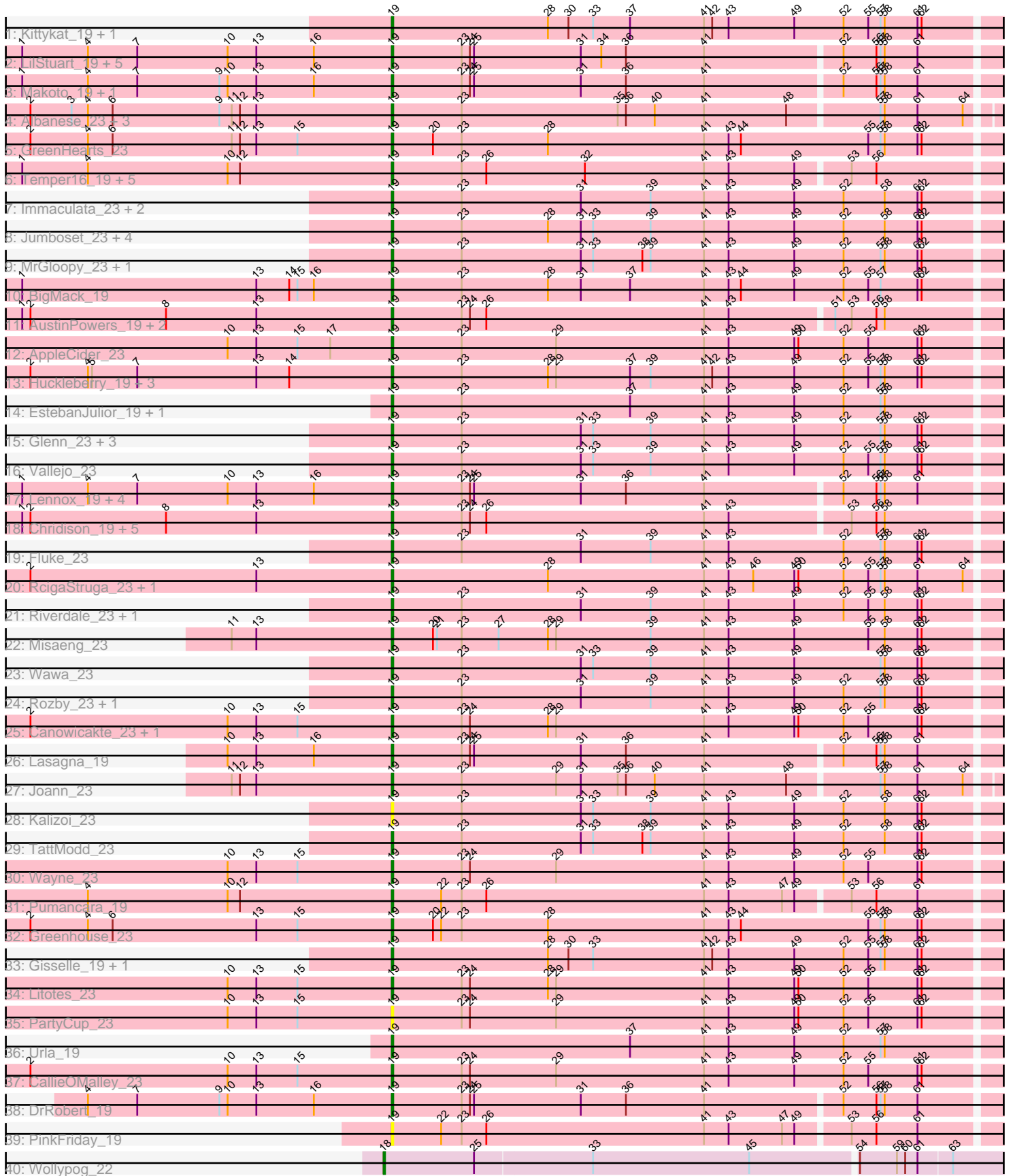


Pham 159135



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 159135 Report

This analysis was run 04/28/24 on database version 559.

Pham number 159135 has 85 members, 4 are drafts.

Phages represented in each track:

- Track 1 : Kittykat_19, Preamble_19
- Track 2 : LilStuart_19, PitaDog_19, ChewChew_19, Bodacious_19, CristinaYang_19, Nancia_19
- Track 3 : Makoto_19, OurGirlNessie_19
- Track 4 : Albanese_23, Nubia_23, Lakshmi_23, Oxyntrius_23
- Track 5 : GreenHearts_23
- Track 6 : Temper16_19, Sergei_19, Maria1952_19, KingBob_19, Daiboju_19, Herb_19
- Track 7 : Immaculata_23, Cholula_23, Potatoes_23
- Track 8 : Jumboset_23, MeganNoll_23, BrotherBLo_23, RAP15_23, Savage2526_23
- Track 9 : MrGloopy_23, Carpal_23
- Track 10 : BigMack_19
- Track 11 : AustinPowers_19, HunterDalle_19, Vulture_19
- Track 12 : AppleCider_23
- Track 13 : Huckleberry_19, HeadNerd_19, Bennie_19, Moki_19
- Track 14 : EstebanJulior_19, MamaPearl_19
- Track 15 : Glenn_23, Zorro_23, Korra_24, Dino_23
- Track 16 : Vallejo_23
- Track 17 : Lennox_19, Pterodactyl_19, WonderBoy_19, Christian_19, Lucy_19
- Track 18 : Chridison_19, OMalley_19, Riovina_19, Aledel_19, Supakev_19, Eunoia_19
- Track 19 : Fluke_23
- Track 20 : RcigaStruga_23, Huntingdon_23
- Track 21 : Riverdale_23, Beethoven_23
- Track 22 : Misaeng_23
- Track 23 : Wawa_23
- Track 24 : Rozby_23, Scuttle_23
- Track 25 : Canowicakte_23, Suppi_23
- Track 26 : Lasagna_19
- Track 27 : Joann_23
- Track 28 : Kalizoi_23
- Track 29 : TattModd_23
- Track 30 : Wayne_23
- Track 31 : Pumancara_19
- Track 32 : Greenhouse_23
- Track 33 : Gisselle_19, DreamTeam_19

- Track 34 : Litotes_23
- Track 35 : PartyCup_23
- Track 36 : Urla_19
- Track 37 : CallieOMalley_23
- Track 38 : DrRobert_19
- Track 39 : PinkFriday_19
- Track 40 : Wollypog_22

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

The start number called the most often in the published annotations is 19, it was called in 80 of the 81 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Albanese_23, Aledel_19, AppleCider_23, AustinPowers_19, Beethoven_23, Bennie_19, BigMack_19, Bodacious_19, BrotherBLo_23, CallieOMalley_23, Canowicakte_23, Carpal_23, ChewChew_19, Cholula_23, Chridison_19, Christian_19, CristinaYang_19, Daiboju_19, Dino_23, DrRobert_19, DreamTeam_19, EstebanJulior_19, Eunoia_19, Fluke_23, Gisselle_19, Glenn_23, GreenHearts_23, Greenhouse_23, HeadNerd_19, Herb_19, Huckleberry_19, HunterDalle_19, Huntingdon_23, Immaculata_23, Joann_23, Jumboset_23, Kalizoi_23, KingBob_19, Kittykat_19, Korra_24, Lakshmi_23, Lasagna_19, Lennox_19, LilStuart_19, Litotes_23, Lucy_19, Makoto_19, MamaPearl_19, Maria1952_19, MeganNoll_23, Misaeng_23, Moki_19, MrGloopy_23, Nancia_19, Nubia_23, OMalley_19, OurGirlNessie_19, Oxynfrius_23, PartyCup_23, PinkFriday_19, PitaDog_19, Potatoes_23, Preamble_19, Pterodactyl_19, Pumancara_19, RAP15_23, RcigaStruga_23, Riovina_19, Riverdale_23, Rozby_23, Savage2526_23, Scuttle_23, Sergei_19, Supakev_19, Suppi_23, TattModd_23, Temper16_19, Urla_19, Vallejo_23, Vulture_19, Wawa_23, Wayne_23, WonderBoy_19, Zorro_23,

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

-

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

- Wollypog_22,

Summary by start number:

Start 18:

- Found in 1 of 85 (1.2%) of genes in pham
- Manual Annotations of this start: 1 of 81
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Wollypog_22 (singleton),

Start 19:

- Found in 84 of 85 (98.8%) of genes in pham
- Manual Annotations of this start: 80 of 81
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Albanese_23 (AK), Aledel_19 (AK), AppleCider_23 (AK), AustinPowers_19 (AK), Beethoven_23 (AK), Bennie_19 (AK),

BigMack_19 (AK), Bodacious_19 (AK), BrotherBLo_23 (AK), CallieOMalley_23 (AK), Canowicakte_23 (AK), Carpal_23 (AK), ChewChew_19 (AK), Cholula_23 (AK), Chridison_19 (AK), Christian_19 (AK), CristinaYang_19 (AK), Daiboju_19 (AK), Dino_23 (AK), DrRobert_19 (AK), DreamTeam_19 (AK), EstebanJulior_19 (AK), Eunoia_19 (AK), Fluke_23 (AK), Gisselle_19 (AK), Glenn_23 (AK), GreenHearts_23 (AK), Greenhouse_23 (AK), HeadNerd_19 (AK), Herb_19 (AK), Huckleberry_19 (AK), HunterDalle_19 (AK), Huntingdon_23 (AK), Immaculata_23 (AK), Joann_23 (AK), Jumboset_23 (AK), Kalizoi_23 (AK), KingBob_19 (AK), Kittykat_19 (AK), Korra_24 (AK), Lakshmi_23 (AK), Lasagna_19 (AK), Lennox_19 (AK), LilStuart_19 (AK), Litotes_23 (AK), Lucy_19 (AK), Makoto_19 (AK), MamaPearl_19 (AK), Maria1952_19 (AK), MeganNoll_23 (AK), Misaeng_23 (AK), Moki_19 (AK), MrGloopy_23 (AK), Nancia_19 (AK), Nubia_23 (AK), OMalley_19 (AK), OurGirlNessie_19 (AK), Oxynfrius_23 (AK), PartyCup_23 (AK), PinkFriday_19 (AK), PitaDog_19 (AK), Potatoes_23 (AK), Preamble_19 (AK), Pterodactyl_19 (AK), Pumancara_19 (AK), RAP15_23 (AK), RcigaStruga_23 (AK), Riovina_19 (AK), Riverdale_23 (AK), Rozby_23 (AK), Savage2526_23 (AK), Scuttle_23 (AK), Sergei_19 (AK), Supakev_19 (AK), Suppi_23 (AK), TattModd_23 (AK), Temper16_19 (AK), Urla_19 (AK), Vallejo_23 (AK), Vulture_19 (AK), Wawa_23 (AK), Wayne_23 (AK), WonderBoy_19 (AK), Zorro_23 (AK),

Summary by clusters:

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

Info for manual annotations of cluster AK:

- Start number 19 was manually annotated 80 times for cluster AK.

Gene Information:

Gene: Albanese_23 Start: 19329, Stop: 19769, Start Num: 19

Candidate Starts for Albanese_23:

(2, 19065), (3, 19095), (4, 19107), (6, 19125), (9, 19203), (11, 19212), (12, 19218), (13, 19230), (Start: 19 @19329 has 80 MA's), (23, 19380), (35, 19494), (36, 19500), (40, 19521), (41, 19557), (48, 19617), (57, 19680), (58, 19683), (61, 19707), (64, 19740),

Gene: Aledel_19 Start: 17655, Stop: 18098, Start Num: 19

Candidate Starts for Aledel_19:

(1, 17385), (2, 17391), (8, 17490), (13, 17556), (Start: 19 @17655 has 80 MA's), (23, 17706), (24, 17712), (26, 17724), (41, 17883), (43, 17901), (53, 17985), (56, 18003), (58, 18009),

Gene: AppleCider_23 Start: 19272, Stop: 19721, Start Num: 19

Candidate Starts for AppleCider_23:

(10, 19152), (13, 19173), (15, 19203), (17, 19227), (Start: 19 @19272 has 80 MA's), (23, 19323), (29, 19392), (41, 19500), (43, 19518), (49, 19566), (50, 19569), (52, 19602), (55, 19620), (61, 19656), (62, 19659),

Gene: AustinPowers_19 Start: 17656, Stop: 18099, Start Num: 19

Candidate Starts for AustinPowers_19:

(1, 17386), (2, 17392), (8, 17491), (13, 17557), (Start: 19 @17656 has 80 MA's), (23, 17707), (24, 17713), (26, 17725), (41, 17884), (43, 17902), (51, 17974), (53, 17986), (56, 18004), (58, 18010),

Gene: Beethoven_23 Start: 19209, Stop: 19658, Start Num: 19

Candidate Starts for Beethoven_23:

(Start: 19 @19209 has 80 MA's), (23, 19260), (31, 19347), (39, 19398), (41, 19437), (43, 19455), (49, 19503), (52, 19539), (55, 19557), (58, 19569), (61, 19593), (62, 19596),

Gene: Bennie_19 Start: 17667, Stop: 18116, Start Num: 19

Candidate Starts for Bennie_19:

(2, 17403), (4, 17445), (5, 17448), (7, 17481), (13, 17568), (14, 17592), (Start: 19 @17667 has 80 MA's), (23, 17718), (28, 17781), (29, 17787), (37, 17841), (39, 17856), (41, 17895), (42, 17901), (43, 17913), (49, 17961), (52, 17997), (55, 18015), (57, 18024), (58, 18027), (61, 18051), (62, 18054),

Gene: BigMack_19 Start: 17655, Stop: 18104, Start Num: 19

Candidate Starts for BigMack_19:

(1, 17385), (13, 17556), (14, 17580), (15, 17586), (16, 17598), (Start: 19 @17655 has 80 MA's), (23, 17706), (28, 17769), (31, 17793), (37, 17829), (41, 17883), (43, 17901), (44, 17910), (49, 17949), (52, 17985), (55, 18003), (57, 18012), (61, 18039), (62, 18042),

Gene: Bodacious_19 Start: 17674, Stop: 18117, Start Num: 19

Candidate Starts for Bodacious_19:

(1, 17404), (4, 17452), (7, 17488), (10, 17554), (13, 17575), (16, 17617), (Start: 19 @17674 has 80 MA's), (23, 17725), (24, 17731), (25, 17734), (31, 17812), (34, 17827), (36, 17845), (41, 17902), (52, 17998), (56, 18022), (57, 18025), (58, 18028), (61, 18052),

Gene: BrotherBLo_23 Start: 19215, Stop: 19664, Start Num: 19

Candidate Starts for BrotherBLo_23:

(Start: 19 @19215 has 80 MA's), (23, 19266), (28, 19329), (31, 19353), (33, 19362), (39, 19404), (41, 19443), (43, 19461), (49, 19509), (52, 19545), (58, 19575), (61, 19599), (62, 19602),

Gene: CallieOMalley_23 Start: 19272, Stop: 19721, Start Num: 19

Candidate Starts for CallieOMalley_23:

(2, 19008), (10, 19152), (13, 19173), (15, 19203), (Start: 19 @19272 has 80 MA's), (23, 19323), (24, 19329), (29, 19392), (41, 19500), (43, 19518), (49, 19566), (52, 19602), (55, 19620), (61, 19656), (62, 19659),

Gene: Canowicakte_23 Start: 19307, Stop: 19756, Start Num: 19

Candidate Starts for Canowicakte_23:

(2, 19043), (10, 19187), (13, 19208), (15, 19238), (Start: 19 @19307 has 80 MA's), (23, 19358), (24, 19364), (28, 19421), (29, 19427), (41, 19535), (43, 19553), (49, 19601), (50, 19604), (52, 19637), (55, 19655), (61, 19691), (62, 19694),

Gene: Carpal_23 Start: 19216, Stop: 19665, Start Num: 19

Candidate Starts for Carpal_23:

(Start: 19 @19216 has 80 MA's), (23, 19267), (31, 19354), (33, 19363), (38, 19399), (39, 19405), (41, 19444), (43, 19462), (49, 19510), (52, 19546), (57, 19573), (58, 19576), (61, 19600), (62, 19603),

Gene: ChewChew_19 Start: 17673, Stop: 18116, Start Num: 19

Candidate Starts for ChewChew_19:

(1, 17403), (4, 17451), (7, 17487), (10, 17553), (13, 17574), (16, 17616), (Start: 19 @17673 has 80 MA's), (23, 17724), (24, 17730), (25, 17733), (31, 17811), (34, 17826), (36, 17844), (41, 17901), (52, 17997), (56, 18021), (57, 18024), (58, 18027), (61, 18051),

Gene: Cholula_23 Start: 19261, Stop: 19710, Start Num: 19

Candidate Starts for Cholula_23:

(Start: 19 @19261 has 80 MA's), (23, 19312), (31, 19399), (39, 19450), (41, 19489), (43, 19507), (49, 19555), (52, 19591), (58, 19621), (61, 19645), (62, 19648),

Gene: Chridison_19 Start: 17656, Stop: 18099, Start Num: 19

Candidate Starts for Chridison_19:

(1, 17386), (2, 17392), (8, 17491), (13, 17557), (Start: 19 @17656 has 80 MA's), (23, 17707), (24, 17713), (26, 17725), (41, 17884), (43, 17902), (53, 17986), (56, 18004), (58, 18010),

Gene: Christian_19 Start: 17674, Stop: 18117, Start Num: 19

Candidate Starts for Christian_19:

(1, 17404), (4, 17452), (7, 17488), (10, 17554), (13, 17575), (16, 17617), (Start: 19 @17674 has 80 MA's), (23, 17725), (24, 17731), (25, 17734), (31, 17812), (36, 17845), (41, 17902), (52, 17998), (56, 18022), (57, 18025), (58, 18028), (61, 18052),

Gene: CristinaYang_19 Start: 17674, Stop: 18117, Start Num: 19

Candidate Starts for CristinaYang_19:

(1, 17404), (4, 17452), (7, 17488), (10, 17554), (13, 17575), (16, 17617), (Start: 19 @17674 has 80 MA's), (23, 17725), (24, 17731), (25, 17734), (31, 17812), (34, 17827), (36, 17845), (41, 17902), (52, 17998), (56, 18022), (57, 18025), (58, 18028), (61, 18052),

Gene: Daiboju_19 Start: 17670, Stop: 18113, Start Num: 19

Candidate Starts for Daiboju_19:

(1, 17400), (4, 17448), (10, 17550), (12, 17559), (Start: 19 @17670 has 80 MA's), (23, 17721), (26, 17739), (32, 17811), (41, 17898), (43, 17916), (49, 17964), (53, 18000), (56, 18018),

Gene: Dino_23 Start: 19214, Stop: 19663, Start Num: 19

Candidate Starts for Dino_23:

(Start: 19 @19214 has 80 MA's), (23, 19265), (31, 19352), (33, 19361), (39, 19403), (41, 19442), (43, 19460), (49, 19508), (52, 19544), (57, 19571), (58, 19574), (61, 19598), (62, 19601),

Gene: DrRobert_19 Start: 17674, Stop: 18117, Start Num: 19

Candidate Starts for DrRobert_19:

(4, 17452), (7, 17488), (9, 17548), (10, 17554), (13, 17575), (16, 17617), (Start: 19 @17674 has 80 MA's), (23, 17725), (24, 17731), (25, 17734), (31, 17812), (36, 17845), (41, 17902), (52, 17998), (56, 18022), (57, 18025), (58, 18028), (61, 18052),

Gene: DreamTeam_19 Start: 17707, Stop: 18156, Start Num: 19

Candidate Starts for DreamTeam_19:

(Start: 19 @17707 has 80 MA's), (28, 17821), (30, 17836), (33, 17854), (41, 17935), (42, 17941), (43, 17953), (49, 18001), (52, 18037), (55, 18055), (57, 18064), (58, 18067), (61, 18091), (62, 18094),

Gene: EstebanJulior_19 Start: 17672, Stop: 18121, Start Num: 19

Candidate Starts for EstebanJulior_19:

(Start: 19 @17672 has 80 MA's), (23, 17723), (37, 17846), (41, 17900), (43, 17918), (49, 17966), (52, 18002), (57, 18029), (58, 18032),

Gene: Eunoia_19 Start: 17655, Stop: 18098, Start Num: 19

Candidate Starts for Eunoia_19:

(1, 17385), (2, 17391), (8, 17490), (13, 17556), (Start: 19 @17655 has 80 MA's), (23, 17706), (24, 17712), (26, 17724), (41, 17883), (43, 17901), (53, 17985), (56, 18003), (58, 18009),

Gene: Fluke_23 Start: 19257, Stop: 19706, Start Num: 19

Candidate Starts for Fluke_23:

(Start: 19 @19257 has 80 MA's), (23, 19308), (31, 19395), (39, 19446), (41, 19485), (43, 19503), (52, 19587), (57, 19614), (58, 19617), (61, 19641), (62, 19644),

Gene: Gisselle_19 Start: 17707, Stop: 18156, Start Num: 19

Candidate Starts for Gisselle_19:

(Start: 19 @17707 has 80 MA's), (28, 17821), (30, 17836), (33, 17854), (41, 17935), (42, 17941), (43, 17953), (49, 18001), (52, 18037), (55, 18055), (57, 18064), (58, 18067), (61, 18091), (62, 18094),

Gene: Glenn_23 Start: 19266, Stop: 19715, Start Num: 19

Candidate Starts for Glenn_23:

(Start: 19 @19266 has 80 MA's), (23, 19317), (31, 19404), (33, 19413), (39, 19455), (41, 19494), (43, 19512), (49, 19560), (52, 19596), (57, 19623), (58, 19626), (61, 19650), (62, 19653),

Gene: GreenHearts_23 Start: 19376, Stop: 19825, Start Num: 19

Candidate Starts for GreenHearts_23:

(2, 19112), (4, 19154), (6, 19172), (11, 19259), (12, 19265), (13, 19277), (15, 19307), (Start: 19 @19376 has 80 MA's), (20, 19406), (23, 19427), (28, 19490), (41, 19604), (43, 19622), (44, 19631), (55, 19724), (57, 19733), (58, 19736), (61, 19760), (62, 19763),

Gene: Greenhouse_23 Start: 19300, Stop: 19749, Start Num: 19

Candidate Starts for Greenhouse_23:

(2, 19036), (4, 19078), (6, 19096), (13, 19201), (15, 19231), (Start: 19 @19300 has 80 MA's), (20, 19330), (22, 19336), (23, 19351), (28, 19414), (41, 19528), (43, 19546), (44, 19555), (55, 19648), (57, 19657), (58, 19660), (61, 19684), (62, 19687),

Gene: HeadNerd_19 Start: 17667, Stop: 18116, Start Num: 19

Candidate Starts for HeadNerd_19:

(2, 17403), (4, 17445), (5, 17448), (7, 17481), (13, 17568), (14, 17592), (Start: 19 @17667 has 80 MA's), (23, 17718), (28, 17781), (29, 17787), (37, 17841), (39, 17856), (41, 17895), (42, 17901), (43, 17913), (49, 17961), (52, 17997), (55, 18015), (57, 18024), (58, 18027), (61, 18051), (62, 18054),

Gene: Herb_19 Start: 17670, Stop: 18113, Start Num: 19

Candidate Starts for Herb_19:

(1, 17400), (4, 17448), (10, 17550), (12, 17559), (Start: 19 @17670 has 80 MA's), (23, 17721), (26, 17739), (32, 17811), (41, 17898), (43, 17916), (49, 17964), (53, 18000), (56, 18018),

Gene: Huckleberry_19 Start: 17667, Stop: 18116, Start Num: 19

Candidate Starts for Huckleberry_19:

(2, 17403), (4, 17445), (5, 17448), (7, 17481), (13, 17568), (14, 17592), (Start: 19 @17667 has 80 MA's), (23, 17718), (28, 17781), (29, 17787), (37, 17841), (39, 17856), (41, 17895), (42, 17901), (43, 17913), (49, 17961), (52, 17997), (55, 18015), (57, 18024), (58, 18027), (61, 18051), (62, 18054),

Gene: HunterDalle_19 Start: 17655, Stop: 18098, Start Num: 19

Candidate Starts for HunterDalle_19:

(1, 17385), (2, 17391), (8, 17490), (13, 17556), (Start: 19 @17655 has 80 MA's), (23, 17706), (24, 17712), (26, 17724), (41, 17883), (43, 17901), (51, 17973), (53, 17985), (56, 18003), (58, 18009),

Gene: Huntingdon_23 Start: 19268, Stop: 19717, Start Num: 19

Candidate Starts for Huntingdon_23:

(2, 19004), (13, 19169), (Start: 19 @19268 has 80 MA's), (28, 19382), (41, 19496), (43, 19514), (46, 19532), (49, 19562), (50, 19565), (52, 19598), (55, 19616), (57, 19625), (58, 19628), (61, 19652), (64, 19685),

Gene: Immaculata_23 Start: 19260, Stop: 19709, Start Num: 19

Candidate Starts for Immaculata_23:

(Start: 19 @19260 has 80 MA's), (23, 19311), (31, 19398), (39, 19449), (41, 19488), (43, 19506), (49, 19554), (52, 19590), (58, 19620), (61, 19644), (62, 19647),

Gene: Joann_23 Start: 19280, Stop: 19720, Start Num: 19

Candidate Starts for Joann_23:

(11, 19163), (12, 19169), (13, 19181), (Start: 19 @19280 has 80 MA's), (23, 19331), (29, 19400), (31, 19418), (35, 19445), (36, 19451), (40, 19472), (41, 19508), (48, 19568), (57, 19631), (58, 19634), (61, 19658), (64, 19691),

Gene: Jumboset_23 Start: 19209, Stop: 19658, Start Num: 19

Candidate Starts for Jumboset_23:

(Start: 19 @19209 has 80 MA's), (23, 19260), (28, 19323), (31, 19347), (33, 19356), (39, 19398), (41, 19437), (43, 19455), (49, 19503), (52, 19539), (58, 19569), (61, 19593), (62, 19596),

Gene: Kalizoi_23 Start: 19208, Stop: 19657, Start Num: 19

Candidate Starts for Kalizoi_23:

(Start: 19 @19208 has 80 MA's), (23, 19259), (31, 19346), (33, 19355), (39, 19397), (41, 19436), (43, 19454), (49, 19502), (52, 19538), (58, 19568), (61, 19592), (62, 19595),

Gene: KingBob_19 Start: 17670, Stop: 18113, Start Num: 19

Candidate Starts for KingBob_19:

(1, 17400), (4, 17448), (10, 17550), (12, 17559), (Start: 19 @17670 has 80 MA's), (23, 17721), (26, 17739), (32, 17811), (41, 17898), (43, 17916), (49, 17964), (53, 18000), (56, 18018),

Gene: Kittykat_19 Start: 17691, Stop: 18140, Start Num: 19

Candidate Starts for Kittykat_19:

(Start: 19 @17691 has 80 MA's), (28, 17805), (30, 17820), (33, 17838), (37, 17865), (41, 17919), (42, 17925), (43, 17937), (49, 17985), (52, 18021), (55, 18039), (57, 18048), (58, 18051), (61, 18075), (62, 18078),

Gene: Korra_24 Start: 19214, Stop: 19663, Start Num: 19

Candidate Starts for Korra_24:

(Start: 19 @19214 has 80 MA's), (23, 19265), (31, 19352), (33, 19361), (39, 19403), (41, 19442), (43, 19460), (49, 19508), (52, 19544), (57, 19571), (58, 19574), (61, 19598), (62, 19601),

Gene: Lakshmi_23 Start: 19305, Stop: 19745, Start Num: 19

Candidate Starts for Lakshmi_23:

(2, 19041), (3, 19071), (4, 19083), (6, 19101), (9, 19179), (11, 19188), (12, 19194), (13, 19206), (Start: 19 @19305 has 80 MA's), (23, 19356), (35, 19470), (36, 19476), (40, 19497), (41, 19533), (48, 19593), (57, 19656), (58, 19659), (61, 19683), (64, 19716),

Gene: Lasagna_19 Start: 17674, Stop: 18117, Start Num: 19

Candidate Starts for Lasagna_19:

(10, 17554), (13, 17575), (16, 17617), (Start: 19 @17674 has 80 MA's), (23, 17725), (24, 17731), (25, 17734), (31, 17812), (36, 17845), (41, 17902), (52, 17998), (56, 18022), (57, 18025), (58, 18028), (61, 18052),

Gene: Lennox_19 Start: 17662, Stop: 18105, Start Num: 19

Candidate Starts for Lennox_19:

(1, 17392), (4, 17440), (7, 17476), (10, 17542), (13, 17563), (16, 17605), (Start: 19 @17662 has 80 MA's), (23, 17713), (24, 17719), (25, 17722), (31, 17800), (36, 17833), (41, 17890), (52, 17986), (56,

18010), (57, 18013), (58, 18016), (61, 18040),

Gene: LilStuart_19 Start: 17662, Stop: 18105, Start Num: 19

Candidate Starts for LilStuart_19:

(1, 17392), (4, 17440), (7, 17476), (10, 17542), (13, 17563), (16, 17605), (Start: 19 @17662 has 80 MA's), (23, 17713), (24, 17719), (25, 17722), (31, 17800), (34, 17815), (36, 17833), (41, 17890), (52, 17986), (56, 18010), (57, 18013), (58, 18016), (61, 18040),

Gene: Litotes_23 Start: 19257, Stop: 19706, Start Num: 19

Candidate Starts for Litotes_23:

(10, 19137), (13, 19158), (15, 19188), (Start: 19 @19257 has 80 MA's), (23, 19308), (24, 19314), (28, 19371), (29, 19377), (41, 19485), (43, 19503), (49, 19551), (50, 19554), (52, 19587), (55, 19605), (61, 19641), (62, 19644),

Gene: Lucy_19 Start: 17654, Stop: 18097, Start Num: 19

Candidate Starts for Lucy_19:

(1, 17384), (4, 17432), (7, 17468), (10, 17534), (13, 17555), (16, 17597), (Start: 19 @17654 has 80 MA's), (23, 17705), (24, 17711), (25, 17714), (31, 17792), (36, 17825), (41, 17882), (52, 17978), (56, 18002), (57, 18005), (58, 18008), (61, 18032),

Gene: Makoto_19 Start: 17675, Stop: 18118, Start Num: 19

Candidate Starts for Makoto_19:

(1, 17405), (4, 17453), (7, 17489), (9, 17549), (10, 17555), (13, 17576), (16, 17618), (Start: 19 @17675 has 80 MA's), (23, 17726), (24, 17732), (25, 17735), (31, 17813), (36, 17846), (41, 17903), (52, 17999), (56, 18023), (57, 18026), (58, 18029), (61, 18053),

Gene: MamaPearl_19 Start: 17672, Stop: 18121, Start Num: 19

Candidate Starts for MamaPearl_19:

(Start: 19 @17672 has 80 MA's), (23, 17723), (37, 17846), (41, 17900), (43, 17918), (49, 17966), (52, 18002), (57, 18029), (58, 18032),

Gene: Maria1952_19 Start: 17670, Stop: 18113, Start Num: 19

Candidate Starts for Maria1952_19:

(1, 17400), (4, 17448), (10, 17550), (12, 17559), (Start: 19 @17670 has 80 MA's), (23, 17721), (26, 17739), (32, 17811), (41, 17898), (43, 17916), (49, 17964), (53, 18000), (56, 18018),

Gene: MeganNoll_23 Start: 19266, Stop: 19715, Start Num: 19

Candidate Starts for MeganNoll_23:

(Start: 19 @19266 has 80 MA's), (23, 19317), (28, 19380), (31, 19404), (33, 19413), (39, 19455), (41, 19494), (43, 19512), (49, 19560), (52, 19596), (58, 19626), (61, 19650), (62, 19653),

Gene: Misaeng_23 Start: 19350, Stop: 19799, Start Num: 19

Candidate Starts for Misaeng_23:

(11, 19233), (13, 19251), (Start: 19 @19350 has 80 MA's), (20, 19380), (21, 19383), (23, 19401), (27, 19428), (28, 19464), (29, 19470), (39, 19539), (41, 19578), (43, 19596), (49, 19644), (55, 19698), (58, 19710), (61, 19734), (62, 19737),

Gene: Moki_19 Start: 17667, Stop: 18116, Start Num: 19

Candidate Starts for Moki_19:

(2, 17403), (4, 17445), (5, 17448), (7, 17481), (13, 17568), (14, 17592), (Start: 19 @17667 has 80 MA's), (23, 17718), (28, 17781), (29, 17787), (37, 17841), (39, 17856), (41, 17895), (42, 17901), (43, 17913), (49, 17961), (52, 17997), (55, 18015), (57, 18024), (58, 18027), (61, 18051), (62, 18054),

Gene: MrGloopy_23 Start: 19200, Stop: 19649, Start Num: 19

Candidate Starts for MrGloopy_23:

(Start: 19 @19200 has 80 MA's), (23, 19251), (31, 19338), (33, 19347), (38, 19383), (39, 19389), (41, 19428), (43, 19446), (49, 19494), (52, 19530), (57, 19557), (58, 19560), (61, 19584), (62, 19587),

Gene: Nancia_19 Start: 17674, Stop: 18117, Start Num: 19

Candidate Starts for Nancia_19:

(1, 17404), (4, 17452), (7, 17488), (10, 17554), (13, 17575), (16, 17617), (Start: 19 @17674 has 80 MA's), (23, 17725), (24, 17731), (25, 17734), (31, 17812), (34, 17827), (36, 17845), (41, 17902), (52, 17998), (56, 18022), (57, 18025), (58, 18028), (61, 18052),

Gene: Nubia_23 Start: 19265, Stop: 19705, Start Num: 19

Candidate Starts for Nubia_23:

(2, 19001), (3, 19031), (4, 19043), (6, 19061), (9, 19139), (11, 19148), (12, 19154), (13, 19166), (Start: 19 @19265 has 80 MA's), (23, 19316), (35, 19430), (36, 19436), (40, 19457), (41, 19493), (48, 19553), (57, 19616), (58, 19619), (61, 19643), (64, 19676),

Gene: OMalley_19 Start: 17655, Stop: 18098, Start Num: 19

Candidate Starts for OMalley_19:

(1, 17385), (2, 17391), (8, 17490), (13, 17556), (Start: 19 @17655 has 80 MA's), (23, 17706), (24, 17712), (26, 17724), (41, 17883), (43, 17901), (53, 17985), (56, 18003), (58, 18009),

Gene: OurGirlNessie_19 Start: 17654, Stop: 18097, Start Num: 19

Candidate Starts for OurGirlNessie_19:

(1, 17384), (4, 17432), (7, 17468), (9, 17528), (10, 17534), (13, 17555), (16, 17597), (Start: 19 @17654 has 80 MA's), (23, 17705), (24, 17711), (25, 17714), (31, 17792), (36, 17825), (41, 17882), (52, 17978), (56, 18002), (57, 18005), (58, 18008), (61, 18032),

Gene: Oxynfrius_23 Start: 19278, Stop: 19718, Start Num: 19

Candidate Starts for Oxynfrius_23:

(2, 19014), (3, 19044), (4, 19056), (6, 19074), (9, 19152), (11, 19161), (12, 19167), (13, 19179), (Start: 19 @19278 has 80 MA's), (23, 19329), (35, 19443), (36, 19449), (40, 19470), (41, 19506), (48, 19566), (57, 19629), (58, 19632), (61, 19656), (64, 19689),

Gene: PartyCup_23 Start: 19304, Stop: 19753, Start Num: 19

Candidate Starts for PartyCup_23:

(10, 19184), (13, 19205), (15, 19235), (Start: 19 @19304 has 80 MA's), (23, 19355), (24, 19361), (29, 19424), (41, 19532), (43, 19550), (49, 19598), (50, 19601), (52, 19634), (55, 19652), (61, 19688), (62, 19691),

Gene: PinkFriday_19 Start: 17691, Stop: 18134, Start Num: 19

Candidate Starts for PinkFriday_19:

(Start: 19 @17691 has 80 MA's), (22, 17727), (23, 17742), (26, 17760), (41, 17919), (43, 17937), (47, 17976), (49, 17985), (53, 18021), (56, 18039), (61, 18069),

Gene: PitaDog_19 Start: 17665, Stop: 18108, Start Num: 19

Candidate Starts for PitaDog_19:

(1, 17395), (4, 17443), (7, 17479), (10, 17545), (13, 17566), (16, 17608), (Start: 19 @17665 has 80 MA's), (23, 17716), (24, 17722), (25, 17725), (31, 17803), (34, 17818), (36, 17836), (41, 17893), (52, 17989), (56, 18013), (57, 18016), (58, 18019), (61, 18043),

Gene: Potatoes_23 Start: 19261, Stop: 19710, Start Num: 19

Candidate Starts for Potatoes_23:

(Start: 19 @19261 has 80 MA's), (23, 19312), (31, 19399), (39, 19450), (41, 19489), (43, 19507), (49, 19555), (52, 19591), (58, 19621), (61, 19645), (62, 19648),

Gene: Preamble_19 Start: 17668, Stop: 18117, Start Num: 19

Candidate Starts for Preamble_19:

(Start: 19 @17668 has 80 MA's), (28, 17782), (30, 17797), (33, 17815), (37, 17842), (41, 17896), (42, 17902), (43, 17914), (49, 17962), (52, 17998), (55, 18016), (57, 18025), (58, 18028), (61, 18052), (62, 18055),

Gene: Pterodactyl_19 Start: 17655, Stop: 18098, Start Num: 19

Candidate Starts for Pterodactyl_19:

(1, 17385), (4, 17433), (7, 17469), (10, 17535), (13, 17556), (16, 17598), (Start: 19 @17655 has 80 MA's), (23, 17706), (24, 17712), (25, 17715), (31, 17793), (36, 17826), (41, 17883), (52, 17979), (56, 18003), (57, 18006), (58, 18009), (61, 18033),

Gene: Pumancara_19 Start: 17673, Stop: 18116, Start Num: 19

Candidate Starts for Pumancara_19:

(4, 17451), (10, 17553), (12, 17562), (Start: 19 @17673 has 80 MA's), (22, 17709), (23, 17724), (26, 17742), (41, 17901), (43, 17919), (47, 17958), (49, 17967), (53, 18003), (56, 18021), (61, 18051),

Gene: RAP15_23 Start: 19266, Stop: 19715, Start Num: 19

Candidate Starts for RAP15_23:

(Start: 19 @19266 has 80 MA's), (23, 19317), (28, 19380), (31, 19404), (33, 19413), (39, 19455), (41, 19494), (43, 19512), (49, 19560), (52, 19596), (58, 19626), (61, 19650), (62, 19653),

Gene: RcigaStruga_23 Start: 19268, Stop: 19717, Start Num: 19

Candidate Starts for RcigaStruga_23:

(2, 19004), (13, 19169), (Start: 19 @19268 has 80 MA's), (28, 19382), (41, 19496), (43, 19514), (46, 19532), (49, 19562), (50, 19565), (52, 19598), (55, 19616), (57, 19625), (58, 19628), (61, 19652), (64, 19685),

Gene: Riovina_19 Start: 17655, Stop: 18098, Start Num: 19

Candidate Starts for Riovina_19:

(1, 17385), (2, 17391), (8, 17490), (13, 17556), (Start: 19 @17655 has 80 MA's), (23, 17706), (24, 17712), (26, 17724), (41, 17883), (43, 17901), (53, 17985), (56, 18003), (58, 18009),

Gene: Riverdale_23 Start: 19196, Stop: 19645, Start Num: 19

Candidate Starts for Riverdale_23:

(Start: 19 @19196 has 80 MA's), (23, 19247), (31, 19334), (39, 19385), (41, 19424), (43, 19442), (49, 19490), (52, 19526), (55, 19544), (58, 19556), (61, 19580), (62, 19583),

Gene: Rozby_23 Start: 19197, Stop: 19646, Start Num: 19

Candidate Starts for Rozby_23:

(Start: 19 @19197 has 80 MA's), (23, 19248), (31, 19335), (39, 19386), (41, 19425), (43, 19443), (49, 19491), (52, 19527), (57, 19554), (58, 19557), (61, 19581), (62, 19584),

Gene: Savage2526_23 Start: 19260, Stop: 19709, Start Num: 19

Candidate Starts for Savage2526_23:

(Start: 19 @19260 has 80 MA's), (23, 19311), (28, 19374), (31, 19398), (33, 19407), (39, 19449), (41, 19488), (43, 19506), (49, 19554), (52, 19590), (58, 19620), (61, 19644), (62, 19647),

Gene: Scuttle_23 Start: 19265, Stop: 19714, Start Num: 19

Candidate Starts for Scuttle_23:

(Start: 19 @19265 has 80 MA's), (23, 19316), (31, 19403), (39, 19454), (41, 19493), (43, 19511), (49, 19559), (52, 19595), (57, 19622), (58, 19625), (61, 19649), (62, 19652),

Gene: Sergei_19 Start: 17670, Stop: 18113, Start Num: 19

Candidate Starts for Sergei_19:

(1, 17400), (4, 17448), (10, 17550), (12, 17559), (Start: 19 @17670 has 80 MA's), (23, 17721), (26, 17739), (32, 17811), (41, 17898), (43, 17916), (49, 17964), (53, 18000), (56, 18018),

Gene: Supakev_19 Start: 17657, Stop: 18100, Start Num: 19

Candidate Starts for Supakev_19:

(1, 17387), (2, 17393), (8, 17492), (13, 17558), (Start: 19 @17657 has 80 MA's), (23, 17708), (24, 17714), (26, 17726), (41, 17885), (43, 17903), (53, 17987), (56, 18005), (58, 18011),

Gene: Suppi_23 Start: 19307, Stop: 19756, Start Num: 19

Candidate Starts for Suppi_23:

(2, 19043), (10, 19187), (13, 19208), (15, 19238), (Start: 19 @19307 has 80 MA's), (23, 19358), (24, 19364), (28, 19421), (29, 19427), (41, 19535), (43, 19553), (49, 19601), (50, 19604), (52, 19637), (55, 19655), (61, 19691), (62, 19694),

Gene: TattModd_23 Start: 19259, Stop: 19708, Start Num: 19

Candidate Starts for TattModd_23:

(Start: 19 @19259 has 80 MA's), (23, 19310), (31, 19397), (33, 19406), (38, 19442), (39, 19448), (41, 19487), (43, 19505), (49, 19553), (52, 19589), (58, 19619), (61, 19643), (62, 19646),

Gene: Temper16_19 Start: 17670, Stop: 18113, Start Num: 19

Candidate Starts for Temper16_19:

(1, 17400), (4, 17448), (10, 17550), (12, 17559), (Start: 19 @17670 has 80 MA's), (23, 17721), (26, 17739), (32, 17811), (41, 17898), (43, 17916), (49, 17964), (53, 18000), (56, 18018),

Gene: Urla_19 Start: 17674, Stop: 18123, Start Num: 19

Candidate Starts for Urla_19:

(Start: 19 @17674 has 80 MA's), (37, 17848), (41, 17902), (43, 17920), (49, 17968), (52, 18004), (57, 18031), (58, 18034),

Gene: Vallejo_23 Start: 19198, Stop: 19647, Start Num: 19

Candidate Starts for Vallejo_23:

(Start: 19 @19198 has 80 MA's), (23, 19249), (31, 19336), (33, 19345), (39, 19387), (41, 19426), (43, 19444), (49, 19492), (52, 19528), (55, 19546), (57, 19555), (58, 19558), (61, 19582), (62, 19585),

Gene: Vulture_19 Start: 17655, Stop: 18098, Start Num: 19

Candidate Starts for Vulture_19:

(1, 17385), (2, 17391), (8, 17490), (13, 17556), (Start: 19 @17655 has 80 MA's), (23, 17706), (24, 17712), (26, 17724), (41, 17883), (43, 17901), (51, 17973), (53, 17985), (56, 18003), (58, 18009),

Gene: Wawa_23 Start: 19235, Stop: 19684, Start Num: 19

Candidate Starts for Wawa_23:

(Start: 19 @19235 has 80 MA's), (23, 19286), (31, 19373), (33, 19382), (39, 19424), (41, 19463), (43, 19481), (49, 19529), (57, 19592), (58, 19595), (61, 19619), (62, 19622),

Gene: Wayne_23 Start: 19353, Stop: 19802, Start Num: 19

Candidate Starts for Wayne_23:

(10, 19233), (13, 19254), (15, 19284), (Start: 19 @19353 has 80 MA's), (23, 19404), (24, 19410), (29, 19473), (41, 19581), (43, 19599), (49, 19647), (52, 19683), (55, 19701), (61, 19737), (62, 19740),

Gene: Wollypog_22 Start: 20463, Stop: 20921, Start Num: 18

Candidate Starts for Wollypog_22:

(Start: 18 @20463 has 1 MA's), (25, 20529), (33, 20613), (45, 20727), (54, 20802), (59, 20829), (60, 20835), (61, 20844), (63, 20868),

Gene: WonderBoy_19 Start: 17655, Stop: 18098, Start Num: 19

Candidate Starts for WonderBoy_19:

(1, 17385), (4, 17433), (7, 17469), (10, 17535), (13, 17556), (16, 17598), (Start: 19 @17655 has 80 MA's), (23, 17706), (24, 17712), (25, 17715), (31, 17793), (36, 17826), (41, 17883), (52, 17979), (56, 18003), (57, 18006), (58, 18009), (61, 18033),

Gene: Zorro_23 Start: 19214, Stop: 19663, Start Num: 19

Candidate Starts for Zorro_23:

(Start: 19 @19214 has 80 MA's), (23, 19265), (31, 19352), (33, 19361), (39, 19403), (41, 19442), (43, 19460), (49, 19508), (52, 19544), (57, 19571), (58, 19574), (61, 19598), (62, 19601),