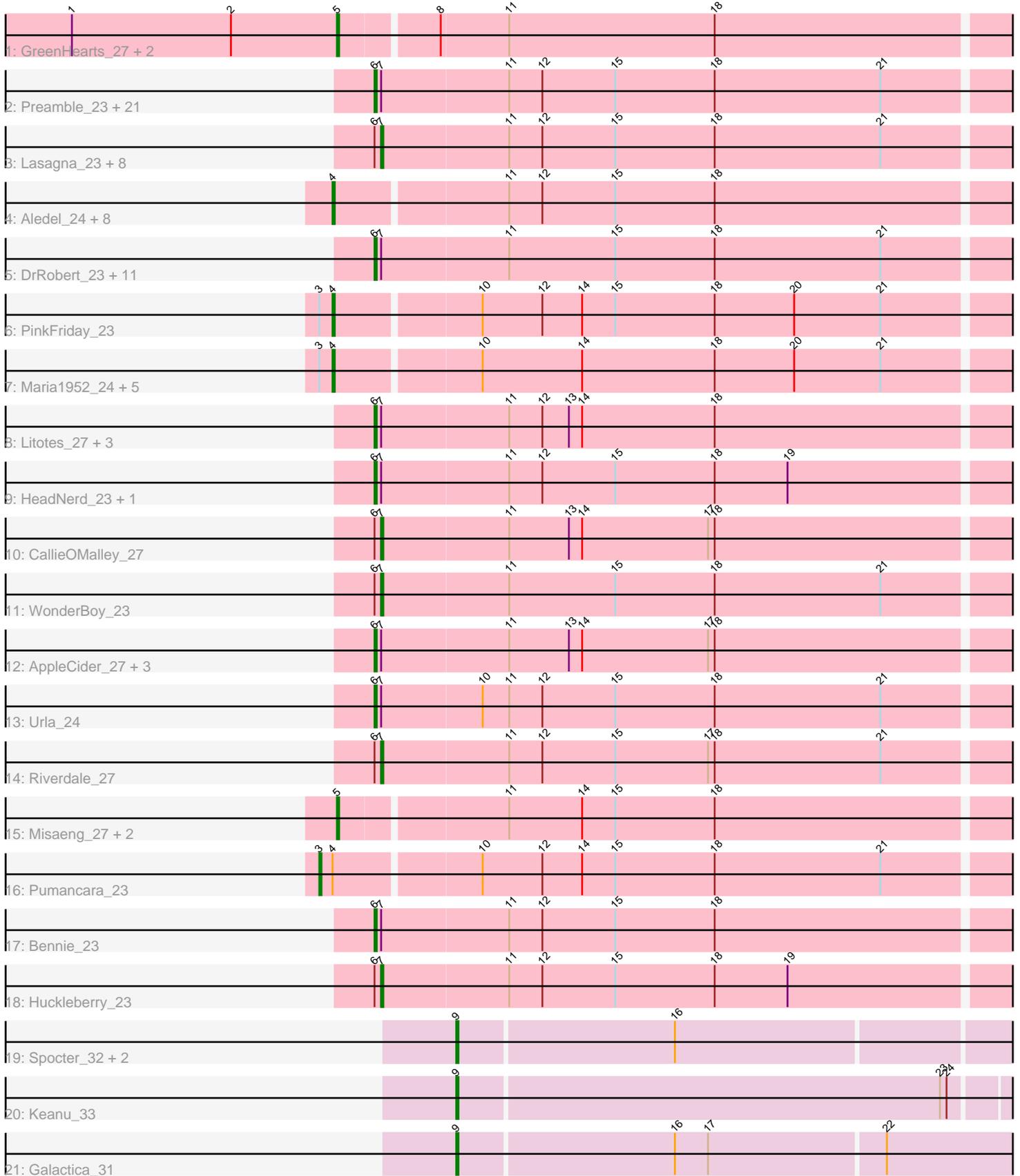# Pham 291057

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 291057 Report

This analysis was run 03/28/26 on database version 641.

Pham number 291057 has 87 members, 3 are drafts.

Phages represented in each track:
• Track 1 : GreenHearts_27, Lakshmi_27, Oxynfrius_27
• Track 2 : Preamble_23, Immaculata_27, Glenn_27, RAP15_27, Gisselle_23, DreamTeam_23, Zorro_27, Korra_28, OurGirlNessie_23, Wawa_27, Fluke_27, EstebanJulior_24, Carpal_27, Dino_27, BigMack_23, Scuttle_27, Jumboset_27, MrGloopy_27, Vallejo_27, MeganNoll_27, MamaPearl_24, Kittykat_23
• Track 3 : Lasagna_23, TattModd_27, Rozby_27, Kalizoi_27, Beethoven_27, Savage2526_27, Potatoes_27, Cholula_27, BrotherBLo_27
• Track 4 : Aledel_24, AustinPowers_24, Supakev_24, HunterDalle_24, Eunoia_24, Vulture_24, Riovina_24, OMalley_24, Chridison_24
• Track 5 : DrRobert_23, Lucy_23, Christian_23, PitaDog_23, Bodacious_23, Nancia_23, CristinaYang_23, Pterodactyl_23, LilStuart_23, Makoto_23, Lennox_23, ChewChew_23
• Track 6 : PinkFriday_23
• Track 7 : Maria1952_24, Daiboju_24, Temper16_24, KingBob_24, Herb_24, Sergei_24
• Track 8 : Litotes_27, MrBoss_28, Canowicakte_27, Suppi_27
• Track 9 : HeadNerd_23, Moki_23
• Track 10 : CallieOMalley_27
• Track 11 : WonderBoy_23
• Track 12 : AppleCider_27, Graynor_28, PartyCup_27, Wayne_27
• Track 13 : Urla_24
• Track 14 : Riverdale_27
• Track 15 : Misaeng_27, RcigaStruga_27, Huntingdon_27
• Track 16 : Pumancara_23
• Track 17 : Bennie_23
• Track 18 : Huckleberry_23
• Track 19 : Spocter_32, Hiyaa_32, Kokushibo_34
• Track 20 : Keanu_33
• Track 21 : Galactica_31

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

The start number called the most often in the published annotations is 6, it was called in 44 of the 84 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• AppleCider_27, Bennie_23, BigMack_23, Bodacious_23, Canowicakte_27, Carpal_27, ChewChew_23, Christian_23, CristinaYang_23, Dino_27, DrRobert_23, DreamTeam_23, EstebanJulior_24, Fluke_27, Gisselle_23, Glenn_27, Graynor_28, HeadNerd_23, Immaculata_27, Jumboset_27, Kittykat_23, Korra_28, Lennox_23, LilStuart_23, Litotes_27, Lucy_23, Makoto_23, MamaPearl_24, MeganNoll_27, Moki_23, MrBoss_28, MrGloopy_27, Nancia_23, OurGirlNessie_23, PartyCup_27, PitaDog_23, Preamble_23, Pterodactyl_23, RAP15_27, Scuttle_27, Suppi_27, Urla_24, Vallejo_27, Wawa_27, Wayne_27, Zorro_27,

Genes that have the "Most Annotated" start but do not call it:
• Beethoven_27, BrotherBLo_27, CallieOMalley_27, Cholula_27, Huckleberry_23, Kalizoi_27, Lasagna_23, Potatoes_27, Riverdale_27, Rozby_27, Savage2526_27, TattModd_27, WonderBoy_23,

Genes that do not have the "Most Annotated" start:
• Aledel_24, AustinPowers_24, Chridison_24, Daiboju_24, Eunoia_24, Galactica_31, GreenHearts_27, Herb_24, Hiyaa_32, HunterDalle_24, Huntingdon_27, Keanu_33, KingBob_24, Kokushibo_34, Lakshmi_27, Maria1952_24, Misaeng_27, OMalley_24, Oxynfrius_27, PinkFriday_23, Pumancara_23, RcigaStruga_27, Riovina_24, Sergei_24, Spocter_32, Supakev_24, Temper16_24, Vulture_24,

Summary by start number:

Start 3:
• Found in 8 of 87 (9.2%) of genes in pham
• Manual Annotations of this start: 1 of 84
• Called 12.5% of time when present
• Phage (with cluster) where this start called: Pumancara_23 (AK),

Start 4:
• Found in 17 of 87 (19.5%) of genes in pham
• Manual Annotations of this start: 16 of 84
• Called 94.1% of time when present
• Phage (with cluster) where this start called: Aledel_24 (AK), AustinPowers_24 (AK), Chridison_24 (AK), Daiboju_24 (AK), Eunoia_24 (AK), Herb_24 (AK), HunterDalle_24 (AK), KingBob_24 (AK), Maria1952_24 (AK), OMalley_24 (AK), PinkFriday_23 (AK), Riovina_24 (AK), Sergei_24 (AK), Supakev_24 (AK), Temper16_24 (AK), Vulture_24 (AK),

Start 5:
• Found in 6 of 87 (6.9%) of genes in pham
• Manual Annotations of this start: 6 of 84
• Called 100.0% of time when present
• Phage (with cluster) where this start called: GreenHearts_27 (AK), Huntingdon_27 (AK), Lakshmi_27 (AK), Misaeng_27 (AK), Oxynfrius_27 (AK), RcigaStruga_27 (AK),

Start 6:
• Found in 59 of 87 (67.8%) of genes in pham
• Manual Annotations of this start: 44 of 84
• Called 78.0% of time when present

• Phage (with cluster) where this start called: AppleCider_27 (AK), Bennie_23 (AK), BigMack_23 (AK), Bodacious_23 (AK), Canowicakte_27 (AK), Carpal_27 (AK), ChewChew_23 (AK), Christian_23 (AK), CristinaYang_23 (AK), Dino_27 (AK), DrRobert_23 (AK), DreamTeam_23 (AK), EstebanJulior_24 (AK), Fluke_27 (AK), Gisselle_23 (AK), Glenn_27 (AK), Graynor_28 (AK), HeadNerd_23 (AK), Immaculata_27 (AK), Jumboset_27 (AK), Kittykat_23 (AK), Korra_28 (AK), Lennox_23 (AK), LilStuart_23 (AK), Litotes_27 (AK), Lucy_23 (AK), Makoto_23 (AK), MamaPearl_24 (AK), MeganNoll_27 (AK), Moki_23 (AK), MrBoss_28 (AK), MrGloopy_27 (AK), Nancia_23 (AK), OurGirlNessie_23 (AK), PartyCup_27 (AK), PitaDog_23 (AK), Preamble_23 (AK), Pterodactyl_23 (AK), RAP15_27 (AK), Scuttle_27 (AK), Suppi_27 (AK), Urla_24 (AK), Vallejo_27 (AK), Wawa_27 (AK), Wayne_27 (AK), Zorro_27 (AK),

Start 7:
• Found in 59 of 87 (67.8%) of genes in pham
• Manual Annotations of this start: 13 of 84
• Called 22.0% of time when present
• Phage (with cluster) where this start called: Beethoven_27 (AK), BrotherBLo_27 (AK), CallieOMalley_27 (AK), Cholula_27 (AK), Huckleberry_23 (AK), Kalizoi_27 (AK), Lasagna_23 (AK), Potatoes_27 (AK), Riverdale_27 (AK), Rozby_27 (AK), Savage2526_27 (AK), TattModd_27 (AK), WonderBoy_23 (AK),

Start 9:
• Found in 5 of 87 (5.7%) of genes in pham
• Manual Annotations of this start: 4 of 84
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Galactica_31 (BQ), Hiyaa_32 (BQ), Keanu_33 (BQ), Kokushibo_34 (BQ), Spocter_32 (BQ),

Summary by clusters:

There are 2 clusters represented in this pham: AK, BQ,

Info for manual annotations of cluster AK:
•Start number 3 was manually annotated 1 time for cluster AK.
•Start number 4 was manually annotated 16 times for cluster AK.
•Start number 5 was manually annotated 6 times for cluster AK.
•Start number 6 was manually annotated 44 times for cluster AK.
•Start number 7 was manually annotated 13 times for cluster AK.

Info for manual annotations of cluster BQ:
•Start number 9 was manually annotated 4 times for cluster BQ.

Gene Information:
Gene: Aledel_24 Start: 21143, Stop: 21451, Start Num: 4
Candidate Starts for Aledel_24:
(Start: 4 @21143 has 16 MA's), (11, 21218), (12, 21233), (15, 21266), (18, 21311),

Gene: AppleCider_27 Start: 21543, Stop: 21836, Start Num: 6
Candidate Starts for AppleCider_27:

(Start: 6 @21543 has 44 MA's), (Start: 7 @21546 has 13 MA's), (11, 21603), (13, 21630), (14, 21636), (17, 21693), (18, 21696),

Gene: AustinPowers_24 Start: 21144, Stop: 21452, Start Num: 4
Candidate Starts for AustinPowers_24:
(Start: 4 @21144 has 16 MA's), (11, 21219), (12, 21234), (15, 21267), (18, 21312),

Gene: Beethoven_27 Start: 21516, Stop: 21806, Start Num: 7
Candidate Starts for Beethoven_27:
(Start: 6 @21513 has 44 MA's), (Start: 7 @21516 has 13 MA's), (11, 21573), (12, 21588), (15, 21621), (18, 21666), (21, 21741),

Gene: Bennie_23 Start: 19979, Stop: 20272, Start Num: 6
Candidate Starts for Bennie_23:
(Start: 6 @19979 has 44 MA's), (Start: 7 @19982 has 13 MA's), (11, 20039), (12, 20054), (15, 20087), (18, 20132),

Gene: BigMack_23 Start: 19973, Stop: 20266, Start Num: 6
Candidate Starts for BigMack_23:
(Start: 6 @19973 has 44 MA's), (Start: 7 @19976 has 13 MA's), (11, 20033), (12, 20048), (15, 20081), (18, 20126), (21, 20201),

Gene: Bodacious_23 Start: 19993, Stop: 20286, Start Num: 6
Candidate Starts for Bodacious_23:
(Start: 6 @19993 has 44 MA's), (Start: 7 @19996 has 13 MA's), (11, 20053), (15, 20101), (18, 20146), (21, 20221),

Gene: BrotherBLo_27 Start: 21522, Stop: 21812, Start Num: 7
Candidate Starts for BrotherBLo_27:
(Start: 6 @21519 has 44 MA's), (Start: 7 @21522 has 13 MA's), (11, 21579), (12, 21594), (15, 21627), (18, 21672), (21, 21747),

Gene: CallieOMalley_27 Start: 21546, Stop: 21836, Start Num: 7
Candidate Starts for CallieOMalley_27:
(Start: 6 @21543 has 44 MA's), (Start: 7 @21546 has 13 MA's), (11, 21603), (13, 21630), (14, 21636), (17, 21693), (18, 21696),

Gene: Canowicakte_27 Start: 21578, Stop: 21871, Start Num: 6
Candidate Starts for Canowicakte_27:
(Start: 6 @21578 has 44 MA's), (Start: 7 @21581 has 13 MA's), (11, 21638), (12, 21653), (13, 21665), (14, 21671), (18, 21731),

Gene: Carpal_27 Start: 21520, Stop: 21813, Start Num: 6
Candidate Starts for Carpal_27:
(Start: 6 @21520 has 44 MA's), (Start: 7 @21523 has 13 MA's), (11, 21580), (12, 21595), (15, 21628), (18, 21673), (21, 21748),

Gene: ChewChew_23 Start: 19988, Stop: 20281, Start Num: 6
Candidate Starts for ChewChew_23:
(Start: 6 @19988 has 44 MA's), (Start: 7 @19991 has 13 MA's), (11, 20048), (15, 20096), (18, 20141), (21, 20216),

Gene: Cholula_27 Start: 21569, Stop: 21859, Start Num: 7

Candidate Starts for Cholula_27:
(Start: 6 @21566 has 44 MA's), (Start: 7 @21569 has 13 MA's), (11, 21626), (12, 21641), (15, 21674), (18, 21719), (21, 21794),

Gene: Chridison_24 Start: 21144, Stop: 21452, Start Num: 4
Candidate Starts for Chridison_24:
(Start: 4 @21144 has 16 MA's), (11, 21219), (12, 21234), (15, 21267), (18, 21312),

Gene: Christian_23 Start: 19989, Stop: 20282, Start Num: 6
Candidate Starts for Christian_23:
(Start: 6 @19989 has 44 MA's), (Start: 7 @19992 has 13 MA's), (11, 20049), (15, 20097), (18, 20142), (21, 20217),

Gene: CristinaYang_23 Start: 19993, Stop: 20286, Start Num: 6
Candidate Starts for CristinaYang_23:
(Start: 6 @19993 has 44 MA's), (Start: 7 @19996 has 13 MA's), (11, 20053), (15, 20101), (18, 20146), (21, 20221),

Gene: Daiboju_24 Start: 21133, Stop: 21441, Start Num: 4
Candidate Starts for Daiboju_24:
(Start: 3 @21127 has 1 MA's), (Start: 4 @21133 has 16 MA's), (10, 21196), (14, 21241), (18, 21301), (20, 21337), (21, 21376),

Gene: Dino_27 Start: 21518, Stop: 21811, Start Num: 6
Candidate Starts for Dino_27:
(Start: 6 @21518 has 44 MA's), (Start: 7 @21521 has 13 MA's), (11, 21578), (12, 21593), (15, 21626), (18, 21671), (21, 21746),

Gene: DrRobert_23 Start: 19989, Stop: 20282, Start Num: 6
Candidate Starts for DrRobert_23:
(Start: 6 @19989 has 44 MA's), (Start: 7 @19992 has 13 MA's), (11, 20049), (15, 20097), (18, 20142), (21, 20217),

Gene: DreamTeam_23 Start: 20028, Stop: 20321, Start Num: 6
Candidate Starts for DreamTeam_23:
(Start: 6 @20028 has 44 MA's), (Start: 7 @20031 has 13 MA's), (11, 20088), (12, 20103), (15, 20136), (18, 20181), (21, 20256),

Gene: EstebanJulior_24 Start: 21156, Stop: 21449, Start Num: 6
Candidate Starts for EstebanJulior_24:
(Start: 6 @21156 has 44 MA's), (Start: 7 @21159 has 13 MA's), (11, 21216), (12, 21231), (15, 21264), (18, 21309), (21, 21384),

Gene: Eunoia_24 Start: 21143, Stop: 21451, Start Num: 4
Candidate Starts for Eunoia_24:
(Start: 4 @21143 has 16 MA's), (11, 21218), (12, 21233), (15, 21266), (18, 21311),

Gene: Fluke_27 Start: 21561, Stop: 21854, Start Num: 6
Candidate Starts for Fluke_27:
(Start: 6 @21561 has 44 MA's), (Start: 7 @21564 has 13 MA's), (11, 21621), (12, 21636), (15, 21669), (18, 21714), (21, 21789),

Gene: Galactica_31 Start: 24663, Stop: 24935, Start Num: 9

Candidate Starts for Galactica_31:
(Start: 9 @24663 has 4 MA's), (16, 24759), (17, 24774), (22, 24852),

Gene: Gisselle_23 Start: 20028, Stop: 20321, Start Num: 6
Candidate Starts for Gisselle_23:
(Start: 6 @20028 has 44 MA's), (Start: 7 @20031 has 13 MA's), (11, 20088), (12, 20103), (15, 20136), (18, 20181), (21, 20256),

Gene: Glenn_27 Start: 21570, Stop: 21863, Start Num: 6
Candidate Starts for Glenn_27:
(Start: 6 @21570 has 44 MA's), (Start: 7 @21573 has 13 MA's), (11, 21630), (12, 21645), (15, 21678), (18, 21723), (21, 21798),

Gene: Graynor_28 Start: 21564, Stop: 21857, Start Num: 6
Candidate Starts for Graynor_28:
(Start: 6 @21564 has 44 MA's), (Start: 7 @21567 has 13 MA's), (11, 21624), (13, 21651), (14, 21657), (17, 21714), (18, 21717),

Gene: GreenHearts_27 Start: 21643, Stop: 21948, Start Num: 5
Candidate Starts for GreenHearts_27:
(1, 21523), (2, 21595), (Start: 5 @21643 has 6 MA's), (8, 21685), (11, 21715), (18, 21808),

Gene: HeadNerd_23 Start: 19979, Stop: 20272, Start Num: 6
Candidate Starts for HeadNerd_23:
(Start: 6 @19979 has 44 MA's), (Start: 7 @19982 has 13 MA's), (11, 20039), (12, 20054), (15, 20087), (18, 20132), (19, 20165),

Gene: Herb_24 Start: 21133, Stop: 21441, Start Num: 4
Candidate Starts for Herb_24:
(Start: 3 @21127 has 1 MA's), (Start: 4 @21133 has 16 MA's), (10, 21196), (14, 21241), (18, 21301), (20, 21337), (21, 21376),

Gene: Hiyaa_32 Start: 25707, Stop: 26012, Start Num: 9
Candidate Starts for Hiyaa_32:
(Start: 9 @25707 has 4 MA's), (16, 25803),

Gene: Huckleberry_23 Start: 19982, Stop: 20272, Start Num: 7
Candidate Starts for Huckleberry_23:
(Start: 6 @19979 has 44 MA's), (Start: 7 @19982 has 13 MA's), (11, 20039), (12, 20054), (15, 20087), (18, 20132), (19, 20165),

Gene: HunterDalle_24 Start: 21143, Stop: 21451, Start Num: 4
Candidate Starts for HunterDalle_24:
(Start: 4 @21143 has 16 MA's), (11, 21218), (12, 21233), (15, 21266), (18, 21311),

Gene: Huntingdon_27 Start: 21534, Stop: 21839, Start Num: 5
Candidate Starts for Huntingdon_27:
(Start: 5 @21534 has 6 MA's), (11, 21606), (14, 21639), (15, 21654), (18, 21699),

Gene: Immaculata_27 Start: 21565, Stop: 21858, Start Num: 6
Candidate Starts for Immaculata_27:
(Start: 6 @21565 has 44 MA's), (Start: 7 @21568 has 13 MA's), (11, 21625), (12, 21640), (15, 21673), (18, 21718), (21, 21793),

Gene: Jumboset_27 Start: 21513, Stop: 21806, Start Num: 6
Candidate Starts for Jumboset_27:
(Start: 6 @21513 has 44 MA's), (Start: 7 @21516 has 13 MA's), (11, 21573), (12, 21588), (15, 21621), (18, 21666), (21, 21741),

Gene: Kalizoi_27 Start: 21515, Stop: 21805, Start Num: 7
Candidate Starts for Kalizoi_27:
(Start: 6 @21512 has 44 MA's), (Start: 7 @21515 has 13 MA's), (11, 21572), (12, 21587), (15, 21620), (18, 21665), (21, 21740),

Gene: Keanu_33 Start: 25759, Stop: 26067, Start Num: 9
Candidate Starts for Keanu_33:
(Start: 9 @25759 has 4 MA's), (23, 25975), (24, 25978),

Gene: KingBob_24 Start: 21133, Stop: 21441, Start Num: 4
Candidate Starts for KingBob_24:
(Start: 3 @21127 has 1 MA's), (Start: 4 @21133 has 16 MA's), (10, 21196), (14, 21241), (18, 21301), (20, 21337), (21, 21376),

Gene: Kittykat_23 Start: 20013, Stop: 20306, Start Num: 6
Candidate Starts for Kittykat_23:
(Start: 6 @20013 has 44 MA's), (Start: 7 @20016 has 13 MA's), (11, 20073), (12, 20088), (15, 20121), (18, 20166), (21, 20241),

Gene: Kokushibo_34 Start: 25722, Stop: 26027, Start Num: 9
Candidate Starts for Kokushibo_34:
(Start: 9 @25722 has 4 MA's), (16, 25818),

Gene: Korra_28 Start: 21518, Stop: 21811, Start Num: 6
Candidate Starts for Korra_28:
(Start: 6 @21518 has 44 MA's), (Start: 7 @21521 has 13 MA's), (11, 21578), (12, 21593), (15, 21626), (18, 21671), (21, 21746),

Gene: Lakshmi_27 Start: 21527, Stop: 21832, Start Num: 5
Candidate Starts for Lakshmi_27:
(1, 21407), (2, 21479), (Start: 5 @21527 has 6 MA's), (8, 21569), (11, 21599), (18, 21692),

Gene: Lasagna_23 Start: 19992, Stop: 20282, Start Num: 7
Candidate Starts for Lasagna_23:
(Start: 6 @19989 has 44 MA's), (Start: 7 @19992 has 13 MA's), (11, 20049), (12, 20064), (15, 20097), (18, 20142), (21, 20217),

Gene: Lennox_23 Start: 19977, Stop: 20270, Start Num: 6
Candidate Starts for Lennox_23:
(Start: 6 @19977 has 44 MA's), (Start: 7 @19980 has 13 MA's), (11, 20037), (15, 20085), (18, 20130), (21, 20205),

Gene: LilStuart_23 Start: 19981, Stop: 20274, Start Num: 6
Candidate Starts for LilStuart_23:
(Start: 6 @19981 has 44 MA's), (Start: 7 @19984 has 13 MA's), (11, 20041), (15, 20089), (18, 20134), (21, 20209),

Gene: Litotes_27 Start: 21528, Stop: 21821, Start Num: 6
Candidate Starts for Litotes_27:
(Start: 6 @21528 has 44 MA's), (Start: 7 @21531 has 13 MA's), (11, 21588), (12, 21603), (13, 21615), (14, 21621), (18, 21681),

Gene: Lucy_23 Start: 19969, Stop: 20262, Start Num: 6
Candidate Starts for Lucy_23:
(Start: 6 @19969 has 44 MA's), (Start: 7 @19972 has 13 MA's), (11, 20029), (15, 20077), (18, 20122), (21, 20197),

Gene: Makoto_23 Start: 19989, Stop: 20282, Start Num: 6
Candidate Starts for Makoto_23:
(Start: 6 @19989 has 44 MA's), (Start: 7 @19992 has 13 MA's), (11, 20049), (15, 20097), (18, 20142), (21, 20217),

Gene: MamaPearl_24 Start: 21156, Stop: 21449, Start Num: 6
Candidate Starts for MamaPearl_24:
(Start: 6 @21156 has 44 MA's), (Start: 7 @21159 has 13 MA's), (11, 21216), (12, 21231), (15, 21264), (18, 21309), (21, 21384),

Gene: Maria1952_24 Start: 21133, Stop: 21441, Start Num: 4
Candidate Starts for Maria1952_24:
(Start: 3 @21127 has 1 MA's), (Start: 4 @21133 has 16 MA's), (10, 21196), (14, 21241), (18, 21301), (20, 21337), (21, 21376),

Gene: MeganNoll_27 Start: 21570, Stop: 21863, Start Num: 6
Candidate Starts for MeganNoll_27:
(Start: 6 @21570 has 44 MA's), (Start: 7 @21573 has 13 MA's), (11, 21630), (12, 21645), (15, 21678), (18, 21723), (21, 21798),

Gene: Misaeng_27 Start: 21637, Stop: 21942, Start Num: 5
Candidate Starts for Misaeng_27:
(Start: 5 @21637 has 6 MA's), (11, 21709), (14, 21742), (15, 21757), (18, 21802),

Gene: Moki_23 Start: 19979, Stop: 20272, Start Num: 6
Candidate Starts for Moki_23:
(Start: 6 @19979 has 44 MA's), (Start: 7 @19982 has 13 MA's), (11, 20039), (12, 20054), (15, 20087), (18, 20132), (19, 20165),

Gene: MrBoss_28 Start: 21528, Stop: 21821, Start Num: 6
Candidate Starts for MrBoss_28:
(Start: 6 @21528 has 44 MA's), (Start: 7 @21531 has 13 MA's), (11, 21588), (12, 21603), (13, 21615), (14, 21621), (18, 21681),

Gene: MrGloopy_27 Start: 21504, Stop: 21797, Start Num: 6
Candidate Starts for MrGloopy_27:
(Start: 6 @21504 has 44 MA's), (Start: 7 @21507 has 13 MA's), (11, 21564), (12, 21579), (15, 21612), (18, 21657), (21, 21732),

Gene: Nancia_23 Start: 19993, Stop: 20286, Start Num: 6
Candidate Starts for Nancia_23:
(Start: 6 @19993 has 44 MA's), (Start: 7 @19996 has 13 MA's), (11, 20053), (15, 20101), (18, 20146), (21, 20221),

Gene: OMalley_24 Start: 21143, Stop: 21451, Start Num: 4
Candidate Starts for OMalley_24:
(Start: 4 @21143 has 16 MA's), (11, 21218), (12, 21233), (15, 21266), (18, 21311),

Gene: OurGirlNessie_23 Start: 19969, Stop: 20262, Start Num: 6
Candidate Starts for OurGirlNessie_23:
(Start: 6 @19969 has 44 MA's), (Start: 7 @19972 has 13 MA's), (11, 20029), (12, 20044), (15, 20077),
(18, 20122), (21, 20197),

Gene: Oxynfrius_27 Start: 21500, Stop: 21805, Start Num: 5
Candidate Starts for Oxynfrius_27:
(1, 21380), (2, 21452), (Start: 5 @21500 has 6 MA's), (8, 21542), (11, 21572), (18, 21665),

Gene: PartyCup_27 Start: 21575, Stop: 21868, Start Num: 6
Candidate Starts for PartyCup_27:
(Start: 6 @21575 has 44 MA's), (Start: 7 @21578 has 13 MA's), (11, 21635), (13, 21662), (14, 21668),
(17, 21725), (18, 21728),

Gene: PinkFriday_23 Start: 20015, Stop: 20323, Start Num: 4
Candidate Starts for PinkFriday_23:
(Start: 3 @20009 has 1 MA's), (Start: 4 @20015 has 16 MA's), (10, 20078), (12, 20105), (14, 20123),
(15, 20138), (18, 20183), (20, 20219), (21, 20258),

Gene: PitaDog_23 Start: 19980, Stop: 20273, Start Num: 6
Candidate Starts for PitaDog_23:
(Start: 6 @19980 has 44 MA's), (Start: 7 @19983 has 13 MA's), (11, 20040), (15, 20088), (18, 20133),
(21, 20208),

Gene: Potatoes_27 Start: 21569, Stop: 21859, Start Num: 7
Candidate Starts for Potatoes_27:
(Start: 6 @21566 has 44 MA's), (Start: 7 @21569 has 13 MA's), (11, 21626), (12, 21641), (15, 21674),
(18, 21719), (21, 21794),

Gene: Preamble_23 Start: 19990, Stop: 20283, Start Num: 6
Candidate Starts for Preamble_23:
(Start: 6 @19990 has 44 MA's), (Start: 7 @19993 has 13 MA's), (11, 20050), (12, 20065), (15, 20098),
(18, 20143), (21, 20218),

Gene: Pterodactyl_23 Start: 19971, Stop: 20264, Start Num: 6
Candidate Starts for Pterodactyl_23:
(Start: 6 @19971 has 44 MA's), (Start: 7 @19974 has 13 MA's), (11, 20031), (15, 20079), (18, 20124),
(21, 20199),

Gene: Pumancara_23 Start: 19991, Stop: 20305, Start Num: 3
Candidate Starts for Pumancara_23:
(Start: 3 @19991 has 1 MA's), (Start: 4 @19997 has 16 MA's), (10, 20060), (12, 20087), (14, 20105),
(15, 20120), (18, 20165), (21, 20240),

Gene: RAP15_27 Start: 21570, Stop: 21863, Start Num: 6
Candidate Starts for RAP15_27:
(Start: 6 @21570 has 44 MA's), (Start: 7 @21573 has 13 MA's), (11, 21630), (12, 21645), (15, 21678),
(18, 21723), (21, 21798),

Gene: RcigaStruga_27 Start: 21534, Stop: 21839, Start Num: 5
Candidate Starts for RcigaStruga_27:
(Start: 5 @21534 has 6 MA's), (11, 21606), (14, 21639), (15, 21654), (18, 21699),

Gene: Riovina_24 Start: 21143, Stop: 21451, Start Num: 4
Candidate Starts for Riovina_24:
(Start: 4 @21143 has 16 MA's), (11, 21218), (12, 21233), (15, 21266), (18, 21311),

Gene: Riverdale_27 Start: 21503, Stop: 21793, Start Num: 7
Candidate Starts for Riverdale_27:
(Start: 6 @21500 has 44 MA's), (Start: 7 @21503 has 13 MA's), (11, 21560), (12, 21575), (15, 21608), (17, 21650), (18, 21653), (21, 21728),

Gene: Rozby_27 Start: 21504, Stop: 21794, Start Num: 7
Candidate Starts for Rozby_27:
(Start: 6 @21501 has 44 MA's), (Start: 7 @21504 has 13 MA's), (11, 21561), (12, 21576), (15, 21609), (18, 21654), (21, 21729),

Gene: Savage2526_27 Start: 21567, Stop: 21857, Start Num: 7
Candidate Starts for Savage2526_27:
(Start: 6 @21564 has 44 MA's), (Start: 7 @21567 has 13 MA's), (11, 21624), (12, 21639), (15, 21672), (18, 21717), (21, 21792),

Gene: Scuttle_27 Start: 21569, Stop: 21862, Start Num: 6
Candidate Starts for Scuttle_27:
(Start: 6 @21569 has 44 MA's), (Start: 7 @21572 has 13 MA's), (11, 21629), (12, 21644), (15, 21677), (18, 21722), (21, 21797),

Gene: Sergei_24 Start: 21133, Stop: 21441, Start Num: 4
Candidate Starts for Sergei_24:
(Start: 3 @21127 has 1 MA's), (Start: 4 @21133 has 16 MA's), (10, 21196), (14, 21241), (18, 21301), (20, 21337), (21, 21376),

Gene: Spocter_32 Start: 25695, Stop: 26000, Start Num: 9
Candidate Starts for Spocter_32:
(Start: 9 @25695 has 4 MA's), (16, 25791),

Gene: Supakev_24 Start: 21145, Stop: 21453, Start Num: 4
Candidate Starts for Supakev_24:
(Start: 4 @21145 has 16 MA's), (11, 21220), (12, 21235), (15, 21268), (18, 21313),

Gene: Suppi_27 Start: 21578, Stop: 21871, Start Num: 6
Candidate Starts for Suppi_27:
(Start: 6 @21578 has 44 MA's), (Start: 7 @21581 has 13 MA's), (11, 21638), (12, 21653), (13, 21665), (14, 21671), (18, 21731),

Gene: TattModd_27 Start: 21566, Stop: 21856, Start Num: 7
Candidate Starts for TattModd_27:
(Start: 6 @21563 has 44 MA's), (Start: 7 @21566 has 13 MA's), (11, 21623), (12, 21638), (15, 21671), (18, 21716), (21, 21791),

Gene: Temper16_24 Start: 21133, Stop: 21441, Start Num: 4

Candidate Starts for Temper16_24:
(Start: 3 @21127 has 1 MA's), (Start: 4 @21133 has 16 MA's), (10, 21196), (14, 21241), (18, 21301), (20, 21337), (21, 21376),

Gene: Urla_24 Start: 21158, Stop: 21451, Start Num: 6
Candidate Starts for Urla_24:
(Start: 6 @21158 has 44 MA's), (Start: 7 @21161 has 13 MA's), (10, 21206), (11, 21218), (12, 21233), (15, 21266), (18, 21311), (21, 21386),

Gene: Vallejo_27 Start: 21502, Stop: 21795, Start Num: 6
Candidate Starts for Vallejo_27:
(Start: 6 @21502 has 44 MA's), (Start: 7 @21505 has 13 MA's), (11, 21562), (12, 21577), (15, 21610), (18, 21655), (21, 21730),

Gene: Vulture_24 Start: 21143, Stop: 21451, Start Num: 4
Candidate Starts for Vulture_24:
(Start: 4 @21143 has 16 MA's), (11, 21218), (12, 21233), (15, 21266), (18, 21311),

Gene: Wawa_27 Start: 21539, Stop: 21832, Start Num: 6
Candidate Starts for Wawa_27:
(Start: 6 @21539 has 44 MA's), (Start: 7 @21542 has 13 MA's), (11, 21599), (12, 21614), (15, 21647), (18, 21692), (21, 21767),

Gene: Wayne_27 Start: 21624, Stop: 21917, Start Num: 6
Candidate Starts for Wayne_27:
(Start: 6 @21624 has 44 MA's), (Start: 7 @21627 has 13 MA's), (11, 21684), (13, 21711), (14, 21717), (17, 21774), (18, 21777),

Gene: WonderBoy_23 Start: 19973, Stop: 20263, Start Num: 7
Candidate Starts for WonderBoy_23:
(Start: 6 @19970 has 44 MA's), (Start: 7 @19973 has 13 MA's), (11, 20030), (15, 20078), (18, 20123), (21, 20198),

Gene: Zorro_27 Start: 21518, Stop: 21811, Start Num: 6
Candidate Starts for Zorro_27:
(Start: 6 @21518 has 44 MA's), (Start: 7 @21521 has 13 MA's), (11, 21578), (12, 21593), (15, 21626), (18, 21671), (21, 21746),