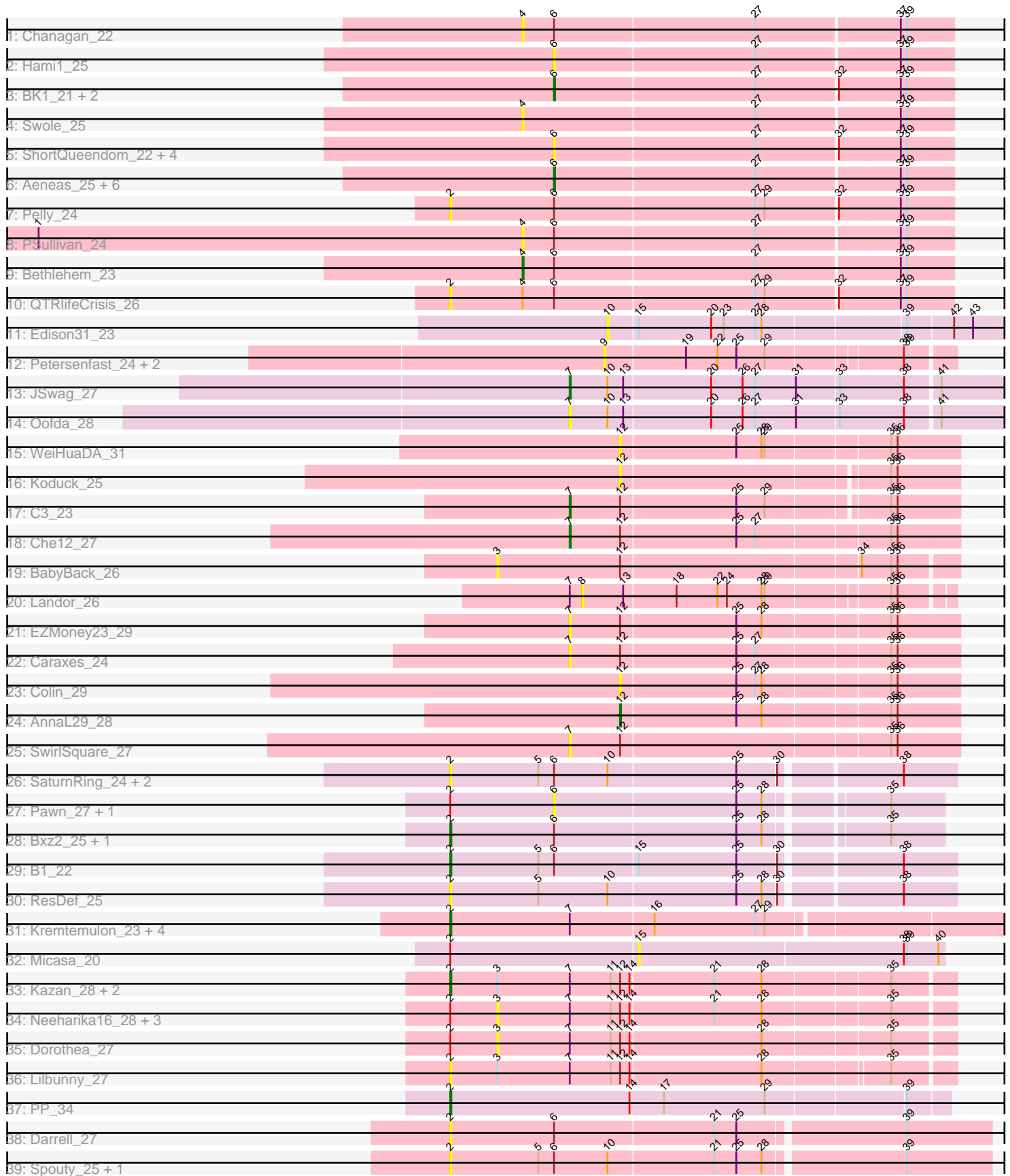


Pham 137975



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 137975 Report

This analysis was run 04/28/24 on database version 559.

Pham number 137975 has 67 members, 48 are drafts.

Phages represented in each track:

- Track 1 : Chanagan_22
- Track 2 : Hami1_25
- Track 3 : BK1_21, A6_21, StewieG_22
- Track 4 : Swole_25
- Track 5 : ShortQueendom_22, BluSpix_23, Teodoridan_21, Sorpresa_22, Sandaddy_22
- Track 6 : Aeneas_25, Payneful_22, TwoPeat_23, U2_23, PhrostyMug_23, Espresso_23, Marchy_21
- Track 7 : Pelly_24
- Track 8 : PSullivan_24
- Track 9 : Bethlehem_23
- Track 10 : QTRlifeCrisis_26
- Track 11 : Edison31_23
- Track 12 : Petersenfast_24, Insomnia_24, TinyTimmy_24
- Track 13 : JSwag_27
- Track 14 : Oofda_28
- Track 15 : WeiHuaDA_31
- Track 16 : Koduck_25
- Track 17 : C3_23
- Track 18 : Che12_27
- Track 19 : BabyBack_26
- Track 20 : Landor_26
- Track 21 : EZMoney23_29
- Track 22 : Caraxes_24
- Track 23 : Colin_29
- Track 24 : AnnaL29_28
- Track 25 : SwirlSquare_27
- Track 26 : SaturnRing_24, Bugatti_24, Giroux_24
- Track 27 : Pawn_27, Snickers_26
- Track 28 : Bxz2_25, Anubis_28
- Track 29 : B1_22
- Track 30 : ResDef_25
- Track 31 : Kremtemulon_23, NorthStar_24, LeoAvram_24, LappelDuVide_23, Kingmustik0402_24
- Track 32 : Micasa_20
- Track 33 : Kazan_28, Chartreuse_28, DaVinci_28
- Track 34 : Neeharika16_28, Garak_29, Helmet_29, Candra_28

- Track 35 : Dorothea_27
- Track 36 : Lilbunny_27
- Track 37 : PP_34
- Track 38 : Darrell_27
- Track 39 : Spouty_25, EmyBug_24

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

The start number called the most often in the published annotations is 2, it was called in 9 of the 19 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Anubis_28, B1_22, Bugatti_24, Bxz2_25, Chartreuse_28, DaVinci_28, Darrell_27, EmyBug_24, Giroux_24, Kazan_28, Kingmustik0402_24, Kremtemulon_23, LappelDuVide_23, LeoAvram_24, Lilbunny_27, NorthStar_24, PP_34, Pelly_24, QTRlifeCrisis_26, ResDef_25, SaturnRing_24, Spouty_25,

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

- Candra_28, Dorothea_27, Garak_29, Helmet_29, Micasa_20, Neeharika16_28, Pawn_27, Snickers_26,

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

- A6_21, Aeneas_25, AnnaL29_28, BK1_21, BabyBack_26, Bethlehem_23, BluSpix_23, C3_23, Caraxes_24, Chanagan_22, Che12_27, Colin_29, EZMoney23_29, Edison31_23, Espresso_23, Hami1_25, Insomnia_24, JSwag_27, Koduck_25, Landor_26, Marchy_21, Oofda_28, PSullivan_24, Payneful_22, Petersenfast_24, PhrostyMug_23, Sandaddy_22, ShortQueendom_22, Sorpresa_22, StewieG_22, SwirlSquare_27, Swole_25, Teodoridan_21, TinyTimmy_24, TwoPeat_23, U2_23, WeiHuaDA_31,

Summary by start number:

Start 2:

- Found in 30 of 67 (44.8%) of genes in pham
- Manual Annotations of this start: 9 of 19
- Called 73.3% of time when present
- Phage (with cluster) where this start called: Anubis_28 (A3), B1_22 (A3), Bugatti_24 (A3), Bxz2_25 (A3), Chartreuse_28 (A6), DaVinci_28 (A6), Darrell_27 (A9), EmyBug_24 (A9), Giroux_24 (A3), Kazan_28 (A6), Kingmustik0402_24 (A4), Kremtemulon_23 (A4), LappelDuVide_23 (A4), LeoAvram_24 (A4), Lilbunny_27 (A6), NorthStar_24 (A4), PP_34 (A7), Pelly_24 (A1), QTRlifeCrisis_26 (A1), ResDef_25 (A3), SaturnRing_24 (A3), Spouty_25 (A9),

Start 3:

- Found in 10 of 67 (14.9%) of genes in pham
- No Manual Annotations of this start.
- Called 60.0% of time when present
- Phage (with cluster) where this start called: BabyBack_26 (A2), Candra_28 (A6), Dorothea_27 (A6), Garak_29 (A6), Helmet_29 (A6), Neeharika16_28 (A6),

Start 4:

- Found in 5 of 67 (7.5%) of genes in pham
- Manual Annotations of this start: 1 of 19
- Called 80.0% of time when present
- Phage (with cluster) where this start called: Bethlehem_23 (A1), Chanagan_22 (A1), PSullivan_24 (A1), Swole_25 (A1),

Start 6:

- Found in 32 of 67 (47.8%) of genes in pham
- Manual Annotations of this start: 5 of 19
- Called 56.2% of time when present
- Phage (with cluster) where this start called: A6_21 (A1), Aeneas_25 (A1), BK1_21 (A1), BluSpix_23 (A1), Espresso_23 (A1), Hami1_25 (A1), Marchy_21 (A1), Pawn_27 (A3), Payneful_22 (A1), PhrostyMug_23 (A1), Sandaddy_22 (A1), ShortQueendom_22 (A1), Snickers_26 (A3), Sorpresa_22 (A1), StewieG_22 (A1), Teodoridan_21 (A1), TwoPeat_23 (A1), U2_23 (A1),

Start 7:

- Found in 22 of 67 (32.8%) of genes in pham
- Manual Annotations of this start: 3 of 19
- Called 31.8% of time when present
- Phage (with cluster) where this start called: C3_23 (A2), Caraxes_24 (A2), Che12_27 (A2), EZMoney23_29 (A2), JSwag_27 (A15), Oofda_28 (A15), SwirlSquare_27 (A2),

Start 8:

- Found in 1 of 67 (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: Landor_26 (A2),

Start 9:

- Found in 3 of 67 (4.5%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Insomnia_24 (A11), Petersenfast_24 (A11), TinyTimmy_24 (A11),

Start 10:

- Found in 9 of 67 (13.4%) of genes in pham
- No Manual Annotations of this start.
- Called 11.1% of time when present
- Phage (with cluster) where this start called: Edison31_23 (A10),

Start 12:

- Found in 19 of 67 (28.4%) of genes in pham
- Manual Annotations of this start: 1 of 19
- Called 21.1% of time when present
- Phage (with cluster) where this start called: AnnaL29_28 (A2), Colin_29 (A2), Koduck_25 (A2), WeiHuaDA_31 (A2),

Start 15:

- Found in 3 of 67 (4.5%) of genes in pham

- No Manual Annotations of this start.
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Micasa_20 (A5),

Summary by clusters:

There are 11 clusters represented in this pham: A15, A11, A10, A1, A3, A2, A5, A4, A7, A6, A9,

Info for manual annotations of cluster A1:

- Start number 4 was manually annotated 1 time for cluster A1.
- Start number 6 was manually annotated 5 times for cluster A1.

Info for manual annotations of cluster A15:

- Start number 7 was manually annotated 1 time for cluster A15.

Info for manual annotations of cluster A2:

- Start number 7 was manually annotated 2 times for cluster A2.
- Start number 12 was manually annotated 1 time for cluster A2.

Info for manual annotations of cluster A3:

- Start number 2 was manually annotated 3 times for cluster A3.

Info for manual annotations of cluster A4:

- Start number 2 was manually annotated 3 times for cluster A4.

Info for manual annotations of cluster A6:

- Start number 2 was manually annotated 2 times for cluster A6.

Info for manual annotations of cluster A7:

- Start number 2 was manually annotated 1 time for cluster A7.

Gene Information:

Gene: A6_21 Start: 15547, Stop: 15918, Start Num: 6

Candidate Starts for A6_21:

(Start: 6 @15547 has 5 MA's), (27, 15736), (32, 15811), (37, 15868), (39, 15874),

Gene: Aeneas_25 Start: 16311, Stop: 16682, Start Num: 6

Candidate Starts for Aeneas_25:

(Start: 6 @16311 has 5 MA's), (27, 16500), (37, 16632), (39, 16638),

Gene: AnnaL29_28 Start: 18178, Stop: 18489, Start Num: 12

Candidate Starts for AnnaL29_28:

(Start: 12 @18178 has 1 MA's), (25, 18286), (28, 18310), (35, 18424), (36, 18430),

Gene: Anubis_28 Start: 15419, Stop: 15865, Start Num: 2

Candidate Starts for Anubis_28:

(Start: 2 @15419 has 9 MA's), (Start: 6 @15518 has 5 MA's), (25, 15689), (28, 15713), (35, 15815),

Gene: B1_22 Start: 14712, Stop: 15173, Start Num: 2

Candidate Starts for B1_22:

(Start: 2 @14712 has 9 MA's), (5, 14796), (Start: 6 @14811 has 5 MA's), (15, 14889), (25, 14982), (30, 15018), (38, 15123),

Gene: BK1_21 Start: 15547, Stop: 15918, Start Num: 6

Candidate Starts for BK1_21:

(Start: 6 @15547 has 5 MA's), (27, 15736), (32, 15811), (37, 15868), (39, 15874),

Gene: BabyBack_26 Start: 17818, Stop: 18240, Start Num: 3

Candidate Starts for BabyBack_26:

(3, 17818), (Start: 12 @17935 has 1 MA's), (34, 18154), (35, 18181), (36, 18187),

Gene: Bethlehem_23 Start: 17213, Stop: 17614, Start Num: 4

Candidate Starts for Bethlehem_23:

(Start: 4 @17213 has 1 MA's), (Start: 6 @17243 has 5 MA's), (27, 17432), (37, 17564), (39, 17570),

Gene: BluSpix_23 Start: 15977, Stop: 16348, Start Num: 6

Candidate Starts for BluSpix_23:

(Start: 6 @15977 has 5 MA's), (27, 16166), (32, 16241), (37, 16298), (39, 16304),

Gene: Bugatti_24 Start: 15033, Stop: 15494, Start Num: 2

Candidate Starts for Bugatti_24:

(Start: 2 @15033 has 9 MA's), (5, 15117), (Start: 6 @15132 has 5 MA's), (10, 15183), (25, 15303), (30, 15339), (38, 15444),

Gene: Bxz2_25 Start: 15627, Stop: 16073, Start Num: 2

Candidate Starts for Bxz2_25:

(Start: 2 @15627 has 9 MA's), (Start: 6 @15726 has 5 MA's), (25, 15897), (28, 15921), (35, 16023),

Gene: C3_23 Start: 16308, Stop: 16661, Start Num: 7

Candidate Starts for C3_23:

(Start: 7 @16308 has 3 MA's), (Start: 12 @16356 has 1 MA's), (25, 16464), (29, 16491), (35, 16596), (36, 16602),

Gene: Candra_28 Start: 16359, Stop: 16778, Start Num: 3

Candidate Starts for Candra_28:

(Start: 2 @16314 has 9 MA's), (3, 16359), (Start: 7 @16428 has 3 MA's), (11, 16467), (Start: 12 @16476 has 1 MA's), (14, 16485), (21, 16563), (28, 16608), (35, 16722),

Gene: Caraxes_24 Start: 14918, Stop: 15277, Start Num: 7

Candidate Starts for Caraxes_24:

(Start: 7 @14918 has 3 MA's), (Start: 12 @14966 has 1 MA's), (25, 15074), (27, 15092), (35, 15212), (36, 15218),

Gene: Chanagan_22 Start: 15524, Stop: 15925, Start Num: 4

Candidate Starts for Chanagan_22:

(Start: 4 @15524 has 1 MA's), (Start: 6 @15554 has 5 MA's), (27, 15743), (37, 15875), (39, 15881),

Gene: Chartreuse_28 Start: 16225, Stop: 16689, Start Num: 2

Candidate Starts for Chartreuse_28:

(Start: 2 @16225 has 9 MA's), (3, 16270), (Start: 7 @16339 has 3 MA's), (11, 16378), (Start: 12 @16387 has 1 MA's), (14, 16396), (21, 16474), (28, 16519), (35, 16633),

Gene: Che12_27 Start: 15178, Stop: 15537, Start Num: 7

Candidate Starts for Che12_27:

(Start: 7 @15178 has 3 MA's), (Start: 12 @15226 has 1 MA's), (25, 15334), (27, 15352), (35, 15472), (36, 15478),

Gene: Colin_29 Start: 18010, Stop: 18321, Start Num: 12

Candidate Starts for Colin_29:

(Start: 12 @18010 has 1 MA's), (25, 18118), (27, 18136), (28, 18142), (35, 18256), (36, 18262),

Gene: DaVinci_28 Start: 16279, Stop: 16743, Start Num: 2

Candidate Starts for DaVinci_28:

(Start: 2 @16279 has 9 MA's), (3, 16324), (Start: 7 @16393 has 3 MA's), (11, 16432), (Start: 12 @16441 has 1 MA's), (14, 16450), (21, 16528), (28, 16573), (35, 16687),

Gene: Darrell_27 Start: 17153, Stop: 17653, Start Num: 2

Candidate Starts for Darrell_27:

(Start: 2 @17153 has 9 MA's), (Start: 6 @17252 has 5 MA's), (21, 17402), (25, 17423), (39, 17573),

Gene: Dorothea_27 Start: 16324, Stop: 16743, Start Num: 3

Candidate Starts for Dorothea_27:

(Start: 2 @16279 has 9 MA's), (3, 16324), (Start: 7 @16393 has 3 MA's), (11, 16432), (Start: 12 @16441 has 1 MA's), (14, 16450), (28, 16573), (35, 16687),

Gene: EZMoney23_29 Start: 18248, Stop: 18607, Start Num: 7

Candidate Starts for EZMoney23_29:

(Start: 7 @18248 has 3 MA's), (Start: 12 @18296 has 1 MA's), (25, 18404), (28, 18428), (35, 18542), (36, 18548),

Gene: Edison31_23 Start: 15419, Stop: 15817, Start Num: 10

Candidate Starts for Edison31_23:

(10, 15419), (15, 15446), (20, 15515), (23, 15527), (27, 15557), (28, 15563), (39, 15692), (42, 15734), (43, 15752),

Gene: EmyBug_24 Start: 16991, Stop: 17491, Start Num: 2

Candidate Starts for EmyBug_24:

(Start: 2 @16991 has 9 MA's), (5, 17075), (Start: 6 @17090 has 5 MA's), (10, 17141), (21, 17240), (25, 17261), (28, 17285), (39, 17411),

Gene: Espresso_23 Start: 16066, Stop: 16437, Start Num: 6

Candidate Starts for Espresso_23:

(Start: 6 @16066 has 5 MA's), (27, 16255), (37, 16387), (39, 16393),

Gene: Garak_29 Start: 16321, Stop: 16740, Start Num: 3

Candidate Starts for Garak_29:

(Start: 2 @16276 has 9 MA's), (3, 16321), (Start: 7 @16390 has 3 MA's), (11, 16429), (Start: 12 @16438 has 1 MA's), (14, 16447), (21, 16525), (28, 16570), (35, 16684),

Gene: Giroux_24 Start: 15033, Stop: 15494, Start Num: 2

Candidate Starts for Giroux_24:

(Start: 2 @15033 has 9 MA's), (5, 15117), (Start: 6 @15132 has 5 MA's), (10, 15183), (25, 15303), (30, 15339), (38, 15444),

Gene: Hami1_25 Start: 16363, Stop: 16734, Start Num: 6

Candidate Starts for Hami1_25:

(Start: 6 @16363 has 5 MA's), (27, 16552), (37, 16684), (39, 16690),

Gene: Helmet_29 Start: 16321, Stop: 16740, Start Num: 3

Candidate Starts for Helmet_29:

(Start: 2 @16276 has 9 MA's), (3, 16321), (Start: 7 @16390 has 3 MA's), (11, 16429), (Start: 12 @16438 has 1 MA's), (14, 16447), (21, 16525), (28, 16570), (35, 16684),

Gene: Insomnia_24 Start: 16908, Stop: 17222, Start Num: 9

Candidate Starts for Insomnia_24:

(9, 16908), (19, 16983), (22, 17013), (25, 17031), (29, 17058), (38, 17178), (39, 17181),

Gene: JSwag_27 Start: 15383, Stop: 15838, Start Num: 7

Candidate Starts for JSwag_27:

(Start: 7 @15383 has 3 MA's), (10, 15419), (13, 15434), (20, 15515), (26, 15545), (27, 15557), (31, 15596), (33, 15635), (38, 15695), (41, 15725),

Gene: Kazan_28 Start: 16284, Stop: 16748, Start Num: 2

Candidate Starts for Kazan_28:

(Start: 2 @16284 has 9 MA's), (3, 16329), (Start: 7 @16398 has 3 MA's), (11, 16437), (Start: 12 @16446 has 1 MA's), (14, 16455), (21, 16533), (28, 16578), (35, 16692),

Gene: Kingmustik0402_24 Start: 15413, Stop: 15958, Start Num: 2

Candidate Starts for Kingmustik0402_24:

(Start: 2 @15413 has 9 MA's), (Start: 7 @15527 has 3 MA's), (16, 15605), (27, 15701), (29, 15710),

Gene: Koduck_25 Start: 15488, Stop: 15793, Start Num: 12

Candidate Starts for Koduck_25:

(Start: 12 @15488 has 1 MA's), (35, 15728), (36, 15734),

Gene: Kremtemulon_23 Start: 15469, Stop: 16014, Start Num: 2

Candidate Starts for Kremtemulon_23:

(Start: 2 @15469 has 9 MA's), (Start: 7 @15583 has 3 MA's), (16, 15661), (27, 15757), (29, 15766),

Gene: Landor_26 Start: 18027, Stop: 18359, Start Num: 8

Candidate Starts for Landor_26:

(Start: 7 @18015 has 3 MA's), (8, 18027), (13, 18066), (18, 18114), (22, 18153), (24, 18162), (28, 18195), (29, 18198), (35, 18306), (36, 18312),

Gene: LappelDuVide_23 Start: 15418, Stop: 15963, Start Num: 2

Candidate Starts for LappelDuVide_23:

(Start: 2 @15418 has 9 MA's), (Start: 7 @15532 has 3 MA's), (16, 15610), (27, 15706), (29, 15715),

Gene: LeoAvram_24 Start: 15418, Stop: 15963, Start Num: 2

Candidate Starts for LeoAvram_24:

(Start: 2 @15418 has 9 MA's), (Start: 7 @15532 has 3 MA's), (16, 15610), (27, 15706), (29, 15715),

Gene: Lilbunny_27 Start: 16261, Stop: 16722, Start Num: 2

Candidate Starts for Lilbunny_27:

(Start: 2 @16261 has 9 MA's), (3, 16306), (Start: 7 @16375 has 3 MA's), (11, 16414), (Start: 12 @16423 has 1 MA's), (14, 16432), (28, 16555), (35, 16666),

Gene: Marchy_21 Start: 15518, Stop: 15889, Start Num: 6

Candidate Starts for Marchy_21:

(Start: 6 @15518 has 5 MA's), (27, 15707), (37, 15839), (39, 15845),

Gene: Micasa_20 Start: 14921, Stop: 15208, Start Num: 15

Candidate Starts for Micasa_20:

(Start: 2 @14744 has 9 MA's), (15, 14921), (38, 15170), (39, 15173), (40, 15203),

Gene: Neeharika16_28 Start: 16316, Stop: 16735, Start Num: 3

Candidate Starts for Neeharika16_28:

(Start: 2 @16271 has 9 MA's), (3, 16316), (Start: 7 @16385 has 3 MA's), (11, 16424), (Start: 12 @16433 has 1 MA's), (14, 16442), (21, 16520), (28, 16565), (35, 16679),

Gene: NorthStar_24 Start: 15421, Stop: 15966, Start Num: 2

Candidate Starts for NorthStar_24:

(Start: 2 @15421 has 9 MA's), (Start: 7 @15535 has 3 MA's), (16, 15613), (27, 15709), (29, 15718),

Gene: Oofda_28 Start: 15368, Stop: 15823, Start Num: 7

Candidate Starts for Oofda_28:

(Start: 7 @15368 has 3 MA's), (10, 15404), (13, 15419), (20, 15500), (26, 15530), (27, 15542), (31, 15581), (33, 15620), (38, 15680), (41, 15710),

Gene: PP_34 Start: 21309, Stop: 21773, Start Num: 2

Candidate Starts for PP_34:

(Start: 2 @21309 has 9 MA's), (14, 21480), (17, 21513), (29, 21609), (39, 21735),

Gene: PSullivan_24 Start: 16419, Stop: 16820, Start Num: 4

Candidate Starts for PSullivan_24:

(1, 15957), (Start: 4 @16419 has 1 MA's), (Start: 6 @16449 has 5 MA's), (27, 16638), (37, 16770), (39, 16776),

Gene: Pawn_27 Start: 15710, Stop: 16057, Start Num: 6

Candidate Starts for Pawn_27:

(Start: 2 @15611 has 9 MA's), (Start: 6 @15710 has 5 MA's), (25, 15881), (28, 15905), (35, 16007),

Gene: Payneful_22 Start: 15518, Stop: 15889, Start Num: 6

Candidate Starts for Payneful_22:

(Start: 6 @15518 has 5 MA's), (27, 15707), (37, 15839), (39, 15845),

Gene: Pelly_24 Start: 16377, Stop: 16847, Start Num: 2

Candidate Starts for Pelly_24:

(Start: 2 @16377 has 9 MA's), (Start: 6 @16476 has 5 MA's), (27, 16665), (29, 16674), (32, 16740), (37, 16797), (39, 16803),

Gene: Petersenfast_24 Start: 16853, Stop: 17167, Start Num: 9

Candidate Starts for Petersenfast_24:

(9, 16853), (19, 16928), (22, 16958), (25, 16976), (29, 17003), (38, 17123), (39, 17126),

Gene: PhrostyMug_23 Start: 16015, Stop: 16386, Start Num: 6

Candidate Starts for PhrostyMug_23:

(Start: 6 @16015 has 5 MA's), (27, 16204), (37, 16336), (39, 16342),

Gene: QTRlifeCrisis_26 Start: 16318, Stop: 16788, Start Num: 2

Candidate Starts for QTRlifeCrisis_26:

(Start: 2 @16318 has 9 MA's), (Start: 4 @16387 has 1 MA's), (Start: 6 @16417 has 5 MA's), (27, 16606), (29, 16615), (32, 16681), (37, 16738), (39, 16744),

Gene: ResDef_25 Start: 15582, Stop: 16043, Start Num: 2

Candidate Starts for ResDef_25:

(Start: 2 @15582 has 9 MA's), (5, 15666), (10, 15732), (25, 15852), (28, 15876), (30, 15888), (38, 15993),

Gene: Sandaddy_22 Start: 15945, Stop: 16316, Start Num: 6

Candidate Starts for Sandaddy_22:

(Start: 6 @15945 has 5 MA's), (27, 16134), (32, 16209), (37, 16266), (39, 16272),

Gene: SaturnRing_24 Start: 15033, Stop: 15494, Start Num: 2

Candidate Starts for SaturnRing_24:

(Start: 2 @15033 has 9 MA's), (5, 15117), (Start: 6 @15132 has 5 MA's), (10, 15183), (25, 15303), (30, 15339), (38, 15444),

Gene: ShortQueendom_22 Start: 15905, Stop: 16276, Start Num: 6

Candidate Starts for ShortQueendom_22:

(Start: 6 @15905 has 5 MA's), (27, 16094), (32, 16169), (37, 16226), (39, 16232),

Gene: Snickers_26 Start: 15606, Stop: 15953, Start Num: 6

Candidate Starts for Snickers_26:

(Start: 2 @15507 has 9 MA's), (Start: 6 @15606 has 5 MA's), (25, 15777), (28, 15801), (35, 15903),

Gene: Sorpresa_22 Start: 15945, Stop: 16316, Start Num: 6

Candidate Starts for Sorpresa_22:

(Start: 6 @15945 has 5 MA's), (27, 16134), (32, 16209), (37, 16266), (39, 16272),

Gene: Spouty_25 Start: 16991, Stop: 17491, Start Num: 2

Candidate Starts for Spouty_25:

(Start: 2 @16991 has 9 MA's), (5, 17075), (Start: 6 @17090 has 5 MA's), (10, 17141), (21, 17240), (25, 17261), (28, 17285), (39, 17411),

Gene: StewieG_22 Start: 15788, Stop: 16159, Start Num: 6

Candidate Starts for StewieG_22:

(Start: 6 @15788 has 5 MA's), (27, 15977), (32, 16052), (37, 16109), (39, 16115),

Gene: SwirlSquare_27 Start: 15091, Stop: 15450, Start Num: 7

Candidate Starts for SwirlSquare_27:

(Start: 7 @15091 has 3 MA's), (Start: 12 @15139 has 1 MA's), (35, 15385), (36, 15391),

Gene: Swole_25 Start: 16419, Stop: 16820, Start Num: 4

Candidate Starts for Swole_25:

(Start: 4 @16419 has 1 MA's), (27, 16638), (37, 16770), (39, 16776),

Gene: Teodoridan_21 Start: 15353, Stop: 15724, Start Num: 6

Candidate Starts for Teodoridan_21:

(Start: 6 @15353 has 5 MA's), (27, 15542), (32, 15617), (37, 15674), (39, 15680),

Gene: TinyTimmy_24 Start: 16893, Stop: 17207, Start Num: 9

Candidate Starts for TinyTimmy_24:

(9, 16893), (19, 16968), (22, 16998), (25, 17016), (29, 17043), (38, 17163), (39, 17166),

Gene: TwoPeat_23 Start: 16239, Stop: 16610, Start Num: 6

Candidate Starts for TwoPeat_23:

(Start: 6 @16239 has 5 MA's), (27, 16428), (37, 16560), (39, 16566),

Gene: U2_23 Start: 16127, Stop: 16498, Start Num: 6

Candidate Starts for U2_23:

(Start: 6 @16127 has 5 MA's), (27, 16316), (37, 16448), (39, 16454),

Gene: WeiHuaDA_31 Start: 18580, Stop: 18891, Start Num: 12

Candidate Starts for WeiHuaDA_31:

(Start: 12 @18580 has 1 MA's), (25, 18688), (28, 18712), (29, 18715), (35, 18826), (36, 18832),