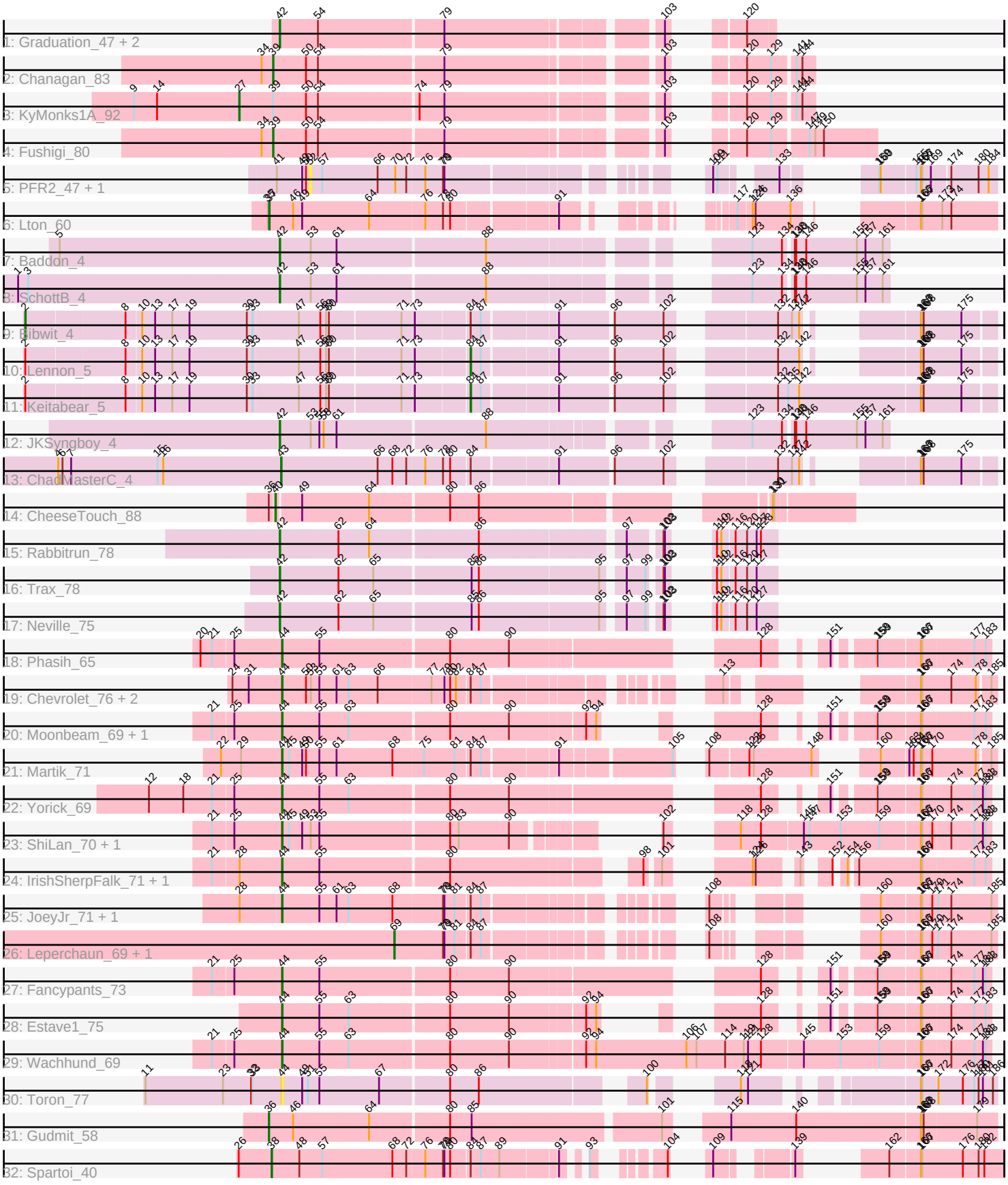
Pham 176363


1: Graduation_47 + 2
2: Chanagan_83
3: KyMonks1A_92
4: Fushigi_80
5: PFR2_47 + 1
6: Lton_60
7: Baddon_4
8: SchottB_4
9: Bibwit_4
10: Lennon_5
11: Keitabear_5
12: JKSyngboy_4
13: ChadMasterC_4
14: CheeseTouch_88
15: Rabbitrun_78
16: Trax_78
17: Neville_75
18: Phasih_65
19: Chevrolet_76 + 2
20: Moonbeam_69 + 1
21: Martik_71
22: Yorick_69
23: ShiLan_70 + 1
24: IrishSherpFalk_71 + 1
25: JoeyJr_71 + 1
26: Leperchaun_69 + 1
27: Fancypants_73
28: Estave1_75
29: Wachhund_69
30: Toron_77
31: Gudmit_58
32: Spartoi_40

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 176363 Report

This analysis was run 11/02/24 on database version 579.

Pham number 176363 has 42 members, 3 are drafts.

Phages represented in each track:
- Track 1 : Graduation_47, Papez_46, Magnar_43
- Track 2 : Chanagan_83
- Track 3 : KyMonks1A_92
- Track 4 : Fushigi_80
- Track 5 : PFR2_47, PFR1_45
- Track 6 : Lton_60
- Track 7 : Baddon_4
- Track 8 : SchottB_4
- Track 9 : Bibwit_4
- Track 10 : Lennon_5
- Track 11 : Keitabear_5
- Track 12 : JKSyngboy_4
- Track 13 : ChadMasterC_4
- Track 14 : CheeseTouch_88
- Track 15 : Rabbitrun_78
- Track 16 : Trax_78
- Track 17 : Neville_75
- Track 18 : Phasih_65
- Track 19 : Chevrolet_76, ArcusAngelus_74, Tweety_72
- Track 20 : Moonbeam_69, Starcevich_69
- Track 21 : Martik_71
- Track 22 : Yorick_69
- Track 23 : ShiLan_70, Rita_76
- Track 24 : IrishSherpFalk_71, WillSterrel_71
- Track 25 : JoeyJr_71, RitaG_71
- Track 26 : Leperchaun_69, Polka14_75
- Track 27 : Fancypants_73
- Track 28 : Estave1_75
- Track 29 : Wachhund_69
- Track 30 : Toron_77
- Track 31 : Gudmit_58
- Track 32 : Spartoi_40

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

The start number called the most often in the published annotations is 44, it was called in 17 of the 39 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• ArcusAngelus_74, Chevrolet_76, Estave1_75, Fancypants_73, IrishSherpFalk_71, JoeyJr_71, Martik_71, Moonbeam_69, Phasih_65, RitaG_71, Rita_76, ShiLan_70, Starcevich_69, Toron_77, Tweety_72, Wachhund_69, WillSterrel_71, Yorick_69,

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

Genes that do not have the "Most Annotated" start:
• Baddon_4, Bibwit_4, ChadMasterC_4, Chanagan_83, CheeseTouch_88, Fushigi_80, Graduation_47, Gudmit_58, JKSyngboy_4, Keitabear_5, KyMonks1A_92, Lennon_5, Leperchaun_69, Lton_60, Magnar_43, Neville_75, PFR1_45, PFR2_47, Papez_46, Polka14_75, Rabbitrun_78, SchottB_4, Spartoi_40, Trax_78,

Summary by start number:

Start 2:
• Found in 3 of 42 (7.1%) of genes in pham
• Manual Annotations of this start: 1 of 39
• Called 33.3% of time when present
• Phage (with cluster) where this start called: Bibwit_4 (DE1),

Start 27:
• Found in 1 of 42 (2.4%) of genes in pham
• Manual Annotations of this start: 1 of 39
• Called 100.0% of time when present
• Phage (with cluster) where this start called: KyMonks1A_92 (A1),

Start 36:
• Found in 2 of 42 (4.8%) of genes in pham
• Manual Annotations of this start: 1 of 39
• Called 50.0% of time when present
• Phage (with cluster) where this start called: Gudmit_58 (singleton),

Start 37:
• Found in 1 of 42 (2.4%) of genes in pham
• Manual Annotations of this start: 1 of 39
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Lton_60 (CZ),

Start 38:
• Found in 1 of 42 (2.4%) of genes in pham
• Manual Annotations of this start: 1 of 39
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Spartoi_40 (singleton),

Start 39:
• Found in 3 of 42 (7.1%) of genes in pham

• Manual Annotations of this start: 2 of 39
• Called 66.7% of time when present
• Phage (with cluster) where this start called: Chanagan_83 (A1), Fushigi_80 (A1),

Start 40:
• Found in 1 of 42 (2.4%) of genes in pham
• Manual Annotations of this start: 1 of 39
• Called 100.0% of time when present
• Phage (with cluster) where this start called: CheeseTouch_88 (DN1),

Start 42:
• Found in 9 of 42 (21.4%) of genes in pham
• Manual Annotations of this start: 9 of 39
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Baddon_4 (DE1), Graduation_47 (A1), JKSyngboy_4 (DE1), Magnar_43 (A1), Neville_75 (DU2), Papez_46 (A1), Rabbitrun_78 (DU2), SchottB_4 (DE1), Trax_78 (DU2),

Start 43:
• Found in 1 of 42 (2.4%) of genes in pham
• Manual Annotations of this start: 1 of 39
• Called 100.0% of time when present
• Phage (with cluster) where this start called: ChadMasterC_4 (DE1),

Start 44:
• Found in 18 of 42 (42.9%) of genes in pham
• Manual Annotations of this start: 17 of 39
• Called 100.0% of time when present
• Phage (with cluster) where this start called: ArcusAngelus_74 (F1), Chevrolet_76 (F1), Estave1_75 (F1), Fancypants_73 (F1), IrishSherpFalk_71 (F1), JoeyJr_71 (F1), Martik_71 (F1), Moonbeam_69 (F1), Phasih_65 (F1), RitaG_71 (F1), Rita_76 (F1), ShiLan_70 (F1), Starcevich_69 (F1), Toron_77 (F6), Tweety_72 (F1), Wachhund_69 (F1), WillSterrel_71 (F1), Yorick_69 (F1),

Start 52:
• Found in 2 of 42 (4.8%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: PFR1_45 (BX), PFR2_47 (BX),

Start 69:
• Found in 2 of 42 (4.8%) of genes in pham
• Manual Annotations of this start: 2 of 39
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Leperchaun_69 (F1), Polka14_75 (F1),

Start 84:
• Found in 13 of 42 (31.0%) of genes in pham
• Manual Annotations of this start: 2 of 39
• Called 15.4% of time when present
• Phage (with cluster) where this start called: Keitabear_5 (DE1), Lennon_5 (DE1),

Summary by clusters:

There are 9 clusters represented in this pham: F1, singleton, F6, DE1, A1, CZ, DN1, DU2, BX,

Info for manual annotations of cluster A1:
•Start number 27 was manually annotated 1 time for cluster A1.
•Start number 39 was manually annotated 2 times for cluster A1.
•Start number 42 was manually annotated 3 times for cluster A1.

Info for manual annotations of cluster CZ:
•Start number 37 was manually annotated 1 time for cluster CZ.

Info for manual annotations of cluster DE1:
•Start number 2 was manually annotated 1 time for cluster DE1.
•Start number 42 was manually annotated 3 times for cluster DE1.
•Start number 43 was manually annotated 1 time for cluster DE1.
•Start number 84 was manually annotated 2 times for cluster DE1.

Info for manual annotations of cluster DN1:
•Start number 40 was manually annotated 1 time for cluster DN1.

Info for manual annotations of cluster DU2:
•Start number 42 was manually annotated 3 times for cluster DU2.

Info for manual annotations of cluster F1:
•Start number 44 was manually annotated 17 times for cluster F1.
•Start number 69 was manually annotated 2 times for cluster F1.

Gene Information:

Gene: ArcusAngelus_74 Start: 44743, Stop: 45855, Start Num: 44
Candidate Starts for ArcusAngelus_74:
(24, 44644), (31, 44677), (Start: 44 @44743 has 17 MA's), (50, 44791), (53, 44800), (55, 44818), (61, 44854), (63, 44878), (66, 44935), (77, 45040), (79, 45067), (80, 45079), (82, 45091), (Start: 84 @45115 has 2 MA's), (87, 45136), (113, 45472), (166, 45712), (167, 45715), (174, 45772), (178, 45820), (185, 45844),

Gene: Baddon_4 Start: 2579, Stop: 3649, Start Num: 42
Candidate Starts for Baddon_4:
(5, 2123), (Start: 42 @2579 has 9 MA's), (53, 2636), (61, 2690), (88, 2984), (123, 3377), (134, 3437), (138, 3452), (140, 3455), (146, 3476), (155, 3581), (157, 3599), (161, 3635),

Gene: Bibwit_4 Start: 2433, Stop: 4142, Start Num: 2
Candidate Starts for Bibwit_4:
(Start: 2 @2433 has 1 MA's), (8, 2625), (10, 2655), (13, 2682), (17, 2718), (19, 2754), (30, 2871), (33, 2883), (47, 2970), (56, 3012), (59, 3024), (60, 3030), (71, 3174), (73, 3198), (Start: 84 @3294 has 2 MA's), (87, 3315), (91, 3450), (96, 3555), (102, 3651), (132, 3819), (137, 3846), (142, 3861), (166, 3996), (167, 3999), (168, 4002), (175, 4080),

Gene: ChadMasterC_4 Start: 2379, Stop: 3599, Start Num: 43
Candidate Starts for ChadMasterC_4:
(4, 1923), (6, 1932), (7, 1950), (15, 2130), (16, 2142), (Start: 43 @2379 has 1 MA's), (66, 2571), (68, 2601), (72, 2628), (76, 2664), (78, 2700), (80, 2715), (Start: 84 @2751 has 2 MA's), (91, 2907), (96, 3012), (102, 3108), (132, 3276), (137, 3303), (142, 3318), (166, 3453), (167, 3456), (168, 3459), (175, 3537),

Gene: Chanagan_83 Start: 48048, Stop: 47131, Start Num: 39
Candidate Starts for Chanagan_83:
(34, 48069), (Start: 39 @48048 has 2 MA's), (50, 47982), (54, 47958), (79, 47712), (103, 47328), (120, 47253), (129, 47208), (141, 47169), (144, 47157),

Gene: CheeseTouch_88 Start: 43473, Stop: 44507, Start Num: 40
Candidate Starts for CheeseTouch_88:
(Start: 36 @43464 has 1 MA's), (Start: 40 @43473 has 1 MA's), (49, 43515), (64, 43650), (80, 43803), (86, 43863), (130, 44355), (131, 44358),

Gene: Chevrolet_76 Start: 44744, Stop: 45856, Start Num: 44
Candidate Starts for Chevrolet_76:
(24, 44645), (31, 44678), (Start: 44 @44744 has 17 MA's), (50, 44792), (53, 44801), (55, 44819), (61, 44855), (63, 44879), (66, 44936), (77, 45041), (79, 45068), (80, 45080), (82, 45092), (Start: 84 @45116 has 2 MA's), (87, 45137), (113, 45473), (166, 45713), (167, 45716), (174, 45773), (178, 45821), (185, 45845),

Gene: Estave1_75 Start: 47847, Stop: 48950, Start Num: 44
Candidate Starts for Estave1_75:
(Start: 44 @47847 has 17 MA's), (55, 47922), (63, 47982), (80, 48177), (90, 48300), (92, 48444), (94, 48465), (128, 48594), (151, 48660), (158, 48726), (159, 48729), (166, 48807), (167, 48810), (174, 48867), (177, 48915), (183, 48939),

Gene: Fancypants_73 Start: 46022, Stop: 47248, Start Num: 44
Candidate Starts for Fancypants_73:
(21, 45899), (25, 45941), (Start: 44 @46022 has 17 MA's), (55, 46097), (80, 46352), (90, 46475), (128, 46892), (151, 46958), (158, 47024), (159, 47027), (166, 47105), (167, 47108), (174, 47165), (177, 47213), (181, 47231), (183, 47237),

Gene: Fushigi_80 Start: 47333, Stop: 46284, Start Num: 39
Candidate Starts for Fushigi_80:
(34, 47354), (Start: 39 @47333 has 2 MA's), (50, 47267), (54, 47243), (79, 46997), (103, 46613), (120, 46538), (129, 46493), (147, 46424), (149, 46412), (150, 46394),

Gene: Graduation_47 Start: 34493, Stop: 33666, Start Num: 42
Candidate Starts for Graduation_47:
(Start: 42 @34493 has 9 MA's), (54, 34421), (79, 34175), (103, 33791), (120, 33716),

Gene: Gudmit_58 Start: 34535, Stop: 35920, Start Num: 36
Candidate Starts for Gudmit_58:
(Start: 36 @34535 has 1 MA's), (46, 34586), (64, 34739), (80, 34892), (85, 34937), (101, 35306), (115, 35381), (140, 35516), (166, 35765), (167, 35768), (168, 35771), (179, 35879),

Gene: IrishSherpFalk_71 Start: 45147, Stop: 46322, Start Num: 44
Candidate Starts for IrishSherpFalk_71:

(21, 45024), (28, 45072), (Start: 44 @45147 has 17 MA's), (55, 45222), (80, 45477), (98, 45804), (101, 45828), (124, 45924), (126, 45930), (143, 45993), (152, 46026), (154, 46041), (156, 46053), (166, 46179), (167, 46182), (177, 46287), (183, 46311),

Gene: JKSyngboy_4 Start: 2579, Stop: 3643, Start Num: 42
Candidate Starts for JKSyngboy_4:
(Start: 42 @2579 has 9 MA's), (53, 2636), (55, 2654), (58, 2663), (61, 2690), (88, 2984), (123, 3371), (134, 3431), (138, 3446), (140, 3449), (146, 3470), (155, 3575), (157, 3593), (161, 3629),

Gene: JoeyJr_71 Start: 45459, Stop: 46547, Start Num: 44
Candidate Starts for JoeyJr_71:
(28, 45378), (Start: 44 @45459 has 17 MA's), (55, 45534), (61, 45570), (63, 45594), (68, 45681), (78, 45780), (79, 45783), (81, 45804), (Start: 84 @45831 has 2 MA's), (87, 45852), (108, 46155), (160, 46317), (166, 46395), (167, 46398), (170, 46419), (171, 46428), (174, 46455), (185, 46536),

Gene: Keitabear_5 Start: 4089, Stop: 5051, Start Num: 84
Candidate Starts for Keitabear_5:
(Start: 2 @3228 has 1 MA's), (8, 3420), (10, 3450), (13, 3477), (17, 3513), (19, 3549), (30, 3666), (33, 3678), (47, 3765), (56, 3807), (59, 3819), (60, 3825), (71, 3969), (73, 3993), (Start: 84 @4089 has 2 MA's), (87, 4110), (91, 4245), (96, 4350), (102, 4446), (132, 4614), (135, 4635), (142, 4656), (166, 4905), (167, 4908), (168, 4911), (175, 4989),

Gene: KyMonks1A_92 Start: 50898, Stop: 49912, Start Num: 27
Candidate Starts for KyMonks1A_92:
(9, 51117), (14, 51069), (Start: 27 @50898 has 1 MA's), (Start: 39 @50829 has 2 MA's), (50, 50763), (54, 50739), (74, 50544), (79, 50493), (103, 50109), (120, 50034), (129, 49989), (141, 49950), (144, 49938),

Gene: Lennon_5 Start: 3295, Stop: 4143, Start Num: 84
Candidate Starts for Lennon_5:
(Start: 2 @2434 has 1 MA's), (8, 2626), (10, 2656), (13, 2683), (17, 2719), (19, 2755), (30, 2872), (33, 2884), (47, 2971), (56, 3013), (59, 3025), (60, 3031), (71, 3175), (73, 3199), (Start: 84 @3295 has 2 MA's), (87, 3316), (91, 3451), (96, 3556), (102, 3652), (132, 3820), (142, 3862), (166, 3997), (167, 4000), (168, 4003), (175, 4081),

Gene: Leperchaun_69 Start: 44915, Stop: 45781, Start Num: 69
Candidate Starts for Leperchaun_69:
(Start: 69 @44915 has 2 MA's), (78, 45014), (79, 45017), (81, 45038), (Start: 84 @45065 has 2 MA's), (87, 45086), (108, 45389), (160, 45551), (166, 45629), (167, 45632), (170, 45653), (171, 45662), (174, 45689), (185, 45770),

Gene: Lton_60 Start: 35512, Stop: 36642, Start Num: 37
Candidate Starts for Lton_60:
(35, 35509), (Start: 37 @35512 has 1 MA's), (46, 35560), (49, 35578), (64, 35713), (76, 35821), (78, 35857), (80, 35872), (91, 36064), (117, 36241), (124, 36268), (126, 36274), (136, 36346), (166, 36490), (167, 36493), (173, 36532), (174, 36550),

Gene: Magnar_43 Start: 33305, Stop: 32478, Start Num: 42
Candidate Starts for Magnar_43:
(Start: 42 @33305 has 9 MA's), (54, 33233), (79, 32987), (103, 32603), (120, 32528),

Gene: Martik_71 Start: 45731, Stop: 46957, Start Num: 44
Candidate Starts for Martik_71:

(22, 45608), (29, 45650), (Start: 44 @45731 has 17 MA's), (45, 45746), (49, 45773), (50, 45779), (55, 45806), (61, 45842), (68, 45953), (75, 46013), (81, 46076), (Start: 84 @46103 has 2 MA's), (87, 46124), (91, 46259), (105, 46466), (108, 46478), (122, 46553), (125, 46562), (148, 46682), (160, 46736), (163, 46790), (164, 46799), (166, 46814), (167, 46817), (170, 46838), (178, 46922), (185, 46946),

Gene: Moonbeam_69 Start: 44939, Stop: 46042, Start Num: 44
Candidate Starts for Moonbeam_69:
(21, 44816), (25, 44858), (Start: 44 @44939 has 17 MA's), (55, 45014), (63, 45074), (80, 45269), (90, 45392), (92, 45536), (94, 45557), (128, 45686), (151, 45752), (158, 45818), (159, 45821), (166, 45899), (167, 45902), (177, 46007), (183, 46031),

Gene: Neville_75 Start: 47371, Stop: 48234, Start Num: 42
Candidate Starts for Neville_75:
(Start: 42 @47371 has 9 MA's), (62, 47485), (65, 47557), (85, 47746), (86, 47761), (95, 48001), (97, 48037), (99, 48076), (102, 48097), (103, 48100), (110, 48121), (112, 48130), (116, 48154), (120, 48175), (127, 48193),

Gene: PFR1_45 Start: 31715, Stop: 32761, Start Num: 52
Candidate Starts for PFR1_45:
(41, 31649), (49, 31700), (50, 31706), (52, 31715), (57, 31739), (66, 31850), (70, 31886), (72, 31907), (76, 31943), (78, 31979), (79, 31982), (109, 32363), (111, 32372), (133, 32453), (159, 32531), (160, 32534), (165, 32600), (166, 32609), (167, 32612), (169, 32630), (174, 32666), (180, 32723), (184, 32744),

Gene: PFR2_47 Start: 33284, Stop: 34330, Start Num: 52
Candidate Starts for PFR2_47:
(41, 33218), (49, 33269), (50, 33275), (52, 33284), (57, 33308), (66, 33419), (70, 33455), (72, 33476), (76, 33512), (78, 33548), (79, 33551), (109, 33932), (111, 33941), (133, 34022), (159, 34100), (160, 34103), (165, 34169), (166, 34178), (167, 34181), (169, 34199), (174, 34235), (180, 34292), (184, 34313),

Gene: Papez_46 Start: 35129, Stop: 34302, Start Num: 42
Candidate Starts for Papez_46:
(Start: 42 @35129 has 9 MA's), (54, 35057), (79, 34811), (103, 34427), (120, 34352),

Gene: Phasih_65 Start: 42908, Stop: 44134, Start Num: 44
Candidate Starts for Phasih_65:
(20, 42761), (21, 42785), (25, 42827), (Start: 44 @42908 has 17 MA's), (55, 42983), (80, 43238), (90, 43361), (128, 43778), (151, 43844), (158, 43910), (159, 43913), (166, 43991), (167, 43994), (177, 44099), (183, 44123),

Gene: Polka14_75 Start: 46662, Stop: 47525, Start Num: 69
Candidate Starts for Polka14_75:
(Start: 69 @46662 has 2 MA's), (78, 46758), (79, 46761), (81, 46782), (Start: 84 @46809 has 2 MA's), (87, 46830), (108, 47133), (160, 47295), (166, 47373), (167, 47376), (170, 47397), (171, 47406), (174, 47433), (185, 47514),

Gene: Rabbitrun_78 Start: 47636, Stop: 48499, Start Num: 42
Candidate Starts for Rabbitrun_78:
(Start: 42 @47636 has 9 MA's), (62, 47750), (64, 47813), (86, 48026), (97, 48302), (102, 48362), (103, 48365), (110, 48386), (112, 48395), (116, 48419), (120, 48440), (127, 48458), (128, 48467),

Gene: Rita_76 Start: 46350, Stop: 47519, Start Num: 44
Candidate Starts for Rita_76:
(21, 46227), (25, 46269), (Start: 44 @46350 has 17 MA's), (45, 46365), (49, 46392), (53, 46407), (55, 46425), (80, 46680), (83, 46698), (90, 46803), (102, 46950), (118, 47019), (128, 47061), (145, 47145), (147, 47154), (153, 47217), (159, 47298), (166, 47376), (167, 47379), (170, 47400), (174, 47436), (177, 47484), (181, 47502), (183, 47508),

Gene: RitaG_71 Start: 45580, Stop: 46668, Start Num: 44
Candidate Starts for RitaG_71:
(28, 45499), (Start: 44 @45580 has 17 MA's), (55, 45655), (61, 45691), (63, 45715), (68, 45802), (78, 45901), (79, 45904), (81, 45925), (Start: 84 @45952 has 2 MA's), (87, 45973), (108, 46276), (160, 46438), (166, 46516), (167, 46519), (170, 46540), (171, 46549), (174, 46576), (185, 46657),

Gene: SchottB_4 Start: 2583, Stop: 3653, Start Num: 42
Candidate Starts for SchottB_4:
(1, 2040), (3, 2061), (Start: 42 @2583 has 9 MA's), (53, 2640), (61, 2694), (88, 2988), (123, 3381), (134, 3441), (138, 3456), (140, 3459), (146, 3480), (155, 3585), (157, 3603), (161, 3639),

Gene: ShiLan_70 Start: 46343, Stop: 47512, Start Num: 44
Candidate Starts for ShiLan_70:
(21, 46220), (25, 46262), (Start: 44 @46343 has 17 MA's), (45, 46358), (49, 46385), (53, 46400), (55, 46418), (80, 46673), (83, 46691), (90, 46796), (102, 46943), (118, 47012), (128, 47054), (145, 47138), (147, 47147), (153, 47210), (159, 47291), (166, 47369), (167, 47372), (170, 47393), (174, 47429), (177, 47477), (181, 47495), (183, 47501),

Gene: Spartoi_40 Start: 27031, Stop: 28128, Start Num: 38
Candidate Starts for Spartoi_40:
(26, 26962), (Start: 38 @27031 has 1 MA's), (48, 27088), (57, 27133), (68, 27274), (72, 27301), (76, 27337), (78, 27373), (79, 27376), (80, 27388), (Start: 84 @27424 has 2 MA's), (87, 27445), (89, 27484), (91, 27592), (93, 27619), (104, 27700), (109, 27718), (139, 27823), (162, 27895), (166, 27955), (167, 27958), (176, 28042), (180, 28075), (182, 28087),

Gene: Starcevich_69 Start: 45704, Stop: 46807, Start Num: 44
Candidate Starts for Starcevich_69:
(21, 45581), (25, 45623), (Start: 44 @45704 has 17 MA's), (55, 45779), (63, 45839), (80, 46034), (90, 46157), (92, 46301), (94, 46322), (128, 46451), (151, 46517), (158, 46583), (159, 46586), (166, 46664), (167, 46667), (177, 46772), (183, 46796),

Gene: Toron_77 Start: 47150, Stop: 48340, Start Num: 44
Candidate Starts for Toron_77:
(11, 46868), (23, 47030), (32, 47087), (33, 47090), (Start: 44 @47150 has 17 MA's), (49, 47192), (51, 47201), (55, 47225), (67, 47345), (80, 47480), (86, 47540), (100, 47825), (118, 47912), (121, 47927), (166, 48185), (167, 48188), (172, 48218), (176, 48269), (177, 48293), (180, 48302), (181, 48311), (186, 48332),

Gene: Trax_78 Start: 48336, Stop: 49199, Start Num: 42
Candidate Starts for Trax_78:
(Start: 42 @48336 has 9 MA's), (62, 48450), (65, 48522), (85, 48711), (86, 48726), (95, 48966), (97, 49002), (99, 49041), (102, 49062), (103, 49065), (110, 49086), (112, 49095), (116, 49119), (120, 49140), (127, 49158),

Gene: Tweety_72 Start: 45824, Stop: 46936, Start Num: 44
Candidate Starts for Tweety_72:

(24, 45725), (31, 45758), (Start: 44 @45824 has 17 MA's), (50, 45872), (53, 45881), (55, 45899), (61, 45935), (63, 45959), (66, 46016), (77, 46121), (79, 46148), (80, 46160), (82, 46172), (Start: 84 @46196 has 2 MA's), (87, 46217), (113, 46553), (166, 46793), (167, 46796), (174, 46853), (178, 46901), (185, 46925),

Gene: Wachhund_69 Start: 42634, Stop: 44055, Start Num: 44
Candidate Starts for Wachhund_69:
(21, 42511), (25, 42553), (Start: 44 @42634 has 17 MA's), (55, 42709), (63, 42769), (80, 42964), (90, 43087), (92, 43231), (94, 43252), (106, 43441), (107, 43462), (114, 43522), (119, 43558), (121, 43567), (128, 43594), (145, 43678), (153, 43753), (159, 43834), (166, 43912), (167, 43915), (174, 43972), (177, 44020), (181, 44038), (183, 44044),

Gene: WillSterrel_71 Start: 45180, Stop: 46355, Start Num: 44
Candidate Starts for WillSterrel_71:
(21, 45057), (28, 45105), (Start: 44 @45180 has 17 MA's), (55, 45255), (80, 45510), (98, 45837), (101, 45861), (124, 45957), (126, 45963), (143, 46026), (152, 46059), (154, 46074), (156, 46086), (166, 46212), (167, 46215), (177, 46320), (183, 46344),

Gene: Yorick_69 Start: 45654, Stop: 46880, Start Num: 44
Candidate Starts for Yorick_69:
(12, 45402), (18, 45474), (21, 45531), (25, 45573), (Start: 44 @45654 has 17 MA's), (55, 45729), (63, 45789), (80, 45984), (90, 46107), (128, 46524), (151, 46590), (158, 46656), (159, 46659), (166, 46737), (167, 46740), (174, 46797), (177, 46845), (181, 46863), (183, 46869),