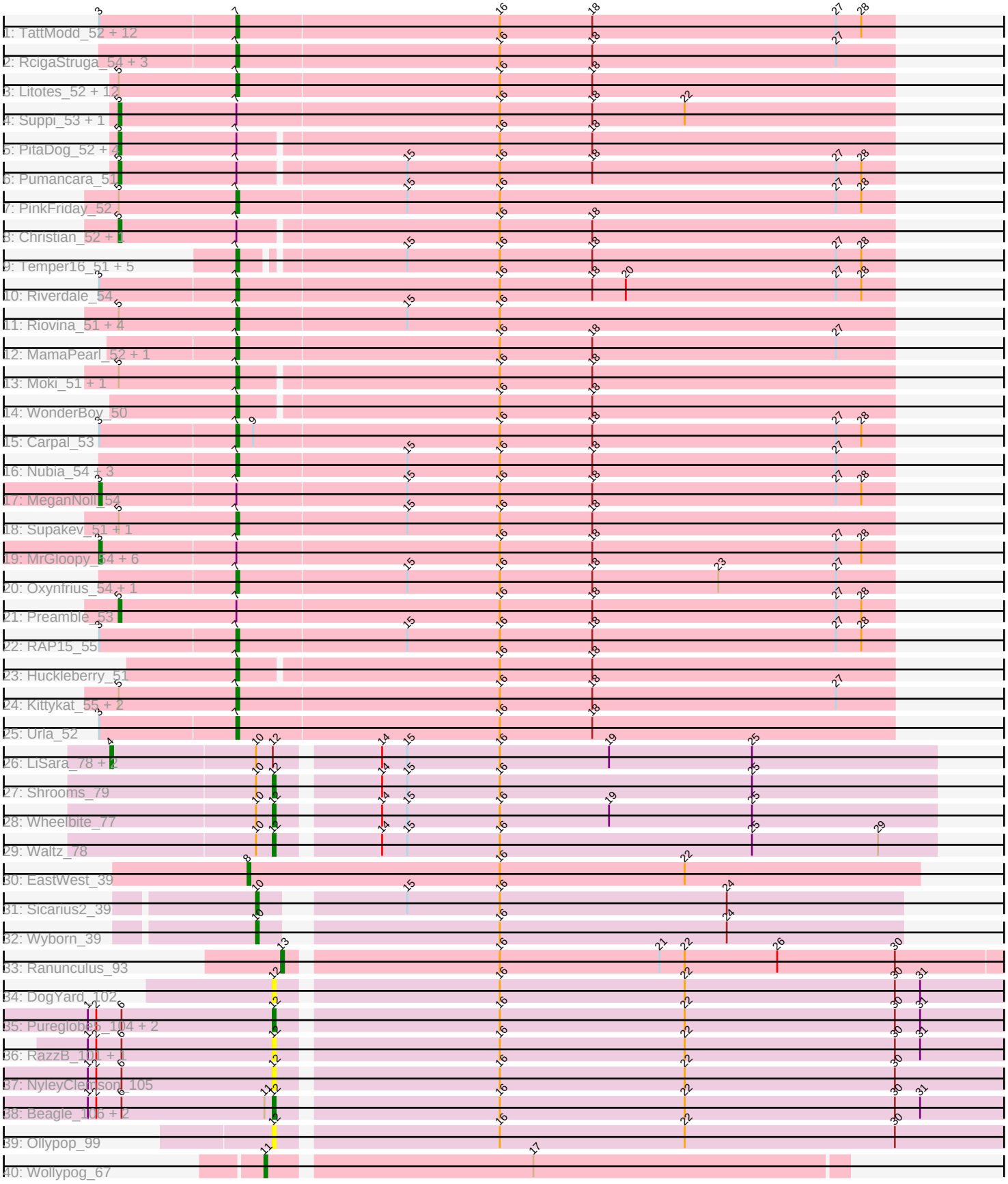
Pham 197968


1: TattModd_52 + 12
2: RcigaStruga_54 + 3
3: Litotes_52 + 12
4: Suppi_53 + 1
5: PitaDog_52 + 4
6: Pumancara_51
7: PinkFriday_52
8: Christian_52 + 1
9: Temper16_51 + 5
10: Riverdale_54
11: Riovina_51 + 4
12: MamaPearl_52 + 1
13: Moki_51 + 1
14: WonderBoy_50
15: Carpal_53
16: Nubia_54 + 3
17: MeganNoll_54
18: Supakev_51 + 1
19: MrGloopy_54 + 6
20: Oxynfrius_54 + 1
21: Preamble_53
22: RAP15_55
23: Huckleberry_51
24: Kittykat_55 + 2
25: Urla_52
26: LiSara_78 + 2
27: Shrooms_79
28: Wheelbite_77
29: Waltz_78
30: EastWest_39
31: Sicarius2_39
32: Wyborn_39
33: Ranunculus_93
34: DogYard_102
35: Pureglobes_104 + 2
36: RazzB_101 + 1
37: NyleyClemson_105
38: Beagle_106 + 2
39: Ollypop_99
40: Wollypog_67

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 197968 Report

This analysis was run 01/18/25 on database version 583.

Pham number 197968 has 104 members, 7 are drafts.

Phages represented in each track:
• Track 1 : TattModd_52, Rozby_53, BrotherBLo_53, Kalizoi_53, Immaculata_53, Wawa_54, BigMack_52, Potatoes_53, Savage2526_54, Beethoven_53, Cholula_53, Glenn_55, Vallejo_54
• Track 2 : RcigaStruga_54, Huntingdon_54, Misaeng_53, Albanese_54
• Track 3 : Litotes_52, PartyCup_58, Bodacious_52, Lennox_52, ChewChew_52, CallieOMalley_53, Pterodactyl_52, AppleCider_53, CristinaYang_52, Lasagna_50, LilStuart_51, OurGirlNessie_50, Nancia_52
• Track 4 : Suppi_53, Canowicakte_53
• Track 5 : PitaDog_52, Lucy_51, Makoto_51, Wayne_55, DrRobert_50
• Track 6 : Pumancara_51
• Track 7 : PinkFriday_52
• Track 8 : Christian_52, Bennie_52
• Track 9 : Temper16_51, Maria1952_50, Daiboju_51, Sergei_51, KingBob_51, Herb_51
• Track 10 : Riverdale_54
• Track 11 : Riovina_51, OMalley_51, Eunoia_51, Eunoia_53, Aledel_51
• Track 12 : MamaPearl_52, EstebanJulior_52
• Track 13 : Moki_51, HeadNerd_51
• Track 14 : WonderBoy_50
• Track 15 : Carpal_53
• Track 16 : Nubia_54, Greenhouse_55, GreenHearts_55, Joann_55
• Track 17 : MeganNoll_54
• Track 18 : Supakev_51, AustinPowers_51
• Track 19 : MrGloopy_54, Zorro_54, Scuttle_53, Korra_55, Fluke_54, Dino_54, Jumboset_55
• Track 20 : Oxynfrius_54, Lakshmi_54
• Track 21 : Preamble_53
• Track 22 : RAP15_55
• Track 23 : Huckleberry_51
• Track 24 : Kittykat_55, Gisselle_51, DreamTeam_51
• Track 25 : Urla_52
• Track 26 : LiSara_78, Salgado_81, Laroye_81
• Track 27 : Shrooms_79
• Track 28 : Wheelbite_77
• Track 29 : Waltz_78
• Track 30 : EastWest_39
• Track 31 : Sicarius2_39

• Track 32 : Wyborn_39
• Track 33 : Ranunculus_93
• Track 34 : DogYard_102
• Track 35 : Pureglobe5_104, Forrestell_101, MellowYellow_105
• Track 36 : RazzB_101, Kubulix_101
• Track 37 : NyleyClemson_105
• Track 38 : Beagle_106, Odyssey395_104, Pointis_101
• Track 39 : Ollypop_99
• Track 40 : Wollypog_67

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

The start number called the most often in the published annotations is 7, it was called in 62 of the 97 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Albanese_54, Aledel_51, AppleCider_53, AustinPowers_51, Beethoven_53, BigMack_52, Bodacious_52, BrotherBLo_53, CallieOMalley_53, Carpal_53, ChewChew_52, Cholula_53, CristinaYang_52, Daiboju_51, DreamTeam_51, EstebanJulior_52, Eunoia_51, Eunoia_53, Gisselle_51, Glenn_55, GreenHearts_55, Greenhouse_55, HeadNerd_51, Herb_51, Huckleberry_51, Huntingdon_54, Immaculata_53, Joann_55, Kalizoi_53, KingBob_51, Kittykat_55, Lakshmi_54, Lasagna_50, Lennox_52, LilStuart_51, Litotes_52, MamaPearl_52, Maria1952_50, Misaeng_53, Moki_51, Nancia_52, Nubia_54, OMalley_51, OurGirlNessie_50, Oxynfrius_54, PartyCup_58, PinkFriday_52, Potatoes_53, Pterodactyl_52, RAP15_55, RcigaStruga_54, Riovina_51, Riverdale_54, Rozby_53, Savage2526_54, Sergei_51, Supakev_51, TattModd_52, Temper16_51, Urla_52, Vallejo_54, Wawa_54, WonderBoy_50,

Genes that have the "Most Annotated" start but do not call it:
• Bennie_52, Canowicakte_53, Christian_52, Dino_54, DrRobert_50, Fluke_54, Jumboset_55, Korra_55, Lucy_51, Makoto_51, MeganNoll_54, MrGloopy_54, PitaDog_52, Preamble_53, Pumancara_51, Scuttle_53, Suppi_53, Wayne_55, Zorro_54,

Genes that do not have the "Most Annotated" start:
• Beagle_106, DogYard_102, EastWest_39, Forrestell_101, Kubulix_101, Laroye_81, LiSara_78, MellowYellow_105, NyleyClemson_105, Odyssey395_104, Ollypop_99, Pointis_101, Pureglobe5_104, Ranunculus_93, RazzB_101, Salgado_81, Shrooms_79, Sicarius2_39, Waltz_78, Wheelbite_77, Wollypog_67, Wyborn_39,

Summary by start number:

Start 3:
• Found in 25 of 104 (24.0%) of genes in pham
• Manual Annotations of this start: 8 of 97
• Called 32.0% of time when present
• Phage (with cluster) where this start called: Dino_54 (AK), Fluke_54 (AK), Jumboset_55 (AK), Korra_55 (AK), MeganNoll_54 (AK), MrGloopy_54 (AK), Scuttle_53 (AK), Zorro_54 (AK),

Start 4:
• Found in 3 of 104 (2.9%) of genes in pham
• Manual Annotations of this start: 3 of 97
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Laroye_81 (AL), LiSara_78 (AL), Salgado_81 (AL),

Start 5:
• Found in 37 of 104 (35.6%) of genes in pham
• Manual Annotations of this start: 11 of 97
• Called 29.7% of time when present
• Phage (with cluster) where this start called: Bennie_52 (AK), Canowicakte_53 (AK), Christian_52 (AK), DrRobert_50 (AK), Lucy_51 (AK), Makoto_51 (AK), PitaDog_52 (AK), Preamble_53 (AK), Pumancara_51 (AK), Suppi_53 (AK), Wayne_55 (AK),

Start 7:
• Found in 82 of 104 (78.8%) of genes in pham
• Manual Annotations of this start: 62 of 97
• Called 76.8% of time when present
• Phage (with cluster) where this start called: Albanese_54 (AK), Aledel_51 (AK), AppleCider_53 (AK), AustinPowers_51 (AK), Beethoven_53 (AK), BigMack_52 (AK), Bodacious_52 (AK), BrotherBLo_53 (AK), CallieOMalley_53 (AK), Carpal_53 (AK), ChewChew_52 (AK), Cholula_53 (AK), CristinaYang_52 (AK), Daiboju_51 (AK), DreamTeam_51 (AK), EstebanJulior_52 (AK), Eunoia_51 (AK), Eunoia_53 (AK), Gisselle_51 (AK), Glenn_55 (AK), GreenHearts_55 (AK), Greenhouse_55 (AK), HeadNerd_51 (AK), Herb_51 (AK), Huckleberry_51 (AK), Huntingdon_54 (AK), Immaculata_53 (AK), Joann_55 (AK), Kalizoi_53 (AK), KingBob_51 (AK), Kittykat_55 (AK), Lakshmi_54 (AK), Lasagna_50 (AK), Lennox_52 (AK), LilStuart_51 (AK), Litotes_52 (AK), MamaPearl_52 (AK), Maria1952_50 (AK), Misaeng_53 (AK), Moki_51 (AK), Nancia_52 (AK), Nubia_54 (AK), OMalley_51 (AK), OurGirlNessie_50 (AK), Oxynfrius_54 (AK), PartyCup_58 (AK), PinkFriday_52 (AK), Potatoes_53 (AK), Pterodactyl_52 (AK), RAP15_55 (AK), RcigaStruga_54 (AK), Riovina_51 (AK), Riverdale_54 (AK), Rozby_53 (AK), Savage2526_54 (AK), Sergei_51 (AK), Supakev_51 (AK), TattModd_52 (AK), Temper16_51 (AK), Urla_52 (AK), Vallejo_54 (AK), Wawa_54 (AK), WonderBoy_50 (AK),

Start 8:
• Found in 1 of 104 (1.0%) of genes in pham
• Manual Annotations of this start: 1 of 97
• Called 100.0% of time when present
• Phage (with cluster) where this start called: EastWest_39 (AO),

Start 10:
• Found in 8 of 104 (7.7%) of genes in pham
• Manual Annotations of this start: 2 of 97
• Called 25.0% of time when present
• Phage (with cluster) where this start called: Sicarius2_39 (AO2), Wyborn_39 (AO2),

Start 11:
• Found in 4 of 104 (3.8%) of genes in pham
• Manual Annotations of this start: 1 of 97
• Called 25.0% of time when present

• Phage (with cluster) where this start called: Wollypog_67 (singleton),

Start 12:
• Found in 17 of 104 (16.3%) of genes in pham
• Manual Annotations of this start: 8 of 97
• Called 82.4% of time when present
• Phage (with cluster) where this start called: Beagle_106 (AP2), DogYard_102 (AP2), Forrestell_101 (AP2), Kubulix_101 (AP2), MellowYellow_105 (AP2), NyleyClemson_105 (AP2), Odyssey395_104 (AP2), Ollypop_99 (AP2), Pointis_101 (AP2), Pureglobe5_104 (AP2), RazzB_101 (AP2), Shrooms_79 (AL), Waltz_78 (AL), Wheelbite_77 (AL),

Start 13:
• Found in 1 of 104 (1.0%) of genes in pham
• Manual Annotations of this start: 1 of 97
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Ranunculus_93 (AP),

Summary by clusters:

There are 7 clusters represented in this pham: singleton, AP2, AK, AL, AO, AP, AO2,

Info for manual annotations of cluster AK:
•Start number 3 was manually annotated 8 times for cluster AK.
•Start number 5 was manually annotated 11 times for cluster AK.
•Start number 7 was manually annotated 62 times for cluster AK.

Info for manual annotations of cluster AL:
•Start number 4 was manually annotated 3 times for cluster AL.
•Start number 12 was manually annotated 3 times for cluster AL.

Info for manual annotations of cluster AO:
•Start number 8 was manually annotated 1 time for cluster AO.

Info for manual annotations of cluster AO2:
•Start number 10 was manually annotated 2 times for cluster AO2.

Info for manual annotations of cluster AP:
•Start number 13 was manually annotated 1 time for cluster AP.

Info for manual annotations of cluster AP2:
•Start number 12 was manually annotated 5 times for cluster AP2.

Gene Information:

Gene: Albanese_54 Start: 40120, Stop: 39887, Start Num: 7
Candidate Starts for Albanese_54:
(Start: 7 @40120 has 62 MA's), (16, 40027), (18, 39994), (27, 39907),

Gene: Aledel_51 Start: 39496, Stop: 39263, Start Num: 7
Candidate Starts for Aledel_51:

(Start: 5 @39538 has 11 MA's), (Start: 7 @39496 has 62 MA's), (15, 39436), (16, 39403),

Gene: AppleCider_53 Start: 39534, Stop: 39301, Start Num: 7
Candidate Starts for AppleCider_53:
(Start: 5 @39576 has 11 MA's), (Start: 7 @39534 has 62 MA's), (16, 39441), (18, 39408),

Gene: AustinPowers_51 Start: 39519, Stop: 39286, Start Num: 7
Candidate Starts for AustinPowers_51:
(Start: 5 @39561 has 11 MA's), (Start: 7 @39519 has 62 MA's), (15, 39459), (16, 39426), (18, 39393),

Gene: Beagle_106 Start: 62400, Stop: 62143, Start Num: 12
Candidate Starts for Beagle_106:
(1, 62466), (2, 62463), (6, 62454), (Start: 11 @62403 has 1 MA's), (Start: 12 @62400 has 8 MA's), (16, 62325), (22, 62259), (30, 62184), (31, 62175),

Gene: Beethoven_53 Start: 39510, Stop: 39277, Start Num: 7
Candidate Starts for Beethoven_53:
(Start: 3 @39558 has 8 MA's), (Start: 7 @39510 has 62 MA's), (16, 39417), (18, 39384), (27, 39297), (28, 39288),

Gene: Bennie_52 Start: 38399, Stop: 38127, Start Num: 5
Candidate Starts for Bennie_52:
(Start: 5 @38399 has 11 MA's), (Start: 7 @38357 has 62 MA's), (16, 38267), (18, 38234),

Gene: BigMack_52 Start: 38846, Stop: 38613, Start Num: 7
Candidate Starts for BigMack_52:
(Start: 3 @38894 has 8 MA's), (Start: 7 @38846 has 62 MA's), (16, 38753), (18, 38720), (27, 38633), (28, 38624),

Gene: Bodacious_52 Start: 38847, Stop: 38617, Start Num: 7
Candidate Starts for Bodacious_52:
(Start: 5 @38889 has 11 MA's), (Start: 7 @38847 has 62 MA's), (16, 38757), (18, 38724),

Gene: BrotherBLo_53 Start: 39559, Stop: 39326, Start Num: 7
Candidate Starts for BrotherBLo_53:
(Start: 3 @39607 has 8 MA's), (Start: 7 @39559 has 62 MA's), (16, 39466), (18, 39433), (27, 39346), (28, 39337),

Gene: CallieOMalley_53 Start: 39511, Stop: 39278, Start Num: 7
Candidate Starts for CallieOMalley_53:
(Start: 5 @39553 has 11 MA's), (Start: 7 @39511 has 62 MA's), (16, 39418), (18, 39385),

Gene: Canowicakte_53 Start: 39608, Stop: 39333, Start Num: 5
Candidate Starts for Canowicakte_53:
(Start: 5 @39608 has 11 MA's), (Start: 7 @39566 has 62 MA's), (16, 39473), (18, 39440), (22, 39407),

Gene: Carpal_53 Start: 39535, Stop: 39302, Start Num: 7
Candidate Starts for Carpal_53:
(Start: 3 @39583 has 8 MA's), (Start: 7 @39535 has 62 MA's), (9, 39529), (16, 39442), (18, 39409), (27, 39322), (28, 39313),

Gene: ChewChew_52 Start: 38978, Stop: 38748, Start Num: 7
Candidate Starts for ChewChew_52:

(Start: 5 @39020 has 11 MA's), (Start: 7 @38978 has 62 MA's), (16, 38888), (18, 38855),

Gene: Cholula_53 Start: 39568, Stop: 39335, Start Num: 7
Candidate Starts for Cholula_53:
(Start: 3 @39616 has 8 MA's), (Start: 7 @39568 has 62 MA's), (16, 39475), (18, 39442), (27, 39355), (28, 39346),

Gene: Christian_52 Start: 38701, Stop: 38429, Start Num: 5
Candidate Starts for Christian_52:
(Start: 5 @38701 has 11 MA's), (Start: 7 @38659 has 62 MA's), (16, 38569), (18, 38536),

Gene: CristinaYang_52 Start: 38974, Stop: 38744, Start Num: 7
Candidate Starts for CristinaYang_52:
(Start: 5 @39016 has 11 MA's), (Start: 7 @38974 has 62 MA's), (16, 38884), (18, 38851),

Gene: Daiboju_51 Start: 39557, Stop: 39330, Start Num: 7
Candidate Starts for Daiboju_51:
(Start: 7 @39557 has 62 MA's), (15, 39503), (16, 39470), (18, 39437), (27, 39350), (28, 39341),

Gene: Dino_54 Start: 39715, Stop: 39434, Start Num: 3
Candidate Starts for Dino_54:
(Start: 3 @39715 has 8 MA's), (Start: 7 @39667 has 62 MA's), (16, 39574), (18, 39541), (27, 39454), (28, 39445),

Gene: DogYard_102 Start: 62102, Stop: 61845, Start Num: 12
Candidate Starts for DogYard_102:
(Start: 12 @62102 has 8 MA's), (16, 62027), (22, 61961), (30, 61886), (31, 61877),

Gene: DrRobert_50 Start: 38252, Stop: 37980, Start Num: 5
Candidate Starts for DrRobert_50:
(Start: 5 @38252 has 11 MA's), (Start: 7 @38210 has 62 MA's), (16, 38120), (18, 38087),

Gene: DreamTeam_51 Start: 38546, Stop: 38313, Start Num: 7
Candidate Starts for DreamTeam_51:
(Start: 5 @38588 has 11 MA's), (Start: 7 @38546 has 62 MA's), (16, 38453), (18, 38420), (27, 38333),

Gene: EastWest_39 Start: 30889, Stop: 31128, Start Num: 8
Candidate Starts for EastWest_39:
(Start: 8 @30889 has 1 MA's), (16, 30979), (22, 31045),

Gene: EstebanJulior_52 Start: 39510, Stop: 39277, Start Num: 7
Candidate Starts for EstebanJulior_52:
(Start: 7 @39510 has 62 MA's), (16, 39417), (18, 39384), (27, 39297),

Gene: Eunoia_51 Start: 39496, Stop: 39263, Start Num: 7
Candidate Starts for Eunoia_51:
(Start: 5 @39538 has 11 MA's), (Start: 7 @39496 has 62 MA's), (15, 39436), (16, 39403),

Gene: Eunoia_53 Start: 40173, Stop: 39940, Start Num: 7
Candidate Starts for Eunoia_53:
(Start: 5 @40215 has 11 MA's), (Start: 7 @40173 has 62 MA's), (15, 40113), (16, 40080),

Gene: Fluke_54 Start: 39831, Stop: 39550, Start Num: 3

Candidate Starts for Fluke_54:
(Start: 3 @39831 has 8 MA's), (Start: 7 @39783 has 62 MA's), (16, 39690), (18, 39657), (27, 39570), (28, 39561),

Gene: Forrestell_101 Start: 60817, Stop: 60560, Start Num: 12
Candidate Starts for Forrestell_101:
(1, 60883), (2, 60880), (6, 60871), (Start: 12 @60817 has 8 MA's), (16, 60742), (22, 60676), (30, 60601), (31, 60592),

Gene: Gisselle_51 Start: 38546, Stop: 38313, Start Num: 7
Candidate Starts for Gisselle_51:
(Start: 5 @38588 has 11 MA's), (Start: 7 @38546 has 62 MA's), (16, 38453), (18, 38420), (27, 38333),

Gene: Glenn_55 Start: 40244, Stop: 40011, Start Num: 7
Candidate Starts for Glenn_55:
(Start: 3 @40292 has 8 MA's), (Start: 7 @40244 has 62 MA's), (16, 40151), (18, 40118), (27, 40031), (28, 40022),

Gene: GreenHearts_55 Start: 40425, Stop: 40192, Start Num: 7
Candidate Starts for GreenHearts_55:
(Start: 7 @40425 has 62 MA's), (15, 40365), (16, 40332), (18, 40299), (27, 40212),

Gene: Greenhouse_55 Start: 40117, Stop: 39884, Start Num: 7
Candidate Starts for Greenhouse_55:
(Start: 7 @40117 has 62 MA's), (15, 40057), (16, 40024), (18, 39991), (27, 39904),

Gene: HeadNerd_51 Start: 38251, Stop: 38021, Start Num: 7
Candidate Starts for HeadNerd_51:
(Start: 5 @38293 has 11 MA's), (Start: 7 @38251 has 62 MA's), (16, 38161), (18, 38128),

Gene: Herb_51 Start: 39556, Stop: 39329, Start Num: 7
Candidate Starts for Herb_51:
(Start: 7 @39556 has 62 MA's), (15, 39502), (16, 39469), (18, 39436), (27, 39349), (28, 39340),

Gene: Huckleberry_51 Start: 38254, Stop: 38024, Start Num: 7
Candidate Starts for Huckleberry_51:
(Start: 7 @38254 has 62 MA's), (16, 38164), (18, 38131),

Gene: Huntingdon_54 Start: 40150, Stop: 39917, Start Num: 7
Candidate Starts for Huntingdon_54:
(Start: 7 @40150 has 62 MA's), (16, 40057), (18, 40024), (27, 39937),

Gene: Immaculata_53 Start: 39568, Stop: 39335, Start Num: 7
Candidate Starts for Immaculata_53:
(Start: 3 @39616 has 8 MA's), (Start: 7 @39568 has 62 MA's), (16, 39475), (18, 39442), (27, 39355), (28, 39346),

Gene: Joann_55 Start: 40178, Stop: 39945, Start Num: 7
Candidate Starts for Joann_55:
(Start: 7 @40178 has 62 MA's), (15, 40118), (16, 40085), (18, 40052), (27, 39965),

Gene: Jumboset_55 Start: 40138, Stop: 39857, Start Num: 3
Candidate Starts for Jumboset_55:

(Start: 3 @40138 has 8 MA's), (Start: 7 @40090 has 62 MA's), (16, 39997), (18, 39964), (27, 39877), (28, 39868),

Gene: Kalizoi_53 Start: 39507, Stop: 39274, Start Num: 7
Candidate Starts for Kalizoi_53:
(Start: 3 @39555 has 8 MA's), (Start: 7 @39507 has 62 MA's), (16, 39414), (18, 39381), (27, 39294), (28, 39285),

Gene: KingBob_51 Start: 39557, Stop: 39330, Start Num: 7
Candidate Starts for KingBob_51:
(Start: 7 @39557 has 62 MA's), (15, 39503), (16, 39470), (18, 39437), (27, 39350), (28, 39341),

Gene: Kittykat_55 Start: 39159, Stop: 38926, Start Num: 7
Candidate Starts for Kittykat_55:
(Start: 5 @39201 has 11 MA's), (Start: 7 @39159 has 62 MA's), (16, 39066), (18, 39033), (27, 38946),

Gene: Korra_55 Start: 39566, Stop: 39285, Start Num: 3
Candidate Starts for Korra_55:
(Start: 3 @39566 has 8 MA's), (Start: 7 @39518 has 62 MA's), (16, 39425), (18, 39392), (27, 39305), (28, 39296),

Gene: Kubulix_101 Start: 61775, Stop: 61518, Start Num: 12
Candidate Starts for Kubulix_101:
(1, 61841), (2, 61838), (6, 61829), (Start: 12 @61775 has 8 MA's), (16, 61700), (22, 61634), (30, 61559), (31, 61550),

Gene: Lakshmi_54 Start: 40182, Stop: 39949, Start Num: 7
Candidate Starts for Lakshmi_54:
(Start: 7 @40182 has 62 MA's), (15, 40122), (16, 40089), (18, 40056), (23, 40011), (27, 39969),

Gene: Laroye_81 Start: 47896, Stop: 48183, Start Num: 4
Candidate Starts for Laroye_81:
(Start: 4 @47896 has 3 MA's), (Start: 10 @47947 has 2 MA's), (Start: 12 @47953 has 8 MA's), (14, 47986), (15, 47995), (16, 48028), (19, 48067), (25, 48118),

Gene: Lasagna_50 Start: 38210, Stop: 37980, Start Num: 7
Candidate Starts for Lasagna_50:
(Start: 5 @38252 has 11 MA's), (Start: 7 @38210 has 62 MA's), (16, 38120), (18, 38087),

Gene: Lennox_52 Start: 38667, Stop: 38437, Start Num: 7
Candidate Starts for Lennox_52:
(Start: 5 @38709 has 11 MA's), (Start: 7 @38667 has 62 MA's), (16, 38577), (18, 38544),

Gene: LiSara_78 Start: 48030, Stop: 48317, Start Num: 4
Candidate Starts for LiSara_78:
(Start: 4 @48030 has 3 MA's), (Start: 10 @48081 has 2 MA's), (Start: 12 @48087 has 8 MA's), (14, 48120), (15, 48129), (16, 48162), (19, 48201), (25, 48252),

Gene: LilStuart_51 Start: 38559, Stop: 38329, Start Num: 7
Candidate Starts for LilStuart_51:
(Start: 5 @38601 has 11 MA's), (Start: 7 @38559 has 62 MA's), (16, 38469), (18, 38436),

Gene: Litotes_52 Start: 39119, Stop: 38886, Start Num: 7

Candidate Starts for Litotes_52:
(Start: 5 @39161 has 11 MA's), (Start: 7 @39119 has 62 MA's), (16, 39026), (18, 38993),

Gene: Lucy_51 Start: 38593, Stop: 38321, Start Num: 5
Candidate Starts for Lucy_51:
(Start: 5 @38593 has 11 MA's), (Start: 7 @38551 has 62 MA's), (16, 38461), (18, 38428),

Gene: Makoto_51 Start: 38467, Stop: 38195, Start Num: 5
Candidate Starts for Makoto_51:
(Start: 5 @38467 has 11 MA's), (Start: 7 @38425 has 62 MA's), (16, 38335), (18, 38302),

Gene: MamaPearl_52 Start: 39510, Stop: 39277, Start Num: 7
Candidate Starts for MamaPearl_52:
(Start: 7 @39510 has 62 MA's), (16, 39417), (18, 39384), (27, 39297),

Gene: Maria1952_50 Start: 39556, Stop: 39329, Start Num: 7
Candidate Starts for Maria1952_50:
(Start: 7 @39556 has 62 MA's), (15, 39502), (16, 39469), (18, 39436), (27, 39349), (28, 39340),

Gene: MeganNoll_54 Start: 40107, Stop: 39826, Start Num: 3
Candidate Starts for MeganNoll_54:
(Start: 3 @40107 has 8 MA's), (Start: 7 @40059 has 62 MA's), (15, 39999), (16, 39966), (18, 39933), (27, 39846), (28, 39837),

Gene: MellowYellow_105 Start: 62019, Stop: 61762, Start Num: 12
Candidate Starts for MellowYellow_105:
(1, 62085), (2, 62082), (6, 62073), (Start: 12 @62019 has 8 MA's), (16, 61944), (22, 61878), (30, 61803), (31, 61794),

Gene: Misaeng_53 Start: 40076, Stop: 39843, Start Num: 7
Candidate Starts for Misaeng_53:
(Start: 7 @40076 has 62 MA's), (16, 39983), (18, 39950), (27, 39863),

Gene: Moki_51 Start: 38444, Stop: 38214, Start Num: 7
Candidate Starts for Moki_51:
(Start: 5 @38486 has 11 MA's), (Start: 7 @38444 has 62 MA's), (16, 38354), (18, 38321),

Gene: MrGloopy_54 Start: 39728, Stop: 39447, Start Num: 3
Candidate Starts for MrGloopy_54:
(Start: 3 @39728 has 8 MA's), (Start: 7 @39680 has 62 MA's), (16, 39587), (18, 39554), (27, 39467), (28, 39458),

Gene: Nancia_52 Start: 38847, Stop: 38617, Start Num: 7
Candidate Starts for Nancia_52:
(Start: 5 @38889 has 11 MA's), (Start: 7 @38847 has 62 MA's), (16, 38757), (18, 38724),

Gene: Nubia_54 Start: 40050, Stop: 39817, Start Num: 7
Candidate Starts for Nubia_54:
(Start: 7 @40050 has 62 MA's), (15, 39990), (16, 39957), (18, 39924), (27, 39837),

Gene: NyleyClemson_105 Start: 61649, Stop: 61392, Start Num: 12
Candidate Starts for NyleyClemson_105:

(1, 61715), (2, 61712), (6, 61703), (Start: 12 @61649 has 8 MA's), (16, 61574), (22, 61508), (30, 61433),

Gene: OMalley_51 Start: 39496, Stop: 39263, Start Num: 7
Candidate Starts for OMalley_51:
(Start: 5 @39538 has 11 MA's), (Start: 7 @39496 has 62 MA's), (15, 39436), (16, 39403),

Gene: Odyssey395_104 Start: 61792, Stop: 61535, Start Num: 12
Candidate Starts for Odyssey395_104:
(1, 61858), (2, 61855), (6, 61846), (Start: 11 @61795 has 1 MA's), (Start: 12 @61792 has 8 MA's), (16, 61717), (22, 61651), (30, 61576), (31, 61567),

Gene: Ollypop_99 Start: 63174, Stop: 62920, Start Num: 12
Candidate Starts for Ollypop_99:
(Start: 12 @63174 has 8 MA's), (16, 63099), (22, 63033), (30, 62958),

Gene: OurGirlNessie_50 Start: 38173, Stop: 37943, Start Num: 7
Candidate Starts for OurGirlNessie_50:
(Start: 5 @38215 has 11 MA's), (Start: 7 @38173 has 62 MA's), (16, 38083), (18, 38050),

Gene: Oxynfrius_54 Start: 40059, Stop: 39826, Start Num: 7
Candidate Starts for Oxynfrius_54:
(Start: 7 @40059 has 62 MA's), (15, 39999), (16, 39966), (18, 39933), (23, 39888), (27, 39846),

Gene: PartyCup_58 Start: 39728, Stop: 39495, Start Num: 7
Candidate Starts for PartyCup_58:
(Start: 5 @39770 has 11 MA's), (Start: 7 @39728 has 62 MA's), (16, 39635), (18, 39602),

Gene: PinkFriday_52 Start: 39138, Stop: 38905, Start Num: 7
Candidate Starts for PinkFriday_52:
(Start: 5 @39180 has 11 MA's), (Start: 7 @39138 has 62 MA's), (15, 39078), (16, 39045), (27, 38925), (28, 38916),

Gene: PitaDog_52 Start: 38614, Stop: 38342, Start Num: 5
Candidate Starts for PitaDog_52:
(Start: 5 @38614 has 11 MA's), (Start: 7 @38572 has 62 MA's), (16, 38482), (18, 38449),

Gene: Pointis_101 Start: 61691, Stop: 61434, Start Num: 12
Candidate Starts for Pointis_101:
(1, 61757), (2, 61754), (6, 61745), (Start: 11 @61694 has 1 MA's), (Start: 12 @61691 has 8 MA's), (16, 61616), (22, 61550), (30, 61475), (31, 61466),

Gene: Potatoes_53 Start: 39568, Stop: 39335, Start Num: 7
Candidate Starts for Potatoes_53:
(Start: 3 @39616 has 8 MA's), (Start: 7 @39568 has 62 MA's), (16, 39475), (18, 39442), (27, 39355), (28, 39346),

Gene: Preamble_53 Start: 38781, Stop: 38506, Start Num: 5
Candidate Starts for Preamble_53:
(Start: 5 @38781 has 11 MA's), (Start: 7 @38739 has 62 MA's), (16, 38646), (18, 38613), (27, 38526), (28, 38517),

Gene: Pterodactyl_52 Start: 38813, Stop: 38583, Start Num: 7

Candidate Starts for Pterodactyl_52:
(Start: 5 @38855 has 11 MA's), (Start: 7 @38813 has 62 MA's), (16, 38723), (18, 38690),

Gene: Pumancara_51 Start: 38637, Stop: 38365, Start Num: 5
Candidate Starts for Pumancara_51:
(Start: 5 @38637 has 11 MA's), (Start: 7 @38595 has 62 MA's), (15, 38538), (16, 38505), (18, 38472), (27, 38385), (28, 38376),

Gene: Pureglobe5_104 Start: 62350, Stop: 62093, Start Num: 12
Candidate Starts for Pureglobe5_104:
(1, 62416), (2, 62413), (6, 62404), (Start: 12 @62350 has 8 MA's), (16, 62275), (22, 62209), (30, 62134), (31, 62125),

Gene: RAP15_55 Start: 40060, Stop: 39827, Start Num: 7
Candidate Starts for RAP15_55:
(Start: 3 @40108 has 8 MA's), (Start: 7 @40060 has 62 MA's), (15, 40000), (16, 39967), (18, 39934), (27, 39847), (28, 39838),

Gene: Ranunculus_93 Start: 62669, Stop: 62394, Start Num: 13
Candidate Starts for Ranunculus_93:
(Start: 13 @62669 has 1 MA's), (16, 62597), (21, 62540), (22, 62531), (26, 62498), (30, 62456),

Gene: RazzB_101 Start: 61225, Stop: 60968, Start Num: 12
Candidate Starts for RazzB_101:
(1, 61291), (2, 61288), (6, 61279), (Start: 12 @61225 has 8 MA's), (16, 61150), (22, 61084), (30, 61009), (31, 61000),

Gene: RcigaStruga_54 Start: 40150, Stop: 39917, Start Num: 7
Candidate Starts for RcigaStruga_54:
(Start: 7 @40150 has 62 MA's), (16, 40057), (18, 40024), (27, 39937),

Gene: Riovina_51 Start: 39496, Stop: 39263, Start Num: 7
Candidate Starts for Riovina_51:
(Start: 5 @39538 has 11 MA's), (Start: 7 @39496 has 62 MA's), (15, 39436), (16, 39403),

Gene: Riverdale_54 Start: 39705, Stop: 39472, Start Num: 7
Candidate Starts for Riverdale_54:
(Start: 3 @39753 has 8 MA's), (Start: 7 @39705 has 62 MA's), (16, 39612), (18, 39579), (20, 39567), (27, 39492), (28, 39483),

Gene: Rozby_53 Start: 39509, Stop: 39276, Start Num: 7
Candidate Starts for Rozby_53:
(Start: 3 @39557 has 8 MA's), (Start: 7 @39509 has 62 MA's), (16, 39416), (18, 39383), (27, 39296), (28, 39287),

Gene: Salgado_81 Start: 47700, Stop: 47987, Start Num: 4
Candidate Starts for Salgado_81:
(Start: 4 @47700 has 3 MA's), (Start: 10 @47751 has 2 MA's), (Start: 12 @47757 has 8 MA's), (14, 47790), (15, 47799), (16, 47832), (19, 47871), (25, 47922),

Gene: Savage2526_54 Start: 39733, Stop: 39500, Start Num: 7
Candidate Starts for Savage2526_54:

(Start: 3 @39781 has 8 MA's), (Start: 7 @39733 has 62 MA's), (16, 39640), (18, 39607), (27, 39520), (28, 39511),

Gene: Scuttle_53 Start: 39756, Stop: 39475, Start Num: 3
Candidate Starts for Scuttle_53:
(Start: 3 @39756 has 8 MA's), (Start: 7 @39708 has 62 MA's), (16, 39615), (18, 39582), (27, 39495), (28, 39486),

Gene: Sergei_51 Start: 39557, Stop: 39330, Start Num: 7
Candidate Starts for Sergei_51:
(Start: 7 @39557 has 62 MA's), (15, 39503), (16, 39470), (18, 39437), (27, 39350), (28, 39341),

Gene: Shrooms_79 Start: 46206, Stop: 46436, Start Num: 12
Candidate Starts for Shrooms_79:
(Start: 10 @46200 has 2 MA's), (Start: 12 @46206 has 8 MA's), (14, 46239), (15, 46248), (16, 46281), (25, 46371),

Gene: Sicarius2_39 Start: 31113, Stop: 31331, Start Num: 10
Candidate Starts for Sicarius2_39:
(Start: 10 @31113 has 2 MA's), (15, 31155), (16, 31188), (24, 31269),

Gene: Supakev_51 Start: 39523, Stop: 39290, Start Num: 7
Candidate Starts for Supakev_51:
(Start: 5 @39565 has 11 MA's), (Start: 7 @39523 has 62 MA's), (15, 39463), (16, 39430), (18, 39397),

Gene: Suppi_53 Start: 39608, Stop: 39333, Start Num: 5
Candidate Starts for Suppi_53:
(Start: 5 @39608 has 11 MA's), (Start: 7 @39566 has 62 MA's), (16, 39473), (18, 39440), (22, 39407),

Gene: TattModd_52 Start: 39454, Stop: 39221, Start Num: 7
Candidate Starts for TattModd_52:
(Start: 3 @39502 has 8 MA's), (Start: 7 @39454 has 62 MA's), (16, 39361), (18, 39328), (27, 39241), (28, 39232),

Gene: Temper16_51 Start: 39557, Stop: 39330, Start Num: 7
Candidate Starts for Temper16_51:
(Start: 7 @39557 has 62 MA's), (15, 39503), (16, 39470), (18, 39437), (27, 39350), (28, 39341),

Gene: Urla_52 Start: 39484, Stop: 39251, Start Num: 7
Candidate Starts for Urla_52:
(Start: 3 @39532 has 8 MA's), (Start: 7 @39484 has 62 MA's), (16, 39391), (18, 39358),

Gene: Vallejo_54 Start: 39708, Stop: 39475, Start Num: 7
Candidate Starts for Vallejo_54:
(Start: 3 @39756 has 8 MA's), (Start: 7 @39708 has 62 MA's), (16, 39615), (18, 39582), (27, 39495), (28, 39486),

Gene: Waltz_78 Start: 46221, Stop: 46451, Start Num: 12
Candidate Starts for Waltz_78:
(Start: 10 @46215 has 2 MA's), (Start: 12 @46221 has 8 MA's), (14, 46254), (15, 46263), (16, 46296), (25, 46386), (29, 46431),

Gene: Wawa_54 Start: 39958, Stop: 39725, Start Num: 7

Candidate Starts for Wawa_54:
(Start: 3 @40006 has 8 MA's), (Start: 7 @39958 has 62 MA's), (16, 39865), (18, 39832), (27, 39745), (28, 39736),

Gene: Wayne_55 Start: 40062, Stop: 39787, Start Num: 5
Candidate Starts for Wayne_55:
(Start: 5 @40062 has 11 MA's), (Start: 7 @40020 has 62 MA's), (16, 39927), (18, 39894),

Gene: Wheelbite_77 Start: 47915, Stop: 48145, Start Num: 12
Candidate Starts for Wheelbite_77:
(Start: 10 @47909 has 2 MA's), (Start: 12 @47915 has 8 MA's), (14, 47948), (15, 47957), (16, 47990), (19, 48029), (25, 48080),

Gene: Wollypog_67 Start: 49672, Stop: 49872, Start Num: 11
Candidate Starts for Wollypog_67:
(Start: 11 @49672 has 1 MA's), (17, 49762),

Gene: WonderBoy_50 Start: 38396, Stop: 38166, Start Num: 7
Candidate Starts for WonderBoy_50:
(Start: 7 @38396 has 62 MA's), (16, 38306), (18, 38273),

Gene: Wyborn_39 Start: 31745, Stop: 31963, Start Num: 10
Candidate Starts for Wyborn_39:
(Start: 10 @31745 has 2 MA's), (16, 31820), (24, 31901),

Gene: Zorro_54 Start: 39715, Stop: 39434, Start Num: 3
Candidate Starts for Zorro_54:
(Start: 3 @39715 has 8 MA's), (Start: 7 @39667 has 62 MA's), (16, 39574), (18, 39541), (27, 39454), (28, 39445),