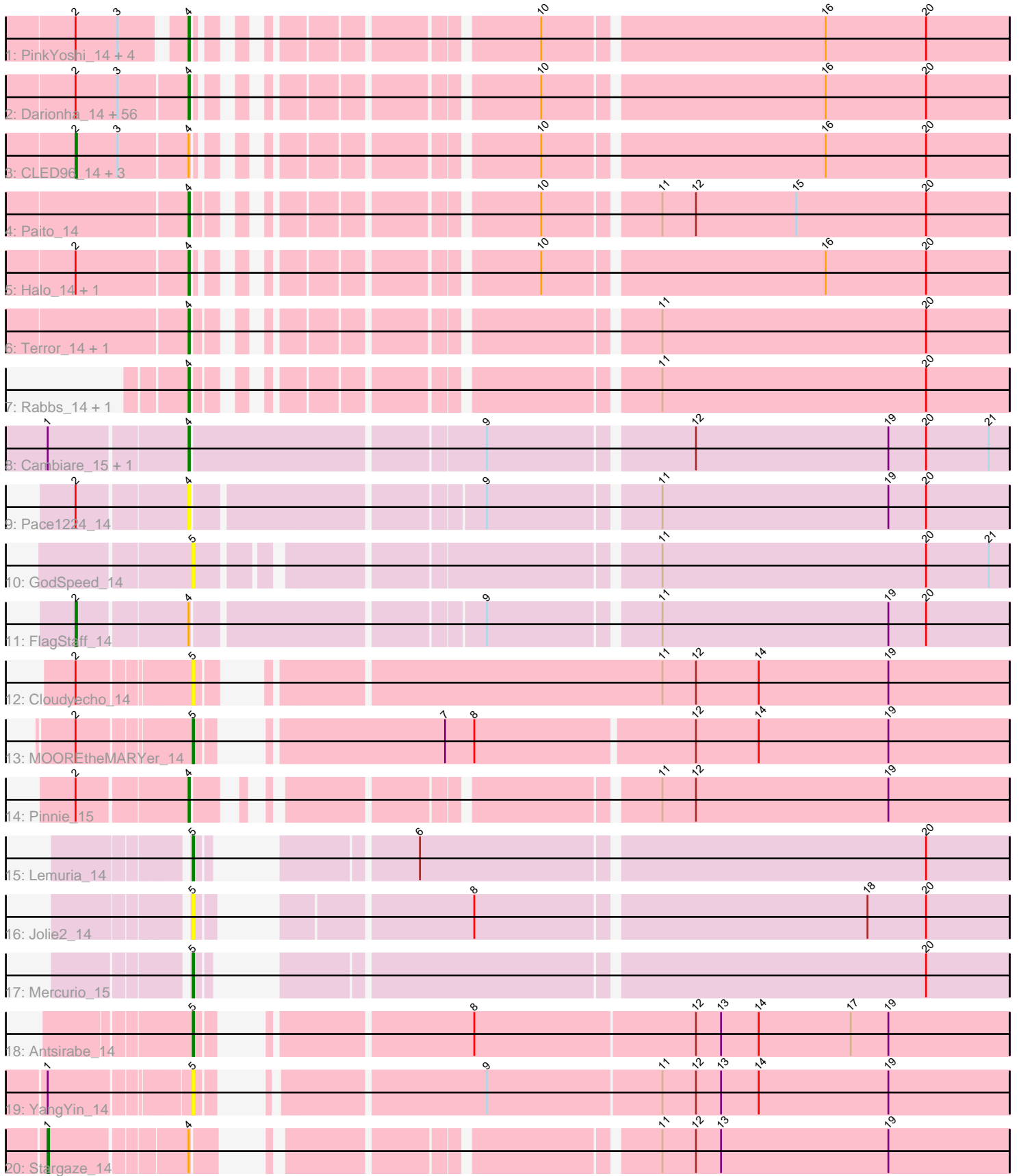


Pham 304923



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 304923 Report

This analysis was run 06/08/26 on database version 649.

Pham number 304923 has 87 members, 13 are drafts.

Phages represented in each track:

- Track 1 : PinkYoshi\_14, BQuat\_14, Coleslaw\_14, Neoh\_14, Annihilator\_14
- Track 2 : Darionha\_14, Crespo\_14, ShaboiShabazz\_14, Frosty24\_14, Jeilious\_14, ZoMa\_14, Gomashi\_15, Ruriko\_14, DingDing\_14, LouisV14\_14, Jolene\_14, AizenPogi\_14, Rattrick\_14, Jane\_14, Peeb\_14, Richarlison\_14, CassieYates\_14, Angel\_14, TomBrady\_14, OctaviousRex\_15, DMoney\_14, ECartman\_14, Kasen3\_14, Sweets\_14, Wendigo\_14, Avrafan\_14, Maliketh\_14, Periodt\_14, Phloodle\_14, Jonghyun\_14, Sizemore\_14, Schiebel\_14, Plagueis\_14, Olga\_14, Aroostook\_14, Barkley26\_14, Phish\_14, Zombie\_14, Hope\_15, MZKinsey\_14, Hotshotbaby7\_14, Kareem\_14, Mowgli\_14, Chance64\_15, BruceB\_14, Marmie\_14, Grizzly\_14, Camri\_14, Cedasite\_14, Gideon\_14, Renaissance\_14, JorRay\_14, Cherrybomb426\_14, Phreak\_14, Liefie\_14, AzulaCat\_14, BPs\_14
- Track 3 : CLED96\_14, GoldenAsh\_14, Remy19\_14, DNAllI\_0014
- Track 4 : Paito\_14
- Track 5 : Halo\_14, TinaBug\_14
- Track 6 : Terror\_14, Taheera\_14
- Track 7 : Rabbs\_14, Sneeze\_14
- Track 8 : Cambiare\_15, Avocado\_14
- Track 9 : Pace1224\_14
- Track 10 : GodSpeed\_14
- Track 11 : FlagStaff\_14
- Track 12 : Cloudyecho\_14
- Track 13 : MOOREtheMARYer\_14
- Track 14 : Pinnie\_15
- Track 15 : Lemuria\_14
- Track 16 : Jolie2\_14
- Track 17 : Mercurio\_15
- Track 18 : Antsirabe\_14
- Track 19 : YangYin\_14
- Track 20 : Stargaze\_14

### ***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 64 of the 74 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AizenPogi\_14, Angel\_14, Annihilator\_14, Aroostook\_14, Avocado\_14, Avrafan\_14, AzulaCat\_14, BPs\_14, BQuat\_14, Barkley26\_14, BruceB\_14, Cambiare\_15, Camri\_14, CassieYates\_14, Cedasite\_14, Chance64\_15, Cherrybomb426\_14, Coleslaw\_14, Crespo\_14, DMoney\_14, Darionha\_14, DingDing\_14, ECartman\_14, Frosty24\_14, Gideon\_14, Gomashi\_15, Grizzly\_14, Halo\_14, Hope\_15, Hotshotbaby7\_14, Jane\_14, Jeilious\_14, Jolene\_14, Jonghyun\_14, JorRay\_14, Kareem\_14, Kasen3\_14, Liefie\_14, LouisV14\_14, MZKinsey\_14, Maliketh\_14, Marmie\_14, Mowgli\_14, Neoh\_14, OctaviousRex\_15, Olga\_14, Pace1224\_14, Paito\_14, Peeb\_14, Periodt\_14, Phish\_14, Phloodle\_14, Phreak\_14, PinkYoshi\_14, Pinnie\_15, Plagueis\_14, Rabbs\_14, Rattrick\_14, Renaissance\_14, Richarlison\_14, Ruriko\_14, Schiebel\_14, ShaboShabazz\_14, Sizemore\_14, Sneeze\_14, Sweets\_14, Taheera\_14, Terror\_14, TinaBug\_14, TomBrady\_14, Wendigo\_14, ZoMa\_14, Zombie\_14,

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

- CLED96\_14, DNAIII\_0014, FlagStaff\_14, GoldenAsh\_14, Remy19\_14, Stargaze\_14,

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

- Antsirabe\_14, Cloudyecho\_14, GodSpeed\_14, Jolie2\_14, Lemuria\_14, MOOREtheMARYer\_14, Mercurio\_15, YangYin\_14,

### Summary by start number:

Start 1:

- Found in 4 of 87 ( 4.6% ) of genes in pham
- Manual Annotations of this start: 1 of 74
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Stargaze\_14 (G5),

Start 2:

- Found in 73 of 87 ( 83.9% ) of genes in pham
- Manual Annotations of this start: 5 of 74
- Called 6.8% of time when present
- Phage (with cluster) where this start called: CLED96\_14 (G1), DNAIII\_0014 (G1), FlagStaff\_14 (G2), GoldenAsh\_14 (G1), Remy19\_14 (G1),

Start 4:

- Found in 79 of 87 ( 90.8% ) of genes in pham
- Manual Annotations of this start: 64 of 74
- Called 92.4% of time when present
- Phage (with cluster) where this start called: AizenPogi\_14 (G1), Angel\_14 (G1), Annihilator\_14 (G1), Aroostook\_14 (G1), Avocado\_14 (G2), Avrafan\_14 (G1), AzulaCat\_14 (G1), BPs\_14 (G1), BQuat\_14 (G1), Barkley26\_14 (G1), BruceB\_14 (G1), Cambiare\_15 (G2), Camri\_14 (G1), CassieYates\_14 (G1), Cedasite\_14 (G1), Chance64\_15 (G1), Cherrybomb426\_14 (G1), Coleslaw\_14 (G1), Crespo\_14 (G1), DMoney\_14 (G1), Darionha\_14 (G1), DingDing\_14 (G1), ECartman\_14 (G1), Frosty24\_14 (G1), Gideon\_14 (G1), Gomashi\_15 (G1), Grizzly\_14 (G1), Halo\_14 (G1), Hope\_15 (G1), Hotshotbaby7\_14 (G1), Jane\_14 (G1), Jeilious\_14 (G), Jolene\_14 (G1), Jonghyun\_14 (G1), JorRay\_14 (G1), Kareem\_14 (G1), Kasen3\_14 (G1), Liefie\_14 (G1), LouisV14\_14 (G1), MZKinsey\_14 (G1), Maliketh\_14 (G1),

Marmie\_14 (G1), Mowgli\_14 (G1), Neoh\_14 (G), OctaviousRex\_15 (G1), Olga\_14 (G1), Pace1224\_14 (G2), Paito\_14 (G1), Peeb\_14 (G1), Periodt\_14 (G1), Phish\_14 (G1), Phloodle\_14 (G1), Phreak\_14 (G1), PinkYoshi\_14 (G1), Pinnie\_15 (G3), Plagueis\_14 (G1), Rabbs\_14 (G1), Rattrick\_14 (G1), Renaissance\_14 (G1), Richarlison\_14 (G1), Ruriko\_14 (G1), Schiebel\_14 (G1), ShaboiShabazz\_14 (G1), Sizemore\_14 (G1), Sneeze\_14 (G1), Sweets\_14 (G1), Taheera\_14 (G1), Terror\_14 (G1), TinaBug\_14 (G1), TomBrady\_14 (G1), Wendigo\_14 (G1), ZoMa\_14 (G1), Zombie\_14 (G1),

Start 5:

- Found in 8 of 87 ( 9.2% ) of genes in pham
- Manual Annotations of this start: 4 of 74
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Antsirabe\_14 (G5), Cloudyecho\_14 (G3), GodSpeed\_14 (G2), Jolie2\_14 (G4), Lemuria\_14 (G4), MOOREtheMARYer\_14 (G3), Mercurio\_15 (G4), YangYin\_14 (G5),

### **Summary by clusters:**

There are 6 clusters represented in this pham: G5, G4, G3, G1, G, G2,

Info for manual annotations of cluster G1:

- Start number 2 was manually annotated 4 times for cluster G1.
- Start number 4 was manually annotated 61 times for cluster G1.

Info for manual annotations of cluster G2:

- Start number 2 was manually annotated 1 time for cluster G2.
- Start number 4 was manually annotated 2 times for cluster G2.

Info for manual annotations of cluster G3:

- Start number 4 was manually annotated 1 time for cluster G3.
- Start number 5 was manually annotated 1 time for cluster G3.

Info for manual annotations of cluster G4:

- Start number 5 was manually annotated 2 times for cluster G4.

Info for manual annotations of cluster G5:

- Start number 1 was manually annotated 1 time for cluster G5.
- Start number 5 was manually annotated 1 time for cluster G5.

### **Gene Information:**

Gene: AizenPogi\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for AizenPogi\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: Angel\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for Angel\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: Annihilator\_14 Start: 10560, Stop: 11069, Start Num: 4

Candidate Starts for Annihilator\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10560 has 64 MA's), (10, 10746), (16, 10938), (20, 11010),

Gene: Antsirabe\_14 Start: 10908, Stop: 11438, Start Num: 5

Candidate Starts for Antsirabe\_14:

(Start: 5 @10908 has 4 MA's), (8, 11058), (12, 11214), (13, 11232), (14, 11259), (17, 11325), (19, 11352),

Gene: Aroostook\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for Aroostook\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: Avocado\_14 Start: 10731, Stop: 11291, Start Num: 4

Candidate Starts for Avocado\_14:

(Start: 1 @10641 has 1 MA's), (Start: 4 @10731 has 64 MA's), (9, 10929), (12, 11067), (19, 11205), (20, 11232), (21, 11277),

Gene: Avrafan\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for Avrafan\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: AzulaCat\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for AzulaCat\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: BPs\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for BPs\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: BQuat\_14 Start: 10560, Stop: 11069, Start Num: 4

Candidate Starts for BQuat\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10560 has 64 MA's), (10, 10746), (16, 10938), (20, 11010),

Gene: Barkley26\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for Barkley26\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: BruceB\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for BruceB\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: CLED96\_14 Start: 10494, Stop: 11078, Start Num: 2  
Candidate Starts for CLED96\_14:  
(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947),  
(20, 11019),

Gene: Cambiare\_15 Start: 11193, Stop: 11753, Start Num: 4  
Candidate Starts for Cambiare\_15:  
(Start: 1 @11103 has 1 MA's), (Start: 4 @11193 has 64 MA's), (9, 11391), (12, 11529), (19, 11667),  
(20, 11694), (21, 11739),

Gene: Camri\_14 Start: 10569, Stop: 11078, Start Num: 4  
Candidate Starts for Camri\_14:  
(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947),  
(20, 11019),

Gene: CassieYates\_14 Start: 10569, Stop: 11078, Start Num: 4  
Candidate Starts for CassieYates\_14:  
(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947),  
(20, 11019),

Gene: Cedasite\_14 Start: 10569, Stop: 11078, Start Num: 4  
Candidate Starts for Cedasite\_14:  
(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947),  
(20, 11019),

Gene: Chance64\_15 Start: 10569, Stop: 11078, Start Num: 4  
Candidate Starts for Chance64\_15:  
(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947),  
(20, 11019),

Gene: Cherrybomb426\_14 Start: 10569, Stop: 11078, Start Num: 4  
Candidate Starts for Cherrybomb426\_14:  
(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947),  
(20, 11019),

Gene: Cloudyecho\_14 Start: 10793, Stop: 11329, Start Num: 5  
Candidate Starts for Cloudyecho\_14:  
(Start: 2 @10724 has 5 MA's), (Start: 5 @10793 has 4 MA's), (11, 11081), (12, 11105), (14, 11150),  
(19, 11243),

Gene: Coleslaw\_14 Start: 10560, Stop: 11069, Start Num: 4  
Candidate Starts for Coleslaw\_14:  
(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10560 has 64 MA's), (10, 10746), (16, 10938),  
(20, 11010),

Gene: Crespo\_14 Start: 10570, Stop: 11079, Start Num: 4  
Candidate Starts for Crespo\_14:  
(Start: 2 @10495 has 5 MA's), (3, 10525), (Start: 4 @10570 has 64 MA's), (10, 10756), (16, 10948),  
(20, 11020),

Gene: DMoney\_14 Start: 10569, Stop: 11078, Start Num: 4  
Candidate Starts for DMoney\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: DNAIII\_0014 Start: 10503, Stop: 11087, Start Num: 2

Candidate Starts for DNAIII\_0014:

(Start: 2 @10503 has 5 MA's), (3, 10533), (Start: 4 @10578 has 64 MA's), (10, 10764), (16, 10956), (20, 11028),

Gene: Darionha\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for Darionha\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: DingDing\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for DingDing\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: ECartman\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for ECartman\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: FlagStaff\_14 Start: 10592, Stop: 11215, Start Num: 2

Candidate Starts for FlagStaff\_14:

(Start: 2 @10592 has 5 MA's), (Start: 4 @10664 has 64 MA's), (9, 10853), (11, 10967), (19, 11129), (20, 11156),

Gene: Frosty24\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for Frosty24\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: Gideon\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for Gideon\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: GodSpeed\_14 Start: 10652, Stop: 11191, Start Num: 5

Candidate Starts for GodSpeed\_14:

(Start: 5 @10652 has 4 MA's), (11, 10943), (20, 11132), (21, 11177),

Gene: GoldenAsh\_14 Start: 10494, Stop: 11078, Start Num: 2

Candidate Starts for GoldenAsh\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: Gomashi\_15 Start: 10570, Stop: 11079, Start Num: 4

Candidate Starts for Gomashi\_15:

(Start: 2 @10495 has 5 MA's), (3, 10525), (Start: 4 @10570 has 64 MA's), (10, 10756), (16, 10948), (20, 11020),

Gene: Grizzly\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for Grizzly\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: Halo\_14 Start: 10564, Stop: 11073, Start Num: 4

Candidate Starts for Halo\_14:

(Start: 2 @10489 has 5 MA's), (Start: 4 @10564 has 64 MA's), (10, 10750), (16, 10942), (20, 11014),

Gene: Hope\_15 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for Hope\_15:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: Hotshotbaby7\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for Hotshotbaby7\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: Jane\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for Jane\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: Jeilious\_14 Start: 10568, Stop: 11077, Start Num: 4

Candidate Starts for Jeilious\_14:

(Start: 2 @10493 has 5 MA's), (3, 10523), (Start: 4 @10568 has 64 MA's), (10, 10754), (16, 10946), (20, 11018),

Gene: Jolene\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for Jolene\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: Jolie2\_14 Start: 9852, Stop: 10367, Start Num: 5

Candidate Starts for Jolie2\_14:

(Start: 5 @9852 has 4 MA's), (8, 9996), (18, 10266), (20, 10308),

Gene: Jonghyun\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for Jonghyun\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: JorRay\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for JorRay\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: Kareem\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for Kareem\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: Kasen3\_14 Start: 10570, Stop: 11079, Start Num: 4

Candidate Starts for Kasen3\_14:

(Start: 2 @10495 has 5 MA's), (3, 10525), (Start: 4 @10570 has 64 MA's), (10, 10756), (16, 10948), (20, 11020),

Gene: Lemuria\_14 Start: 9901, Stop: 10413, Start Num: 5

Candidate Starts for Lemuria\_14:

(Start: 5 @9901 has 4 MA's), (6, 10003), (20, 10354),

Gene: Liefie\_14 Start: 10568, Stop: 11077, Start Num: 4

Candidate Starts for Liefie\_14:

(Start: 2 @10493 has 5 MA's), (3, 10523), (Start: 4 @10568 has 64 MA's), (10, 10754), (16, 10946), (20, 11018),

Gene: LouisV14\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for LouisV14\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: MOOREtheMARYer\_14 Start: 10788, Stop: 11321, Start Num: 5

Candidate Starts for MOOREtheMARYer\_14:

(Start: 2 @10719 has 5 MA's), (Start: 5 @10788 has 4 MA's), (7, 10923), (8, 10944), (12, 11097), (14, 11142), (19, 11235),

Gene: MZKinsey\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for MZKinsey\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: Maliketh\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for Maliketh\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: Marmie\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for Marmie\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: Mercurio\_15 Start: 10548, Stop: 11060, Start Num: 5

Candidate Starts for Mercurio\_15:

(Start: 5 @10548 has 4 MA's), (20, 11001),

Gene: Mowgli\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for Mowgli\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: Neoh\_14 Start: 10561, Stop: 11070, Start Num: 4

Candidate Starts for Neoh\_14:

(Start: 2 @10495 has 5 MA's), (3, 10525), (Start: 4 @10561 has 64 MA's), (10, 10747), (16, 10939), (20, 11011),

Gene: OctaviousRex\_15 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for OctaviousRex\_15:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: Olga\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for Olga\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: Pace1224\_14 Start: 10664, Stop: 11215, Start Num: 4

Candidate Starts for Pace1224\_14:

(Start: 2 @10592 has 5 MA's), (Start: 4 @10664 has 64 MA's), (9, 10853), (11, 10967), (19, 11129), (20, 11156),

Gene: Paito\_14 Start: 10684, Stop: 11196, Start Num: 4

Candidate Starts for Paito\_14:

(Start: 4 @10684 has 64 MA's), (10, 10873), (11, 10948), (12, 10972), (15, 11044), (20, 11137),

Gene: Peeb\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for Peeb\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: Periodt\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for Periodt\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: Phish\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for Phish\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: Phloodle\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for Phloodle\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: Phreak\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for Phreak\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: PinkYoshi\_14 Start: 10560, Stop: 11069, Start Num: 4

Candidate Starts for PinkYoshi\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10560 has 64 MA's), (10, 10746), (16, 10938), (20, 11010),

Gene: Pinnie\_15 Start: 11257, Stop: 11769, Start Num: 4

Candidate Starts for Pinnie\_15:

(Start: 2 @11185 has 5 MA's), (Start: 4 @11257 has 64 MA's), (11, 11521), (12, 11545), (19, 11683),

Gene: Plagueis\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for Plagueis\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: Rabbs\_14 Start: 10556, Stop: 11068, Start Num: 4

Candidate Starts for Rabbs\_14:

(Start: 4 @10556 has 64 MA's), (11, 10820), (20, 11009),

Gene: Rattrick\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for Rattrick\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: Remy19\_14 Start: 10494, Stop: 11078, Start Num: 2

Candidate Starts for Remy19\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: Renaissance\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for Renaissance\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: Richarlison\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for Richarlison\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: Ruriko\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for Ruriko\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: Schiebel\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for Schiebel\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: ShaboiShabazz\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for ShaboiShabazz\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: Sizemore\_14 Start: 10570, Stop: 11079, Start Num: 4

Candidate Starts for Sizemore\_14:

(Start: 2 @10495 has 5 MA's), (3, 10525), (Start: 4 @10570 has 64 MA's), (10, 10756), (16, 10948), (20, 11020),

Gene: Sneeze\_14 Start: 10555, Stop: 11067, Start Num: 4

Candidate Starts for Sneeze\_14:

(Start: 4 @10555 has 64 MA's), (11, 10819), (20, 11008),

Gene: Stargaze\_14 Start: 10778, Stop: 11371, Start Num: 1

Candidate Starts for Stargaze\_14:

(Start: 1 @10778 has 1 MA's), (Start: 4 @10865 has 64 MA's), (11, 11123), (12, 11147), (13, 11165), (19, 11285),

Gene: Sweets\_14 Start: 10564, Stop: 11073, Start Num: 4

Candidate Starts for Sweets\_14:

(Start: 2 @10489 has 5 MA's), (3, 10519), (Start: 4 @10564 has 64 MA's), (10, 10750), (16, 10942), (20, 11014),

Gene: Taheera\_14 Start: 10568, Stop: 11080, Start Num: 4

Candidate Starts for Taheera\_14:

(Start: 4 @10568 has 64 MA's), (11, 10832), (20, 11021),

Gene: Terror\_14 Start: 10568, Stop: 11080, Start Num: 4

Candidate Starts for Terror\_14:

(Start: 4 @10568 has 64 MA's), (11, 10832), (20, 11021),

Gene: TinaBug\_14 Start: 10564, Stop: 11073, Start Num: 4

Candidate Starts for TinaBug\_14:

(Start: 2 @10489 has 5 MA's), (Start: 4 @10564 has 64 MA's), (10, 10750), (16, 10942), (20, 11014),

Gene: TomBrady\_14 Start: 10570, Stop: 11079, Start Num: 4

Candidate Starts for TomBrady\_14:

(Start: 2 @10495 has 5 MA's), (3, 10525), (Start: 4 @10570 has 64 MA's), (10, 10756), (16, 10948), (20, 11020),

Gene: Wendigo\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for Wendigo\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: YangYin\_14 Start: 10865, Stop: 11392, Start Num: 5

Candidate Starts for YangYin\_14:

(Start: 1 @10778 has 1 MA's), (Start: 5 @10865 has 4 MA's), (9, 11021), (11, 11144), (12, 11168), (13, 11186), (14, 11213), (19, 11306),

Gene: ZoMa\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for ZoMa\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),

Gene: Zombie\_14 Start: 10569, Stop: 11078, Start Num: 4

Candidate Starts for Zombie\_14:

(Start: 2 @10494 has 5 MA's), (3, 10524), (Start: 4 @10569 has 64 MA's), (10, 10755), (16, 10947), (20, 11019),