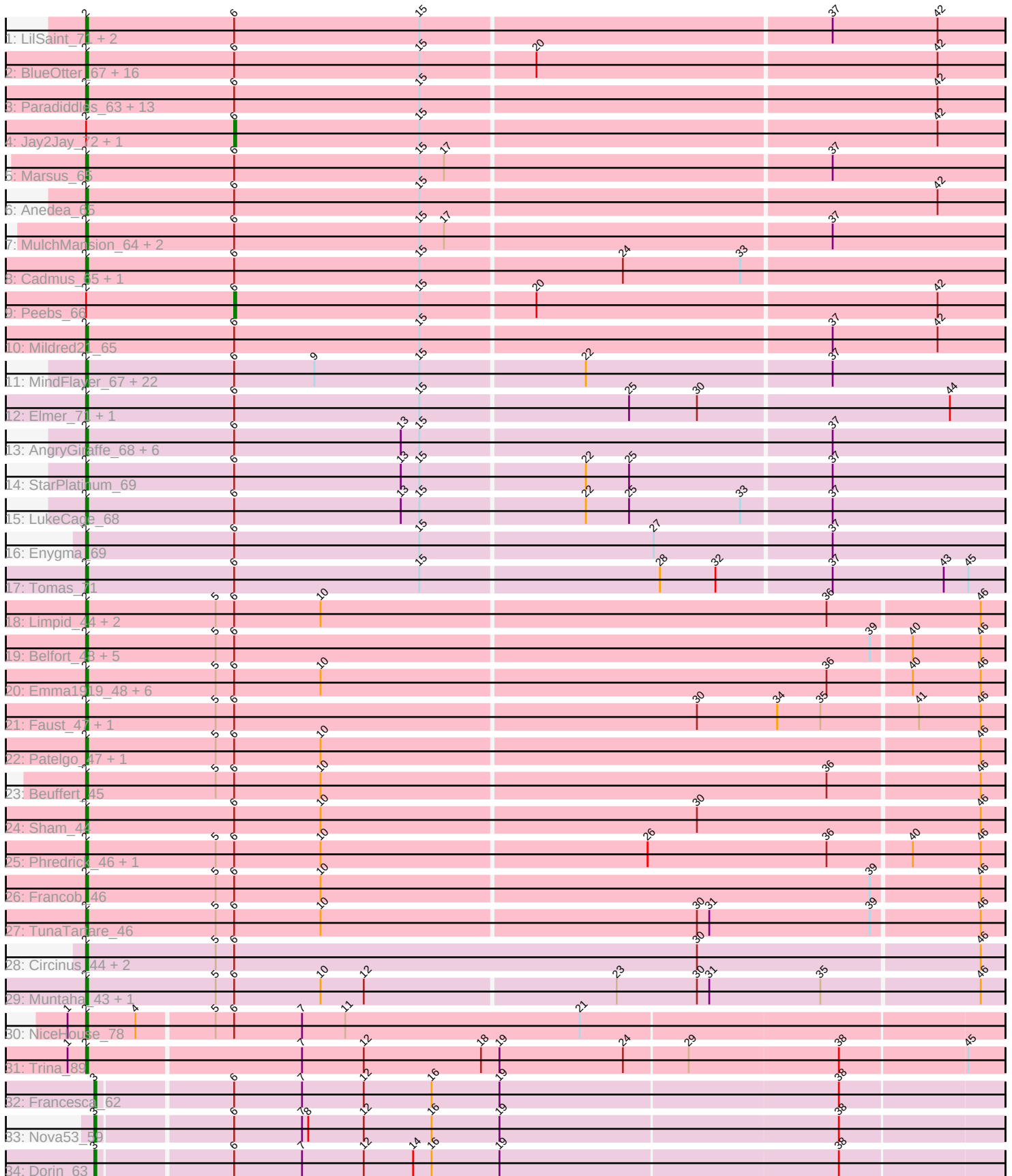




Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. If this default region is judged to be packed too tightly 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 280237 Report

This analysis was run 02/07/26 on database version 634.

Pham number 280237 has 117 members, 7 are drafts.

Phages represented in each track:

- Track 1 : LilSaint_71, Bmoc_65, Riptide_64
- Track 2 : BlueOtter_67, Cursive_65, Lululemon_66, Leo04_68, HangryHippo_67, Tribute_65, Watermoore_67, PacManQ_66, Cross_67, Coogler_67, Samisti12_67, Scheme_68, Pepperwood_67, Larnav_67, Sushi23_67, Deutsch_67, EGole_68
- Track 3 : Paradiddles_63, Evy_68, Targaryen_68, NootNoot_63, Braelyn_66, Persimmon_63, Navo_65, Bartholomune_65, Davielle_64, PinkiePie_65, Squillium_66, Shuckle_65, Liandry_66, WhereRU_64
- Track 4 : Jay2Jay_72, Warpy_71
- Track 5 : Marsus_65
- Track 6 : Anedea_65
- Track 7 : MulchMansion_64, LilMartin_64, Angela_64
- Track 8 : Cadmus_65, Daubenski_68
- Track 9 : Peebs_66
- Track 10 : Mildred21_65
- Track 11 : MindFlayer_67, Wipeout_67, Bordeaux_67, Battuta_67, Birchlyn_66, SaltySpitoon_69, Karimac_68, Gibbi_73, Spilled_70, TomSawyer_67, Spelly_69, IchabodCrane_66, JimJam_69, PumpkinSpice_68, KentuckyRacer_69, AcciDwight_73, Jollison_68, Brizzy_68, Starbow_67, CeilingFan_68, Quarant19_69, Rikishi_69, Amabiko_69
- Track 12 : Elmer_71, Wofford_68
- Track 13 : AngryGiraffe_68, Genie2_69, Stanimal_69, Sollertia_69, Yaboi_69, Mugiwara_68, BoomerJR_69
- Track 14 : StarPlatinum_69
- Track 15 : LukeCage_68
- Track 16 : Enygma_69
- Track 17 : Tomas_71
- Track 18 : Limpid_44, Blueeyedbeauty_46, Annadreamy_44
- Track 19 : Belfort_48, Stigma_47, Westy_47, Karp_46, Comrade_47, SparkleGoddess_47
- Track 20 : Emma1919_48, Gilson_48, DeluluLabubu_45, MeganTheeKilla_46, Forrest_48, Jada_46, Maupel_47
- Track 21 : Faust_47, SeresaTree_46
- Track 22 : Patelgo_47, Moab_47
- Track 23 : Beuffert_45
- Track 24 : Sham_44
- Track 25 : Phredrick_46, Kenrey_48
- Track 26 : Francob_46

- Track 27 : TunaTartare_46
- Track 28 : Circinus_44, Chaewon_46, BillNye_42
- Track 29 : Muntaha_43, Wakanda_43
- Track 30 : NiceHouse_78
- Track 31 : Trina_89
- Track 32 : Francesca_62
- Track 33 : Nova53_59
- Track 34 : Dorin_63

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

The start number called the most often in the published annotations is 2, it was called in 104 of the 110 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AcciDwight_73, Amabiko_69, Anedea_65, Angela_64, AngryGiraffe_68, Annadreamy_44, Bartholomune_65, Battuta_67, Belfort_48, Beuffert_45, BillNye_42, Birchlyn_66, BlueOtter_67, Blueeyedbeauty_46, Bmoc_65, BoomerJR_69, Bordeaux_67, Braelyn_66, Brizzy_68, Cadmus_65, CeilingFan_68, Chaewon_46, Circinus_44, Comrade_47, Coogler_67, Cross_67, Cursive_65, Daubenski_68, Davielle_64, DeluluLabubu_45, EGole_68, Elmer_71, Emma1919_48, Enygma_69, Evy_68, Faust_47, Forrest_48, Francob_46, Genie2_69, Gibbi_73, Gilson_48, HangryHippo_67, IchabodCrane_66, Jada_46, JimJam_69, Jollison_68, Karimac_68, Karp_46, Kenrey_48, KentuckyRacer_69, Larnav_67, Leo04_68, Liandry_66, LilMartin_64, LilSaint_71, Limpid_44, LukeCage_68, Lululemon_66, Marsus_65, Maupel_47, MeganTheeKilla_46, Mildred21_65, MindFlayer_67, Moab_47, Mugiwara_68, MulchMansion_64, Muntaha_43, Navo_65, NiceHouse_78, NootNoot_63, PacManQ_66, Paradiddles_63, Patelgo_47, Pepperwood_67, Persimmon_63, Phredrick_46, PinkiePie_65, PumpkinSpice_68, Quarant19_69, Rikishi_69, Riptide_64, SaltySpittoon_69, Samisti12_67, Scheme_68, SeresaTree_46, Sham_44, Shuckle_65, Sollertia_69, SparkleGoddess_47, Spelly_69, Spilled_70, Squillium_66, Stanimal_69, StarPlatinum_69, Starbow_67, Stigma_47, Sushi23_67, Targaryen_68, Deutsch_67, TomSawyer_67, Tomas_71, Tribute_65, Trina_89, TunaTartare_46, Wakanda_43, Watermoore_67, Westy_47, WhereRU_64, Wipeout_67, Wofford_68, Yaboi_69,

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

- Jay2Jay_72, Peebs_66, Warpy_71,

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

- Dorin_63, Francesca_62, Nova53_59,

Summary by start number:

Start 2:

- Found in 114 of 117 (97.4%) of genes in pham
- Manual Annotations of this start: 104 of 110
- Called 97.4% of time when present
- Phage (with cluster) where this start called: AcciDwight_73 (BE2), Amabiko_69 (BE2), Anedea_65 (BE1), Angela_64 (BE1), AngryGiraffe_68 (BE2), Annadreamy_44

(BK1), Bartholomune_65 (BE1), Battuta_67 (BE2), Belfort_48 (BK1), Beuffert_45 (BK1), BillNye_42 (BK2), Birchlyn_66 (BE2), BlueOtter_67 (BE1), Blueeyedbeauty_46 (BK1), Bmoe_65 (BE1), BoomerJR_69 (BE2), Bordeaux_67 (BE2), Braelyn_66 (BE1), Brizzy_68 (BE2), Cadmus_65 (BE1), CeilingFan_68 (BE2), Chaewon_46 (BK2), Circinus_44 (BK2), Comrade_47 (BK1), Coogler_67 (BE1), Cross_67 (BE1), Cursive_65 (BE1), Daubenski_68 (BE1), Davielle_64 (BE1), DeluluLabubu_45 (BK1), EGole_68 (BE1), Elmer_71 (BE2), Emma1919_48 (BK1), Enygma_69 (BE2), Evy_68 (BE1), Faust_47 (BK1), Forrest_48 (BK1), Francob_46 (BK1), Genie2_69 (BE2), Gibbi_73 (BE2), Gilson_48 (BK1), HangryHippo_67 (BE1), IchabodCrane_66 (BE2), Jada_46 (BK1), JimJam_69 (BE2), Jollison_68 (BE2), Karimac_68 (BE2), Karp_46 (BK1), Kenrey_48 (BK1), KentuckyRacer_69 (BE2), Larnav_67 (BE1), Leo04_68 (BE1), Liandry_66 (BE1), LilMartin_64 (BE1), LilSaint_71 (BE1), Limpid_44 (BK1), LukeCage_68 (BE2), Lululemon_66 (BE1), Marsus_65 (BE1), Maupel_47 (BK1), MeganTheeKilla_46 (BK1), Mildred21_65 (BE1), MindFlayer_67 (BE2), Moab_47 (BK1), Mugiwara_68 (BE2), MulchMansion_64 (BE1), Muntaha_43 (BK2), Navo_65 (BE1), NiceHouse_78 (CE), NootNoot_63 (BE1), PacManQ_66 (BE1), Paradiddles_63 (BE1), Patelgo_47 (BK1), Pepperwood_67 (BE1), Persimmon_63 (BE1), Phredrick_46 (BK1), PinkiePie_65 (BE1), PumpkinSpice_68 (BE2), Quarant19_69 (BE2), Rikishi_69 (BE2), Riptide_64 (BE1), SaltySpittoon_69 (BE2), Samisti12_67 (BE1), Scheme_68 (BE1), Seresatree_46 (BK1), Sham_44 (BK1), Shuckle_65 (BE1), Sollertia_69 (BE2), SparkleGoddess_47 (BK1), Spelly_69 (BE2), Spilled_70 (BE2), Squillum_66 (BE1), Stanimal_69 (BE2), StarPlatinum_69 (BE2), Starbow_67 (BE2), Stigma_47 (BK1), Sushi23_67 (BE1), Targaryen_68 (BE1), Teutsch_67 (BE1), TomSawyer_67 (BE2), Tomas_71 (BE2), Tribute_65 (BE1), Trina_89 (CE), TunaTartare_46 (BK1), Wakanda_43 (BK2), Watermoore_67 (BE1), Westy_47 (BK1), WhereRU_64 (BE1), Wipeout_67 (BE2), Wofford_68 (BE2), Yaboi_69 (BE2),

Start 3:

- Found in 3 of 117 (2.6%) of genes in pham
- Manual Annotations of this start: 3 of 110
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Dorin_63 (CG), Francesca_62 (CG), Nova53_59 (CG),

Start 6:

- Found in 116 of 117 (99.1%) of genes in pham
- Manual Annotations of this start: 3 of 110
- Called 2.6% of time when present
- Phage (with cluster) where this start called: Jay2Jay_72 (BE1), Peebs_66 (BE1), Warpy_71 (BE1),

Summary by clusters:

There are 6 clusters represented in this pham: CG, CE, BK1, BK2, BE2, BE1,

Info for manual annotations of cluster BE1:

- Start number 2 was manually annotated 41 times for cluster BE1.
- Start number 6 was manually annotated 3 times for cluster BE1.

Info for manual annotations of cluster BE2:

- Start number 2 was manually annotated 34 times for cluster BE2.

Info for manual annotations of cluster BK1:

- Start number 2 was manually annotated 23 times for cluster BK1.

Info for manual annotations of cluster BK2:

- Start number 2 was manually annotated 4 times for cluster BK2.

Info for manual annotations of cluster CE:

- Start number 2 was manually annotated 2 times for cluster CE.

Info for manual annotations of cluster CG:

- Start number 3 was manually annotated 3 times for cluster CG.

Gene Information:

Gene: AcciDwight_73 Start: 51507, Stop: 51947, Start Num: 2

Candidate Starts for AcciDwight_73:

(Start: 2 @51507 has 104 MA's), (Start: 6 @51579 has 3 MA's), (9, 51618), (15, 51669), (22, 51747), (37, 51864),

Gene: Amabiko_69 Start: 51552, Stop: 51992, Start Num: 2

Candidate Starts for Amabiko_69:

(Start: 2 @51552 has 104 MA's), (Start: 6 @51624 has 3 MA's), (9, 51663), (15, 51714), (22, 51792), (37, 51909),

Gene: Anedea_65 Start: 51126, Stop: 51566, Start Num: 2

Candidate Starts for Anedea_65:

(Start: 2 @51126 has 104 MA's), (Start: 6 @51198 has 3 MA's), (15, 51288), (42, 51534),

Gene: Angela_64 Start: 50587, Stop: 51027, Start Num: 2

Candidate Starts for Angela_64:

(Start: 2 @50587 has 104 MA's), (Start: 6 @50659 has 3 MA's), (15, 50749), (17, 50761), (37, 50944),

Gene: AngryGiraffe_68 Start: 51517, Stop: 51957, Start Num: 2

Candidate Starts for AngryGiraffe_68:

(Start: 2 @51517 has 104 MA's), (Start: 6 @51589 has 3 MA's), (13, 51670), (15, 51679), (37, 51874),

Gene: Annadreamy_44 Start: 40388, Stop: 40828, Start Num: 2

Candidate Starts for Annadreamy_44:

(Start: 2 @40388 has 104 MA's), (5, 40451), (Start: 6 @40460 has 3 MA's), (10, 40502), (36, 40745), (46, 40817),

Gene: Bartholomune_65 Start: 50852, Stop: 51292, Start Num: 2

Candidate Starts for Bartholomune_65:

(Start: 2 @50852 has 104 MA's), (Start: 6 @50924 has 3 MA's), (15, 51014), (42, 51260),

Gene: Battuta_67 Start: 51526, Stop: 51966, Start Num: 2

Candidate Starts for Battuta_67:

(Start: 2 @51526 has 104 MA's), (Start: 6 @51598 has 3 MA's), (9, 51637), (15, 51688), (22, 51766), (37, 51883),

Gene: Belfort_48 Start: 42904, Stop: 43344, Start Num: 2

Candidate Starts for Belfort_48:

(Start: 2 @42904 has 104 MA's), (5, 42967), (Start: 6 @42976 has 3 MA's), (39, 43282), (40, 43300), (46, 43333),

Gene: Beuffert_45 Start: 41529, Stop: 41969, Start Num: 2

Candidate Starts for Beuffert_45:

(Start: 2 @41529 has 104 MA's), (5, 41592), (Start: 6 @41601 has 3 MA's), (10, 41643), (36, 41886), (46, 41958),

Gene: BillNye_42 Start: 43787, Stop: 44230, Start Num: 2

Candidate Starts for BillNye_42:

(Start: 2 @43787 has 104 MA's), (5, 43850), (Start: 6 @43859 has 3 MA's), (30, 44084), (46, 44219),

Gene: Birchlyn_66 Start: 49409, Stop: 49849, Start Num: 2

Candidate Starts for Birchlyn_66:

(Start: 2 @49409 has 104 MA's), (Start: 6 @49481 has 3 MA's), (9, 49520), (15, 49571), (22, 49649), (37, 49766),

Gene: BlueOtter_67 Start: 52232, Stop: 52672, Start Num: 2

Candidate Starts for BlueOtter_67:

(Start: 2 @52232 has 104 MA's), (Start: 6 @52304 has 3 MA's), (15, 52394), (20, 52448), (42, 52640),

Gene: Blueeyedbeauty_46 Start: 40900, Stop: 41340, Start Num: 2

Candidate Starts for Blueeyedbeauty_46:

(Start: 2 @40900 has 104 MA's), (5, 40963), (Start: 6 @40972 has 3 MA's), (10, 41014), (36, 41257), (46, 41329),

Gene: Bmoc_65 Start: 50930, Stop: 51370, Start Num: 2

Candidate Starts for Bmoc_65:

(Start: 2 @50930 has 104 MA's), (Start: 6 @51002 has 3 MA's), (15, 51092), (37, 51287), (42, 51338),

Gene: BoomerJR_69 Start: 51406, Stop: 51846, Start Num: 2

Candidate Starts for BoomerJR_69:

(Start: 2 @51406 has 104 MA's), (Start: 6 @51478 has 3 MA's), (13, 51559), (15, 51568), (37, 51763),

Gene: Bordeaux_67 Start: 51681, Stop: 52121, Start Num: 2

Candidate Starts for Bordeaux_67:

(Start: 2 @51681 has 104 MA's), (Start: 6 @51753 has 3 MA's), (9, 51792), (15, 51843), (22, 51921), (37, 52038),

Gene: Braelyn_66 Start: 51619, Stop: 52059, Start Num: 2

Candidate Starts for Braelyn_66:

(Start: 2 @51619 has 104 MA's), (Start: 6 @51691 has 3 MA's), (15, 51781), (42, 52027),

Gene: Brizzy_68 Start: 51200, Stop: 51640, Start Num: 2

Candidate Starts for Brizzy_68:

(Start: 2 @51200 has 104 MA's), (Start: 6 @51272 has 3 MA's), (9, 51311), (15, 51362), (22, 51440), (37, 51557),

Gene: Cadmus_65 Start: 51235, Stop: 51675, Start Num: 2

Candidate Starts for Cadmus_65:

(Start: 2 @51235 has 104 MA's), (Start: 6 @51307 has 3 MA's), (15, 51397), (24, 51493), (33, 51550),

Gene: CeilingFan_68 Start: 51441, Stop: 51881, Start Num: 2

Candidate Starts for CeilingFan_68:

(Start: 2 @51441 has 104 MA's), (Start: 6 @51513 has 3 MA's), (9, 51552), (15, 51603), (22, 51681), (37, 51798),

Gene: Chaewon_46 Start: 43924, Stop: 44367, Start Num: 2

Candidate Starts for Chaewon_46:

(Start: 2 @43924 has 104 MA's), (5, 43987), (Start: 6 @43996 has 3 MA's), (30, 44221), (46, 44356),

Gene: Circinus_44 Start: 43926, Stop: 44369, Start Num: 2

Candidate Starts for Circinus_44:

(Start: 2 @43926 has 104 MA's), (5, 43989), (Start: 6 @43998 has 3 MA's), (30, 44223), (46, 44358),

Gene: Comrade_47 Start: 42519, Stop: 42959, Start Num: 2

Candidate Starts for Comrade_47:

(Start: 2 @42519 has 104 MA's), (5, 42582), (Start: 6 @42591 has 3 MA's), (39, 42897), (40, 42915), (46, 42948),

Gene: Coogler_67 Start: 52258, Stop: 52698, Start Num: 2

Candidate Starts for Coogler_67:

(Start: 2 @52258 has 104 MA's), (Start: 6 @52330 has 3 MA's), (15, 52420), (20, 52474), (42, 52666),

Gene: Cross_67 Start: 52233, Stop: 52673, Start Num: 2

Candidate Starts for Cross_67:

(Start: 2 @52233 has 104 MA's), (Start: 6 @52305 has 3 MA's), (15, 52395), (20, 52449), (42, 52641),

Gene: Cursive_65 Start: 51758, Stop: 52198, Start Num: 2

Candidate Starts for Cursive_65:

(Start: 2 @51758 has 104 MA's), (Start: 6 @51830 has 3 MA's), (15, 51920), (20, 51974), (42, 52166),

Gene: Daubenski_68 Start: 51999, Stop: 52439, Start Num: 2

Candidate Starts for Daubenski_68:

(Start: 2 @51999 has 104 MA's), (Start: 6 @52071 has 3 MA's), (15, 52161), (24, 52257), (33, 52314),

Gene: Davielle_64 Start: 51039, Stop: 51479, Start Num: 2

Candidate Starts for Davielle_64:

(Start: 2 @51039 has 104 MA's), (Start: 6 @51111 has 3 MA's), (15, 51201), (42, 51447),

Gene: DeluluLabubu_45 Start: 40626, Stop: 41066, Start Num: 2

Candidate Starts for DeluluLabubu_45:

(Start: 2 @40626 has 104 MA's), (5, 40689), (Start: 6 @40698 has 3 MA's), (10, 40740), (36, 40983), (40, 41022), (46, 41055),

Gene: Dorin_63 Start: 52650, Stop: 53081, Start Num: 3

Candidate Starts for Dorin_63:

(Start: 3 @52650 has 3 MA's), (Start: 6 @52713 has 3 MA's), (7, 52746), (12, 52776), (14, 52800), (16, 52809), (19, 52842), (38, 53004),

Gene: EGole_68 Start: 53179, Stop: 53619, Start Num: 2

Candidate Starts for EGole_68:

(Start: 2 @53179 has 104 MA's), (Start: 6 @53251 has 3 MA's), (15, 53341), (20, 53395), (42, 53587),

Gene: Elmer_71 Start: 52619, Stop: 53059, Start Num: 2

Candidate Starts for Elmer_71:

(Start: 2 @52619 has 104 MA's), (Start: 6 @52691 has 3 MA's), (15, 52781), (25, 52880), (30, 52913), (44, 53033),

Gene: Emma1919_48 Start: 41309, Stop: 41749, Start Num: 2

Candidate Starts for Emma1919_48:

(Start: 2 @41309 has 104 MA's), (5, 41372), (Start: 6 @41381 has 3 MA's), (10, 41423), (36, 41666), (40, 41705), (46, 41738),

Gene: Enygma_69 Start: 53344, Stop: 53784, Start Num: 2

Candidate Starts for Enygma_69:

(Start: 2 @53344 has 104 MA's), (Start: 6 @53416 has 3 MA's), (15, 53506), (27, 53617), (37, 53701),

Gene: Evy_68 Start: 52222, Stop: 52662, Start Num: 2

Candidate Starts for Evy_68:

(Start: 2 @52222 has 104 MA's), (Start: 6 @52294 has 3 MA's), (15, 52384), (42, 52630),

Gene: Faust_47 Start: 41832, Stop: 42272, Start Num: 2

Candidate Starts for Faust_47:

(Start: 2 @41832 has 104 MA's), (5, 41895), (Start: 6 @41904 has 3 MA's), (30, 42126), (34, 42165), (35, 42186), (41, 42231), (46, 42261),

Gene: Forrest_48 Start: 41444, Stop: 41884, Start Num: 2

Candidate Starts for Forrest_48:

(Start: 2 @41444 has 104 MA's), (5, 41507), (Start: 6 @41516 has 3 MA's), (10, 41558), (36, 41801), (40, 41840), (46, 41873),

Gene: Francesca_62 Start: 52832, Stop: 53263, Start Num: 3

Candidate Starts for Francesca_62:

(Start: 3 @52832 has 3 MA's), (Start: 6 @52895 has 3 MA's), (7, 52928), (12, 52958), (16, 52991), (19, 53024), (38, 53186),

Gene: Francob_46 Start: 41379, Stop: 41819, Start Num: 2

Candidate Starts for Francob_46:

(Start: 2 @41379 has 104 MA's), (5, 41442), (Start: 6 @41451 has 3 MA's), (10, 41493), (39, 41757), (46, 41808),

Gene: Genie2_69 Start: 51520, Stop: 51960, Start Num: 2

Candidate Starts for Genie2_69:

(Start: 2 @51520 has 104 MA's), (Start: 6 @51592 has 3 MA's), (13, 51673), (15, 51682), (37, 51877),

Gene: Gibbi_73 Start: 51664, Stop: 52104, Start Num: 2

Candidate Starts for Gibbi_73:

(Start: 2 @51664 has 104 MA's), (Start: 6 @51736 has 3 MA's), (9, 51775), (15, 51826), (22, 51904), (37, 52021),

Gene: Gilson_48 Start: 41262, Stop: 41702, Start Num: 2

Candidate Starts for Gilson_48:

(Start: 2 @41262 has 104 MA's), (5, 41325), (Start: 6 @41334 has 3 MA's), (10, 41376), (36, 41619), (40, 41658), (46, 41691),

Gene: HangryHippo_67 Start: 52232, Stop: 52672, Start Num: 2

Candidate Starts for HangryHippo_67:

(Start: 2 @52232 has 104 MA's), (Start: 6 @52304 has 3 MA's), (15, 52394), (20, 52448), (42, 52640),

Gene: IchabodCrane_66 Start: 51253, Stop: 51693, Start Num: 2

Candidate Starts for IchabodCrane_66:

(Start: 2 @51253 has 104 MA's), (Start: 6 @51325 has 3 MA's), (9, 51364), (15, 51415), (22, 51493), (37, 51610),

Gene: Jada_46 Start: 40626, Stop: 41066, Start Num: 2

Candidate Starts for Jada_46:

(Start: 2 @40626 has 104 MA's), (5, 40689), (Start: 6 @40698 has 3 MA's), (10, 40740), (36, 40983), (40, 41022), (46, 41055),

Gene: Jay2Jay_72 Start: 53147, Stop: 53515, Start Num: 6

Candidate Starts for Jay2Jay_72:

(Start: 2 @53075 has 104 MA's), (Start: 6 @53147 has 3 MA's), (15, 53237), (42, 53483),

Gene: JimJam_69 Start: 51627, Stop: 52067, Start Num: 2

Candidate Starts for JimJam_69:

(Start: 2 @51627 has 104 MA's), (Start: 6 @51699 has 3 MA's), (9, 51738), (15, 51789), (22, 51867), (37, 51984),

Gene: Jollison_68 Start: 51509, Stop: 51949, Start Num: 2

Candidate Starts for Jollison_68:

(Start: 2 @51509 has 104 MA's), (Start: 6 @51581 has 3 MA's), (9, 51620), (15, 51671), (22, 51749), (37, 51866),

Gene: Karimac_68 Start: 51658, Stop: 52098, Start Num: 2

Candidate Starts for Karimac_68:

(Start: 2 @51658 has 104 MA's), (Start: 6 @51730 has 3 MA's), (9, 51769), (15, 51820), (22, 51898), (37, 52015),

Gene: Karp_46 Start: 42119, Stop: 42559, Start Num: 2

Candidate Starts for Karp_46:

(Start: 2 @42119 has 104 MA's), (5, 42182), (Start: 6 @42191 has 3 MA's), (39, 42497), (40, 42515), (46, 42548),

Gene: Kenrey_48 Start: 41454, Stop: 41894, Start Num: 2

Candidate Starts for Kenrey_48:

(Start: 2 @41454 has 104 MA's), (5, 41517), (Start: 6 @41526 has 3 MA's), (10, 41568), (26, 41724), (36, 41811), (40, 41850), (46, 41883),

Gene: KentuckyRacer_69 Start: 51442, Stop: 51882, Start Num: 2

Candidate Starts for KentuckyRacer_69:

(Start: 2 @51442 has 104 MA's), (Start: 6 @51514 has 3 MA's), (9, 51553), (15, 51604), (22, 51682), (37, 51799),

Gene: Larnav_67 Start: 52217, Stop: 52657, Start Num: 2

Candidate Starts for Larnav_67:

(Start: 2 @52217 has 104 MA's), (Start: 6 @52289 has 3 MA's), (15, 52379), (20, 52433), (42, 52625),

Gene: Leo04_68 Start: 52732, Stop: 53172, Start Num: 2

Candidate Starts for Leo04_68:

(Start: 2 @52732 has 104 MA's), (Start: 6 @52804 has 3 MA's), (15, 52894), (20, 52948), (42, 53140),

Gene: Liandry_66 Start: 51601, Stop: 52041, Start Num: 2

Candidate Starts for Liandry_66:

(Start: 2 @51601 has 104 MA's), (Start: 6 @51673 has 3 MA's), (15, 51763), (42, 52009),

Gene: LilMartin_64 Start: 50535, Stop: 50975, Start Num: 2

Candidate Starts for LilMartin_64:

(Start: 2 @50535 has 104 MA's), (Start: 6 @50607 has 3 MA's), (15, 50697), (17, 50709), (37, 50892),

Gene: LilSaint_71 Start: 50798, Stop: 51238, Start Num: 2

Candidate Starts for LilSaint_71:

(Start: 2 @50798 has 104 MA's), (Start: 6 @50870 has 3 MA's), (15, 50960), (37, 51155), (42, 51206),

Gene: Limpid_44 Start: 40387, Stop: 40827, Start Num: 2

Candidate Starts for Limpid_44:

(Start: 2 @40387 has 104 MA's), (5, 40450), (Start: 6 @40459 has 3 MA's), (10, 40501), (36, 40744), (46, 40816),

Gene: LukeCage_68 Start: 51412, Stop: 51852, Start Num: 2

Candidate Starts for LukeCage_68:

(Start: 2 @51412 has 104 MA's), (Start: 6 @51484 has 3 MA's), (13, 51565), (15, 51574), (22, 51652), (25, 51673), (33, 51727), (37, 51769),

Gene: Lululemon_66 Start: 51613, Stop: 52053, Start Num: 2

Candidate Starts for Lululemon_66:

(Start: 2 @51613 has 104 MA's), (Start: 6 @51685 has 3 MA's), (15, 51775), (20, 51829), (42, 52021),

Gene: Marsus_65 Start: 50807, Stop: 51247, Start Num: 2

Candidate Starts for Marsus_65:

(Start: 2 @50807 has 104 MA's), (Start: 6 @50879 has 3 MA's), (15, 50969), (17, 50981), (37, 51164),

Gene: Maupel_47 Start: 41262, Stop: 41702, Start Num: 2

Candidate Starts for Maupel_47:

(Start: 2 @41262 has 104 MA's), (5, 41325), (Start: 6 @41334 has 3 MA's), (10, 41376), (36, 41619), (40, 41658), (46, 41691),

Gene: MeganTheeKilla_46 Start: 40623, Stop: 41063, Start Num: 2

Candidate Starts for MeganTheeKilla_46:

(Start: 2 @40623 has 104 MA's), (5, 40686), (Start: 6 @40695 has 3 MA's), (10, 40737), (36, 40980), (40, 41019), (46, 41052),

Gene: Mildred21_65 Start: 50731, Stop: 51171, Start Num: 2

Candidate Starts for Mildred21_65:

(Start: 2 @50731 has 104 MA's), (Start: 6 @50803 has 3 MA's), (15, 50893), (37, 51088), (42, 51139),

Gene: MindPlayer_67 Start: 51160, Stop: 51600, Start Num: 2

Candidate Starts for MindPlayer_67:

(Start: 2 @51160 has 104 MA's), (Start: 6 @51232 has 3 MA's), (9, 51271), (15, 51322), (22, 51400), (37, 51517),

Gene: Moab_47 Start: 42493, Stop: 42933, Start Num: 2

Candidate Starts for Moab_47:

(Start: 2 @42493 has 104 MA's), (5, 42556), (Start: 6 @42565 has 3 MA's), (10, 42607), (46, 42922),

Gene: Mugiwara_68 Start: 51911, Stop: 52351, Start Num: 2

Candidate Starts for Mugiwara_68:

(Start: 2 @51911 has 104 MA's), (Start: 6 @51983 has 3 MA's), (13, 52064), (15, 52073), (37, 52268),

Gene: MulchMansion_64 Start: 50535, Stop: 50975, Start Num: 2

Candidate Starts for MulchMansion_64:

(Start: 2 @50535 has 104 MA's), (Start: 6 @50607 has 3 MA's), (15, 50697), (17, 50709), (37, 50892),

Gene: Muntaha_43 Start: 42199, Stop: 42639, Start Num: 2

Candidate Starts for Muntaha_43:

(Start: 2 @42199 has 104 MA's), (5, 42262), (Start: 6 @42271 has 3 MA's), (10, 42313), (12, 42334), (23, 42454), (30, 42493), (31, 42499), (35, 42553), (46, 42628),

Gene: Navo_65 Start: 51523, Stop: 51963, Start Num: 2

Candidate Starts for Navo_65:

(Start: 2 @51523 has 104 MA's), (Start: 6 @51595 has 3 MA's), (15, 51685), (42, 51931),

Gene: NiceHouse_78 Start: 57626, Stop: 58063, Start Num: 2

Candidate Starts for NiceHouse_78:

(1, 57617), (Start: 2 @57626 has 104 MA's), (4, 57650), (5, 57686), (Start: 6 @57695 has 3 MA's), (7, 57728), (11, 57749), (21, 57863),

Gene: NootNoot_63 Start: 50515, Stop: 50955, Start Num: 2

Candidate Starts for NootNoot_63:

(Start: 2 @50515 has 104 MA's), (Start: 6 @50587 has 3 MA's), (15, 50677), (42, 50923),

Gene: Nova53_59 Start: 52231, Stop: 52662, Start Num: 3

Candidate Starts for Nova53_59:

(Start: 3 @52231 has 3 MA's), (Start: 6 @52294 has 3 MA's), (7, 52327), (8, 52330), (12, 52357), (16, 52390), (19, 52423), (38, 52585),

Gene: PacManQ_66 Start: 51613, Stop: 52053, Start Num: 2

Candidate Starts for PacManQ_66:

(Start: 2 @51613 has 104 MA's), (Start: 6 @51685 has 3 MA's), (15, 51775), (20, 51829), (42, 52021),

Gene: Paradiddles_63 Start: 50779, Stop: 51219, Start Num: 2

Candidate Starts for Paradiddles_63:

(Start: 2 @50779 has 104 MA's), (Start: 6 @50851 has 3 MA's), (15, 50941), (42, 51187),

Gene: Patelgo_47 Start: 42680, Stop: 43120, Start Num: 2

Candidate Starts for Patelgo_47:

(Start: 2 @42680 has 104 MA's), (5, 42743), (Start: 6 @42752 has 3 MA's), (10, 42794), (46, 43109),

Gene: Peebs_66 Start: 52039, Stop: 52407, Start Num: 6

Candidate Starts for Peebs_66:

(Start: 2 @51967 has 104 MA's), (Start: 6 @52039 has 3 MA's), (15, 52129), (20, 52183), (42, 52375),

Gene: Pepperwood_67 Start: 52100, Stop: 52540, Start Num: 2

Candidate Starts for Pepperwood_67:

(Start: 2 @52100 has 104 MA's), (Start: 6 @52172 has 3 MA's), (15, 52262), (20, 52316), (42, 52508),

Gene: Persimmon_63 Start: 50448, Stop: 50888, Start Num: 2

Candidate Starts for Persimmon_63:

(Start: 2 @50448 has 104 MA's), (Start: 6 @50520 has 3 MA's), (15, 50610), (42, 50856),

Gene: Phredrick_46 Start: 40525, Stop: 40965, Start Num: 2

Candidate Starts for Phredrick_46:

(Start: 2 @40525 has 104 MA's), (5, 40588), (Start: 6 @40597 has 3 MA's), (10, 40639), (26, 40795), (36, 40882), (40, 40921), (46, 40954),

Gene: PinkiePie_65 Start: 51601, Stop: 52041, Start Num: 2

Candidate Starts for PinkiePie_65:

(Start: 2 @51601 has 104 MA's), (Start: 6 @51673 has 3 MA's), (15, 51763), (42, 52009),

Gene: PumpkinSpice_68 Start: 51552, Stop: 51992, Start Num: 2

Candidate Starts for PumpkinSpice_68:

(Start: 2 @51552 has 104 MA's), (Start: 6 @51624 has 3 MA's), (9, 51663), (15, 51714), (22, 51792), (37, 51909),

Gene: Quarant19_69 Start: 51543, Stop: 51983, Start Num: 2

Candidate Starts for Quarant19_69:

(Start: 2 @51543 has 104 MA's), (Start: 6 @51615 has 3 MA's), (9, 51654), (15, 51705), (22, 51783), (37, 51900),

Gene: Rikishi_69 Start: 51458, Stop: 51898, Start Num: 2

Candidate Starts for Rikishi_69:

(Start: 2 @51458 has 104 MA's), (Start: 6 @51530 has 3 MA's), (9, 51569), (15, 51620), (22, 51698), (37, 51815),

Gene: Riptide_64 Start: 50348, Stop: 50788, Start Num: 2

Candidate Starts for Riptide_64:

(Start: 2 @50348 has 104 MA's), (Start: 6 @50420 has 3 MA's), (15, 50510), (37, 50705), (42, 50756),

Gene: SaltySpittoon_69 Start: 51552, Stop: 51992, Start Num: 2

Candidate Starts for SaltySpittoon_69:

(Start: 2 @51552 has 104 MA's), (Start: 6 @51624 has 3 MA's), (9, 51663), (15, 51714), (22, 51792), (37, 51909),

Gene: Samisti12_67 Start: 53407, Stop: 53847, Start Num: 2

Candidate Starts for Samisti12_67:

(Start: 2 @53407 has 104 MA's), (Start: 6 @53479 has 3 MA's), (15, 53569), (20, 53623), (42, 53815),

Gene: Scheme_68 Start: 52814, Stop: 53254, Start Num: 2

Candidate Starts for Scheme_68:

(Start: 2 @52814 has 104 MA's), (Start: 6 @52886 has 3 MA's), (15, 52976), (20, 53030), (42, 53222),

Gene: SeresaTree_46 Start: 41222, Stop: 41662, Start Num: 2

Candidate Starts for SeresaTree_46:

(Start: 2 @41222 has 104 MA's), (5, 41285), (Start: 6 @41294 has 3 MA's), (30, 41516), (34, 41555), (35, 41576), (41, 41621), (46, 41651),

Gene: Sham_44 Start: 42386, Stop: 42826, Start Num: 2

Candidate Starts for Sham_44:

(Start: 2 @42386 has 104 MA's), (Start: 6 @42458 has 3 MA's), (10, 42500), (30, 42680), (46, 42815),

Gene: Shuckle_65 Start: 52421, Stop: 52861, Start Num: 2

Candidate Starts for Shuckle_65:

(Start: 2 @52421 has 104 MA's), (Start: 6 @52493 has 3 MA's), (15, 52583), (42, 52829),

Gene: Sollertia_69 Start: 51520, Stop: 51960, Start Num: 2

Candidate Starts for Sollertia_69:

(Start: 2 @51520 has 104 MA's), (Start: 6 @51592 has 3 MA's), (13, 51673), (15, 51682), (37, 51877),

Gene: SparkleGoddess_47 Start: 42521, Stop: 42961, Start Num: 2

Candidate Starts for SparkleGoddess_47:

(Start: 2 @42521 has 104 MA's), (5, 42584), (Start: 6 @42593 has 3 MA's), (39, 42899), (40, 42917), (46, 42950),

Gene: Spelly_69 Start: 51507, Stop: 51947, Start Num: 2

Candidate Starts for Spelly_69:

(Start: 2 @51507 has 104 MA's), (Start: 6 @51579 has 3 MA's), (9, 51618), (15, 51669), (22, 51747), (37, 51864),

Gene: Spilled_70 Start: 51624, Stop: 52064, Start Num: 2

Candidate Starts for Spilled_70:

(Start: 2 @51624 has 104 MA's), (Start: 6 @51696 has 3 MA's), (9, 51735), (15, 51786), (22, 51864), (37, 51981),

Gene: Squillium_66 Start: 51602, Stop: 52042, Start Num: 2

Candidate Starts for Squillium_66:

(Start: 2 @51602 has 104 MA's), (Start: 6 @51674 has 3 MA's), (15, 51764), (42, 52010),

Gene: Stanimal_69 Start: 51409, Stop: 51849, Start Num: 2

Candidate Starts for Stanimal_69:

(Start: 2 @51409 has 104 MA's), (Start: 6 @51481 has 3 MA's), (13, 51562), (15, 51571), (37, 51766),

Gene: StarPlatinum_69 Start: 52052, Stop: 52492, Start Num: 2

Candidate Starts for StarPlatinum_69:

(Start: 2 @52052 has 104 MA's), (Start: 6 @52124 has 3 MA's), (13, 52205), (15, 52214), (22, 52292), (25, 52313), (37, 52409),

Gene: Starbow_67 Start: 51528, Stop: 51968, Start Num: 2

Candidate Starts for Starbow_67:

(Start: 2 @51528 has 104 MA's), (Start: 6 @51600 has 3 MA's), (9, 51639), (15, 51690), (22, 51768), (37, 51885),

Gene: Stigma_47 Start: 42534, Stop: 42974, Start Num: 2

Candidate Starts for Stigma_47:

(Start: 2 @42534 has 104 MA's), (5, 42597), (Start: 6 @42606 has 3 MA's), (39, 42912), (40, 42930), (46, 42963),

Gene: Sushi23_67 Start: 52325, Stop: 52765, Start Num: 2

Candidate Starts for Sushi23_67:

(Start: 2 @52325 has 104 MA's), (Start: 6 @52397 has 3 MA's), (15, 52487), (20, 52541), (42, 52733),

Gene: Targaryen_68 Start: 53124, Stop: 53564, Start Num: 2

Candidate Starts for Targaryen_68:

(Start: 2 @53124 has 104 MA's), (Start: 6 @53196 has 3 MA's), (15, 53286), (42, 53532),

Gene: Deutsch_67 Start: 52588, Stop: 53028, Start Num: 2

Candidate Starts for Deutsch_67:

(Start: 2 @52588 has 104 MA's), (Start: 6 @52660 has 3 MA's), (15, 52750), (20, 52804), (42, 52996),

Gene: TomSawyer_67 Start: 51146, Stop: 51586, Start Num: 2

Candidate Starts for TomSawyer_67:

(Start: 2 @51146 has 104 MA's), (Start: 6 @51218 has 3 MA's), (9, 51257), (15, 51308), (22, 51386), (37, 51503),

Gene: Tomas_71 Start: 53866, Stop: 54306, Start Num: 2

Candidate Starts for Tomas_71:

(Start: 2 @53866 has 104 MA's), (Start: 6 @53938 has 3 MA's), (15, 54028), (28, 54142), (32, 54169), (37, 54223), (43, 54277), (45, 54289),

Gene: Tribute_65 Start: 51794, Stop: 52234, Start Num: 2

Candidate Starts for Tribute_65:

(Start: 2 @51794 has 104 MA's), (Start: 6 @51866 has 3 MA's), (15, 51956), (20, 52010), (42, 52202),

Gene: Trina_89 Start: 60780, Stop: 61217, Start Num: 2

Candidate Starts for Trina_89:

(1, 60771), (Start: 2 @60780 has 104 MA's), (7, 60882), (12, 60912), (18, 60969), (19, 60978), (24, 61038), (29, 61068), (38, 61140), (45, 61200),

Gene: TunaTartare_46 Start: 42684, Stop: 43124, Start Num: 2

Candidate Starts for TunaTartare_46:

(Start: 2 @42684 has 104 MA's), (5, 42747), (Start: 6 @42756 has 3 MA's), (10, 42798), (30, 42978), (31, 42984), (39, 43062), (46, 43113),

Gene: Wakanda_43 Start: 42137, Stop: 42577, Start Num: 2

Candidate Starts for Wakanda_43:

(Start: 2 @42137 has 104 MA's), (5, 42200), (Start: 6 @42209 has 3 MA's), (10, 42251), (12, 42272), (23, 42392), (30, 42431), (31, 42437), (35, 42491), (46, 42566),

Gene: Warpy_71 Start: 52660, Stop: 53028, Start Num: 6

Candidate Starts for Warpy_71:

(Start: 2 @52588 has 104 MA's), (Start: 6 @52660 has 3 MA's), (15, 52750), (42, 52996),

Gene: Watermoore_67 Start: 52804, Stop: 53244, Start Num: 2

Candidate Starts for Watermoore_67:

(Start: 2 @52804 has 104 MA's), (Start: 6 @52876 has 3 MA's), (15, 52966), (20, 53020), (42, 53212),

Gene: Westy_47 Start: 42522, Stop: 42962, Start Num: 2

Candidate Starts for Westy_47:

(Start: 2 @42522 has 104 MA's), (5, 42585), (Start: 6 @42594 has 3 MA's), (39, 42900), (40, 42918), (46, 42951),

Gene: WhereRU_64 Start: 51039, Stop: 51479, Start Num: 2

Candidate Starts for WhereRU_64:

(Start: 2 @51039 has 104 MA's), (Start: 6 @51111 has 3 MA's), (15, 51201), (42, 51447),

Gene: Wipeout_67 Start: 51897, Stop: 52337, Start Num: 2

Candidate Starts for Wipeout_67:

(Start: 2 @51897 has 104 MA's), (Start: 6 @51969 has 3 MA's), (9, 52008), (15, 52059), (22, 52137), (37, 52254),

Gene: Wofford_68 Start: 52582, Stop: 53022, Start Num: 2

Candidate Starts for Wofford_68:

(Start: 2 @52582 has 104 MA's), (Start: 6 @52654 has 3 MA's), (15, 52744), (25, 52843), (30, 52876), (44, 52996),

Gene: Yaboi_69 Start: 51497, Stop: 51937, Start Num: 2

Candidate Starts for Yaboi_69:

(Start: 2 @51497 has 104 MA's), (Start: 6 @51569 has 3 MA's), (13, 51650), (15, 51659), (37, 51854),