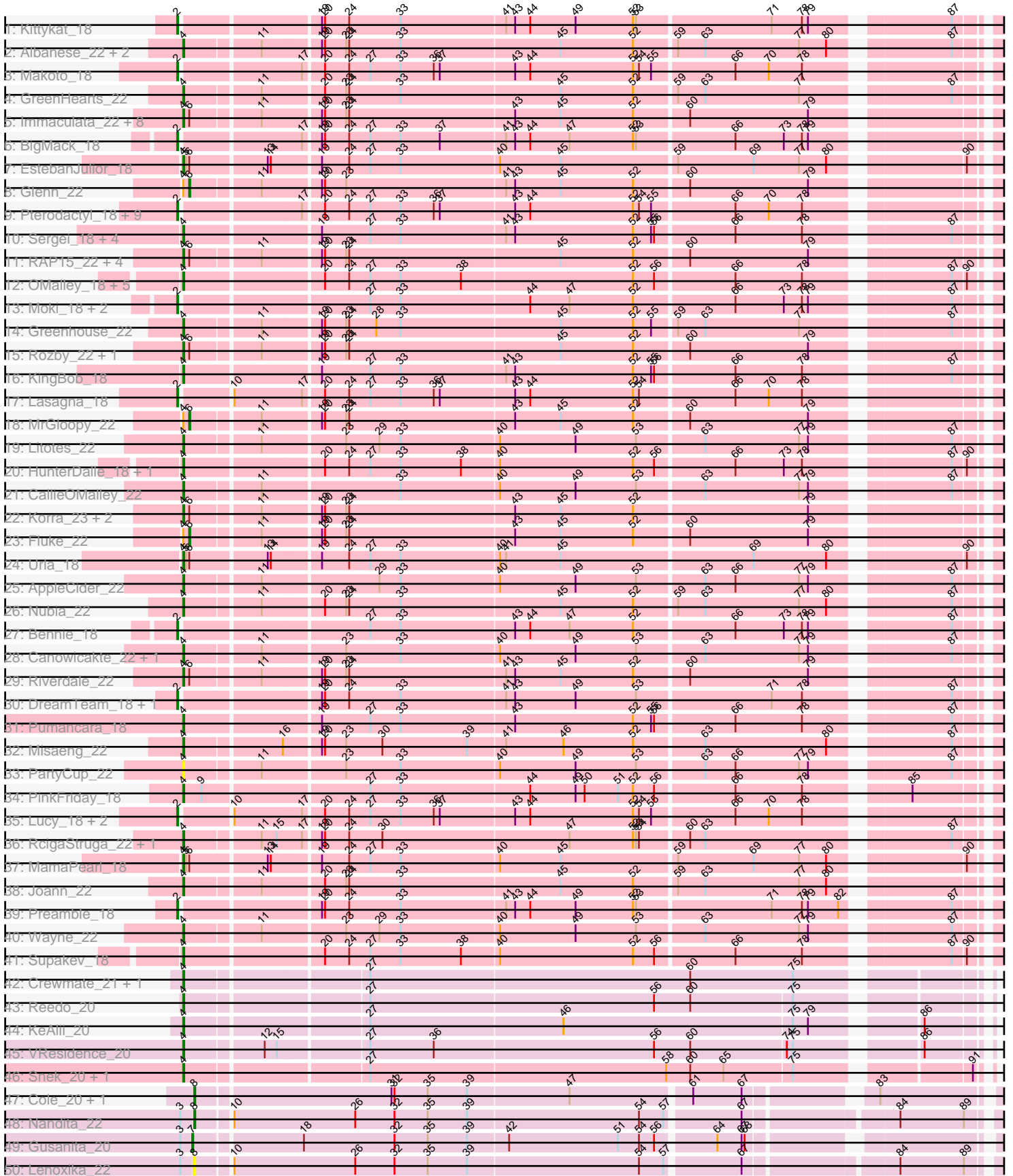
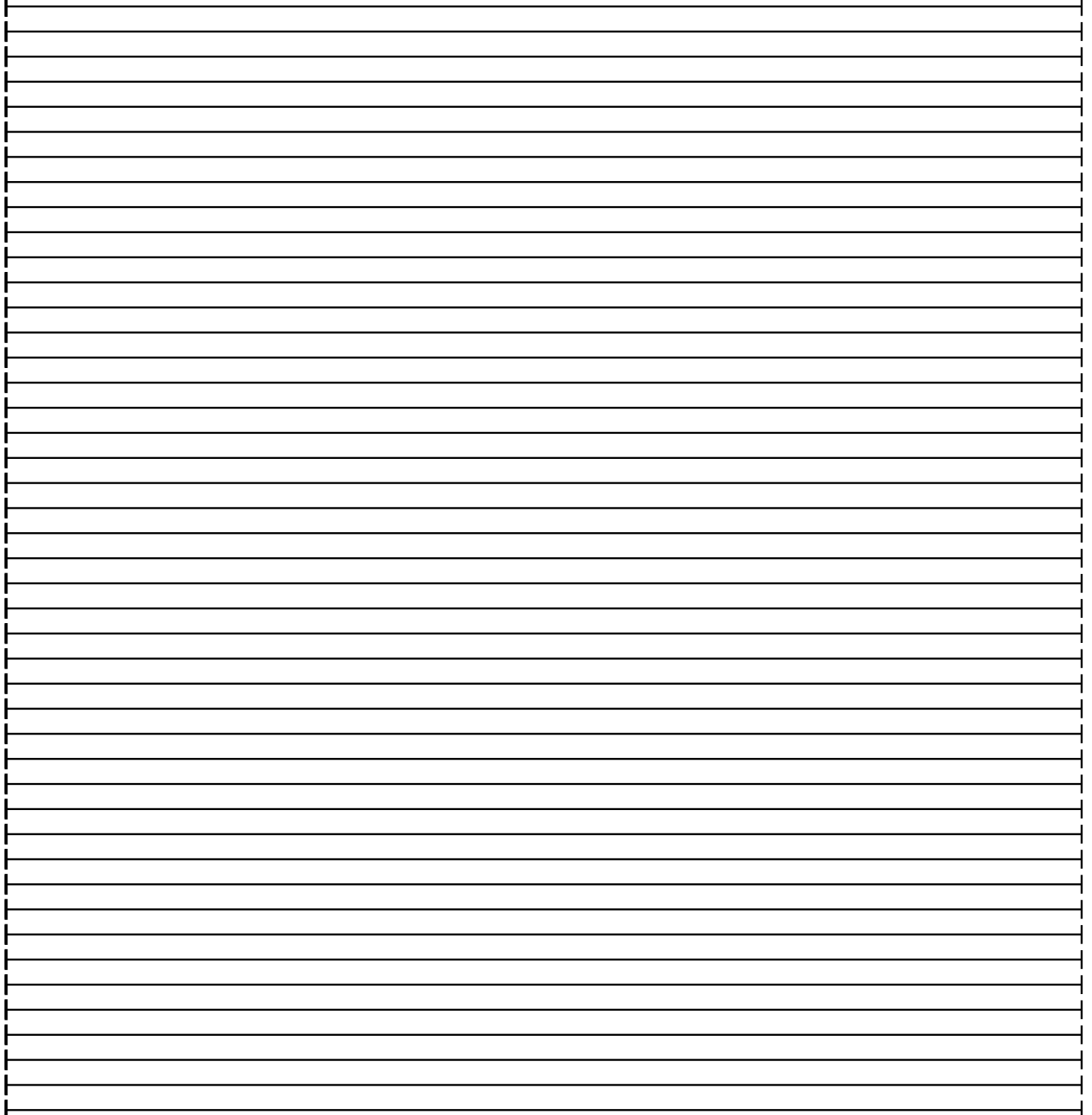
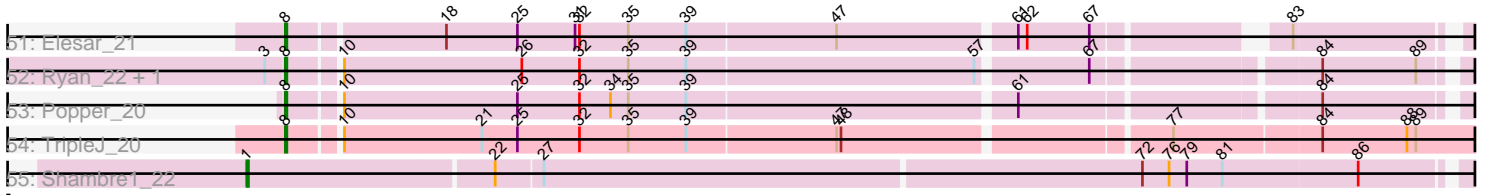


Zoomed Pham 191200



Zoomed Pham 191200



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 191200 Report

This analysis was run 11/02/24 on database version 579.

Pham number 191200 has 102 members, 3 are drafts.

Phages represented in each track:

- Track 1 : Kittykat_18
- Track 2 : Albanese_22, Lakshmi_22, Oxyfriuus_22
- Track 3 : Makoto_18
- Track 4 : GreenHearts_22
- Track 5 : Immaculata_22, TattModd_22, Wawa_22, Cholula_22, Carpal_22, Potatoes_22, Scuttle_22, Vallejo_22, Kalizoi_22
- Track 6 : BigMack_18
- Track 7 : EstebanJulior_18
- Track 8 : Glenn_22
- Track 9 : Pterodactyl_18, CristinaYang_18, DrRobert_18, LilStuart_18, Nancia_18, OurGirlNessie_18, Bodacious_18, Christian_18, Lennox_18, ChewChew_18
- Track 10 : Sergei_18, Herb_18, Temper16_18, Maria1952_18, Daiboju_18
- Track 11 : RAP15_22, MeganNoll_22, Savage2526_22, Jumboset_22, BrotherBLo_22
- Track 12 : OMalley_18, Eunoia_18, Aledel_18, Chridison_18, AustinPowers_18, Riovina_18
- Track 13 : Moki_18, Huckleberry_18, HeadNerd_18
- Track 14 : Greenhouse_22
- Track 15 : Rozby_22, Beethoven_22
- Track 16 : KingBob_18
- Track 17 : Lasagna_18
- Track 18 : MrGloopy_22
- Track 19 : Litotes_22
- Track 20 : HunterDalle_18, Vulture_18
- Track 21 : CallieOMalley_22
- Track 22 : Korra_23, Dino_22, Zorro_22
- Track 23 : Fluke_22
- Track 24 : Urla_18
- Track 25 : AppleCider_22
- Track 26 : Nubia_22
- Track 27 : Bennie_18
- Track 28 : Canowicakte_22, Suppi_22
- Track 29 : Riverdale_22
- Track 30 : DreamTeam_18, Gisselle_18
- Track 31 : Pumancara_18
- Track 32 : Misaeng_22
- Track 33 : PartyCup_22

- Track 34 : PinkFriday_18
- Track 35 : Lucy_18, PitaDog_18, WonderBoy_18
- Track 36 : RcigaStruga_22, Huntingdon_22
- Track 37 : MamaPearl_18
- Track 38 : Joann_22
- Track 39 : Preamble_18
- Track 40 : Wayne_22
- Track 41 : Supakev_18
- Track 42 : Crewmate_21, ObiToo_20
- Track 43 : Reedo_20
- Track 44 : KeAlii_20
- Track 45 : VResidence_20
- Track 46 : Snek_20, Tweety19_20
- Track 47 : Cole_20, QuinnAvery_21
- Track 48 : Nandita_22
- Track 49 : Gusanita_20
- Track 50 : Lenoxika_22
- Track 51 : Elesar_21
- Track 52 : Ryan_22, Zaheer_22
- Track 53 : Popper_20
- Track 54 : TripleJ_20
- Track 55 : Shambre1_22

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

The start number called the most often in the published annotations is 4, it was called in 63 of the 99 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Albanese_22, Aledel_18, AppleCider_22, AustinPowers_18, Beethoven_22, BrotherBLo_22, CallieOMalley_22, Canowicakte_22, Carpal_22, Cholula_22, Chridison_18, Crewmate_21, Daiboju_18, Dino_22, EstebanJulior_18, Eunoia_18, GreenHearts_22, Greenhouse_22, Herb_18, HunterDalle_18, Huntingdon_22, Immaculata_22, Joann_22, Jumboset_22, Kalizoi_22, KeAlii_20, KingBob_18, Korra_23, Lakshmi_22, Litotes_22, MamaPearl_18, Maria1952_18, MeganNoll_22, Misaeng_22, Nubia_22, OMalley_18, ObiToo_20, Oxynfrius_22, PartyCup_22, PinkFriday_18, Potatoes_22, Pumancara_18, RAP15_22, RcigaStruga_22, Reedo_20, Riovina_18, Riverdale_22, Rozby_22, Savage2526_22, Scuttle_22, Sergei_18, Snek_20, Supakev_18, Suppi_22, TattModd_22, Temper16_18, Tweety19_20, Urla_18, VResidence_20, Vallejo_22, Vulture_18, Wawa_22, Wayne_22, Zorro_22,

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

- Fluke_22, Glenn_22, MrGloopy_22,

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

- Bennie_18, BigMack_18, Bodacious_18, ChewChew_18, Christian_18, Cole_20, CristinaYang_18, DrRobert_18, DreamTeam_18, Elesar_21, Gisselle_18, Gusanita_20, HeadNerd_18, Huckleberry_18, Kittykat_18, Lasagna_18, Lennox_18, Lenoxika_22, LilStuart_18, Lucy_18, Makoto_18, Moki_18, Nancia_18, Nandita_22,

OurGirlNessie_18, PitaDog_18, Popper_20, Preamble_18, Pterodactyl_18, QuinnAvery_21, Ryan_22, Shambre1_22, TripleJ_20, WonderBoy_18, Zaheer_22,

Summary by start number:

Start 1:

- Found in 1 of 102 (1.0%) of genes in pham
- Manual Annotations of this start: 1 of 99
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Shambre1_22 (singleton),

Start 2:

- Found in 24 of 102 (23.5%) of genes in pham
- Manual Annotations of this start: 24 of 99
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bennie_18 (AK), BigMack_18 (AK), Bodacious_18 (AK), ChewChew_18 (AK), Christian_18 (AK), CristinaYang_18 (AK), DrRobert_18 (AK), DreamTeam_18 (AK), Gisselle_18 (AK), HeadNerd_18 (AK), Huckleberry_18 (AK), Kittykat_18 (AK), Lasagna_18 (AK), Lennox_18 (AK), LilStuart_18 (AK), Lucy_18 (AK), Makoto_18 (AK), Moki_18 (AK), Nancia_18 (AK), OurGirlNessie_18 (AK), PitaDog_18 (AK), Preamble_18 (AK), Pterodactyl_18 (AK), WonderBoy_18 (AK),

Start 4:

- Found in 67 of 102 (65.7%) of genes in pham
- Manual Annotations of this start: 63 of 99
- Called 95.5% of time when present
- Phage (with cluster) where this start called: Albanese_22 (AK), Aledel_18 (AK), AppleCider_22 (AK), AustinPowers_18 (AK), Beethoven_22 (AK), BrotherBLo_22 (AK), CallieOMalley_22 (AK), Canowicakte_22 (AK), Carpal_22 (AK), Cholula_22 (AK), Chridison_18 (AK), Crewmate_21 (AZ1), Daiboju_18 (AK), Dino_22 (AK), EstebanJulior_18 (AK), Eunoia_18 (AK), GreenHearts_22 (AK), Greenhouse_22 (AK), Herb_18 (AK), HunterDalle_18 (AK), Huntingdon_22 (AK), Immaculata_22 (AK), Joann_22 (AK), Jumboset_22 (AK), Kalizoi_22 (AK), KeAlii_20 (AZ1), KingBob_18 (AK), Korra_23 (AK), Lakshmi_22 (AK), Litotes_22 (AK), MamaPearl_18 (AK), Maria1952_18 (AK), MeganNoll_22 (AK), Misaeng_22 (AK), Nubia_22 (AK), OMalley_18 (AK), ObiToo_20 (AZ1), Oxyntorius_22 (AK), PartyCup_22 (AK), PinkFriday_18 (AK), Potatoes_22 (AK), Pumancara_18 (AK), RAP15_22 (AK), RcigaStruga_22 (AK), Reedo_20 (AZ1), Rivovina_18 (AK), Riverdale_22 (AK), Rozby_22 (AK), Savage2526_22 (AK), Scuttle_22 (AK), Sergei_18 (AK), Snek_20 (AZ3), Supakev_18 (AK), Suppi_22 (AK), TattModd_22 (AK), Temper16_18 (AK), Tweety19_20 (AZ3), Urla_18 (AK), VResidence_20 (AZ1), Vallejo_22 (AK), Vulture_18 (AK), Wawa_22 (AK), Wayne_22 (AK), Zorro_22 (AK),

Start 6:

- Found in 26 of 102 (25.5%) of genes in pham
- Manual Annotations of this start: 3 of 99
- Called 11.5% of time when present
- Phage (with cluster) where this start called: Fluke_22 (AK), Glenn_22 (AK), MrGloopy_22 (AK),

Start 7:

- Found in 1 of 102 (1.0%) of genes in pham

- Manual Annotations of this start: 1 of 99
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gusanita_20 (FF),

Start 8:

- Found in 9 of 102 (8.8%) of genes in pham
- Manual Annotations of this start: 7 of 99
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cole_20 (FF), Elesar_21 (FF), Lenoxika_22 (FF), Nandita_22 (FF), Popper_20 (FF), QuinnAvery_21 (FF), Ryan_22 (FF), TripleJ_20 (FJ), Zaheer_22 (FF),

Summary by clusters:

There are 6 clusters represented in this pham: singleton, AK, FF, AZ1, FJ, AZ3,

Info for manual annotations of cluster AK:

- Start number 2 was manually annotated 24 times for cluster AK.
- Start number 4 was manually annotated 56 times for cluster AK.
- Start number 6 was manually annotated 3 times for cluster AK.

Info for manual annotations of cluster AZ1:

- Start number 4 was manually annotated 5 times for cluster AZ1.

Info for manual annotations of cluster AZ3:

- Start number 4 was manually annotated 2 times for cluster AZ3.

Info for manual annotations of cluster FF:

- Start number 7 was manually annotated 1 time for cluster FF.
- Start number 8 was manually annotated 6 times for cluster FF.

Info for manual annotations of cluster FJ:

- Start number 8 was manually annotated 1 time for cluster FJ.

Gene Information:

Gene: Albanese_22 Start: 18260, Stop: 19336, Start Num: 4

Candidate Starts for Albanese_22:

(Start: 4 @18260 has 63 MA's), (11, 18329), (19, 18383), (20, 18386), (23, 18407), (24, 18410), (33, 18461), (45, 18617), (52, 18689), (59, 18728), (63, 18755), (77, 18848), (80, 18875), (87, 18977), (94, 19031), (95, 19043), (106, 19118), (111, 19187), (116, 19250), (119, 19265), (123, 19316),

Gene: Aledel_18 Start: 16583, Stop: 17662, Start Num: 4

Candidate Starts for Aledel_18:

(Start: 4 @16583 has 63 MA's), (20, 16712), (24, 16736), (27, 16757), (33, 16787), (38, 16847), (52, 17015), (56, 17036), (66, 17111), (78, 17177), (87, 17303), (90, 17315), (94, 17357), (105, 17435), (106, 17444), (111, 17513), (116, 17576), (123, 17642),

Gene: AppleCider_22 Start: 18203, Stop: 19279, Start Num: 4

Candidate Starts for AppleCider_22:

(Start: 4 @18203 has 63 MA's), (11, 18272), (29, 18383), (33, 18404), (40, 18500), (49, 18575), (53, 18635), (63, 18698), (66, 18728), (77, 18791), (79, 18800), (87, 18920), (92, 18965), (94, 18974), (106, 19061), (108, 19088), (111, 19130), (119, 19208), (123, 19259),

Gene: AustinPowers_18 Start: 16584, Stop: 17663, Start Num: 4

Candidate Starts for AustinPowers_18:

(Start: 4 @16584 has 63 MA's), (20, 16713), (24, 16737), (27, 16758), (33, 16788), (38, 16848), (52, 17016), (56, 17037), (66, 17112), (78, 17178), (87, 17304), (90, 17316), (94, 17358), (105, 17436), (106, 17445), (111, 17514), (116, 17577), (123, 17643),

Gene: Beethoven_22 Start: 18140, Stop: 19216, Start Num: 4

Candidate Starts for Beethoven_22:

(Start: 4 @18140 has 63 MA's), (Start: 6 @18146 has 3 MA's), (11, 18209), (19, 18263), (20, 18266), (23, 18287), (24, 18290), (45, 18497), (52, 18569), (60, 18620), (79, 18737), (94, 18911), (105, 18989), (108, 19025), (111, 19067), (123, 19196),

Gene: Bennie_18 Start: 16595, Stop: 17674, Start Num: 2

Candidate Starts for Bennie_18:

(Start: 2 @16595 has 24 MA's), (27, 16769), (33, 16799), (43, 16910), (44, 16925), (47, 16964), (52, 17027), (66, 17123), (73, 17171), (78, 17189), (79, 17195), (87, 17315), (92, 17360), (94, 17369), (106, 17456), (111, 17525), (119, 17603), (123, 17654), (124, 17657),

Gene: BigMack_18 Start: 16583, Stop: 17662, Start Num: 2

Candidate Starts for BigMack_18:

(Start: 2 @16583 has 24 MA's), (17, 16694), (19, 16709), (20, 16712), (24, 16736), (27, 16757), (33, 16787), (37, 16826), (41, 16889), (43, 16898), (44, 16913), (47, 16952), (52, 17015), (53, 17018), (66, 17111), (73, 17159), (78, 17177), (79, 17183), (92, 17348), (94, 17357), (105, 17435), (106, 17444), (108, 17471), (111, 17513), (123, 17642), (124, 17645),

Gene: Bodacious_18 Start: 16602, Stop: 17681, Start Num: 2

Candidate Starts for Bodacious_18:

(Start: 2 @16602 has 24 MA's), (17, 16713), (20, 16731), (24, 16755), (27, 16776), (33, 16806), (36, 16839), (37, 16845), (43, 16917), (44, 16932), (52, 17034), (54, 17040), (55, 17052), (66, 17130), (70, 17163), (78, 17196), (92, 17367), (94, 17376), (105, 17454), (106, 17463), (111, 17532), (116, 17595), (123, 17661), (124, 17664),

Gene: BrotherBLo_22 Start: 18146, Stop: 19222, Start Num: 4

Candidate Starts for BrotherBLo_22:

(Start: 4 @18146 has 63 MA's), (Start: 6 @18152 has 3 MA's), (11, 18215), (19, 18269), (20, 18272), (23, 18293), (24, 18296), (45, 18503), (52, 18575), (60, 18626), (79, 18743), (92, 18908), (94, 18917), (105, 18995), (108, 19031), (111, 19073), (123, 19202),

Gene: CallieOMalley_22 Start: 18203, Stop: 19279, Start Num: 4

Candidate Starts for CallieOMalley_22:

(Start: 4 @18203 has 63 MA's), (11, 18272), (33, 18404), (40, 18500), (49, 18575), (53, 18635), (63, 18698), (77, 18791), (79, 18800), (87, 18920), (92, 18965), (94, 18974), (106, 19061), (108, 19088), (111, 19130), (116, 19193), (119, 19208), (123, 19259),

Gene: Canowicakte_22 Start: 18238, Stop: 19314, Start Num: 4

Candidate Starts for Canowicakte_22:

(Start: 4 @18238 has 63 MA's), (11, 18307), (23, 18385), (33, 18439), (40, 18535), (49, 18610), (53, 18670), (63, 18733), (77, 18826), (79, 18835), (87, 18955), (92, 19000), (94, 19009), (106, 19096), (108, 19123), (111, 19165), (119, 19243), (123, 19294),

Gene: Carpal_22 Start: 18147, Stop: 19223, Start Num: 4

Candidate Starts for Carpal_22:

(Start: 4 @18147 has 63 MA's), (Start: 6 @18153 has 3 MA's), (11, 18216), (19, 18270), (20, 18273), (23, 18294), (24, 18297), (43, 18459), (45, 18504), (52, 18576), (60, 18627), (79, 18744), (94, 18918), (105, 18996), (108, 19032), (111, 19074), (123, 19203),

Gene: ChewChew_18 Start: 16601, Stop: 17680, Start Num: 2

Candidate Starts for ChewChew_18:

(Start: 2 @16601 has 24 MA's), (17, 16712), (20, 16730), (24, 16754), (27, 16775), (33, 16805), (36, 16838), (37, 16844), (43, 16916), (44, 16931), (52, 17033), (54, 17039), (55, 17051), (66, 17129), (70, 17162), (78, 17195), (92, 17366), (94, 17375), (105, 17453), (106, 17462), (111, 17531), (116, 17594), (123, 17660), (124, 17663),

Gene: Cholula_22 Start: 18192, Stop: 19268, Start Num: 4

Candidate Starts for Cholula_22:

(Start: 4 @18192 has 63 MA's), (Start: 6 @18198 has 3 MA's), (11, 18261), (19, 18315), (20, 18318), (23, 18339), (24, 18342), (43, 18504), (45, 18549), (52, 18621), (60, 18672), (79, 18789), (94, 18963), (105, 19041), (108, 19077), (111, 19119), (123, 19248),

Gene: Chridison_18 Start: 16584, Stop: 17663, Start Num: 4

Candidate Starts for Chridison_18:

(Start: 4 @16584 has 63 MA's), (20, 16713), (24, 16737), (27, 16758), (33, 16788), (38, 16848), (52, 17016), (56, 17037), (66, 17112), (78, 17178), (87, 17304), (90, 17316), (94, 17358), (105, 17436), (106, 17445), (111, 17514), (116, 17577), (123, 17643),

Gene: Christian_18 Start: 16602, Stop: 17681, Start Num: 2

Candidate Starts for Christian_18:

(Start: 2 @16602 has 24 MA's), (17, 16713), (20, 16731), (24, 16755), (27, 16776), (33, 16806), (36, 16839), (37, 16845), (43, 16917), (44, 16932), (52, 17034), (54, 17040), (55, 17052), (66, 17130), (70, 17163), (78, 17196), (92, 17367), (94, 17376), (105, 17454), (106, 17463), (111, 17532), (116, 17595), (123, 17661), (124, 17664),

Gene: Cole_20 Start: 16408, Stop: 17466, Start Num: 8

Candidate Starts for Cole_20:

(Start: 8 @16408 has 7 MA's), (31, 16594), (32, 16597), (35, 16630), (39, 16669), (47, 16768), (61, 16882), (67, 16930), (83, 17038), (96, 17179), (97, 17182), (100, 17209), (102, 17221), (105, 17239), (107, 17272), (112, 17338),

Gene: Crewmate_21 Start: 16598, Stop: 17668, Start Num: 4

Candidate Starts for Crewmate_21:

(Start: 4 @16598 has 63 MA's), (27, 16766), (60, 17081), (75, 17183), (96, 17378), (108, 17474), (113, 17561), (116, 17582),

Gene: CristinaYang_18 Start: 16602, Stop: 17681, Start Num: 2

Candidate Starts for CristinaYang_18:

(Start: 2 @16602 has 24 MA's), (17, 16713), (20, 16731), (24, 16755), (27, 16776), (33, 16806), (36, 16839), (37, 16845), (43, 16917), (44, 16932), (52, 17034), (54, 17040), (55, 17052), (66, 17130), (70, 17163), (78, 17196), (92, 17367), (94, 17376), (105, 17454), (106, 17463), (111, 17532), (116, 17595), (123, 17661), (124, 17664),

Gene: Daiboju_18 Start: 16598, Stop: 17677, Start Num: 4

Candidate Starts for Daiboju_18:

(Start: 4 @16598 has 63 MA's), (19, 16724), (27, 16772), (33, 16802), (41, 16904), (43, 16913), (52, 17030), (55, 17048), (56, 17051), (66, 17126), (78, 17192), (87, 17318), (94, 17372), (106, 17459), (108, 17486), (111, 17528), (116, 17591), (123, 17657),

Gene: Dino_22 Start: 18145, Stop: 19221, Start Num: 4

Candidate Starts for Dino_22:

(Start: 4 @18145 has 63 MA's), (Start: 6 @18151 has 3 MA's), (11, 18214), (19, 18268), (20, 18271), (23, 18292), (24, 18295), (43, 18457), (45, 18502), (52, 18574), (79, 18742), (94, 18916), (105, 18994), (108, 19030), (111, 19072), (123, 19201),

Gene: DrRobert_18 Start: 16602, Stop: 17681, Start Num: 2

Candidate Starts for DrRobert_18:

(Start: 2 @16602 has 24 MA's), (17, 16713), (20, 16731), (24, 16755), (27, 16776), (33, 16806), (36, 16839), (37, 16845), (43, 16917), (44, 16932), (52, 17034), (54, 17040), (55, 17052), (66, 17130), (70, 17163), (78, 17196), (92, 17367), (94, 17376), (105, 17454), (106, 17463), (111, 17532), (116, 17595), (123, 17661), (124, 17664),

Gene: DreamTeam_18 Start: 16635, Stop: 17714, Start Num: 2

Candidate Starts for DreamTeam_18:

(Start: 2 @16635 has 24 MA's), (19, 16761), (20, 16764), (24, 16788), (33, 16839), (41, 16941), (43, 16950), (49, 17010), (53, 17070), (71, 17199), (78, 17229), (87, 17355), (94, 17409), (102, 17469), (108, 17523), (119, 17643), (123, 17694), (124, 17697),

Gene: Elesar_21 Start: 16799, Stop: 17857, Start Num: 8

Candidate Starts for Elesar_21:

(Start: 8 @16799 has 7 MA's), (18, 16898), (25, 16946), (31, 16985), (32, 16988), (35, 17021), (39, 17060), (47, 17159), (61, 17273), (62, 17279), (67, 17321), (83, 17429), (96, 17570), (97, 17573), (100, 17600), (102, 17612), (103, 17618), (105, 17630), (107, 17663), (123, 17837),

Gene: EstebanJulior_18 Start: 16600, Stop: 17679, Start Num: 4

Candidate Starts for EstebanJulior_18:

(Start: 4 @16600 has 63 MA's), (5, 16603), (Start: 6 @16606 has 3 MA's), (13, 16678), (14, 16681), (19, 16726), (24, 16753), (27, 16774), (33, 16804), (40, 16900), (45, 16960), (59, 17071), (69, 17146), (77, 17191), (80, 17218), (90, 17332), (94, 17374), (105, 17452), (106, 17461), (111, 17530), (119, 17608),

Gene: Eunoia_18 Start: 16583, Stop: 17662, Start Num: 4

Candidate Starts for Eunoia_18:

(Start: 4 @16583 has 63 MA's), (20, 16712), (24, 16736), (27, 16757), (33, 16787), (38, 16847), (52, 17015), (56, 17036), (66, 17111), (78, 17177), (87, 17303), (90, 17315), (94, 17357), (105, 17435), (106, 17444), (111, 17513), (116, 17576), (123, 17642),

Gene: Fluke_22 Start: 18194, Stop: 19264, Start Num: 6

Candidate Starts for Fluke_22:

(Start: 4 @18188 has 63 MA's), (Start: 6 @18194 has 3 MA's), (11, 18257), (19, 18311), (20, 18314), (23, 18335), (24, 18338), (43, 18500), (45, 18545), (52, 18617), (60, 18668), (79, 18785), (94, 18959), (105, 19037), (106, 19046), (108, 19073), (111, 19115), (123, 19244),

Gene: Gisselle_18 Start: 16635, Stop: 17714, Start Num: 2

Candidate Starts for Gisselle_18:

(Start: 2 @16635 has 24 MA's), (19, 16761), (20, 16764), (24, 16788), (33, 16839), (41, 16941), (43, 16950), (49, 17010), (53, 17070), (71, 17199), (78, 17229), (87, 17355), (94, 17409), (102, 17469), (108, 17523), (119, 17643), (123, 17694), (124, 17697),

Gene: Glenn_22 Start: 18203, Stop: 19273, Start Num: 6

Candidate Starts for Glenn_22:

(Start: 4 @18197 has 63 MA's), (Start: 6 @18203 has 3 MA's), (11, 18266), (19, 18320), (20, 18323), (23, 18344), (41, 18500), (43, 18509), (45, 18554), (52, 18626), (60, 18677), (79, 18794), (94, 18968), (105, 19046), (108, 19082), (111, 19124), (123, 19253),

Gene: GreenHearts_22 Start: 18307, Stop: 19383, Start Num: 4

Candidate Starts for GreenHearts_22:

(Start: 4 @18307 has 63 MA's), (11, 18376), (20, 18433), (23, 18454), (24, 18457), (33, 18508), (45, 18664), (52, 18736), (59, 18775), (63, 18802), (77, 18895), (87, 19024), (94, 19078), (95, 19090), (106, 19165), (111, 19234), (116, 19297), (119, 19312), (123, 19363),

Gene: Greenhouse_22 Start: 18231, Stop: 19307, Start Num: 4

Candidate Starts for Greenhouse_22:

(Start: 4 @18231 has 63 MA's), (11, 18300), (19, 18354), (20, 18357), (23, 18378), (24, 18381), (28, 18408), (33, 18432), (45, 18588), (52, 18660), (55, 18678), (59, 18699), (63, 18726), (77, 18819), (87, 18948), (94, 19002), (95, 19014), (106, 19089), (111, 19158), (116, 19221), (119, 19236), (123, 19287),

Gene: Gusanita_20 Start: 16621, Stop: 17679, Start Num: 7

Candidate Starts for Gusanita_20:

(3, 16609), (Start: 7 @16621 has 1 MA's), (18, 16720), (32, 16810), (35, 16843), (39, 16882), (42, 16921), (51, 17029), (54, 17050), (56, 17065), (64, 17119), (67, 17143), (68, 17146), (93, 17368), (97, 17395), (98, 17404), (106, 17461), (107, 17485), (117, 17596), (123, 17659),

Gene: HeadNerd_18 Start: 16595, Stop: 17674, Start Num: 2

Candidate Starts for HeadNerd_18:

(Start: 2 @16595 has 24 MA's), (27, 16769), (33, 16799), (44, 16925), (47, 16964), (52, 17027), (66, 17123), (73, 17171), (78, 17189), (79, 17195), (87, 17315), (92, 17360), (94, 17369), (106, 17456), (111, 17525), (119, 17603), (123, 17654), (124, 17657),

Gene: Herb_18 Start: 16598, Stop: 17677, Start Num: 4

Candidate Starts for Herb_18:

(Start: 4 @16598 has 63 MA's), (19, 16724), (27, 16772), (33, 16802), (41, 16904), (43, 16913), (52, 17030), (55, 17048), (56, 17051), (66, 17126), (78, 17192), (87, 17318), (94, 17372), (106, 17459), (108, 17486), (111, 17528), (116, 17591), (123, 17657),

Gene: Huckleberry_18 Start: 16595, Stop: 17674, Start Num: 2

Candidate Starts for Huckleberry_18:

(Start: 2 @16595 has 24 MA's), (27, 16769), (33, 16799), (44, 16925), (47, 16964), (52, 17027), (66, 17123), (73, 17171), (78, 17189), (79, 17195), (87, 17315), (92, 17360), (94, 17369), (106, 17456), (111, 17525), (119, 17603), (123, 17654), (124, 17657),

Gene: HunterDalle_18 Start: 16583, Stop: 17662, Start Num: 4

Candidate Starts for HunterDalle_18:

(Start: 4 @16583 has 63 MA's), (20, 16712), (24, 16736), (27, 16757), (33, 16787), (38, 16847), (40, 16883), (52, 17015), (56, 17036), (66, 17111), (73, 17159), (78, 17177), (87, 17303), (90, 17315), (94, 17357), (105, 17435), (106, 17444), (111, 17513), (116, 17576), (123, 17642),

Gene: Huntingdon_22 Start: 18199, Stop: 19275, Start Num: 4

Candidate Starts for Huntingdon_22:

(Start: 4 @18199 has 63 MA's), (11, 18268), (15, 18283), (17, 18307), (19, 18322), (20, 18325), (24, 18349), (30, 18382), (47, 18565), (52, 18628), (53, 18631), (54, 18634), (60, 18679), (63, 18694), (87, 18916), (94, 18970), (95, 18982), (105, 19048), (106, 19057), (111, 19126), (119, 19204), (123, 19255),

Gene: Immaculata_22 Start: 18191, Stop: 19267, Start Num: 4

Candidate Starts for Immaculata_22:

(Start: 4 @18191 has 63 MA's), (Start: 6 @18197 has 3 MA's), (11, 18260), (19, 18314), (20, 18317), (23, 18338), (24, 18341), (43, 18503), (45, 18548), (52, 18620), (60, 18671), (79, 18788), (94, 18962), (105, 19040), (108, 19076), (111, 19118), (123, 19247),

Gene: Joann_22 Start: 18211, Stop: 19287, Start Num: 4

Candidate Starts for Joann_22:

(Start: 4 @18211 has 63 MA's), (11, 18280), (20, 18337), (23, 18358), (24, 18361), (33, 18412), (45, 18568), (52, 18640), (59, 18679), (63, 18706), (77, 18799), (80, 18826), (94, 18982), (95, 18994), (106, 19069), (110, 19126), (111, 19138), (116, 19201), (119, 19216), (123, 19267),

Gene: Jumboset_22 Start: 18140, Stop: 19216, Start Num: 4

Candidate Starts for Jumboset_22:

(Start: 4 @18140 has 63 MA's), (Start: 6 @18146 has 3 MA's), (11, 18209), (19, 18263), (20, 18266), (23, 18287), (24, 18290), (45, 18497), (52, 18569), (60, 18620), (79, 18737), (92, 18902), (94, 18911), (105, 18989), (108, 19025), (111, 19067), (123, 19196),

Gene: Kalizoi_22 Start: 18139, Stop: 19215, Start Num: 4

Candidate Starts for Kalizoi_22:

(Start: 4 @18139 has 63 MA's), (Start: 6 @18145 has 3 MA's), (11, 18208), (19, 18262), (20, 18265), (23, 18286), (24, 18289), (43, 18451), (45, 18496), (52, 18568), (60, 18619), (79, 18736), (94, 18910), (105, 18988), (108, 19024), (111, 19066), (123, 19195),

Gene: KeAlii_20 Start: 16165, Stop: 17235, Start Num: 4

Candidate Starts for KeAlii_20:

(Start: 4 @16165 has 63 MA's), (27, 16333), (46, 16522), (75, 16747), (79, 16762), (86, 16852), (111, 17089), (114, 17140), (119, 17167),

Gene: KingBob_18 Start: 16598, Stop: 17677, Start Num: 4

Candidate Starts for KingBob_18:

(Start: 4 @16598 has 63 MA's), (19, 16724), (27, 16772), (33, 16802), (41, 16904), (43, 16913), (52, 17030), (55, 17048), (56, 17051), (66, 17126), (78, 17192), (87, 17318), (94, 17372), (106, 17459), (108, 17486), (111, 17528), (116, 17591), (117, 17594), (123, 17657),

Gene: Kittykat_18 Start: 16619, Stop: 17698, Start Num: 2

Candidate Starts for Kittykat_18:

(Start: 2 @16619 has 24 MA's), (19, 16745), (20, 16748), (24, 16772), (33, 16823), (41, 16925), (43, 16934), (44, 16949), (49, 16994), (52, 17051), (53, 17054), (71, 17183), (78, 17213), (79, 17219), (87, 17339), (94, 17393), (102, 17453), (108, 17507), (119, 17627), (123, 17678), (124, 17681),

Gene: Korra_23 Start: 18145, Stop: 19221, Start Num: 4

Candidate Starts for Korra_23:

(Start: 4 @18145 has 63 MA's), (Start: 6 @18151 has 3 MA's), (11, 18214), (19, 18268), (20, 18271), (23, 18292), (24, 18295), (43, 18457), (45, 18502), (52, 18574), (79, 18742), (94, 18916), (105, 18994), (108, 19030), (111, 19072), (123, 19201),

Gene: Lakshmi_22 Start: 18236, Stop: 19312, Start Num: 4

Candidate Starts for Lakshmi_22:

(Start: 4 @18236 has 63 MA's), (11, 18305), (19, 18359), (20, 18362), (23, 18383), (24, 18386), (33, 18437), (45, 18593), (52, 18665), (59, 18704), (63, 18731), (77, 18824), (80, 18851), (87, 18953), (94, 19007), (95, 19019), (106, 19094), (111, 19163), (116, 19226), (119, 19241), (123, 19292),

Gene: Lasagna_18 Start: 16602, Stop: 17681, Start Num: 2

Candidate Starts for Lasagna_18:

(Start: 2 @16602 has 24 MA's), (10, 16647), (17, 16713), (20, 16731), (24, 16755), (27, 16776), (33, 16806), (36, 16839), (37, 16845), (43, 16917), (44, 16932), (52, 17034), (54, 17040), (66, 17130), (70, 17163), (78, 17196), (92, 17367), (94, 17376), (105, 17454), (106, 17463), (111, 17532), (123, 17661), (124, 17664),

Gene: Lennox_18 Start: 16590, Stop: 17669, Start Num: 2

Candidate Starts for Lennox_18:

(Start: 2 @16590 has 24 MA's), (17, 16701), (20, 16719), (24, 16743), (27, 16764), (33, 16794), (36, 16827), (37, 16833), (43, 16905), (44, 16920), (52, 17022), (54, 17028), (55, 17040), (66, 17118), (70, 17151), (78, 17184), (92, 17355), (94, 17364), (105, 17442), (106, 17451), (111, 17520), (116, 17583), (123, 17649), (124, 17652),

Gene: Lenoxika_22 Start: 16728, Stop: 17801, Start Num: 8

Candidate Starts for Lenoxika_22:

(3, 16716), (Start: 8 @16728 has 7 MA's), (10, 16758), (26, 16878), (32, 16917), (35, 16950), (39, 16989), (54, 17157), (57, 17181), (67, 17250), (84, 17388), (89, 17451), (99, 17541), (101, 17550), (119, 17730),

Gene: LilStuart_18 Start: 16590, Stop: 17669, Start Num: 2

Candidate Starts for LilStuart_18:

(Start: 2 @16590 has 24 MA's), (17, 16701), (20, 16719), (24, 16743), (27, 16764), (33, 16794), (36, 16827), (37, 16833), (43, 16905), (44, 16920), (52, 17022), (54, 17028), (55, 17040), (66, 17118), (70, 17151), (78, 17184), (92, 17355), (94, 17364), (105, 17442), (106, 17451), (111, 17520), (116, 17583), (123, 17649), (124, 17652),

Gene: Litotes_22 Start: 18188, Stop: 19264, Start Num: 4

Candidate Starts for Litotes_22:

(Start: 4 @18188 has 63 MA's), (11, 18257), (23, 18335), (29, 18368), (33, 18389), (40, 18485), (49, 18560), (53, 18620), (63, 18683), (77, 18776), (79, 18785), (87, 18905), (92, 18950), (94, 18959), (106, 19046), (108, 19073), (111, 19115), (119, 19193), (123, 19244),

Gene: Lucy_18 Start: 16582, Stop: 17661, Start Num: 2

Candidate Starts for Lucy_18:

(Start: 2 @16582 has 24 MA's), (10, 16627), (17, 16693), (20, 16711), (24, 16735), (27, 16756), (33, 16786), (36, 16819), (37, 16825), (43, 16897), (44, 16912), (52, 17014), (54, 17020), (55, 17032), (66, 17110), (70, 17143), (78, 17176), (92, 17347), (94, 17356), (105, 17434), (106, 17443), (111, 17512), (116, 17575), (123, 17641), (124, 17644),

Gene: Makoto_18 Start: 16603, Stop: 17682, Start Num: 2

Candidate Starts for Makoto_18:

(Start: 2 @16603 has 24 MA's), (17, 16714), (20, 16732), (24, 16756), (27, 16777), (33, 16807), (36, 16840), (37, 16846), (43, 16918), (44, 16933), (52, 17035), (54, 17041), (55, 17053), (66, 17131), (70, 17164), (78, 17197), (92, 17368), (94, 17377), (105, 17455), (111, 17533), (116, 17596), (123, 17662), (124, 17665),

Gene: MamaPearl_18 Start: 16600, Stop: 17679, Start Num: 4

Candidate Starts for MamaPearl_18:

(Start: 4 @16600 has 63 MA's), (5, 16603), (Start: 6 @16606 has 3 MA's), (13, 16678), (14, 16681), (19, 16726), (24, 16753), (27, 16774), (33, 16804), (40, 16900), (45, 16960), (59, 17071), (69, 17146), (77, 17191), (80, 17218), (90, 17332), (94, 17374), (105, 17452), (106, 17461), (111, 17530), (118, 17599), (119, 17608),

Gene: Maria1952_18 Start: 16598, Stop: 17677, Start Num: 4

Candidate Starts for Maria1952_18:

(Start: 4 @16598 has 63 MA's), (19, 16724), (27, 16772), (33, 16802), (41, 16904), (43, 16913), (52, 17030), (55, 17048), (56, 17051), (66, 17126), (78, 17192), (87, 17318), (94, 17372), (106, 17459), (108, 17486), (111, 17528), (116, 17591), (123, 17657),

Gene: MeganNoll_22 Start: 18197, Stop: 19273, Start Num: 4

Candidate Starts for MeganNoll_22:

(Start: 4 @18197 has 63 MA's), (Start: 6 @18203 has 3 MA's), (11, 18266), (19, 18320), (20, 18323), (23, 18344), (24, 18347), (45, 18554), (52, 18626), (60, 18677), (79, 18794), (92, 18959), (94, 18968), (105, 19046), (108, 19082), (111, 19124), (123, 19253),

Gene: Misaeng_22 Start: 18281, Stop: 19357, Start Num: 4

Candidate Starts for Misaeng_22:

(Start: 4 @18281 has 63 MA's), (16, 18371), (19, 18404), (20, 18407), (23, 18428), (30, 18464), (39, 18548), (41, 18584), (46, 18641), (52, 18710), (63, 18776), (80, 18896), (87, 18998), (94, 19052), (95, 19064), (105, 19130), (106, 19139), (111, 19208), (116, 19271), (119, 19286), (123, 19337),

Gene: Moki_18 Start: 16595, Stop: 17674, Start Num: 2

Candidate Starts for Moki_18:

(Start: 2 @16595 has 24 MA's), (27, 16769), (33, 16799), (44, 16925), (47, 16964), (52, 17027), (66, 17123), (73, 17171), (78, 17189), (79, 17195), (87, 17315), (92, 17360), (94, 17369), (106, 17456), (111, 17525), (119, 17603), (123, 17654), (124, 17657),

Gene: MrGloopy_22 Start: 18137, Stop: 19207, Start Num: 6

Candidate Starts for MrGloopy_22:

(Start: 4 @18131 has 63 MA's), (Start: 6 @18137 has 3 MA's), (11, 18200), (19, 18254), (20, 18257), (23, 18278), (24, 18281), (43, 18443), (45, 18488), (52, 18560), (60, 18611), (79, 18728), (92, 18893), (94, 18902), (105, 18980), (108, 19016), (111, 19058), (123, 19187),

Gene: Nancia_18 Start: 16602, Stop: 17681, Start Num: 2

Candidate Starts for Nancia_18:

(Start: 2 @16602 has 24 MA's), (17, 16713), (20, 16731), (24, 16755), (27, 16776), (33, 16806), (36, 16839), (37, 16845), (43, 16917), (44, 16932), (52, 17034), (54, 17040), (55, 17052), (66, 17130), (70, 17163), (78, 17196), (92, 17367), (94, 17376), (105, 17454), (106, 17463), (111, 17532), (116, 17595), (123, 17661), (124, 17664),

Gene: Nandita_22 Start: 16732, Stop: 17805, Start Num: 8

Candidate Starts for Nandita_22:

(3, 16720), (Start: 8 @16732 has 7 MA's), (10, 16762), (26, 16882), (32, 16921), (35, 16954), (39, 16993), (54, 17161), (57, 17185), (67, 17254), (84, 17392), (89, 17455), (99, 17545), (101, 17554), (115, 17713), (119, 17734),

Gene: Nubia_22 Start: 18196, Stop: 19272, Start Num: 4

Candidate Starts for Nubia_22:

(Start: 4 @18196 has 63 MA's), (11, 18265), (20, 18322), (23, 18343), (24, 18346), (33, 18397), (45, 18553), (52, 18625), (59, 18664), (63, 18691), (77, 18784), (80, 18811), (87, 18913), (94, 18967), (95,

18979), (106, 19054), (111, 19123), (116, 19186), (119, 19201), (123, 19252),

Gene: OMalley_18 Start: 16583, Stop: 17662, Start Num: 4

Candidate Starts for OMalley_18:

(Start: 4 @16583 has 63 MA's), (20, 16712), (24, 16736), (27, 16757), (33, 16787), (38, 16847), (52, 17015), (56, 17036), (66, 17111), (78, 17177), (87, 17303), (90, 17315), (94, 17357), (105, 17435), (106, 17444), (111, 17513), (116, 17576), (123, 17642),

Gene: ObiToo_20 Start: 16335, Stop: 17405, Start Num: 4

Candidate Starts for ObiToo_20:

(Start: 4 @16335 has 63 MA's), (27, 16503), (60, 16818), (75, 16920), (96, 17115), (108, 17211), (113, 17298), (116, 17319),

Gene: OurGirlNessie_18 Start: 16582, Stop: 17661, Start Num: 2

Candidate Starts for OurGirlNessie_18:

(Start: 2 @16582 has 24 MA's), (17, 16693), (20, 16711), (24, 16735), (27, 16756), (33, 16786), (36, 16819), (37, 16825), (43, 16897), (44, 16912), (52, 17014), (54, 17020), (55, 17032), (66, 17110), (70, 17143), (78, 17176), (92, 17347), (94, 17356), (105, 17434), (106, 17443), (111, 17512), (116, 17575), (123, 17641), (124, 17644),

Gene: Oxynfrius_22 Start: 18209, Stop: 19285, Start Num: 4

Candidate Starts for Oxynfrius_22:

(Start: 4 @18209 has 63 MA's), (11, 18278), (19, 18332), (20, 18335), (23, 18356), (24, 18359), (33, 18410), (45, 18566), (52, 18638), (59, 18677), (63, 18704), (77, 18797), (80, 18824), (87, 18926), (94, 18980), (95, 18992), (106, 19067), (111, 19136), (116, 19199), (119, 19214), (123, 19265),

Gene: PartyCup_22 Start: 18235, Stop: 19311, Start Num: 4

Candidate Starts for PartyCup_22:

(Start: 4 @18235 has 63 MA's), (11, 18304), (23, 18382), (33, 18436), (40, 18532), (49, 18607), (53, 18667), (63, 18730), (66, 18760), (77, 18823), (79, 18832), (87, 18952), (92, 18997), (94, 19006), (106, 19093), (108, 19120), (111, 19162), (119, 19240), (123, 19291),

Gene: PinkFriday_18 Start: 16619, Stop: 17698, Start Num: 4

Candidate Starts for PinkFriday_18:

(Start: 4 @16619 has 63 MA's), (9, 16637), (27, 16793), (33, 16823), (44, 16949), (49, 16994), (50, 17003), (51, 17036), (52, 17051), (56, 17072), (66, 17147), (78, 17213), (85, 17300), (94, 17393), (102, 17453), (108, 17507), (119, 17627), (121, 17651), (123, 17678),

Gene: PitaDog_18 Start: 16593, Stop: 17672, Start Num: 2

Candidate Starts for PitaDog_18:

(Start: 2 @16593 has 24 MA's), (10, 16638), (17, 16704), (20, 16722), (24, 16746), (27, 16767), (33, 16797), (36, 16830), (37, 16836), (43, 16908), (44, 16923), (52, 17025), (54, 17031), (55, 17043), (66, 17121), (70, 17154), (78, 17187), (92, 17358), (94, 17367), (105, 17445), (106, 17454), (111, 17523), (116, 17586), (123, 17652), (124, 17655),

Gene: Popper_20 Start: 16260, Stop: 17336, Start Num: 8

Candidate Starts for Popper_20:

(Start: 8 @16260 has 7 MA's), (10, 16290), (25, 16407), (32, 16449), (34, 16470), (35, 16482), (39, 16521), (61, 16734), (84, 16920), (102, 17088), (105, 17109), (108, 17145), (119, 17265), (120, 17286), (122, 17310),

Gene: Potatoes_22 Start: 18192, Stop: 19268, Start Num: 4

Candidate Starts for Potatoes_22:

(Start: 4 @18192 has 63 MA's), (Start: 6 @18198 has 3 MA's), (11, 18261), (19, 18315), (20, 18318), (23, 18339), (24, 18342), (43, 18504), (45, 18549), (52, 18621), (60, 18672), (79, 18789), (94, 18963), (105, 19041), (108, 19077), (111, 19119), (123, 19248),

Gene: Preamble_18 Start: 16596, Stop: 17675, Start Num: 2

Candidate Starts for Preamble_18:

(Start: 2 @16596 has 24 MA's), (19, 16722), (20, 16725), (24, 16749), (33, 16800), (41, 16902), (43, 16911), (44, 16926), (49, 16971), (52, 17028), (53, 17031), (71, 17160), (78, 17190), (79, 17196), (82, 17226), (87, 17316), (94, 17370), (100, 17418), (102, 17430), (108, 17484), (119, 17604), (123, 17655), (124, 17658),

Gene: Pterodactyl_18 Start: 16583, Stop: 17662, Start Num: 2

Candidate Starts for Pterodactyl_18:

(Start: 2 @16583 has 24 MA's), (17, 16694), (20, 16712), (24, 16736), (27, 16757), (33, 16787), (36, 16820), (37, 16826), (43, 16898), (44, 16913), (52, 17015), (54, 17021), (55, 17033), (66, 17111), (70, 17144), (78, 17177), (92, 17348), (94, 17357), (105, 17435), (106, 17444), (111, 17513), (116, 17576), (123, 17642), (124, 17645),

Gene: Pumancara_18 Start: 16601, Stop: 17680, Start Num: 4

Candidate Starts for Pumancara_18:

(Start: 4 @16601 has 63 MA's), (19, 16727), (27, 16775), (33, 16805), (43, 16916), (52, 17033), (55, 17051), (56, 17054), (66, 17129), (78, 17195), (87, 17321), (94, 17375), (106, 17462), (108, 17489), (111, 17531), (116, 17594), (123, 17660),

Gene: QuinnAvery_21 Start: 16746, Stop: 17804, Start Num: 8

Candidate Starts for QuinnAvery_21:

(Start: 8 @16746 has 7 MA's), (31, 16932), (32, 16935), (35, 16968), (39, 17007), (47, 17106), (61, 17220), (67, 17268), (83, 17376), (96, 17517), (97, 17520), (100, 17547), (102, 17559), (105, 17577), (107, 17610), (112, 17676),

Gene: RAP15_22 Start: 18197, Stop: 19273, Start Num: 4

Candidate Starts for RAP15_22:

(Start: 4 @18197 has 63 MA's), (Start: 6 @18203 has 3 MA's), (11, 18266), (19, 18320), (20, 18323), (23, 18344), (24, 18347), (45, 18554), (52, 18626), (60, 18677), (79, 18794), (92, 18959), (94, 18968), (105, 19046), (108, 19082), (111, 19124), (123, 19253),

Gene: RcigaStruga_22 Start: 18199, Stop: 19275, Start Num: 4

Candidate Starts for RcigaStruga_22:

(Start: 4 @18199 has 63 MA's), (11, 18268), (15, 18283), (17, 18307), (19, 18322), (20, 18325), (24, 18349), (30, 18382), (47, 18565), (52, 18628), (53, 18631), (54, 18634), (60, 18679), (63, 18694), (87, 18916), (94, 18970), (95, 18982), (105, 19048), (106, 19057), (111, 19126), (119, 19204), (123, 19255),

Gene: Reedo_20 Start: 16179, Stop: 17249, Start Num: 4

Candidate Starts for Reedo_20:

(Start: 4 @16179 has 63 MA's), (27, 16347), (56, 16626), (60, 16662), (75, 16761), (104, 17013), (113, 17145),

Gene: Riovina_18 Start: 16583, Stop: 17662, Start Num: 4

Candidate Starts for Riovina_18:

(Start: 4 @16583 has 63 MA's), (20, 16712), (24, 16736), (27, 16757), (33, 16787), (38, 16847), (52, 17015), (56, 17036), (66, 17111), (78, 17177), (87, 17303), (90, 17315), (94, 17357), (105, 17435), (106, 17444), (111, 17513), (116, 17576), (123, 17642),

Gene: Riverdale_22 Start: 18127, Stop: 19203, Start Num: 4

Candidate Starts for Riverdale_22:

(Start: 4 @18127 has 63 MA's), (Start: 6 @18133 has 3 MA's), (11, 18196), (19, 18250), (20, 18253), (23, 18274), (24, 18277), (41, 18430), (43, 18439), (45, 18484), (52, 18556), (60, 18607), (79, 18724), (94, 18898), (105, 18976), (108, 19012), (111, 19054), (123, 19183),

Gene: Rozby_22 Start: 18128, Stop: 19204, Start Num: 4

Candidate Starts for Rozby_22:

(Start: 4 @18128 has 63 MA's), (Start: 6 @18134 has 3 MA's), (11, 18197), (19, 18251), (20, 18254), (23, 18275), (24, 18278), (45, 18485), (52, 18557), (60, 18608), (79, 18725), (94, 18899), (105, 18977), (108, 19013), (111, 19055), (123, 19184),

Gene: Ryan_22 Start: 16878, Stop: 17954, Start Num: 8

Candidate Starts for Ryan_22:

(3, 16866), (Start: 8 @16878 has 7 MA's), (10, 16908), (26, 17028), (32, 17067), (35, 17100), (39, 17139), (57, 17331), (67, 17400), (84, 17538), (89, 17601), (99, 17691), (100, 17694), (101, 17700), (115, 17862),

Gene: Savage2526_22 Start: 18191, Stop: 19267, Start Num: 4

Candidate Starts for Savage2526_22:

(Start: 4 @18191 has 63 MA's), (Start: 6 @18197 has 3 MA's), (11, 18260), (19, 18314), (20, 18317), (23, 18338), (24, 18341), (45, 18548), (52, 18620), (60, 18671), (79, 18788), (92, 18953), (94, 18962), (105, 19040), (108, 19076), (111, 19118), (123, 19247),

Gene: Scuttle_22 Start: 18196, Stop: 19272, Start Num: 4

Candidate Starts for Scuttle_22:

(Start: 4 @18196 has 63 MA's), (Start: 6 @18202 has 3 MA's), (11, 18265), (19, 18319), (20, 18322), (23, 18343), (24, 18346), (43, 18508), (45, 18553), (52, 18625), (60, 18676), (79, 18793), (94, 18967), (105, 19045), (108, 19081), (111, 19123), (123, 19252),

Gene: Sergei_18 Start: 16598, Stop: 17677, Start Num: 4

Candidate Starts for Sergei_18:

(Start: 4 @16598 has 63 MA's), (19, 16724), (27, 16772), (33, 16802), (41, 16904), (43, 16913), (52, 17030), (55, 17048), (56, 17051), (66, 17126), (78, 17192), (87, 17318), (94, 17372), (106, 17459), (108, 17486), (111, 17528), (116, 17591), (123, 17657),

Gene: Shambre1_22 Start: 18595, Stop: 19725, Start Num: 1

Candidate Starts for Shambre1_22:

(Start: 1 @18595 has 1 MA's), (22, 18757), (27, 18787), (72, 19186), (76, 19204), (79, 19216), (81, 19240), (86, 19330), (124, 19708),

Gene: Snek_20 Start: 15214, Stop: 16278, Start Num: 4

Candidate Starts for Snek_20:

(Start: 4 @15214 has 63 MA's), (27, 15382), (58, 15673), (60, 15697), (65, 15730), (75, 15796), (91, 15946), (93, 15967), (105, 16051), (108, 16087),

Gene: Supakev_18 Start: 16585, Stop: 17664, Start Num: 4

Candidate Starts for Supakev_18:

(Start: 4 @16585 has 63 MA's), (20, 16714), (24, 16738), (27, 16759), (33, 16789), (38, 16849), (40, 16885), (52, 17017), (56, 17038), (66, 17113), (78, 17179), (87, 17305), (90, 17317), (94, 17359), (105, 17437), (106, 17446), (111, 17515), (116, 17578), (123, 17644),

Gene: Suppi_22 Start: 18238, Stop: 19314, Start Num: 4

Candidate Starts for Suppi_22:

(Start: 4 @18238 has 63 MA's), (11, 18307), (23, 18385), (33, 18439), (40, 18535), (49, 18610), (53, 18670), (63, 18733), (77, 18826), (79, 18835), (87, 18955), (92, 19000), (94, 19009), (106, 19096), (108, 19123), (111, 19165), (119, 19243), (123, 19294),

Gene: TattModd_22 Start: 18190, Stop: 19266, Start Num: 4

Candidate Starts for TattModd_22:

(Start: 4 @18190 has 63 MA's), (Start: 6 @18196 has 3 MA's), (11, 18259), (19, 18313), (20, 18316), (23, 18337), (24, 18340), (43, 18502), (45, 18547), (52, 18619), (60, 18670), (79, 18787), (94, 18961), (105, 19039), (108, 19075), (111, 19117), (123, 19246),

Gene: Temper16_18 Start: 16598, Stop: 17677, Start Num: 4

Candidate Starts for Temper16_18:

(Start: 4 @16598 has 63 MA's), (19, 16724), (27, 16772), (33, 16802), (41, 16904), (43, 16913), (52, 17030), (55, 17048), (56, 17051), (66, 17126), (78, 17192), (87, 17318), (94, 17372), (106, 17459), (108, 17486), (111, 17528), (116, 17591), (123, 17657),

Gene: TripleJ_20 Start: 16378, Stop: 17472, Start Num: 8

Candidate Starts for TripleJ_20:

(Start: 8 @16378 has 7 MA's), (10, 16408), (21, 16501), (25, 16525), (32, 16567), (35, 16600), (39, 16639), (47, 16738), (48, 16741), (77, 16948), (84, 17044), (88, 17101), (89, 17107), (103, 17233), (119, 17401),

Gene: Tweety19_20 Start: 15213, Stop: 16277, Start Num: 4

Candidate Starts for Tweety19_20:

(Start: 4 @15213 has 63 MA's), (27, 15381), (58, 15672), (60, 15696), (65, 15729), (75, 15795), (91, 15945), (93, 15966), (105, 16050), (108, 16086),

Gene: Urla_18 Start: 16602, Stop: 17681, Start Num: 4

Candidate Starts for Urla_18:

(Start: 4 @16602 has 63 MA's), (5, 16605), (Start: 6 @16608 has 3 MA's), (13, 16680), (14, 16683), (19, 16728), (24, 16755), (27, 16776), (33, 16806), (40, 16902), (41, 16908), (45, 16962), (69, 17148), (80, 17220), (90, 17334), (94, 17376), (105, 17454), (106, 17463), (111, 17532), (119, 17610),

Gene: VResidence_20 Start: 16231, Stop: 17301, Start Num: 4

Candidate Starts for VResidence_20:

(Start: 4 @16231 has 63 MA's), (12, 16303), (15, 16315), (27, 16399), (36, 16462), (56, 16678), (60, 16714), (74, 16807), (75, 16813), (86, 16918), (93, 16984), (109, 17137), (113, 17197), (119, 17233),

Gene: Vallejo_22 Start: 18129, Stop: 19205, Start Num: 4

Candidate Starts for Vallejo_22:

(Start: 4 @18129 has 63 MA's), (Start: 6 @18135 has 3 MA's), (11, 18198), (19, 18252), (20, 18255), (23, 18276), (24, 18279), (43, 18441), (45, 18486), (52, 18558), (60, 18609), (79, 18726), (94, 18900), (105, 18978), (108, 19014), (111, 19056), (123, 19185),

Gene: Vulture_18 Start: 16583, Stop: 17662, Start Num: 4

Candidate Starts for Vulture_18:

(Start: 4 @16583 has 63 MA's), (20, 16712), (24, 16736), (27, 16757), (33, 16787), (38, 16847), (40, 16883), (52, 17015), (56, 17036), (66, 17111), (73, 17159), (78, 17177), (87, 17303), (90, 17315), (94, 17357), (105, 17435), (106, 17444), (111, 17513), (116, 17576), (123, 17642),

Gene: Wawa_22 Start: 18166, Stop: 19242, Start Num: 4

Candidate Starts for Wawa_22:

(Start: 4 @18166 has 63 MA's), (Start: 6 @18172 has 3 MA's), (11, 18235), (19, 18289), (20, 18292), (23, 18313), (24, 18316), (43, 18478), (45, 18523), (52, 18595), (60, 18646), (79, 18763), (94, 18937), (105, 19015), (108, 19051), (111, 19093), (123, 19222),

Gene: Wayne_22 Start: 18284, Stop: 19360, Start Num: 4

Candidate Starts for Wayne_22:

(Start: 4 @18284 has 63 MA's), (11, 18353), (23, 18431), (29, 18464), (33, 18485), (40, 18581), (49, 18656), (53, 18716), (63, 18779), (77, 18872), (79, 18881), (87, 19001), (92, 19046), (94, 19055), (106, 19142), (108, 19169), (111, 19211), (116, 19274), (119, 19289), (123, 19340),

Gene: WonderBoy_18 Start: 16583, Stop: 17662, Start Num: 2

Candidate Starts for WonderBoy_18:

(Start: 2 @16583 has 24 MA's), (10, 16628), (17, 16694), (20, 16712), (24, 16736), (27, 16757), (33, 16787), (36, 16820), (37, 16826), (43, 16898), (44, 16913), (52, 17015), (54, 17021), (55, 17033), (66, 17111), (70, 17144), (78, 17177), (92, 17348), (94, 17357), (105, 17435), (106, 17444), (111, 17513), (116, 17576), (123, 17642), (124, 17645),

Gene: Zaheer_22 Start: 16967, Stop: 18043, Start Num: 8

Candidate Starts for Zaheer_22:

(3, 16955), (Start: 8 @16967 has 7 MA's), (10, 16997), (26, 17117), (32, 17156), (35, 17189), (39, 17228), (57, 17420), (67, 17489), (84, 17627), (89, 17690), (99, 17780), (100, 17783), (101, 17789), (115, 17951),

Gene: Zorro_22 Start: 18145, Stop: 19221, Start Num: 4

Candidate Starts for Zorro_22:

(Start: 4 @18145 has 63 MA's), (Start: 6 @18151 has 3 MA's), (11, 18214), (19, 18268), (20, 18271), (23, 18292), (24, 18295), (43, 18457), (45, 18502), (52, 18574), (79, 18742), (94, 18916), (105, 18994), (108, 19030), (111, 19072), (123, 19201),