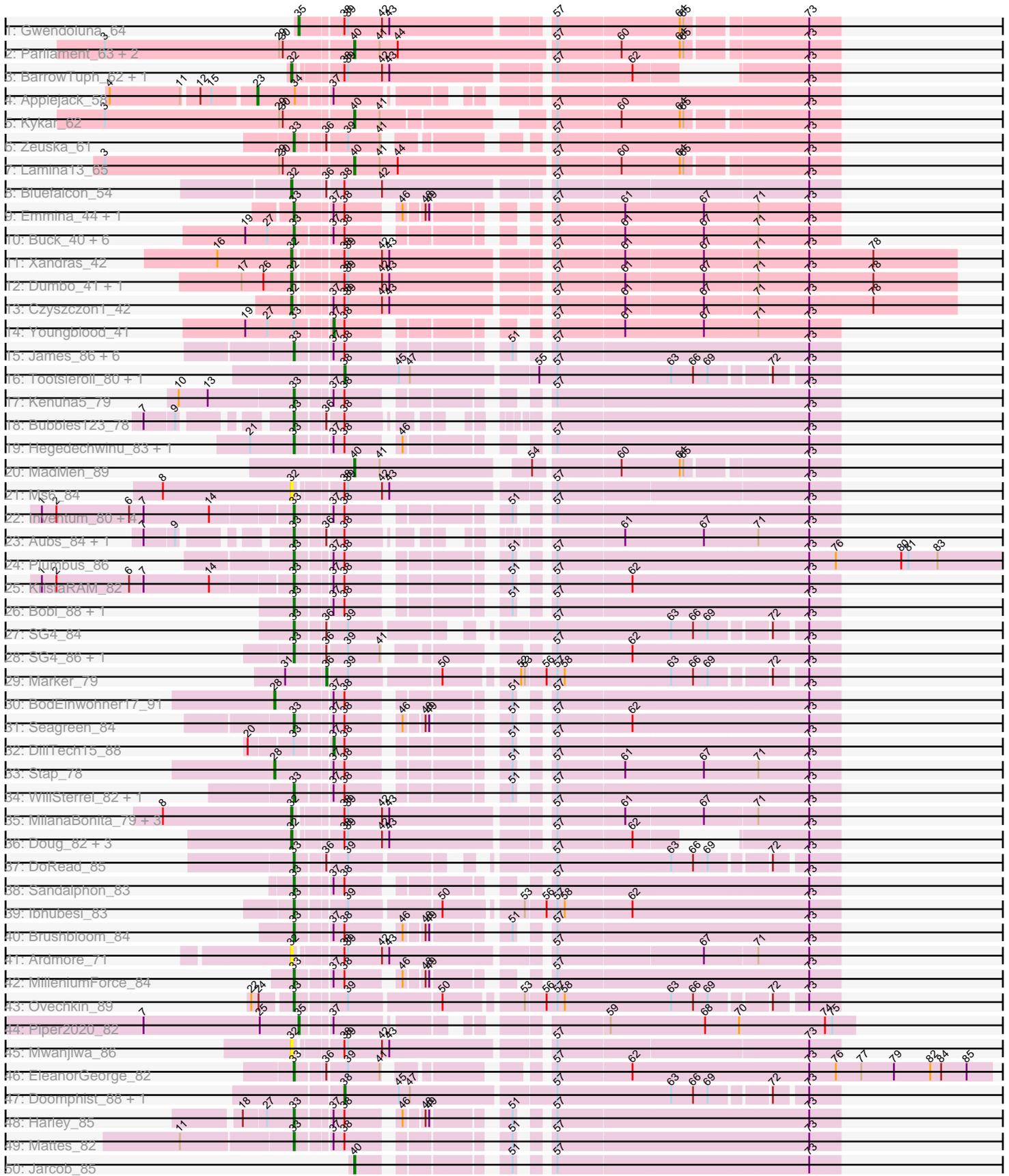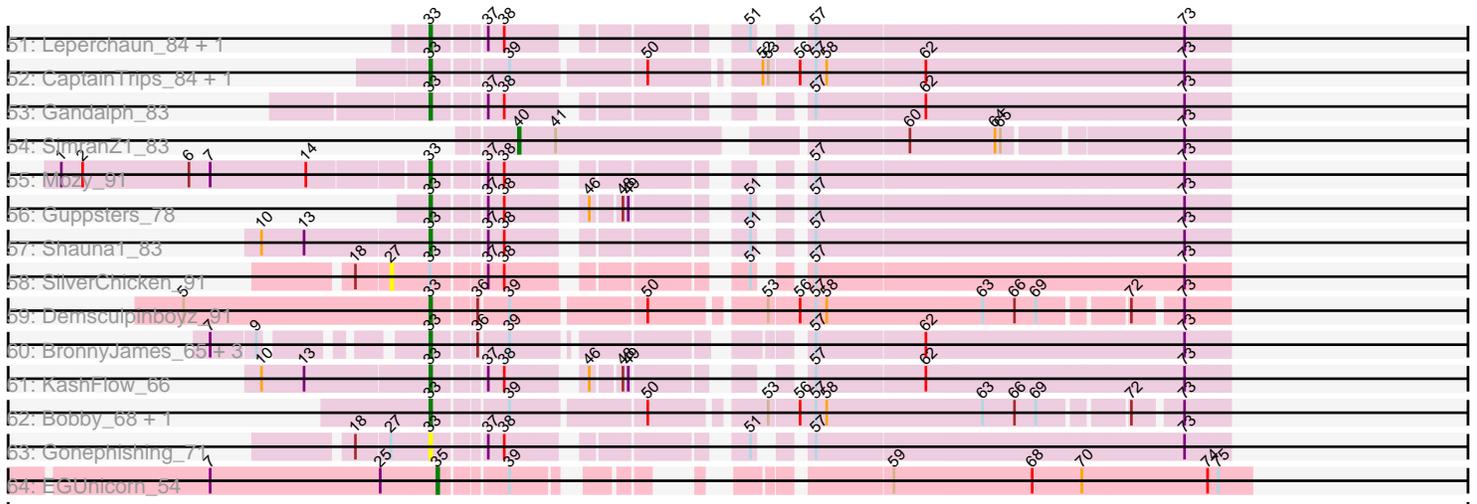# Pham 283655

Pham 283655

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 283655 Report

This analysis was run 02/23/26 on database version 636.

Pham number 283655 has 104 members, 12 are drafts.

Phages represented in each track:
• Track 1 : Gwendoluna_64
• Track 2 : Parliament_63, Paphu_61, Tasp14_65
• Track 3 : BarrowTuph_62, Teodoridan_59
• Track 4 : Applejack_58
• Track 5 : Kykar_62
• Track 6 : Zeuska_61
• Track 7 : Lamina13_65
• Track 8 : Bluefalcon_54
• Track 9 : Emmina_44, Teaspoon_45
• Track 10 : Buck_40, TeamEdward_41, Elite2014_40, Rimmer_40, Lilpickle_40, ChosenOne_41, StormChicken_41
• Track 11 : Xandras_42
• Track 12 : Dumbo_41, Easy2Say_42
• Track 13 : Czyszczon1_42
• Track 14 : Youngblood_41
• Track 15 : James_86, Flathead_85, ShiLan_85, OlympiaSaint_85, Moonbeam_83, Phanphagia_84, Spoonbill_81
• Track 16 : Tootsieroll_80, Polka14_89
• Track 17 : Kenuha5_79
• Track 18 : Bubbles123_78
• Track 19 : Hegedechwinu_83, JalFarm20_90
• Track 20 : MadMen_89
• Track 21 : Ms6_84
• Track 22 : Inventum_80, RedBird_83, Ramsey_86, Dorothy_83, Sassafras_83
• Track 23 : Aubs_84, Donkeykong_90
• Track 24 : Plumbus_86
• Track 25 : KristaRAM_82
• Track 26 : Bobi_88, DaWorst_83
• Track 27 : SG4_84
• Track 28 : SG4_86, Whatsapiecost_76
• Track 29 : Marker_79
• Track 30 : BodEinwohner17_91
• Track 31 : Seagreen_84
• Track 32 : DillTech15_88
• Track 33 : Stap_78
• Track 34 : WillSterrel_82, IrishSherpFalk_83
• Track 35 : MilanaBonita_79, Kumao_61, Fruitloop_85, Akhila_80

- Track 36 : Doug_82, Ogopogo_89, Tchotchke_78, Bipolar_86
- Track 37 : DoRead_85
- Track 38 : Sandalphon_83
- Track 39 : Ibhubesi_83
- Track 40 : Brushbloom_84
- Track 41 : Ardmore_71
- Track 42 : MilleniumForce_84
- Track 43 : Ovechkin_89
- Track 44 : Piper2020_82
- Track 45 : Mwanjiwa_86
- Track 46 : EleanorGeorge_82
- Track 47 : Doomphist_88, Poenanya_88
- Track 48 : Harley_85
- Track 49 : Mattes_82
- Track 50 : Jarcob_85
- Track 51 : Leperchaun_84, JoeyJr_86
- Track 52 : CaptainTrips_84, MinionDave_80
- Track 53 : Gandalph_83
- Track 54 : SimranZ1_83
- Track 55 : Mozy_91
- Track 56 : Guppsters_78
- Track 57 : Shauna1_83
- Track 58 : SilverChicken_91
- Track 59 : Demsculpinboyz_91
- Track 60 : BronnyJames_65, Hannaconda_68, Shaboozey_64, SuperGrey_84
- Track 61 : KashFlow_66
- Track 62 : Bobby_68, Hidrated_66
- Track 63 : Gonephishing_71
- Track 64 : EGUnicorn_54

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

The start number called the most often in the published annotations is 33, it was called in 58 of the 92 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
- Aubs_84, Bobby_68, Bobi_88, BronnyJames_65, Brushbloom_84, Bubbles123_78, Buck_40, CaptainTrips_84, ChosenOne_41, DaWorst_83, Demsculpinboyz_91, DoRead_85, Donkeykong_90, Dorothy_83, EleanorGeorge_82, Elite2014_40, Emmina_44, Flathead_85, Gandalph_83, Gonephishing_71, Guppsters_78, Hannaconda_68, Harley_85, Hegedechwinu_83, Hidrated_66, Ibhubesi_83, Inventum_80, IrishSherpFalk_83, JalFarm20_90, James_86, JoeyJr_86, KashFlow_66, Kenuha5_79, KristaRAM_82, Leperchaun_84, Lilpickle_40, Mattes_82, MilleniumForce_84, MinionDave_80, Moonbeam_83, Mozy_91, OlympiaSaint_85, Ovechkin_89, Phanphagia_84, Plumbus_86, Ramsey_86, RedBird_83, Rimmer_40, SG4_84, SG4_86, Sandalphon_83, Sassafras_83, Seagreen_84, Shaboozey_64, Shauna1_83, ShiLan_85, Spoonbill_81, StormChicken_41, SuperGrey_84, TeamEdward_41, Teaspoon_45, Whatsapiecost_76, WillSterrel_82, Zeuska_61,

Genes that have the "Most Annotated" start but do not call it:
• DillTech15_88, SilverChicken_91, Youngblood_41,

Genes that do not have the "Most Annotated" start:
• Akhila_80, Applejack_58, Ardmore_71, BarrowTuph_62, Bipolar_86, Bluefalcon_54, BodEinwohner17_91, Czyszczon1_42, Doomphist_88, Doug_82, Dumbo_41, EGUnicorn_54, Easy2Say_42, Fruitloop_85, Gwendoluna_64, Jarcob_85, Kumao_61, Kykar_62, Lamina13_65, MadMen_89, Marker_79, MilanaBonita_79, Ms6_84, Mwanjiwa_86, Ogopogo_89, Paphu_61, Parliament_63, Piper2020_82, Poenanya_88, Polka14_89, SimranZ1_83, Stap_78, Tasp14_65, Tchotchke_78, Teodoridan_59, Tootsieroll_80, Xandras_42,

Summary by start number:

Start 23:
• Found in 1 of 104 (1.0%) of genes in pham
• Manual Annotations of this start: 1 of 92
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Applejack_58 (A1),

Start 27:
• Found in 11 of 104 (10.6%) of genes in pham
• No Manual Annotations of this start.
• Called 9.1% of time when present
• Phage (with cluster) where this start called: SilverChicken_91 (F2),

Start 28:
• Found in 2 of 104 (1.9%) of genes in pham
• Manual Annotations of this start: 2 of 92
• Called 100.0% of time when present
• Phage (with cluster) where this start called: BodEinwohner17_91 (F1), Stap_78 (F1),

Start 32:
• Found in 18 of 104 (17.3%) of genes in pham
• Manual Annotations of this start: 13 of 92
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Akhila_80 (F1), Ardmore_71 (F1), BarrowTuph_62 (A1), Bipolar_86 (F1), Bluefalcon_54 (A5), Czyszczon1_42 (E), Doug_82 (F1), Dumbo_41 (E), Easy2Say_42 (E), Fruitloop_85 (F1), Kumao_61 (singleton), MilanaBonita_79 (F1), Ms6_84 (F1), Mwanjiwa_86 (F1), Ogopogo_89 (F1), Tchotchke_78 (F1), Teodoridan_59 (A1), Xandras_42 (E),

Start 33:
• Found in 67 of 104 (64.4%) of genes in pham
• Manual Annotations of this start: 58 of 92
• Called 95.5% of time when present
• Phage (with cluster) where this start called: Aubs_84 (F1), Bobby_68 (J), Bobi_88 (F1), BronnyJames_65 (J), Brushbloom_84 (F1), Bubbles123_78 (F1), Buck_40 (E), CaptainTrips_84 (F1), ChosenOne_41 (E), DaWorst_83 (F1), Demsculpinboyz_91 (F2), DoRead_85 (F1), Donkeykong_90 (F1), Dorothy_83 (F1), EleanorGeorge_82 (F1), Elite2014_40 (E), Emmina_44 (E), Flathead_85 (F1), Gandalph_83 (F1), Gonephishing_71 (J), Guppsters_78 (F1), Hannaconda_68 (J), Harley_85 (F1), Hegedechwinu_83 (F1), Hidrated_66 (J), Ibhubesi_83 (F1), Inventum_80 (F1),

IrishSherpFalk_83 (F1), JalFarm20_90 (F1), James_86 (F1), JoeyJr_86 (F1), KashFlow_66 (J), Kenuha5_79 (F1), KristaRAM_82 (F1), Leperchaun_84 (F1), Lilpickle_40 (E), Mattes_82 (F1), MilleniumForce_84 (F1), MinionDave_80 (F1), Moonbeam_83 (F1), Mozy_91 (F1), OlympiaSaint_85 (F1), Ovechkin_89 (F1), Phanphagia_84 (F1), Plumbus_86 (F1), Ramsey_86 (F1), RedBird_83 (F1), Rimmer_40 (E), SG4_84 (F1), SG4_86 (F1), Sandalphon_83 (F1), Sassafras_83 (F1), Seagreen_84 (F1), Shaboozey_64 (J), Shauna1_83 (F1), ShiLan_85 (F1), Spoonbill_81 (F1), StormChicken_41 (E), SuperGrey_84 (F1), TeamEdward_41 (E), Teaspoon_45 (E), Whatsapiecost_76 (F1), WillSterrel_82 (F1), Zeuska_61 (A1),

Start 35:
• Found in 3 of 104 (2.9%) of genes in pham
• Manual Annotations of this start: 3 of 92
• Called 100.0% of time when present
• Phage (with cluster) where this start called: EGUnicorn_54 (N), Gwendoluna_64 (A1), Piper2020_82 (F1),

Start 36:
• Found in 16 of 104 (15.4%) of genes in pham
• Manual Annotations of this start: 1 of 92
• Called 6.2% of time when present
• Phage (with cluster) where this start called: Marker_79 (F1),

Start 37:
• Found in 52 of 104 (50.0%) of genes in pham
• Manual Annotations of this start: 2 of 92
• Called 3.8% of time when present
• Phage (with cluster) where this start called: DillTech15_88 (F1), Youngblood_41 (E),

Start 38:
• Found in 75 of 104 (72.1%) of genes in pham
• Manual Annotations of this start: 4 of 92
• Called 5.3% of time when present
• Phage (with cluster) where this start called: Doomphist_88 (F1), Poenanya_88 (F1), Polka14_89 (F1), Tootsieroll_80 (F1),

Start 40:
• Found in 8 of 104 (7.7%) of genes in pham
• Manual Annotations of this start: 8 of 92
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Jarcob_85 (F1), Kykar_62 (A1), Lamina13_65 (A1), MadMen_89 (F1), Paphu_61 (A1), Parliament_63 (A1), SimranZ1_83 (F1), Tasp14_65 (A1),

Summary by clusters:

There are 8 clusters represented in this pham: F1, F2, E, J, singleton, N, A1, A5,

Info for manual annotations of cluster A1:
•Start number 23 was manually annotated 1 time for cluster A1.
•Start number 32 was manually annotated 1 time for cluster A1.
•Start number 33 was manually annotated 1 time for cluster A1.
•Start number 35 was manually annotated 1 time for cluster A1.

•Start number 40 was manually annotated 5 times for cluster A1.

Info for manual annotations of cluster A5:
•Start number 32 was manually annotated 1 time for cluster A5.

Info for manual annotations of cluster E:
•Start number 32 was manually annotated 4 times for cluster E.
•Start number 33 was manually annotated 7 times for cluster E.
•Start number 37 was manually annotated 1 time for cluster E.

Info for manual annotations of cluster F1:
•Start number 28 was manually annotated 2 times for cluster F1.
•Start number 32 was manually annotated 6 times for cluster F1.
•Start number 33 was manually annotated 46 times for cluster F1.
•Start number 35 was manually annotated 1 time for cluster F1.
•Start number 36 was manually annotated 1 time for cluster F1.
•Start number 37 was manually annotated 1 time for cluster F1.
•Start number 38 was manually annotated 4 times for cluster F1.
•Start number 40 was manually annotated 3 times for cluster F1.

Info for manual annotations of cluster F2:
•Start number 33 was manually annotated 1 time for cluster F2.

Info for manual annotations of cluster J:
•Start number 33 was manually annotated 3 times for cluster J.

Info for manual annotations of cluster N:
•Start number 35 was manually annotated 1 time for cluster N.

Gene Information:

Gene: Akhila_80 Start: 48623, Stop: 49036, Start Num: 32
Candidate Starts for Akhila_80:
(8, 48518), (Start: 32 @48623 has 13 MA's), (Start: 38 @48656 has 4 MA's), (39, 48659), (42, 48686), (43, 48692), (57, 48812), (61, 48866), (67, 48929), (71, 48971), (73, 49013),

Gene: Applejack_58 Start: 39182, Stop: 38778, Start Num: 23
Candidate Starts for Applejack_58:
(4, 39293), (11, 39236), (12, 39224), (15, 39215), (Start: 23 @39182 has 1 MA's), (34, 39152), (Start: 37 @39128 has 2 MA's), (73, 38801),

Gene: Ardmore_71 Start: 44747, Stop: 45160, Start Num: 32
Candidate Starts for Ardmore_71:
(Start: 32 @44747 has 13 MA's), (Start: 38 @44780 has 4 MA's), (39, 44783), (42, 44810), (43, 44816), (57, 44936), (67, 45053), (71, 45095), (73, 45137),

Gene: Aubs_84 Start: 50517, Stop: 50876, Start Num: 33
Candidate Starts for Aubs_84:
(7, 50424), (9, 50448), (Start: 33 @50517 has 58 MA's), (Start: 36 @50538 has 1 MA's), (Start: 38 @50550 has 4 MA's), (61, 50706), (67, 50769), (71, 50811), (73, 50853),

Gene: BarrowTuph_62 Start: 40812, Stop: 40450, Start Num: 32
Candidate Starts for BarrowTuph_62:
(Start: 32 @40812 has 13 MA's), (Start: 38 @40779 has 4 MA's), (39, 40776), (42, 40749), (43, 40743), (57, 40623), (62, 40563), (73, 40473),

Gene: Bipolar_86 Start: 51239, Stop: 51601, Start Num: 32
Candidate Starts for Bipolar_86:
(Start: 32 @51239 has 13 MA's), (Start: 38 @51272 has 4 MA's), (39, 51275), (42, 51302), (43, 51308), (57, 51428), (62, 51488), (73, 51578),

Gene: Bluefalcon_54 Start: 39442, Stop: 39023, Start Num: 32
Candidate Starts for Bluefalcon_54:
(Start: 32 @39442 has 13 MA's), (Start: 36 @39415 has 1 MA's), (Start: 38 @39403 has 4 MA's), (42, 39373), (57, 39247), (73, 39046),

Gene: Bobby_68 Start: 49135, Stop: 48737, Start Num: 33
Candidate Starts for Bobby_68:
(Start: 33 @49135 has 58 MA's), (39, 49099), (50, 49030), (53, 48973), (56, 48958), (57, 48949), (58, 48943), (63, 48856), (66, 48838), (69, 48826), (72, 48784), (73, 48760),

Gene: Bobi_88 Start: 51408, Stop: 51779, Start Num: 33
Candidate Starts for Bobi_88:
(Start: 33 @51408 has 58 MA's), (Start: 37 @51432 has 2 MA's), (Start: 38 @51441 has 4 MA's), (51, 51540), (57, 51555), (73, 51756),

Gene: BodEinwohner17_91 Start: 52011, Stop: 52400, Start Num: 28
Candidate Starts for BodEinwohner17_91:
(Start: 28 @52011 has 2 MA's), (Start: 37 @52053 has 2 MA's), (Start: 38 @52062 has 4 MA's), (51, 52161), (57, 52176), (73, 52377),

Gene: BronnyJames_65 Start: 44145, Stop: 43759, Start Num: 33
Candidate Starts for BronnyJames_65:
(7, 44238), (9, 44214), (Start: 33 @44145 has 58 MA's), (Start: 36 @44124 has 1 MA's), (39, 44109), (57, 43983), (62, 43923), (73, 43782),

Gene: Brushbloom_84 Start: 50508, Stop: 50876, Start Num: 33
Candidate Starts for Brushbloom_84:
(Start: 33 @50508 has 58 MA's), (Start: 37 @50532 has 2 MA's), (Start: 38 @50541 has 4 MA's), (46, 50574), (48, 50586), (49, 50589), (51, 50637), (57, 50652), (73, 50853),

Gene: Bubbles123_78 Start: 49394, Stop: 49753, Start Num: 33
Candidate Starts for Bubbles123_78:
(7, 49301), (9, 49325), (Start: 33 @49394 has 58 MA's), (Start: 36 @49415 has 1 MA's), (Start: 38 @49427 has 4 MA's), (73, 49730),

Gene: Buck_40 Start: 34705, Stop: 34334, Start Num: 33
Candidate Starts for Buck_40:
(19, 34744), (27, 34726), (Start: 33 @34705 has 58 MA's), (Start: 37 @34681 has 2 MA's), (Start: 38 @34672 has 4 MA's), (57, 34558), (61, 34504), (67, 34441), (71, 34399), (73, 34357),

Gene: CaptainTrips_84 Start: 49276, Stop: 49686, Start Num: 33
Candidate Starts for CaptainTrips_84:

(Start: 33 @49276 has 58 MA's), (39, 49312), (50, 49381), (52, 49435), (53, 49438), (56, 49453), (57, 49462), (58, 49468), (62, 49522), (73, 49663),

Gene: ChosenOne_41 Start: 33974, Stop: 33603, Start Num: 33
Candidate Starts for ChosenOne_41:
(19, 34013), (27, 33995), (Start: 33 @33974 has 58 MA's), (Start: 37 @33950 has 2 MA's), (Start: 38 @33941 has 4 MA's), (57, 33827), (61, 33773), (67, 33710), (71, 33668), (73, 33626),

Gene: Czyszczon1_42 Start: 34681, Stop: 34172, Start Num: 32
Candidate Starts for Czyszczon1_42:
(Start: 32 @34681 has 13 MA's), (Start: 37 @34657 has 2 MA's), (Start: 38 @34648 has 4 MA's), (39, 34645), (42, 34618), (43, 34612), (57, 34492), (61, 34438), (67, 34375), (71, 34333), (73, 34291), (78, 34240),

Gene: DaWorst_83 Start: 48921, Stop: 49292, Start Num: 33
Candidate Starts for DaWorst_83:
(Start: 33 @48921 has 58 MA's), (Start: 37 @48945 has 2 MA's), (Start: 38 @48954 has 4 MA's), (51, 49053), (57, 49068), (73, 49269),

Gene: Demsculpinboyz_91 Start: 47365, Stop: 47763, Start Num: 33
Candidate Starts for Demsculpinboyz_91:
(5, 47227), (Start: 33 @47365 has 58 MA's), (Start: 36 @47386 has 1 MA's), (39, 47401), (50, 47470), (53, 47527), (56, 47542), (57, 47551), (58, 47557), (63, 47644), (66, 47662), (69, 47674), (72, 47716), (73, 47740),

Gene: DillTech15_88 Start: 49164, Stop: 49511, Start Num: 37
Candidate Starts for DillTech15_88:
(20, 49107), (Start: 33 @49140 has 58 MA's), (Start: 37 @49164 has 2 MA's), (Start: 38 @49173 has 4 MA's), (51, 49272), (57, 49287), (73, 49488),

Gene: DoRead_85 Start: 48009, Stop: 48383, Start Num: 33
Candidate Starts for DoRead_85:
(Start: 33 @48009 has 58 MA's), (Start: 36 @48030 has 1 MA's), (39, 48045), (57, 48171), (63, 48264), (66, 48282), (69, 48294), (72, 48336), (73, 48360),

Gene: Donkeykong_90 Start: 52122, Stop: 52481, Start Num: 33
Candidate Starts for Donkeykong_90:
(7, 52029), (9, 52053), (Start: 33 @52122 has 58 MA's), (Start: 36 @52143 has 1 MA's), (Start: 38 @52155 has 4 MA's), (61, 52311), (67, 52374), (71, 52416), (73, 52458),

Gene: Doomphist_88 Start: 50710, Stop: 51087, Start Num: 38
Candidate Starts for Doomphist_88:
(Start: 38 @50710 has 4 MA's), (45, 50752), (47, 50761), (57, 50875), (63, 50968), (66, 50986), (69, 50998), (72, 51040), (73, 51064),

Gene: Dorothy_83 Start: 51040, Stop: 51411, Start Num: 33
Candidate Starts for Dorothy_83:
(1, 50839), (2, 50851), (6, 50911), (7, 50923), (14, 50977), (Start: 33 @51040 has 58 MA's), (Start: 37 @51064 has 2 MA's), (Start: 38 @51073 has 4 MA's), (51, 51172), (57, 51187), (73, 51388),

Gene: Doug_82 Start: 50547, Stop: 50909, Start Num: 32
Candidate Starts for Doug_82:

(Start: 32 @50547 has 13 MA's), (Start: 38 @50580 has 4 MA's), (39, 50583), (42, 50610), (43, 50616), (57, 50736), (62, 50796), (73, 50886),

Gene: Dumbo_41 Start: 34403, Stop: 33894, Start Num: 32
Candidate Starts for Dumbo_41:
(17, 34442), (26, 34424), (Start: 32 @34403 has 13 MA's), (Start: 38 @34370 has 4 MA's), (39, 34367), (42, 34340), (43, 34334), (57, 34214), (61, 34160), (67, 34097), (71, 34055), (73, 34013), (78, 33962),

Gene: EGUnicorn_54 Start: 36355, Stop: 36714, Start Num: 35
Candidate Starts for EGUnicorn_54:
(7, 36229), (25, 36325), (Start: 35 @36355 has 3 MA's), (39, 36388), (59, 36520), (68, 36595), (70, 36622), (74, 36691), (75, 36697),

Gene: Easy2Say_42 Start: 35947, Stop: 35438, Start Num: 32
Candidate Starts for Easy2Say_42:
(17, 35986), (26, 35968), (Start: 32 @35947 has 13 MA's), (Start: 38 @35914 has 4 MA's), (39, 35911), (42, 35884), (43, 35878), (57, 35758), (61, 35704), (67, 35641), (71, 35599), (73, 35557), (78, 35506),

Gene: EleanorGeorge_82 Start: 49312, Stop: 49815, Start Num: 33
Candidate Starts for EleanorGeorge_82:
(Start: 33 @49312 has 58 MA's), (Start: 36 @49333 has 1 MA's), (39, 49348), (41, 49372), (57, 49465), (62, 49525), (73, 49666), (76, 49687), (77, 49708), (79, 49735), (82, 49765), (84, 49774), (85, 49795),

Gene: Elite2014_40 Start: 33973, Stop: 33602, Start Num: 33
Candidate Starts for Elite2014_40:
(19, 34012), (27, 33994), (Start: 33 @33973 has 58 MA's), (Start: 37 @33949 has 2 MA's), (Start: 38 @33940 has 4 MA's), (57, 33826), (61, 33772), (67, 33709), (71, 33667), (73, 33625),

Gene: Emmina_44 Start: 34912, Stop: 34541, Start Num: 33
Candidate Starts for Emmina_44:
(Start: 33 @34912 has 58 MA's), (Start: 37 @34885 has 2 MA's), (Start: 38 @34876 has 4 MA's), (46, 34843), (48, 34831), (49, 34828), (57, 34765), (61, 34711), (67, 34648), (71, 34606), (73, 34564),

Gene: Flathead_85 Start: 49803, Stop: 50174, Start Num: 33
Candidate Starts for Flathead_85:
(Start: 33 @49803 has 58 MA's), (Start: 37 @49827 has 2 MA's), (Start: 38 @49836 has 4 MA's), (51, 49935), (57, 49950), (73, 50151),

Gene: Fruitloop_85 Start: 51126, Stop: 51539, Start Num: 32
Candidate Starts for Fruitloop_85:
(8, 51021), (Start: 32 @51126 has 13 MA's), (Start: 38 @51159 has 4 MA's), (39, 51162), (42, 51189), (43, 51195), (57, 51315), (61, 51369), (67, 51432), (71, 51474), (73, 51516),

Gene: Gandalph_83 Start: 47074, Stop: 47445, Start Num: 33
Candidate Starts for Gandalph_83:
(Start: 33 @47074 has 58 MA's), (Start: 37 @47098 has 2 MA's), (Start: 38 @47107 has 4 MA's), (57, 47221), (62, 47281), (73, 47422),

Gene: Gonephishing_71 Start: 47256, Stop: 46885, Start Num: 33
Candidate Starts for Gonephishing_71:
(18, 47295), (27, 47277), (Start: 33 @47256 has 58 MA's), (Start: 37 @47232 has 2 MA's), (Start: 38 @47223 has 4 MA's), (51, 47124), (57, 47109), (73, 46908),

Gene: Guppsters_78 Start: 47339, Stop: 47707, Start Num: 33
Candidate Starts for Guppsters_78:
(Start: 33 @47339 has 58 MA's), (Start: 37 @47363 has 2 MA's), (Start: 38 @47372 has 4 MA's), (46, 47405), (48, 47417), (49, 47420), (51, 47468), (57, 47483), (73, 47684),

Gene: Gwendoluna_64 Start: 42781, Stop: 42374, Start Num: 35
Candidate Starts for Gwendoluna_64:
(Start: 35 @42781 has 3 MA's), (Start: 38 @42748 has 4 MA's), (39, 42745), (42, 42718), (43, 42712), (57, 42592), (64, 42493), (65, 42490), (73, 42397),

Gene: Hannaconda_68 Start: 45250, Stop: 44864, Start Num: 33
Candidate Starts for Hannaconda_68:
(7, 45343), (9, 45319), (Start: 33 @45250 has 58 MA's), (Start: 36 @45229 has 1 MA's), (39, 45214), (57, 45088), (62, 45028), (73, 44887),

Gene: Harley_85 Start: 49675, Stop: 50043, Start Num: 33
Candidate Starts for Harley_85:
(18, 49636), (27, 49654), (Start: 33 @49675 has 58 MA's), (Start: 37 @49699 has 2 MA's), (Start: 38 @49708 has 4 MA's), (46, 49741), (48, 49753), (49, 49756), (51, 49804), (57, 49819), (73, 50020),

Gene: Hegedechwinu_83 Start: 48330, Stop: 48701, Start Num: 33
Candidate Starts for Hegedechwinu_83:
(21, 48294), (Start: 33 @48330 has 58 MA's), (Start: 37 @48354 has 2 MA's), (Start: 38 @48363 has 4 MA's), (46, 48396), (57, 48477), (73, 48678),

Gene: Hidrated_66 Start: 49459, Stop: 49061, Start Num: 33
Candidate Starts for Hidrated_66:
(Start: 33 @49459 has 58 MA's), (39, 49423), (50, 49354), (53, 49297), (56, 49282), (57, 49273), (58, 49267), (63, 49180), (66, 49162), (69, 49150), (72, 49108), (73, 49084),

Gene: Ibhubesi_83 Start: 48014, Stop: 48424, Start Num: 33
Candidate Starts for Ibhubesi_83:
(Start: 33 @48014 has 58 MA's), (39, 48050), (50, 48119), (53, 48176), (56, 48191), (57, 48200), (58, 48206), (62, 48260), (73, 48401),

Gene: Inventum_80 Start: 49225, Stop: 49596, Start Num: 33
Candidate Starts for Inventum_80:
(1, 49024), (2, 49036), (6, 49096), (7, 49108), (14, 49162), (Start: 33 @49225 has 58 MA's), (Start: 37 @49249 has 2 MA's), (Start: 38 @49258 has 4 MA's), (51, 49357), (57, 49372), (73, 49573),

Gene: IrishSherpFalk_83 Start: 50030, Stop: 50401, Start Num: 33
Candidate Starts for IrishSherpFalk_83:
(Start: 33 @50030 has 58 MA's), (Start: 37 @50054 has 2 MA's), (Start: 38 @50063 has 4 MA's), (51, 50162), (57, 50177), (73, 50378),

Gene: JalFarm20_90 Start: 50347, Stop: 50718, Start Num: 33
Candidate Starts for JalFarm20_90:
(21, 50311), (Start: 33 @50347 has 58 MA's), (Start: 37 @50371 has 2 MA's), (Start: 38 @50380 has 4 MA's), (46, 50413), (57, 50494), (73, 50695),

Gene: James_86 Start: 51529, Stop: 51900, Start Num: 33
Candidate Starts for James_86:

(Start: 33 @51529 has 58 MA's), (Start: 37 @51553 has 2 MA's), (Start: 38 @51562 has 4 MA's), (51, 51661), (57, 51676), (73, 51877),

Gene: Jarcob_85 Start: 51167, Stop: 51499, Start Num: 40
Candidate Starts for Jarcob_85:
(Start: 40 @51167 has 8 MA's), (51, 51260), (57, 51275), (73, 51476),

Gene: JoeyJr_86 Start: 51134, Stop: 51505, Start Num: 33
Candidate Starts for JoeyJr_86:
(Start: 33 @51134 has 58 MA's), (Start: 37 @51158 has 2 MA's), (Start: 38 @51167 has 4 MA's), (51, 51266), (57, 51281), (73, 51482),

Gene: KashFlow_66 Start: 45121, Stop: 44753, Start Num: 33
Candidate Starts for KashFlow_66:
(10, 45214), (13, 45190), (Start: 33 @45121 has 58 MA's), (Start: 37 @45097 has 2 MA's), (Start: 38 @45088 has 4 MA's), (46, 45055), (48, 45043), (49, 45040), (57, 44977), (62, 44917), (73, 44776),

Gene: Kenuha5_79 Start: 50155, Stop: 50526, Start Num: 33
Candidate Starts for Kenuha5_79:
(10, 50062), (13, 50086), (Start: 33 @50155 has 58 MA's), (Start: 37 @50179 has 2 MA's), (Start: 38 @50188 has 4 MA's), (57, 50302), (73, 50503),

Gene: KristaRAM_82 Start: 48874, Stop: 49245, Start Num: 33
Candidate Starts for KristaRAM_82:
(1, 48673), (2, 48685), (6, 48745), (7, 48757), (14, 48811), (Start: 33 @48874 has 58 MA's), (Start: 37 @48898 has 2 MA's), (Start: 38 @48907 has 4 MA's), (51, 49006), (57, 49021), (62, 49081), (73, 49222),

Gene: Kumao_61 Start: 43622, Stop: 44035, Start Num: 32
Candidate Starts for Kumao_61:
(8, 43517), (Start: 32 @43622 has 13 MA's), (Start: 38 @43655 has 4 MA's), (39, 43658), (42, 43685), (43, 43691), (57, 43811), (61, 43865), (67, 43928), (71, 43970), (73, 44012),

Gene: Kykar_62 Start: 41465, Stop: 41115, Start Num: 40
Candidate Starts for Kykar_62:
(3, 41666), (29, 41522), (30, 41519), (Start: 40 @41465 has 8 MA's), (41, 41444), (57, 41333), (60, 41282), (64, 41234), (65, 41231), (73, 41138),

Gene: Lamina13_65 Start: 42283, Stop: 41903, Start Num: 40
Candidate Starts for Lamina13_65:
(3, 42484), (29, 42340), (30, 42337), (Start: 40 @42283 has 8 MA's), (41, 42262), (44, 42247), (57, 42121), (60, 42070), (64, 42022), (65, 42019), (73, 41926),

Gene: Leperchaun_84 Start: 50368, Stop: 50739, Start Num: 33
Candidate Starts for Leperchaun_84:
(Start: 33 @50368 has 58 MA's), (Start: 37 @50392 has 2 MA's), (Start: 38 @50401 has 4 MA's), (51, 50500), (57, 50515), (73, 50716),

Gene: Lilpickle_40 Start: 33973, Stop: 33602, Start Num: 33
Candidate Starts for Lilpickle_40:
(19, 34012), (27, 33994), (Start: 33 @33973 has 58 MA's), (Start: 37 @33949 has 2 MA's), (Start: 38 @33940 has 4 MA's), (57, 33826), (61, 33772), (67, 33709), (71, 33667), (73, 33625),

Gene: MadMen_89 Start: 50218, Stop: 50580, Start Num: 40
Candidate Starts for MadMen_89:
(Start: 40 @50218 has 8 MA's), (41, 50239), (54, 50347), (60, 50413), (64, 50461), (65, 50464), (73, 50557),

Gene: Marker_79 Start: 47302, Stop: 47679, Start Num: 36
Candidate Starts for Marker_79:
(31, 47275), (Start: 36 @47302 has 1 MA's), (39, 47317), (50, 47386), (52, 47440), (53, 47443), (56, 47458), (57, 47467), (58, 47473), (63, 47560), (66, 47578), (69, 47590), (72, 47632), (73, 47656),

Gene: Mattes_82 Start: 50261, Stop: 50632, Start Num: 33
Candidate Starts for Mattes_82:
(11, 50174), (Start: 33 @50261 has 58 MA's), (Start: 37 @50285 has 2 MA's), (Start: 38 @50294 has 4 MA's), (51, 50393), (57, 50408), (73, 50609),

Gene: MilanaBonita_79 Start: 48623, Stop: 49036, Start Num: 32
Candidate Starts for MilanaBonita_79:
(8, 48518), (Start: 32 @48623 has 13 MA's), (Start: 38 @48656 has 4 MA's), (39, 48659), (42, 48686), (43, 48692), (57, 48812), (61, 48866), (67, 48929), (71, 48971), (73, 49013),

Gene: MilleniumForce_84 Start: 50365, Stop: 50733, Start Num: 33
Candidate Starts for MilleniumForce_84:
(Start: 33 @50365 has 58 MA's), (Start: 37 @50389 has 2 MA's), (Start: 38 @50398 has 4 MA's), (46, 50431), (48, 50443), (49, 50446), (57, 50509), (73, 50710),

Gene: MinionDave_80 Start: 49276, Stop: 49686, Start Num: 33
Candidate Starts for MinionDave_80:
(Start: 33 @49276 has 58 MA's), (39, 49312), (50, 49381), (52, 49435), (53, 49438), (56, 49453), (57, 49462), (58, 49468), (62, 49522), (73, 49663),

Gene: Moonbeam_83 Start: 49609, Stop: 49980, Start Num: 33
Candidate Starts for Moonbeam_83:
(Start: 33 @49609 has 58 MA's), (Start: 37 @49633 has 2 MA's), (Start: 38 @49642 has 4 MA's), (51, 49741), (57, 49756), (73, 49957),

Gene: Mozy_91 Start: 49284, Stop: 49655, Start Num: 33
Candidate Starts for Mozy_91:
(1, 49083), (2, 49095), (6, 49155), (7, 49167), (14, 49221), (Start: 33 @49284 has 58 MA's), (Start: 37 @49308 has 2 MA's), (Start: 38 @49317 has 4 MA's), (57, 49431), (73, 49632),

Gene: Ms6_84 Start: 46316, Stop: 46729, Start Num: 32
Candidate Starts for Ms6_84:
(8, 46211), (Start: 32 @46316 has 13 MA's), (Start: 38 @46349 has 4 MA's), (39, 46352), (42, 46379), (43, 46385), (57, 46505), (73, 46706),

Gene: Mwanjiwa_86 Start: 50418, Stop: 50831, Start Num: 32
Candidate Starts for Mwanjiwa_86:
(Start: 32 @50418 has 13 MA's), (Start: 38 @50451 has 4 MA's), (39, 50454), (42, 50481), (43, 50487), (57, 50607), (73, 50808),

Gene: Ogopogo_89 Start: 49435, Stop: 49848, Start Num: 32
Candidate Starts for Ogopogo_89:

(Start: 32 @49435 has 13 MA's), (Start: 38 @49468 has 4 MA's), (39, 49471), (42, 49498), (43, 49504), (57, 49624), (62, 49684), (73, 49825),

Gene: OlympiaSaint_85 Start: 50471, Stop: 50842, Start Num: 33
Candidate Starts for OlympiaSaint_85:
(Start: 33 @50471 has 58 MA's), (Start: 37 @50495 has 2 MA's), (Start: 38 @50504 has 4 MA's), (51, 50603), (57, 50618), (73, 50819),

Gene: Ovechkin_89 Start: 50892, Stop: 51290, Start Num: 33
Candidate Starts for Ovechkin_89:
(22, 50862), (24, 50868), (Start: 33 @50892 has 58 MA's), (39, 50928), (50, 50997), (53, 51054), (56, 51069), (57, 51078), (58, 51084), (63, 51171), (66, 51189), (69, 51201), (72, 51243), (73, 51267),

Gene: Paphu_61 Start: 41641, Stop: 41261, Start Num: 40
Candidate Starts for Paphu_61:
(3, 41842), (29, 41698), (30, 41695), (Start: 40 @41641 has 8 MA's), (41, 41620), (44, 41605), (57, 41479), (60, 41428), (64, 41380), (65, 41377), (73, 41284),

Gene: Parliament_63 Start: 43433, Stop: 43053, Start Num: 40
Candidate Starts for Parliament_63:
(3, 43634), (29, 43490), (30, 43487), (Start: 40 @43433 has 8 MA's), (41, 43412), (44, 43397), (57, 43271), (60, 43220), (64, 43172), (65, 43169), (73, 43076),

Gene: Phanphagia_84 Start: 50468, Stop: 50839, Start Num: 33
Candidate Starts for Phanphagia_84:
(Start: 33 @50468 has 58 MA's), (Start: 37 @50492 has 2 MA's), (Start: 38 @50501 has 4 MA's), (51, 50600), (57, 50615), (73, 50816),

Gene: Piper2020_82 Start: 50625, Stop: 51008, Start Num: 35
Candidate Starts for Piper2020_82:
(7, 50499), (25, 50595), (Start: 35 @50625 has 3 MA's), (Start: 37 @50646 has 2 MA's), (59, 50814), (68, 50889), (70, 50916), (74, 50985), (75, 50991),

Gene: Plumbus_86 Start: 47486, Stop: 48037, Start Num: 33
Candidate Starts for Plumbus_86:
(Start: 33 @47486 has 58 MA's), (Start: 37 @47510 has 2 MA's), (Start: 38 @47519 has 4 MA's), (51, 47618), (57, 47633), (73, 47834), (76, 47855), (80, 47909), (81, 47915), (83, 47939),

Gene: Poenanya_88 Start: 50710, Stop: 51087, Start Num: 38
Candidate Starts for Poenanya_88:
(Start: 38 @50710 has 4 MA's), (45, 50752), (47, 50761), (57, 50875), (63, 50968), (66, 50986), (69, 50998), (72, 51040), (73, 51064),

Gene: Polka14_89 Start: 51500, Stop: 51877, Start Num: 38
Candidate Starts for Polka14_89:
(Start: 38 @51500 has 4 MA's), (45, 51542), (47, 51551), (55, 51650), (57, 51665), (63, 51758), (66, 51776), (69, 51788), (72, 51830), (73, 51854),

Gene: Ramsey_86 Start: 51149, Stop: 51520, Start Num: 33
Candidate Starts for Ramsey_86:
(1, 50948), (2, 50960), (6, 51020), (7, 51032), (14, 51086), (Start: 33 @51149 has 58 MA's), (Start: 37 @51173 has 2 MA's), (Start: 38 @51182 has 4 MA's), (51, 51281), (57, 51296), (73, 51497),

Gene: RedBird_83 Start: 50910, Stop: 51281, Start Num: 33
Candidate Starts for RedBird_83:
(1, 50709), (2, 50721), (6, 50781), (7, 50793), (14, 50847), (Start: 33 @50910 has 58 MA's), (Start: 37 @50934 has 2 MA's), (Start: 38 @50943 has 4 MA's), (51, 51042), (57, 51057), (73, 51258),

Gene: Rimmer_40 Start: 34315, Stop: 33944, Start Num: 33
Candidate Starts for Rimmer_40:
(19, 34354), (27, 34336), (Start: 33 @34315 has 58 MA's), (Start: 37 @34291 has 2 MA's), (Start: 38 @34282 has 4 MA's), (57, 34168), (61, 34114), (67, 34051), (71, 34009), (73, 33967),

Gene: SG4_84 Start: 50324, Stop: 50698, Start Num: 33
Candidate Starts for SG4_84:
(Start: 33 @50324 has 58 MA's), (Start: 36 @50345 has 1 MA's), (39, 50360), (57, 50486), (63, 50579), (66, 50597), (69, 50609), (72, 50651), (73, 50675),

Gene: SG4_86 Start: 50874, Stop: 51251, Start Num: 33
Candidate Starts for SG4_86:
(Start: 33 @50874 has 58 MA's), (Start: 36 @50895 has 1 MA's), (39, 50910), (41, 50934), (57, 51027), (62, 51087), (73, 51228),

Gene: Sandalphon_83 Start: 50748, Stop: 51119, Start Num: 33
Candidate Starts for Sandalphon_83:
(Start: 33 @50748 has 58 MA's), (Start: 37 @50772 has 2 MA's), (Start: 38 @50781 has 4 MA's), (57, 50895), (73, 51096),

Gene: Sassafras_83 Start: 49224, Stop: 49595, Start Num: 33
Candidate Starts for Sassafras_83:
(1, 49023), (2, 49035), (6, 49095), (7, 49107), (14, 49161), (Start: 33 @49224 has 58 MA's), (Start: 37 @49248 has 2 MA's), (Start: 38 @49257 has 4 MA's), (51, 49356), (57, 49371), (73, 49572),

Gene: Seagreen_84 Start: 50260, Stop: 50628, Start Num: 33
Candidate Starts for Seagreen_84:
(Start: 33 @50260 has 58 MA's), (Start: 37 @50284 has 2 MA's), (Start: 38 @50293 has 4 MA's), (46, 50326), (48, 50338), (49, 50341), (51, 50389), (57, 50404), (62, 50464), (73, 50605),

Gene: Shaboozey_64 Start: 44166, Stop: 43780, Start Num: 33
Candidate Starts for Shaboozey_64:
(7, 44259), (9, 44235), (Start: 33 @44166 has 58 MA's), (Start: 36 @44145 has 1 MA's), (39, 44130), (57, 44004), (62, 43944), (73, 43803),

Gene: Shauna1_83 Start: 50441, Stop: 50812, Start Num: 33
Candidate Starts for Shauna1_83:
(10, 50348), (13, 50372), (Start: 33 @50441 has 58 MA's), (Start: 37 @50465 has 2 MA's), (Start: 38 @50474 has 4 MA's), (51, 50573), (57, 50588), (73, 50789),

Gene: ShiLan_85 Start: 51984, Stop: 52355, Start Num: 33
Candidate Starts for ShiLan_85:
(Start: 33 @51984 has 58 MA's), (Start: 37 @52008 has 2 MA's), (Start: 38 @52017 has 4 MA's), (51, 52116), (57, 52131), (73, 52332),

Gene: SilverChicken_91 Start: 49686, Stop: 50078, Start Num: 27
Candidate Starts for SilverChicken_91:

(18, 49668), (27, 49686), (Start: 33 @49707 has 58 MA's), (Start: 37 @49731 has 2 MA's), (Start: 38 @49740 has 4 MA's), (51, 49839), (57, 49854), (73, 50055),

Gene: SimranZ1_83 Start: 48924, Stop: 49286, Start Num: 40
Candidate Starts for SimranZ1_83:
(Start: 40 @48924 has 8 MA's), (41, 48945), (60, 49119), (64, 49167), (65, 49170), (73, 49263),

Gene: Spoonbill_81 Start: 47897, Stop: 48268, Start Num: 33
Candidate Starts for Spoonbill_81:
(Start: 33 @47897 has 58 MA's), (Start: 37 @47921 has 2 MA's), (Start: 38 @47930 has 4 MA's), (51, 48029), (57, 48044), (73, 48245),

Gene: Stap_78 Start: 46857, Stop: 47246, Start Num: 28
Candidate Starts for Stap_78:
(Start: 28 @46857 has 2 MA's), (Start: 37 @46899 has 2 MA's), (Start: 38 @46908 has 4 MA's), (51, 47007), (57, 47022), (61, 47076), (67, 47139), (71, 47181), (73, 47223),

Gene: StormChicken_41 Start: 34923, Stop: 34552, Start Num: 33
Candidate Starts for StormChicken_41:
(19, 34962), (27, 34944), (Start: 33 @34923 has 58 MA's), (Start: 37 @34899 has 2 MA's), (Start: 38 @34890 has 4 MA's), (57, 34776), (61, 34722), (67, 34659), (71, 34617), (73, 34575),

Gene: SuperGrey_84 Start: 51807, Stop: 52193, Start Num: 33
Candidate Starts for SuperGrey_84:
(7, 51714), (9, 51738), (Start: 33 @51807 has 58 MA's), (Start: 36 @51828 has 1 MA's), (39, 51843), (57, 51969), (62, 52029), (73, 52170),

Gene: Tasp14_65 Start: 42922, Stop: 42542, Start Num: 40
Candidate Starts for Tasp14_65:
(3, 43123), (29, 42979), (30, 42976), (Start: 40 @42922 has 8 MA's), (41, 42901), (44, 42886), (57, 42760), (60, 42709), (64, 42661), (65, 42658), (73, 42565),

Gene: Tchotchke_78 Start: 48324, Stop: 48737, Start Num: 32
Candidate Starts for Tchotchke_78:
(Start: 32 @48324 has 13 MA's), (Start: 38 @48357 has 4 MA's), (39, 48360), (42, 48387), (43, 48393), (57, 48513), (62, 48573), (73, 48714),

Gene: TeamEdward_41 Start: 34920, Stop: 34549, Start Num: 33
Candidate Starts for TeamEdward_41:
(19, 34959), (27, 34941), (Start: 33 @34920 has 58 MA's), (Start: 37 @34896 has 2 MA's), (Start: 38 @34887 has 4 MA's), (57, 34773), (61, 34719), (67, 34656), (71, 34614), (73, 34572),

Gene: Teaspoon_45 Start: 35627, Stop: 35256, Start Num: 33
Candidate Starts for Teaspoon_45:
(Start: 33 @35627 has 58 MA's), (Start: 37 @35600 has 2 MA's), (Start: 38 @35591 has 4 MA's), (46, 35558), (48, 35546), (49, 35543), (57, 35480), (61, 35426), (67, 35363), (71, 35321), (73, 35279),

Gene: Teodoridan_59 Start: 40032, Stop: 39670, Start Num: 32
Candidate Starts for Teodoridan_59:
(Start: 32 @40032 has 13 MA's), (Start: 38 @39999 has 4 MA's), (39, 39996), (42, 39969), (43, 39963), (57, 39843), (62, 39783), (73, 39693),

Gene: Tootsieroll_80 Start: 50185, Stop: 50562, Start Num: 38

Candidate Starts for Tootsieroll_80:
(Start: 38 @50185 has 4 MA's), (45, 50227), (47, 50236), (55, 50335), (57, 50350), (63, 50443), (66, 50461), (69, 50473), (72, 50515), (73, 50539),

Gene: Whatsapiecost_76 Start: 44789, Stop: 45166, Start Num: 33
Candidate Starts for Whatsapiecost_76:
(Start: 33 @44789 has 58 MA's), (Start: 36 @44810 has 1 MA's), (39, 44825), (41, 44849), (57, 44942), (62, 45002), (73, 45143),

Gene: WillSterrel_82 Start: 50063, Stop: 50434, Start Num: 33
Candidate Starts for WillSterrel_82:
(Start: 33 @50063 has 58 MA's), (Start: 37 @50087 has 2 MA's), (Start: 38 @50096 has 4 MA's), (51, 50195), (57, 50210), (73, 50411),

Gene: Xandras_42 Start: 34687, Stop: 34178, Start Num: 32
Candidate Starts for Xandras_42:
(16, 34747), (Start: 32 @34687 has 13 MA's), (Start: 38 @34654 has 4 MA's), (39, 34651), (42, 34624), (43, 34618), (57, 34498), (61, 34444), (67, 34381), (71, 34339), (73, 34297), (78, 34246),

Gene: Youngblood_41 Start: 34902, Stop: 34555, Start Num: 37
Candidate Starts for Youngblood_41:
(19, 34965), (27, 34947), (Start: 33 @34926 has 58 MA's), (Start: 37 @34902 has 2 MA's), (Start: 38 @34893 has 4 MA's), (57, 34779), (61, 34725), (67, 34662), (71, 34620), (73, 34578),

Gene: Zeuska_61 Start: 42220, Stop: 41843, Start Num: 33
Candidate Starts for Zeuska_61:
(Start: 33 @42220 has 58 MA's), (Start: 36 @42199 has 1 MA's), (39, 42184), (41, 42160), (57, 42067), (73, 41866),