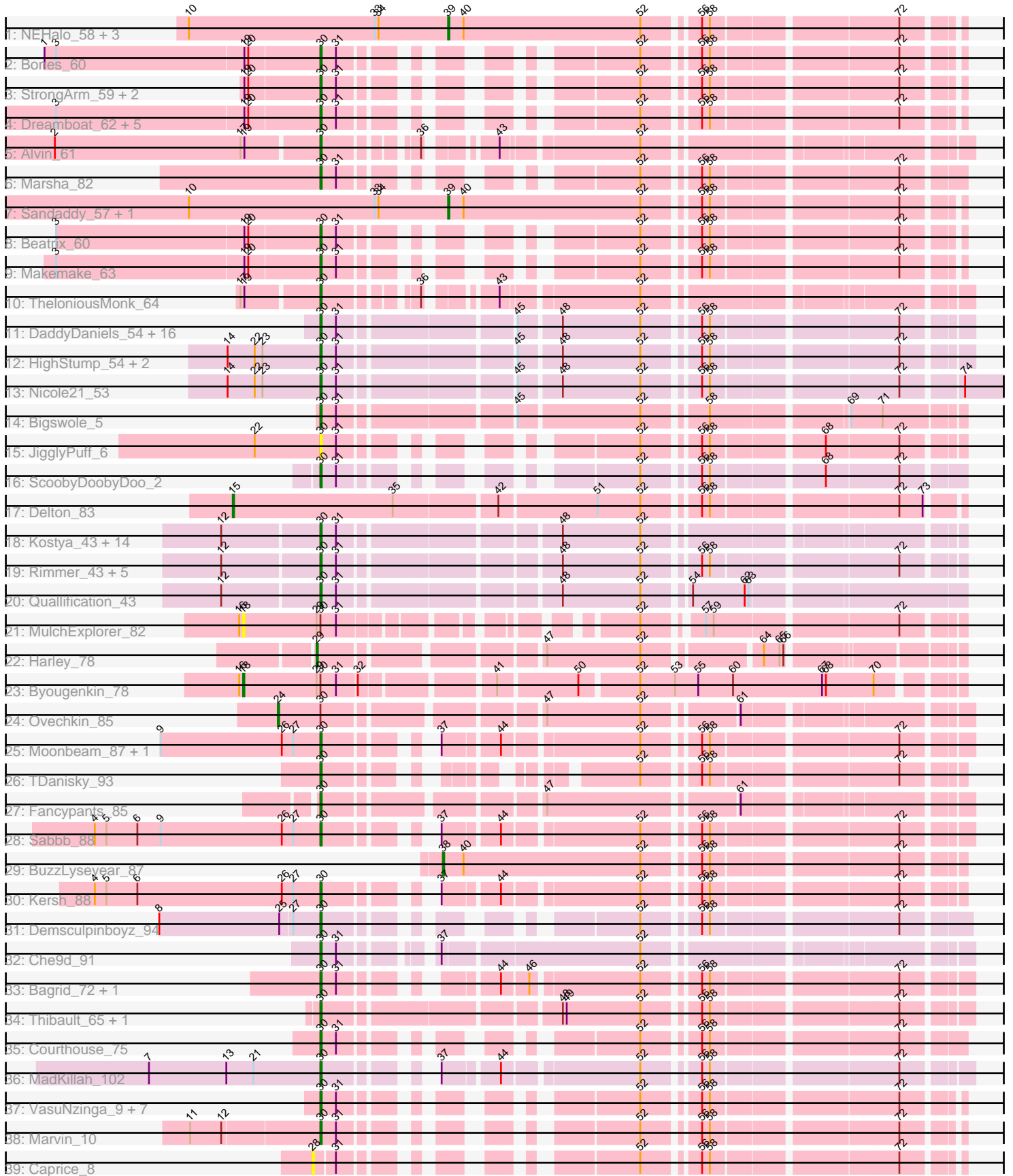


Pham 193901



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 193901 Report

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

Pham number 193901 has 97 members, 14 are drafts.

Phages represented in each track:

- Track 1 : NEHalo_58, GageAP_62, SpikeBT_59, AFIS_57
- Track 2 : Bones_60
- Track 3 : StrongArm_59, Bexan_58, Scowl_62
- Track 4 : Dreamboat_62, Cueyllyss_61, Ohno789_61, Graduation_65, PherrisBueller_60, Jasper_61
- Track 5 : Alvin_61
- Track 6 : Marsha_82
- Track 7 : Sandaddy_57, Sorpresa_58
- Track 8 : Beatrix_60
- Track 9 : Makemake_63
- Track 10 : TheloniousMonk_64
- Track 11 : DaddyDaniels_54, Kronus_50, Childish_52, Phayeta_52, MmasiCarm_51, Obutu_51, Soile_53, Mortcellus_50, Brilliant_54, Kahve_52, Casbah_50, Ben11_50, Gervas_51, HenryJackson_52, Rita1961_51, Craff_55, SlippinJimmy_52
- Track 12 : HighStump_54, Longacauda_53, Legolas_54
- Track 13 : Nicole21_53
- Track 14 : Bigswole_5
- Track 15 : JigglyPuff_6
- Track 16 : ScoobyDoobyDoo_2
- Track 17 : Delton_83
- Track 18 : Kostya_43, FireRed_45, PhatBacter_45, xkcd_46, Phaux_44, Murica_44, Palpatine_45, Nimrod_45, BigBubba_43, HufflyPuff_44, Terminus_44, Petra64142_47, Misfit_44, Policronamos_47, BugsBunny_43
- Track 19 : Rimmer_43, Nala_43, MPhalcon_42, MISSy_42, Buck_43, Youngblood_44
- Track 20 : Quallification_43
- Track 21 : MulchExplorer_82
- Track 22 : Harley_78
- Track 23 : Byougenkin_78
- Track 24 : Ovechkin_85
- Track 25 : Moonbeam_87, Rialto_90
- Track 26 : TDanisky_93
- Track 27 : Fancypants_85
- Track 28 : Sabbb_88
- Track 29 : BuzzLyseyear_87
- Track 30 : Kersh_88

- Track 31 : Demsculpinboyz_94
- Track 32 : Che9d_91
- Track 33 : Bagrid_72, EricMillard_72
- Track 34 : Thibault_65, Constella_64
- Track 35 : Courthouse_75
- Track 36 : MadKillah_102
- Track 37 : VasuNzinga_9, Latretium_78, MrPhizzler_53, RedRaider77_10, Rimu_56, Fringe_56, Lumine_53, Gwilliam_54
- Track 38 : Marvin_10
- Track 39 : Caprice_8

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

The start number called the most often in the published annotations is 30, it was called in 73 of the 83 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alvin_61, Bagrid_72, Beatrix_60, Ben11_50, Bexan_58, BigBubba_43, Bigswole_5, Bones_60, Brilliant_54, Buck_43, BugsBunny_43, Casbah_50, Che9d_91, Childish_52, Constella_64, Courthouse_75, Craff_55, Cueylyss_61, DaddyDaniels_54, Demsculpinboyz_94, Dreamboat_62, EricMillard_72, Fancypants_85, FireRed_45, Fringe_56, Gervas_51, Graduation_65, Gwilliam_54, HenryJackson_52, HighStump_54, HufflyPuff_44, Jasper_61, JigglyPuff_6, Kahve_52, Kersh_88, Kostya_43, Kronus_50, Latretium_78, Legolas_54, Longacauda_53, Lumine_53, MISSy_42, MPhalcon_42, MadKillah_102, Makemake_63, Marsha_82, Marvin_10, Misfit_44, MmasiCarm_51, Moonbeam_87, Mortcellus_50, MrPhizzler_53, Murica_44, Nala_43, Nicole21_53, Nimrod_45, Obutu_51, Ohno789_61, Palpatine_45, Petra64142_47, PhatBacter_45, Phaux_44, Phayeta_52, PherrisBueller_60, Policronamos_47, Quallification_43, RedRaider77_10, Rialto_90, Rimmer_43, Rimu_56, Rita1961_51, Sabbb_88, ScoobyDoobyDoo_2, Scowl_62, SlippinJimmy_52, Soile_53, StrongArm_59, TDanisky_93, Terminus_44, TheloniousMonk_64, Thibault_65, VasuNzinga_9, Youngblood_44, xkcd_46,

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

- Byougenkin_78, MulchExplorer_82, Ovechkin_85,

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

- AFIS_57, BuzzLyseyear_87, Caprice_8, Delton_83, GageAP_62, Harley_78, NEHalo_58, Sandaddy_57, Sorpresa_58, SpikeBT_59,

Summary by start number:

Start 15:

- Found in 1 of 97 (1.0%) of genes in pham
- Manual Annotations of this start: 1 of 83
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Delton_83 (D1),

Start 18:

- Found in 2 of 97 (2.1%) of genes in pham
- Manual Annotations of this start: 1 of 83
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Byougenkin_78 (F1), MulchExplorer_82 (F1),

Start 24:

- Found in 1 of 97 (1.0%) of genes in pham
- Manual Annotations of this start: 1 of 83
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ovechkin_85 (F1),

Start 28:

- Found in 1 of 97 (1.0%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Caprice_8 (S),

Start 29:

- Found in 3 of 97 (3.1%) of genes in pham
- Manual Annotations of this start: 1 of 83
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Harley_78 (F1),

Start 30:

- Found in 87 of 97 (89.7%) of genes in pham
- Manual Annotations of this start: 73 of 83
- Called 96.6% of time when present
- Phage (with cluster) where this start called: Alvin_61 (A1), Bagrid_72 (J), Beatrix_60 (A1), Ben11_50 (B3), Bexan_58 (A1), BigBubba_43 (E), Bigswole_5 (C1), Bones_60 (A1), Brilliant_54 (B1), Buck_43 (E), BugsBunny_43 (E), Casbah_50 (B3), Che9d_91 (F2), Childish_52 (B1), Constella_64 (J), Courthouse_75 (J), Craff_55 (B1), Cueyllyss_61 (A1), DaddyDaniels_54 (B1), Demsculpinboyz_94 (F2), Dreamboat_62 (A1), EricMillard_72 (J), Fancypants_85 (F1), FireRed_45 (E), Fringe_56 (B1), Gervas_51 (B3), Graduation_65 (A1), Gwilliam_54 (B1), HenryJackson_52 (B1), HighStump_54 (B1), HufflyPuff_44 (E), Jasper_61 (A1), JigglyPuff_6 (C1), Kahve_52 (B1), Kersh_88 (F1), Kostya_43 (E), Kronus_50 (B3), Latretium_78 (F1), Legolas_54 (B1), Longacauda_53 (B1), Lumine_53 (B1), MISSy_42 (E), MPfalcon_42 (E), MadKillah_102 (O), Makemake_63 (A1), Marsha_82 (A1), Marvin_10 (S), Misfit_44 (E), MmasiCarm_51 (B3), Moonbeam_87 (F1), Mortcellus_50 (B3), MrPhizzler_53 (B1), Murica_44 (E), Nala_43 (E), Nicole21_53 (B1), Nimrod_45 (E), Obutu_51 (B3), Ohno789_61 (A1), Palpatine_45 (E), Petra64142_47 (E), PhatBacter_45 (E), Phaux_44 (E), Phayeta_52 (B3), PherrisBueller_60 (A1), Policronamos_47 (E), Quallification_43 (E), RedRaider77_10 (S), Rialto_90 (F1), Rimmer_43 (E), Rimu_56 (B1), Rita1961_51 (B3), Sabbb_88 (F1), ScoobyDoobyDoo_2 (C2), Scowl_62 (A1), SlippinJimmy_52 (B3), Soile_53 (B1), StrongArm_59 (A1), TDanisky_93 (F1), Terminus_44 (E), TheloniousMonk_64 (A1), Thibault_65 (J), VasuNzinga_9 (S), Youngblood_44 (E), xkcd_46 (E),

Start 38:

- Found in 1 of 97 (1.0%) of genes in pham
- Manual Annotations of this start: 1 of 83
- Called 100.0% of time when present

- Phage (with cluster) where this start called: BuzzLyseyear_87 (F1),

Start 39:

- Found in 6 of 97 (6.2%) of genes in pham
- Manual Annotations of this start: 5 of 83
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AFIS_57 (A1), GageAP_62 (A1), NEHalo_58 (A1), Sandaddy_57 (A1), Sorpresa_58 (A1), SpikeBT_59 (A1),

Summary by clusters:

There are 12 clusters represented in this pham: F1, F2, E, J, O, A1, S, B1, B3, C2, C1, D1,

Info for manual annotations of cluster A1:

- Start number 30 was manually annotated 15 times for cluster A1.
- Start number 39 was manually annotated 5 times for cluster A1.

Info for manual annotations of cluster B1:

- Start number 30 was manually annotated 13 times for cluster B1.

Info for manual annotations of cluster B3:

- Start number 30 was manually annotated 8 times for cluster B3.

Info for manual annotations of cluster C1:

- Start number 30 was manually annotated 1 time for cluster C1.

Info for manual annotations of cluster C2:

- Start number 30 was manually annotated 1 time for cluster C2.

Info for manual annotations of cluster D1:

- Start number 15 was manually annotated 1 time for cluster D1.

Info for manual annotations of cluster E:

- Start number 30 was manually annotated 18 times for cluster E.

Info for manual annotations of cluster F1:

- Start number 18 was manually annotated 1 time for cluster F1.
- Start number 24 was manually annotated 1 time for cluster F1.
- Start number 29 was manually annotated 1 time for cluster F1.
- Start number 30 was manually annotated 7 times for cluster F1.
- Start number 38 was manually annotated 1 time for cluster F1.

Info for manual annotations of cluster F2:

- Start number 30 was manually annotated 2 times for cluster F2.

Info for manual annotations of cluster J:

- Start number 30 was manually annotated 4 times for cluster J.

Info for manual annotations of cluster O:

- Start number 30 was manually annotated 1 time for cluster O.

Info for manual annotations of cluster S:

- Start number 30 was manually annotated 3 times for cluster S.

Gene Information:

Gene: AFIS_57 Start: 39716, Stop: 39357, Start Num: 39

Candidate Starts for AFIS_57:

(10, 39917), (33, 39773), (34, 39770), (Start: 39 @39716 has 5 MA's), (40, 39704), (52, 39569), (56, 39533), (58, 39527), (72, 39395),

Gene: Alvin_61 Start: 40955, Stop: 40545, Start Num: 30

Candidate Starts for Alvin_61:

(2, 41156), (17, 41012), (19, 41009), (Start: 30 @40955 has 73 MA's), (36, 40898), (43, 40859), (52, 40763),

Gene: Bagrid_72 Start: 50124, Stop: 49711, Start Num: 30

Candidate Starts for Bagrid_72:

(Start: 30 @50124 has 73 MA's), (31, 50112), (44, 50028), (46, 50010), (52, 49932), (56, 49896), (58, 49890), (72, 49758),

Gene: Beatrix_60 Start: 41870, Stop: 41490, Start Num: 30

Candidate Starts for Beatrix_60:

(3, 42071), (19, 41927), (20, 41924), (Start: 30 @41870 has 73 MA's), (31, 41858), (52, 41702), (56, 41666), (58, 41660), (72, 41528),

Gene: Ben11_50 Start: 45429, Stop: 44986, Start Num: 30

Candidate Starts for Ben11_50:

(Start: 30 @45429 has 73 MA's), (31, 45417), (45, 45297), (48, 45267), (52, 45207), (56, 45171), (58, 45165), (72, 45033),

Gene: Bexan_58 Start: 41649, Stop: 41269, Start Num: 30

Candidate Starts for Bexan_58:

(19, 41706), (20, 41703), (Start: 30 @41649 has 73 MA's), (31, 41637), (52, 41481), (56, 41445), (58, 41439), (72, 41307),

Gene: BigBubba_43 Start: 35101, Stop: 34667, Start Num: 30

Candidate Starts for BigBubba_43:

(12, 35173), (Start: 30 @35101 has 73 MA's), (31, 35089), (48, 34939), (52, 34879),

Gene: Bigswole_5 Start: 1613, Stop: 2053, Start Num: 30

Candidate Starts for Bigswole_5:

(Start: 30 @1613 has 73 MA's), (31, 1625), (45, 1745), (52, 1835), (58, 1877), (69, 1973), (71, 1997),

Gene: Bones_60 Start: 41965, Stop: 41585, Start Num: 30

Candidate Starts for Bones_60:

(1, 42175), (3, 42166), (19, 42022), (20, 42019), (Start: 30 @41965 has 73 MA's), (31, 41953), (52, 41797), (56, 41761), (58, 41755), (72, 41623),

Gene: Brilliant_54 Start: 47338, Stop: 46895, Start Num: 30

Candidate Starts for Brilliant_54:

(Start: 30 @47338 has 73 MA's), (31, 47326), (45, 47206), (48, 47176), (52, 47116), (56, 47080), (58, 47074), (72, 46942),

Gene: Buck_43 Start: 35755, Stop: 35318, Start Num: 30
Candidate Starts for Buck_43:
(12, 35827), (Start: 30 @35755 has 73 MA's), (31, 35743), (48, 35593), (52, 35533), (56, 35497), (58, 35491), (72, 35359),

Gene: BugsBunny_43 Start: 35586, Stop: 35152, Start Num: 30
Candidate Starts for BugsBunny_43:
(12, 35658), (Start: 30 @35586 has 73 MA's), (31, 35574), (48, 35424), (52, 35364),

Gene: BuzzLyseyear_87 Start: 51492, Stop: 51857, Start Num: 38
Candidate Starts for BuzzLyseyear_87:
(Start: 38 @51492 has 1 MA's), (40, 51507), (52, 51642), (56, 51678), (58, 51684), (72, 51816),

Gene: Byougenkin_78 Start: 46058, Stop: 46567, Start Num: 18
Candidate Starts for Byougenkin_78:
(16, 46055), (Start: 18 @46058 has 1 MA's), (Start: 29 @46115 has 1 MA's), (Start: 30 @46118 has 73 MA's), (31, 46130), (32, 46145), (41, 46235), (50, 46292), (52, 46334), (53, 46361), (55, 46379), (60, 46406), (67, 46475), (68, 46478), (70, 46514),

Gene: Caprice_8 Start: 2539, Stop: 2922, Start Num: 28
Candidate Starts for Caprice_8:
(28, 2539), (31, 2554), (52, 2710), (56, 2746), (58, 2752), (72, 2884),

Gene: Casbah_50 Start: 45459, Stop: 45016, Start Num: 30
Candidate Starts for Casbah_50:
(Start: 30 @45459 has 73 MA's), (31, 45447), (45, 45327), (48, 45297), (52, 45237), (56, 45201), (58, 45195), (72, 45063),

Gene: Che9d_91 Start: 48600, Stop: 49028, Start Num: 30
Candidate Starts for Che9d_91:
(Start: 30 @48600 has 73 MA's), (31, 48612), (37, 48666), (52, 48810),

Gene: Childish_52 Start: 47365, Stop: 46922, Start Num: 30
Candidate Starts for Childish_52:
(Start: 30 @47365 has 73 MA's), (31, 47353), (45, 47233), (48, 47203), (52, 47143), (56, 47107), (58, 47101), (72, 46969),

Gene: Constella_64 Start: 46367, Stop: 45930, Start Num: 30
Candidate Starts for Constella_64:
(Start: 30 @46367 has 73 MA's), (48, 46205), (49, 46202), (52, 46145), (56, 46109), (58, 46103), (72, 45971),

Gene: Courthouse_75 Start: 48166, Stop: 47780, Start Num: 30
Candidate Starts for Courthouse_75:
(Start: 30 @48166 has 73 MA's), (31, 48154), (52, 47998), (56, 47962), (58, 47956), (72, 47824),

Gene: Craff_55 Start: 47790, Stop: 47347, Start Num: 30
Candidate Starts for Craff_55:
(Start: 30 @47790 has 73 MA's), (31, 47778), (45, 47658), (48, 47628), (52, 47568), (56, 47532), (58, 47526), (72, 47394),

Gene: Cueyllyss_61 Start: 42165, Stop: 41785, Start Num: 30

Candidate Starts for Cueylyss_61:

(3, 42366), (19, 42222), (20, 42219), (Start: 30 @42165 has 73 MA's), (31, 42153), (52, 41997), (56, 41961), (58, 41955), (72, 41823),

Gene: DaddyDaniels_54 Start: 47322, Stop: 46879, Start Num: 30

Candidate Starts for DaddyDaniels_54:

(Start: 30 @47322 has 73 MA's), (31, 47310), (45, 47190), (48, 47160), (52, 47100), (56, 47064), (58, 47058), (72, 46926),

Gene: Delton_83 Start: 59993, Stop: 60511, Start Num: 15

Candidate Starts for Delton_83:

(Start: 15 @59993 has 1 MA's), (35, 60116), (42, 60191), (51, 60263), (52, 60296), (56, 60332), (58, 60338), (72, 60470), (73, 60488),

Gene: Demsculpinboyz_94 Start: 48157, Stop: 48546, Start Num: 30

Candidate Starts for Demsculpinboyz_94:

(8, 48034), (25, 48127), (27, 48136), (Start: 30 @48157 has 73 MA's), (52, 48325), (56, 48361), (58, 48367), (72, 48499),

Gene: Dreamboat_62 Start: 40065, Stop: 39685, Start Num: 30

Candidate Starts for Dreamboat_62:

(3, 40266), (19, 40122), (20, 40119), (Start: 30 @40065 has 73 MA's), (31, 40053), (52, 39897), (56, 39861), (58, 39855), (72, 39723),

Gene: EricMillard_72 Start: 50977, Stop: 50564, Start Num: 30

Candidate Starts for EricMillard_72:

(Start: 30 @50977 has 73 MA's), (31, 50965), (44, 50881), (46, 50863), (52, 50785), (56, 50749), (58, 50743), (72, 50611),

Gene: Fancypants_85 Start: 50404, Stop: 50835, Start Num: 30

Candidate Starts for Fancypants_85:

(Start: 30 @50404 has 73 MA's), (47, 50548), (61, 50683),

Gene: FireRed_45 Start: 36025, Stop: 35591, Start Num: 30

Candidate Starts for FireRed_45:

(12, 36097), (Start: 30 @36025 has 73 MA's), (31, 36013), (48, 35863), (52, 35803),

Gene: Fringe_56 Start: 48267, Stop: 47878, Start Num: 30

Candidate Starts for Fringe_56:

(Start: 30 @48267 has 73 MA's), (31, 48255), (52, 48099), (56, 48063), (58, 48057), (72, 47925),

Gene: GageAP_62 Start: 41383, Stop: 41024, Start Num: 39

Candidate Starts for GageAP_62:

(10, 41584), (33, 41440), (34, 41437), (Start: 39 @41383 has 5 MA's), (40, 41371), (52, 41236), (56, 41200), (58, 41194), (72, 41062),

Gene: Gervas_51 Start: 45588, Stop: 45145, Start Num: 30

Candidate Starts for Gervas_51:

(Start: 30 @45588 has 73 MA's), (31, 45576), (45, 45456), (48, 45426), (52, 45366), (56, 45330), (58, 45324), (72, 45192),

Gene: Graduation_65 Start: 42237, Stop: 41857, Start Num: 30

Candidate Starts for Graduation_65:

(3, 42438), (19, 42294), (20, 42291), (Start: 30 @42237 has 73 MA's), (31, 42225), (52, 42069), (56, 42033), (58, 42027), (72, 41895),

Gene: Gwilliam_54 Start: 47683, Stop: 47303, Start Num: 30

Candidate Starts for Gwilliam_54:

(Start: 30 @47683 has 73 MA's), (31, 47671), (52, 47515), (56, 47479), (58, 47473), (72, 47341),

Gene: Harley_78 Start: 47547, Stop: 47975, Start Num: 29

Candidate Starts for Harley_78:

(Start: 29 @47547 has 1 MA's), (47, 47694), (52, 47766), (64, 47844), (65, 47856), (66, 47859),

Gene: HenryJackson_52 Start: 47354, Stop: 46911, Start Num: 30

Candidate Starts for HenryJackson_52:

(Start: 30 @47354 has 73 MA's), (31, 47342), (45, 47222), (48, 47192), (52, 47132), (56, 47096), (58, 47090), (72, 46958),

Gene: HighStump_54 Start: 47890, Stop: 47447, Start Num: 30

Candidate Starts for HighStump_54:

(14, 47962), (22, 47941), (23, 47935), (Start: 30 @47890 has 73 MA's), (31, 47878), (45, 47758), (48, 47728), (52, 47668), (56, 47632), (58, 47626), (72, 47494),

Gene: HufflyPuff_44 Start: 35981, Stop: 35547, Start Num: 30

Candidate Starts for HufflyPuff_44:

(12, 36053), (Start: 30 @35981 has 73 MA's), (31, 35969), (48, 35819), (52, 35759),

Gene: Jasper_61 Start: 39951, Stop: 39571, Start Num: 30

Candidate Starts for Jasper_61:

(3, 40152), (19, 40008), (20, 40005), (Start: 30 @39951 has 73 MA's), (31, 39939), (52, 39783), (56, 39747), (58, 39741), (72, 39609),

Gene: JigglyPuff_6 Start: 1982, Stop: 2365, Start Num: 30

Candidate Starts for JigglyPuff_6:

(22, 1931), (Start: 30 @1982 has 73 MA's), (31, 1994), (52, 2150), (56, 2186), (58, 2192), (68, 2270), (72, 2324),

Gene: Kahve_52 Start: 47351, Stop: 46908, Start Num: 30

Candidate Starts for Kahve_52:

(Start: 30 @47351 has 73 MA's), (31, 47339), (45, 47219), (48, 47189), (52, 47129), (56, 47093), (58, 47087), (72, 46955),

Gene: Kersh_88 Start: 52115, Stop: 52522, Start Num: 30

Candidate Starts for Kersh_88:

(4, 51941), (5, 51950), (6, 51974), (26, 52085), (27, 52094), (Start: 30 @52115 has 73 MA's), (37, 52172), (44, 52211), (52, 52307), (56, 52343), (58, 52349), (72, 52481),

Gene: Kostya_43 Start: 35472, Stop: 35038, Start Num: 30

Candidate Starts for Kostya_43:

(12, 35544), (Start: 30 @35472 has 73 MA's), (31, 35460), (48, 35310), (52, 35250),

Gene: Kronus_50 Start: 46191, Stop: 45748, Start Num: 30

Candidate Starts for Kronus_50:

(Start: 30 @46191 has 73 MA's), (31, 46179), (45, 46059), (48, 46029), (52, 45969), (56, 45933), (58, 45927), (72, 45795),

Gene: Latretium_78 Start: 47174, Stop: 47560, Start Num: 30

Candidate Starts for Latretium_78:

(Start: 30 @47174 has 73 MA's), (31, 47186), (52, 47342), (56, 47378), (58, 47384), (72, 47516),

Gene: Legolas_54 Start: 47787, Stop: 47344, Start Num: 30

Candidate Starts for Legolas_54:

(14, 47859), (22, 47838), (23, 47832), (Start: 30 @47787 has 73 MA's), (31, 47775), (45, 47655), (48, 47625), (52, 47565), (56, 47529), (58, 47523), (72, 47391),

Gene: Longacauda_53 Start: 47750, Stop: 47307, Start Num: 30

Candidate Starts for Longacauda_53:

(14, 47822), (22, 47801), (23, 47795), (Start: 30 @47750 has 73 MA's), (31, 47738), (45, 47618), (48, 47588), (52, 47528), (56, 47492), (58, 47486), (72, 47354),

Gene: Lumine_53 Start: 47538, Stop: 47155, Start Num: 30

Candidate Starts for Lumine_53:

(Start: 30 @47538 has 73 MA's), (31, 47526), (52, 47370), (56, 47334), (58, 47328), (72, 47196),

Gene: MISSy_42 Start: 35034, Stop: 34591, Start Num: 30

Candidate Starts for MISSy_42:

(12, 35106), (Start: 30 @35034 has 73 MA's), (31, 35022), (48, 34872), (52, 34812), (56, 34776), (58, 34770), (72, 34638),

Gene: MPhalcon_42 Start: 35027, Stop: 34584, Start Num: 30

Candidate Starts for MPhalcon_42:

(12, 35099), (Start: 30 @35027 has 73 MA's), (31, 35015), (48, 34865), (52, 34805), (56, 34769), (58, 34763), (72, 34631),

Gene: MadKillah_102 Start: 61818, Stop: 61405, Start Num: 30

Candidate Starts for MadKillah_102:

(7, 61950), (13, 61890), (21, 61869), (Start: 30 @61818 has 73 MA's), (37, 61761), (44, 61722), (52, 61626), (56, 61590), (58, 61584), (72, 61452),

Gene: Makemake_63 Start: 42339, Stop: 41959, Start Num: 30

Candidate Starts for Makemake_63:

(3, 42540), (19, 42396), (20, 42393), (Start: 30 @42339 has 73 MA's), (31, 42327), (52, 42171), (56, 42135), (58, 42129), (72, 41997),

Gene: Marsha_82 Start: 50494, Stop: 50108, Start Num: 30

Candidate Starts for Marsha_82:

(Start: 30 @50494 has 73 MA's), (31, 50482), (52, 50326), (56, 50290), (58, 50284), (72, 50152),

Gene: Marvin_10 Start: 3597, Stop: 3977, Start Num: 30

Candidate Starts for Marvin_10:

(11, 3501), (12, 3525), (Start: 30 @3597 has 73 MA's), (31, 3609), (52, 3765), (56, 3801), (58, 3807), (72, 3939),

Gene: Misfit_44 Start: 36046, Stop: 35612, Start Num: 30

Candidate Starts for Misfit_44:

(12, 36118), (Start: 30 @36046 has 73 MA's), (31, 36034), (48, 35884), (52, 35824),

Gene: MmasiCarm_51 Start: 45638, Stop: 45195, Start Num: 30

Candidate Starts for MmasiCarm_51:

(Start: 30 @45638 has 73 MA's), (31, 45626), (45, 45506), (48, 45476), (52, 45416), (56, 45380), (58, 45374), (72, 45242),

Gene: Moonbeam_87 Start: 50558, Stop: 50971, Start Num: 30

Candidate Starts for Moonbeam_87:

(9, 50435), (26, 50528), (27, 50537), (Start: 30 @50558 has 73 MA's), (37, 50615), (44, 50654), (52, 50750), (56, 50786), (58, 50792), (72, 50924),

Gene: Mortcellus_50 Start: 46245, Stop: 45802, Start Num: 30

Candidate Starts for Mortcellus_50:

(Start: 30 @46245 has 73 MA's), (31, 46233), (45, 46113), (48, 46083), (52, 46023), (56, 45987), (58, 45981), (72, 45849),

Gene: MrPhizzler_53 Start: 47284, Stop: 46895, Start Num: 30

Candidate Starts for MrPhizzler_53:

(Start: 30 @47284 has 73 MA's), (31, 47272), (52, 47116), (56, 47080), (58, 47074), (72, 46942),

Gene: MulchExplorer_82 Start: 47402, Stop: 47863, Start Num: 18

Candidate Starts for MulchExplorer_82:

(16, 47399), (Start: 18 @47402 has 1 MA's), (Start: 29 @47459 has 1 MA's), (Start: 30 @47462 has 73 MA's), (31, 47474), (52, 47648), (57, 47684), (59, 47690), (72, 47822),

Gene: Murica_44 Start: 35981, Stop: 35547, Start Num: 30

Candidate Starts for Murica_44:

(12, 36053), (Start: 30 @35981 has 73 MA's), (31, 35969), (48, 35819), (52, 35759),

Gene: NEHalo_58 Start: 40784, Stop: 40425, Start Num: 39

Candidate Starts for NEHalo_58:

(10, 40985), (33, 40841), (34, 40838), (Start: 39 @40784 has 5 MA's), (40, 40772), (52, 40637), (56, 40601), (58, 40595), (72, 40463),

Gene: Nala_43 Start: 35539, Stop: 35096, Start Num: 30

Candidate Starts for Nala_43:

(12, 35611), (Start: 30 @35539 has 73 MA's), (31, 35527), (48, 35377), (52, 35317), (56, 35281), (58, 35275), (72, 35143),

Gene: Nicole21_53 Start: 47623, Stop: 47051, Start Num: 30

Candidate Starts for Nicole21_53:

(14, 47695), (22, 47674), (23, 47668), (Start: 30 @47623 has 73 MA's), (31, 47611), (45, 47491), (48, 47461), (52, 47401), (56, 47365), (58, 47359), (72, 47227), (74, 47185),

Gene: Nimrod_45 Start: 36239, Stop: 35805, Start Num: 30

Candidate Starts for Nimrod_45:

(12, 36311), (Start: 30 @36239 has 73 MA's), (31, 36227), (48, 36077), (52, 36017),

Gene: Obutu_51 Start: 45593, Stop: 45150, Start Num: 30

Candidate Starts for Obutu_51:

(Start: 30 @45593 has 73 MA's), (31, 45581), (45, 45461), (48, 45431), (52, 45371), (56, 45335), (58, 45329), (72, 45197),

Gene: Ohno789_61 Start: 41528, Stop: 41148, Start Num: 30

Candidate Starts for Ohno789_61:

(3, 41729), (19, 41585), (20, 41582), (Start: 30 @41528 has 73 MA's), (31, 41516), (52, 41360), (56, 41324), (58, 41318), (72, 41186),

Gene: Ovechkin_85 Start: 49845, Stop: 50309, Start Num: 24

Candidate Starts for Ovechkin_85:

(Start: 24 @49845 has 1 MA's), (Start: 30 @49878 has 73 MA's), (47, 50022), (52, 50094), (61, 50157),

Gene: Palpatine_45 Start: 36011, Stop: 35577, Start Num: 30

Candidate Starts for Palpatine_45:

(12, 36083), (Start: 30 @36011 has 73 MA's), (31, 35999), (48, 35849), (52, 35789),

Gene: Petra64142_47 Start: 36475, Stop: 36041, Start Num: 30

Candidate Starts for Petra64142_47:

(12, 36547), (Start: 30 @36475 has 73 MA's), (31, 36463), (48, 36313), (52, 36253),

Gene: PhatBacter_45 Start: 36025, Stop: 35591, Start Num: 30

Candidate Starts for PhatBacter_45:

(12, 36097), (Start: 30 @36025 has 73 MA's), (31, 36013), (48, 35863), (52, 35803),

Gene: Phaux_44 Start: 36023, Stop: 35589, Start Num: 30

Candidate Starts for Phaux_44:

(12, 36095), (Start: 30 @36023 has 73 MA's), (31, 36011), (48, 35861), (52, 35801),

Gene: Phayeta_52 Start: 45475, Stop: 45032, Start Num: 30

Candidate Starts for Phayeta_52:

(Start: 30 @45475 has 73 MA's), (31, 45463), (45, 45343), (48, 45313), (52, 45253), (56, 45217), (58, 45211), (72, 45079),

Gene: PherrisBueller_60 Start: 39602, Stop: 39222, Start Num: 30

Candidate Starts for PherrisBueller_60:

(3, 39803), (19, 39659), (20, 39656), (Start: 30 @39602 has 73 MA's), (31, 39590), (52, 39434), (56, 39398), (58, 39392), (72, 39260),

Gene: Policronamos_47 Start: 36023, Stop: 35589, Start Num: 30

Candidate Starts for Policronamos_47:

(12, 36095), (Start: 30 @36023 has 73 MA's), (31, 36011), (48, 35861), (52, 35801),

Gene: Quallification_43 Start: 35661, Stop: 35215, Start Num: 30

Candidate Starts for Quallification_43:

(12, 35733), (Start: 30 @35661 has 73 MA's), (31, 35649), (48, 35499), (52, 35439), (54, 35409), (62, 35370), (63, 35367),

Gene: RedRaider77_10 Start: 3149, Stop: 3538, Start Num: 30

Candidate Starts for RedRaider77_10:

(Start: 30 @3149 has 73 MA's), (31, 3161), (52, 3317), (56, 3353), (58, 3359), (72, 3491),

Gene: Rialto_90 Start: 50654, Stop: 51067, Start Num: 30

Candidate Starts for Rialto_90:

(9, 50531), (26, 50624), (27, 50633), (Start: 30 @50654 has 73 MA's), (37, 50711), (44, 50750), (52, 50846), (56, 50882), (58, 50888), (72, 51020),

Gene: Rimmer_43 Start: 35365, Stop: 34928, Start Num: 30

Candidate Starts for Rimmer_43:

(12, 35437), (Start: 30 @35365 has 73 MA's), (31, 35353), (48, 35203), (52, 35143), (56, 35107), (58, 35101), (72, 34969),

Gene: Rimu_56 Start: 47304, Stop: 46915, Start Num: 30

Candidate Starts for Rimu_56:

(Start: 30 @47304 has 73 MA's), (31, 47292), (52, 47136), (56, 47100), (58, 47094), (72, 46962),

Gene: Rita1961_51 Start: 45594, Stop: 45151, Start Num: 30

Candidate Starts for Rita1961_51:

(Start: 30 @45594 has 73 MA's), (31, 45582), (45, 45462), (48, 45432), (52, 45372), (56, 45336), (58, 45330), (72, 45198),

Gene: Sabbb_88 Start: 48209, Stop: 48622, Start Num: 30

Candidate Starts for Sabbb_88:

(4, 48035), (5, 48044), (6, 48068), (9, 48086), (26, 48179), (27, 48188), (Start: 30 @48209 has 73 MA's), (37, 48266), (44, 48305), (52, 48401), (56, 48437), (58, 48443), (72, 48575),

Gene: Sandaddy_57 Start: 40445, Stop: 40086, Start Num: 39

Candidate Starts for Sandaddy_57:

(10, 40646), (33, 40502), (34, 40499), (Start: 39 @40445 has 5 MA's), (40, 40433), (52, 40298), (56, 40262), (58, 40256), (72, 40124),

Gene: ScoobyDoobyDoo_2 Start: 227, Stop: 613, Start Num: 30

Candidate Starts for ScoobyDoobyDoo_2:

(Start: 30 @227 has 73 MA's), (31, 239), (52, 395), (56, 431), (58, 437), (68, 515), (72, 569),

Gene: Scowl_62 Start: 40833, Stop: 40453, Start Num: 30

Candidate Starts for Scowl_62:

(19, 40890), (20, 40887), (Start: 30 @40833 has 73 MA's), (31, 40821), (52, 40665), (56, 40629), (58, 40623), (72, 40491),

Gene: SlippinJimmy_52 Start: 46376, Stop: 45933, Start Num: 30

Candidate Starts for SlippinJimmy_52:

(Start: 30 @46376 has 73 MA's), (31, 46364), (45, 46244), (48, 46214), (52, 46154), (56, 46118), (58, 46112), (72, 45980),

Gene: Soile_53 Start: 47351, Stop: 46908, Start Num: 30

Candidate Starts for Soile_53:

(Start: 30 @47351 has 73 MA's), (31, 47339), (45, 47219), (48, 47189), (52, 47129), (56, 47093), (58, 47087), (72, 46955),

Gene: Sorpresa_58 Start: 40447, Stop: 40088, Start Num: 39

Candidate Starts for Sorpresa_58:

(10, 40648), (33, 40504), (34, 40501), (Start: 39 @40447 has 5 MA's), (40, 40435), (52, 40300), (56, 40264), (58, 40258), (72, 40126),

Gene: SpikeBT_59 Start: 40641, Stop: 40282, Start Num: 39

Candidate Starts for SpikeBT_59:

(10, 40842), (33, 40698), (34, 40695), (Start: 39 @40641 has 5 MA's), (40, 40629), (52, 40494), (56, 40458), (58, 40452), (72, 40320),

Gene: StrongArm_59 Start: 41777, Stop: 41397, Start Num: 30

Candidate Starts for StrongArm_59:

(19, 41834), (20, 41831), (Start: 30 @41777 has 73 MA's), (31, 41765), (52, 41609), (56, 41573), (58, 41567), (72, 41435),

Gene: TDanisky_93 Start: 48927, Stop: 49307, Start Num: 30

Candidate Starts for TDanisky_93:

(Start: 30 @48927 has 73 MA's), (52, 49092), (56, 49128), (58, 49134), (72, 49266),

Gene: Terminus_44 Start: 36046, Stop: 35612, Start Num: 30

Candidate Starts for Terminus_44:

(12, 36118), (Start: 30 @36046 has 73 MA's), (31, 36034), (48, 35884), (52, 35824),

Gene: TheloniousMonk_64 Start: 43165, Stop: 42755, Start Num: 30

Candidate Starts for TheloniousMonk_64:

(17, 43222), (19, 43219), (Start: 30 @43165 has 73 MA's), (36, 43108), (43, 43069), (52, 42973),

Gene: Thibault_65 Start: 47312, Stop: 46869, Start Num: 30

Candidate Starts for Thibault_65:

(Start: 30 @47312 has 73 MA's), (48, 47150), (49, 47147), (52, 47090), (56, 47054), (58, 47048), (72, 46916),

Gene: VasuNzinga_9 Start: 2804, Stop: 3184, Start Num: 30

Candidate Starts for VasuNzinga_9:

(Start: 30 @2804 has 73 MA's), (31, 2816), (52, 2972), (56, 3008), (58, 3014), (72, 3146),

Gene: Youngblood_44 Start: 35976, Stop: 35539, Start Num: 30

Candidate Starts for Youngblood_44:

(12, 36048), (Start: 30 @35976 has 73 MA's), (31, 35964), (48, 35814), (52, 35754), (56, 35718), (58, 35712), (72, 35580),

Gene: xkcd_46 Start: 36166, Stop: 35732, Start Num: 30

Candidate Starts for xkcd_46:

(12, 36238), (Start: 30 @36166 has 73 MA's), (31, 36154), (48, 36004), (52, 35944),