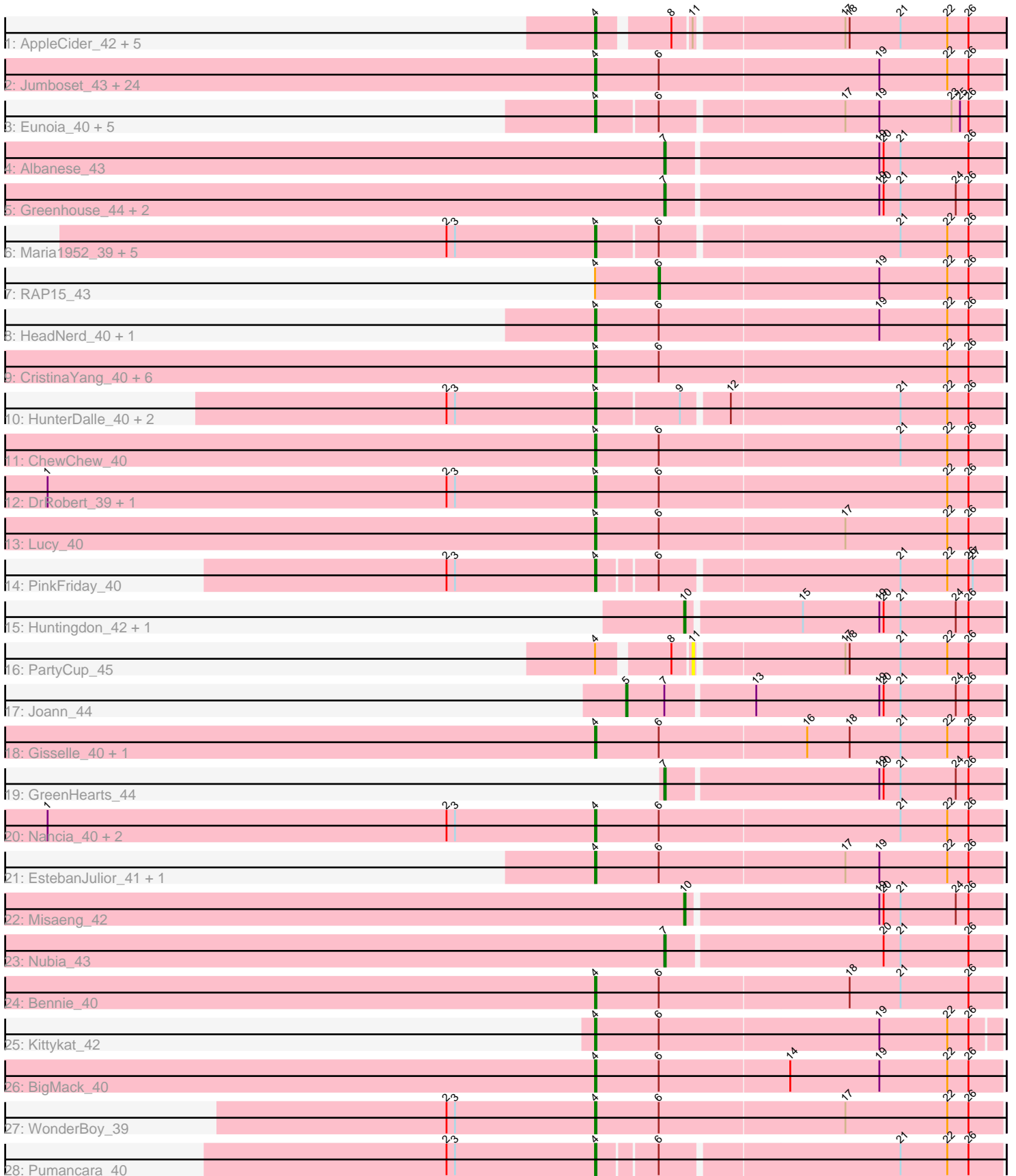


Pham 186840



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 186840 Report

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

Pham number 186840 has 84 members, 1 are drafts.

Phages represented in each track:

- Track 1 : AppleCider\_42, Suppi\_42, Wayne\_42, Canowicakte\_42, Litotes\_42, CallieOMalley\_42
- Track 2 : Jumboset\_43, Moki\_40, BrotherBLo\_42, Wawa\_42, Vallejo\_43, TattModd\_41, Glenn\_43, MrGloopy\_43, Zorro\_43, Cholula\_42, Rozby\_42, Kalizoi\_42, Riverdale\_43, Urla\_41, Beethoven\_42, Immaculata\_42, Korra\_42, Carpal\_42, Dino\_43, Fluke\_43, Scuttle\_42, MeganNoll\_42, Preamble\_41, Savage2526\_43, Potatoes\_42
- Track 3 : Eunoia\_40, Aledel\_40, Supakev\_40, Riovina\_40, OMalley\_40, AustinPowers\_40
- Track 4 : Albanese\_43
- Track 5 : Greenhouse\_44, Oxynfrius\_43, Lakshmi\_43
- Track 6 : Maria1952\_39, Daiboju\_40, KingBob\_40, Herb\_40, Temper16\_40, Sergei\_40
- Track 7 : RAP15\_43
- Track 8 : HeadNerd\_40, Huckleberry\_40
- Track 9 : CristinaYang\_40, LilStuart\_40, OurGirlNessie\_39, Makoto\_40, PitaDog\_41, Lasagna\_39, Pterodactyl\_40
- Track 10 : HunterDalle\_40, Vulture\_40, Chridison\_39
- Track 11 : ChewChew\_40
- Track 12 : DrRobert\_39, Lennox\_40
- Track 13 : Lucy\_40
- Track 14 : PinkFriday\_40
- Track 15 : Huntingdon\_42, RcigaStruga\_42
- Track 16 : PartyCup\_45
- Track 17 : Joann\_44
- Track 18 : Gisselle\_40, DreamTeam\_40
- Track 19 : GreenHearts\_44
- Track 20 : Nancia\_40, Christian\_40, Bodacious\_40
- Track 21 : EstebanJulior\_41, MamaPearl\_41
- Track 22 : Misaeng\_42
- Track 23 : Nubia\_43
- Track 24 : Bennie\_40
- Track 25 : Kittykat\_42
- Track 26 : BigMack\_40
- Track 27 : WonderBoy\_39
- Track 28 : Pumancara\_40

### **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 72 of the 83 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Aledel\_40, AppleCider\_42, AustinPowers\_40, Beethoven\_42, Bennie\_40, BigMack\_40, Bodacious\_40, BrotherBLo\_42, CallieOMalley\_42, Canowicakte\_42, Carpal\_42, ChewChew\_40, Cholula\_42, Chridison\_39, Christian\_40, CristinaYang\_40, Daiboju\_40, Dino\_43, DrRobert\_39, DreamTeam\_40, EstebanJulior\_41, Eunoia\_40, Fluke\_43, Gisselle\_40, Glenn\_43, HeadNerd\_40, Herb\_40, Huckleberry\_40, HunterDalle\_40, Immaculata\_42, Jumboset\_43, Kalizoi\_42, KingBob\_40, Kittykat\_42, Korra\_42, Lasagna\_39, Lennox\_40, LilStuart\_40, Litotes\_42, Lucy\_40, Makoto\_40, MamaPearl\_41, Maria1952\_39, MeganNoll\_42, Moki\_40, MrGloopy\_43, Nancia\_40, OMalley\_40, OurGirlNessie\_39, PinkFriday\_40, PitaDog\_41, Potatoes\_42, Preamble\_41, Pterodactyl\_40, Pumancara\_40, Riovina\_40, Riverdale\_43, Rozby\_42, Savage2526\_43, Scuttle\_42, Sergei\_40, Supakev\_40, Suppi\_42, TattModd\_41, Temper16\_40, Urla\_41, Vallejo\_43, Vulture\_40, Wawa\_42, Wayne\_42, WonderBoy\_39, Zorro\_43,

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

- PartyCup\_45, RAP15\_43,

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

- Albanese\_43, GreenHearts\_44, Greenhouse\_44, Huntingdon\_42, Joann\_44, Lakshmi\_43, Misaeng\_42, Nubia\_43, Oxynfrius\_43, RcigaStruga\_42,

### **Summary by start number:**

Start 4:

- Found in 74 of 84 ( 88.1% ) of genes in pham
- Manual Annotations of this start: 72 of 83
- Called 97.3% of time when present
- Phage (with cluster) where this start called: Aledel\_40 (AK), AppleCider\_42 (AK), AustinPowers\_40 (AK), Beethoven\_42 (AK), Bennie\_40 (AK), BigMack\_40 (AK), Bodacious\_40 (AK), BrotherBLo\_42 (AK), CallieOMalley\_42 (AK), Canowicakte\_42 (AK), Carpal\_42 (AK), ChewChew\_40 (AK), Cholula\_42 (AK), Chridison\_39 (AK), Christian\_40 (AK), CristinaYang\_40 (AK), Daiboju\_40 (AK), Dino\_43 (AK), DrRobert\_39 (AK), DreamTeam\_40 (AK), EstebanJulior\_41 (AK), Eunoia\_40 (AK), Fluke\_43 (AK), Gisselle\_40 (AK), Glenn\_43 (AK), HeadNerd\_40 (AK), Herb\_40 (AK), Huckleberry\_40 (AK), HunterDalle\_40 (AK), Immaculata\_42 (AK), Jumboset\_43 (AK), Kalizoi\_42 (AK), KingBob\_40 (AK), Kittykat\_42 (AK), Korra\_42 (AK), Lasagna\_39 (AK), Lennox\_40 (AK), LilStuart\_40 (AK), Litotes\_42 (AK), Lucy\_40 (AK), Makoto\_40 (AK), MamaPearl\_41 (AK), Maria1952\_39 (AK), MeganNoll\_42 (AK), Moki\_40 (AK), MrGloopy\_43 (AK), Nancia\_40 (AK), OMalley\_40 (AK), OurGirlNessie\_39 (AK), PinkFriday\_40 (AK), PitaDog\_41 (AK), Potatoes\_42 (AK), Preamble\_41 (AK), Pterodactyl\_40 (AK), Pumancara\_40 (AK), Riovina\_40 (AK), Riverdale\_43 (AK), Rozby\_42 (AK), Savage2526\_43 (AK), Scuttle\_42 (AK), Sergei\_40 (AK), Supakev\_40 (AK), Suppi\_42 (AK), TattModd\_41 (AK), Temper16\_40 (AK), Urla\_41 (AK), Vallejo\_43 (AK), Vulture\_40 (AK), Wawa\_42 (AK), Wayne\_42 (AK), WonderBoy\_39

(AK), Zorro\_43 (AK),

Start 5:

- Found in 1 of 84 ( 1.2% ) of genes in pham
- Manual Annotations of this start: 1 of 83
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Joann\_44 (AK),

Start 6:

- Found in 64 of 84 ( 76.2% ) of genes in pham
- Manual Annotations of this start: 1 of 83
- Called 1.6% of time when present
- Phage (with cluster) where this start called: RAP15\_43 (AK),

Start 7:

- Found in 7 of 84 ( 8.3% ) of genes in pham
- Manual Annotations of this start: 6 of 83
- Called 85.7% of time when present
- Phage (with cluster) where this start called: Albanese\_43 (AK), GreenHearts\_44 (AK), Greenhouse\_44 (AK), Lakshmi\_43 (AK), Nubia\_43 (AK), Oxyfnrius\_43 (AK),

Start 10:

- Found in 3 of 84 ( 3.6% ) of genes in pham
- Manual Annotations of this start: 3 of 83
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Huntingdon\_42 (AK), Misaeng\_42 (AK), RcigaStruga\_42 (AK),

Start 11:

- Found in 7 of 84 ( 8.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 14.3% of time when present
- Phage (with cluster) where this start called: PartyCup\_45 (AK),

### **Summary by clusters:**

There is one cluster represented in this pham: AK

Info for manual annotations of cluster AK:

- Start number 4 was manually annotated 72 times for cluster AK.
- Start number 5 was manually annotated 1 time for cluster AK.
- Start number 6 was manually annotated 1 time for cluster AK.
- Start number 7 was manually annotated 6 times for cluster AK.
- Start number 10 was manually annotated 3 times for cluster AK.

### **Gene Information:**

Gene: Albanese\_43 Start: 29112, Stop: 29345, Start Num: 7

Candidate Starts for Albanese\_43:

(Start: 7 @29112 has 6 MA's), (19, 29259), (20, 29262), (21, 29274), (26, 29322),

Gene: Aledel\_40 Start: 28451, Stop: 28726, Start Num: 4  
Candidate Starts for Aledel\_40:  
(Start: 4 @28451 has 72 MA's), (Start: 6 @28493 has 1 MA's), (17, 28616), (19, 28640), (23, 28691),  
(25, 28697), (26, 28703),

Gene: AppleCider\_42 Start: 28492, Stop: 28761, Start Num: 4  
Candidate Starts for AppleCider\_42:  
(Start: 4 @28492 has 72 MA's), (8, 28537), (11, 28549), (17, 28648), (18, 28651), (21, 28687), (22,  
28720), (26, 28735),

Gene: AustinPowers\_40 Start: 28449, Stop: 28724, Start Num: 4  
Candidate Starts for AustinPowers\_40:  
(Start: 4 @28449 has 72 MA's), (Start: 6 @28491 has 1 MA's), (17, 28614), (19, 28638), (23, 28689),  
(25, 28695), (26, 28701),

Gene: Beethoven\_42 Start: 28424, Stop: 28708, Start Num: 4  
Candidate Starts for Beethoven\_42:  
(Start: 4 @28424 has 72 MA's), (Start: 6 @28469 has 1 MA's), (19, 28622), (22, 28670), (26, 28685),

Gene: Bennie\_40 Start: 27235, Stop: 27519, Start Num: 4  
Candidate Starts for Bennie\_40:  
(Start: 4 @27235 has 72 MA's), (Start: 6 @27280 has 1 MA's), (18, 27412), (21, 27448), (26, 27496),

Gene: BigMack\_40 Start: 27335, Stop: 27619, Start Num: 4  
Candidate Starts for BigMack\_40:  
(Start: 4 @27335 has 72 MA's), (Start: 6 @27380 has 1 MA's), (14, 27470), (19, 27533), (22, 27581),  
(26, 27596),

Gene: Bodacious\_40 Start: 27293, Stop: 27577, Start Num: 4  
Candidate Starts for Bodacious\_40:  
(1, 26906), (2, 27188), (3, 27194), (Start: 4 @27293 has 72 MA's), (Start: 6 @27338 has 1 MA's), (21,  
27506), (22, 27539), (26, 27554),

Gene: BrotherBLo\_42 Start: 28456, Stop: 28740, Start Num: 4  
Candidate Starts for BrotherBLo\_42:  
(Start: 4 @28456 has 72 MA's), (Start: 6 @28501 has 1 MA's), (19, 28654), (22, 28702), (26, 28717),

Gene: CallieOMalley\_42 Start: 28492, Stop: 28761, Start Num: 4  
Candidate Starts for CallieOMalley\_42:  
(Start: 4 @28492 has 72 MA's), (8, 28537), (11, 28549), (17, 28648), (18, 28651), (21, 28687), (22,  
28720), (26, 28735),

Gene: Canowicakte\_42 Start: 28527, Stop: 28796, Start Num: 4  
Candidate Starts for Canowicakte\_42:  
(Start: 4 @28527 has 72 MA's), (8, 28572), (11, 28584), (17, 28683), (18, 28686), (21, 28722), (22,  
28755), (26, 28770),

Gene: Carpal\_42 Start: 28436, Stop: 28720, Start Num: 4  
Candidate Starts for Carpal\_42:  
(Start: 4 @28436 has 72 MA's), (Start: 6 @28481 has 1 MA's), (19, 28634), (22, 28682), (26, 28697),

Gene: ChewChew\_40 Start: 27424, Stop: 27708, Start Num: 4  
Candidate Starts for ChewChew\_40:

(Start: 4 @27424 has 72 MA's), (Start: 6 @27469 has 1 MA's), (21, 27637), (22, 27670), (26, 27685),

Gene: Cholula\_42 Start: 28482, Stop: 28766, Start Num: 4

Candidate Starts for Cholula\_42:

(Start: 4 @28482 has 72 MA's), (Start: 6 @28527 has 1 MA's), (19, 28680), (22, 28728), (26, 28743),

Gene: Chridison\_39 Start: 28383, Stop: 28658, Start Num: 4

Candidate Starts for Chridison\_39:

(2, 28278), (3, 28284), (Start: 4 @28383 has 72 MA's), (9, 28440), (12, 28470), (21, 28587), (22, 28620), (26, 28635),

Gene: Christian\_40 Start: 27281, Stop: 27565, Start Num: 4

Candidate Starts for Christian\_40:

(1, 26894), (2, 27176), (3, 27182), (Start: 4 @27281 has 72 MA's), (Start: 6 @27326 has 1 MA's), (21, 27494), (22, 27527), (26, 27542),

Gene: CristinaYang\_40 Start: 27420, Stop: 27704, Start Num: 4

Candidate Starts for CristinaYang\_40:

(Start: 4 @27420 has 72 MA's), (Start: 6 @27465 has 1 MA's), (22, 27666), (26, 27681),

Gene: Daiboju\_40 Start: 28464, Stop: 28739, Start Num: 4

Candidate Starts for Daiboju\_40:

(2, 28359), (3, 28365), (Start: 4 @28464 has 72 MA's), (Start: 6 @28506 has 1 MA's), (21, 28668), (22, 28701), (26, 28716),

Gene: Dino\_43 Start: 28583, Stop: 28867, Start Num: 4

Candidate Starts for Dino\_43:

(Start: 4 @28583 has 72 MA's), (Start: 6 @28628 has 1 MA's), (19, 28781), (22, 28829), (26, 28844),

Gene: DrRobert\_39 Start: 27061, Stop: 27345, Start Num: 4

Candidate Starts for DrRobert\_39:

(1, 26674), (2, 26956), (3, 26962), (Start: 4 @27061 has 72 MA's), (Start: 6 @27106 has 1 MA's), (22, 27307), (26, 27322),

Gene: DreamTeam\_40 Start: 27389, Stop: 27673, Start Num: 4

Candidate Starts for DreamTeam\_40:

(Start: 4 @27389 has 72 MA's), (Start: 6 @27434 has 1 MA's), (16, 27536), (18, 27566), (21, 27602), (22, 27635), (26, 27650),

Gene: EstebanJulior\_41 Start: 28439, Stop: 28723, Start Num: 4

Candidate Starts for EstebanJulior\_41:

(Start: 4 @28439 has 72 MA's), (Start: 6 @28484 has 1 MA's), (17, 28613), (19, 28637), (22, 28685), (26, 28700),

Gene: Eunoia\_40 Start: 28451, Stop: 28726, Start Num: 4

Candidate Starts for Eunoia\_40:

(Start: 4 @28451 has 72 MA's), (Start: 6 @28493 has 1 MA's), (17, 28616), (19, 28640), (23, 28691), (25, 28697), (26, 28703),

Gene: Fluke\_43 Start: 28699, Stop: 28983, Start Num: 4

Candidate Starts for Fluke\_43:

(Start: 4 @28699 has 72 MA's), (Start: 6 @28744 has 1 MA's), (19, 28897), (22, 28945), (26, 28960),

Gene: Gisselle\_40 Start: 27389, Stop: 27673, Start Num: 4  
Candidate Starts for Gisselle\_40:  
(Start: 4 @27389 has 72 MA's), (Start: 6 @27434 has 1 MA's), (16, 27536), (18, 27566), (21, 27602),  
(22, 27635), (26, 27650),

Gene: Glenn\_43 Start: 28690, Stop: 28974, Start Num: 4  
Candidate Starts for Glenn\_43:  
(Start: 4 @28690 has 72 MA's), (Start: 6 @28735 has 1 MA's), (19, 28888), (22, 28936), (26, 28951),

Gene: GreenHearts\_44 Start: 29403, Stop: 29636, Start Num: 7  
Candidate Starts for GreenHearts\_44:  
(Start: 7 @29403 has 6 MA's), (19, 29550), (20, 29553), (21, 29565), (24, 29604), (26, 29613),

Gene: Greenhouse\_44 Start: 29123, Stop: 29356, Start Num: 7  
Candidate Starts for Greenhouse\_44:  
(Start: 7 @29123 has 6 MA's), (19, 29270), (20, 29273), (21, 29285), (24, 29324), (26, 29333),

Gene: HeadNerd\_40 Start: 27234, Stop: 27518, Start Num: 4  
Candidate Starts for HeadNerd\_40:  
(Start: 4 @27234 has 72 MA's), (Start: 6 @27279 has 1 MA's), (19, 27432), (22, 27480), (26, 27495),

Gene: Herb\_40 Start: 28463, Stop: 28738, Start Num: 4  
Candidate Starts for Herb\_40:  
(2, 28358), (3, 28364), (Start: 4 @28463 has 72 MA's), (Start: 6 @28505 has 1 MA's), (21, 28667),  
(22, 28700), (26, 28715),

Gene: Huckleberry\_40 Start: 27217, Stop: 27501, Start Num: 4  
Candidate Starts for Huckleberry\_40:  
(Start: 4 @27217 has 72 MA's), (Start: 6 @27262 has 1 MA's), (19, 27415), (22, 27463), (26, 27478),

Gene: HunterDalle\_40 Start: 28382, Stop: 28657, Start Num: 4  
Candidate Starts for HunterDalle\_40:  
(2, 28277), (3, 28283), (Start: 4 @28382 has 72 MA's), (9, 28439), (12, 28469), (21, 28586), (22,  
28619), (26, 28634),

Gene: Huntingdon\_42 Start: 28950, Stop: 29168, Start Num: 10  
Candidate Starts for Huntingdon\_42:  
(Start: 10 @28950 has 3 MA's), (15, 29028), (19, 29082), (20, 29085), (21, 29097), (24, 29136), (26,  
29145),

Gene: Immaculata\_42 Start: 28481, Stop: 28765, Start Num: 4  
Candidate Starts for Immaculata\_42:  
(Start: 4 @28481 has 72 MA's), (Start: 6 @28526 has 1 MA's), (19, 28679), (22, 28727), (26, 28742),

Gene: Joann\_44 Start: 29171, Stop: 29431, Start Num: 5  
Candidate Starts for Joann\_44:  
(Start: 5 @29171 has 1 MA's), (Start: 7 @29198 has 6 MA's), (13, 29258), (19, 29345), (20, 29348),  
(21, 29360), (24, 29399), (26, 29408),

Gene: Jumboset\_43 Start: 28598, Stop: 28882, Start Num: 4  
Candidate Starts for Jumboset\_43:  
(Start: 4 @28598 has 72 MA's), (Start: 6 @28643 has 1 MA's), (19, 28796), (22, 28844), (26, 28859),

Gene: Kalizoi\_42 Start: 28423, Stop: 28707, Start Num: 4  
Candidate Starts for Kalizoi\_42:  
(Start: 4 @28423 has 72 MA's), (Start: 6 @28468 has 1 MA's), (19, 28621), (22, 28669), (26, 28684),

Gene: KingBob\_40 Start: 28464, Stop: 28739, Start Num: 4  
Candidate Starts for KingBob\_40:  
(2, 28359), (3, 28365), (Start: 4 @28464 has 72 MA's), (Start: 6 @28506 has 1 MA's), (21, 28668),  
(22, 28701), (26, 28716),

Gene: Kittykat\_42 Start: 27685, Stop: 27966, Start Num: 4  
Candidate Starts for Kittykat\_42:  
(Start: 4 @27685 has 72 MA's), (Start: 6 @27730 has 1 MA's), (19, 27883), (22, 27931), (26, 27946),

Gene: Korra\_42 Start: 28435, Stop: 28719, Start Num: 4  
Candidate Starts for Korra\_42:  
(Start: 4 @28435 has 72 MA's), (Start: 6 @28480 has 1 MA's), (19, 28633), (22, 28681), (26, 28696),

Gene: Lakshmi\_43 Start: 29086, Stop: 29319, Start Num: 7  
Candidate Starts for Lakshmi\_43:  
(Start: 7 @29086 has 6 MA's), (19, 29233), (20, 29236), (21, 29248), (24, 29287), (26, 29296),

Gene: Lasagna\_39 Start: 27059, Stop: 27343, Start Num: 4  
Candidate Starts for Lasagna\_39:  
(Start: 4 @27059 has 72 MA's), (Start: 6 @27104 has 1 MA's), (22, 27305), (26, 27320),

Gene: Lennox\_40 Start: 27266, Stop: 27550, Start Num: 4  
Candidate Starts for Lennox\_40:  
(1, 26879), (2, 27161), (3, 27167), (Start: 4 @27266 has 72 MA's), (Start: 6 @27311 has 1 MA's), (22,  
27512), (26, 27527),

Gene: LilStuart\_40 Start: 27408, Stop: 27692, Start Num: 4  
Candidate Starts for LilStuart\_40:  
(Start: 4 @27408 has 72 MA's), (Start: 6 @27453 has 1 MA's), (22, 27654), (26, 27669),

Gene: Litotes\_42 Start: 28480, Stop: 28749, Start Num: 4  
Candidate Starts for Litotes\_42:  
(Start: 4 @28480 has 72 MA's), (8, 28525), (11, 28537), (17, 28636), (18, 28639), (21, 28675), (22,  
28708), (26, 28723),

Gene: Lucy\_40 Start: 27405, Stop: 27689, Start Num: 4  
Candidate Starts for Lucy\_40:  
(Start: 4 @27405 has 72 MA's), (Start: 6 @27450 has 1 MA's), (17, 27579), (22, 27651), (26, 27666),

Gene: Makoto\_40 Start: 27278, Stop: 27562, Start Num: 4  
Candidate Starts for Makoto\_40:  
(Start: 4 @27278 has 72 MA's), (Start: 6 @27323 has 1 MA's), (22, 27524), (26, 27539),

Gene: MamaPearl\_41 Start: 28439, Stop: 28723, Start Num: 4  
Candidate Starts for MamaPearl\_41:  
(Start: 4 @28439 has 72 MA's), (Start: 6 @28484 has 1 MA's), (17, 28613), (19, 28637), (22, 28685),  
(26, 28700),

Gene: Maria1952\_39 Start: 28463, Stop: 28738, Start Num: 4



Candidate Starts for Maria1952\_39:

(2, 28358), (3, 28364), (Start: 4 @28463 has 72 MA's), (Start: 6 @28505 has 1 MA's), (21, 28667), (22, 28700), (26, 28715),

Gene: MeganNoll\_42 Start: 28655, Stop: 28939, Start Num: 4

Candidate Starts for MeganNoll\_42:

(Start: 4 @28655 has 72 MA's), (Start: 6 @28700 has 1 MA's), (19, 28853), (22, 28901), (26, 28916),

Gene: Misaeng\_42 Start: 29074, Stop: 29292, Start Num: 10

Candidate Starts for Misaeng\_42:

(Start: 10 @29074 has 3 MA's), (19, 29206), (20, 29209), (21, 29221), (24, 29260), (26, 29269),

Gene: Moki\_40 Start: 27380, Stop: 27664, Start Num: 4

Candidate Starts for Moki\_40:

(Start: 4 @27380 has 72 MA's), (Start: 6 @27425 has 1 MA's), (19, 27578), (22, 27626), (26, 27641),

Gene: MrGloopy\_43 Start: 28584, Stop: 28868, Start Num: 4

Candidate Starts for MrGloopy\_43:

(Start: 4 @28584 has 72 MA's), (Start: 6 @28629 has 1 MA's), (19, 28782), (22, 28830), (26, 28845),

Gene: Nancia\_40 Start: 27293, Stop: 27577, Start Num: 4

Candidate Starts for Nancia\_40:

(1, 26906), (2, 27188), (3, 27194), (Start: 4 @27293 has 72 MA's), (Start: 6 @27338 has 1 MA's), (21, 27506), (22, 27539), (26, 27554),

Gene: Nubia\_43 Start: 29031, Stop: 29264, Start Num: 7

Candidate Starts for Nubia\_43:

(Start: 7 @29031 has 6 MA's), (20, 29181), (21, 29193), (26, 29241),

Gene: OMalley\_40 Start: 28451, Stop: 28726, Start Num: 4

Candidate Starts for OMalley\_40:

(Start: 4 @28451 has 72 MA's), (Start: 6 @28493 has 1 MA's), (17, 28616), (19, 28640), (23, 28691), (25, 28697), (26, 28703),

Gene: OurGirlNessie\_39 Start: 27022, Stop: 27306, Start Num: 4

Candidate Starts for OurGirlNessie\_39:

(Start: 4 @27022 has 72 MA's), (Start: 6 @27067 has 1 MA's), (22, 27268), (26, 27283),

Gene: Oxynfrius\_43 Start: 29052, Stop: 29285, Start Num: 7

Candidate Starts for Oxynfrius\_43:

(Start: 7 @29052 has 6 MA's), (19, 29199), (20, 29202), (21, 29214), (24, 29253), (26, 29262),

Gene: PartyCup\_45 Start: 28763, Stop: 28975, Start Num: 11

Candidate Starts for PartyCup\_45:

(Start: 4 @28706 has 72 MA's), (8, 28751), (11, 28763), (17, 28862), (18, 28865), (21, 28901), (22, 28934), (26, 28949),

Gene: PinkFriday\_40 Start: 27570, Stop: 27842, Start Num: 4

Candidate Starts for PinkFriday\_40:

(2, 27465), (3, 27471), (Start: 4 @27570 has 72 MA's), (Start: 6 @27609 has 1 MA's), (21, 27771), (22, 27804), (26, 27819), (27, 27822),

Gene: PitaDog\_41 Start: 27417, Stop: 27701, Start Num: 4

Candidate Starts for PitaDog\_41:

(Start: 4 @27417 has 72 MA's), (Start: 6 @27462 has 1 MA's), (22, 27663), (26, 27678),

Gene: Potatoes\_42 Start: 28482, Stop: 28766, Start Num: 4

Candidate Starts for Potatoes\_42:

(Start: 4 @28482 has 72 MA's), (Start: 6 @28527 has 1 MA's), (19, 28680), (22, 28728), (26, 28743),

Gene: Preamble\_41 Start: 27551, Stop: 27832, Start Num: 4

Candidate Starts for Preamble\_41:

(Start: 4 @27551 has 72 MA's), (Start: 6 @27596 has 1 MA's), (19, 27749), (22, 27797), (26, 27812),

Gene: Pterodactyl\_40 Start: 27259, Stop: 27543, Start Num: 4

Candidate Starts for Pterodactyl\_40:

(Start: 4 @27259 has 72 MA's), (Start: 6 @27304 has 1 MA's), (22, 27505), (26, 27520),

Gene: Pumancara\_40 Start: 27482, Stop: 27754, Start Num: 4

Candidate Starts for Pumancara\_40:

(2, 27377), (3, 27383), (Start: 4 @27482 has 72 MA's), (Start: 6 @27521 has 1 MA's), (21, 27683), (22, 27716), (26, 27731),

Gene: RAP15\_43 Start: 28700, Stop: 28939, Start Num: 6

Candidate Starts for RAP15\_43:

(Start: 4 @28655 has 72 MA's), (Start: 6 @28700 has 1 MA's), (19, 28853), (22, 28901), (26, 28916),

Gene: RcigaStruga\_42 Start: 28950, Stop: 29168, Start Num: 10

Candidate Starts for RcigaStruga\_42:

(Start: 10 @28950 has 3 MA's), (15, 29028), (19, 29082), (20, 29085), (21, 29097), (24, 29136), (26, 29145),

Gene: Riovina\_40 Start: 28451, Stop: 28726, Start Num: 4

Candidate Starts for Riovina\_40:

(Start: 4 @28451 has 72 MA's), (Start: 6 @28493 has 1 MA's), (17, 28616), (19, 28640), (23, 28691), (25, 28697), (26, 28703),

Gene: Riverdale\_43 Start: 28620, Stop: 28904, Start Num: 4

Candidate Starts for Riverdale\_43:

(Start: 4 @28620 has 72 MA's), (Start: 6 @28665 has 1 MA's), (19, 28818), (22, 28866), (26, 28881),

Gene: Rozby\_42 Start: 28412, Stop: 28696, Start Num: 4

Candidate Starts for Rozby\_42:

(Start: 4 @28412 has 72 MA's), (Start: 6 @28457 has 1 MA's), (19, 28610), (22, 28658), (26, 28673),

Gene: Savage2526\_43 Start: 28649, Stop: 28933, Start Num: 4

Candidate Starts for Savage2526\_43:

(Start: 4 @28649 has 72 MA's), (Start: 6 @28694 has 1 MA's), (19, 28847), (22, 28895), (26, 28910),

Gene: Scuttle\_42 Start: 28609, Stop: 28893, Start Num: 4

Candidate Starts for Scuttle\_42:

(Start: 4 @28609 has 72 MA's), (Start: 6 @28654 has 1 MA's), (19, 28807), (22, 28855), (26, 28870),

Gene: Sergei\_40 Start: 28464, Stop: 28739, Start Num: 4

Candidate Starts for Sergei\_40:

(2, 28359), (3, 28365), (Start: 4 @28464 has 72 MA's), (Start: 6 @28506 has 1 MA's), (21, 28668), (22, 28701), (26, 28716),

Gene: Supakev\_40 Start: 28451, Stop: 28726, Start Num: 4

Candidate Starts for Supakev\_40:

(Start: 4 @28451 has 72 MA's), (Start: 6 @28493 has 1 MA's), (17, 28616), (19, 28640), (23, 28691), (25, 28697), (26, 28703),

Gene: Suppi\_42 Start: 28527, Stop: 28796, Start Num: 4

Candidate Starts for Suppi\_42:

(Start: 4 @28527 has 72 MA's), (8, 28572), (11, 28584), (17, 28683), (18, 28686), (21, 28722), (22, 28755), (26, 28770),

Gene: TattModd\_41 Start: 28269, Stop: 28553, Start Num: 4

Candidate Starts for TattModd\_41:

(Start: 4 @28269 has 72 MA's), (Start: 6 @28314 has 1 MA's), (19, 28467), (22, 28515), (26, 28530),

Gene: Temper16\_40 Start: 28464, Stop: 28739, Start Num: 4

Candidate Starts for Temper16\_40:

(2, 28359), (3, 28365), (Start: 4 @28464 has 72 MA's), (Start: 6 @28506 has 1 MA's), (21, 28668), (22, 28701), (26, 28716),

Gene: Urla\_41 Start: 28433, Stop: 28717, Start Num: 4

Candidate Starts for Urla\_41:

(Start: 4 @28433 has 72 MA's), (Start: 6 @28478 has 1 MA's), (19, 28631), (22, 28679), (26, 28694),

Gene: Vallejo\_43 Start: 28623, Stop: 28907, Start Num: 4

Candidate Starts for Vallejo\_43:

(Start: 4 @28623 has 72 MA's), (Start: 6 @28668 has 1 MA's), (19, 28821), (22, 28869), (26, 28884),

Gene: Vulture\_40 Start: 28382, Stop: 28657, Start Num: 4

Candidate Starts for Vulture\_40:

(2, 28277), (3, 28283), (Start: 4 @28382 has 72 MA's), (9, 28439), (12, 28469), (21, 28586), (22, 28619), (26, 28634),

Gene: Wawa\_42 Start: 28456, Stop: 28740, Start Num: 4

Candidate Starts for Wawa\_42:

(Start: 4 @28456 has 72 MA's), (Start: 6 @28501 has 1 MA's), (19, 28654), (22, 28702), (26, 28717),

Gene: Wayne\_42 Start: 28573, Stop: 28842, Start Num: 4

Candidate Starts for Wayne\_42:

(Start: 4 @28573 has 72 MA's), (8, 28618), (11, 28630), (17, 28729), (18, 28732), (21, 28768), (22, 28801), (26, 28816),

Gene: WonderBoy\_39 Start: 27253, Stop: 27537, Start Num: 4

Candidate Starts for WonderBoy\_39:

(2, 27148), (3, 27154), (Start: 4 @27253 has 72 MA's), (Start: 6 @27298 has 1 MA's), (17, 27427), (22, 27499), (26, 27514),

Gene: Zorro\_43 Start: 28583, Stop: 28867, Start Num: 4

Candidate Starts for Zorro\_43:

(Start: 4 @28583 has 72 MA's), (Start: 6 @28628 has 1 MA's), (19, 28781), (22, 28829), (26, 28844),