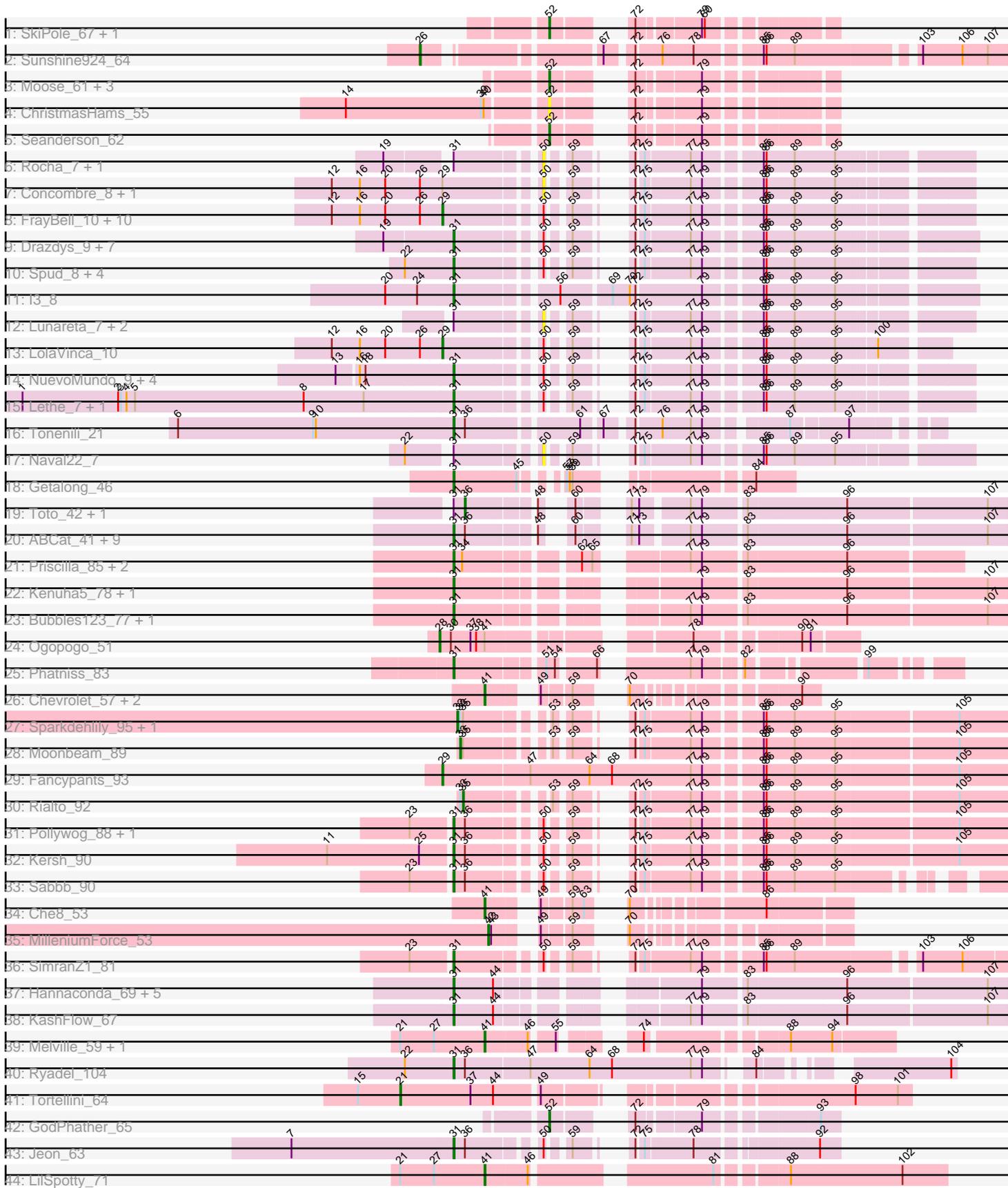


Pham 289257



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 289257 Report

This analysis was run 03/28/26 on database version 641.

Pham number 289257 has 102 members, 17 are drafts.

Phages represented in each track:

- Track 1 : SkiPole_67, Pepe_58
- Track 2 : Sunshine924_64
- Track 3 : Moose_61, SwissCheese_63, Forsytheast_61, Bruns_61
- Track 4 : ChristmasHams_55
- Track 5 : Seanderson_62
- Track 6 : Rocha_7, LookingGlass_7
- Track 7 : Concombre_8, Demodog_7
- Track 8 : FrayBell_10, Tainan_10, Sebata_9, JayJay_9, Specks_10, InterFolia_10, Pupusa_10, JigglyPuff_8, PharkleMinkus_10, LordLeafolot_10, LinStu_9
- Track 9 : Drazdys_9, Kamryn_7, Jezreel_7, Tyke_9, Mikro_7, Bxz1_7, DTDevon_9, NoodleTree_7
- Track 10 : Spud_8, Nidhogg_7, Sauce_7, Pio_8, MoMoMixon_7
- Track 11 : l3_8
- Track 12 : Lunareta_7, Maturis_8, Montpel_7
- Track 13 : LolaVinca_10
- Track 14 : NuevoMundo_9, StephanieG_9, Pier_10, Astraea_9, Dandelion_10
- Track 15 : Lethe_7, Bigswole_6
- Track 16 : Tonenili_21
- Track 17 : Naval22_7
- Track 18 : Getalong_46
- Track 19 : Toto_42, Marshmallow_42
- Track 20 : ABCat_41, Inca_40, BilboSwaggins_42, IHOP_41, Tuco_44, CrystalP_43, Myrale_43, ShamWow_43, StellaBean_41, Phaja_41
- Track 21 : Priscilla_85, NormanBulbieJr_83, Koella_77
- Track 22 : Kenuha5_78, Nekros_71
- Track 23 : Bubbles123_77, Shauna1_82
- Track 24 : Ogopogo_51
- Track 25 : Phatniss_83
- Track 26 : Chevrolet_57, Royals2015_53, ArcusAngelus_54
- Track 27 : Sparkdehlily_95, TDanisky_96
- Track 28 : Moonbeam_89
- Track 29 : Fancypants_93
- Track 30 : Rialto_92
- Track 31 : Pollywog_88, Rearden_72
- Track 32 : Kersh_90
- Track 33 : Sabbb_90
- Track 34 : Che8_53

- Track 35 : MilleniumForce_53
- Track 36 : SimranZ1_81
- Track 37 : Hannaconda_69, BronnyJames_66, Aubs_83, Shaboozey_65, SuperGrey_83, Donkeykong_89
- Track 38 : KashFlow_67
- Track 39 : Melville_59, Duplicity_53
- Track 40 : Ryadel_104
- Track 41 : Tortellini_64
- Track 42 : GodPhather_65
- Track 43 : Jeon_63
- Track 44 : 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 31, it was called in 51 of the 85 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ABCat_41, Astraea_9, Aubs_83, Bigswole_6, BilboSwaggins_42, BronnyJames_66, Bubbles123_77, Bxz1_7, CrystalP_43, DTDevon_9, Dandelion_10, Donkeykong_89, Drazdys_9, Getalong_46, Hannaconda_69, I3_8, IHOP_41, Inca_40, Jeon_63, Jezreel_7, Kamryn_7, KashFlow_67, Kenuha5_78, Kersh_90, Koella_77, Lethe_7, Mikro_7, MoMoMixon_7, Myrale_43, Nekros_71, Nidhogg_7, NoodleTree_7, NormanBulbieJr_83, NuevoMundo_9, Phaja_41, Phatniss_83, Pier_10, Pio_8, Pollywog_88, Priscilla_85, Rearden_72, Ryadel_104, Sabbb_90, Sauce_7, Shaboozey_65, ShamWow_43, Shauna1_82, SimranZ1_81, Spud_8, StellaBean_41, StephanieG_9, SuperGrey_83, Tonenili_21, Tuco_44, Tyke_9,

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

- LookingGlass_7, Lunareta_7, Marshmallow_42, Maturis_8, Montpel_7, Naval22_7, Rocha_7, Toto_42,

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

- ArcusAngelus_54, Bruns_61, Che8_53, Chevrolet_57, ChristmasHams_55, Concombre_8, Demodog_7, Duplicity_53, Fancypants_93, Forsytheast_61, FrayBell_10, GodPhather_65, InterFolia_10, JayJay_9, JigglyPuff_8, LilSpotty_71, LinStu_9, LolaVinca_10, LordLeafolot_10, Melville_59, MilleniumForce_53, Moonbeam_89, Moose_61, Ogopogo_51, Pepe_58, PharkleMinkus_10, Pupusa_10, Rialto_92, Royals2015_53, Seanderson_62, Sebata_9, SkiPole_67, Sparkdehlily_95, Specks_10, Sunshine924_64, SwissCheese_63, TDanisky_96, Tainan_10, Tortellini_64,

Summary by start number:

Start 21:

- Found in 4 of 102 (3.9%) of genes in pham
- Manual Annotations of this start: 1 of 85
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Tortellini_64 (P2),

Start 26:

- Found in 15 of 102 (14.7%) of genes in pham
- Manual Annotations of this start: 1 of 85
- Called 6.7% of time when present
- Phage (with cluster) where this start called: Sunshine924_64 (A1),

Start 28:

- Found in 1 of 102 (1.0%) of genes in pham
- Manual Annotations of this start: 1 of 85
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ogopogo_51 (F1),

Start 29:

- Found in 15 of 102 (14.7%) of genes in pham
- Manual Annotations of this start: 9 of 85
- Called 86.7% of time when present
- Phage (with cluster) where this start called: Fancypants_93 (F1), 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 31:

- Found in 63 of 102 (61.8%) of genes in pham
- Manual Annotations of this start: 51 of 85
- Called 87.3% of time when present
- Phage (with cluster) where this start called: ABCat_41 (E), Astraea_9 (C1), Aubs_83 (F1), Bigswole_6 (C1), BilboSwaggins_42 (E), BronnyJames_66 (J), Bubbles123_77 (F1), Bxz1_7 (C1), CrystalP_43 (E), DTDevon_9 (C1), Dandelion_10 (C1), Donkeykong_89 (F1), Drazdys_9 (C1), Getalong_46 (DN1), Hannaconda_69 (J), I3_8 (C1), IHOP_41 (E), Inca_40 (E), Jeon_63 (W), Jezreel_7 (C1), Kamryn_7 (C1), KashFlow_67 (J), Kenuha5_78 (F1), Kersh_90 (F1), Koella_77 (F1), Lethe_7 (C1), Mikro_7 (C1), MoMoMixon_7 (C1), Myrale_43 (E), Nekros_71 (J), Nidhogg_7 (C1), NoodleTree_7 (C1), NormanBulbieJr_83 (F1), NuevoMundo_9 (C1), Phaja_41 (E), Phatniss_83 (F1), Pier_10 (C1), Pio_8 (C1), Pollywog_88 (F1), Priscilla_85 (F1), Rearden_72 (J), Ryadel_104 (O), Sabbb_90 (F1), Sauce_7 (C1), Shaboozey_65 (J), ShamWow_43 (E), Shauna1_82 (F1), SimranZ1_81 (F1), Spud_8 (C1), StellaBean_41 (E), StephanieG_9 (C1), SuperGrey_83 (F1), Tonenili_21 (C1), Tuco_44 (E), Tyke_9 (C1),

Start 32:

- Found in 2 of 102 (2.0%) of genes in pham
- Manual Annotations of this start: 2 of 85
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Sparkdehlily_95 (F1), TDanisky_96 (F1),

Start 33:

- Found in 4 of 102 (3.9%) of genes in pham
- Manual Annotations of this start: 1 of 85
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Moonbeam_89 (F1),

Start 35:

- Found in 4 of 102 (3.9%) of genes in pham

- Manual Annotations of this start: 1 of 85
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Rialto_92 (F1),

Start 36:

- Found in 19 of 102 (18.6%) of genes in pham
- Manual Annotations of this start: 2 of 85
- Called 10.5% of time when present
- Phage (with cluster) where this start called: Marshmallow_42 (E), Toto_42 (E),

Start 41:

- Found in 8 of 102 (7.8%) of genes in pham
- Manual Annotations of this start: 7 of 85
- Called 87.5% of time when present
- Phage (with cluster) where this start called: ArcusAngelus_54 (F1), Che8_53 (F1), Chevrolet_57 (F1), Duplicity_53 (N), LilSpotty_71 (singleton), Melville_59 (N), Royals2015_53 (F1),

Start 42:

- Found in 1 of 102 (1.0%) of genes in pham
- Manual Annotations of this start: 1 of 85
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MilleniumForce_53 (F1),

Start 50:

- Found in 46 of 102 (45.1%) of genes in pham
- No Manual Annotations of this start.
- Called 17.4% of time when present
- Phage (with cluster) where this start called: Concombre_8 (C1), Demodog_7 (C1), LookingGlass_7 (C1), Lunareta_7 (C1), Maturis_8 (C1), Montpel_7 (C1), Naval22_7 (C1), Rocha_7 (C1),

Start 52:

- Found in 9 of 102 (8.8%) of genes in pham
- Manual Annotations of this start: 8 of 85
- 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),

Summary by clusters:

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

Info for manual annotations of cluster A1:

- Start number 26 was manually annotated 1 time for cluster A1.
- Start number 52 was manually annotated 7 times for cluster A1.

Info for manual annotations of cluster C1:

- Start number 29 was manually annotated 8 times for cluster C1.
- Start number 31 was manually annotated 22 times for cluster C1.

Info for manual annotations of cluster DN1:

- Start number 31 was manually annotated 1 time for cluster DN1.

Info for manual annotations of cluster E:

- Start number 31 was manually annotated 10 times for cluster E.
- Start number 36 was manually annotated 2 times for cluster E.

Info for manual annotations of cluster F1:

- Start number 28 was manually annotated 1 time for cluster F1.
- Start number 29 was manually annotated 1 time for cluster F1.
- Start number 31 was manually annotated 14 times for cluster F1.
- Start number 32 was manually annotated 2 times for cluster F1.
- Start number 33 was manually annotated 1 time for cluster F1.
- Start number 35 was manually annotated 1 time for cluster F1.
- Start number 41 was manually annotated 4 times for cluster F1.
- Start number 42 was manually annotated 1 time for cluster F1.

Info for manual annotations of cluster J:

- Start number 31 was manually annotated 2 times for cluster J.

Info for manual annotations of cluster N:

- Start number 41 was manually annotated 2 times for cluster N.

Info for manual annotations of cluster O:

- Start number 31 was manually annotated 1 time for cluster O.

Info for manual annotations of cluster P2:

- Start number 21 was manually annotated 1 time for cluster P2.

Info for manual annotations of cluster W:

- Start number 31 was manually annotated 1 time for cluster W.
- Start number 52 was manually annotated 1 time for cluster W.

Gene Information:

Gene: ABCat_41 Start: 35824, Stop: 35336, Start Num: 31

Candidate Starts for ABCat_41:

(Start: 31 @35824 has 51 MA's), (Start: 36 @35812 has 2 MA's), (48, 35749), (60, 35734), (71, 35707), (73, 35701), (77, 35656), (79, 35644), (83, 35602), (96, 35500), (107, 35356),

Gene: ArcusAngelus_54 Start: 38017, Stop: 38256, Start Num: 41

Candidate Starts for ArcusAngelus_54:

(Start: 41 @38017 has 7 MA's), (49, 38050), (59, 38077), (70, 38101), (90, 38239),

Gene: Astraea_9 Start: 2499, Stop: 2930, Start Num: 31

Candidate Starts for Astraea_9:

(13, 2394), (16, 2415), (18, 2421), (Start: 31 @2499 has 51 MA's), (50, 2574), (59, 2589), (72, 2616), (75, 2622), (77, 2667), (79, 2679), (85, 2730), (86, 2733), (89, 2763), (95, 2805),

Gene: Aubs_83 Start: 50008, Stop: 50520, Start Num: 31

Candidate Starts for Aubs_83:

(Start: 31 @50008 has 51 MA's), (44, 50050), (79, 50212), (83, 50254), (96, 50356), (107, 50500),

Gene: Bigswole_6 Start: 2050, Stop: 2481, Start Num: 31

Candidate Starts for Bigswole_6:

(1, 1606), (2, 1708), (3, 1711), (4, 1717), (5, 1726), (8, 1906), (17, 1969), (Start: 31 @2050 has 51 MA's), (50, 2125), (59, 2140), (72, 2167), (75, 2173), (77, 2218), (79, 2230), (85, 2281), (86, 2284), (89, 2314), (95, 2356),

Gene: BilboSwaggins_42 Start: 35832, Stop: 35344, Start Num: 31

Candidate Starts for BilboSwaggins_42:

(Start: 31 @35832 has 51 MA's), (Start: 36 @35820 has 2 MA's), (48, 35757), (60, 35742), (71, 35715), (73, 35709), (77, 35664), (79, 35652), (83, 35610), (96, 35508), (107, 35364),

Gene: BronnyJames_66 Start: 44654, Stop: 44142, Start Num: 31

Candidate Starts for BronnyJames_66:

(Start: 31 @44654 has 51 MA's), (44, 44612), (79, 44450), (83, 44408), (96, 44306), (107, 44162),

Gene: Bruns_61 Start: 39972, Stop: 39745, Start Num: 52

Candidate Starts for Bruns_61:

(Start: 52 @39972 has 8 MA's), (72, 39924), (79, 39864),

Gene: Bubbles123_77 Start: 48885, Stop: 49397, Start Num: 31

Candidate Starts for Bubbles123_77:

(Start: 31 @48885 has 51 MA's), (77, 49077), (79, 49089), (83, 49131), (96, 49233), (107, 49377),

Gene: Bxz1_7 Start: 2148, Stop: 2579, Start Num: 31

Candidate Starts for Bxz1_7:

(19, 2091), (Start: 31 @2148 has 51 MA's), (50, 2223), (59, 2238), (72, 2265), (75, 2271), (77, 2316), (79, 2328), (85, 2379), (86, 2382), (89, 2412), (95, 2454),

Gene: Che8_53 Start: 37842, Stop: 38123, Start Num: 41

Candidate Starts for Che8_53:

(Start: 41 @37842 has 7 MA's), (49, 37875), (59, 37902), (63, 37914), (70, 37926), (86, 38040),

Gene: Chevrolet_57 Start: 38018, Stop: 38257, Start Num: 41

Candidate Starts for Chevrolet_57:

(Start: 41 @38018 has 7 MA's), (49, 38051), (59, 38078), (70, 38102), (90, 38240),

Gene: ChristmasHams_55 Start: 38539, Stop: 38312, Start Num: 52

Candidate Starts for ChristmasHams_55:

(14, 38740), (39, 38596), (40, 38593), (Start: 52 @38539 has 8 MA's), (72, 38491), (79, 38431),

Gene: Concombre_8 Start: 2242, Stop: 2598, Start Num: 50

Candidate Starts for Concombre_8:

(12, 2038), (16, 2068), (20, 2095), (Start: 26 @2131 has 1 MA's), (Start: 29 @2155 has 9 MA's), (50, 2242), (59, 2257), (72, 2284), (75, 2290), (77, 2335), (79, 2347), (85, 2398), (86, 2401), (89, 2431), (95, 2473),

Gene: CrystalP_43 Start: 35832, Stop: 35344, Start Num: 31

Candidate Starts for CrystalP_43:

(Start: 31 @35832 has 51 MA's), (Start: 36 @35820 has 2 MA's), (48, 35757), (60, 35742), (71, 35715), (73, 35709), (77, 35664), (79, 35652), (83, 35610), (96, 35508), (107, 35364),

Gene: DTDevon_9 Start: 2817, Stop: 3251, Start Num: 31

Candidate Starts for DTDevon_9:

(19, 2760), (Start: 31 @2817 has 51 MA's), (50, 2892), (59, 2907), (72, 2934), (75, 2940), (77, 2985), (79, 2997), (85, 3048), (86, 3051), (89, 3081), (95, 3123),

Gene: Dandelion_10 Start: 3168, Stop: 3599, Start Num: 31

Candidate Starts for Dandelion_10:

(13, 3063), (16, 3084), (18, 3090), (Start: 31 @3168 has 51 MA's), (50, 3243), (59, 3258), (72, 3285), (75, 3291), (77, 3336), (79, 3348), (85, 3399), (86, 3402), (89, 3432), (95, 3474),

Gene: Demodog_7 Start: 2242, Stop: 2598, Start Num: 50

Candidate Starts for Demodog_7:

(12, 2038), (16, 2068), (20, 2095), (Start: 26 @2131 has 1 MA's), (Start: 29 @2155 has 9 MA's), (50, 2242), (59, 2257), (72, 2284), (75, 2290), (77, 2335), (79, 2347), (85, 2398), (86, 2401), (89, 2431), (95, 2473),

Gene: Donkeykong_89 Start: 51613, Stop: 52125, Start Num: 31

Candidate Starts for Donkeykong_89:

(Start: 31 @51613 has 51 MA's), (44, 51655), (79, 51817), (83, 51859), (96, 51961), (107, 52105),

Gene: Drazdys_9 Start: 2817, Stop: 3251, Start Num: 31

Candidate Starts for Drazdys_9:

(19, 2760), (Start: 31 @2817 has 51 MA's), (50, 2892), (59, 2907), (72, 2934), (75, 2940), (77, 2985), (79, 2997), (85, 3048), (86, 3051), (89, 3081), (95, 3123),

Gene: Duplicity_53 Start: 35954, Stop: 36301, Start Num: 41

Candidate Starts for Duplicity_53:

(Start: 21 @35864 has 1 MA's), (27, 35900), (Start: 41 @35954 has 7 MA's), (46, 35996), (55, 36017), (74, 36068), (88, 36197), (94, 36239),

Gene: Fancypants_93 Start: 52418, Stop: 52996, Start Num: 29

Candidate Starts for Fancypants_93:

(Start: 29 @52418 has 9 MA's), (47, 52508), (64, 52571), (68, 52595), (77, 52679), (79, 52691), (85, 52742), (86, 52745), (89, 52775), (95, 52817), (105, 52943),

Gene: Forsytheast_61 Start: 40140, Stop: 39913, Start Num: 52

Candidate Starts for Forsytheast_61:

(Start: 52 @40140 has 8 MA's), (72, 40092), (79, 40032),

Gene: FrayBell_10 Start: 2978, Stop: 3421, Start Num: 29

Candidate Starts for FrayBell_10:

(12, 2861), (16, 2891), (20, 2918), (Start: 26 @2954 has 1 MA's), (Start: 29 @2978 has 9 MA's), (50, 3065), (59, 3080), (72, 3107), (75, 3113), (77, 3158), (79, 3170), (85, 3221), (86, 3224), (89, 3254), (95, 3296),

Gene: Getalong_46 Start: 32723, Stop: 33001, Start Num: 31

Candidate Starts for Getalong_46:

(Start: 31 @32723 has 51 MA's), (45, 32789), (57, 32813), (58, 32816), (59, 32819), (84, 32963),

Gene: GodPhather_65 Start: 49176, Stop: 49409, Start Num: 52

Candidate Starts for GodPhather_65:

(Start: 52 @49176 has 8 MA's), (72, 49224), (79, 49284), (93, 49389),

Gene: Hannaconda_69 Start: 45759, Stop: 45247, Start Num: 31
Candidate Starts for Hannaconda_69:
(Start: 31 @45759 has 51 MA's), (44, 45717), (79, 45555), (83, 45513), (96, 45411), (107, 45267),

Gene: I3_8 Start: 2847, Stop: 3332, Start Num: 31
Candidate Starts for I3_8:
(20, 2790), (24, 2823), (Start: 31 @2847 has 51 MA's), (56, 2940), (69, 2988), (70, 3006), (72, 3012),
(79, 3078), (85, 3129), (86, 3132), (89, 3162), (95, 3204),

Gene: IHOP_41 Start: 35396, Stop: 34908, Start Num: 31
Candidate Starts for IHOP_41:
(Start: 31 @35396 has 51 MA's), (Start: 36 @35384 has 2 MA's), (48, 35321), (60, 35306), (71, 35279),
(73, 35273), (77, 35228), (79, 35216), (83, 35174), (96, 35072), (107, 34928),

Gene: Inca_40 Start: 33921, Stop: 33433, Start Num: 31
Candidate Starts for Inca_40:
(Start: 31 @33921 has 51 MA's), (Start: 36 @33909 has 2 MA's), (48, 33846), (60, 33831), (71, 33804),
(73, 33798), (77, 33753), (79, 33741), (83, 33699), (96, 33597), (107, 33453),

Gene: InterFolia_10 Start: 2977, Stop: 3420, Start Num: 29
Candidate Starts for InterFolia_10:
(12, 2860), (16, 2890), (20, 2917), (Start: 26 @2953 has 1 MA's), (Start: 29 @2977 has 9 MA's), (50,
3064), (59, 3079), (72, 3106), (75, 3112), (77, 3157), (79, 3169), (85, 3220), (86, 3223), (89, 3253), (95,
3295),

Gene: JayJay_9 Start: 2506, Stop: 2949, Start Num: 29
Candidate Starts for JayJay_9:
(12, 2389), (16, 2419), (20, 2446), (Start: 26 @2482 has 1 MA's), (Start: 29 @2506 has 9 MA's), (50,
2593), (59, 2608), (72, 2635), (75, 2641), (77, 2686), (79, 2698), (85, 2749), (86, 2752), (89, 2782), (95,
2824),

Gene: Jeon_63 Start: 48868, Stop: 49173, Start Num: 31
Candidate Starts for Jeon_63:
(7, 48709), (Start: 31 @48868 has 51 MA's), (Start: 36 @48880 has 2 MA's), (50, 48943), (59, 48958),
(72, 48985), (75, 48991), (78, 49039), (92, 49153),

Gene: Jezreel_7 Start: 2148, Stop: 2579, Start Num: 31
Candidate Starts for Jezreel_7:
(19, 2091), (Start: 31 @2148 has 51 MA's), (50, 2223), (59, 2238), (72, 2265), (75, 2271), (77, 2316),
(79, 2328), (85, 2379), (86, 2382), (89, 2412), (95, 2454),

Gene: JigglyPuff_8 Start: 2522, Stop: 2965, Start Num: 29
Candidate Starts for JigglyPuff_8:
(12, 2405), (16, 2435), (20, 2462), (Start: 26 @2498 has 1 MA's), (Start: 29 @2522 has 9 MA's), (50,
2609), (59, 2624), (72, 2651), (75, 2657), (77, 2702), (79, 2714), (85, 2765), (86, 2768), (89, 2798), (95,
2840),

Gene: Kamryn_7 Start: 2148, Stop: 2579, Start Num: 31
Candidate Starts for Kamryn_7:
(19, 2091), (Start: 31 @2148 has 51 MA's), (50, 2223), (59, 2238), (72, 2265), (75, 2271), (77, 2316),
(79, 2328), (85, 2379), (86, 2382), (89, 2412), (95, 2454),

Gene: KashFlow_67 Start: 45630, Stop: 45118, Start Num: 31

Candidate Starts for KashFlow_67:

(Start: 31 @45630 has 51 MA's), (44, 45588), (77, 45438), (79, 45426), (83, 45384), (96, 45282), (107, 45138),

Gene: Kenuha5_78 Start: 49646, Stop: 50158, Start Num: 31

Candidate Starts for Kenuha5_78:

(Start: 31 @49646 has 51 MA's), (79, 49850), (83, 49892), (96, 49994), (107, 50138),

Gene: Kersh_90 Start: 52725, Stop: 53210, Start Num: 31

Candidate Starts for Kersh_90:

(11, 52599), (25, 52695), (Start: 31 @52725 has 51 MA's), (Start: 36 @52737 has 2 MA's), (50, 52800), (59, 52815), (72, 52842), (75, 52848), (77, 52893), (79, 52905), (85, 52956), (86, 52959), (89, 52989), (95, 53031), (105, 53157),

Gene: Koella_77 Start: 46451, Stop: 46915, Start Num: 31

Candidate Starts for Koella_77:

(Start: 31 @46451 has 51 MA's), (34, 46460), (62, 46562), (65, 46571), (77, 46643), (79, 46655), (83, 46697), (96, 46799),

Gene: Lethe_7 Start: 2050, Stop: 2481, Start Num: 31

Candidate Starts for Lethe_7:

(1, 1606), (2, 1708), (3, 1711), (4, 1717), (5, 1726), (8, 1906), (17, 1969), (Start: 31 @2050 has 51 MA's), (50, 2125), (59, 2140), (72, 2167), (75, 2173), (77, 2218), (79, 2230), (85, 2281), (86, 2284), (89, 2314), (95, 2356),

Gene: LilSpotty_71 Start: 43082, Stop: 43513, Start Num: 41

Candidate Starts for LilSpotty_71:

(Start: 21 @42992 has 1 MA's), (27, 43028), (Start: 41 @43082 has 7 MA's), (46, 43124), (81, 43286), (88, 43349), (102, 43466),

Gene: LinStu_9 Start: 3505, Stop: 3948, Start Num: 29

Candidate Starts for LinStu_9:

(12, 3388), (16, 3418), (20, 3445), (Start: 26 @3481 has 1 MA's), (Start: 29 @3505 has 9 MA's), (50, 3592), (59, 3607), (72, 3634), (75, 3640), (77, 3685), (79, 3697), (85, 3748), (86, 3751), (89, 3781), (95, 3823),

Gene: LolaVinca_10 Start: 2977, Stop: 3399, Start Num: 29

Candidate Starts for LolaVinca_10:

(12, 2860), (16, 2890), (20, 2917), (Start: 26 @2953 has 1 MA's), (Start: 29 @2977 has 9 MA's), (50, 3064), (59, 3079), (72, 3106), (75, 3112), (77, 3157), (79, 3169), (85, 3220), (86, 3223), (89, 3253), (95, 3295), (100, 3334),

Gene: LookingGlass_7 Start: 2223, Stop: 2579, Start Num: 50

Candidate Starts for LookingGlass_7:

(19, 2091), (Start: 31 @2148 has 51 MA's), (50, 2223), (59, 2238), (72, 2265), (75, 2271), (77, 2316), (79, 2328), (85, 2379), (86, 2382), (89, 2412), (95, 2454),

Gene: LordLeafolot_10 Start: 2977, Stop: 3420, Start Num: 29

Candidate Starts for LordLeafolot_10:

(12, 2860), (16, 2890), (20, 2917), (Start: 26 @2953 has 1 MA's), (Start: 29 @2977 has 9 MA's), (50, 3064), (59, 3079), (72, 3106), (75, 3112), (77, 3157), (79, 3169), (85, 3220), (86, 3223), (89, 3253), (95, 3295),

Gene: Lunareta_7 Start: 2252, Stop: 2608, Start Num: 50

Candidate Starts for Lunareta_7:

(Start: 31 @2177 has 51 MA's), (50, 2252), (59, 2267), (72, 2294), (75, 2300), (77, 2345), (79, 2357), (85, 2408), (86, 2411), (89, 2441), (95, 2483),

Gene: Marshmallow_42 Start: 35818, Stop: 35342, Start Num: 36

Candidate Starts for Marshmallow_42:

(Start: 31 @35830 has 51 MA's), (Start: 36 @35818 has 2 MA's), (48, 35755), (60, 35740), (71, 35713), (73, 35707), (77, 35662), (79, 35650), (83, 35608), (96, 35506), (107, 35362),

Gene: Maturis_8 Start: 2252, Stop: 2608, Start Num: 50

Candidate Starts for Maturis_8:

(Start: 31 @2177 has 51 MA's), (50, 2252), (59, 2267), (72, 2294), (75, 2300), (77, 2345), (79, 2357), (85, 2408), (86, 2411), (89, 2441), (95, 2483),

Gene: Melville_59 Start: 36268, Stop: 36615, Start Num: 41

Candidate Starts for Melville_59:

(Start: 21 @36178 has 1 MA's), (27, 36214), (Start: 41 @36268 has 7 MA's), (46, 36310), (55, 36331), (74, 36382), (88, 36511), (94, 36553),

Gene: Mikro_7 Start: 3147, Stop: 3578, Start Num: 31

Candidate Starts for Mikro_7:

(19, 3090), (Start: 31 @3147 has 51 MA's), (50, 3222), (59, 3237), (72, 3264), (75, 3270), (77, 3315), (79, 3327), (85, 3378), (86, 3381), (89, 3411), (95, 3453),

Gene: MilleniumForce_53 Start: 38559, Stop: 38825, Start Num: 42

Candidate Starts for MilleniumForce_53:

(Start: 42 @38559 has 1 MA's), (43, 38562), (49, 38589), (59, 38616), (70, 38640),

Gene: MoMoMixon_7 Start: 2383, Stop: 2814, Start Num: 31

Candidate Starts for MoMoMixon_7:

(22, 2347), (Start: 31 @2383 has 51 MA's), (50, 2458), (59, 2473), (72, 2500), (75, 2506), (77, 2551), (79, 2563), (85, 2614), (86, 2617), (89, 2647), (95, 2689),

Gene: Montpel_7 Start: 2252, Stop: 2608, Start Num: 50

Candidate Starts for Montpel_7:

(Start: 31 @2177 has 51 MA's), (50, 2252), (59, 2267), (72, 2294), (75, 2300), (77, 2345), (79, 2357), (85, 2408), (86, 2411), (89, 2441), (95, 2483),

Gene: Moonbeam_89 Start: 51150, Stop: 51629, Start Num: 33

Candidate Starts for Moonbeam_89:

(Start: 33 @51150 has 1 MA's), (Start: 35 @51153 has 1 MA's), (53, 51222), (59, 51234), (72, 51261), (75, 51267), (77, 51312), (79, 51324), (85, 51375), (86, 51378), (89, 51408), (95, 51450), (105, 51576),

Gene: Moose_61 Start: 40140, Stop: 39913, Start Num: 52

Candidate Starts for Moose_61:

(Start: 52 @40140 has 8 MA's), (72, 40092), (79, 40032),

Gene: Myrale_43 Start: 35695, Stop: 35207, Start Num: 31

Candidate Starts for Myrale_43:

(Start: 31 @35695 has 51 MA's), (Start: 36 @35683 has 2 MA's), (48, 35620), (60, 35605), (71, 35578), (73, 35572), (77, 35527), (79, 35515), (83, 35473), (96, 35371), (107, 35227),

Gene: Naval22_7 Start: 2458, Stop: 2814, Start Num: 50

Candidate Starts for Naval22_7:

(22, 2347), (Start: 31 @2383 has 51 MA's), (50, 2458), (59, 2473), (72, 2500), (75, 2506), (77, 2551), (79, 2563), (85, 2614), (86, 2617), (89, 2647), (95, 2689),

Gene: Nekros_71 Start: 48970, Stop: 48458, Start Num: 31

Candidate Starts for Nekros_71:

(Start: 31 @48970 has 51 MA's), (79, 48766), (83, 48724), (96, 48622), (107, 48478),

Gene: Nidhogg_7 Start: 2383, Stop: 2814, Start Num: 31

Candidate Starts for Nidhogg_7:

(22, 2347), (Start: 31 @2383 has 51 MA's), (50, 2458), (59, 2473), (72, 2500), (75, 2506), (77, 2551), (79, 2563), (85, 2614), (86, 2617), (89, 2647), (95, 2689),

Gene: NoodleTree_7 Start: 2148, Stop: 2579, Start Num: 31

Candidate Starts for NoodleTree_7:

(19, 2091), (Start: 31 @2148 has 51 MA's), (50, 2223), (59, 2238), (72, 2265), (75, 2271), (77, 2316), (79, 2328), (85, 2379), (86, 2382), (89, 2412), (95, 2454),

Gene: NormanBulbieJr_83 Start: 50465, Stop: 50929, Start Num: 31

Candidate Starts for NormanBulbieJr_83:

(Start: 31 @50465 has 51 MA's), (34, 50474), (62, 50576), (65, 50585), (77, 50657), (79, 50669), (83, 50711), (96, 50813),

Gene: NuevoMundo_9 Start: 2841, Stop: 3272, Start Num: 31

Candidate Starts for NuevoMundo_9:

(13, 2736), (16, 2757), (18, 2763), (Start: 31 @2841 has 51 MA's), (50, 2916), (59, 2931), (72, 2958), (75, 2964), (77, 3009), (79, 3021), (85, 3072), (86, 3075), (89, 3105), (95, 3147),

Gene: Ogotogo_51 Start: 36143, Stop: 36514, Start Num: 28

Candidate Starts for Ogotogo_51:

(Start: 28 @36143 has 1 MA's), (30, 36155), (37, 36176), (38, 36182), (Start: 41 @36191 has 7 MA's), (78, 36362), (90, 36458), (91, 36467),

Gene: Pepe_58 Start: 39571, Stop: 39344, Start Num: 52

Candidate Starts for Pepe_58:

(Start: 52 @39571 has 8 MA's), (72, 39523), (79, 39463), (80, 39460),

Gene: Phaja_41 Start: 35395, Stop: 34907, Start Num: 31

Candidate Starts for Phaja_41:

(Start: 31 @35395 has 51 MA's), (Start: 36 @35383 has 2 MA's), (48, 35320), (60, 35305), (71, 35278), (73, 35272), (77, 35227), (79, 35215), (83, 35173), (96, 35071), (107, 34927),

Gene: PharkleMinkus_10 Start: 2978, Stop: 3421, Start Num: 29

Candidate Starts for PharkleMinkus_10:

(12, 2861), (16, 2891), (20, 2918), (Start: 26 @2954 has 1 MA's), (Start: 29 @2978 has 9 MA's), (50, 3065), (59, 3080), (72, 3107), (75, 3113), (77, 3158), (79, 3170), (85, 3221), (86, 3224), (89, 3254), (95, 3296),

Gene: Phatniss_83 Start: 49365, Stop: 49781, Start Num: 31

Candidate Starts for Phatniss_83:

(Start: 31 @49365 has 51 MA's), (51, 49449), (54, 49458), (66, 49494), (77, 49563), (79, 49575), (82, 49608), (99, 49707),

Gene: Pier_10 Start: 2844, Stop: 3275, Start Num: 31

Candidate Starts for Pier_10:

(13, 2739), (16, 2760), (18, 2766), (Start: 31 @2844 has 51 MA's), (50, 2919), (59, 2934), (72, 2961), (75, 2967), (77, 3012), (79, 3024), (85, 3075), (86, 3078), (89, 3108), (95, 3150),

Gene: Pio_8 Start: 2537, Stop: 2968, Start Num: 31

Candidate Starts for Pio_8:

(22, 2501), (Start: 31 @2537 has 51 MA's), (50, 2612), (59, 2627), (72, 2654), (75, 2660), (77, 2705), (79, 2717), (85, 2768), (86, 2771), (89, 2801), (95, 2843),

Gene: Pollywog_88 Start: 51599, Stop: 52084, Start Num: 31

Candidate Starts for Pollywog_88:

(23, 51560), (Start: 31 @51599 has 51 MA's), (Start: 36 @51611 has 2 MA's), (50, 51674), (59, 51689), (72, 51716), (75, 51722), (77, 51767), (79, 51779), (85, 51830), (86, 51833), (89, 51863), (95, 51905), (105, 52031),

Gene: Priscilla_85 Start: 50563, Stop: 51027, Start Num: 31

Candidate Starts for Priscilla_85:

(Start: 31 @50563 has 51 MA's), (34, 50572), (62, 50674), (65, 50683), (77, 50755), (79, 50767), (83, 50809), (96, 50911),

Gene: Pupusa_10 Start: 2977, Stop: 3420, Start Num: 29

Candidate Starts for Pupusa_10:

(12, 2860), (16, 2890), (20, 2917), (Start: 26 @2953 has 1 MA's), (Start: 29 @2977 has 9 MA's), (50, 3064), (59, 3079), (72, 3106), (75, 3112), (77, 3157), (79, 3169), (85, 3220), (86, 3223), (89, 3253), (95, 3295),

Gene: Rearden_72 Start: 47623, Stop: 47135, Start Num: 31

Candidate Starts for Rearden_72:

(23, 47662), (Start: 31 @47623 has 51 MA's), (Start: 36 @47611 has 2 MA's), (50, 47548), (59, 47533), (72, 47506), (75, 47500), (77, 47455), (79, 47443), (85, 47392), (86, 47389), (89, 47359), (95, 47317), (105, 47191),

Gene: Rialto_92 Start: 51249, Stop: 51725, Start Num: 35

Candidate Starts for Rialto_92:

(Start: 33 @51246 has 1 MA's), (Start: 35 @51249 has 1 MA's), (53, 51318), (59, 51330), (72, 51357), (75, 51363), (77, 51408), (79, 51420), (85, 51471), (86, 51474), (89, 51504), (95, 51546), (105, 51672),

Gene: Rocha_7 Start: 2220, Stop: 2576, Start Num: 50

Candidate Starts for Rocha_7:

(19, 2088), (Start: 31 @2145 has 51 MA's), (50, 2220), (59, 2235), (72, 2262), (75, 2268), (77, 2313), (79, 2325), (85, 2376), (86, 2379), (89, 2409), (95, 2451),

Gene: Royals2015_53 Start: 36891, Stop: 37130, Start Num: 41

Candidate Starts for Royals2015_53:

(Start: 41 @36891 has 7 MA's), (49, 36924), (59, 36951), (70, 36975), (90, 37113),

Gene: Ryadel_104 Start: 63381, Stop: 62932, Start Num: 31

Candidate Starts for Ryadel_104:

(22, 63432), (Start: 31 @63381 has 51 MA's), (Start: 36 @63369 has 2 MA's), (47, 63303), (64, 63240), (68, 63216), (77, 63132), (79, 63120), (84, 63087), (104, 62937),

Gene: Sabbb_90 Start: 48794, Stop: 49228, Start Num: 31

Candidate Starts for Sabbb_90:

(23, 48755), (Start: 31 @48794 has 51 MA's), (Start: 36 @48806 has 2 MA's), (50, 48869), (59, 48884), (72, 48911), (75, 48917), (77, 48962), (79, 48974), (85, 49025), (86, 49028), (89, 49058), (95, 49100),

Gene: Sauce_7 Start: 2387, Stop: 2818, Start Num: 31

Candidate Starts for Sauce_7:

(22, 2351), (Start: 31 @2387 has 51 MA's), (50, 2462), (59, 2477), (72, 2504), (75, 2510), (77, 2555), (79, 2567), (85, 2618), (86, 2621), (89, 2651), (95, 2693),

Gene: Seanderson_62 Start: 42352, Stop: 42125, Start Num: 52

Candidate Starts for Seanderson_62:

(Start: 52 @42352 has 8 MA's), (72, 42304), (79, 42244),

Gene: Sebata_9 Start: 3505, Stop: 3948, Start Num: 29

Candidate Starts for Sebata_9:

(12, 3388), (16, 3418), (20, 3445), (Start: 26 @3481 has 1 MA's), (Start: 29 @3505 has 9 MA's), (50, 3592), (59, 3607), (72, 3634), (75, 3640), (77, 3685), (79, 3697), (85, 3748), (86, 3751), (89, 3781), (95, 3823),

Gene: Shaboozey_65 Start: 44675, Stop: 44163, Start Num: 31

Candidate Starts for Shaboozey_65:

(Start: 31 @44675 has 51 MA's), (44, 44633), (79, 44471), (83, 44429), (96, 44327), (107, 44183),

Gene: ShamWow_43 Start: 35832, Stop: 35344, Start Num: 31

Candidate Starts for ShamWow_43:

(Start: 31 @35832 has 51 MA's), (Start: 36 @35820 has 2 MA's), (48, 35757), (60, 35742), (71, 35715), (73, 35709), (77, 35664), (79, 35652), (83, 35610), (96, 35508), (107, 35364),

Gene: Shauna1_82 Start: 49932, Stop: 50444, Start Num: 31

Candidate Starts for Shauna1_82:

(Start: 31 @49932 has 51 MA's), (77, 50124), (79, 50136), (83, 50178), (96, 50280), (107, 50424),

Gene: SimranZ1_81 Start: 48125, Stop: 48592, Start Num: 31

Candidate Starts for SimranZ1_81:

(23, 48086), (Start: 31 @48125 has 51 MA's), (50, 48200), (59, 48215), (72, 48242), (75, 48248), (77, 48293), (79, 48305), (85, 48356), (86, 48359), (89, 48389), (103, 48503), (106, 48545),

Gene: SkiPole_67 Start: 41615, Stop: 41388, Start Num: 52

Candidate Starts for SkiPole_67:

(Start: 52 @41615 has 8 MA's), (72, 41567), (79, 41507), (80, 41504),

Gene: Sparkdehlily_95 Start: 49514, Stop: 49996, Start Num: 32

Candidate Starts for Sparkdehlily_95:

(Start: 32 @49514 has 2 MA's), (Start: 33 @49517 has 1 MA's), (Start: 35 @49520 has 1 MA's), (53, 49589), (59, 49601), (72, 49628), (75, 49634), (77, 49679), (79, 49691), (85, 49742), (86, 49745), (89, 49775), (95, 49817), (105, 49943),

Gene: Specks_10 Start: 2977, Stop: 3420, Start Num: 29

Candidate Starts for Specks_10:

(12, 2860), (16, 2890), (20, 2917), (Start: 26 @2953 has 1 MA's), (Start: 29 @2977 has 9 MA's), (50, 3064), (59, 3079), (72, 3106), (75, 3112), (77, 3157), (79, 3169), (85, 3220), (86, 3223), (89, 3253), (95, 3295),

Gene: Spud_8 Start: 2537, Stop: 2968, Start Num: 31

Candidate Starts for Spud_8:

(22, 2501), (Start: 31 @2537 has 51 MA's), (50, 2612), (59, 2627), (72, 2654), (75, 2660), (77, 2705), (79, 2717), (85, 2768), (86, 2771), (89, 2801), (95, 2843),

Gene: StellaBean_41 Start: 35156, Stop: 34668, Start Num: 31

Candidate Starts for StellaBean_41:

(Start: 31 @35156 has 51 MA's), (Start: 36 @35144 has 2 MA's), (48, 35081), (60, 35066), (71, 35039), (73, 35033), (77, 34988), (79, 34976), (83, 34934), (96, 34832), (107, 34688),

Gene: StephanieG_9 Start: 2844, Stop: 3275, Start Num: 31

Candidate Starts for StephanieG_9:

(13, 2739), (16, 2760), (18, 2766), (Start: 31 @2844 has 51 MA's), (50, 2919), (59, 2934), (72, 2961), (75, 2967), (77, 3012), (79, 3024), (85, 3075), (86, 3078), (89, 3108), (95, 3150),

Gene: Sunshine924_64 Start: 40630, Stop: 40100, Start Num: 26

Candidate Starts for Sunshine924_64:

(Start: 26 @40630 has 1 MA's), (67, 40477), (72, 40453), (76, 40429), (78, 40396), (85, 40336), (86, 40333), (89, 40303), (103, 40189), (106, 40147), (107, 40120),

Gene: SuperGrey_83 Start: 51298, Stop: 51810, Start Num: 31

Candidate Starts for SuperGrey_83:

(Start: 31 @51298 has 51 MA's), (44, 51340), (79, 51502), (83, 51544), (96, 51646), (107, 51790),

Gene: SwissCheese_63 Start: 40640, Stop: 40413, Start Num: 52

Candidate Starts for SwissCheese_63:

(Start: 52 @40640 has 8 MA's), (72, 40592), (79, 40532),

Gene: TDanisky_96 Start: 49514, Stop: 49996, Start Num: 32

Candidate Starts for TDanisky_96:

(Start: 32 @49514 has 2 MA's), (Start: 33 @49517 has 1 MA's), (Start: 35 @49520 has 1 MA's), (53, 49589), (59, 49601), (72, 49628), (75, 49634), (77, 49679), (79, 49691), (85, 49742), (86, 49745), (89, 49775), (95, 49817), (105, 49943),

Gene: Tainan_10 Start: 2977, Stop: 3420, Start Num: 29

Candidate Starts for Tainan_10:

(12, 2860), (16, 2890), (20, 2917), (Start: 26 @2953 has 1 MA's), (Start: 29 @2977 has 9 MA's), (50, 3064), (59, 3079), (72, 3106), (75, 3112), (77, 3157), (79, 3169), (85, 3220), (86, 3223), (89, 3253), (95, 3295),

Gene: Tonenili_21 Start: 6415, Stop: 6846, Start Num: 31

Candidate Starts for Tonenili_21:

(6, 6136), (9, 6280), (10, 6283), (Start: 31 @6415 has 51 MA's), (Start: 36 @6427 has 2 MA's), (61, 6535), (67, 6553), (72, 6577), (76, 6601), (77, 6631), (79, 6643), (87, 6715), (97, 6769),

Gene: Tortellini_64 Start: 43747, Stop: 44214, Start Num: 21

Candidate Starts for Tortellini_64:

(15, 43702), (Start: 21 @43747 has 1 MA's), (37, 43822), (44, 43846), (49, 43888), (98, 44155), (101, 44200),

Gene: Toto_42 Start: 35820, Stop: 35344, Start Num: 36

Candidate Starts for Toto_42:

(Start: 31 @35832 has 51 MA's), (Start: 36 @35820 has 2 MA's), (48, 35757), (60, 35742), (71, 35715), (73, 35709), (77, 35664), (79, 35652), (83, 35610), (96, 35508), (107, 35364),

Gene: Tuco_44 Start: 36340, Stop: 35852, Start Num: 31

Candidate Starts for Tuco_44:

(Start: 31 @36340 has 51 MA's), (Start: 36 @36328 has 2 MA's), (48, 36265), (60, 36250), (71, 36223), (73, 36217), (77, 36172), (79, 36160), (83, 36118), (96, 36016), (107, 35872),

Gene: Tyke_9 Start: 2817, Stop: 3251, Start Num: 31

Candidate Starts for Tyke_9:

(19, 2760), (Start: 31 @2817 has 51 MA's), (50, 2892), (59, 2907), (72, 2934), (75, 2940), (77, 2985), (79, 2997), (85, 3048), (86, 3051), (89, 3081), (95, 3123),