

Pham 283739



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 283739 Report

This analysis was run 02/23/26 on database version 636.

Pham number 283739 has 77 members, 16 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, Mikro_7, Bxz1_7, Kamryn_7, DTDevon_9, Tyke_9, Drazdys_9, NoodleTree_7
- Track 6 : Concombre_8, Demodog_7
- Track 7 : FrayBell_10, JigglyPuff_8, JayJay_9, PharkleMinkus_10, LordLeafolot_10, Pupusa_10, InterFolia_10, Specks_10, Tainan_10, LinStu_9, Sebata_9
- Track 8 : Pio_8, Sauce_7, Spud_8, MoMoMixon_7, Nidhogg_7
- Track 9 : Naval22_7
- Track 10 : LolaVinca_10
- Track 11 : Tonenili_21
- Track 12 : Maturis_8, Montpel_7, Lunareta_7
- Track 13 : LookingGlass_7, Rocha_7
- Track 14 : l3_8
- Track 15 : StephanieG_9, Astraea_9, Pier_10, Dandelion_10, NuevoMundo_9
- Track 16 : Lethe_7, Bigswole_6
- Track 17 : Denise_59
- Track 18 : Getalong_46
- Track 19 : Bubbles123_77, Shauna1_82
- Track 20 : Royals2015_53, ArcusAngelus_54, Chevrolet_57
- Track 21 : Sabbb_90
- Track 22 : MilleniumForce_53
- Track 23 : Ogopogo_51
- Track 24 : Che8_53
- Track 25 : Che9d_92
- Track 26 : KashFlow_67
- Track 27 : Shaboozey_65, Hannaconda_69, BronnyJames_66, Aubs_83, Donkeykong_89, SuperGrey_83
- Track 28 : Nekros_71, Kenuha5_78
- Track 29 : Duplicity_53, Melville_59
- Track 30 : Tortellini_64
- Track 31 : GodPhather_65
- Track 32 : Jeon_63
- Track 33 : 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 35, it was called in 31 of the 61 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ArcusAngelus_54, Astraea_9, Bigswole_6, Bxz1_7, Che8_53, Chevrolet_57, DTDevon_9, Dandelion_10, Drazdys_9, Duplicity_53, I3_8, Jeon_63, Jezreel_7, 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:

- LookingGlass_7, Lunareta_7, Maturis_8, Montpel_7, Naval22_7, Ogoopogo_51, Rocha_7,

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

- Aubs_83, BronnyJames_66, Bruns_61, Bubbles123_77, Che9d_92, ChristmasHams_55, Concombre_8, Demodog_7, Denise_59, Donkeykong_89, Forsytheast_61, FrayBell_10, Getalong_46, GodPhather_65, Hannaconda_69, InterFolia_10, JayJay_9, JigglyPuff_8, KashFlow_67, Kenuha5_78, LinStu_9, LolaVince_10, LordLeafolot_10, MilleniumForce_53, Moose_61, Nekros_71, Pepe_58, PharkleMinkus_10, Pupusa_10, Seanderson_62, Sebata_9, Shaboozey_65, Shauna1_82, SkiPole_67, Specks_10, SuperGrey_83, SwissCheese_63, Tainan_10, Tortellini_64,

Summary by start number:

Start 15:

- Found in 1 of 77 (1.3%) of genes in pham
- Manual Annotations of this start: 1 of 61
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Tortellini_64 (P2),

Start 17:

- Found in 3 of 77 (3.9%) of genes in pham
- Manual Annotations of this start: 1 of 61
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Denise_59 (CZ5),

Start 20:

- Found in 11 of 77 (14.3%) of genes in pham
- Manual Annotations of this start: 8 of 61
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aubs_83 (F1), BronnyJames_66 (J), Bubbles123_77 (F1), Donkeykong_89 (F1), Hannaconda_69 (J), KashFlow_67 (J), Kenuha5_78 (F1), Nekros_71 (J), Shaboozey_65 (J), Shauna1_82 (F1), SuperGrey_83 (F1),

Start 26:

- Found in 1 of 77 (1.3%) of genes in pham
- Manual Annotations of this start: 1 of 61
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ogopogo_51 (F1),

Start 33:

- Found in 15 of 77 (19.5%) of genes in pham
- Manual Annotations of this start: 9 of 61
- Called 86.7% of time when present
- Phage (with cluster) where this start called: Che9d_92 (F2), 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 38 of 77 (49.4%) of genes in pham
- Manual Annotations of this start: 31 of 61
- Called 81.6% of time when present
- Phage (with cluster) where this start called: ArcusAngelus_54 (F1), Astraea_9 (C1), Bigswole_6 (C1), Bxz1_7 (C1), Che8_53 (F1), Chevrolet_57 (F1), DTDevon_9 (C1), Dandelion_10 (C1), Drazdys_9 (C1), Duplicity_53 (N), I3_8 (C1), Jeon_63 (W), Jezreel_7 (C1), 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), Sabbb_90 (F1), Sauce_7 (C1), Spud_8 (C1), StephanieG_9 (C1), Tonenili_21 (C1), Tyke_9 (C1),

Start 36:

- Found in 1 of 77 (1.3%) of genes in pham
- Manual Annotations of this start: 1 of 61
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MilleniumForce_53 (F1),

Start 37:

- Found in 2 of 77 (2.6%) of genes in pham
- Manual Annotations of this start: 1 of 61
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Getalong_46 (DN1),

Start 46:

- Found in 51 of 77 (66.2%) of genes in pham
- Manual Annotations of this start: 8 of 61
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Bruns_61 (A1), ChristmasHams_55 (A1), Concombre_8 (C1), Demodog_7 (C1), Forsytheast_61 (A1), GodPhather_65 (W), LookingGlass_7 (C1), Lunareta_7 (C1), Maturis_8 (C1), Montpel_7 (C1), Moose_61 (A1), Naval22_7 (C1), Pepe_58 (A1), Rocha_7 (C1), Seanderson_62 (A1), SkiPole_67 (A1), SwissCheese_63 (A1),

Summary by clusters:

There are 11 clusters represented in this pham: P2, F1, F2, J, singleton, N, A1, DN1, W, C1, CZ5,

Info for manual annotations of cluster A1:

- Start number 46 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 35 was manually annotated 22 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 37 was manually annotated 1 time for cluster DN1.

Info for manual annotations of cluster F1:

- Start number 20 was manually annotated 6 times for cluster F1.
- Start number 26 was manually annotated 1 time for cluster F1.
- Start number 35 was manually annotated 5 times for cluster F1.
- Start number 36 was manually annotated 1 time for cluster F1.

Info for manual annotations of cluster F2:

- Start number 33 was manually annotated 1 time for cluster F2.

Info for manual annotations of cluster J:

- Start number 20 was manually annotated 2 times for cluster J.

Info for manual annotations of cluster N:

- Start number 35 was manually annotated 2 times for cluster N.

Info for manual annotations of cluster P2:

- Start number 15 was manually annotated 1 time for cluster P2.

Info for manual annotations of cluster W:

- Start number 35 was manually annotated 1 time for cluster W.
- Start number 46 was manually annotated 1 time for cluster W.

Gene Information:

Gene: ArcusAngelus_54 Start: 38017, Stop: 38256, Start Num: 35

Candidate Starts for ArcusAngelus_54:

(Start: 35 @38017 has 31 MA's), (42, 38050), (44, 38077), (52, 38101), (80, 38239),

Gene: Astraea_9 Start: 2499, Stop: 2930, Start Num: 35

Candidate Starts for Astraea_9:

(14, 2394), (16, 2415), (18, 2421), (Start: 35 @2499 has 31 MA's), (Start: 46 @2574 has 8 MA's), (51, 2589), (60, 2616), (62, 2622), (65, 2667), (68, 2679), (74, 2730), (75, 2733), (79, 2763), (86, 2805),

Gene: Aubs_83 Start: 50008, Stop: 50520, Start Num: 20

Candidate Starts for Aubs_83:

(Start: 20 @50008 has 8 MA's), (27, 50050), (51, 50212), (58, 50254), (70, 50356), (89, 50500),

Gene: Bigswole_6 Start: 2050, Stop: 2481, Start Num: 35

Candidate Starts for Bigswole_6:

(1, 1606), (2, 1708), (3, 1711), (4, 1717), (5, 1726), (8, 1906), (Start: 17 @1969 has 1 MA's), (Start: 35 @2050 has 31 MA's), (Start: 46 @2125 has 8 MA's), (51, 2140), (60, 2167), (62, 2173), (65, 2218), (68, 2230), (74, 2281), (75, 2284), (79, 2314), (86, 2356),

Gene: BronnyJames_66 Start: 44654, Stop: 44142, Start Num: 20

Candidate Starts for BronnyJames_66:

(Start: 20 @44654 has 8 MA's), (27, 44612), (51, 44450), (58, 44408), (70, 44306), (89, 44162),

Gene: Bruns_61 Start: 39972, Stop: 39745, Start Num: 46

Candidate Starts for Bruns_61:

(Start: 46 @39972 has 8 MA's), (61, 39924), (68, 39864),

Gene: Bubbles123_77 Start: 48885, Stop: 49397, Start Num: 20

Candidate Starts for Bubbles123_77:

(Start: 20 @48885 has 8 MA's), (50, 49077), (51, 49089), (58, 49131), (70, 49233), (89, 49377),

Gene: Bxz1_7 Start: 2148, Stop: 2579, Start Num: 35

Candidate Starts for Bxz1_7:

(21, 2091), (Start: 35 @2148 has 31 MA's), (Start: 46 @2223 has 8 MA's), (51, 2238), (60, 2265), (62, 2271), (65, 2316), (68, 2328), (74, 2379), (75, 2382), (79, 2412), (86, 2454),

Gene: Che8_53 Start: 37842, Stop: 38123, Start Num: 35

Candidate Starts for Che8_53:

(Start: 35 @37842 has 31 MA's), (42, 37875), (44, 37902), (48, 37914), (52, 37926), (76, 38040),

Gene: Che9d_92 Start: 49021, Stop: 49440, Start Num: 33

Candidate Starts for Che9d_92:

(Start: 33 @49021 has 9 MA's), (49, 49126), (57, 49174), (59, 49192), (60, 49198), (68, 49264),

Gene: Chevrolet_57 Start: 38018, Stop: 38257, Start Num: 35

Candidate Starts for Chevrolet_57:

(Start: 35 @38018 has 31 MA's), (42, 38051), (44, 38078), (52, 38102), (80, 38240),

Gene: ChristmasHams_55 Start: 38539, Stop: 38312, Start Num: 46

Candidate Starts for ChristmasHams_55:

(13, 38740), (38, 38596), (40, 38593), (Start: 46 @38539 has 8 MA's), (61, 38491), (68, 38431),

Gene: Concombre_8 Start: 2242, Stop: 2598, Start Num: 46

Candidate Starts for Concombre_8:

(12, 2038), (16, 2068), (22, 2095), (29, 2131), (Start: 33 @2155 has 9 MA's), (Start: 46 @2242 has 8 MA's), (51, 2257), (60, 2284), (62, 2290), (65, 2335), (68, 2347), (74, 2398), (75, 2401), (79, 2431), (86, 2473),

Gene: DTDevon_9 Start: 2817, Stop: 3251, Start Num: 35

Candidate Starts for DTDevon_9:

(21, 2760), (Start: 35 @2817 has 31 MA's), (Start: 46 @2892 has 8 MA's), (51, 2907), (60, 2934), (62, 2940), (65, 2985), (68, 2997), (74, 3048), (75, 3051), (79, 3081), (86, 3123),

Gene: Dandelion_10 Start: 3168, Stop: 3599, Start Num: 35

Candidate Starts for Dandelion_10:

(14, 3063), (16, 3084), (18, 3090), (Start: 35 @3168 has 31 MA's), (Start: 46 @3243 has 8 MA's), (51, 3258), (60, 3285), (62, 3291), (65, 3336), (68, 3348), (74, 3399), (75, 3402), (79, 3432), (86, 3474),

Gene: Demodog_7 Start: 2242, Stop: 2598, Start Num: 46

Candidate Starts for Demodog_7:

(12, 2038), (16, 2068), (22, 2095), (29, 2131), (Start: 33 @2155 has 9 MA's), (Start: 46 @2242 has 8 MA's), (51, 2257), (60, 2284), (62, 2290), (65, 2335), (68, 2347), (74, 2398), (75, 2401), (79, 2431), (86, 2473),

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

Candidate Starts for Denise_59:

(Start: 17 @37230 has 1 MA's), (41, 37338), (54, 37440), (56, 37449),

Gene: Donkeykong_89 Start: 51613, Stop: 52125, Start Num: 20

Candidate Starts for Donkeykong_89:

(Start: 20 @51613 has 8 MA's), (27, 51655), (51, 51817), (58, 51859), (70, 51961), (89, 52105),

Gene: Drazdys_9 Start: 2817, Stop: 3251, Start Num: 35

Candidate Starts for Drazdys_9:

(21, 2760), (Start: 35 @2817 has 31 MA's), (Start: 46 @2892 has 8 MA's), (51, 2907), (60, 2934), (62, 2940), (65, 2985), (68, 2997), (74, 3048), (75, 3051), (79, 3081), (86, 3123),

Gene: Duplicity_53 Start: 35954, Stop: 36301, Start Num: 35

Candidate Starts for Duplicity_53:

(19, 35864), (24, 35900), (Start: 35 @35954 has 31 MA's), (43, 35996), (45, 36017), (62, 36068), (78, 36197), (85, 36239),

Gene: Forsytheast_61 Start: 40140, Stop: 39913, Start Num: 46

Candidate Starts for Forsytheast_61:

(Start: 46 @40140 has 8 MA's), (61, 40092), (68, 40032),

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

Candidate Starts for FrayBell_10:

(12, 2861), (16, 2891), (22, 2918), (29, 2954), (Start: 33 @2978 has 9 MA's), (Start: 46 @3065 has 8 MA's), (51, 3080), (60, 3107), (62, 3113), (65, 3158), (68, 3170), (74, 3221), (75, 3224), (79, 3254), (86, 3296),

Gene: Getalong_46 Start: 32723, Stop: 33001, Start Num: 37

Candidate Starts for Getalong_46:

(Start: 37 @32723 has 1 MA's), (47, 32789), (53, 32813), (54, 32816), (55, 32819), (77, 32963),

Gene: GodPhather_65 Start: 49176, Stop: 49409, Start Num: 46

Candidate Starts for GodPhather_65:

(Start: 46 @49176 has 8 MA's), (61, 49224), (68, 49284), (82, 49389),

Gene: Hannaconda_69 Start: 45759, Stop: 45247, Start Num: 20

Candidate Starts for Hannaconda_69:

(Start: 20 @45759 has 8 MA's), (27, 45717), (51, 45555), (58, 45513), (70, 45411), (89, 45267),

Gene: I3_8 Start: 2847, Stop: 3332, Start Num: 35

Candidate Starts for I3_8:

(22, 2790), (28, 2823), (Start: 35 @2847 has 31 MA's), (49, 2940), (57, 2988), (59, 3006), (60, 3012), (68, 3078), (74, 3129), (75, 3132), (79, 3162), (86, 3204),

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

Candidate Starts for InterFolia_10:

(12, 2860), (16, 2890), (22, 2917), (29, 2953), (Start: 33 @2977 has 9 MA's), (Start: 46 @3064 has 8 MA's), (51, 3079), (60, 3106), (62, 3112), (65, 3157), (68, 3169), (74, 3220), (75, 3223), (79, 3253), (86, 3295),

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

Candidate Starts for JayJay_9:

(12, 2389), (16, 2419), (22, 2446), (29, 2482), (Start: 33 @2506 has 9 MA's), (Start: 46 @2593 has 8 MA's), (51, 2608), (60, 2635), (62, 2641), (65, 2686), (68, 2698), (74, 2749), (75, 2752), (79, 2782), (86, 2824),

Gene: Jeon_63 Start: 48868, Stop: 49173, Start Num: 35

Candidate Starts for Jeon_63:

(7, 48709), (Start: 35 @48868 has 31 MA's), (39, 48880), (Start: 46 @48943 has 8 MA's), (51, 48958), (60, 48985), (62, 48991), (67, 49039), (83, 49153),

Gene: Jezreel_7 Start: 2148, Stop: 2579, Start Num: 35

Candidate Starts for Jezreel_7:

(21, 2091), (Start: 35 @2148 has 31 MA's), (Start: 46 @2223 has 8 MA's), (51, 2238), (60, 2265), (62, 2271), (65, 2316), (68, 2328), (74, 2379), (75, 2382), (79, 2412), (86, 2454),

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

Candidate Starts for JigglyPuff_8:

(12, 2405), (16, 2435), (22, 2462), (29, 2498), (Start: 33 @2522 has 9 MA's), (Start: 46 @2609 has 8 MA's), (51, 2624), (60, 2651), (62, 2657), (65, 2702), (68, 2714), (74, 2765), (75, 2768), (79, 2798), (86, 2840),

Gene: Kamryn_7 Start: 2148, Stop: 2579, Start Num: 35

Candidate Starts for Kamryn_7:

(21, 2091), (Start: 35 @2148 has 31 MA's), (Start: 46 @2223 has 8 MA's), (51, 2238), (60, 2265), (62, 2271), (65, 2316), (68, 2328), (74, 2379), (75, 2382), (79, 2412), (86, 2454),

Gene: KashFlow_67 Start: 45630, Stop: 45118, Start Num: 20

Candidate Starts for KashFlow_67:

(Start: 20 @45630 has 8 MA's), (27, 45588), (50, 45438), (51, 45426), (58, 45384), (70, 45282), (89, 45138),

Gene: Kenuha5_78 Start: 49646, Stop: 50158, Start Num: 20

Candidate Starts for Kenuha5_78:

(Start: 20 @49646 has 8 MA's), (51, 49850), (58, 49892), (70, 49994), (89, 50138),

Gene: Lethe_7 Start: 2050, Stop: 2481, Start Num: 35

Candidate Starts for Lethe_7:

(1, 1606), (2, 1708), (3, 1711), (4, 1717), (5, 1726), (8, 1906), (Start: 17 @1969 has 1 MA's), (Start: 35 @2050 has 31 MA's), (Start: 46 @2125 has 8 MA's), (51, 2140), (60, 2167), (62, 2173), (65, 2218), (68, 2230), (74, 2281), (75, 2284), (79, 2314), (86, 2356),

Gene: LilSpotty_71 Start: 43082, Stop: 43513, Start Num: 35

Candidate Starts for LilSpotty_71:

(19, 42992), (24, 43028), (Start: 35 @43082 has 31 MA's), (43, 43124), (71, 43286), (78, 43349), (92, 43466),

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

Candidate Starts for LinStu_9:

(12, 3388), (16, 3418), (22, 3445), (29, 3481), (Start: 33 @3505 has 9 MA's), (Start: 46 @3592 has 8 MA's), (51, 3607), (60, 3634), (62, 3640), (65, 3685), (68, 3697), (74, 3748), (75, 3751), (79, 3781), (86, 3823),

Gene: LolaVinca_10 Start: 2977, Stop: 3399, Start Num: 33

Candidate Starts for LolaVinca_10:

(12, 2860), (16, 2890), (22, 2917), (29, 2953), (Start: 33 @2977 has 9 MA's), (Start: 46 @3064 has 8 MA's), (51, 3079), (60, 3106), (62, 3112), (65, 3157), (68, 3169), (74, 3220), (75, 3223), (79, 3253), (86, 3295), (88, 3334),

Gene: LookingGlass_7 Start: 2223, Stop: 2579, Start Num: 46

Candidate Starts for LookingGlass_7:

(21, 2091), (Start: 35 @2148 has 31 MA's), (Start: 46 @2223 has 8 MA's), (51, 2238), (60, 2265), (62, 2271), (65, 2316), (68, 2328), (74, 2379), (75, 2382), (79, 2412), (86, 2454),

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

Candidate Starts for LordLeafolot_10:

(12, 2860), (16, 2890), (22, 2917), (29, 2953), (Start: 33 @2977 has 9 MA's), (Start: 46 @3064 has 8 MA's), (51, 3079), (60, 3106), (62, 3112), (65, 3157), (68, 3169), (74, 3220), (75, 3223), (79, 3253), (86, 3295),

Gene: Lunareta_7 Start: 2252, Stop: 2608, Start Num: 46

Candidate Starts for Lunareta_7:

(Start: 35 @2177 has 31 MA's), (Start: 46 @2252 has 8 MA's), (51, 2267), (60, 2294), (62, 2300), (65, 2345), (68, 2357), (74, 2408), (75, 2411), (79, 2441), (86, 2483),

Gene: Maturis_8 Start: 2252, Stop: 2608, Start Num: 46

Candidate Starts for Maturis_8:

(Start: 35 @2177 has 31 MA's), (Start: 46 @2252 has 8 MA's), (51, 2267), (60, 2294), (62, 2300), (65, 2345), (68, 2357), (74, 2408), (75, 2411), (79, 2441), (86, 2483),

Gene: Melville_59 Start: 36268, Stop: 36615, Start Num: 35

Candidate Starts for Melville_59:

(19, 36178), (24, 36214), (Start: 35 @36268 has 31 MA's), (43, 36310), (45, 36331), (62, 36382), (78, 36511), (85, 36553),

Gene: Mikro_7 Start: 3147, Stop: 3578, Start Num: 35

Candidate Starts for Mikro_7:

(21, 3090), (Start: 35 @3147 has 31 MA's), (Start: 46 @3222 has 8 MA's), (51, 3237), (60, 3264), (62, 3270), (65, 3315), (68, 3327), (74, 3378), (75, 3381), (79, 3411), (86, 3453),

Gene: MilleniumForce_53 Start: 38559, Stop: 38825, Start Num: 36

Candidate Starts for MilleniumForce_53:

(Start: 36 @38559 has 1 MA's), (Start: 37 @38562 has 1 MA's), (42, 38589), (44, 38616), (52, 38640),

Gene: MoMoMixon_7 Start: 2383, Stop: 2814, Start Num: 35

Candidate Starts for MoMoMixon_7:

(23, 2347), (Start: 35 @2383 has 31 MA's), (Start: 46 @2458 has 8 MA's), (51, 2473), (60, 2500), (62, 2506), (65, 2551), (68, 2563), (74, 2614), (75, 2617), (79, 2647), (86, 2689),

Gene: Montpel_7 Start: 2252, Stop: 2608, Start Num: 46

Candidate Starts for Montpel_7:

(Start: 35 @2177 has 31 MA's), (Start: 46 @2252 has 8 MA's), (51, 2267), (60, 2294), (62, 2300), (65, 2345), (68, 2357), (74, 2408), (75, 2411), (79, 2441), (86, 2483),

Gene: Moose_61 Start: 40140, Stop: 39913, Start Num: 46

Candidate Starts for Moose_61:

(Start: 46 @40140 has 8 MA's), (61, 40092), (68, 40032),

Gene: Naval22_7 Start: 2458, Stop: 2814, Start Num: 46

Candidate Starts for Naval22_7:

(23, 2347), (Start: 35 @2383 has 31 MA's), (Start: 46 @2458 has 8 MA's), (51, 2473), (60, 2500), (62, 2506), (65, 2551), (68, 2563), (74, 2614), (75, 2617), (79, 2647), (86, 2689),

Gene: Nekros_71 Start: 48970, Stop: 48458, Start Num: 20

Candidate Starts for Nekros_71:

(Start: 20 @48970 has 8 MA's), (51, 48766), (58, 48724), (70, 48622), (89, 48478),

Gene: Nidhogg_7 Start: 2383, Stop: 2814, Start Num: 35

Candidate Starts for Nidhogg_7:

(23, 2347), (Start: 35 @2383 has 31 MA's), (Start: 46 @2458 has 8 MA's), (51, 2473), (60, 2500), (62, 2506), (65, 2551), (68, 2563), (74, 2614), (75, 2617), (79, 2647), (86, 2689),

Gene: NoodleTree_7 Start: 2148, Stop: 2579, Start Num: 35

Candidate Starts for NoodleTree_7:

(21, 2091), (Start: 35 @2148 has 31 MA's), (Start: 46 @2223 has 8 MA's), (51, 2238), (60, 2265), (62, 2271), (65, 2316), (68, 2328), (74, 2379), (75, 2382), (79, 2412), (86, 2454),

Gene: NuevoMundo_9 Start: 2841, Stop: 3272, Start Num: 35

Candidate Starts for NuevoMundo_9:

(14, 2736), (16, 2757), (18, 2763), (Start: 35 @2841 has 31 MA's), (Start: 46 @2916 has 8 MA's), (51, 2931), (60, 2958), (62, 2964), (65, 3009), (68, 3021), (74, 3072), (75, 3075), (79, 3105), (86, 3147),

Gene: Ogopogo_51 Start: 36143, Stop: 36514, Start Num: 26

Candidate Starts for Ogopogo_51:

(Start: 26 @36143 has 1 MA's), (30, 36155), (32, 36176), (34, 36182), (Start: 35 @36191 has 31 MA's), (66, 36362), (80, 36458), (81, 36467),

Gene: Pepe_58 Start: 39571, Stop: 39344, Start Num: 46

Candidate Starts for Pepe_58:

(Start: 46 @39571 has 8 MA's), (61, 39523), (68, 39463), (69, 39460),

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

Candidate Starts for PharkleMinkus_10:

(12, 2861), (16, 2891), (22, 2918), (29, 2954), (Start: 33 @2978 has 9 MA's), (Start: 46 @3065 has 8 MA's), (51, 3080), (60, 3107), (62, 3113), (65, 3158), (68, 3170), (74, 3221), (75, 3224), (79, 3254), (86, 3296),

Gene: Pier_10 Start: 2844, Stop: 3275, Start Num: 35

Candidate Starts for Pier_10:

(14, 2739), (16, 2760), (18, 2766), (Start: 35 @2844 has 31 MA's), (Start: 46 @2919 has 8 MA's), (51, 2934), (60, 2961), (62, 2967), (65, 3012), (68, 3024), (74, 3075), (75, 3078), (79, 3108), (86, 3150),

Gene: Pio_8 Start: 2537, Stop: 2968, Start Num: 35

Candidate Starts for Pio_8:

(23, 2501), (Start: 35 @2537 has 31 MA's), (Start: 46 @2612 has 8 MA's), (51, 2627), (60, 2654), (62, 2660), (65, 2705), (68, 2717), (74, 2768), (75, 2771), (79, 2801), (86, 2843),

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

Candidate Starts for Pupusa_10:

(12, 2860), (16, 2890), (22, 2917), (29, 2953), (Start: 33 @2977 has 9 MA's), (Start: 46 @3064 has 8 MA's), (51, 3079), (60, 3106), (62, 3112), (65, 3157), (68, 3169), (74, 3220), (75, 3223), (79, 3253), (86, 3295),

Gene: Rocha_7 Start: 2220, Stop: 2576, Start Num: 46

Candidate Starts for Rocha_7:

(21, 2088), (Start: 35 @2145 has 31 MA's), (Start: 46 @2220 has 8 MA's), (51, 2235), (60, 2262), (62, 2268), (65, 2313), (68, 2325), (74, 2376), (75, 2379), (79, 2409), (86, 2451),

Gene: Royals2015_53 Start: 36891, Stop: 37130, Start Num: 35

Candidate Starts for Royals2015_53:

(Start: 35 @36891 has 31 MA's), (42, 36924), (44, 36951), (52, 36975), (80, 37113),

Gene: Sabbb_90 Start: 48794, Stop: 49228, Start Num: 35

Candidate Starts for Sabbb_90:

(25, 48755), (Start: 35 @48794 has 31 MA's), (39, 48806), (Start: 46 @48869 has 8 MA's), (51, 48884), (60, 48911), (62, 48917), (65, 48962), (68, 48974), (74, 49025), (75, 49028), (79, 49058), (86, 49100),

Gene: Sauce_7 Start: 2387, Stop: 2818, Start Num: 35

Candidate Starts for Sauce_7:

(23, 2351), (Start: 35 @2387 has 31 MA's), (Start: 46 @2462 has 8 MA's), (51, 2477), (60, 2504), (62, 2510), (65, 2555), (68, 2567), (74, 2618), (75, 2621), (79, 2651), (86, 2693),

Gene: Seanderson_62 Start: 42352, Stop: 42125, Start Num: 46

Candidate Starts for Seanderson_62:

(Start: 46 @42352 has 8 MA's), (61, 42304), (68, 42244),

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

Candidate Starts for Sebata_9:

(12, 3388), (16, 3418), (22, 3445), (29, 3481), (Start: 33 @3505 has 9 MA's), (Start: 46 @3592 has 8 MA's), (51, 3607), (60, 3634), (62, 3640), (65, 3685), (68, 3697), (74, 3748), (75, 3751), (79, 3781), (86, 3823),

Gene: Shaboozey_65 Start: 44675, Stop: 44163, Start Num: 20

Candidate Starts for Shaboozey_65:

(Start: 20 @44675 has 8 MA's), (27, 44633), (51, 44471), (58, 44429), (70, 44327), (89, 44183),

Gene: Shauna1_82 Start: 49932, Stop: 50444, Start Num: 20

Candidate Starts for Shauna1_82:

(Start: 20 @49932 has 8 MA's), (50, 50124), (51, 50136), (58, 50178), (70, 50280), (89, 50424),

Gene: SkiPole_67 Start: 41615, Stop: 41388, Start Num: 46

Candidate Starts for SkiPole_67:

(Start: 46 @41615 has 8 MA's), (61, 41567), (68, 41507), (69, 41504),

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

Candidate Starts for Specks_10:

(12, 2860), (16, 2890), (22, 2917), (29, 2953), (Start: 33 @2977 has 9 MA's), (Start: 46 @3064 has 8 MA's), (51, 3079), (60, 3106), (62, 3112), (65, 3157), (68, 3169), (74, 3220), (75, 3223), (79, 3253), (86, 3295),

Gene: Spud_8 Start: 2537, Stop: 2968, Start Num: 35

Candidate Starts for Spud_8:

(23, 2501), (Start: 35 @2537 has 31 MA's), (Start: 46 @2612 has 8 MA's), (51, 2627), (60, 2654), (62, 2660), (65, 2705), (68, 2717), (74, 2768), (75, 2771), (79, 2801), (86, 2843),

Gene: StephanieG_9 Start: 2844, Stop: 3275, Start Num: 35

Candidate Starts for StephanieG_9:

(14, 2739), (16, 2760), (18, 2766), (Start: 35 @2844 has 31 MA's), (Start: 46 @2919 has 8 MA's), (51, 2934), (60, 2961), (62, 2967), (65, 3012), (68, 3024), (74, 3075), (75, 3078), (79, 3108), (86, 3150),

Gene: SuperGrey_83 Start: 51298, Stop: 51810, Start Num: 20

Candidate Starts for SuperGrey_83:

(Start: 20 @51298 has 8 MA's), (27, 51340), (51, 51502), (58, 51544), (70, 51646), (89, 51790),

Gene: SwissCheese_63 Start: 40640, Stop: 40413, Start Num: 46

Candidate Starts for SwissCheese_63:

(Start: 46 @40640 has 8 MA's), (61, 40592), (68, 40532),

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

Candidate Starts for Tainan_10:

(12, 2860), (16, 2890), (22, 2917), (29, 2953), (Start: 33 @2977 has 9 MA's), (Start: 46 @3064 has 8 MA's), (51, 3079), (60, 3106), (62, 3112), (65, 3157), (68, 3169), (74, 3220), (75, 3223), (79, 3253), (86, 3295),

Gene: Tonenili_21 Start: 6415, Stop: 6846, Start Num: 35

Candidate Starts for Tonenili_21:

(6, 6136), (9, 6280), (11, 6283), (Start: 35 @6415 has 31 MA's), (39, 6427), (59, 6535), (63, 6553), (64, 6577), (67, 6601), (72, 6631), (73, 6643), (84, 6715), (90, 6769),

Gene: Tortellini_64 Start: 43747, Stop: 44214, Start Num: 15

Candidate Starts for Tortellini_64:

(10, 43702), (Start: 15 @43747 has 1 MA's), (31, 43822), (34, 43846), (42, 43888), (87, 44155), (91, 44200),

Gene: Tyke_9 Start: 2817, Stop: 3251, Start Num: 35

Candidate Starts for Tyke_9:

(21, 2760), (Start: 35 @2817 has 31 MA's), (Start: 46 @2892 has 8 MA's), (51, 2907), (60, 2934), (62, 2940), (65, 2985), (68, 2997), (74, 3048), (75, 3051), (79, 3081), (86, 3123),