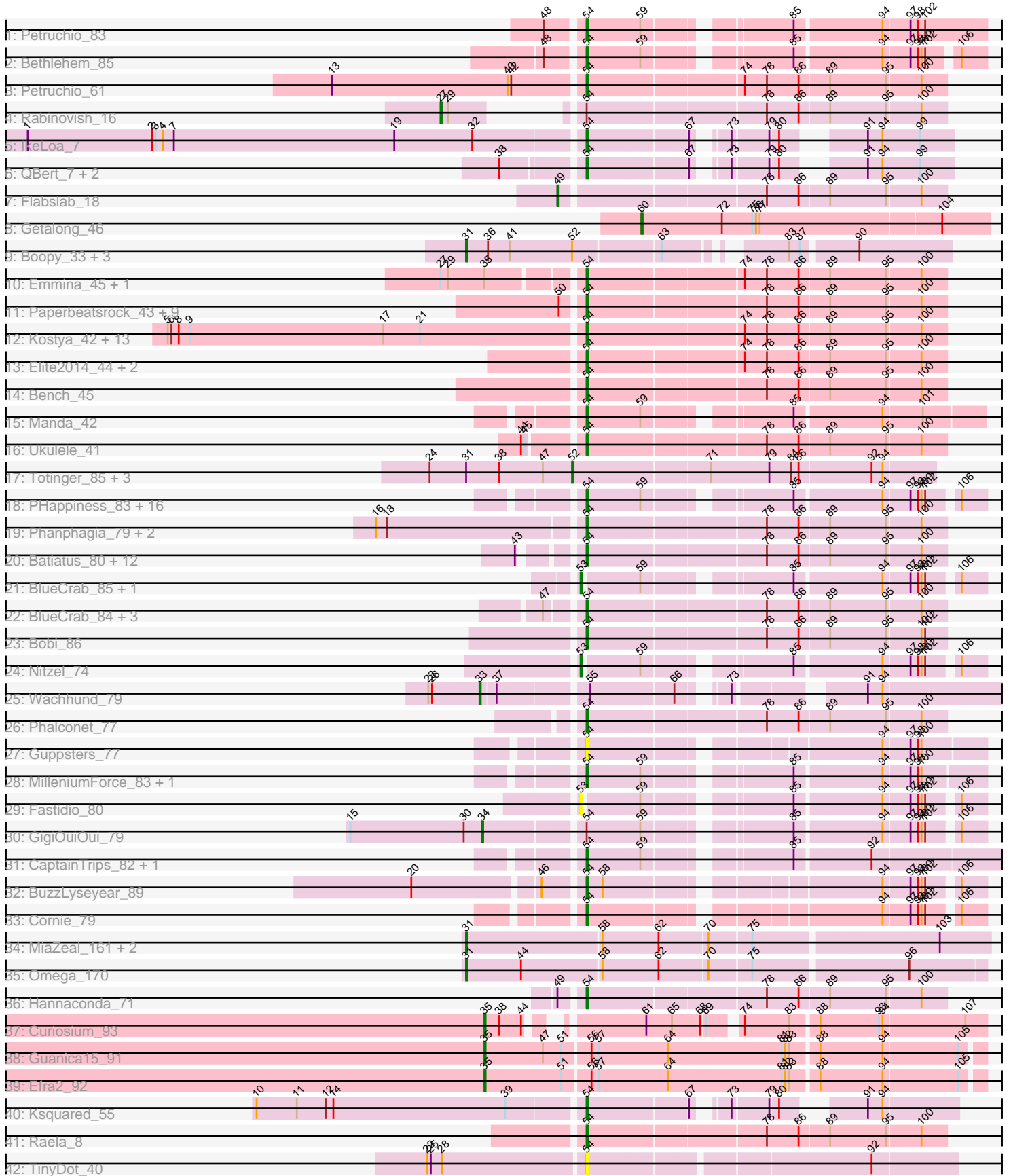


Pham 163464



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 163464 Report

This analysis was run 04/28/24 on database version 559.

Pham number 163464 has 113 members, 13 are drafts.

Phages represented in each track:

- Track 1 : Petruccio_83
- Track 2 : Bethlehem_85
- Track 3 : Petruccio_61
- Track 4 : Rabinovich_16
- Track 5 : IkeLoa_7
- Track 6 : QBert_7, RoMag_6, JulietS_7
- Track 7 : Flabslab_18
- Track 8 : Getalong_46
- Track 9 : Boopy_33, Mareelih_31, BlueNGold_31, Forza_32
- Track 10 : Emmina_45, Porky_43
- Track 11 : Paperbeatsrock_43, SophKB_41, BadStone_42, Dumbo_44, Tarkin_43, Easy2Say_45, Dusk_42, NelitzaMV_41, Pharsalus_42, Henry_43
- Track 12 : Kostya_42, PhatBacter_44, Nimrod_44, Phaux_43, Murica_43, xkcd_45, Palpatine_44, HufflyPuff_43, FireRed_44, Misfit_43, Terminus_43, Petra64142_46, Policronamos_46, BugsBunny_42
- Track 13 : Elite2014_44, Lilpickle_44, ChosenOne_45
- Track 14 : Bench_45
- Track 15 : Manda_42
- Track 16 : Ukulele_41
- Track 17 : Totinger_85, Starcevich_82, LittleShirley_88, GigiOuiOui_76
- Track 18 : PHappiness_83, Zerg_83, Nimbo_75, RitaG_83, Minnie_78, DotProduct_77, Geralt_76, Hamulus_81, Fruitloop_79, Filuzino_83, OldBen_80, Leperchaun_81, Sandalphon_76, Deb65_76, JoeyJr_83, Daenerys_82, StAnnes_84
- Track 19 : Phanphagia_79, Kingsley_84, Shauna1_80
- Track 20 : Batiatus_80, Eureka_42, Ms6_80, HyRo_13, XFactor_76, Ardmore_66, ScottMcG_17, Chuckly_78, Shifa_12, DLane_82, Stubby_16, Goku_42, Manda_44
- Track 21 : BlueCrab_85, Pacc40_79
- Track 22 : BlueCrab_84, Pacc40_78, Akhila_77, MilanaBonita_76
- Track 23 : Bobi_86
- Track 24 : Nitzel_74
- Track 25 : Wachhund_79
- Track 26 : Phalconet_77
- Track 27 : Guppsters_77
- Track 28 : MilleniumForce_83, Pollywog_81
- Track 29 : Fastidio_80
- Track 30 : GigiOuiOui_79
- Track 31 : CaptainTrips_82, MinionDave_78

- Track 32 : BuzzLyseyear_89
- Track 33 : Cornie_79
- Track 34 : MiaZeal_161, Porcelain_158, Lucky2013_154
- Track 35 : Omega_170
- Track 36 : Hannaconda_71
- Track 37 : Curiosium_93
- Track 38 : Guanica15_91
- Track 39 : Efra2_92
- Track 40 : Ksquared_55
- Track 41 : Raela_8
- Track 42 : TinyDot_40

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

The start number called the most often in the published annotations is 54, it was called in 79 of the 100 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Akhila_77, Ardmore_66, BadStone_42, Batiatus_80, Bench_45, Bethlehem_85, BlueCrab_84, Bobi_86, BugsBunny_42, BuzzLyseyear_89, CaptainTrips_82, ChosenOne_45, Chuckly_78, Cornie_79, DLane_82, Daenerys_82, Deb65_76, DotProduct_77, Dumbo_44, Dusk_42, Easy2Say_45, Elite2014_44, Emmina_45, Eureka_42, Filuzino_83, FireRed_44, Fruitloop_79, Geralt_76, Goku_42, Guppsters_77, Hamulus_81, Hannaconda_71, Henry_43, HufflyPuff_43, HyRo_13, IkeLoa_7, JoeyJr_83, JulietS_7, Kingsley_84, Kostya_42, Ksquared_55, Leperchaun_81, Lilpickle_44, Manda_42, Manda_44, MilanaBonita_76, MilleniumForce_83, MinionDave_78, Minnie_78, Misfit_43, Ms6_80, Murica_43, NelitzaMV_41, Nimbo_75, Nimrod_44, OldBen_80, PHappiness_83, Pacc40_78, Palpatine_44, Paperbeatsrock_43, Petra64142_46, Petruccio_61, Petruccio_83, Phalconet_77, Phanphagia_79, Pharsalus_42, PhatBacter_44, Phaux_43, Policronamos_46, Pollywog_81, Porky_43, QBert_7, Raela_8, RitaG_83, RoMag_6, Sandalphon_76, ScottMcG_17, Shauna1_80, Shifa_12, SophKB_41, StAnnes_84, Stubby_16, Tarkin_43, Terminus_43, TinyDot_40, Ukulele_41, XFactor_76, Zerg_83, xkcd_45,

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

- GigiOuiOui_79, Rabinovish_16,

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

- BlueCrab_85, BlueNGold_31, Boopy_33, Curiosium_93, Efra2_92, Fastidio_80, Flabslab_18, Forza_32, Getalong_46, GigiOuiOui_76, Guanica15_91, LittleShirley_88, Lucky2013_154, Mareelih_31, MiaZeal_161, Nitzel_74, Omega_170, Pacc40_79, Porcelain_158, Starceвич_82, Totinger_85, Wachhund_79,

Summary by start number:

Start 27:

- Found in 3 of 113 (2.7%) of genes in pham
- Manual Annotations of this start: 1 of 100
- Called 33.3% of time when present

- Phage (with cluster) where this start called: Rabinovish_16 (C1),

Start 31:

- Found in 12 of 113 (10.6%) of genes in pham
- Manual Annotations of this start: 8 of 100
- Called 66.7% of time when present
- Phage (with cluster) where this start called: BlueNGold_31 (DS), Boopy_33 (DS), Forza_32 (DS), Lucky2013_154 (J), Mareelih_31 (DS), MiaZeal_161 (J), Omega_170 (J), Porcelain_158 (J),

Start 33:

- Found in 1 of 113 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 100
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Wachhund_79 (F1),

Start 34:

- Found in 1 of 113 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 100
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GigiOuiOui_79 (F1),

Start 35:

- Found in 5 of 113 (4.4%) of genes in pham
- Manual Annotations of this start: 3 of 100
- Called 60.0% of time when present
- Phage (with cluster) where this start called: Curiosium_93 (K1), Efra2_92 (K1), Guanica15_91 (K1),

Start 49:

- Found in 2 of 113 (1.8%) of genes in pham
- Manual Annotations of this start: 1 of 100
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Flabslab_18 (C1),

Start 52:

- Found in 8 of 113 (7.1%) of genes in pham
- Manual Annotations of this start: 2 of 100
- Called 50.0% of time when present
- Phage (with cluster) where this start called: GigiOuiOui_76 (F1), LittleShirley_88 (F1), Starcevich_82 (F1), Totinger_85 (F1),

Start 53:

- Found in 4 of 113 (3.5%) of genes in pham
- Manual Annotations of this start: 3 of 100
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BlueCrab_85 (F1), Fastidio_80 (F1), Nitzel_74 (F1), Pacc40_79 (F1),

Start 54:

- Found in 91 of 113 (80.5%) of genes in pham
- Manual Annotations of this start: 79 of 100
- Called 97.8% of time when present

- Phage (with cluster) where this start called: Akhila_77 (F1), Ardmore_66 (F1), BadStone_42 (E), Batiatus_80 (F1), Bench_45 (E), Bethlehem_85 (A1), BlueCrab_84 (F1), Bobi_86 (F1), BugsBunny_42 (E), BuzzLyseyear_89 (F1), CaptainTrips_82 (F1), ChosenOne_45 (E), Chuckly_78 (F1), Cornie_79 (F5), DLane_82 (F1), Daenerys_82 (F1), Deb65_76 (F1), DotProduct_77 (F1), Dumbo_44 (E), Dusk_42 (E), Easy2Say_45 (E), Elite2014_44 (E), Emmina_45 (E), Eureka_42 (E), Filuzino_83 (F1), FireRed_44 (E), Fruitloop_79 (F1), Geralt_76 (F1), Goku_42 (E), Guppsters_77 (F1), Hamulus_81 (F1), Hannaconda_71 (J), Henry_43 (E), HufflyPuff_43 (E), HyRo_13 (C1), IkeLoa_7 (C1), JoeyJr_83 (F1), JulietS_7 (C1), Kingsley_84 (F1), Kostya_42 (E), Ksquared_55 (P1), Leperchaun_81 (F1), Lilpickle_44 (E), Manda_42 (E), Manda_44 (E), MilanaBonita_76 (F1), MilleniumForce_83 (F1), MinionDave_78 (F1), Minnie_78 (F1), Misfit_43 (E), Ms6_80 (F1), Murica_43 (E), NelitzaMV_41 (E), Nimbo_75 (F1), Nimrod_44 (E), OldBen_80 (F1), PHappiness_83 (F1), Pacc40_78 (F1), Palpatine_44 (E), Paperbeatsrock_43 (E), Petra64142_46 (E), Petruccio_61 (A1), Petruccio_83 (A1), Phalconet_77 (F1), Phanphagia_79 (F1), Pharsalus_42 (E), PhatBacter_44 (E), Phaux_43 (E), Policronamos_46 (E), Pollywog_81 (F1), Porky_43 (E), QBert_7 (C1), Raela_8 (S), RitaG_83 (F1), RoMag_6 (C1), Sandalphon_76 (F1), ScottMcG_17 (C1), Shauna1_80 (F1), Shifa_12 (C1), SophKB_41 (E), StAnnes_84 (F1), Stubby_16 (C1), Tarkin_43 (E), Terminus_43 (E), TinyDot_40 (singleton), Ukulele_41 (E), XFactor_76 (F1), Zerg_83 (F1), xkcd_45 (E),

Start 60:

- Found in 1 of 113 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 100
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Getalong_46 (DN1),

Summary by clusters:

There are 12 clusters represented in this pham: F1, singleton, P1, E, F5, J, K1, A1, S, DN1, C1, DS,

Info for manual annotations of cluster A1:

- Start number 54 was manually annotated 3 times for cluster A1.

Info for manual annotations of cluster C1:

- Start number 27 was manually annotated 1 time for cluster C1.
- Start number 49 was manually annotated 1 time for cluster C1.
- Start number 54 was manually annotated 7 times for cluster C1.

Info for manual annotations of cluster DN1:

- Start number 60 was manually annotated 1 time for cluster DN1.

Info for manual annotations of cluster DS:

- Start number 31 was manually annotated 4 times for cluster DS.

Info for manual annotations of cluster E:

- Start number 54 was manually annotated 31 times for cluster E.

Info for manual annotations of cluster F1:

- Start number 33 was manually annotated 1 time for cluster F1.
- Start number 34 was manually annotated 1 time for cluster F1.
- Start number 52 was manually annotated 2 times for cluster F1.

- Start number 53 was manually annotated 3 times for cluster F1.
- Start number 54 was manually annotated 34 times for cluster F1.

Info for manual annotations of cluster F5:

- Start number 54 was manually annotated 1 time for cluster F5.

Info for manual annotations of cluster J:

- Start number 31 was manually annotated 4 times for cluster J.
- Start number 54 was manually annotated 1 time for cluster J.

Info for manual annotations of cluster K1:

- Start number 35 was manually annotated 3 times for cluster K1.

Info for manual annotations of cluster P1:

- Start number 54 was manually annotated 1 time for cluster P1.

Info for manual annotations of cluster S:

- Start number 54 was manually annotated 1 time for cluster S.

Gene Information:

Gene: Akhila_77 Start: 47736, Stop: 48011, Start Num: 54

Candidate Starts for Akhila_77:

(47, 47712), (Start: 54 @47736 has 79 MA's), (78, 47871), (86, 47895), (89, 47919), (95, 47964), (100, 47991),

Gene: Ardmore_66 Start: 43412, Stop: 43687, Start Num: 54

Candidate Starts for Ardmore_66:

(43, 43376), (Start: 54 @43412 has 79 MA's), (78, 43547), (86, 43571), (89, 43595), (95, 43640), (100, 43667),

Gene: BadStone_42 Start: 35749, Stop: 35474, Start Num: 54

Candidate Starts for BadStone_42:

(50, 35764), (Start: 54 @35749 has 79 MA's), (78, 35614), (86, 35590), (89, 35566), (95, 35521), (100, 35494),

Gene: Batiatus_80 Start: 48821, Stop: 49096, Start Num: 54

Candidate Starts for Batiatus_80:

(43, 48785), (Start: 54 @48821 has 79 MA's), (78, 48956), (86, 48980), (89, 49004), (95, 49049), (100, 49076),

Gene: Bench_45 Start: 35386, Stop: 35111, Start Num: 54

Candidate Starts for Bench_45:

(Start: 54 @35386 has 79 MA's), (78, 35251), (86, 35227), (89, 35203), (95, 35158), (100, 35131),

Gene: Bethlehem_85 Start: 50979, Stop: 50701, Start Num: 54

Candidate Starts for Bethlehem_85:

(48, 51003), (Start: 54 @50979 has 79 MA's), (59, 50937), (85, 50841), (94, 50775), (97, 50754), (98, 50748), (100, 50745), (102, 50742), (106, 50721),

Gene: BlueCrab_85 Start: 50477, Stop: 50755, Start Num: 53

Candidate Starts for BlueCrab_85:

(Start: 53 @50477 has 3 MA's), (59, 50519), (85, 50615), (94, 50681), (97, 50702), (98, 50708), (100, 50711), (102, 50714), (106, 50735),

Gene: BlueCrab_84 Start: 50205, Stop: 50480, Start Num: 54

Candidate Starts for BlueCrab_84:

(47, 50181), (Start: 54 @50205 has 79 MA's), (78, 50340), (86, 50364), (89, 50388), (95, 50433), (100, 50460),

Gene: BlueNGold_31 Start: 11220, Stop: 10870, Start Num: 31

Candidate Starts for BlueNGold_31:

(Start: 31 @11220 has 8 MA's), (36, 11202), (41, 11184), (Start: 52 @11133 has 2 MA's), (63, 11067), (83, 10992), (87, 10983), (90, 10944),

Gene: Bobi_86 Start: 50927, Stop: 51202, Start Num: 54

Candidate Starts for Bobi_86:

(Start: 54 @50927 has 79 MA's), (78, 51062), (86, 51086), (89, 51110), (95, 51155), (100, 51182), (102, 51185),

Gene: Boopy_33 Start: 11232, Stop: 10882, Start Num: 31

Candidate Starts for Boopy_33:

(Start: 31 @11232 has 8 MA's), (36, 11214), (41, 11196), (Start: 52 @11145 has 2 MA's), (63, 11079), (83, 11004), (87, 10995), (90, 10956),

Gene: BugsBunny_42 Start: 35155, Stop: 34877, Start Num: 54

Candidate Starts for BugsBunny_42:

(5, 35491), (6, 35488), (8, 35482), (9, 35473), (17, 35314), (21, 35284), (Start: 54 @35155 has 79 MA's), (74, 35035), (78, 35017), (86, 34993), (89, 34969), (95, 34924), (100, 34897),

Gene: BuzzLyseyear_89 Start: 52060, Stop: 52338, Start Num: 54

Candidate Starts for BuzzLyseyear_89:

(20, 51934), (46, 52030), (Start: 54 @52060 has 79 MA's), (58, 52072), (94, 52264), (97, 52285), (98, 52291), (100, 52294), (102, 52297), (106, 52318),

Gene: CaptainTrips_82 Start: 48768, Stop: 49100, Start Num: 54

Candidate Starts for CaptainTrips_82:

(Start: 54 @48768 has 79 MA's), (59, 48810), (85, 48906), (92, 48963),

Gene: ChosenOne_45 Start: 34885, Stop: 34610, Start Num: 54

Candidate Starts for ChosenOne_45:

(Start: 54 @34885 has 79 MA's), (74, 34768), (78, 34750), (86, 34726), (89, 34702), (95, 34657), (100, 34630),

Gene: Chuckly_78 Start: 46153, Stop: 46428, Start Num: 54

Candidate Starts for Chuckly_78:

(43, 46117), (Start: 54 @46153 has 79 MA's), (78, 46288), (86, 46312), (89, 46336), (95, 46381), (100, 46408),

Gene: Cornie_79 Start: 47817, Stop: 48095, Start Num: 54

Candidate Starts for Cornie_79:

(Start: 54 @47817 has 79 MA's), (94, 48021), (97, 48042), (98, 48048), (100, 48051), (102, 48054), (106, 48075),

Gene: Curiosium_93 Start: 56159, Stop: 56515, Start Num: 35

Candidate Starts for Curiosium_93:

(Start: 35 @56159 has 3 MA's), (38, 56171), (44, 56189), (61, 56258), (65, 56279), (68, 56300), (69, 56303), (74, 56324), (83, 56360), (88, 56381), (93, 56429), (94, 56432), (107, 56498),

Gene: DLane_82 Start: 50043, Stop: 50318, Start Num: 54

Candidate Starts for DLane_82:

(43, 50007), (Start: 54 @50043 has 79 MA's), (78, 50178), (86, 50202), (89, 50226), (95, 50271), (100, 50298),

Gene: Daenerys_82 Start: 50903, Stop: 51181, Start Num: 54

Candidate Starts for Daenerys_82:

(Start: 54 @50903 has 79 MA's), (59, 50945), (85, 51041), (94, 51107), (97, 51128), (98, 51134), (100, 51137), (102, 51140), (106, 51161),

Gene: Deb65_76 Start: 48625, Stop: 48903, Start Num: 54

Candidate Starts for Deb65_76:

(Start: 54 @48625 has 79 MA's), (59, 48667), (85, 48763), (94, 48829), (97, 48850), (98, 48856), (100, 48859), (102, 48862), (106, 48883),

Gene: DotProduct_77 Start: 47382, Stop: 47660, Start Num: 54

Candidate Starts for DotProduct_77:

(Start: 54 @47382 has 79 MA's), (59, 47424), (85, 47520), (94, 47586), (97, 47607), (98, 47613), (100, 47616), (102, 47619), (106, 47640),

Gene: Dumbo_44 Start: 35105, Stop: 34830, Start Num: 54

Candidate Starts for Dumbo_44:

(50, 35120), (Start: 54 @35105 has 79 MA's), (78, 34970), (86, 34946), (89, 34922), (95, 34877), (100, 34850),

Gene: Dusk_42 Start: 35409, Stop: 35134, Start Num: 54

Candidate Starts for Dusk_42:

(50, 35424), (Start: 54 @35409 has 79 MA's), (78, 35274), (86, 35250), (89, 35226), (95, 35181), (100, 35154),

Gene: Easy2Say_45 Start: 36649, Stop: 36374, Start Num: 54

Candidate Starts for Easy2Say_45:

(50, 36664), (Start: 54 @36649 has 79 MA's), (78, 36514), (86, 36490), (89, 36466), (95, 36421), (100, 36394),

Gene: Efra2_92 Start: 56100, Stop: 56492, Start Num: 35

Candidate Starts for Efra2_92:

(Start: 35 @56100 has 3 MA's), (51, 56163), (56, 56184), (57, 56190), (64, 56247), (81, 56337), (82, 56340), (83, 56343), (88, 56364), (94, 56415), (105, 56475),

Gene: Elite2014_44 Start: 34884, Stop: 34609, Start Num: 54

Candidate Starts for Elite2014_44:

(Start: 54 @34884 has 79 MA's), (74, 34767), (78, 34749), (86, 34725), (89, 34701), (95, 34656), (100, 34629),

Gene: Emmina_45 Start: 35184, Stop: 34909, Start Num: 54

Candidate Starts for Emmina_45:

(Start: 27 @35286 has 1 MA's), (29, 35280), (Start: 35 @35250 has 3 MA's), (Start: 54 @35184 has 79 MA's), (74, 35067), (78, 35049), (86, 35025), (89, 35001), (95, 34956), (100, 34929),

Gene: Eureka_42 Start: 35560, Stop: 35285, Start Num: 54

Candidate Starts for Eureka_42:

(43, 35596), (Start: 54 @35560 has 79 MA's), (78, 35425), (86, 35401), (89, 35377), (95, 35332), (100, 35305),

Gene: Fastidio_80 Start: 46279, Stop: 46557, Start Num: 53

Candidate Starts for Fastidio_80:

(Start: 53 @46279 has 3 MA's), (59, 46321), (85, 46417), (94, 46483), (97, 46504), (98, 46510), (100, 46513), (102, 46516), (106, 46537),

Gene: Filuzino_83 Start: 51185, Stop: 51463, Start Num: 54

Candidate Starts for Filuzino_83:

(Start: 54 @51185 has 79 MA's), (59, 51227), (85, 51323), (94, 51389), (97, 51410), (98, 51416), (100, 51419), (102, 51422), (106, 51443),

Gene: FireRed_44 Start: 35594, Stop: 35316, Start Num: 54

Candidate Starts for FireRed_44:

(5, 35930), (6, 35927), (8, 35921), (9, 35912), (17, 35753), (21, 35723), (Start: 54 @35594 has 79 MA's), (74, 35474), (78, 35456), (86, 35432), (89, 35408), (95, 35363), (100, 35336),

Gene: Flabslab_18 Start: 6033, Stop: 6323, Start Num: 49

Candidate Starts for Flabslab_18:

(Start: 49 @6033 has 1 MA's), (78, 6183), (86, 6207), (89, 6231), (95, 6276), (100, 6303),

Gene: Forza_32 Start: 11148, Stop: 10798, Start Num: 31

Candidate Starts for Forza_32:

(Start: 31 @11148 has 8 MA's), (36, 11130), (41, 11112), (Start: 52 @11061 has 2 MA's), (63, 10995), (83, 10920), (87, 10911), (90, 10872),

Gene: Fruitloop_79 Start: 49022, Stop: 49300, Start Num: 54

Candidate Starts for Fruitloop_79:

(Start: 54 @49022 has 79 MA's), (59, 49064), (85, 49160), (94, 49226), (97, 49247), (98, 49253), (100, 49256), (102, 49259), (106, 49280),

Gene: Geralt_76 Start: 48623, Stop: 48901, Start Num: 54

Candidate Starts for Geralt_76:

(Start: 54 @48623 has 79 MA's), (59, 48665), (85, 48761), (94, 48827), (97, 48848), (98, 48854), (100, 48857), (102, 48860), (106, 48881),

Gene: Getalong_46 Start: 32723, Stop: 33001, Start Num: 60

Candidate Starts for Getalong_46:

(Start: 60 @32723 has 1 MA's), (72, 32789), (75, 32813), (76, 32816), (77, 32819), (104, 32963),

Gene: GigiOuiOui_76 Start: 47877, Stop: 48161, Start Num: 52

Candidate Starts for GigiOuiOui_76:

(24, 47760), (Start: 31 @47790 has 8 MA's), (38, 47817), (47, 47853), (Start: 52 @47877 has 2 MA's), (71, 47982), (79, 48030), (84, 48048), (86, 48054), (92, 48111), (94, 48120),

Gene: GigiOuiOui_79 Start: 48947, Stop: 49300, Start Num: 34

Candidate Starts for GigiOuiOui_79:

(15, 48839), (30, 48932), (Start: 34 @48947 has 1 MA's), (Start: 54 @49022 has 79 MA's), (59, 49064), (85, 49160), (94, 49226), (97, 49247), (98, 49253), (100, 49256), (102, 49259), (106, 49280),

Gene: Goku_42 Start: 35289, Stop: 35014, Start Num: 54

Candidate Starts for Goku_42:

(43, 35325), (Start: 54 @35289 has 79 MA's), (78, 35154), (86, 35130), (89, 35106), (95, 35061), (100, 35034),

Gene: Guanica15_91 Start: 55792, Stop: 56184, Start Num: 35

Candidate Starts for Guanica15_91:

(Start: 35 @55792 has 3 MA's), (47, 55840), (51, 55855), (56, 55876), (57, 55882), (64, 55939), (81, 56029), (82, 56032), (83, 56035), (88, 56056), (94, 56107), (105, 56167),

Gene: Guppsters_77 Start: 47008, Stop: 47292, Start Num: 54

Candidate Starts for Guppsters_77:

(Start: 54 @47008 has 79 MA's), (94, 47212), (97, 47233), (98, 47239), (100, 47242),

Gene: Hamulus_81 Start: 48864, Stop: 49142, Start Num: 54

Candidate Starts for Hamulus_81:

(Start: 54 @48864 has 79 MA's), (59, 48906), (85, 49002), (94, 49068), (97, 49089), (98, 49095), (100, 49098), (102, 49101), (106, 49122),

Gene: Hannaconda_71 Start: 46308, Stop: 46033, Start Num: 54

Candidate Starts for Hannaconda_71:

(Start: 49 @46323 has 1 MA's), (Start: 54 @46308 has 79 MA's), (78, 46173), (86, 46149), (89, 46125), (95, 46080), (100, 46053),

Gene: Henry_43 Start: 35628, Stop: 35353, Start Num: 54

Candidate Starts for Henry_43:

(50, 35643), (Start: 54 @35628 has 79 MA's), (78, 35493), (86, 35469), (89, 35445), (95, 35400), (100, 35373),

Gene: HufflyPuff_43 Start: 35550, Stop: 35272, Start Num: 54

Candidate Starts for HufflyPuff_43:

(5, 35886), (6, 35883), (8, 35877), (9, 35868), (17, 35709), (21, 35679), (Start: 54 @35550 has 79 MA's), (74, 35430), (78, 35412), (86, 35388), (89, 35364), (95, 35319), (100, 35292),

Gene: HyRo_13 Start: 5432, Stop: 5707, Start Num: 54

Candidate Starts for HyRo_13:

(43, 5396), (Start: 54 @5432 has 79 MA's), (78, 5567), (86, 5591), (89, 5615), (95, 5660), (100, 5687),

Gene: IkeLoa_7 Start: 3049, Stop: 3285, Start Num: 54

Candidate Starts for IkeLoa_7:

(1, 2605), (2, 2707), (3, 2710), (4, 2716), (7, 2725), (19, 2905), (32, 2968), (Start: 54 @3049 has 79 MA's), (67, 3124), (73, 3139), (79, 3166), (80, 3172), (91, 3217), (94, 3229), (99, 3259),

Gene: JoeyJr_83 Start: 50528, Stop: 50806, Start Num: 54

Candidate Starts for JoeyJr_83:

(Start: 54 @50528 has 79 MA's), (59, 50570), (85, 50666), (94, 50732), (97, 50753), (98, 50759), (100, 50762), (102, 50765), (106, 50786),

Gene: JulietS_7 Start: 2148, Stop: 2384, Start Num: 54

Candidate Starts for JulietS_7:

(38, 2091), (Start: 54 @2148 has 79 MA's), (67, 2223), (73, 2238), (79, 2265), (80, 2271), (91, 2316), (94, 2328), (99, 2358),

Gene: Kingsley_84 Start: 51337, Stop: 51612, Start Num: 54

Candidate Starts for Kingsley_84:

(16, 51175), (18, 51184), (Start: 54 @51337 has 79 MA's), (78, 51472), (86, 51496), (89, 51520), (95, 51565), (100, 51592),

Gene: Kostya_42 Start: 35041, Stop: 34763, Start Num: 54

Candidate Starts for Kostya_42:

(5, 35377), (6, 35374), (8, 35368), (9, 35359), (17, 35200), (21, 35170), (Start: 54 @35041 has 79 MA's), (74, 34921), (78, 34903), (86, 34879), (89, 34855), (95, 34810), (100, 34783),

Gene: Ksquared_55 Start: 38040, Stop: 38279, Start Num: 54

Candidate Starts for Ksquared_55:

(10, 37779), (11, 37812), (12, 37836), (14, 37842), (39, 37983), (Start: 54 @38040 has 79 MA's), (67, 38115), (73, 38130), (79, 38157), (80, 38163), (91, 38208), (94, 38220),

Gene: Leperchaun_81 Start: 49762, Stop: 50040, Start Num: 54

Candidate Starts for Leperchaun_81:

(Start: 54 @49762 has 79 MA's), (59, 49804), (85, 49900), (94, 49966), (97, 49987), (98, 49993), (100, 49996), (102, 49999), (106, 50020),

Gene: Lilpickle_44 Start: 34884, Stop: 34609, Start Num: 54

Candidate Starts for Lilpickle_44:

(Start: 54 @34884 has 79 MA's), (74, 34767), (78, 34749), (86, 34725), (89, 34701), (95, 34656), (100, 34629),

Gene: LittleShirley_88 Start: 49954, Stop: 50238, Start Num: 52

Candidate Starts for LittleShirley_88:

(24, 49837), (Start: 31 @49867 has 8 MA's), (38, 49894), (47, 49930), (Start: 52 @49954 has 2 MA's), (71, 50059), (79, 50107), (84, 50125), (86, 50131), (92, 50188), (94, 50197),

Gene: Lucky2013_154 Start: 81047, Stop: 81454, Start Num: 31

Candidate Starts for Lucky2013_154:

(Start: 31 @81047 has 8 MA's), (58, 81155), (62, 81200), (70, 81239), (75, 81272), (103, 81413),

Gene: Manda_44 Start: 36070, Stop: 35795, Start Num: 54

Candidate Starts for Manda_44:

(43, 36106), (Start: 54 @36070 has 79 MA's), (78, 35935), (86, 35911), (89, 35887), (95, 35842), (100, 35815),

Gene: Manda_42 Start: 35521, Stop: 35240, Start Num: 54

Candidate Starts for Manda_42:

(Start: 54 @35521 has 79 MA's), (59, 35479), (85, 35383), (94, 35317), (101, 35287),

Gene: Mareelih_31 Start: 10677, Stop: 10327, Start Num: 31

Candidate Starts for Mareelih_31:

(Start: 31 @10677 has 8 MA's), (36, 10659), (41, 10641), (Start: 52 @10590 has 2 MA's), (63, 10524), (83, 10449), (87, 10440), (90, 10401),

Gene: MiaZeal_161 Start: 82194, Stop: 82601, Start Num: 31

Candidate Starts for MiaZeal_161:

(Start: 31 @82194 has 8 MA's), (58, 82302), (62, 82347), (70, 82386), (75, 82419), (103, 82560),

Gene: MilanaBonita_76 Start: 47736, Stop: 48011, Start Num: 54

Candidate Starts for MilanaBonita_76:

(47, 47712), (Start: 54 @47736 has 79 MA's), (78, 47871), (86, 47895), (89, 47919), (95, 47964), (100, 47991),

Gene: MilleniumForce_83 Start: 50034, Stop: 50318, Start Num: 54

Candidate Starts for MilleniumForce_83:

(Start: 54 @50034 has 79 MA's), (59, 50076), (85, 50172), (94, 50238), (97, 50259), (98, 50265), (100, 50268),

Gene: MinionDave_78 Start: 48768, Stop: 49100, Start Num: 54

Candidate Starts for MinionDave_78:

(Start: 54 @48768 has 79 MA's), (59, 48810), (85, 48906), (92, 48963),

Gene: Minnie_78 Start: 50814, Stop: 51092, Start Num: 54

Candidate Starts for Minnie_78:

(Start: 54 @50814 has 79 MA's), (59, 50856), (85, 50952), (94, 51018), (97, 51039), (98, 51045), (100, 51048), (102, 51051), (106, 51072),

Gene: Misfit_43 Start: 35615, Stop: 35337, Start Num: 54

Candidate Starts for Misfit_43:

(5, 35951), (6, 35948), (8, 35942), (9, 35933), (17, 35774), (21, 35744), (Start: 54 @35615 has 79 MA's), (74, 35495), (78, 35477), (86, 35453), (89, 35429), (95, 35384), (100, 35357),

Gene: Ms6_80 Start: 45220, Stop: 45495, Start Num: 54

Candidate Starts for Ms6_80:

(43, 45184), (Start: 54 @45220 has 79 MA's), (78, 45355), (86, 45379), (89, 45403), (95, 45448), (100, 45475),

Gene: Murica_43 Start: 35550, Stop: 35272, Start Num: 54

Candidate Starts for Murica_43:

(5, 35886), (6, 35883), (8, 35877), (9, 35868), (17, 35709), (21, 35679), (Start: 54 @35550 has 79 MA's), (74, 35430), (78, 35412), (86, 35388), (89, 35364), (95, 35319), (100, 35292),

Gene: NelitzaMV_41 Start: 34995, Stop: 34720, Start Num: 54

Candidate Starts for NelitzaMV_41:

(50, 35010), (Start: 54 @34995 has 79 MA's), (78, 34860), (86, 34836), (89, 34812), (95, 34767), (100, 34740),

Gene: Nimbo_75 Start: 48626, Stop: 48904, Start Num: 54

Candidate Starts for Nimbo_75:

(Start: 54 @48626 has 79 MA's), (59, 48668), (85, 48764), (94, 48830), (97, 48851), (98, 48857), (100, 48860), (102, 48863), (106, 48884),

Gene: Nimrod_44 Start: 35808, Stop: 35530, Start Num: 54

Candidate Starts for Nimrod_44:

(5, 36144), (6, 36141), (8, 36135), (9, 36126), (17, 35967), (21, 35937), (Start: 54 @35808 has 79 MA's), (74, 35688), (78, 35670), (86, 35646), (89, 35622), (95, 35577), (100, 35550),

Gene: Nitzel_74 Start: 45944, Stop: 46222, Start Num: 53

Candidate Starts for Nitzel_74:

(Start: 53 @45944 has 3 MA's), (59, 45986), (85, 46082), (94, 46148), (97, 46169), (98, 46175), (100, 46178), (102, 46181), (106, 46202),

Gene: OldBen_80 Start: 50018, Stop: 50296, Start Num: 54

Candidate Starts for OldBen_80:

(Start: 54 @50018 has 79 MA's), (59, 50060), (85, 50156), (94, 50222), (97, 50243), (98, 50249), (100, 50252), (102, 50255), (106, 50276),

Gene: Omega_170 Start: 87510, Stop: 87914, Start Num: 31

Candidate Starts for Omega_170:

(Start: 31 @87510 has 8 MA's), (44, 87555), (58, 87618), (62, 87663), (70, 87702), (75, 87735), (96, 87855),

Gene: PHappiness_83 Start: 50847, Stop: 51125, Start Num: 54

Candidate Starts for PHappiness_83:

(Start: 54 @50847 has 79 MA's), (59, 50889), (85, 50985), (94, 51051), (97, 51072), (98, 51078), (100, 51081), (102, 51084), (106, 51105),

Gene: Pacc40_78 Start: 49990, Stop: 50265, Start Num: 54

Candidate Starts for Pacc40_78:

(47, 49966), (Start: 54 @49990 has 79 MA's), (78, 50125), (86, 50149), (89, 50173), (95, 50218), (100, 50245),

Gene: Pacc40_79 Start: 50262, Stop: 50540, Start Num: 53

Candidate Starts for Pacc40_79:

(Start: 53 @50262 has 3 MA's), (59, 50304), (85, 50400), (94, 50466), (97, 50487), (98, 50493), (100, 50496), (102, 50499), (106, 50520),

Gene: Palpatine_44 Start: 35580, Stop: 35302, Start Num: 54

Candidate Starts for Palpatine_44:

(5, 35916), (6, 35913), (8, 35907), (9, 35898), (17, 35739), (21, 35709), (Start: 54 @35580 has 79 MA's), (74, 35460), (78, 35442), (86, 35418), (89, 35394), (95, 35349), (100, 35322),

Gene: Paperbeatsrock_43 Start: 35924, Stop: 35649, Start Num: 54

Candidate Starts for Paperbeatsrock_43:

(50, 35939), (Start: 54 @35924 has 79 MA's), (78, 35789), (86, 35765), (89, 35741), (95, 35696), (100, 35669),

Gene: Petra64142_46 Start: 36044, Stop: 35766, Start Num: 54

Candidate Starts for Petra64142_46:

(5, 36380), (6, 36377), (8, 36371), (9, 36362), (17, 36203), (21, 36173), (Start: 54 @36044 has 79 MA's), (74, 35924), (78, 35906), (86, 35882), (89, 35858), (95, 35813), (100, 35786),

Gene: Petruccio_83 Start: 47510, Stop: 47223, Start Num: 54

Candidate Starts for Petruccio_83:

(48, 47534), (Start: 54 @47510 has 79 MA's), (59, 47468), (85, 47372), (94, 47306), (97, 47285), (98, 47279), (102, 47273),

Gene: Petruccio_61 Start: 40438, Stop: 40163, Start Num: 54

Candidate Starts for Petruccio_61:

(13, 40639), (40, 40495), (42, 40492), (Start: 54 @40438 has 79 MA's), (74, 40321), (78, 40303), (86, 40279), (89, 40255), (95, 40210), (100, 40183),

Gene: Phalconet_77 Start: 47759, Stop: 48034, Start Num: 54
Candidate Starts for Phalconet_77:
(Start: 54 @47759 has 79 MA's), (78, 47894), (86, 47918), (89, 47942), (95, 47987), (100, 48014),

Gene: Phanphagia_79 Start: 49133, Stop: 49408, Start Num: 54
Candidate Starts for Phanphagia_79:
(16, 48971), (18, 48980), (Start: 54 @49133 has 79 MA's), (78, 49268), (86, 49292), (89, 49316), (95, 49361), (100, 49388),

Gene: Pharsalus_42 Start: 35724, Stop: 35449, Start Num: 54
Candidate Starts for Pharsalus_42:
(50, 35739), (Start: 54 @35724 has 79 MA's), (78, 35589), (86, 35565), (89, 35541), (95, 35496), (100, 35469),

Gene: PhatBacter_44 Start: 35594, Stop: 35316, Start Num: 54
Candidate Starts for PhatBacter_44:
(5, 35930), (6, 35927), (8, 35921), (9, 35912), (17, 35753), (21, 35723), (Start: 54 @35594 has 79 MA's), (74, 35474), (78, 35456), (86, 35432), (89, 35408), (95, 35363), (100, 35336),

Gene: Phaux_43 Start: 35592, Stop: 35314, Start Num: 54
Candidate Starts for Phaux_43:
(5, 35928), (6, 35925), (8, 35919), (9, 35910), (17, 35751), (21, 35721), (Start: 54 @35592 has 79 MA's), (74, 35472), (78, 35454), (86, 35430), (89, 35406), (95, 35361), (100, 35334),

Gene: Policronamos_46 Start: 35592, Stop: 35314, Start Num: 54
Candidate Starts for Policronamos_46:
(5, 35928), (6, 35925), (8, 35919), (9, 35910), (17, 35751), (21, 35721), (Start: 54 @35592 has 79 MA's), (74, 35472), (78, 35454), (86, 35430), (89, 35406), (95, 35361), (100, 35334),

Gene: Pollywog_81 Start: 49950, Stop: 50234, Start Num: 54
Candidate Starts for Pollywog_81:
(Start: 54 @49950 has 79 MA's), (59, 49992), (85, 50088), (94, 50154), (97, 50175), (98, 50181), (100, 50184),

Gene: Porcelain_158 Start: 81993, Stop: 82400, Start Num: 31
Candidate Starts for Porcelain_158:
(Start: 31 @81993 has 8 MA's), (58, 82101), (62, 82146), (70, 82185), (75, 82218), (103, 82359),

Gene: Porky_43 Start: 35192, Stop: 34917, Start Num: 54
Candidate Starts for Porky_43:
(Start: 27 @35294 has 1 MA's), (29, 35288), (Start: 35 @35258 has 3 MA's), (Start: 54 @35192 has 79 MA's), (74, 35075), (78, 35057), (86, 35033), (89, 35009), (95, 34964), (100, 34937),

Gene: QBert_7 Start: 3151, Stop: 3387, Start Num: 54
Candidate Starts for QBert_7:
(38, 3094), (Start: 54 @3151 has 79 MA's), (67, 3226), (73, 3241), (79, 3268), (80, 3274), (91, 3319), (94, 3331), (99, 3361),

Gene: Rabinovish_16 Start: 6579, Stop: 6902, Start Num: 27
Candidate Starts for Rabinovish_16:
(Start: 27 @6579 has 1 MA's), (29, 6585), (Start: 54 @6627 has 79 MA's), (78, 6762), (86, 6786), (89, 6810), (95, 6855), (100, 6882),

Gene: Raela_8 Start: 2919, Stop: 3194, Start Num: 54

Candidate Starts for Raela_8:

(Start: 54 @2919 has 79 MA's), (78, 3054), (86, 3078), (89, 3102), (95, 3147), (100, 3174),

Gene: RitaG_83 Start: 50649, Stop: 50927, Start Num: 54

Candidate Starts for RitaG_83:

(Start: 54 @50649 has 79 MA's), (59, 50691), (85, 50787), (94, 50853), (97, 50874), (98, 50880), (100, 50883), (102, 50886), (106, 50907),

Gene: RoMag_6 Start: 3000, Stop: 3236, Start Num: 54

Candidate Starts for RoMag_6:

(38, 2943), (Start: 54 @3000 has 79 MA's), (67, 3075), (73, 3090), (79, 3117), (80, 3123), (91, 3168), (94, 3180), (99, 3210),

Gene: Sandalphon_76 Start: 48799, Stop: 49077, Start Num: 54

Candidate Starts for Sandalphon_76:

(Start: 54 @48799 has 79 MA's), (59, 48841), (85, 48937), (94, 49003), (97, 49024), (98, 49030), (100, 49033), (102, 49036), (106, 49057),

Gene: ScottMcG_17 Start: 5737, Stop: 6012, Start Num: 54

Candidate Starts for ScottMcG_17:

(43, 5701), (Start: 54 @5737 has 79 MA's), (78, 5872), (86, 5896), (89, 5920), (95, 5965), (100, 5992),

Gene: Shauna1_80 Start: 49383, Stop: 49658, Start Num: 54

Candidate Starts for Shauna1_80:

(16, 49221), (18, 49230), (Start: 54 @49383 has 79 MA's), (78, 49518), (86, 49542), (89, 49566), (95, 49611), (100, 49638),

Gene: Shifa_12 Start: 4863, Stop: 5138, Start Num: 54

Candidate Starts for Shifa_12:

(43, 4827), (Start: 54 @4863 has 79 MA's), (78, 4998), (86, 5022), (89, 5046), (95, 5091), (100, 5118),

Gene: SophKB_41 Start: 34943, Stop: 34668, Start Num: 54

Candidate Starts for SophKB_41:

(50, 34958), (Start: 54 @34943 has 79 MA's), (78, 34808), (86, 34784), (89, 34760), (95, 34715), (100, 34688),

Gene: StAnnes_84 Start: 50390, Stop: 50668, Start Num: 54

Candidate Starts for StAnnes_84:

(Start: 54 @50390 has 79 MA's), (59, 50432), (85, 50528), (94, 50594), (97, 50615), (98, 50621), (100, 50624), (102, 50627), (106, 50648),

Gene: Starcevich_82 Start: 50235, Stop: 50519, Start Num: 52

Candidate Starts for Starcevich_82:

(24, 50118), (Start: 31 @50148 has 8 MA's), (38, 50175), (47, 50211), (Start: 52 @50235 has 2 MA's), (71, 50340), (79, 50388), (84, 50406), (86, 50412), (92, 50469), (94, 50478),

Gene: Stubby_16 Start: 5996, Stop: 6271, Start Num: 54

Candidate Starts for Stubby_16:

(43, 5960), (Start: 54 @5996 has 79 MA's), (78, 6131), (86, 6155), (89, 6179), (95, 6224), (100, 6251),

Gene: Tarkin_43 Start: 35933, Stop: 35658, Start Num: 54

Candidate Starts for Tarkin_43:

(50, 35948), (Start: 54 @35933 has 79 MA's), (78, 35798), (86, 35774), (89, 35750), (95, 35705), (100, 35678),

Gene: Terminus_43 Start: 35615, Stop: 35337, Start Num: 54

Candidate Starts for Terminus_43:

(5, 35951), (6, 35948), (8, 35942), (9, 35933), (17, 35774), (21, 35744), (Start: 54 @35615 has 79 MA's), (74, 35495), (78, 35477), (86, 35453), (89, 35429), (95, 35384), (100, 35357),

Gene: TinyDot_40 Start: 28787, Stop: 29068, Start Num: 54

Candidate Starts for TinyDot_40:

(22, 28661), (25, 28664), (28, 28673), (Start: 54 @28787 has 79 MA's), (92, 29000),

Gene: Totinger_85 Start: 49031, Stop: 49315, Start Num: 52

Candidate Starts for Totinger_85:

(24, 48914), (Start: 31 @48944 has 8 MA's), (38, 48971), (47, 49007), (Start: 52 @49031 has 2 MA's), (71, 49136), (79, 49184), (84, 49202), (86, 49208), (92, 49265), (94, 49274),

Gene: Ukulele_41 Start: 34868, Stop: 34593, Start Num: 54

Candidate Starts for Ukulele_41:

(44, 34910), (45, 34907), (Start: 54 @34868 has 79 MA's), (78, 34733), (86, 34709), (89, 34685), (95, 34640), (100, 34613),

Gene: Wachhund_79 Start: 46376, Stop: 46765, Start Num: 33

Candidate Starts for Wachhund_79:

(23, 46334), (26, 46337), (Start: 33 @46376 has 1 MA's), (37, 46388), (55, 46454), (66, 46517), (73, 46541), (91, 46625), (94, 46637),

Gene: XFactor_76 Start: 47957, Stop: 48232, Start Num: 54

Candidate Starts for XFactor_76:

(43, 47921), (Start: 54 @47957 has 79 MA's), (78, 48092), (86, 48116), (89, 48140), (95, 48185), (100, 48212),

Gene: Zerg_83 Start: 49449, Stop: 49727, Start Num: 54

Candidate Starts for Zerg_83:

(Start: 54 @49449 has 79 MA's), (59, 49491), (85, 49587), (94, 49653), (97, 49674), (98, 49680), (100, 49683), (102, 49686), (106, 49707),

Gene: xkcd_45 Start: 35735, Stop: 35457, Start Num: 54

Candidate Starts for xkcd_45:

(5, 36071), (6, 36068), (8, 36062), (9, 36053), (17, 35894), (21, 35864), (Start: 54 @35735 has 79 MA's), (74, 35615), (78, 35597), (86, 35573), (89, 35549), (95, 35504), (100, 35477),