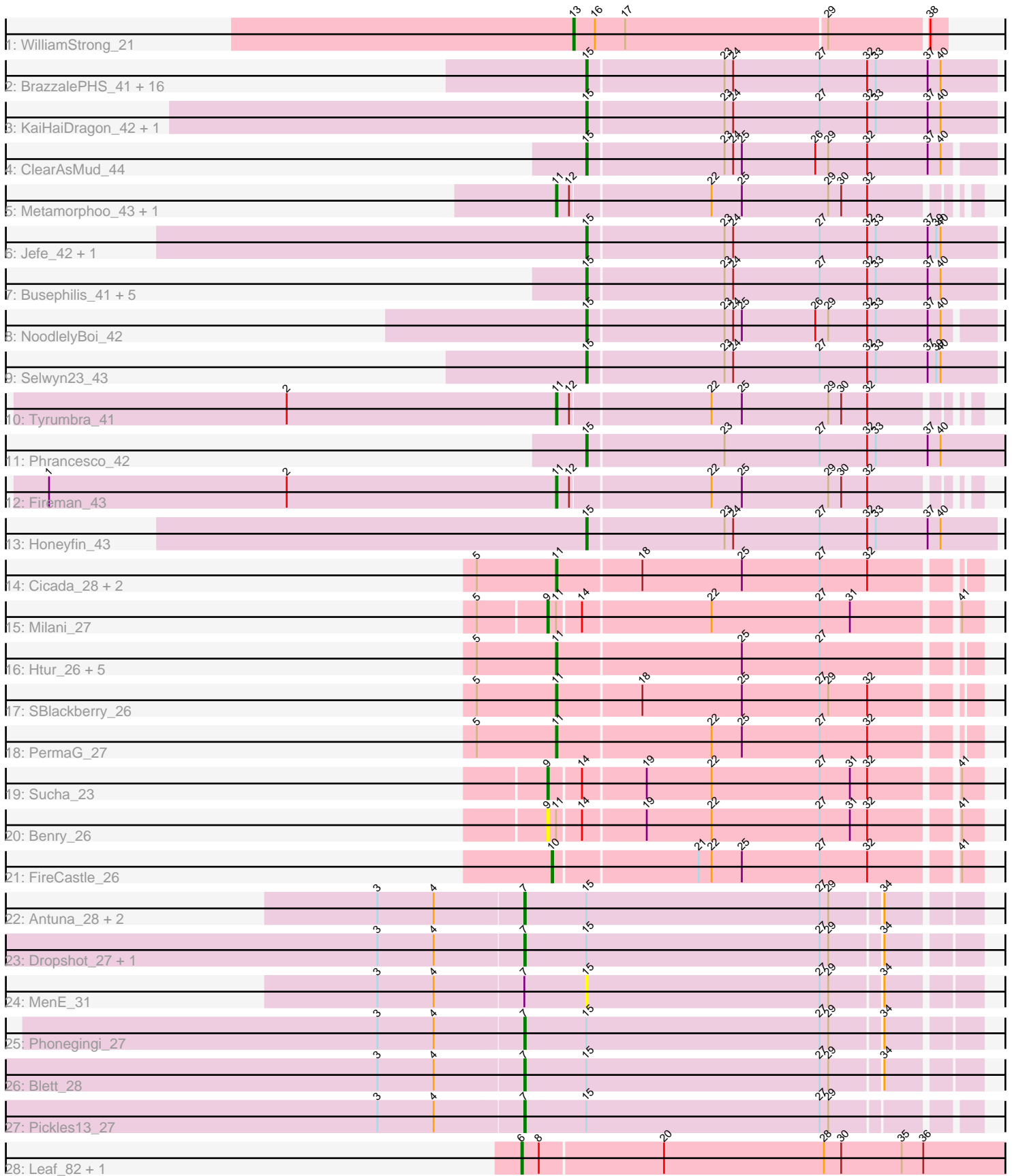


Pham 171458



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 171458 Report

This analysis was run 07/10/24 on database version 566.

Pham number 171458 has 63 members, 4 are drafts.

Phages represented in each track:

- Track 1 : WilliamStrong_21
- Track 2 : BrazzalePHS_41, Hermeonysus_41, Cranjjs_43, Paschalis_41, CrazyRich_41, Ganandorf_41, Phorgeous_41, Crisis_43, Quhwah_45, Scumberland_43, Savannah_41, Ramiel05_41, Jollipop_42, LittleFortune_43, Kowalski_41, Antares_42, Onika_41
- Track 3 : KaiHaiDragon_42, EarickHC_42
- Track 4 : ClearAsMud_44
- Track 5 : Metamorphoo_43, RobsFeet_44
- Track 6 : Jefe_42, Yeti_42
- Track 7 : Busephilis_41, PierreOrion_42, Piperis_42, Pulchra_43, PiperSansNom_42, Shotgun_41
- Track 8 : NoodlelyBoi_42
- Track 9 : Selwyn23_43
- Track 10 : Tyrumbra_41
- Track 11 : Phrancesco_42
- Track 12 : Fireman_43
- Track 13 : Honeyfin_43
- Track 14 : Cicada_28, Goodman_27, Johann_27
- Track 15 : Milani_27
- Track 16 : Htur_26, Zanella_26, Rasovi_26, TurboVicky_26, Typher_28, Jera_27
- Track 17 : SBlackberry_26
- Track 18 : PermaG_27
- Track 19 : Sucha_23
- Track 20 : Benry_26
- Track 21 : FireCastle_26
- Track 22 : Antuna_28, Appa_27, Bush_28
- Track 23 : Dropshot_27, Warren_28
- Track 24 : MenE_31
- Track 25 : Phonegingi_27
- Track 26 : Blett_28
- Track 27 : Pickles13_27
- Track 28 : Leaf_82, Dewdrop_82

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

The start number called the most often in the published annotations is 15, it was called in 30 of the 59 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Antares_42, BrazzalePHS_41, Busephilis_41, ClearAsMud_44, Cranjis_43, CrazyRich_41, Crisis_43, EarickHC_42, Ganandorf_41, Hermeonysus_41, Honeyfin_43, Jefe_42, Jollipop_42, KaiHaiDragon_42, Kowalski_41, LittleFortune_43, MenE_31, NoodlelyBoi_42, Onika_41, Paschalis_41, Phorgeous_41, Phrancesco_42, PierreOrion_42, PiperSansNom_42, Piperis_42, Pulchra_43, Quhwah_45, Ramiel05_41, Savannah_41, Scumberland_43, Selwyn23_43, Shotgun_41, Yeti_42,

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

- Antuna_28, Appa_27, Blett_28, Bush_28, Dropshot_27, Phonegingi_27, Pickles13_27, Warren_28,

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

- Benry_26, Cicada_28, Dewdrop_82, FireCastle_26, Fireman_43, Goodman_27, Htur_26, Jera_27, Johann_27, Leaf_82, Metamorphoo_43, Milani_27, PermaG_27, Rasovi_26, RobsFeet_44, SBlackberry_26, Sucha_23, TurboVicky_26, Typher_28, Tyrumbra_41, WilliamStrong_21, Zanella_26,

Summary by start number:

Start 6:

- Found in 2 of 63 (3.2%) of genes in pham
- Manual Annotations of this start: 2 of 59
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Dewdrop_82 (GC), Leaf_82 (GC),

Start 7:

- Found in 9 of 63 (14.3%) of genes in pham
- Manual Annotations of this start: 8 of 59
- Called 88.9% of time when present
- Phage (with cluster) where this start called: Antuna_28 (GA), Appa_27 (GA), Blett_28 (GA), Bush_28 (GA), Dropshot_27 (GA), Phonegingi_27 (GA), Pickles13_27 (GA), Warren_28 (GA),

Start 9:

- Found in 3 of 63 (4.8%) of genes in pham
- Manual Annotations of this start: 2 of 59
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Benry_26 (EJ), Milani_27 (EJ), Sucha_23 (EJ),

Start 10:

- Found in 1 of 63 (1.6%) of genes in pham
- Manual Annotations of this start: 1 of 59
- Called 100.0% of time when present
- Phage (with cluster) where this start called: FireCastle_26 (EJ),

Start 11:

- Found in 17 of 63 (27.0%) of genes in pham
- Manual Annotations of this start: 15 of 59
- Called 88.2% of time when present
- Phage (with cluster) where this start called: Cicada_28 (EJ), Fireman_43 (EC), Goodman_27 (EJ), Htur_26 (EJ), Jera_27 (EJ), Johann_27 (EJ), Metamorphoo_43 (EC), PermaG_27 (EJ), Rasovi_26 (EJ), RobsFeet_44 (EC), SBlackberry_26 (EJ), TurboVicky_26 (EJ), Typher_28 (EJ), Tyrumbra_41 (EC), Zanella_26 (EJ),

Start 13:

- Found in 1 of 63 (1.6%) of genes in pham
- Manual Annotations of this start: 1 of 59
- Called 100.0% of time when present
- Phage (with cluster) where this start called: WilliamStrong_21 (EA6),

Start 15:

- Found in 41 of 63 (65.1%) of genes in pham
- Manual Annotations of this start: 30 of 59
- Called 80.5% of time when present
- Phage (with cluster) where this start called: Antares_42 (EC), BrazzalePHS_41 (EC), Busephilis_41 (EC), ClearAsMud_44 (EC), Cranjis_43 (EC), CrazyRich_41 (EC), Crisis_43 (EC), EarickHC_42 (EC), Ganandorf_41 (EC), Hermeonysus_41 (EC), Honeyfin_43 (EC), Jefe_42 (EC), Jollipop_42 (EC), KaiHaiDragon_42 (EC), Kowalski_41 (EC), LittleFortune_43 (EC), MenE_31 (GA), NoodlelyBoi_42 (EC), Onika_41 (EC), Paschalis_41 (EC), Phorgeous_41 (EC), Phrancesco_42 (EC), PierreOrion_42 (EC), PiperSansNom_42 (EC), Piperis_42 (EC), Pulchra_43 (EC), Quhwah_45 (EC), Ramiel05_41 (EC), Savannah_41 (EC), Scumberland_43 (EC), Selwyn23_43 (EC), Shotgun_41 (EC), Yeti_42 (EC),

Summary by clusters:

There are 5 clusters represented in this pham: EA6, GC, GA, EC, EJ,

Info for manual annotations of cluster EA6:

- Start number 13 was manually annotated 1 time for cluster EA6.

Info for manual annotations of cluster EC:

- Start number 11 was manually annotated 4 times for cluster EC.
- Start number 15 was manually annotated 30 times for cluster EC.

Info for manual annotations of cluster EJ:

- Start number 9 was manually annotated 2 times for cluster EJ.
- Start number 10 was manually annotated 1 time for cluster EJ.
- Start number 11 was manually annotated 11 times for cluster EJ.

Info for manual annotations of cluster GA:

- Start number 7 was manually annotated 8 times for cluster GA.

Info for manual annotations of cluster GC:

- Start number 6 was manually annotated 2 times for cluster GC.

Gene Information:

Gene: Antares_42 Start: 29929, Stop: 30222, Start Num: 15

Candidate Starts for Antares_42:

(Start: 15 @29929 has 30 MA's), (23, 30022), (24, 30028), (27, 30088), (32, 30121), (33, 30127), (37, 30163), (40, 30172),

Gene: Antuna_28 Start: 18326, Stop: 18628, Start Num: 7

Candidate Starts for Antuna_28:

(3, 18227), (4, 18266), (Start: 7 @18326 has 8 MA's), (Start: 15 @18368 has 30 MA's), (27, 18530), (29, 18536), (34, 18569),

Gene: Appa_27 Start: 18188, Stop: 18493, Start Num: 7

Candidate Starts for Appa_27:

(3, 18089), (4, 18128), (Start: 7 @18188 has 8 MA's), (Start: 15 @18230 has 30 MA's), (27, 18392), (29, 18398), (34, 18431),

Gene: Benry_26 Start: 18897, Stop: 19181, Start Num: 9

Candidate Starts for Benry_26:

(Start: 9 @18897 has 2 MA's), (Start: 11 @18903 has 15 MA's), (14, 18918), (19, 18960), (22, 19005), (27, 19080), (31, 19101), (32, 19113), (41, 19167),

Gene: Blett_28 Start: 18338, Stop: 18640, Start Num: 7

Candidate Starts for Blett_28:

(3, 18239), (4, 18278), (Start: 7 @18338 has 8 MA's), (Start: 15 @18380 has 30 MA's), (27, 18542), (29, 18548), (34, 18581),

Gene: BrazzalePHS_41 Start: 29724, Stop: 30017, Start Num: 15

Candidate Starts for BrazzalePHS_41:

(Start: 15 @29724 has 30 MA's), (23, 29817), (24, 29823), (27, 29883), (32, 29916), (33, 29922), (37, 29958), (40, 29967),

Gene: Busephilis_41 Start: 29665, Stop: 29958, Start Num: 15

Candidate Starts for Busephilis_41:

(Start: 15 @29665 has 30 MA's), (23, 29758), (24, 29764), (27, 29824), (32, 29857), (33, 29863), (37, 29899), (40, 29908),

Gene: Bush_28 Start: 18316, Stop: 18618, Start Num: 7

Candidate Starts for Bush_28:

(3, 18217), (4, 18256), (Start: 7 @18316 has 8 MA's), (Start: 15 @18358 has 30 MA's), (27, 18520), (29, 18526), (34, 18559),

Gene: Cicada_28 Start: 20423, Stop: 20701, Start Num: 11

Candidate Starts for Cicada_28:

(5, 20369), (Start: 11 @20423 has 15 MA's), (18, 20480), (25, 20549), (27, 20603), (32, 20636),

Gene: ClearAsMud_44 Start: 29829, Stop: 30116, Start Num: 15

Candidate Starts for ClearAsMud_44:

(Start: 15 @29829 has 30 MA's), (23, 29922), (24, 29928), (25, 29934), (26, 29985), (29, 29994), (32, 30021), (37, 30063), (40, 30072),

Gene: Cranjis_43 Start: 29884, Stop: 30177, Start Num: 15

Candidate Starts for Cranjis_43:

(Start: 15 @29884 has 30 MA's), (23, 29977), (24, 29983), (27, 30043), (32, 30076), (33, 30082), (37, 30118), (40, 30127),

Gene: CrazyRich_41 Start: 29693, Stop: 29986, Start Num: 15

Candidate Starts for CrazyRich_41:

(Start: 15 @29693 has 30 MA's), (23, 29786), (24, 29792), (27, 29852), (32, 29885), (33, 29891), (37, 29927), (40, 29936),

Gene: Crisis_43 Start: 29684, Stop: 29977, Start Num: 15

Candidate Starts for Crisis_43:

(Start: 15 @29684 has 30 MA's), (23, 29777), (24, 29783), (27, 29843), (32, 29876), (33, 29882), (37, 29918), (40, 29927),

Gene: Dewdrop_82 Start: 53056, Stop: 53415, Start Num: 6

Candidate Starts for Dewdrop_82:

(Start: 6 @53056 has 2 MA's), (8, 53068), (20, 53152), (28, 53263), (30, 53275), (35, 53317), (36, 53332),

Gene: Dropshot_27 Start: 18188, Stop: 18490, Start Num: 7

Candidate Starts for Dropshot_27:

(3, 18089), (4, 18128), (Start: 7 @18188 has 8 MA's), (Start: 15 @18230 has 30 MA's), (27, 18392), (29, 18398), (34, 18431),

Gene: EarickHC_42 Start: 29607, Stop: 29900, Start Num: 15

Candidate Starts for EarickHC_42:

(Start: 15 @29607 has 30 MA's), (23, 29700), (24, 29706), (27, 29766), (32, 29799), (33, 29805), (37, 29841), (40, 29850),

Gene: FireCastle_26 Start: 20491, Stop: 20772, Start Num: 10

Candidate Starts for FireCastle_26:

(Start: 10 @20491 has 1 MA's), (21, 20587), (22, 20596), (25, 20617), (27, 20671), (32, 20704), (41, 20758),

Gene: Fireman_43 Start: 31207, Stop: 31476, Start Num: 11

Candidate Starts for Fireman_43:

(1, 30856), (2, 31021), (Start: 11 @31207 has 15 MA's), (12, 31216), (22, 31309), (25, 31330), (29, 31390), (30, 31399), (32, 31417),

Gene: Ganandorf_41 Start: 29746, Stop: 30039, Start Num: 15

Candidate Starts for Ganandorf_41:

(Start: 15 @29746 has 30 MA's), (23, 29839), (24, 29845), (27, 29905), (32, 29938), (33, 29944), (37, 29980), (40, 29989),

Gene: Goodman_27 Start: 20336, Stop: 20614, Start Num: 11

Candidate Starts for Goodman_27:

(5, 20282), (Start: 11 @20336 has 15 MA's), (18, 20393), (25, 20462), (27, 20516), (32, 20549),

Gene: Hermeonysus_41 Start: 29613, Stop: 29906, Start Num: 15

Candidate Starts for Hermeonysus_41:

(Start: 15 @29613 has 30 MA's), (23, 29706), (24, 29712), (27, 29772), (32, 29805), (33, 29811), (37, 29847), (40, 29856),

Gene: Honeyfin_43 Start: 29934, Stop: 30227, Start Num: 15

Candidate Starts for Honeyfin_43:

(Start: 15 @29934 has 30 MA's), (23, 30027), (24, 30033), (27, 30093), (32, 30126), (33, 30132), (37, 30168), (40, 30177),

Gene: Htur_26 Start: 20391, Stop: 20669, Start Num: 11

Candidate Starts for Htur_26:

(5, 20337), (Start: 11 @20391 has 15 MA's), (25, 20517), (27, 20571),

Gene: Jefe_42 Start: 29671, Stop: 29964, Start Num: 15

Candidate Starts for Jefe_42:

(Start: 15 @29671 has 30 MA's), (23, 29764), (24, 29770), (27, 29830), (32, 29863), (33, 29869), (37, 29905), (39, 29911), (40, 29914),

Gene: Jera_27 Start: 19448, Stop: 19726, Start Num: 11

Candidate Starts for Jera_27:

(5, 19394), (Start: 11 @19448 has 15 MA's), (25, 19574), (27, 19628),

Gene: Johann_27 Start: 20336, Stop: 20614, Start Num: 11

Candidate Starts for Johann_27:

(5, 20282), (Start: 11 @20336 has 15 MA's), (18, 20393), (25, 20462), (27, 20516), (32, 20549),

Gene: Jollipop_42 Start: 30010, Stop: 30303, Start Num: 15

Candidate Starts for Jollipop_42:

(Start: 15 @30010 has 30 MA's), (23, 30103), (24, 30109), (27, 30169), (32, 30202), (33, 30208), (37, 30244), (40, 30253),

Gene: KaiHaiDragon_42 Start: 29607, Stop: 29900, Start Num: 15

Candidate Starts for KaiHaiDragon_42:

(Start: 15 @29607 has 30 MA's), (23, 29700), (24, 29706), (27, 29766), (32, 29799), (33, 29805), (37, 29841), (40, 29850),

Gene: Kowalski_41 Start: 29720, Stop: 30013, Start Num: 15

Candidate Starts for Kowalski_41:

(Start: 15 @29720 has 30 MA's), (23, 29813), (24, 29819), (27, 29879), (32, 29912), (33, 29918), (37, 29954), (40, 29963),

Gene: Leaf_82 Start: 53056, Stop: 53415, Start Num: 6

Candidate Starts for Leaf_82:

(Start: 6 @53056 has 2 MA's), (8, 53068), (20, 53152), (28, 53263), (30, 53275), (35, 53317), (36, 53332),

Gene: LittleFortune_43 Start: 29976, Stop: 30269, Start Num: 15

Candidate Starts for LittleFortune_43:

(Start: 15 @29976 has 30 MA's), (23, 30069), (24, 30075), (27, 30135), (32, 30168), (33, 30174), (37, 30210), (40, 30219),

Gene: MenE_31 Start: 18498, Stop: 18758, Start Num: 15

Candidate Starts for MenE_31:

(3, 18357), (4, 18396), (Start: 7 @18456 has 8 MA's), (Start: 15 @18498 has 30 MA's), (27, 18660), (29, 18666), (34, 18699),

Gene: Metamorphoo_43 Start: 30469, Stop: 30738, Start Num: 11

Candidate Starts for Metamorphoo_43:

(Start: 11 @30469 has 15 MA's), (12, 30478), (22, 30571), (25, 30592), (29, 30652), (30, 30661), (32, 30679),

Gene: Milani_27 Start: 19537, Stop: 19821, Start Num: 9

Candidate Starts for Milani_27:

(5, 19492), (Start: 9 @19537 has 2 MA's), (Start: 11 @19543 has 15 MA's), (14, 19558), (22, 19645), (27, 19720), (31, 19741), (41, 19807),

Gene: NoodlelyBoi_42 Start: 30039, Stop: 30326, Start Num: 15

Candidate Starts for NoodlelyBoi_42:

(Start: 15 @30039 has 30 MA's), (23, 30132), (24, 30138), (25, 30144), (26, 30195), (29, 30204), (32, 30231), (33, 30237), (37, 30273), (40, 30282),

Gene: Onika_41 Start: 29695, Stop: 29988, Start Num: 15

Candidate Starts for Onika_41:

(Start: 15 @29695 has 30 MA's), (23, 29788), (24, 29794), (27, 29854), (32, 29887), (33, 29893), (37, 29929), (40, 29938),

Gene: Paschalis_41 Start: 29702, Stop: 29995, Start Num: 15

Candidate Starts for Paschalis_41:

(Start: 15 @29702 has 30 MA's), (23, 29795), (24, 29801), (27, 29861), (32, 29894), (33, 29900), (37, 29936), (40, 29945),

Gene: PermaG_27 Start: 20401, Stop: 20679, Start Num: 11

Candidate Starts for PermaG_27:

(5, 20347), (Start: 11 @20401 has 15 MA's), (22, 20506), (25, 20527), (27, 20581), (32, 20614),

Gene: Phonegingi_27 Start: 18231, Stop: 18533, Start Num: 7

Candidate Starts for Phonegingi_27:

(3, 18132), (4, 18171), (Start: 7 @18231 has 8 MA's), (Start: 15 @18273 has 30 MA's), (27, 18435), (29, 18441), (34, 18474),

Gene: Phorgeous_41 Start: 29565, Stop: 29858, Start Num: 15

Candidate Starts for Phorgeous_41:

(Start: 15 @29565 has 30 MA's), (23, 29658), (24, 29664), (27, 29724), (32, 29757), (33, 29763), (37, 29799), (40, 29808),

Gene: Phrancesco_42 Start: 29846, Stop: 30148, Start Num: 15

Candidate Starts for Phrancesco_42:

(Start: 15 @29846 has 30 MA's), (23, 29939), (27, 30005), (32, 30038), (33, 30044), (37, 30080), (40, 30089),

Gene: Pickles13_27 Start: 18619, Stop: 18918, Start Num: 7

Candidate Starts for Pickles13_27:

(3, 18520), (4, 18559), (Start: 7 @18619 has 8 MA's), (Start: 15 @18661 has 30 MA's), (27, 18823), (29, 18829),

Gene: PierreOrion_42 Start: 29869, Stop: 30162, Start Num: 15

Candidate Starts for PierreOrion_42:

(Start: 15 @29869 has 30 MA's), (23, 29962), (24, 29968), (27, 30028), (32, 30061), (33, 30067), (37, 30103), (40, 30112),

Gene: PiperSansNom_42 Start: 30009, Stop: 30302, Start Num: 15

Candidate Starts for PiperSansNom_42:

(Start: 15 @30009 has 30 MA's), (23, 30102), (24, 30108), (27, 30168), (32, 30201), (33, 30207), (37, 30243), (40, 30252),

Gene: Piperis_42 Start: 29688, Stop: 29981, Start Num: 15

Candidate Starts for Piperis_42:

(Start: 15 @29688 has 30 MA's), (23, 29781), (24, 29787), (27, 29847), (32, 29880), (33, 29886), (37, 29922), (40, 29931),

Gene: Pulchra_43 Start: 30085, Stop: 30378, Start Num: 15

Candidate Starts for Pulchra_43:

(Start: 15 @30085 has 30 MA's), (23, 30178), (24, 30184), (27, 30244), (32, 30277), (33, 30283), (37, 30319), (40, 30328),

Gene: Quhwah_45 Start: 30317, Stop: 30610, Start Num: 15

Candidate Starts for Quhwah_45:

(Start: 15 @30317 has 30 MA's), (23, 30410), (24, 30416), (27, 30476), (32, 30509), (33, 30515), (37, 30551), (40, 30560),

Gene: Ramiel05_41 Start: 29720, Stop: 30013, Start Num: 15

Candidate Starts for Ramiel05_41:

(Start: 15 @29720 has 30 MA's), (23, 29813), (24, 29819), (27, 29879), (32, 29912), (33, 29918), (37, 29954), (40, 29963),

Gene: Rasovi_26 Start: 20391, Stop: 20669, Start Num: 11

Candidate Starts for Rasovi_26:

(5, 20337), (Start: 11 @20391 has 15 MA's), (25, 20517), (27, 20571),

Gene: RobsFeet_44 Start: 30750, Stop: 31019, Start Num: 11

Candidate Starts for RobsFeet_44:

(Start: 11 @30750 has 15 MA's), (12, 30759), (22, 30852), (25, 30873), (29, 30933), (30, 30942), (32, 30960),

Gene: SBlackberry_26 Start: 20201, Stop: 20479, Start Num: 11

Candidate Starts for SBlackberry_26:

(5, 20147), (Start: 11 @20201 has 15 MA's), (18, 20258), (25, 20327), (27, 20381), (29, 20387), (32, 20414),

Gene: Savannah_41 Start: 29747, Stop: 30040, Start Num: 15

Candidate Starts for Savannah_41:

(Start: 15 @29747 has 30 MA's), (23, 29840), (24, 29846), (27, 29906), (32, 29939), (33, 29945), (37, 29981), (40, 29990),

Gene: Scumberland_43 Start: 29942, Stop: 30235, Start Num: 15

Candidate Starts for Scumberland_43:

(Start: 15 @29942 has 30 MA's), (23, 30035), (24, 30041), (27, 30101), (32, 30134), (33, 30140), (37, 30176), (40, 30185),

Gene: Selwyn23_43 Start: 29919, Stop: 30212, Start Num: 15

Candidate Starts for Selwyn23_43:

(Start: 15 @29919 has 30 MA's), (23, 30012), (24, 30018), (27, 30078), (32, 30111), (33, 30117), (37, 30153), (39, 30159), (40, 30162),

Gene: Shotgun_41 Start: 29546, Stop: 29839, Start Num: 15

Candidate Starts for Shotgun_41:

(Start: 15 @29546 has 30 MA's), (23, 29639), (24, 29645), (27, 29705), (32, 29738), (33, 29744), (37, 29780), (40, 29789),

Gene: Sucha_23 Start: 17894, Stop: 18178, Start Num: 9

Candidate Starts for Sucha_23:

(Start: 9 @17894 has 2 MA's), (14, 17915), (19, 17957), (22, 18002), (27, 18077), (31, 18098), (32, 18110), (41, 18164),

Gene: TurboVicky_26 Start: 20200, Stop: 20478, Start Num: 11

Candidate Starts for TurboVicky_26:

(5, 20146), (Start: 11 @20200 has 15 MA's), (25, 20326), (27, 20380),

Gene: Typher_28 Start: 20329, Stop: 20607, Start Num: 11

Candidate Starts for Typher_28:

(5, 20275), (Start: 11 @20329 has 15 MA's), (25, 20455), (27, 20509),

Gene: Tyrumbra_41 Start: 30550, Stop: 30819, Start Num: 11

Candidate Starts for Tyrumbra_41:

(2, 30364), (Start: 11 @30550 has 15 MA's), (12, 30559), (22, 30652), (25, 30673), (29, 30733), (30, 30742), (32, 30760),

Gene: Warren_28 Start: 18392, Stop: 18691, Start Num: 7

Candidate Starts for Warren_28:

(3, 18293), (4, 18332), (Start: 7 @18392 has 8 MA's), (Start: 15 @18434 has 30 MA's), (27, 18596), (29, 18602), (34, 18635),

Gene: WilliamStrong_21 Start: 18148, Stop: 18399, Start Num: 13

Candidate Starts for WilliamStrong_21:

(Start: 13 @18148 has 1 MA's), (16, 18163), (17, 18184), (29, 18322), (38, 18388),

Gene: Yeti_42 Start: 29721, Stop: 30014, Start Num: 15

Candidate Starts for Yeti_42:

(Start: 15 @29721 has 30 MA's), (23, 29814), (24, 29820), (27, 29880), (32, 29913), (33, 29919), (37, 29955), (39, 29961), (40, 29964),

Gene: Zanella_26 Start: 20203, Stop: 20481, Start Num: 11

Candidate Starts for Zanella_26:

(5, 20149), (Start: 11 @20203 has 15 MA's), (25, 20329), (27, 20383),