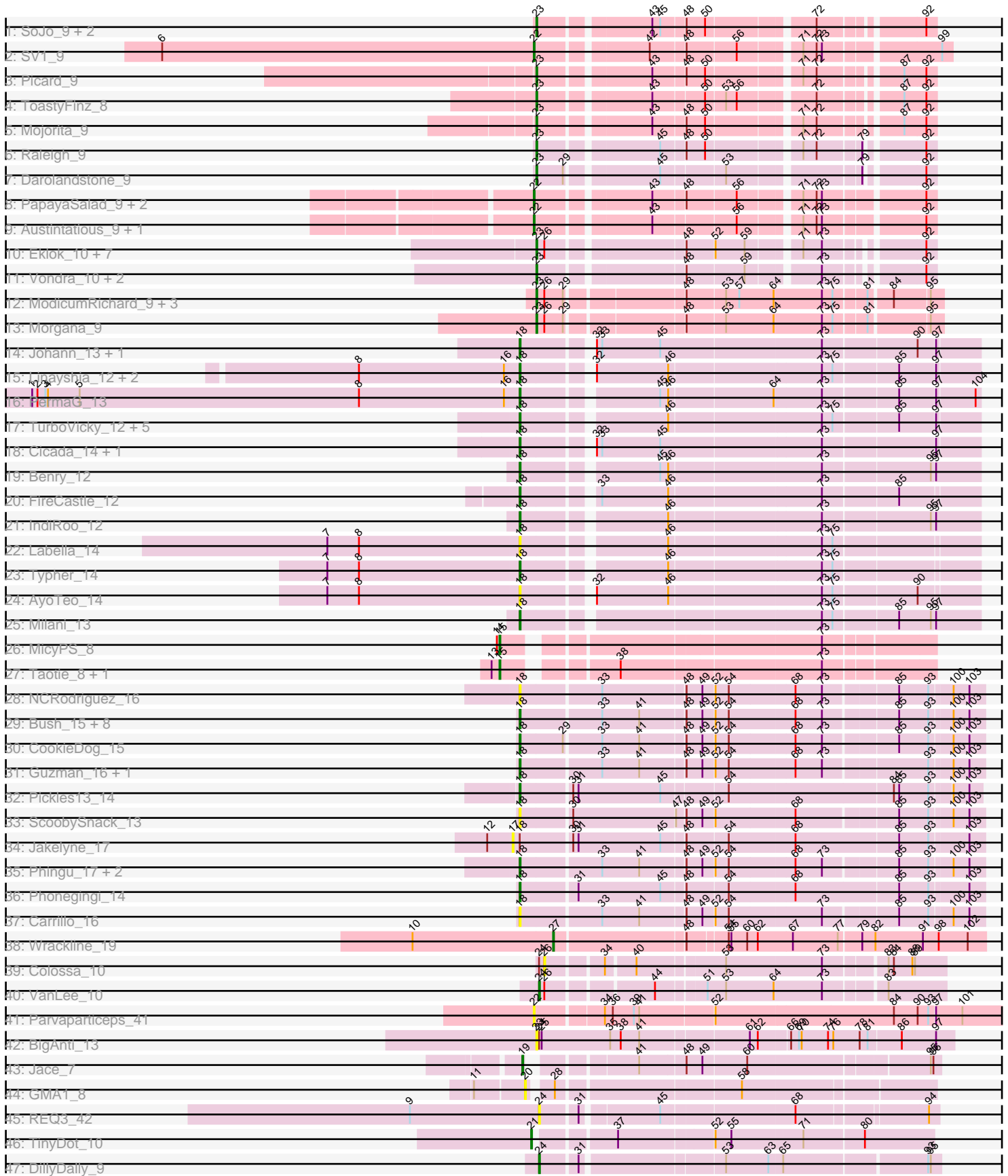


Pham 294638



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 294638 Report

This analysis was run 04/18/26 on database version 643.

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 294638 has 85 members, 21 are drafts.

Phages represented in each track:

- Track 1 : SoJo_9, Tubberson_9, DaRealMyers_9
- Track 2 : SV1_9
- Track 3 : Picard_9
- Track 4 : ToastyFinz_8
- Track 5 : Mojorita_9
- Track 6 : Raleigh_9
- Track 7 : Darolandstone_9
- Track 8 : PapayaSalad_9, Bioscum_9, Ididsumtinwong_9
- Track 9 : Austintatious_9, Lishka_9
- Track 10 : Eklok_10, FrumpyGal_10, Piccadilly_10, Schlegelian_10, AxeJC_10, Eastland_10, Cumberbatch_10, ArizonaGT_10
- Track 11 : Vondra_10, HFrancette_10, Ignacio_10
- Track 12 : ModicumRichard_9, Cafasso_9, Aleemily_9, ObLaDi_9
- Track 13 : Morgana_9
- Track 14 : Johann_13, Goodman_13
- Track 15 : Linayshia_12, Htur_12, Rasovi_12
- Track 16 : PermaG_13
- Track 17 : TurboVicky_12, Jera_13, SBlackberry_12, Rootkit7_12, Alove_12, Zanella_12
- Track 18 : Cicada_14, Olympi_14
- Track 19 : Benry_12
- Track 20 : FireCastle_12
- Track 21 : IndiRoo_12
- Track 22 : Labella_14
- Track 23 : Typher_14
- Track 24 : AyoTeo_14
- Track 25 : Milani_13
- Track 26 : MicyPS_8
- Track 27 : Taotie_8, PSonyx_8
- Track 28 : NCRodriguez_16
- Track 29 : Bush_15, Winchester007_30, Mariel_18, Antuna_15, PhillyJawn_15, Losacky_16, Violeta_16, Appa_14, MenE_15
- Track 30 : CookieDog_15

- Track 31 : Guzman_16, Dropshot_14
- Track 32 : Pickles13_14
- Track 33 : ScoobySnack_13
- Track 34 : Jakelyne_17
- Track 35 : Phingu_17, Blett_15, Warren_15
- Track 36 : Phonegingi_14
- Track 37 : Carrillo_16
- Track 38 : Wrackline_19
- Track 39 : Colossa_10
- Track 40 : VanLee_10
- Track 41 : Parvarticeps_41
- Track 42 : BigAnti_13
- Track 43 : Jace_7
- Track 44 : GMA1_8
- Track 45 : REQ3_42
- Track 46 : TinyDot_10
- Track 47 : DillyDally_9

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 28 of the 64 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alove_12, Antuna_15, Appa_14, AyoTeo_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, Labella_14, Linayshia_12, Losacky_16, Mariel_18, MenE_15, Milani_13, NCRodriguez_16, Olympi_14, PermaG_13, PhillyJawn_15, Phingu_17, Phonegingi_14, Pickles13_14, Rasovi_12, Rootkit7_12, SBlackberry_12, ScoobySnack_13, TurboVicky_12, Typher_14, Violeta_16, Warren_15, Winchester007_30, 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, ArizonaGT_10, Austintatious_9, AxeJC_10, BigAnti_13, Bioscum_9, Cafasso_9, Colossa_10, Cumberbatch_10, DaRealMyers_9, Darolandstone_9, DillyDally_9, Eastland_10, Eklok_10, FrumpyGal_10, GMA1_8, HFrancette_10, Ididsumtinwong_9, Ignacio_10, Jace_7, Lishka_9, MicyPS_8, ModicumRichard_9, Mojorita_9, Morgana_9, ObLaDi_9, PSonyx_8, PapayaSalad_9, Parvarticeps_41, Picard_9, Piccadilly_10, REQ3_42, Raleigh_9, SV1_9, Schlegelian_10, SoJo_9, Taotie_8, TinyDot_10, ToastyFinz_8, Tubberson_9, VanLee_10, Vondra_10, Wrackline_19,

Summary by start number:

Start 15:

- Found in 3 of 85 (3.5%) of genes in pham
- Manual Annotations of this start: 2 of 64

- Called 100.0% of time when present
- Phage (with cluster) where this start called: MicyPS_8 (EQ), PSonyx_8 (EQ), Taotie_8 (EQ),

Start 17:

- Found in 1 of 85 (1.2%) 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 42 of 85 (49.4%) of genes in pham
- Manual Annotations of this start: 28 of 64
- Called 97.6% of time when present
- Phage (with cluster) where this start called: Alove_12 (EJ), Antuna_15 (GA), Appa_14 (GA), AyoTeo_14 (EJ), 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), Labella_14 (EJ), Linayshia_12 (EJ), Losacky_16 (GA), Mariel_18 (GA), MenE_15 (GA), Milani_13 (EJ), NCRodriguez_16 (GA), Olympi_14 (EJ), PermaG_13 (EJ), PhillyJawn_15 (GA), Phingu_17 (GA), Phonegingi_14 (GA), Pickles13_14 (GA), Rasovi_12 (EJ), Rootkit7_12 (EJ), SBlackberry_12 (EJ), ScoobySnack_13 (GA), TurboVicky_12 (EJ), Typher_14 (EJ), Violeta_16 (GA), Warren_15 (GA), Winchester007_30 (GA), Zanella_12 (EJ),

Start 19:

- Found in 1 of 85 (1.2%) of genes in pham
- Manual Annotations of this start: 1 of 64
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Jace_7 (singleton),

Start 20:

- Found in 1 of 85 (1.2%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GMA1_8 (singleton),

Start 21:

- Found in 1 of 85 (1.2%) of genes in pham
- Manual Annotations of this start: 1 of 64
- Called 100.0% of time when present
- Phage (with cluster) where this start called: TinyDot_10 (singleton),

Start 22:

- Found in 7 of 85 (8.2%) of genes in pham
- Manual Annotations of this start: 6 of 64
- 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 23:

- Found in 25 of 85 (29.4%) of genes in pham

- Manual Annotations of this start: 23 of 64
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aleemily_9 (DZ), ArizonaGT_10 (BP), AxeJC_10 (BP), BigAnti_13 (singleton), Cafasso_9 (DZ), Cumberbatch_10 (BP), DaRealMyers_9 (BC1), Darolandstone_9 (BC2), Eastland_10 (BP), Eklok_10 (BP), FrumpyGal_10 (BP), HFrancette_10 (BP), Ignacio_10 (BP), ModicumRichard_9 (DZ), Mojorita_9 (BC1), Morgana_9 (DZ), ObLaDi_9 (DZ), Picard_9 (BC1), Piccadilly_10 (BP), Raleigh_9 (BC2), Schlegelian_10 (BP), SoJo_9 (BC1), ToastyFinz_8 (BC1), Tubberson_9 (BC1), Vondra_10 (BP),

Start 24:

- Found in 5 of 85 (5.9%) of genes in pham
- Manual Annotations of this start: 2 of 64
- Called 60.0% of time when present
- Phage (with cluster) where this start called: DillyDally_9 (singleton), REQ3_42 (singleton), VanLee_10 (KA),

Start 26:

- Found in 15 of 85 (17.6%) of genes in pham
- No Manual Annotations of this start.
- Called 6.7% of time when present
- Phage (with cluster) where this start called: Colossa_10 (KA),

Start 27:

- Found in 1 of 85 (1.2%) of genes in pham
- Manual Annotations of this start: 1 of 64
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Wrackline_19 (GF),

Summary by clusters:

There are 12 clusters represented in this pham: singleton, EJ, KA, GF, DZ, GA, BP, UNK, EQ, BC1, BC2, BC3,

Info for manual annotations of cluster BC1:

- Start number 22 was manually annotated 1 time for cluster BC1.
- Start number 23 was manually annotated 5 times for cluster BC1.

Info for manual annotations of cluster BC2:

- Start number 23 was manually annotated 2 times for cluster BC2.

Info for manual annotations of cluster BC3:

- Start number 22 was manually annotated 5 times for cluster BC3.

Info for manual annotations of cluster BP:

- Start number 23 was manually annotated 11 times for cluster BP.

Info for manual annotations of cluster DZ:

- Start number 23 was manually annotated 5 times for cluster DZ.

Info for manual annotations of cluster EJ:

- Start number 18 was manually annotated 17 times for cluster EJ.

Info for manual annotations of cluster EQ:

- Start number 15 was manually annotated 2 times for cluster EQ.

Info for manual annotations of cluster GA:

- Start number 18 was manually annotated 11 times for cluster GA.

Info for manual annotations of cluster GF:

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

Info for manual annotations of cluster KA:

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

Gene Information:

Gene: Aleemily_9 Start: 7322, Stop: 7741, Start Num: 23

Candidate Starts for Aleemily_9:

(Start: 23 @7322 has 23 MA's), (26, 7331), (29, 7352), (48, 7472), (53, 7514), (57, 7529), (64, 7568), (73, 7619), (75, 7631), (81, 7664), (84, 7688), (95, 7727),

Gene: Alove_12 Start: 10414, Stop: 10893, Start Num: 18

Candidate Starts for Alove_12:

(Start: 18 @10414 has 28 MA's), (46, 10561), (73, 10726), (75, 10738), (85, 10807), (97, 10846),

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

Candidate Starts for Antuna_15:

(Start: 18 @8492 has 28 MA's), (33, 8579), (41, 8621), (48, 8669), (49, 8687), (52, 8699), (54, 8714), (68, 8786), (73, 8816), (85, 8894), (93, 8927), (100, 8951), (103, 8969),

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

Candidate Starts for Appa_14:

(Start: 18 @8354 has 28 MA's), (33, 8441), (41, 8483), (48, 8531), (49, 8549), (52, 8561), (54, 8576), (68, 8648), (73, 8678), (85, 8756), (93, 8789), (100, 8813), (103, 8831),

Gene: ArizonaGT_10 Start: 7268, Stop: 7654, Start Num: 23

Candidate Starts for ArizonaGT_10:

(Start: 23 @7268 has 23 MA's), (26, 7277), (48, 7415), (52, 7445), (59, 7478), (71, 7529), (73, 7550), (92, 7643),

Gene: Austintatious_9 Start: 7121, Stop: 7519, Start Num: 22

Candidate Starts for Austintatious_9:

(Start: 22 @7121 has 6 MA's), (43, 7238), (56, 7325), (71, 7385), (72, 7400), (73, 7406), (92, 7508),

Gene: AxeJC_10 Start: 7281, Stop: 7667, Start Num: 23

Candidate Starts for AxeJC_10:

(Start: 23 @7281 has 23 MA's), (26, 7290), (48, 7428), (52, 7458), (59, 7491), (71, 7542), (73, 7563), (92, 7656),

Gene: AyoTeo_14 Start: 10545, Stop: 11024, Start Num: 18

Candidate Starts for AyoTeo_14:

(7, 10329), (8, 10365), (Start: 18 @10545 has 28 MA's), (32, 10611), (46, 10692), (73, 10857), (75, 10869), (90, 10959),

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

Candidate Starts for Benry_12:

(Start: 18 @8598 has 28 MA's), (45, 8736), (46, 8745), (73, 8910), (95, 9027), (97, 9030),

Gene: BigAnti_13 Start: 11145, Stop: 11603, Start Num: 23

Candidate Starts for BigAnti_13:

(Start: 23 @11145 has 23 MA's), (Start: 24 @11148 has 2 MA's), (25, 11151), (35, 11229), (38, 11241), (41, 11262), (61, 11379), (62, 11388), (66, 11421), (69, 11430), (70, 11433), (74, 11463), (76, 11469), (78, 11499), (81, 11508), (86, 11544), (97, 11583),

Gene: Bioscum_9 Start: 7157, Stop: 7555, Start Num: 22

Candidate Starts for Bioscum_9:

(Start: 22 @7157 has 6 MA's), (43, 7274), (48, 7307), (56, 7361), (71, 7421), (72, 7436), (73, 7442), (92, 7544),

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

Candidate Starts for Blett_15:

(Start: 18 @8507 has 28 MA's), (33, 8594), (41, 8636), (48, 8684), (49, 8702), (52, 8714), (54, 8729), (68, 8801), (73, 8831), (85, 8909), (93, 8942), (100, 8966), (103, 8984),

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

Candidate Starts for Bush_15:

(Start: 18 @8488 has 28 MA's), (33, 8575), (41, 8617), (48, 8665), (49, 8683), (52, 8695), (54, 8710), (68, 8782), (73, 8812), (85, 8890), (93, 8923), (100, 8947), (103, 8965),

Gene: Cafasso_9 Start: 7322, Stop: 7741, Start Num: 23

Candidate Starts for Cafasso_9:

(Start: 23 @7322 has 23 MA's), (26, 7331), (29, 7352), (48, 7472), (53, 7514), (57, 7529), (64, 7568), (73, 7619), (75, 7631), (81, 7664), (84, 7688), (95, 7727),

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

Candidate Starts for Carrillo_16:

(Start: 18 @8461 has 28 MA's), (33, 8548), (41, 8590), (48, 8638), (49, 8656), (52, 8668), (54, 8683), (73, 8785), (85, 8863), (93, 8896), (100, 8920), (103, 8938),

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

Candidate Starts for Cicada_14:

(Start: 18 @10667 has 28 MA's), (32, 10733), (33, 10739), (45, 10805), (73, 10982), (97, 11102),

Gene: Colossa_10 Start: 7212, Stop: 7625, Start Num: 26

Candidate Starts for Colossa_10:

(Start: 24 @7206 has 2 MA's), (26, 7212), (34, 7269), (40, 7299), (53, 7392), (73, 7497), (83, 7560), (84, 7566), (88, 7587), (89, 7590),

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

Candidate Starts for CookieDog_15:

(Start: 18 @8488 has 28 MA's), (29, 8536), (33, 8575), (41, 8617), (48, 8665), (49, 8683), (52, 8695), (54, 8710), (68, 8782), (73, 8812), (85, 8890), (93, 8923), (100, 8947), (103, 8965),

Gene: Cumberbatch_10 Start: 7268, Stop: 7654, Start Num: 23

Candidate Starts for Cumberbatch_10:

(Start: 23 @7268 has 23 MA's), (26, 7277), (48, 7415), (52, 7445), (59, 7478), (71, 7529), (73, 7550), (92, 7643),

Gene: DaRealMyers_9 Start: 7360, Stop: 7749, Start Num: 23

Candidate Starts for DaRealMyers_9:

(Start: 23 @7360 has 23 MA's), (43, 7474), (45, 7483), (48, 7507), (50, 7528), (72, 7636), (92, 7738),

Gene: Darolandstone_9 Start: 7600, Stop: 7989, Start Num: 23

Candidate Starts for Darolandstone_9:

(Start: 23 @7600 has 23 MA's), (29, 7630), (45, 7723), (53, 7789), (79, 7921), (92, 7978),

Gene: DillyDally_9 Start: 7083, Stop: 7502, Start Num: 24

Candidate Starts for DillyDally_9:

(Start: 24 @7083 has 2 MA's), (31, 7122), (53, 7272), (63, 7320), (65, 7335), (93, 7488), (95, 7491),

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

Candidate Starts for Dropshot_14:

(Start: 18 @8354 has 28 MA's), (33, 8441), (41, 8483), (48, 8531), (49, 8549), (52, 8561), (54, 8576), (68, 8648), (73, 8678), (93, 8789), (100, 8813), (103, 8831),

Gene: Eastland_10 Start: 7269, Stop: 7655, Start Num: 23

Candidate Starts for Eastland_10:

(Start: 23 @7269 has 23 MA's), (26, 7278), (48, 7416), (52, 7446), (59, 7479), (71, 7530), (73, 7551), (92, 7644),

Gene: Eklok_10 Start: 7281, Stop: 7667, Start Num: 23

Candidate Starts for Eklok_10:

(Start: 23 @7281 has 23 MA's), (26, 7290), (48, 7428), (52, 7458), (59, 7491), (71, 7542), (73, 7563), (92, 7656),

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

Candidate Starts for FireCastle_12:

(Start: 18 @10331 has 28 MA's), (33, 10403), (46, 10478), (73, 10643), (85, 10724),

Gene: FrumpyGal_10 Start: 7269, Stop: 7655, Start Num: 23

Candidate Starts for FrumpyGal_10:

(Start: 23 @7269 has 23 MA's), (26, 7278), (48, 7416), (52, 7446), (59, 7479), (71, 7530), (73, 7551), (92, 7644),

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

Candidate Starts for GMA1_8:

(11, 6400), (20, 6454), (28, 6475), (58, 6667),

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

Candidate Starts for Goodman_13:

(Start: 18 @10579 has 28 MA's), (32, 10645), (33, 10651), (45, 10717), (73, 10894), (90, 10996), (97, 11014),

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

Candidate Starts for Guzman_16:

(Start: 18 @8769 has 28 MA's), (33, 8856), (41, 8898), (48, 8946), (49, 8964), (52, 8976), (54, 8991), (68, 9063), (73, 9093), (93, 9204), (100, 9228), (103, 9246),

Gene: HFrancette_10 Start: 7277, Stop: 7663, Start Num: 23
Candidate Starts for HFrancette_10:
(Start: 23 @7277 has 23 MA's), (48, 7424), (59, 7487), (73, 7559), (92, 7652),

Gene: Htur_12 Start: 10585, Stop: 11064, Start Num: 18
Candidate Starts for Htur_12:
(8, 10405), (16, 10570), (Start: 18 @10585 has 28 MA's), (32, 10651), (46, 10732), (73, 10897), (75, 10909), (85, 10978), (97, 11017),

Gene: Ididsumtinwong_9 Start: 7157, Stop: 7555, Start Num: 22
Candidate Starts for Ididsumtinwong_9:
(Start: 22 @7157 has 6 MA's), (43, 7274), (48, 7307), (56, 7361), (71, 7421), (72, 7436), (73, 7442), (92, 7544),

Gene: Ignacio_10 Start: 7277, Stop: 7663, Start Num: 23
Candidate Starts for Ignacio_10:
(Start: 23 @7277 has 23 MA's), (48, 7424), (59, 7487), (73, 7559), (92, 7652),

Gene: IndiRoo_12 Start: 8606, Stop: 9088, Start Num: 18
Candidate Starts for IndiRoo_12:
(Start: 18 @8606 has 28 MA's), (46, 8753), (73, 8918), (95, 9035), (97, 9038),

Gene: Jace_7 Start: 6635, Stop: 7051, Start Num: 19
Candidate Starts for Jace_7:
(Start: 19 @6635 has 1 MA's), (41, 6734), (48, 6782), (49, 6800), (60, 6848), (95, 7040), (96, 7043),

Gene: Jakelyne_17 Start: 8498, Stop: 9004, Start Num: 17
Candidate Starts for Jakelyne_17:
(12, 8471), (17, 8498), (Start: 18 @8504 has 28 MA's), (30, 8558), (31, 8564), (45, 8657), (48, 8681), (54, 8726), (68, 8798), (85, 8912), (93, 8945), (103, 8987),

Gene: Jera_13 Start: 9661, Stop: 10140, Start Num: 18
Candidate Starts for Jera_13:
(Start: 18 @9661 has 28 MA's), (46, 9808), (73, 9973), (75, 9985), (85, 10054), (97, 10093),

Gene: Johann_13 Start: 10579, Stop: 11061, Start Num: 18
Candidate Starts for Johann_13:
(Start: 18 @10579 has 28 MA's), (32, 10645), (33, 10651), (45, 10717), (73, 10894), (90, 10996), (97, 11014),

Gene: Labella_14 Start: 10549, Stop: 11028, Start Num: 18
Candidate Starts for Labella_14:
(7, 10333), (8, 10369), (Start: 18 @10549 has 28 MA's), (46, 10696), (73, 10861), (75, 10873),

Gene: Linayshia_12 Start: 10577, Stop: 11056, Start Num: 18
Candidate Starts for Linayshia_12:
(8, 10397), (16, 10562), (Start: 18 @10577 has 28 MA's), (32, 10643), (46, 10724), (73, 10889), (75, 10901), (85, 10970), (97, 11009),

Gene: Lishka_9 Start: 7121, Stop: 7519, Start Num: 22
Candidate Starts for Lishka_9:
(Start: 22 @7121 has 6 MA's), (43, 7238), (56, 7325), (71, 7385), (72, 7400), (73, 7406), (92, 7508),

Gene: Losacky_16 Start: 8634, Stop: 9128, Start Num: 18

Candidate Starts for Losacky_16:

(Start: 18 @8634 has 28 MA's), (33, 8721), (41, 8763), (48, 8811), (49, 8829), (52, 8841), (54, 8856), (68, 8928), (73, 8958), (85, 9036), (93, 9069), (100, 9093), (103, 9111),

Gene: Mariel_18 Start: 8665, Stop: 9159, Start Num: 18

Candidate Starts for Mariel_18:

(Start: 18 @8665 has 28 MA's), (33, 8752), (41, 8794), (48, 8842), (49, 8860), (52, 8872), (54, 8887), (68, 8959), (73, 8989), (85, 9067), (93, 9100), (100, 9124), (103, 9142),

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

Candidate Starts for MenE_15:

(Start: 18 @8622 has 28 MA's), (33, 8709), (41, 8751), (48, 8799), (49, 8817), (52, 8829), (54, 8844), (68, 8916), (73, 8946), (85, 9024), (93, 9057), (100, 9081), (103, 9099),

Gene: MicyPS_8 Start: 7128, Stop: 7565, Start Num: 15

Candidate Starts for MicyPS_8:

(14, 7125), (Start: 15 @7128 has 2 MA's), (73, 7449),

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

Candidate Starts for Milani_13:

(Start: 18 @9257 has 28 MA's), (73, 9569), (75, 9581), (85, 9650), (95, 9686), (97, 9689),

Gene: ModicumRichard_9 Start: 7322, Stop: 7741, Start Num: 23

Candidate Starts for ModicumRichard_9:

(Start: 23 @7322 has 23 MA's), (26, 7331), (29, 7352), (48, 7472), (53, 7514), (57, 7529), (64, 7568), (73, 7619), (75, 7631), (81, 7664), (84, 7688), (95, 7727),

Gene: Mojarita_9 Start: 7446, Stop: 7835, Start Num: 23

Candidate Starts for Mojarita_9:

(Start: 23 @7446 has 23 MA's), (43, 7560), (48, 7593), (50, 7614), (71, 7707), (72, 7722), (87, 7800), (92, 7824),

Gene: Morgana_9 Start: 7326, Stop: 7745, Start Num: 23

Candidate Starts for Morgana_9:

(Start: 23 @7326 has 23 MA's), (26, 7335), (29, 7356), (48, 7476), (53, 7518), (64, 7572), (73, 7623), (75, 7635), (81, 7668), (95, 7731),

Gene: NCRodriguez_16 Start: 8623, Stop: 9117, Start Num: 18

Candidate Starts for NCRodriguez_16:

(Start: 18 @8623 has 28 MA's), (33, 8710), (48, 8800), (49, 8818), (52, 8830), (54, 8845), (68, 8917), (73, 8947), (85, 9025), (93, 9058), (100, 9082), (103, 9100),

Gene: ObLaDi_9 Start: 7322, Stop: 7741, Start Num: 23

Candidate Starts for ObLaDi_9:

(Start: 23 @7322 has 23 MA's), (26, 7331), (29, 7352), (48, 7472), (53, 7514), (57, 7529), (64, 7568), (73, 7619), (75, 7631), (81, 7664), (84, 7688), (95, 7727),

Gene: Olympi_14 Start: 10570, Stop: 11052, Start Num: 18

Candidate Starts for Olympi_14:

(Start: 18 @10570 has 28 MA's), (32, 10636), (33, 10642), (45, 10708), (73, 10885), (97, 11005),

Gene: PSonyx_8 Start: 7275, Stop: 7712, Start Num: 15

Candidate Starts for PSonyx_8:

(13, 7266), (Start: 15 @7275 has 2 MA's), (38, 7380), (73, 7596),

Gene: PapayaSalad_9 Start: 7129, Stop: 7527, Start Num: 22

Candidate Starts for PapayaSalad_9:

(Start: 22 @7129 has 6 MA's), (43, 7246), (48, 7279), (56, 7333), (71, 7393), (72, 7408), (73, 7414), (92, 7516),

Gene: Parvaparticeps_41 Start: 29683, Stop: 29165, Start Num: 22

Candidate Starts for Parvaparticeps_41:

(Start: 22 @29683 has 6 MA's), (34, 29611), (36, 29602), (39, 29578), (41, 29572), (52, 29491), (84, 29293), (90, 29266), (93, 29254), (97, 29248), (101, 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), (16, 10630), (Start: 18 @10645 has 28 MA's), (45, 10783), (46, 10792), (64, 10906), (73, 10957), (85, 11038), (97, 11077), (104, 11119),

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

Candidate Starts for PhillyJawn_15:

(Start: 18 @8354 has 28 MA's), (33, 8441), (41, 8483), (48, 8531), (49, 8549), (52, 8561), (54, 8576), (68, 8648), (73, 8678), (85, 8756), (93, 8789), (100, 8813), (103, 8831),

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

Candidate Starts for Phingu_17:

(Start: 18 @8513 has 28 MA's), (33, 8600), (41, 8642), (48, 8690), (49, 8708), (52, 8720), (54, 8735), (68, 8807), (73, 8837), (85, 8915), (93, 8948), (100, 8972), (103, 8990),

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

Candidate Starts for Phonegingi_14:

(Start: 18 @8348 has 28 MA's), (31, 8408), (45, 8501), (48, 8525), (54, 8570), (68, 8642), (85, 8756), (93, 8789), (103, 8831),

Gene: Picard_9 Start: 7446, Stop: 7835, Start Num: 23

Candidate Starts for Picard_9:

(Start: 23 @7446 has 23 MA's), (43, 7560), (48, 7593), (50, 7614), (71, 7707), (72, 7722), (87, 7800), (92, 7824),

Gene: Piccadilly_10 Start: 7268, Stop: 7654, Start Num: 23

Candidate Starts for Piccadilly_10:

(Start: 23 @7268 has 23 MA's), (26, 7277), (48, 7415), (52, 7445), (59, 7478), (71, 7529), (73, 7550), (92, 7643),

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

Candidate Starts for Pickles13_14:

(Start: 18 @8518 has 28 MA's), (30, 8572), (31, 8578), (45, 8671), (54, 8740), (84, 8920), (85, 8926), (93, 8959), (100, 8980), (103, 8998),

Gene: REQ3_42 Start: 23499, Stop: 23909, Start Num: 24

Candidate Starts for REQ3_42:

(9, 23352), (Start: 24 @23499 has 2 MA's), (31, 23538), (45, 23619), (68, 23760), (94, 23898),

Gene: Raleigh_9 Start: 7565, Stop: 7954, Start Num: 23

Candidate Starts for Raleigh_9:

(Start: 23 @7565 has 23 MA's), (45, 7688), (48, 7712), (50, 7733), (71, 7826), (72, 7841), (79, 7886), (92, 7943),

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

Candidate Starts for Rasovi_12:

(8, 10405), (16, 10570), (Start: 18 @10585 has 28 MA's), (32, 10651), (46, 10732), (73, 10897), (75, 10909), (85, 10978), (97, 11017),

Gene: Rootkit7_12 Start: 10414, Stop: 10893, Start Num: 18

Candidate Starts for Rootkit7_12:

(Start: 18 @10414 has 28 MA's), (46, 10561), (73, 10726), (75, 10738), (85, 10807), (97, 10846),

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

Candidate Starts for SBlackberry_12:

(Start: 18 @10420 has 28 MA's), (46, 10567), (73, 10732), (75, 10744), (85, 10813), (97, 10852),

Gene: SV1_9 Start: 7311, Stop: 7727, Start Num: 22

Candidate Starts for SV1_9:

(6, 6888), (Start: 22 @7311 has 6 MA's), (42, 7425), (48, 7461), (56, 7515), (71, 7575), (72, 7590), (73, 7596), (99, 7716),

Gene: Schlegelian_10 Start: 7268, Stop: 7654, Start Num: 23

Candidate Starts for Schlegelian_10:

(Start: 23 @7268 has 23 MA's), (26, 7277), (48, 7415), (52, 7445), (59, 7478), (71, 7529), (73, 7550), (92, 7643),

Gene: ScoobySnack_13 Start: 8223, Stop: 8717, Start Num: 18

Candidate Starts for ScoobySnack_13:

(Start: 18 @8223 has 28 MA's), (30, 8277), (47, 8391), (48, 8400), (49, 8418), (52, 8430), (68, 8517), (85, 8625), (93, 8658), (100, 8682), (103, 8700),

Gene: SoJo_9 Start: 7360, Stop: 7749, Start Num: 23

Candidate Starts for SoJo_9:

(Start: 23 @7360 has 23 MA's), (43, 7474), (45, 7483), (48, 7507), (50, 7528), (72, 7636), (92, 7738),

Gene: Taotie_8 Start: 8172, Stop: 8609, Start Num: 15

Candidate Starts for Taotie_8:

(13, 8163), (Start: 15 @8172 has 2 MA's), (38, 8277), (73, 8493),

Gene: TinyDot_10 Start: 7216, Stop: 7635, Start Num: 21

Candidate Starts for TinyDot_10:

(Start: 21 @7216 has 1 MA's), (37, 7294), (52, 7396), (55, 7414), (71, 7492), (80, 7558),

Gene: ToastyFinz_8 Start: 7224, Stop: 7613, Start Num: 23

Candidate Starts for ToastyFinz_8:

(Start: 23 @7224 has 23 MA's), (43, 7338), (50, 7392), (53, 7413), (56, 7425), (72, 7500), (87, 7578), (92, 7602),

Gene: Tubberson_9 Start: 7360, Stop: 7749, Start Num: 23

Candidate Starts for Tubberson_9:

(Start: 23 @7360 has 23 MA's), (43, 7474), (45, 7483), (48, 7507), (50, 7528), (72, 7636), (92, 7738),

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

Candidate Starts for TurboVicky_12:

(Start: 18 @10414 has 28 MA's), (46, 10561), (73, 10726), (75, 10738), (85, 10807), (97, 10846),

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

Candidate Starts for Typher_14:

(7, 10332), (8, 10368), (Start: 18 @10548 has 28 MA's), (46, 10695), (73, 10860), (75, 10872),

Gene: VanLee_10 Start: 7200, Stop: 7619, Start Num: 24

Candidate Starts for VanLee_10:

(Start: 24 @7200 has 2 MA's), (26, 7206), (44, 7314), (51, 7365), (53, 7386), (64, 7440), (73, 7491), (83, 7554),

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

Candidate Starts for Violeta_16:

(Start: 18 @8452 has 28 MA's), (33, 8539), (41, 8581), (48, 8629), (49, 8647), (52, 8659), (54, 8674), (68, 8746), (73, 8776), (85, 8854), (93, 8887), (100, 8911), (103, 8929),

Gene: Vondra_10 Start: 7277, Stop: 7663, Start Num: 23

Candidate Starts for Vondra_10:

(Start: 23 @7277 has 23 MA's), (48, 7424), (59, 7487), (73, 7559), (92, 7652),

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

Candidate Starts for Warren_15:

(Start: 18 @8551 has 28 MA's), (33, 8638), (41, 8680), (48, 8728), (49, 8746), (52, 8758), (54, 8773), (68, 8845), (73, 8875), (85, 8953), (93, 8986), (100, 9010), (103, 9028),

Gene: Winchester007_30 Start: 14471, Stop: 14965, Start Num: 18

Candidate Starts for Winchester007_30:

(Start: 18 @14471 has 28 MA's), (33, 14558), (41, 14600), (48, 14648), (49, 14666), (52, 14678), (54, 14693), (68, 14765), (73, 14795), (85, 14873), (93, 14906), (100, 14930), (103, 14948),

Gene: Wrackline_19 Start: 9814, Stop: 10284, Start Num: 27

Candidate Starts for Wrackline_19:

(10, 9655), (Start: 27 @9814 has 1 MA's), (48, 9955), (54, 9997), (55, 10000), (60, 10018), (62, 10030), (67, 10069), (77, 10120), (79, 10144), (82, 10159), (91, 10213), (98, 10231), (102, 10264),

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

Candidate Starts for Zanella_12:

(Start: 18 @10417 has 28 MA's), (46, 10564), (73, 10729), (75, 10741), (85, 10810), (97, 10849),