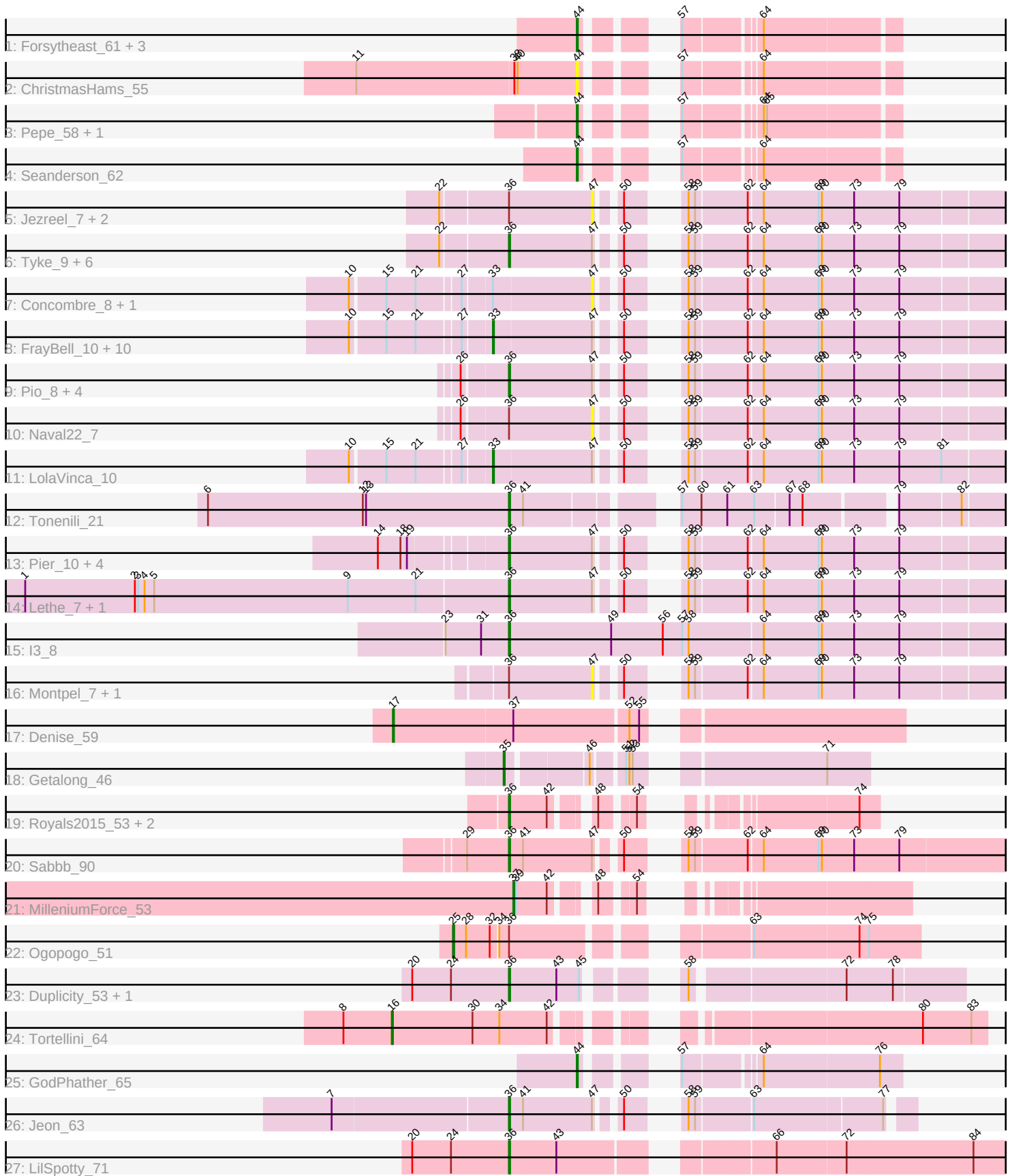


Pham 280441



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 280441 Report

This analysis was run 02/07/26 on database version 634.

Pham number 280441 has 63 members, 13 are drafts.

Phages represented in each track:

- Track 1 : Forsytheast_61, Moose_61, Bruns_61, SwissCheese_63
- Track 2 : ChristmasHams_55
- Track 3 : Pepe_58, SkiPole_67
- Track 4 : Seanderson_62
- Track 5 : Jezreel_7, LookingGlass_7, Rocha_7
- Track 6 : Tyke_9, Mikro_7, Bxz1_7, Kamryn_7, DTDevon_9, NoodleTree_7, Drazdys_9
- Track 7 : Concombre_8, Demodog_7
- Track 8 : FrayBell_10, JigglyPuff_8, JayJay_9, PharkleMinkus_10, LordLeafolot_10, InterFolia_10, Specks_10, Tainan_10, LinStu_9, Pupusa_10, Sebata_9
- Track 9 : Pio_8, Sauce_7, Spud_8, MoMoMixon_7, Nidhogg_7
- Track 10 : Naval22_7
- Track 11 : LolaVinca_10
- Track 12 : Tonenili_21
- Track 13 : Pier_10, StephanieG_9, Astraea_9, Dandelion_10, NuevoMundo_9
- Track 14 : Lethe_7, Bigswole_6
- Track 15 : l3_8
- Track 16 : Montpel_7, Lunareta_7
- Track 17 : Denise_59
- Track 18 : Getalong_46
- Track 19 : Royals2015_53, ArcusAngelus_54, Chevrolet_57
- Track 20 : Sabbb_90
- Track 21 : MilleniumForce_53
- Track 22 : Ogopogo_51
- Track 23 : Duplicity_53, Melville_59
- Track 24 : Tortellini_64
- Track 25 : GodPhather_65
- Track 26 : Jeon_63
- Track 27 : LilSpotty_71

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

The start number called the most often in the published annotations is 36, it was called in 29 of the 50 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ArcusAngelus_54, Astraea_9, Bigswole_6, Bxz1_7, Chevrolet_57, DTDevon_9, Dandelion_10, Drazdys_9, Duplicity_53, I3_8, Jeon_63, Kamryn_7, Lethe_7, LilSpotty_71, Melville_59, Mikro_7, MoMoMixon_7, Nidhogg_7, NoodleTree_7, NuevoMundo_9, Pier_10, Pio_8, Royals2015_53, Sabbb_90, Sauce_7, Spud_8, StephanieG_9, Tonenili_21, Tyke_9,

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

- Jezreel_7, LookingGlass_7, Lunareta_7, Montpel_7, Naval22_7, Ogopogo_51, Rocha_7,

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

- Bruns_61, ChristmasHams_55, Concombre_8, Demodog_7, Denise_59, Forsytheast_61, FrayBell_10, Getalong_46, GodPhather_65, InterFolia_10, JayJay_9, JigglyPuff_8, LinStu_9, LolaVinca_10, LordLeafolot_10, MilleniumForce_53, Moose_61, Pepe_58, PharkleMinkus_10, Pupusa_10, Seanderson_62, Sebata_9, SkiPole_67, Specks_10, SwissCheese_63, Tainan_10, Tortellini_64,

Summary by start number:

Start 16:

- Found in 1 of 63 (1.6%) of genes in pham
- Manual Annotations of this start: 1 of 50
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Tortellini_64 (P2),

Start 17:

- Found in 1 of 63 (1.6%) of genes in pham
- Manual Annotations of this start: 1 of 50
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Denise_59 (CZ5),

Start 25:

- Found in 1 of 63 (1.6%) of genes in pham
- Manual Annotations of this start: 1 of 50
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ogopogo_51 (F1),

Start 33:

- Found in 14 of 63 (22.2%) of genes in pham
- Manual Annotations of this start: 8 of 50
- Called 85.7% of time when present
- Phage (with cluster) where this start called: FrayBell_10 (C1), InterFolia_10 (C1), JayJay_9 (C1), JigglyPuff_8 (C1), LinStu_9 (C1), LolaVinca_10 (C1), LordLeafolot_10 (C1), PharkleMinkus_10 (C1), Pupusa_10 (C1), Sebata_9 (C1), Specks_10 (C1), Tainan_10 (C1),

Start 35:

- Found in 1 of 63 (1.6%) of genes in pham
- Manual Annotations of this start: 1 of 50
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Getalong_46 (DN1),

Start 36:

- Found in 36 of 63 (57.1%) of genes in pham
- Manual Annotations of this start: 29 of 50
- Called 80.6% of time when present
- Phage (with cluster) where this start called: ArcusAngelus_54 (F1), Astraea_9 (C1), Bigswole_6 (C1), Bxz1_7 (C1), Chevrolet_57 (F1), DTDevon_9 (C1), Dandelion_10 (C1), Drazdys_9 (C1), Duplicity_53 (N), I3_8 (C1), Jeon_63 (W), Kamryn_7 (C1), Lethe_7 (C1), LilSpotty_71 (singleton), Melville_59 (N), Mikro_7 (C1), MoMoMixon_7 (C1), Nidhogg_7 (C1), NoodleTree_7 (C1), NuevoMundo_9 (C1), Pier_10 (C1), Pio_8 (C1), Royals2015_53 (F1), Sabb_90 (F1), Sauce_7 (C1), Spud_8 (C1), StephanieG_9 (C1), Tonenili_21 (C1), Tyke_9 (C1),

Start 37:

- Found in 2 of 63 (3.2%) 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: MilleniumForce_53 (F1),

Start 44:

- Found in 9 of 63 (14.3%) 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: Bruns_61 (A1), ChristmasHams_55 (A1), Forsytheast_61 (A1), GodPhather_65 (W), Moose_61 (A1), Pepe_58 (A1), Seanderson_62 (A1), SkiPole_67 (A1), SwissCheese_63 (A1),

Start 47:

- Found in 41 of 63 (65.1%) of genes in pham
- No Manual Annotations of this start.
- Called 19.5% of time when present
- Phage (with cluster) where this start called: Concombre_8 (C1), Demodog_7 (C1), Jezreel_7 (C1), LookingGlass_7 (C1), Lunareta_7 (C1), Montpel_7 (C1), Naval22_7 (C1), Rocha_7 (C1),

Summary by clusters:

There are 9 clusters represented in this pham: P2, F1, singleton, N, A1, DN1, W, C1, CZ5,

Info for manual annotations of cluster A1:

- Start number 44 was manually annotated 7 times for cluster A1.

Info for manual annotations of cluster C1:

- Start number 33 was manually annotated 8 times for cluster C1.
- Start number 36 was manually annotated 21 times for cluster C1.

Info for manual annotations of cluster CZ5:

- Start number 17 was manually annotated 1 time for cluster CZ5.

Info for manual annotations of cluster DN1:

- Start number 35 was manually annotated 1 time for cluster DN1.

Info for manual annotations of cluster F1:

- Start number 25 was manually annotated 1 time for cluster F1.
- Start number 36 was manually annotated 4 times for cluster F1.
- Start number 37 was manually annotated 1 time for cluster F1.

Info for manual annotations of cluster N:

- Start number 36 was manually annotated 2 times for cluster N.

Info for manual annotations of cluster P2:

- Start number 16 was manually annotated 1 time for cluster P2.

Info for manual annotations of cluster W:

- Start number 36 was manually annotated 1 time for cluster W.
- Start number 44 was manually annotated 1 time for cluster W.

Gene Information:

Gene: ArcusAngelus_54 Start: 38017, Stop: 38256, Start Num: 36

Candidate Starts for ArcusAngelus_54:

(Start: 36 @38017 has 29 MA's), (42, 38050), (48, 38077), (54, 38101), (74, 38239),

Gene: Astraea_9 Start: 2499, Stop: 2930, Start Num: 36

Candidate Starts for Astraea_9:

(14, 2394), (18, 2415), (19, 2421), (Start: 36 @2499 has 29 MA's), (47, 2574), (50, 2589), (58, 2616), (59, 2622), (62, 2667), (64, 2679), (69, 2730), (70, 2733), (73, 2763), (79, 2805),

Gene: Bigswole_6 Start: 2050, Stop: 2481, Start Num: 36

Candidate Starts for Bigswole_6:

(1, 1606), (2, 1708), (3, 1711), (4, 1717), (5, 1726), (9, 1906), (21, 1969), (Start: 36 @2050 has 29 MA's), (47, 2125), (50, 2140), (58, 2167), (59, 2173), (62, 2218), (64, 2230), (69, 2281), (70, 2284), (73, 2314), (79, 2356),

Gene: Bruns_61 Start: 39972, Stop: 39745, Start Num: 44

Candidate Starts for Bruns_61:

(Start: 44 @39972 has 8 MA's), (57, 39924), (64, 39864),

Gene: Bxz1_7 Start: 2148, Stop: 2579, Start Num: 36

Candidate Starts for Bxz1_7:

(22, 2091), (Start: 36 @2148 has 29 MA's), (47, 2223), (50, 2238), (58, 2265), (59, 2271), (62, 2316), (64, 2328), (69, 2379), (70, 2382), (73, 2412), (79, 2454),

Gene: Chevrolet_57 Start: 38018, Stop: 38257, Start Num: 36

Candidate Starts for Chevrolet_57:

(Start: 36 @38018 has 29 MA's), (42, 38051), (48, 38078), (54, 38102), (74, 38240),

Gene: ChristmasHams_55 Start: 38539, Stop: 38312, Start Num: 44

Candidate Starts for ChristmasHams_55:

(11, 38740), (38, 38596), (40, 38593), (Start: 44 @38539 has 8 MA's), (57, 38491), (64, 38431),

Gene: Concombres_8 Start: 2242, Stop: 2598, Start Num: 47

Candidate Starts for Concombres_8:

(10, 2038), (15, 2068), (21, 2095), (27, 2131), (Start: 33 @2155 has 8 MA's), (47, 2242), (50, 2257), (58, 2284), (59, 2290), (62, 2335), (64, 2347), (69, 2398), (70, 2401), (73, 2431), (79, 2473),

Gene: DTDevon_9 Start: 2817, Stop: 3251, Start Num: 36

Candidate Starts for DTDevon_9:

(22, 2760), (Start: 36 @2817 has 29 MA's), (47, 2892), (50, 2907), (58, 2934), (59, 2940), (62, 2985), (64, 2997), (69, 3048), (70, 3051), (73, 3081), (79, 3123),

Gene: Dandelion_10 Start: 3168, Stop: 3599, Start Num: 36

Candidate Starts for Dandelion_10:

(14, 3063), (18, 3084), (19, 3090), (Start: 36 @3168 has 29 MA's), (47, 3243), (50, 3258), (58, 3285), (59, 3291), (62, 3336), (64, 3348), (69, 3399), (70, 3402), (73, 3432), (79, 3474),

Gene: Demodog_7 Start: 2242, Stop: 2598, Start Num: 47

Candidate Starts for Demodog_7:

(10, 2038), (15, 2068), (21, 2095), (27, 2131), (Start: 33 @2155 has 8 MA's), (47, 2242), (50, 2257), (58, 2284), (59, 2290), (62, 2335), (64, 2347), (69, 2398), (70, 2401), (73, 2431), (79, 2473),

Gene: Denise_59 Start: 37230, Stop: 37658, Start Num: 17

Candidate Starts for Denise_59:

(Start: 17 @37230 has 1 MA's), (Start: 37 @37338 has 1 MA's), (52, 37440), (55, 37449),

Gene: Drazdys_9 Start: 2817, Stop: 3251, Start Num: 36

Candidate Starts for Drazdys_9:

(22, 2760), (Start: 36 @2817 has 29 MA's), (47, 2892), (50, 2907), (58, 2934), (59, 2940), (62, 2985), (64, 2997), (69, 3048), (70, 3051), (73, 3081), (79, 3123),

Gene: Duplicity_53 Start: 35954, Stop: 36301, Start Num: 36

Candidate Starts for Duplicity_53:

(20, 35864), (24, 35900), (Start: 36 @35954 has 29 MA's), (43, 35996), (45, 36017), (58, 36068), (72, 36197), (78, 36239),

Gene: Forsytheast_61 Start: 40140, Stop: 39913, Start Num: 44

Candidate Starts for Forsytheast_61:

(Start: 44 @40140 has 8 MA's), (57, 40092), (64, 40032),

Gene: FrayBell_10 Start: 2978, Stop: 3421, Start Num: 33

Candidate Starts for FrayBell_10:

(10, 2861), (15, 2891), (21, 2918), (27, 2954), (Start: 33 @2978 has 8 MA's), (47, 3065), (50, 3080), (58, 3107), (59, 3113), (62, 3158), (64, 3170), (69, 3221), (70, 3224), (73, 3254), (79, 3296),

Gene: Getalong_46 Start: 32723, Stop: 33001, Start Num: 35

Candidate Starts for Getalong_46:

(Start: 35 @32723 has 1 MA's), (46, 32789), (51, 32813), (52, 32816), (53, 32819), (71, 32963),

Gene: GodPhather_65 Start: 49176, Stop: 49409, Start Num: 44

Candidate Starts for GodPhather_65:

(Start: 44 @49176 has 8 MA's), (57, 49224), (64, 49284), (76, 49389),

Gene: I3_8 Start: 2847, Stop: 3332, Start Num: 36

Candidate Starts for I3_8:

(23, 2790), (31, 2823), (Start: 36 @2847 has 29 MA's), (49, 2940), (56, 2988), (57, 3006), (58, 3012), (64, 3078), (69, 3129), (70, 3132), (73, 3162), (79, 3204),

Gene: InterFolia_10 Start: 2977, Stop: 3420, Start Num: 33

Candidate Starts for InterFolia_10:

(10, 2860), (15, 2890), (21, 2917), (27, 2953), (Start: 33 @2977 has 8 MA's), (47, 3064), (50, 3079), (58, 3106), (59, 3112), (62, 3157), (64, 3169), (69, 3220), (70, 3223), (73, 3253), (79, 3295),

Gene: JayJay_9 Start: 2506, Stop: 2949, Start Num: 33

Candidate Starts for JayJay_9:

(10, 2389), (15, 2419), (21, 2446), (27, 2482), (Start: 33 @2506 has 8 MA's), (47, 2593), (50, 2608), (58, 2635), (59, 2641), (62, 2686), (64, 2698), (69, 2749), (70, 2752), (73, 2782), (79, 2824),

Gene: Jeon_63 Start: 48868, Stop: 49173, Start Num: 36

Candidate Starts for Jeon_63:

(7, 48709), (Start: 36 @48868 has 29 MA's), (41, 48880), (47, 48943), (50, 48958), (58, 48985), (59, 48991), (63, 49039), (77, 49153),

Gene: Jezreel_7 Start: 2223, Stop: 2579, Start Num: 47

Candidate Starts for Jezreel_7:

(22, 2091), (Start: 36 @2148 has 29 MA's), (47, 2223), (50, 2238), (58, 2265), (59, 2271), (62, 2316), (64, 2328), (69, 2379), (70, 2382), (73, 2412), (79, 2454),

Gene: JigglyPuff_8 Start: 2522, Stop: 2965, Start Num: 33

Candidate Starts for JigglyPuff_8:

(10, 2405), (15, 2435), (21, 2462), (27, 2498), (Start: 33 @2522 has 8 MA's), (47, 2609), (50, 2624), (58, 2651), (59, 2657), (62, 2702), (64, 2714), (69, 2765), (70, 2768), (73, 2798), (79, 2840),

Gene: Kamryn_7 Start: 2148, Stop: 2579, Start Num: 36

Candidate Starts for Kamryn_7:

(22, 2091), (Start: 36 @2148 has 29 MA's), (47, 2223), (50, 2238), (58, 2265), (59, 2271), (62, 2316), (64, 2328), (69, 2379), (70, 2382), (73, 2412), (79, 2454),

Gene: Lethe_7 Start: 2050, Stop: 2481, Start Num: 36

Candidate Starts for Lethe_7:

(1, 1606), (2, 1708), (3, 1711), (4, 1717), (5, 1726), (9, 1906), (21, 1969), (Start: 36 @2050 has 29 MA's), (47, 2125), (50, 2140), (58, 2167), (59, 2173), (62, 2218), (64, 2230), (69, 2281), (70, 2284), (73, 2314), (79, 2356),

Gene: LilSpotty_71 Start: 43082, Stop: 43513, Start Num: 36

Candidate Starts for LilSpotty_71:

(20, 42992), (24, 43028), (Start: 36 @43082 has 29 MA's), (43, 43124), (66, 43286), (72, 43349), (84, 43466),

Gene: LinStu_9 Start: 3505, Stop: 3948, Start Num: 33

Candidate Starts for LinStu_9:

(10, 3388), (15, 3418), (21, 3445), (27, 3481), (Start: 33 @3505 has 8 MA's), (47, 3592), (50, 3607), (58, 3634), (59, 3640), (62, 3685), (64, 3697), (69, 3748), (70, 3751), (73, 3781), (79, 3823),

Gene: LolaVince_10 Start: 2977, Stop: 3399, Start Num: 33

Candidate Starts for LolaVince_10:

(10, 2860), (15, 2890), (21, 2917), (27, 2953), (Start: 33 @2977 has 8 MA's), (47, 3064), (50, 3079), (58, 3106), (59, 3112), (62, 3157), (64, 3169), (69, 3220), (70, 3223), (73, 3253), (79, 3295), (81, 3334),

Gene: LookingGlass_7 Start: 2223, Stop: 2579, Start Num: 47

Candidate Starts for LookingGlass_7:

(22, 2091), (Start: 36 @2148 has 29 MA's), (47, 2223), (50, 2238), (58, 2265), (59, 2271), (62, 2316), (64, 2328), (69, 2379), (70, 2382), (73, 2412), (79, 2454),

Gene: LordLeafolot_10 Start: 2977, Stop: 3420, Start Num: 33

Candidate Starts for LordLeafolot_10:

(10, 2860), (15, 2890), (21, 2917), (27, 2953), (Start: 33 @2977 has 8 MA's), (47, 3064), (50, 3079), (58, 3106), (59, 3112), (62, 3157), (64, 3169), (69, 3220), (70, 3223), (73, 3253), (79, 3295),

Gene: Lunareta_7 Start: 2252, Stop: 2608, Start Num: 47

Candidate Starts for Lunareta_7:

(Start: 36 @2177 has 29 MA's), (47, 2252), (50, 2267), (58, 2294), (59, 2300), (62, 2345), (64, 2357), (69, 2408), (70, 2411), (73, 2441), (79, 2483),

Gene: Melville_59 Start: 36268, Stop: 36615, Start Num: 36

Candidate Starts for Melville_59:

(20, 36178), (24, 36214), (Start: 36 @36268 has 29 MA's), (43, 36310), (45, 36331), (58, 36382), (72, 36511), (78, 36553),

Gene: Mikro_7 Start: 3147, Stop: 3578, Start Num: 36

Candidate Starts for Mikro_7:

(22, 3090), (Start: 36 @3147 has 29 MA's), (47, 3222), (50, 3237), (58, 3264), (59, 3270), (62, 3315), (64, 3327), (69, 3378), (70, 3381), (73, 3411), (79, 3453),

Gene: MilleniumForce_53 Start: 38559, Stop: 38825, Start Num: 37

Candidate Starts for MilleniumForce_53:

(Start: 37 @38559 has 1 MA's), (39, 38562), (42, 38589), (48, 38616), (54, 38640),

Gene: MoMoMixon_7 Start: 2383, Stop: 2814, Start Num: 36

Candidate Starts for MoMoMixon_7:

(26, 2347), (Start: 36 @2383 has 29 MA's), (47, 2458), (50, 2473), (58, 2500), (59, 2506), (62, 2551), (64, 2563), (69, 2614), (70, 2617), (73, 2647), (79, 2689),

Gene: Montpel_7 Start: 2252, Stop: 2608, Start Num: 47

Candidate Starts for Montpel_7:

(Start: 36 @2177 has 29 MA's), (47, 2252), (50, 2267), (58, 2294), (59, 2300), (62, 2345), (64, 2357), (69, 2408), (70, 2411), (73, 2441), (79, 2483),

Gene: Moose_61 Start: 40140, Stop: 39913, Start Num: 44

Candidate Starts for Moose_61:

(Start: 44 @40140 has 8 MA's), (57, 40092), (64, 40032),

Gene: Naval22_7 Start: 2458, Stop: 2814, Start Num: 47

Candidate Starts for Naval22_7:

(26, 2347), (Start: 36 @2383 has 29 MA's), (47, 2458), (50, 2473), (58, 2500), (59, 2506), (62, 2551), (64, 2563), (69, 2614), (70, 2617), (73, 2647), (79, 2689),

Gene: Nidhogg_7 Start: 2383, Stop: 2814, Start Num: 36

Candidate Starts for Nidhogg_7:

(26, 2347), (Start: 36 @2383 has 29 MA's), (47, 2458), (50, 2473), (58, 2500), (59, 2506), (62, 2551), (64, 2563), (69, 2614), (70, 2617), (73, 2647), (79, 2689),

Gene: NoodleTree_7 Start: 2148, Stop: 2579, Start Num: 36

Candidate Starts for NoodleTree_7:

(22, 2091), (Start: 36 @2148 has 29 MA's), (47, 2223), (50, 2238), (58, 2265), (59, 2271), (62, 2316), (64, 2328), (69, 2379), (70, 2382), (73, 2412), (79, 2454),

Gene: NuevoMundo_9 Start: 2841, Stop: 3272, Start Num: 36

Candidate Starts for NuevoMundo_9:

(14, 2736), (18, 2757), (19, 2763), (Start: 36 @2841 has 29 MA's), (47, 2916), (50, 2931), (58, 2958), (59, 2964), (62, 3009), (64, 3021), (69, 3072), (70, 3075), (73, 3105), (79, 3147),

Gene: Ogopogo_51 Start: 36143, Stop: 36514, Start Num: 25

Candidate Starts for Ogopogo_51:

(Start: 25 @36143 has 1 MA's), (28, 36155), (32, 36176), (34, 36182), (Start: 36 @36191 has 29 MA's), (63, 36362), (74, 36458), (75, 36467),

Gene: Pepe_58 Start: 39571, Stop: 39344, Start Num: 44

Candidate Starts for Pepe_58:

(Start: 44 @39571 has 8 MA's), (57, 39523), (64, 39463), (65, 39460),

Gene: PharkleMinkus_10 Start: 2978, Stop: 3421, Start Num: 33

Candidate Starts for PharkleMinkus_10:

(10, 2861), (15, 2891), (21, 2918), (27, 2954), (Start: 33 @2978 has 8 MA's), (47, 3065), (50, 3080), (58, 3107), (59, 3113), (62, 3158), (64, 3170), (69, 3221), (70, 3224), (73, 3254), (79, 3296),

Gene: Pier_10 Start: 2844, Stop: 3275, Start Num: 36

Candidate Starts for Pier_10:

(14, 2739), (18, 2760), (19, 2766), (Start: 36 @2844 has 29 MA's), (47, 2919), (50, 2934), (58, 2961), (59, 2967), (62, 3012), (64, 3024), (69, 3075), (70, 3078), (73, 3108), (79, 3150),

Gene: Pio_8 Start: 2537, Stop: 2968, Start Num: 36

Candidate Starts for Pio_8:

(26, 2501), (Start: 36 @2537 has 29 MA's), (47, 2612), (50, 2627), (58, 2654), (59, 2660), (62, 2705), (64, 2717), (69, 2768), (70, 2771), (73, 2801), (79, 2843),

Gene: Pupusa_10 Start: 2977, Stop: 3420, Start Num: 33

Candidate Starts for Pupusa_10:

(10, 2860), (15, 2890), (21, 2917), (27, 2953), (Start: 33 @2977 has 8 MA's), (47, 3064), (50, 3079), (58, 3106), (59, 3112), (62, 3157), (64, 3169), (69, 3220), (70, 3223), (73, 3253), (79, 3295),

Gene: Rocha_7 Start: 2220, Stop: 2576, Start Num: 47

Candidate Starts for Rocha_7:

(22, 2088), (Start: 36 @2145 has 29 MA's), (47, 2220), (50, 2235), (58, 2262), (59, 2268), (62, 2313), (64, 2325), (69, 2376), (70, 2379), (73, 2409), (79, 2451),

Gene: Royals2015_53 Start: 36891, Stop: 37130, Start Num: 36

Candidate Starts for Royals2015_53:

(Start: 36 @36891 has 29 MA's), (42, 36924), (48, 36951), (54, 36975), (74, 37113),

Gene: Sabbb_90 Start: 48794, Stop: 49228, Start Num: 36

Candidate Starts for Sabbb_90:

(29, 48755), (Start: 36 @48794 has 29 MA's), (41, 48806), (47, 48869), (50, 48884), (58, 48911), (59, 48917), (62, 48962), (64, 48974), (69, 49025), (70, 49028), (73, 49058), (79, 49100),

Gene: Sauce_7 Start: 2387, Stop: 2818, Start Num: 36

Candidate Starts for Sauce_7:

(26, 2351), (Start: 36 @2387 has 29 MA's), (47, 2462), (50, 2477), (58, 2504), (59, 2510), (62, 2555), (64, 2567), (69, 2618), (70, 2621), (73, 2651), (79, 2693),

Gene: Seanderson_62 Start: 42352, Stop: 42125, Start Num: 44

Candidate Starts for Seanderson_62:

(Start: 44 @42352 has 8 MA's), (57, 42304), (64, 42244),

Gene: Sebata_9 Start: 3505, Stop: 3948, Start Num: 33

Candidate Starts for Sebata_9:

(10, 3388), (15, 3418), (21, 3445), (27, 3481), (Start: 33 @3505 has 8 MA's), (47, 3592), (50, 3607), (58, 3634), (59, 3640), (62, 3685), (64, 3697), (69, 3748), (70, 3751), (73, 3781), (79, 3823),

Gene: SkiPole_67 Start: 41615, Stop: 41388, Start Num: 44

Candidate Starts for SkiPole_67:

(Start: 44 @41615 has 8 MA's), (57, 41567), (64, 41507), (65, 41504),

Gene: Specks_10 Start: 2977, Stop: 3420, Start Num: 33

Candidate Starts for Specks_10:

(10, 2860), (15, 2890), (21, 2917), (27, 2953), (Start: 33 @2977 has 8 MA's), (47, 3064), (50, 3079), (58, 3106), (59, 3112), (62, 3157), (64, 3169), (69, 3220), (70, 3223), (73, 3253), (79, 3295),

Gene: Spud_8 Start: 2537, Stop: 2968, Start Num: 36

Candidate Starts for Spud_8:

(26, 2501), (Start: 36 @2537 has 29 MA's), (47, 2612), (50, 2627), (58, 2654), (59, 2660), (62, 2705), (64, 2717), (69, 2768), (70, 2771), (73, 2801), (79, 2843),

Gene: StephanieG_9 Start: 2844, Stop: 3275, Start Num: 36

Candidate Starts for StephanieG_9:

(14, 2739), (18, 2760), (19, 2766), (Start: 36 @2844 has 29 MA's), (47, 2919), (50, 2934), (58, 2961), (59, 2967), (62, 3012), (64, 3024), (69, 3075), (70, 3078), (73, 3108), (79, 3150),

Gene: SwissCheese_63 Start: 40640, Stop: 40413, Start Num: 44

Candidate Starts for SwissCheese_63:

(Start: 44 @40640 has 8 MA's), (57, 40592), (64, 40532),

Gene: Tainan_10 Start: 2977, Stop: 3420, Start Num: 33

Candidate Starts for Tainan_10:

(10, 2860), (15, 2890), (21, 2917), (27, 2953), (Start: 33 @2977 has 8 MA's), (47, 3064), (50, 3079), (58, 3106), (59, 3112), (62, 3157), (64, 3169), (69, 3220), (70, 3223), (73, 3253), (79, 3295),

Gene: Tonenili_21 Start: 6415, Stop: 6846, Start Num: 36

Candidate Starts for Tonenili_21:

(6, 6136), (12, 6280), (13, 6283), (Start: 36 @6415 has 29 MA's), (41, 6427), (57, 6535), (60, 6553), (61, 6577), (63, 6601), (67, 6631), (68, 6643), (79, 6715), (82, 6769),

Gene: Tortellini_64 Start: 43747, Stop: 44214, Start Num: 16

Candidate Starts for Tortellini_64:

(8, 43702), (Start: 16 @43747 has 1 MA's), (30, 43822), (34, 43846), (42, 43888), (80, 44155), (83, 44200),

Gene: Tyke_9 Start: 2817, Stop: 3251, Start Num: 36

Candidate Starts for Tyke_9:

(22, 2760), (Start: 36 @2817 has 29 MA's), (47, 2892), (50, 2907), (58, 2934), (59, 2940), (62, 2985),
(64, 2997), (69, 3048), (70, 3051), (73, 3081), (79, 3123),