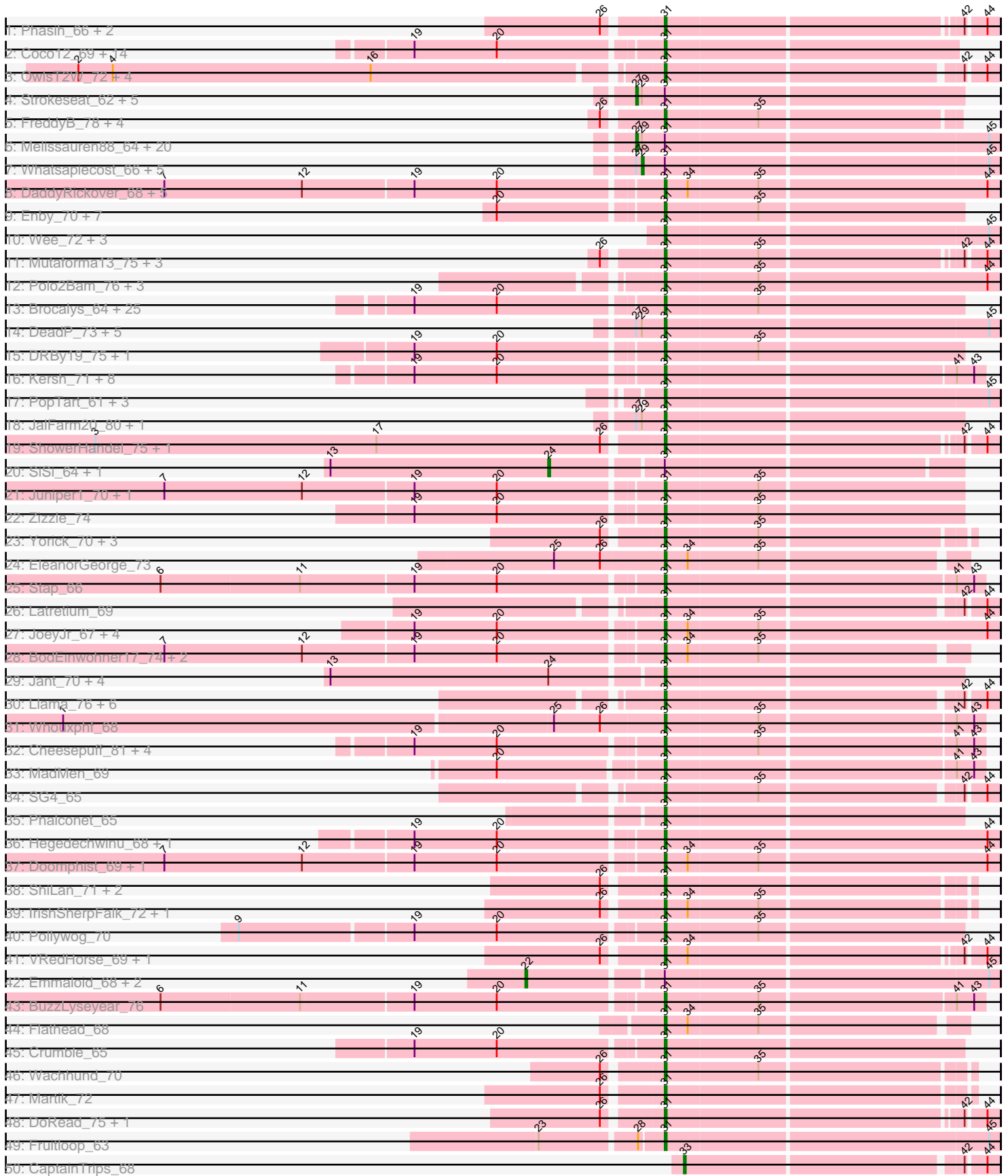
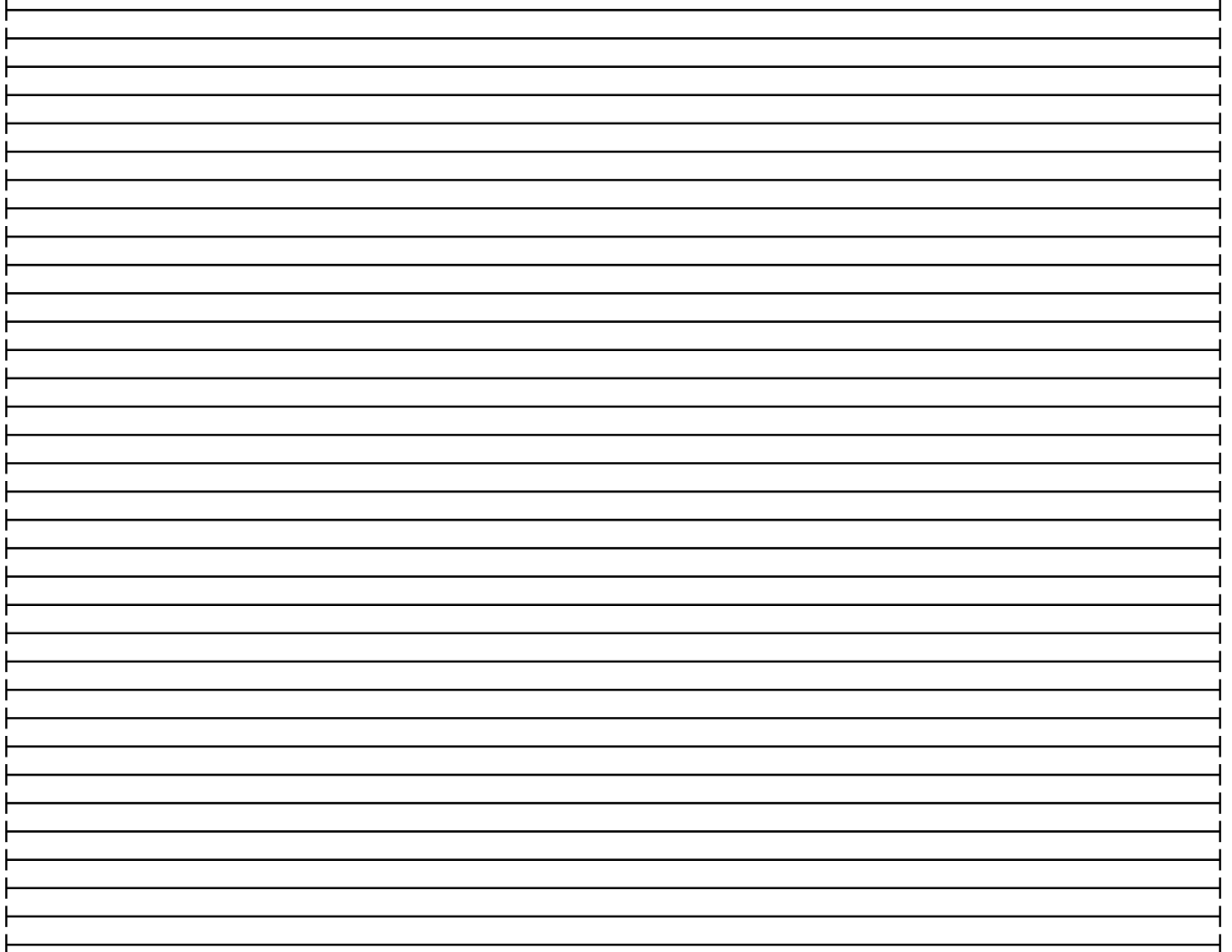
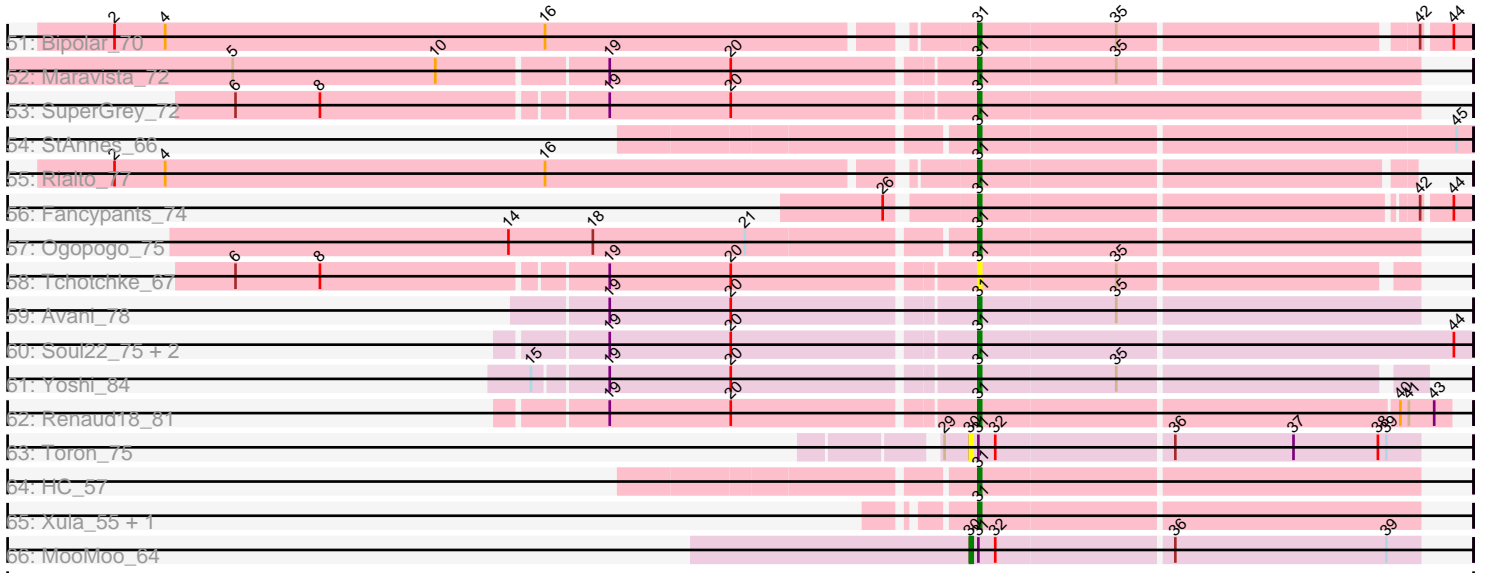


Pham 213979



Pham 213979



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 213979 Report

This analysis was run 02/22/25 on database version 588.

Pham number 213979 has 222 members, 17 are drafts.

Phages represented in each track:

- Track 1 : Phasih_66, Starcevich_70, Moonbeam_70
- Track 2 : Coco12_69, Ruby_65, Brookers_67, Cerasum_66, Marker_71, MisterCuddles_67, Girr_67, Demsculpinboyz_81, BlueCrab_72, Krakatau_65, Spartacus_73, BigPhil_66, Grimmer_79, Mahavrat_66, Sabbb_71
- Track 3 : OwlsT2W_72, DosHalletts_72, Zerg_70, Royals2015_76, Hades_70
- Track 4 : Strokeseat_62, Juice456_68, Donkeykong_69, Hlubikazi_62, KristaRAM_70, Mandlovu_62
- Track 5 : FreddyB_78, Kenuha5_70, Ramsey_73, DillTech15_71, Madiba_75
- Track 6 : Melissauren88_64, QuickMath_70, Scottish_65, Empress_65, DotProduct_61, Jabbawokkie_81, Nimbo_60, KingMidas_66, Ms6_63, Seagreen_65, MulchExplorer_74, Girafales_74, Kimberlium_71, Blarby_79, Deb65_61, Shauna1_64, Firehouse51_69, Quico_74, TChen_68, OldBen_64, Phanphagia_62
- Track 7 : Whatsapiecost_66, BodEinwohner17_67, Ovechkin_66, MilanaBonita_56, LunaStella_66, Geralt_61
- Track 8 : DaddyRickover_68, Sassafras_67, Inventum_64, RedBird_67, Polka14_70, Dorothy_67
- Track 9 : Enby_70, UncleRicky_68, Leozinho_69, Lij_65, DirtMcgirt_68, Phatniss_67, Lorde_69, Drago_66
- Track 10 : Wee_72, TDanisky_74, Sparkdehlily_74, Taj_72
- Track 11 : Mutaforma13_75, Beakin_70, LunaBlu_72, Galactic_69
- Track 12 : Polo2Bam_76, Aubs_71, NewHope4_72, ShroomBoi_72
- Track 13 : Brocalys_64, RockyHorror_70, Totinger_69, DotProduct_70, BobaPhett_74, Saal_71, Lizziana_75, Clifton_64, Violac_71, Karhdo_68, Pippy_69, LastJedi_63, Gorge_73, NormanBulbieJr_69, Eish_72, Koella_64, Priscilla_70, Doug_71, SwagPigglett_75, Mattes_73, SimranZ1_70, Spoonbill_70, Cabrinians_71, OlympiaSaint_71, DaWorst_70, James_73
- Track 14 : DeadP_73, Florinda_77, Akhila_57, IbOuu_69, LittleShirley_67, Zapner_80
- Track 15 : DRBy19_75, Philus_74
- Track 16 : Kersh_71, lbhubesi_69, Burwell21_68, Byougenkin_70, Plumbus_71, LilMoolah_68, Che8_74, Pacc40_63, Nivrat_66
- Track 17 : PopTart_61, Filuzino_65, DLane_62, SassyB_61
- Track 18 : JalFarm20_80, PhesterPhotato_70
- Track 19 : ShowerHandel_75, ByChance_65
- Track 20 : SiSi_64, Boomer_71
- Track 21 : Juniper1_70, Blexus_69
- Track 22 : Zizzle_74

- Track 23 : Yorick_70, Rita_77, GigiOuiOui_67, Jarcob_71
- Track 24 : EleanorGeorge_73
- Track 25 : Stap_66
- Track 26 : Latretium_69
- Track 27 : JoeyJr_67, PHappiness_67, Leperchaun_64, Daenerys_66, RitaG_67
- Track 28 : BodEinwohner17_74, Radiance_68, Tootsieroll_71
- Track 29 : Jant_70, PMC_63, Rockne_67, MilleniumForce_69, ThetaBob_74
- Track 30 : Llama_76, AlpineSix_76, Bubbles123_67, Che9d_81, Seabastian_77, Nitzel_66, OfUltron_77
- Track 31 : Whouxphf_68
- Track 32 : Cheesepuff_81, Mantra_67, Sarma624_68, Emma_72, Velveteen_65
- Track 33 : MadMen_69
- Track 34 : SG4_65
- Track 35 : Phalconet_65
- Track 36 : Hegedechwinu_68, Gandalph_71
- Track 37 : Doomphist_69, Poenanya_69
- Track 38 : ShiLan_71, ArcusAngelus_75, Chevrolet_77
- Track 39 : IrishSherpFalk_72, WillSterrel_72
- Track 40 : Pollywog_70
- Track 41 : VRedHorse_69, Cornucopia_71
- Track 42 : Emmaloid_68, Slim_68, Rialto_72
- Track 43 : BuzzLyseyear_76
- Track 44 : Flathead_68
- Track 45 : Crumble_65
- Track 46 : Wachhund_70
- Track 47 : Martik_72
- Track 48 : DoRead_75, Estave1_76
- Track 49 : Fruitloop_63
- Track 50 : CaptainTrips_68
- Track 51 : Bipolar_70
- Track 52 : Maravista_72
- Track 53 : SuperGrey_72
- Track 54 : StAnnes_66
- Track 55 : Rialto_77
- Track 56 : Fancypants_74
- Track 57 : Ogopogo_75
- Track 58 : Tchotchke_67
- Track 59 : Avani_78
- Track 60 : Soul22_75, Mozy_78, Cornie_67
- Track 61 : Yoshi_84
- Track 62 : Renaud18_81
- Track 63 : Toron_75
- Track 64 : HC_57
- Track 65 : Xula_55, QueenHazel_56
- Track 66 : MooMoo_64

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 170 of the 205 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Akhila_57, AlpineSix_76, ArcusAngelus_75, Aubs_71, Avani_78, Beakin_70, BigPhil_66, Bipolar_70, Blexus_69, BlueCrab_72, BobaPhett_74, BodEinwohner17_74, Brocalys_64, Brookers_67, Bubbles123_67, Burwell21_68, BuzzLyseyear_76, ByChance_65, Byougenkin_70, Cabrinians_71, Cerasum_66, Che8_74, Che9d_81, CheesePuff_81, Chevrolet_77, Clifton_64, Coco12_69, Cornie_67, Cornucopia_71, Crumble_65, DLane_62, DRBy19_75, DaWorst_70, DaddyRickover_68, Daenerys_66, DeadP_73, Demsculpinboyz_81, DillTech15_71, DirtMcgirt_68, DoRead_75, Doomphist_69, Dorothy_67, DosHalletts_72, DotProduct_70, Doug_71, Drago_66, Eish_72, EleanorGeorge_73, Emma_72, Enby_70, Estave1_76, FancyPants_74, Filuzino_65, Flathead_68, Florinda_77, FreddyB_78, Fruitloop_63, Galactic_69, Gandolph_71, GigiOuiOui_67, Girr_67, Gorge_73, Grimmer_79, HC_57, Hades_70, Hegedechwinu_68, IbOuu_69, Ibhubesi_69, Inventum_64, IrishSherpFalk_72, JalFarm20_80, James_73, Jant_70, Jarcob_71, JoeyJr_67, Juniper1_70, Karhdo_68, Kenuha5_70, Kersh_71, Koella_64, Krakatau_65, LastJedi_63, Latretium_69, Leozinho_69, Leperchaun_64, LilMoolah_68, LittleShirley_67, Lizziana_75, Llama_76, Llij_65, Lorde_69, LunaBlu_72, MadMen_69, Madiba_75, Mahavrat_66, Mantra_67, Maravista_72, Marker_71, Martik_72, Mattes_73, MilleniumForce_69, MisterCuddles_67, Moonbeam_70, Mozy_78, Mutaforma13_75, NewHope4_72, Nitzel_66, Nivrat_66, NormanBulbieJr_69, OfUltron_77, Ogopogo_75, OlympiaSaint_71, OwlsT2W_72, PHappiness_67, PMC_63, Pacc40_63, Phalconet_65, Phasih_66, Phatniss_67, PhesterPhotato_70, Philus_74, Pippy_69, Plumbus_71, Poenanya_69, Polka14_70, Pollywog_70, Polo2Bam_76, PopTart_61, Priscilla_70, QueenHazel_56, Radiance_68, Ramsey_73, RedBird_67, Renaud18_81, Rialto_77, RitaG_67, Rita_77, Rockne_67, RockyHorror_70, Royals2015_76, Ruby_65, SG4_65, Saal_71, Sabb_71, Sarma624_68, Sassafras_67, SassyB_61, Seabastian_77, ShiLan_71, ShowerHandel_75, ShroomBoi_72, SimranZ1_70, Soul22_75, Sparkdehlily_74, Spartacus_73, Spoonbill_70, StAnnes_66, Stap_66, Starcevich_70, SuperGrey_72, SwagPiggett_75, TDanisky_74, Taj_72, Tchotchke_67, ThetaBob_74, Tootsieroll_71, Totinger_69, UncleRicky_68, VRedHorse_69, Velveteen_65, Violac_71, Wachhund_70, Wee_72, Whouxphf_68, WillSterrel_72, Xula_55, Yorick_70, Yoshi_84, Zapner_80, Zerg_70, Zizzle_74,

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

- Blarby_79, BodEinwohner17_67, Boomer_71, Deb65_61, Donkeykong_69, DotProduct_61, Emmaloid_68, Empress_65, Firehouse51_69, Geralt_61, Girafales_74, Hlubikazi_62, Jabbawokkie_81, Juice456_68, Kimberlium_71, KingMidas_66, KristaRAM_70, LunaStella_66, Mandlovu_62, Melissauren88_64, MilanaBonita_56, MooMoo_64, Ms6_63, MulchExplorer_74, Nimbo_60, OldBen_64, Ovechkin_66, Phanphagia_62, QuickMath_70, Quico_74, Rialto_72, Scottish_65, Seagreen_65, Shauna1_64, SiSi_64, Slim_68, Strokeseat_62, TChen_68, Toron_75, Whatsapiecost_66,

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

- CaptainTrips_68,

Summary by start number:

Start 22:

- Found in 3 of 222 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 205

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Emmaloid_68 (F1), Rialto_72 (F1), Slim_68 (F1),

Start 24:

- Found in 7 of 222 (3.2%) of genes in pham
- Manual Annotations of this start: 2 of 205
- Called 28.6% of time when present
- Phage (with cluster) where this start called: Boomer_71 (F1), SiSi_64 (F1),

Start 27:

- Found in 41 of 222 (18.5%) of genes in pham
- Manual Annotations of this start: 24 of 205
- Called 65.9% of time when present
- Phage (with cluster) where this start called: Blarby_79 (F), Deb65_61 (F1), Donkeykong_69 (F1), DotProduct_61 (F1), Empress_65 (F1), Firehouse51_69 (F1), Girafales_74 (F1), Hlubikazi_62 (F1), Jabbawokkie_81 (F2), Juice456_68 (F1), Kimberlium_71 (F1), KingMidas_66 (F1), KristaRAM_70 (F1), Mandlovu_62 (F1), Melissauren88_64 (F1), Ms6_63 (F1), MulchExplorer_74 (F1), Nimbo_60 (F1), OldBen_64 (F1), Phanphagia_62 (F1), QuickMath_70 (F1), Quico_74 (F1), Scottish_65 (F1), Seagreen_65 (F1), Shauna1_64 (F1), Strokeseat_62 (F1), TChen_68 (F4),

Start 29:

- Found in 42 of 222 (18.9%) of genes in pham
- Manual Annotations of this start: 6 of 205
- Called 14.3% of time when present
- Phage (with cluster) where this start called: BodEinwohner17_67 (F1), Geralt_61 (F1), LunaStella_66 (F4), MilanaBonita_56 (F1), Ovechkin_66 (F1), Whatsapiecost_66 (F1),

Start 30:

- Found in 2 of 222 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 205
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MooMoo_64 (singleton), Toron_75 (F6),

Start 31:

- Found in 221 of 222 (99.5%) of genes in pham
- Manual Annotations of this start: 170 of 205
- Called 81.9% of time when present
- Phage (with cluster) where this start called: Akhila_57 (F1), AlpineSix_76 (F1), ArcusAngelus_75 (F1), Aubs_71 (F1), Avani_78 (F2), Beakin_70 (F1), BigPhil_66 (F1), Bipolar_70 (F1), Blexus_69 (F1), BlueCrab_72 (F1), BobaPhett_74 (F1), BodEinwohner17_74 (F1), Brocalys_64 (F1), Brookers_67 (F1), Bubbles123_67 (F1), Burwell21_68 (F1), BuzzLyseyear_76 (F1), ByChance_65 (F1), Byougenkin_70 (F1), Cabrinians_71 (F1), Cerasum_66 (F1), Che8_74 (F1), Che9d_81 (F2), CheesePuff_81 (F1), Chevrolet_77 (F1), Clifton_64 (F1), Coco12_69 (F1), Cornie_67 (F5), Cornucopia_71 (F1), Crumble_65 (F1), DLane_62 (F1), DRBy19_75 (F1), DaWorst_70 (F1), DaddyRickover_68 (F1), Daenerys_66 (F1), DeadP_73 (F1), Demsculpinboyz_81 (F2), DillTech15_71 (F1), DirtMcgirt_68 (F1), DoRead_75 (F1), Doomphist_69 (F1), Dorothy_67 (F1), DosHalletts_72 (F1), DotProduct_70 (F1), Doug_71 (F1), Drago_66 (F1), Eish_72 (F1), EleanorGeorge_73 (F1), Emma_72

(F1), Enby_70 (F1), Estave1_76 (F1), Fancypants_74 (F1), Filuzino_65 (F1), Flathead_68 (F1), Florinda_77 (F1), FreddyB_78 (F1), Fruitloop_63 (F1), Galactic_69 (F1), Gandolph_71 (F1), GigiOuiOui_67 (F1), Girr_67 (F1), Gorge_73 (F1), Grimmer_79 (F1), HC_57 (I1), Hades_70 (F1), Hegedechwinu_68 (F1), IbOuu_69 (F1), Ibhubes_i_69 (F1), Inventum_64 (F1), IrishSherpFalk_72 (F1), JalFarm20_80 (F1), James_73 (F1), Jant_70 (F1), Jarcob_71 (F1), JoeyJr_67 (F1), Juniper1_70 (F1), Karhdo_68 (F1), Kenuha5_70 (F1), Kersh_71 (F1), Koella_64 (F1), Krakatau_65 (F1), LastJedi_63 (F1), Latretium_69 (F1), Leozinho_69 (F1), Leperchaun_64 (F1), LilMoolah_68 (F1), LittleShirley_67 (F1), Lizziana_75 (F1), Llama_76 (F1), Llij_65 (F1), Lorde_69 (F1), LunaBlu_72 (F1), MadMen_69 (F1), Madiba_75 (F1), Mahavrat_66 (F1), Mantra_67 (F1), Maravista_72 (F1), Marker_71 (F1), Martik_72 (F1), Mattes_73 (F1), MilleniumForce_69 (F1), MisterCuddles_67 (F1), Moonbeam_70 (F1), Mozy_78 (F1), Mutaforma13_75 (F1), NewHope4_72 (F1), Nitzel_66 (F1), Nivrat_66 (F1), NormanBulbieJr_69 (F1), OfUltron_77 (F1), OgoPogo_75 (F1), OlympiaSaint_71 (F1), OwlsT2W_72 (F1), PHappiness_67 (F1), PMC_63 (F1), Pacc40_63 (F1), Phalconet_65 (F1), Phasih_66 (F1), Phatniss_67 (F1), PhesterPhotato_70 (F1), Philus_74 (F1), Pippy_69 (F1), Plumbus_71 (F1), Poenanya_69 (F1), Polka14_70 (F1), Pollywog_70 (F1), Polo2Bam_76 (F1), PopTart_61 (F1), Priscilla_70 (F1), QueenHazel_56 (I1), Radiance_68 (F1), Ramsey_73 (F1), RedBird_67 (F1), Renaud18_81 (F4), Rialto_77 (F1), RitaG_67 (F1), Rita_77 (F1), Rockne_67 (F1), RockyHorror_70 (F1), Royals2015_76 (F1), Ruby_65 (F1), SG4_65 (F1), Saal_71 (F1), Sabbb_71 (F1), Sarma624_68 (F1), Sassafras_67 (F1), SassyB_61 (F1), Seabastian_77 (F1), ShiLan_71 (F1), ShowerHandel_75 (F1), ShroomBoi_72 (F1), SimranZ1_70 (F1), Soul22_75 (F2), Sparkdehlily_74 (F1), Spartacus_73 (F1), Spoonbill_70 (F1), StAnnes_66 (F1), Stap_66 (F1), Starcevich_70 (F1), SuperGrey_72 (F1), SwagPigglett_75 (F1), TDanisky_74 (F1), Taj_72 (F1), Tchotchke_67 (F1), ThetaBob_74 (F4), Tootsieroll_71 (F1), Totinger_69 (F1), UncleRicky_68 (F1), VRedHorse_69 (F1), Velveteen_65 (F1), Violac_71 (F1), Wachhund_70 (F1), Wee_72 (F1), Whouxphf_68 (F1), WillSterrel_72 (F1), Xula_55 (I1), Yorick_70 (F1), Yoshi_84 (F2), Zapner_80 (F2), Zerg_70 (F1), Zizzle_74 (F1),

Start 33:

- Found in 1 of 222 (0.5%) of genes in pham
- Manual Annotations of this start: 1 of 205
- Called 100.0% of time when present
- Phage (with cluster) where this start called: CaptainTrips_68 (F1),

Summary by clusters:

There are 8 clusters represented in this pham: F1, F2, F4, F5, F6, F, I1, singleton,

Info for manual annotations of cluster F1:

- Start number 22 was manually annotated 1 time for cluster F1.
- Start number 24 was manually annotated 2 times for cluster F1.
- Start number 27 was manually annotated 22 times for cluster F1.
- Start number 29 was manually annotated 5 times for cluster F1.
- Start number 31 was manually annotated 158 times for cluster F1.
- Start number 33 was manually annotated 1 time for cluster F1.

Info for manual annotations of cluster F2:

- Start number 27 was manually annotated 1 time for cluster F2.

- Start number 31 was manually annotated 6 times for cluster F2.

Info for manual annotations of cluster F4:

- Start number 27 was manually annotated 1 time for cluster F4.
- Start number 29 was manually annotated 1 time for cluster F4.
- Start number 31 was manually annotated 2 times for cluster F4.

Info for manual annotations of cluster F5:

- Start number 31 was manually annotated 1 time for cluster F5.

Info for manual annotations of cluster I1:

- Start number 31 was manually annotated 3 times for cluster I1.

Gene Information:

Gene: Akhila_57 Start: 38323, Stop: 38493, Start Num: 31

Candidate Starts for Akhila_57:

(Start: 27 @38308 has 24 MA's), (Start: 29 @38311 has 6 MA's), (Start: 31 @38323 has 170 MA's), (45, 38488),

Gene: AlpineSix_76 Start: 47013, Stop: 47174, Start Num: 31

Candidate Starts for AlpineSix_76:

(Start: 31 @47013 has 170 MA's), (42, 47160), (44, 47169),

Gene: ArcusAngelus_75 Start: 45852, Stop: 46001, Start Num: 31

Candidate Starts for ArcusAngelus_75:

(26, 45825), (Start: 31 @45852 has 170 MA's),

Gene: Aubs_71 Start: 46411, Stop: 46581, Start Num: 31

Candidate Starts for Aubs_71:

(Start: 31 @46411 has 170 MA's), (35, 46459), (44, 46576),

Gene: Avani_78 Start: 43995, Stop: 44147, Start Num: 31

Candidate Starts for Avani_78:

(19, 43872), (20, 43914), (Start: 31 @43995 has 170 MA's), (35, 44043),

Gene: Beakin_70 Start: 42032, Stop: 42193, Start Num: 31

Candidate Starts for Beakin_70:

(26, 42005), (Start: 31 @42032 has 170 MA's), (35, 42080), (42, 42179), (44, 42188),

Gene: BigPhil_66 Start: 42387, Stop: 42536, Start Num: 31

Candidate Starts for BigPhil_66:

(19, 42264), (20, 42306), (Start: 31 @42387 has 170 MA's),

Gene: Bipolar_70 Start: 44365, Stop: 44526, Start Num: 31

Candidate Starts for Bipolar_70:

(2, 44071), (4, 44089), (16, 44224), (Start: 31 @44365 has 170 MA's), (35, 44413), (42, 44512), (44, 44521),

Gene: Blarby_79 Start: 44522, Stop: 44707, Start Num: 27

Candidate Starts for Blarby_79:

(Start: 27 @44522 has 24 MA's), (Start: 29 @44525 has 6 MA's), (Start: 31 @44537 has 170 MA's), (45, 44702),

Gene: Blexus_69 Start: 45969, Stop: 46121, Start Num: 31

Candidate Starts for Blexus_69:

(7, 45717), (12, 45789), (19, 45846), (20, 45888), (Start: 31 @45969 has 170 MA's), (35, 46017),

Gene: BlueCrab_72 Start: 46833, Stop: 46979, Start Num: 31

Candidate Starts for BlueCrab_72:

(19, 46710), (20, 46752), (Start: 31 @46833 has 170 MA's),

Gene: BobaPhett_74 Start: 48087, Stop: 48239, Start Num: 31

Candidate Starts for BobaPhett_74:

(19, 47964), (20, 48006), (Start: 31 @48087 has 170 MA's), (35, 48135),

Gene: BodEinwohner17_67 Start: 42886, Stop: 43068, Start Num: 29

Candidate Starts for BodEinwohner17_67:

(Start: 27 @42883 has 24 MA's), (Start: 29 @42886 has 6 MA's), (Start: 31 @42898 has 170 MA's), (45, 43063),

Gene: BodEinwohner17_74 Start: 46498, Stop: 46647, Start Num: 31

Candidate Starts for BodEinwohner17_74:

(7, 46246), (12, 46318), (19, 46375), (20, 46417), (Start: 31 @46498 has 170 MA's), (34, 46510), (35, 46546),

Gene: Boomer_71 Start: 44539, Stop: 44742, Start Num: 24

Candidate Starts for Boomer_71:

(13, 44425), (Start: 24 @44539 has 2 MA's), (Start: 31 @44593 has 170 MA's),

Gene: Brocalys_64 Start: 43567, Stop: 43719, Start Num: 31

Candidate Starts for Brocalys_64:

(19, 43444), (20, 43486), (Start: 31 @43567 has 170 MA's), (35, 43615),

Gene: Brookers_67 Start: 45338, Stop: 45487, Start Num: 31

Candidate Starts for Brookers_67:

(19, 45215), (20, 45257), (Start: 31 @45338 has 170 MA's),

Gene: Bubbles123_67 Start: 45600, Stop: 45761, Start Num: 31

Candidate Starts for Bubbles123_67:

(Start: 31 @45600 has 170 MA's), (42, 45747), (44, 45756),

Gene: Burwell21_68 Start: 45409, Stop: 45570, Start Num: 31

Candidate Starts for Burwell21_68:

(19, 45286), (20, 45328), (Start: 31 @45409 has 170 MA's), (41, 45556), (43, 45565),

Gene: BuzzLyseyear_76 Start: 47968, Stop: 48129, Start Num: 31

Candidate Starts for BuzzLyseyear_76:

(6, 47716), (11, 47788), (19, 47845), (20, 47887), (Start: 31 @47968 has 170 MA's), (35, 48016), (41, 48115), (43, 48124),

Gene: ByChance_65 Start: 42509, Stop: 42670, Start Num: 31

Candidate Starts for ByChance_65:

(3, 42218), (17, 42365), (26, 42482), (Start: 31 @42509 has 170 MA's), (42, 42656), (44, 42665),

Gene: Byougenkin_70 Start: 43469, Stop: 43630, Start Num: 31

Candidate Starts for Byougenkin_70:

(19, 43346), (20, 43388), (Start: 31 @43469 has 170 MA's), (41, 43616), (43, 43625),

Gene: Cabrinians_71 Start: 45488, Stop: 45640, Start Num: 31

Candidate Starts for Cabrinians_71:

(19, 45365), (20, 45407), (Start: 31 @45488 has 170 MA's), (35, 45536),

Gene: CaptainTrips_68 Start: 45233, Stop: 45385, Start Num: 33

Candidate Starts for CaptainTrips_68:

(Start: 33 @45233 has 1 MA's), (42, 45371), (44, 45380),

Gene: Cerasum_66 Start: 42405, Stop: 42554, Start Num: 31

Candidate Starts for Cerasum_66:

(19, 42282), (20, 42324), (Start: 31 @42405 has 170 MA's),

Gene: Che8_74 Start: 46033, Stop: 46194, Start Num: 31

Candidate Starts for Che8_74:

(19, 45910), (20, 45952), (Start: 31 @46033 has 170 MA's), (41, 46180), (43, 46189),

Gene: Che9d_81 Start: 45757, Stop: 45918, Start Num: 31

Candidate Starts for Che9d_81:

(Start: 31 @45757 has 170 MA's), (42, 45904), (44, 45913),

Gene: Cheesepuff_81 Start: 45418, Stop: 45579, Start Num: 31

Candidate Starts for Cheesepuff_81:

(19, 45295), (20, 45337), (Start: 31 @45418 has 170 MA's), (35, 45466), (41, 45565), (43, 45574),

Gene: Chevrolet_77 Start: 45853, Stop: 46002, Start Num: 31

Candidate Starts for Chevrolet_77:

(26, 45826), (Start: 31 @45853 has 170 MA's),

Gene: Clifton_64 Start: 43918, Stop: 44070, Start Num: 31

Candidate Starts for Clifton_64:

(19, 43795), (20, 43837), (Start: 31 @43918 has 170 MA's), (35, 43966),

Gene: Coco12_69 Start: 46462, Stop: 46611, Start Num: 31

Candidate Starts for Coco12_69:

(19, 46339), (20, 46381), (Start: 31 @46462 has 170 MA's),

Gene: Cornie_67 Start: 44180, Stop: 44350, Start Num: 31

Candidate Starts for Cornie_67:

(19, 44057), (20, 44099), (Start: 31 @44180 has 170 MA's), (44, 44345),

Gene: Cornucopia_71 Start: 44648, Stop: 44809, Start Num: 31

Candidate Starts for Cornucopia_71:

(26, 44621), (Start: 31 @44648 has 170 MA's), (34, 44660), (42, 44795), (44, 44804),

Gene: Crumble_65 Start: 41387, Stop: 41539, Start Num: 31

Candidate Starts for Crumble_65:

(19, 41264), (20, 41306), (Start: 31 @41387 has 170 MA's),

Gene: DLane_62 Start: 41867, Stop: 42037, Start Num: 31

Candidate Starts for DLane_62:

(Start: 31 @41867 has 170 MA's), (45, 42032),

Gene: DRBy19_75 Start: 47647, Stop: 47799, Start Num: 31

Candidate Starts for DRBy19_75:

(19, 47524), (20, 47566), (Start: 31 @47647 has 170 MA's), (35, 47695),

Gene: DaWorst_70 Start: 44987, Stop: 45139, Start Num: 31

Candidate Starts for DaWorst_70:

(19, 44864), (20, 44906), (Start: 31 @44987 has 170 MA's), (35, 45035),

Gene: DaddyRickover_68 Start: 43834, Stop: 44004, Start Num: 31

Candidate Starts for DaddyRickover_68:

(7, 43582), (12, 43654), (19, 43711), (20, 43753), (Start: 31 @43834 has 170 MA's), (34, 43846), (35, 43882), (44, 43999),

Gene: Daenerys_66 Start: 43953, Stop: 44123, Start Num: 31

Candidate Starts for Daenerys_66:

(19, 43830), (20, 43872), (Start: 31 @43953 has 170 MA's), (34, 43965), (35, 44001), (44, 44118),

Gene: DeadP_73 Start: 45281, Stop: 45451, Start Num: 31

Candidate Starts for DeadP_73:

(Start: 27 @45266 has 24 MA's), (Start: 29 @45269 has 6 MA's), (Start: 31 @45281 has 170 MA's), (45, 45446),

Gene: Deb65_61 Start: 41658, Stop: 41843, Start Num: 27

Candidate Starts for Deb65_61:

(Start: 27 @41658 has 24 MA's), (Start: 29 @41661 has 6 MA's), (Start: 31 @41673 has 170 MA's), (45, 41838),

Gene: Demsculpinboyz_81 Start: 43217, Stop: 43369, Start Num: 31

Candidate Starts for Demsculpinboyz_81:

(19, 43094), (20, 43136), (Start: 31 @43217 has 170 MA's),

Gene: DillTech15_71 Start: 43892, Stop: 44038, Start Num: 31

Candidate Starts for DillTech15_71:

(26, 43865), (Start: 31 @43892 has 170 MA's), (35, 43940),

Gene: DirtMcgirt_68 Start: 41996, Stop: 42148, Start Num: 31

Candidate Starts for DirtMcgirt_68:

(20, 41915), (Start: 31 @41996 has 170 MA's), (35, 42044),

Gene: DoRead_75 Start: 44176, Stop: 44337, Start Num: 31

Candidate Starts for DoRead_75:

(26, 44149), (Start: 31 @44176 has 170 MA's), (42, 44323), (44, 44332),

Gene: Donkeykong_69 Start: 44827, Stop: 44994, Start Num: 27

Candidate Starts for Donkeykong_69:

(Start: 27 @44827 has 24 MA's), (Start: 29 @44830 has 6 MA's), (Start: 31 @44842 has 170 MA's),

Gene: Doomphist_69 Start: 44382, Stop: 44552, Start Num: 31

Candidate Starts for Doomphist_69:

(7, 44130), (12, 44202), (19, 44259), (20, 44301), (Start: 31 @44382 has 170 MA's), (34, 44394), (35, 44430), (44, 44547),

Gene: Dorothy_67 Start: 43008, Stop: 43178, Start Num: 31

Candidate Starts for Dorothy_67:

(7, 42756), (12, 42828), (19, 42885), (20, 42927), (Start: 31 @43008 has 170 MA's), (34, 43020), (35, 43056), (44, 43173),

Gene: DosHalletts_72 Start: 47252, Stop: 47413, Start Num: 31

Candidate Starts for DosHalletts_72:

(2, 46958), (4, 46976), (16, 47111), (Start: 31 @47252 has 170 MA's), (42, 47399), (44, 47408),

Gene: DotProduct_61 Start: 41161, Stop: 41346, Start Num: 27

Candidate Starts for DotProduct_61:

(Start: 27 @41161 has 24 MA's), (Start: 29 @41164 has 6 MA's), (Start: 31 @41176 has 170 MA's), (45, 41341),

Gene: DotProduct_70 Start: 45051, Stop: 45197, Start Num: 31

Candidate Starts for DotProduct_70:

(19, 44928), (20, 44970), (Start: 31 @45051 has 170 MA's), (35, 45099),

Gene: Doug_71 Start: 46867, Stop: 47019, Start Num: 31

Candidate Starts for Doug_71:

(19, 46744), (20, 46786), (Start: 31 @46867 has 170 MA's), (35, 46915),

Gene: Drago_66 Start: 41999, Stop: 42151, Start Num: 31

Candidate Starts for Drago_66:

(20, 41918), (Start: 31 @41999 has 170 MA's), (35, 42047),

Gene: Eish_72 Start: 45775, Stop: 45927, Start Num: 31

Candidate Starts for Eish_72:

(19, 45652), (20, 45694), (Start: 31 @45775 has 170 MA's), (35, 45823),

Gene: EleanorGeorge_73 Start: 45986, Stop: 46135, Start Num: 31

Candidate Starts for EleanorGeorge_73:

(25, 45929), (26, 45953), (Start: 31 @45986 has 170 MA's), (34, 45998), (35, 46034),

Gene: Emma_72 Start: 45010, Stop: 45171, Start Num: 31

Candidate Starts for Emma_72:

(19, 44887), (20, 44929), (Start: 31 @45010 has 170 MA's), (35, 45058), (41, 45157), (43, 45166),

Gene: Emmaloid_68 Start: 44344, Stop: 44580, Start Num: 22

Candidate Starts for Emmaloid_68:

(Start: 22 @44344 has 1 MA's), (Start: 31 @44410 has 170 MA's), (45, 44575),

Gene: Empress_65 Start: 43102, Stop: 43287, Start Num: 27

Candidate Starts for Empress_65:

(Start: 27 @43102 has 24 MA's), (Start: 29 @43105 has 6 MA's), (Start: 31 @43117 has 170 MA's), (45, 43282),

Gene: Enby_70 Start: 42275, Stop: 42427, Start Num: 31

Candidate Starts for Enby_70:

(20, 42194), (Start: 31 @42275 has 170 MA's), (35, 42323),

Gene: Estave1_76 Start: 48947, Stop: 49108, Start Num: 31

Candidate Starts for Estave1_76:

(26, 48920), (Start: 31 @48947 has 170 MA's), (42, 49094), (44, 49103),

Gene: Fancypants_74 Start: 47245, Stop: 47406, Start Num: 31

Candidate Starts for Fancypants_74:

(26, 47218), (Start: 31 @47245 has 170 MA's), (42, 47392), (44, 47401),

Gene: Filuzino_65 Start: 42202, Stop: 42372, Start Num: 31

Candidate Starts for Filuzino_65:

(Start: 31 @42202 has 170 MA's), (45, 42367),

Gene: Firehouse51_69 Start: 46723, Stop: 46908, Start Num: 27

Candidate Starts for Firehouse51_69:

(Start: 27 @46723 has 24 MA's), (Start: 29 @46726 has 6 MA's), (Start: 31 @46738 has 170 MA's), (45, 46903),

Gene: Flathead_68 Start: 43116, Stop: 43265, Start Num: 31

Candidate Starts for Flathead_68:

(Start: 31 @43116 has 170 MA's), (34, 43128), (35, 43164),

Gene: Florinda_77 Start: 44348, Stop: 44518, Start Num: 31

Candidate Starts for Florinda_77:

(Start: 27 @44333 has 24 MA's), (Start: 29 @44336 has 6 MA's), (Start: 31 @44348 has 170 MA's), (45, 44513),

Gene: FreddyB_78 Start: 46992, Stop: 47138, Start Num: 31

Candidate Starts for FreddyB_78:

(26, 46965), (Start: 31 @46992 has 170 MA's), (35, 47040),

Gene: Fruitloop_63 Start: 43508, Stop: 43678, Start Num: 31

Candidate Starts for Fruitloop_63:

(23, 43448), (28, 43496), (Start: 31 @43508 has 170 MA's), (45, 43673),

Gene: Galactic_69 Start: 45269, Stop: 45430, Start Num: 31

Candidate Starts for Galactic_69:

(26, 45242), (Start: 31 @45269 has 170 MA's), (35, 45317), (42, 45416), (44, 45425),

Gene: Gandalph_71 Start: 43491, Stop: 43661, Start Num: 31

Candidate Starts for Gandalph_71:

(19, 43368), (20, 43410), (Start: 31 @43491 has 170 MA's), (44, 43656),

Gene: Geralt_61 Start: 41660, Stop: 41842, Start Num: 29

Candidate Starts for Geralt_61:

(Start: 27 @41657 has 24 MA's), (Start: 29 @41660 has 6 MA's), (Start: 31 @41672 has 170 MA's), (45, 41837),

Gene: GigiOuiOui_67 Start: 45142, Stop: 45288, Start Num: 31

Candidate Starts for GigiOuiOui_67:

(26, 45115), (Start: 31 @45142 has 170 MA's), (35, 45190),

Gene: Girafales_74 Start: 44124, Stop: 44309, Start Num: 27
Candidate Starts for Girafales_74:
(Start: 27 @44124 has 24 MA's), (Start: 29 @44127 has 6 MA's), (Start: 31 @44139 has 170 MA's),
(45, 44304),

Gene: Girr_67 Start: 44930, Stop: 45082, Start Num: 31
Candidate Starts for Girr_67:
(19, 44807), (20, 44849), (Start: 31 @44930 has 170 MA's),

Gene: Gorge_73 Start: 46857, Stop: 47009, Start Num: 31
Candidate Starts for Gorge_73:
(19, 46734), (20, 46776), (Start: 31 @46857 has 170 MA's), (35, 46905),

Gene: Grimmer_79 Start: 45813, Stop: 45965, Start Num: 31
Candidate Starts for Grimmer_79:
(19, 45690), (20, 45732), (Start: 31 @45813 has 170 MA's),

Gene: HC_57 Start: 37781, Stop: 37933, Start Num: 31
Candidate Starts for HC_57:
(Start: 31 @37781 has 170 MA's),

Gene: Hades_70 Start: 44008, Stop: 44169, Start Num: 31
Candidate Starts for Hades_70:
(2, 43714), (4, 43732), (16, 43867), (Start: 31 @44008 has 170 MA's), (42, 44155), (44, 44164),

Gene: Hegedechwinu_68 Start: 42281, Stop: 42451, Start Num: 31
Candidate Starts for Hegedechwinu_68:
(19, 42158), (20, 42200), (Start: 31 @42281 has 170 MA's), (44, 42446),

Gene: Hlubikazi_62 Start: 40271, Stop: 40438, Start Num: 27
Candidate Starts for Hlubikazi_62:
(Start: 27 @40271 has 24 MA's), (Start: 29 @40274 has 6 MA's), (Start: 31 @40286 has 170 MA's),

Gene: IbOuu_69 Start: 43722, Stop: 43892, Start Num: 31
Candidate Starts for IbOuu_69:
(Start: 27 @43707 has 24 MA's), (Start: 29 @43710 has 6 MA's), (Start: 31 @43722 has 170 MA's),
(45, 43887),

Gene: Ibhubesi_69 Start: 43257, Stop: 43418, Start Num: 31
Candidate Starts for Ibhubesi_69:
(19, 43134), (20, 43176), (Start: 31 @43257 has 170 MA's), (41, 43404), (43, 43413),

Gene: Inventum_64 Start: 43206, Stop: 43376, Start Num: 31
Candidate Starts for Inventum_64:
(7, 42954), (12, 43026), (19, 43083), (20, 43125), (Start: 31 @43206 has 170 MA's), (34, 43218), (35,
43254), (44, 43371),

Gene: IrishSherpFalk_72 Start: 46319, Stop: 46471, Start Num: 31
Candidate Starts for IrishSherpFalk_72:
(26, 46292), (Start: 31 @46319 has 170 MA's), (34, 46331), (35, 46367),

Gene: Jabbawokkie_81 Start: 44442, Stop: 44627, Start Num: 27
Candidate Starts for Jabbawokkie_81:

(Start: 27 @44442 has 24 MA's), (Start: 29 @44445 has 6 MA's), (Start: 31 @44457 has 170 MA's), (45, 44622),

Gene: JalFarm20_80 Start: 47075, Stop: 47227, Start Num: 31

Candidate Starts for JalFarm20_80:

(Start: 27 @47060 has 24 MA's), (Start: 29 @47063 has 6 MA's), (Start: 31 @47075 has 170 MA's),

Gene: James_73 Start: 46982, Stop: 47134, Start Num: 31

Candidate Starts for James_73:

(19, 46859), (20, 46901), (Start: 31 @46982 has 170 MA's), (35, 47030),

Gene: Jant_70 Start: 44001, Stop: 44153, Start Num: 31

Candidate Starts for Jant_70:

(13, 43833), (Start: 24 @43947 has 2 MA's), (Start: 31 @44001 has 170 MA's),

Gene: Jarcoab_71 Start: 46579, Stop: 46731, Start Num: 31

Candidate Starts for Jarcoab_71:

(26, 46552), (Start: 31 @46579 has 170 MA's), (35, 46627),

Gene: JoeyJr_67 Start: 44121, Stop: 44291, Start Num: 31

Candidate Starts for JoeyJr_67:

(19, 43998), (20, 44040), (Start: 31 @44121 has 170 MA's), (34, 44133), (35, 44169), (44, 44286),

Gene: Juice456_68 Start: 45016, Stop: 45183, Start Num: 27

Candidate Starts for Juice456_68:

(Start: 27 @45016 has 24 MA's), (Start: 29 @45019 has 6 MA's), (Start: 31 @45031 has 170 MA's),

Gene: Juniper1_70 Start: 45173, Stop: 45325, Start Num: 31

Candidate Starts for Juniper1_70:

(7, 44921), (12, 44993), (19, 45050), (20, 45092), (Start: 31 @45173 has 170 MA's), (35, 45221),

Gene: Karhdo_68 Start: 44270, Stop: 44422, Start Num: 31

Candidate Starts for Karhdo_68:

(19, 44147), (20, 44189), (Start: 31 @44270 has 170 MA's), (35, 44318),

Gene: Kenuha5_70 Start: 46860, Stop: 47006, Start Num: 31

Candidate Starts for Kenuha5_70:

(26, 46833), (Start: 31 @46860 has 170 MA's), (35, 46908),

Gene: Kersh_71 Start: 47433, Stop: 47594, Start Num: 31

Candidate Starts for Kersh_71:

(19, 47310), (20, 47352), (Start: 31 @47433 has 170 MA's), (41, 47580), (43, 47589),

Gene: Kimberlium_71 Start: 44613, Stop: 44798, Start Num: 27

Candidate Starts for Kimberlium_71:

(Start: 27 @44613 has 24 MA's), (Start: 29 @44616 has 6 MA's), (Start: 31 @44628 has 170 MA's), (45, 44793),

Gene: KingMidas_66 Start: 43518, Stop: 43703, Start Num: 27

Candidate Starts for KingMidas_66:

(Start: 27 @43518 has 24 MA's), (Start: 29 @43521 has 6 MA's), (Start: 31 @43533 has 170 MA's), (45, 43698),

Gene: Koella_64 Start: 41386, Stop: 41538, Start Num: 31
Candidate Starts for Koella_64:
(19, 41263), (20, 41305), (Start: 31 @41386 has 170 MA's), (35, 41434),

Gene: Krakatau_65 Start: 41751, Stop: 41903, Start Num: 31
Candidate Starts for Krakatau_65:
(19, 41628), (20, 41670), (Start: 31 @41751 has 170 MA's),

Gene: KristaRAM_70 Start: 45385, Stop: 45552, Start Num: 27
Candidate Starts for KristaRAM_70:
(Start: 27 @45385 has 24 MA's), (Start: 29 @45388 has 6 MA's), (Start: 31 @45400 has 170 MA's),

Gene: LastJedi_63 Start: 43961, Stop: 44113, Start Num: 31
Candidate Starts for LastJedi_63:
(19, 43838), (20, 43880), (Start: 31 @43961 has 170 MA's), (35, 44009),

Gene: Latretium_69 Start: 43401, Stop: 43562, Start Num: 31
Candidate Starts for Latretium_69:
(Start: 31 @43401 has 170 MA's), (42, 43548), (44, 43557),

Gene: Leozinho_69 Start: 42793, Stop: 42945, Start Num: 31
Candidate Starts for Leozinho_69:
(20, 42712), (Start: 31 @42793 has 170 MA's), (35, 42841),

Gene: Leperchaun_64 Start: 43351, Stop: 43521, Start Num: 31
Candidate Starts for Leperchaun_64:
(19, 43228), (20, 43270), (Start: 31 @43351 has 170 MA's), (34, 43363), (35, 43399), (44, 43516),

Gene: LilMoolah_68 Start: 45587, Stop: 45748, Start Num: 31
Candidate Starts for LilMoolah_68:
(19, 45464), (20, 45506), (Start: 31 @45587 has 170 MA's), (41, 45734), (43, 45743),

Gene: LittleShirley_67 Start: 43861, Stop: 44031, Start Num: 31
Candidate Starts for LittleShirley_67:
(Start: 27 @43846 has 24 MA's), (Start: 29 @43849 has 6 MA's), (Start: 31 @43861 has 170 MA's),
(45, 44026),

Gene: Lizziana_75 Start: 46463, Stop: 46615, Start Num: 31
Candidate Starts for Lizziana_75:
(19, 46340), (20, 46382), (Start: 31 @46463 has 170 MA's), (35, 46511),

Gene: Llama_76 Start: 46867, Stop: 47028, Start Num: 31
Candidate Starts for Llama_76:
(Start: 31 @46867 has 170 MA's), (42, 47014), (44, 47023),

Gene: Llij_65 Start: 42153, Stop: 42305, Start Num: 31
Candidate Starts for Llij_65:
(20, 42072), (Start: 31 @42153 has 170 MA's), (35, 42201),

Gene: Lorde_69 Start: 41440, Stop: 41592, Start Num: 31
Candidate Starts for Lorde_69:
(20, 41359), (Start: 31 @41440 has 170 MA's), (35, 41488),

Gene: LunaBlu_72 Start: 45927, Stop: 46088, Start Num: 31
Candidate Starts for LunaBlu_72:
(26, 45900), (Start: 31 @45927 has 170 MA's), (35, 45975), (42, 46074), (44, 46083),

Gene: LunaStella_66 Start: 42930, Stop: 43112, Start Num: 29
Candidate Starts for LunaStella_66:
(Start: 27 @42927 has 24 MA's), (Start: 29 @42930 has 6 MA's), (Start: 31 @42942 has 170 MA's),
(45, 43107),

Gene: MadMen_69 Start: 44609, Stop: 44770, Start Num: 31
Candidate Starts for MadMen_69:
(20, 44528), (Start: 31 @44609 has 170 MA's), (41, 44756), (43, 44765),

Gene: Madiba_75 Start: 47424, Stop: 47570, Start Num: 31
Candidate Starts for Madiba_75:
(26, 47397), (Start: 31 @47424 has 170 MA's), (35, 47472),

Gene: Mahavrat_66 Start: 43382, Stop: 43534, Start Num: 31
Candidate Starts for Mahavrat_66:
(19, 43259), (20, 43301), (Start: 31 @43382 has 170 MA's),

Gene: Mandlovu_62 Start: 40213, Stop: 40380, Start Num: 27
Candidate Starts for Mandlovu_62:
(Start: 27 @40213 has 24 MA's), (Start: 29 @40216 has 6 MA's), (Start: 31 @40228 has 170 MA's),

Gene: Mantra_67 Start: 45221, Stop: 45382, Start Num: 31
Candidate Starts for Mantra_67:
(19, 45098), (20, 45140), (Start: 31 @45221 has 170 MA's), (35, 45269), (41, 45368), (43, 45377),

Gene: Maravista_72 Start: 47473, Stop: 47625, Start Num: 31
Candidate Starts for Maravista_72:
(5, 47221), (10, 47293), (19, 47350), (20, 47392), (Start: 31 @47473 has 170 MA's), (35, 47521),

Gene: Marker_71 Start: 43830, Stop: 43979, Start Num: 31
Candidate Starts for Marker_71:
(19, 43707), (20, 43749), (Start: 31 @43830 has 170 MA's),

Gene: Martik_72 Start: 46954, Stop: 47106, Start Num: 31
Candidate Starts for Martik_72:
(26, 46927), (Start: 31 @46954 has 170 MA's),

Gene: Mattes_73 Start: 46982, Stop: 47134, Start Num: 31
Candidate Starts for Mattes_73:
(19, 46859), (20, 46901), (Start: 31 @46982 has 170 MA's), (35, 47030),

Gene: Melissauren88_64 Start: 41731, Stop: 41916, Start Num: 27
Candidate Starts for Melissauren88_64:
(Start: 27 @41731 has 24 MA's), (Start: 29 @41734 has 6 MA's), (Start: 31 @41746 has 170 MA's),
(45, 41911),

Gene: MilanaBonita_56 Start: 38311, Stop: 38493, Start Num: 29
Candidate Starts for MilanaBonita_56:

(Start: 27 @38308 has 24 MA's), (Start: 29 @38311 has 6 MA's), (Start: 31 @38323 has 170 MA's), (45, 38488),

Gene: MilleniumForce_69 Start: 44467, Stop: 44616, Start Num: 31
Candidate Starts for MilleniumForce_69:
(13, 44299), (Start: 24 @44413 has 2 MA's), (Start: 31 @44467 has 170 MA's),

Gene: MisterCuddles_67 Start: 44930, Stop: 45082, Start Num: 31
Candidate Starts for MisterCuddles_67:
(19, 44807), (20, 44849), (Start: 31 @44930 has 170 MA's),

Gene: MooMoo_64 Start: 41812, Stop: 41967, Start Num: 30
Candidate Starts for MooMoo_64:
(Start: 30 @41812 has 1 MA's), (Start: 31 @41815 has 170 MA's), (32, 41821), (36, 41881), (39, 41956),

Gene: Moonbeam_70 Start: 46039, Stop: 46200, Start Num: 31
Candidate Starts for Moonbeam_70:
(26, 46012), (Start: 31 @46039 has 170 MA's), (42, 46186), (44, 46195),

Gene: Mozy_78 Start: 45447, Stop: 45617, Start Num: 31
Candidate Starts for Mozy_78:
(19, 45324), (20, 45366), (Start: 31 @45447 has 170 MA's), (44, 45612),

Gene: Ms6_63 Start: 38096, Stop: 38281, Start Num: 27
Candidate Starts for Ms6_63:
(Start: 27 @38096 has 24 MA's), (Start: 29 @38099 has 6 MA's), (Start: 31 @38111 has 170 MA's), (45, 38276),

Gene: MulchExplorer_74 Start: 44612, Stop: 44797, Start Num: 27
Candidate Starts for MulchExplorer_74:
(Start: 27 @44612 has 24 MA's), (Start: 29 @44615 has 6 MA's), (Start: 31 @44627 has 170 MA's), (45, 44792),

Gene: Mutaforma13_75 Start: 46641, Stop: 46802, Start Num: 31
Candidate Starts for Mutaforma13_75:
(26, 46614), (Start: 31 @46641 has 170 MA's), (35, 46689), (42, 46788), (44, 46797),

Gene: NewHope4_72 Start: 43828, Stop: 43998, Start Num: 31
Candidate Starts for NewHope4_72:
(Start: 31 @43828 has 170 MA's), (35, 43876), (44, 43993),

Gene: Nimbo_60 Start: 41660, Stop: 41845, Start Num: 27
Candidate Starts for Nimbo_60:
(Start: 27 @41660 has 24 MA's), (Start: 29 @41663 has 6 MA's), (Start: 31 @41675 has 170 MA's), (45, 41840),

Gene: Nitzel_66 Start: 42992, Stop: 43153, Start Num: 31
Candidate Starts for Nitzel_66:
(Start: 31 @42992 has 170 MA's), (42, 43139), (44, 43148),

Gene: Nivrat_66 Start: 45460, Stop: 45621, Start Num: 31
Candidate Starts for Nivrat_66:

(19, 45337), (20, 45379), (Start: 31 @45460 has 170 MA's), (41, 45607), (43, 45616),

Gene: NormanBulbieJr_69 Start: 45400, Stop: 45552, Start Num: 31

Candidate Starts for NormanBulbieJr_69:

(19, 45277), (20, 45319), (Start: 31 @45400 has 170 MA's), (35, 45448),

Gene: OfUltron_77 Start: 47012, Stop: 47173, Start Num: 31

Candidate Starts for OfUltron_77:

(Start: 31 @47012 has 170 MA's), (42, 47159), (44, 47168),

Gene: Ogotogo_75 Start: 44807, Stop: 44959, Start Num: 31

Candidate Starts for Ogotogo_75:

(14, 44648), (18, 44678), (21, 44732), (Start: 31 @44807 has 170 MA's),

Gene: OldBen_64 Start: 43053, Stop: 43238, Start Num: 27

Candidate Starts for OldBen_64:

(Start: 27 @43053 has 24 MA's), (Start: 29 @43056 has 6 MA's), (Start: 31 @43068 has 170 MA's),
(45, 43233),

Gene: OlympiaSaint_71 Start: 45924, Stop: 46076, Start Num: 31

Candidate Starts for OlympiaSaint_71:

(19, 45801), (20, 45843), (Start: 31 @45924 has 170 MA's), (35, 45972),

Gene: Ovechkin_66 Start: 43050, Stop: 43232, Start Num: 29

Candidate Starts for Ovechkin_66:

(Start: 27 @43047 has 24 MA's), (Start: 29 @43050 has 6 MA's), (Start: 31 @43062 has 170 MA's),
(45, 43227),

Gene: OwlsT2W_72 Start: 45753, Stop: 45914, Start Num: 31

Candidate Starts for OwlsT2W_72:

(2, 45459), (4, 45477), (16, 45612), (Start: 31 @45753 has 170 MA's), (42, 45900), (44, 45909),

Gene: PHappiness_67 Start: 43897, Stop: 44067, Start Num: 31

Candidate Starts for PHappiness_67:

(19, 43774), (20, 43816), (Start: 31 @43897 has 170 MA's), (34, 43909), (35, 43945), (44, 44062),

Gene: PMC_63 Start: 42817, Stop: 42966, Start Num: 31

Candidate Starts for PMC_63:

(13, 42649), (Start: 24 @42763 has 2 MA's), (Start: 31 @42817 has 170 MA's),

Gene: Pacc40_63 Start: 45487, Stop: 45648, Start Num: 31

Candidate Starts for Pacc40_63:

(19, 45364), (20, 45406), (Start: 31 @45487 has 170 MA's), (41, 45634), (43, 45643),

Gene: Phalconet_65 Start: 42051, Stop: 42203, Start Num: 31

Candidate Starts for Phalconet_65:

(Start: 31 @42051 has 170 MA's),

Gene: Phanphagia_62 Start: 42593, Stop: 42778, Start Num: 27

Candidate Starts for Phanphagia_62:

(Start: 27 @42593 has 24 MA's), (Start: 29 @42596 has 6 MA's), (Start: 31 @42608 has 170 MA's),
(45, 42773),

Gene: Phasih_66 Start: 44131, Stop: 44292, Start Num: 31
Candidate Starts for Phasih_66:
(26, 44104), (Start: 31 @44131 has 170 MA's), (42, 44278), (44, 44287),

Gene: Phatniss_67 Start: 43248, Stop: 43400, Start Num: 31
Candidate Starts for Phatniss_67:
(20, 43167), (Start: 31 @43248 has 170 MA's), (35, 43296),

Gene: PhesterPhotato_70 Start: 43772, Stop: 43924, Start Num: 31
Candidate Starts for PhesterPhotato_70:
(Start: 27 @43757 has 24 MA's), (Start: 29 @43760 has 6 MA's), (Start: 31 @43772 has 170 MA's),

Gene: Philus_74 Start: 47623, Stop: 47775, Start Num: 31
Candidate Starts for Philus_74:
(19, 47500), (20, 47542), (Start: 31 @47623 has 170 MA's), (35, 47671),

Gene: Pippy_69 Start: 44697, Stop: 44849, Start Num: 31
Candidate Starts for Pippy_69:
(19, 44574), (20, 44616), (Start: 31 @44697 has 170 MA's), (35, 44745),

Gene: Plumbus_71 Start: 43179, Stop: 43340, Start Num: 31
Candidate Starts for Plumbus_71:
(19, 43056), (20, 43098), (Start: 31 @43179 has 170 MA's), (41, 43326), (43, 43335),

Gene: Poenanya_69 Start: 44382, Stop: 44552, Start Num: 31
Candidate Starts for Poenanya_69:
(7, 44130), (12, 44202), (19, 44259), (20, 44301), (Start: 31 @44382 has 170 MA's), (34, 44394), (35, 44430), (44, 44547),

Gene: Polka14_70 Start: 45098, Stop: 45268, Start Num: 31
Candidate Starts for Polka14_70:
(7, 44846), (12, 44918), (19, 44975), (20, 45017), (Start: 31 @45098 has 170 MA's), (34, 45110), (35, 45146), (44, 45263),

Gene: Pollywog_70 Start: 45650, Stop: 45802, Start Num: 31
Candidate Starts for Pollywog_70:
(9, 45440), (19, 45527), (20, 45569), (Start: 31 @45650 has 170 MA's), (35, 45698),

Gene: Polo2Bam_76 Start: 43682, Stop: 43852, Start Num: 31
Candidate Starts for Polo2Bam_76:
(Start: 31 @43682 has 170 MA's), (35, 43730), (44, 43847),

Gene: PopTart_61 Start: 41512, Stop: 41682, Start Num: 31
Candidate Starts for PopTart_61:
(Start: 31 @41512 has 170 MA's), (45, 41677),

Gene: Priscilla_70 Start: 45498, Stop: 45650, Start Num: 31
Candidate Starts for Priscilla_70:
(19, 45375), (20, 45417), (Start: 31 @45498 has 170 MA's), (35, 45546),

Gene: QueenHazel_56 Start: 39398, Stop: 39550, Start Num: 31
Candidate Starts for QueenHazel_56:
(Start: 31 @39398 has 170 MA's),

Gene: QuickMath_70 Start: 44836, Stop: 45021, Start Num: 27
Candidate Starts for QuickMath_70:
(Start: 27 @44836 has 24 MA's), (Start: 29 @44839 has 6 MA's), (Start: 31 @44851 has 170 MA's),
(45, 45016),

Gene: Quico_74 Start: 44153, Stop: 44338, Start Num: 27
Candidate Starts for Quico_74:
(Start: 27 @44153 has 24 MA's), (Start: 29 @44156 has 6 MA's), (Start: 31 @44168 has 170 MA's),
(45, 44333),

Gene: Radiance_68 Start: 46270, Stop: 46422, Start Num: 31
Candidate Starts for Radiance_68:
(7, 46018), (12, 46090), (19, 46147), (20, 46189), (Start: 31 @46270 has 170 MA's), (34, 46282), (35,
46318),

Gene: Ramsey_73 Start: 47728, Stop: 47874, Start Num: 31
Candidate Starts for Ramsey_73:
(26, 47701), (Start: 31 @47728 has 170 MA's), (35, 47776),

Gene: RedBird_67 Start: 42887, Stop: 43057, Start Num: 31
Candidate Starts for RedBird_67:
(7, 42635), (12, 42707), (19, 42764), (20, 42806), (Start: 31 @42887 has 170 MA's), (34, 42899), (35,
42935), (44, 43052),

Gene: Renaud18_81 Start: 46849, Stop: 47010, Start Num: 31
Candidate Starts for Renaud18_81:
(19, 46726), (20, 46768), (Start: 31 @46849 has 170 MA's), (40, 46993), (41, 46996), (43, 47005),

Gene: Rialto_77 Start: 47120, Stop: 47266, Start Num: 31
Candidate Starts for Rialto_77:
(2, 46826), (4, 46844), (16, 46979), (Start: 31 @47120 has 170 MA's),

Gene: Rialto_72 Start: 45717, Stop: 45953, Start Num: 22
Candidate Starts for Rialto_72:
(Start: 22 @45717 has 1 MA's), (Start: 31 @45783 has 170 MA's), (45, 45948),

Gene: Rita_77 Start: 47516, Stop: 47668, Start Num: 31
Candidate Starts for Rita_77:
(26, 47489), (Start: 31 @47516 has 170 MA's), (35, 47564),

Gene: RitaG_67 Start: 44242, Stop: 44412, Start Num: 31
Candidate Starts for RitaG_67:
(19, 44119), (20, 44161), (Start: 31 @44242 has 170 MA's), (34, 44254), (35, 44290), (44, 44407),

Gene: Rockne_67 Start: 42829, Stop: 42978, Start Num: 31
Candidate Starts for Rockne_67:
(13, 42661), (Start: 24 @42775 has 2 MA's), (Start: 31 @42829 has 170 MA's),

Gene: RockyHorror_70 Start: 44803, Stop: 44955, Start Num: 31
Candidate Starts for RockyHorror_70:
(19, 44680), (20, 44722), (Start: 31 @44803 has 170 MA's), (35, 44851),

Gene: Royals2015_76 Start: 45773, Stop: 45934, Start Num: 31
Candidate Starts for Royals2015_76:
(2, 45479), (4, 45497), (16, 45632), (Start: 31 @45773 has 170 MA's), (42, 45920), (44, 45929),

Gene: Ruby_65 Start: 44931, Stop: 45083, Start Num: 31
Candidate Starts for Ruby_65:
(19, 44808), (20, 44850), (Start: 31 @44931 has 170 MA's),

Gene: SG4_65 Start: 42663, Stop: 42824, Start Num: 31
Candidate Starts for SG4_65:
(Start: 31 @42663 has 170 MA's), (35, 42711), (42, 42810), (44, 42819),

Gene: Saal_71 Start: 46676, Stop: 46828, Start Num: 31
Candidate Starts for Saal_71:
(19, 46553), (20, 46595), (Start: 31 @46676 has 170 MA's), (35, 46724),

Gene: Sabbb_71 Start: 43440, Stop: 43586, Start Num: 31
Candidate Starts for Sabbb_71:
(19, 43317), (20, 43359), (Start: 31 @43440 has 170 MA's),

Gene: Sarma624_68 Start: 42387, Stop: 42548, Start Num: 31
Candidate Starts for Sarma624_68:
(19, 42264), (20, 42306), (Start: 31 @42387 has 170 MA's), (35, 42435), (41, 42534), (43, 42543),

Gene: Sassafras_67 Start: 43205, Stop: 43375, Start Num: 31
Candidate Starts for Sassafras_67:
(7, 42953), (12, 43025), (19, 43082), (20, 43124), (Start: 31 @43205 has 170 MA's), (34, 43217), (35, 43253), (44, 43370),

Gene: SassyB_61 Start: 41512, Stop: 41682, Start Num: 31
Candidate Starts for SassyB_61:
(Start: 31 @41512 has 170 MA's), (45, 41677),

Gene: Scottish_65 Start: 42773, Stop: 42958, Start Num: 27
Candidate Starts for Scottish_65:
(Start: 27 @42773 has 24 MA's), (Start: 29 @42776 has 6 MA's), (Start: 31 @42788 has 170 MA's), (45, 42953),

Gene: Seabastian_77 Start: 47013, Stop: 47174, Start Num: 31
Candidate Starts for Seabastian_77:
(Start: 31 @47013 has 170 MA's), (42, 47160), (44, 47169),

Gene: Seagreen_65 Start: 41962, Stop: 42147, Start Num: 27
Candidate Starts for Seagreen_65:
(Start: 27 @41962 has 24 MA's), (Start: 29 @41965 has 6 MA's), (Start: 31 @41977 has 170 MA's), (45, 42142),

Gene: Shauna1_64 Start: 42502, Stop: 42687, Start Num: 27
Candidate Starts for Shauna1_64:
(Start: 27 @42502 has 24 MA's), (Start: 29 @42505 has 6 MA's), (Start: 31 @42517 has 170 MA's), (45, 42682),

Gene: ShiLan_71 Start: 47509, Stop: 47661, Start Num: 31

Candidate Starts for ShiLan_71:
(26, 47482), (Start: 31 @47509 has 170 MA's),

Gene: ShowerHandel_75 Start: 46449, Stop: 46610, Start Num: 31
Candidate Starts for ShowerHandel_75:
(3, 46158), (17, 46305), (26, 46422), (Start: 31 @46449 has 170 MA's), (42, 46596), (44, 46605),

Gene: ShroomBoi_72 Start: 46172, Stop: 46342, Start Num: 31
Candidate Starts for ShroomBoi_72:
(Start: 31 @46172 has 170 MA's), (35, 46220), (44, 46337),

Gene: SiSi_64 Start: 41555, Stop: 41758, Start Num: 24
Candidate Starts for SiSi_64:
(13, 41441), (Start: 24 @41555 has 2 MA's), (Start: 31 @41609 has 170 MA's),

Gene: SimranZ1_70 Start: 44869, Stop: 45021, Start Num: 31
Candidate Starts for SimranZ1_70:
(19, 44746), (20, 44788), (Start: 31 @44869 has 170 MA's), (35, 44917),

Gene: Slim_68 Start: 44335, Stop: 44571, Start Num: 22
Candidate Starts for Slim_68:
(Start: 22 @44335 has 1 MA's), (Start: 31 @44401 has 170 MA's), (45, 44566),

Gene: Soul22_75 Start: 44409, Stop: 44579, Start Num: 31
Candidate Starts for Soul22_75:
(19, 44286), (20, 44328), (Start: 31 @44409 has 170 MA's), (44, 44574),

Gene: Sparkdehlily_74 Start: 44296, Stop: 44466, Start Num: 31
Candidate Starts for Sparkdehlily_74:
(Start: 31 @44296 has 170 MA's), (45, 44461),

Gene: Spartacus_73 Start: 46515, Stop: 46664, Start Num: 31
Candidate Starts for Spartacus_73:
(19, 46392), (20, 46434), (Start: 31 @46515 has 170 MA's),

Gene: Spoonbill_70 Start: 43968, Stop: 44120, Start Num: 31
Candidate Starts for Spoonbill_70:
(19, 43845), (20, 43887), (Start: 31 @43968 has 170 MA's), (35, 44016),

Gene: StAnnes_66 Start: 43731, Stop: 43901, Start Num: 31
Candidate Starts for StAnnes_66:
(Start: 31 @43731 has 170 MA's), (45, 43896),

Gene: Stap_66 Start: 43094, Stop: 43255, Start Num: 31
Candidate Starts for Stap_66:
(6, 42842), (11, 42914), (19, 42971), (20, 43013), (Start: 31 @43094 has 170 MA's), (41, 43241), (43, 43250),

Gene: Starcevich_70 Start: 46804, Stop: 46965, Start Num: 31
Candidate Starts for Starcevich_70:
(26, 46777), (Start: 31 @46804 has 170 MA's), (42, 46951), (44, 46960),

Gene: Strokeseat_62 Start: 40270, Stop: 40437, Start Num: 27

Candidate Starts for Strokeseat_62:
(Start: 27 @40270 has 24 MA's), (Start: 29 @40273 has 6 MA's), (Start: 31 @40285 has 170 MA's),

Gene: SuperGrey_72 Start: 47487, Stop: 47642, Start Num: 31
Candidate Starts for SuperGrey_72:
(6, 47238), (8, 47268), (19, 47364), (20, 47406), (Start: 31 @47487 has 170 MA's),

Gene: SwagPiggett_75 Start: 47717, Stop: 47869, Start Num: 31
Candidate Starts for SwagPiggett_75:
(19, 47594), (20, 47636), (Start: 31 @47717 has 170 MA's), (35, 47765),

Gene: TChen_68 Start: 44878, Stop: 45063, Start Num: 27
Candidate Starts for TChen_68:
(Start: 27 @44878 has 24 MA's), (Start: 29 @44881 has 6 MA's), (Start: 31 @44893 has 170 MA's),
(45, 45058),

Gene: TDanisky_74 Start: 44296, Stop: 44466, Start Num: 31
Candidate Starts for TDanisky_74:
(Start: 31 @44296 has 170 MA's), (45, 44461),

Gene: Taj_72 Start: 45051, Stop: 45221, Start Num: 31
Candidate Starts for Taj_72:
(Start: 31 @45051 has 170 MA's), (45, 45216),

Gene: Tchotchke_67 Start: 44949, Stop: 45095, Start Num: 31
Candidate Starts for Tchotchke_67:
(6, 44700), (8, 44730), (19, 44826), (20, 44868), (Start: 31 @44949 has 170 MA's), (35, 44997),

Gene: ThetaBob_74 Start: 44655, Stop: 44804, Start Num: 31
Candidate Starts for ThetaBob_74:
(13, 44487), (Start: 24 @44601 has 2 MA's), (Start: 31 @44655 has 170 MA's),

Gene: Tootsieroll_71 Start: 46906, Stop: 47058, Start Num: 31
Candidate Starts for Tootsieroll_71:
(7, 46654), (12, 46726), (19, 46783), (20, 46825), (Start: 31 @46906 has 170 MA's), (34, 46918), (35, 46954),

Gene: Toron_75 Start: 46645, Stop: 46800, Start Num: 30
Candidate Starts for Toron_75:
(Start: 29 @46636 has 6 MA's), (Start: 30 @46645 has 1 MA's), (Start: 31 @46648 has 170 MA's), (32, 46654), (36, 46714), (37, 46756), (38, 46786), (39, 46789),

Gene: Totinger_69 Start: 44557, Stop: 44703, Start Num: 31
Candidate Starts for Totinger_69:
(19, 44434), (20, 44476), (Start: 31 @44557 has 170 MA's), (35, 44605),

Gene: UncleRicky_68 Start: 43496, Stop: 43648, Start Num: 31
Candidate Starts for UncleRicky_68:
(20, 43415), (Start: 31 @43496 has 170 MA's), (35, 43544),

Gene: VRedHorse_69 Start: 43466, Stop: 43627, Start Num: 31
Candidate Starts for VRedHorse_69:
(26, 43439), (Start: 31 @43466 has 170 MA's), (34, 43478), (42, 43613), (44, 43622),

Gene: Velveteen_65 Start: 42387, Stop: 42548, Start Num: 31
Candidate Starts for Velveteen_65:
(19, 42264), (20, 42306), (Start: 31 @42387 has 170 MA's), (35, 42435), (41, 42534), (43, 42543),

Gene: Violac_71 Start: 46166, Stop: 46318, Start Num: 31
Candidate Starts for Violac_71:
(19, 46043), (20, 46085), (Start: 31 @46166 has 170 MA's), (35, 46214),

Gene: Wachhund_70 Start: 44052, Stop: 44204, Start Num: 31
Candidate Starts for Wachhund_70:
(26, 44025), (Start: 31 @44052 has 170 MA's), (35, 44100),

Gene: Wee_72 Start: 45127, Stop: 45297, Start Num: 31
Candidate Starts for Wee_72:
(Start: 31 @45127 has 170 MA's), (45, 45292),

Gene: Whatsapiecost_66 Start: 41686, Stop: 41868, Start Num: 29
Candidate Starts for Whatsapiecost_66:
(Start: 27 @41683 has 24 MA's), (Start: 29 @41686 has 6 MA's), (Start: 31 @41698 has 170 MA's),
(45, 41863),

Gene: Whouxphf_68 Start: 45485, Stop: 45646, Start Num: 31
Candidate Starts for Whouxphf_68:
(1, 45176), (25, 45428), (26, 45452), (Start: 31 @45485 has 170 MA's), (35, 45533), (41, 45632), (43,
45641),

Gene: WillSterrel_72 Start: 46352, Stop: 46504, Start Num: 31
Candidate Starts for WillSterrel_72:
(26, 46325), (Start: 31 @46352 has 170 MA's), (34, 46364), (35, 46400),

Gene: Xula_55 Start: 39019, Stop: 39171, Start Num: 31
Candidate Starts for Xula_55:
(Start: 31 @39019 has 170 MA's),

Gene: Yorick_70 Start: 46877, Stop: 47029, Start Num: 31
Candidate Starts for Yorick_70:
(26, 46850), (Start: 31 @46877 has 170 MA's), (35, 46925),

Gene: Yoshi_84 Start: 45121, Stop: 45270, Start Num: 31
Candidate Starts for Yoshi_84:
(15, 44974), (19, 44998), (20, 45040), (Start: 31 @45121 has 170 MA's), (35, 45169),

Gene: Zapner_80 Start: 44551, Stop: 44721, Start Num: 31
Candidate Starts for Zapner_80:
(Start: 27 @44536 has 24 MA's), (Start: 29 @44539 has 6 MA's), (Start: 31 @44551 has 170 MA's),
(45, 44716),

Gene: Zerg_70 Start: 45624, Stop: 45785, Start Num: 31
Candidate Starts for Zerg_70:
(2, 45330), (4, 45348), (16, 45483), (Start: 31 @45624 has 170 MA's), (42, 45771), (44, 45780),

Gene: Zizzle_74 Start: 47005, Stop: 47157, Start Num: 31

Candidate Starts for Zizzle_74:

(19, 46882), (20, 46924), (Start: 31 @47005 has 170 MA's), (35, 47053),