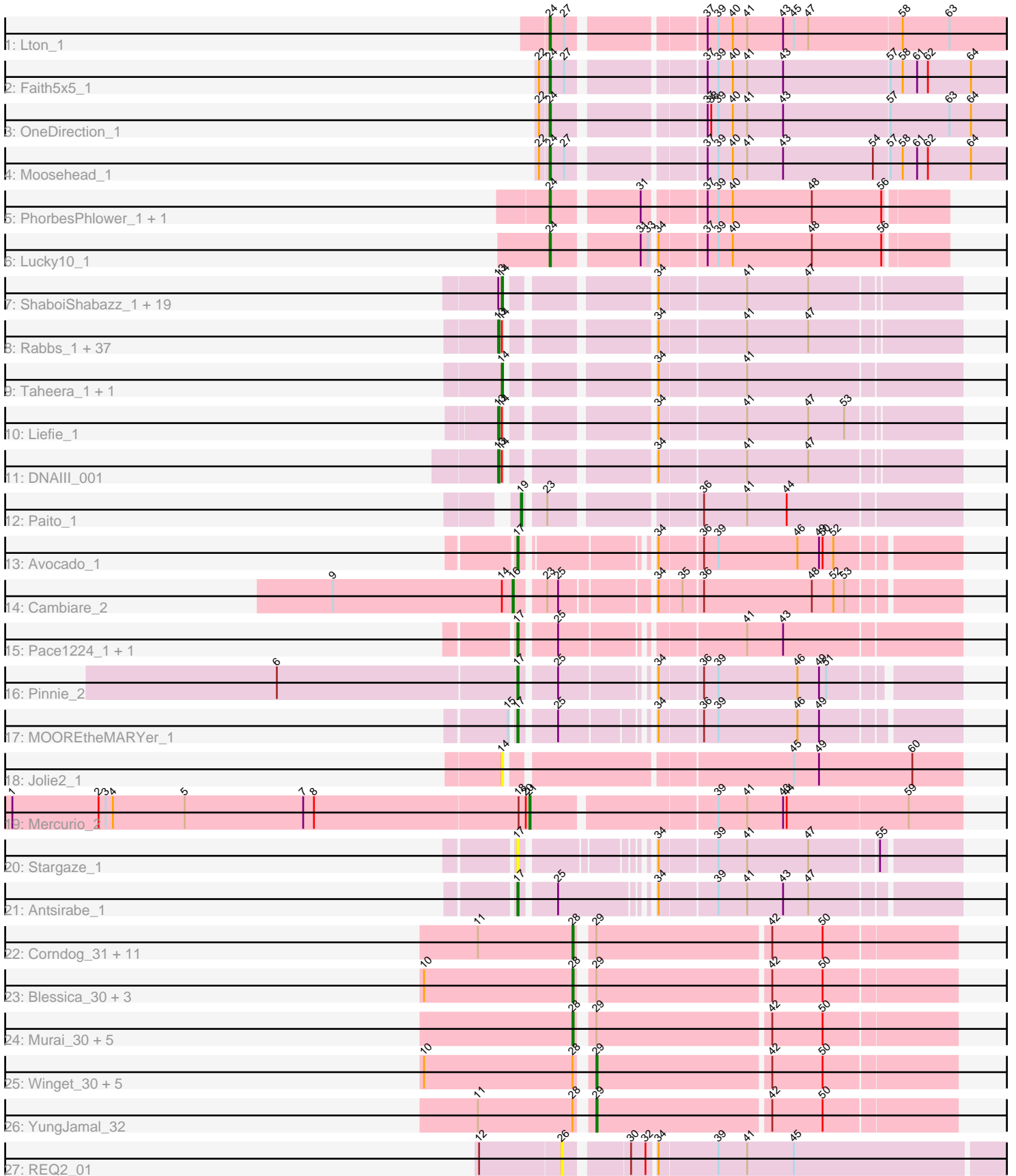


# Pham 196404



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 196404 Report

This analysis was run 12/09/24 on database version 580.

Pham number 196404 has 110 members, 9 are drafts.

Phages represented in each track:

- Track 1 : Lton\_1
- Track 2 : Faith5x5\_1
- Track 3 : OneDirection\_1
- Track 4 : Moosehead\_1
- Track 5 : PhorbesPhlower\_1, Morkie\_1
- Track 6 : Lucky10\_1
- Track 7 : ShaboiShabazz\_1, Peeb\_1, Sweets\_1, Maliketh\_1, Darionha\_1, Cherrybomb426\_1, AzulaCat\_1, Sizemore\_1, Mowgli\_1, Schiebel\_1, GoldenAsh\_1, Phish\_1, Grizzly\_1, Hotshotbaby7\_1, PinkYoshi\_1, Kasen3\_1, Plagueis\_1, Wendigo\_1, DMoney\_1, Olga\_1
- Track 8 : Rabbs\_1, Phreak\_1, CassieYates\_1, Marmie\_1, Crespo\_1, OctaviousRex\_1, Aroostook\_1, Barkley26\_1, Angel\_1, Gomashi\_1, LouisV14\_1, JorRay\_1, BruceB\_1, ECartman\_1, Hope\_1, Halo\_1, Gideon\_1, Jolene\_1, Frosty24\_1, Avrafan\_1, Jane\_1, TomBrady\_1, Zombie\_1, BPs\_1, CLED96\_1, ZoMa\_1, Jonghyun\_1, Camri\_1, Annihilator\_1, Renaissance\_1, Kareem\_1, Remy19\_1, Cedasite\_1, Periodt\_1, BQuat\_1, Sneeze\_1, Chance64\_1, Coleslaw\_1
- Track 9 : Taheera\_1, Terror\_1
- Track 10 : Liefie\_1
- Track 11 : DNAlll\_001
- Track 12 : Paito\_1
- Track 13 : Avocado\_1
- Track 14 : Cambiare\_2
- Track 15 : Pace1224\_1, FlagStaff\_1
- Track 16 : Pinnie\_2
- Track 17 : MOOREtheMARYer\_1
- Track 18 : Jolie2\_1
- Track 19 : Mercurio\_2
- Track 20 : Stargaze\_1
- Track 21 : Antsirabe\_1
- Track 22 : Corndog\_31, Vorrps\_29, Bora\_27, Wildflower\_30, Ashwin\_31, Mori\_29, NiebruSaylor\_29, Zakhe101\_30, Shida\_30, Dylan\_29, Firecracker\_30, Krili\_29
- Track 23 : Blessica\_30, MadKillah\_31, Smooch\_32, Schuy\_31
- Track 24 : Murai\_30, Familton\_30, Idergollasper\_29, FoulBall\_29, JangDynasty\_29, TelAviv\_27
- Track 25 : Winget\_30, SchoolBus\_29, Alkhayr\_28, Vagabond\_28, Ryadel\_32, Catdawg\_29
- Track 26 : YungJamal\_32

- Track 27 : REQ2\_01

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

The start number called the most often in the published annotations is 13, it was called in 40 of the 101 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Angel\_1, Annihilator\_1, Aroostook\_1, Avrafan\_1, BPs\_1, BQuat\_1, Barkley26\_1, BruceB\_1, CLED96\_1, Camri\_1, CassieYates\_1, Cedasite\_1, Chance64\_1, Coleslaw\_1, Crespo\_1, DNAIII\_001, ECartman\_1, Frosty24\_1, Gideon\_1, Gomashi\_1, Halo\_1, Hope\_1, Jane\_1, Jolene\_1, Jonghyun\_1, JorRay\_1, Kareem\_1, Liefie\_1, LouisV14\_1, Marmie\_1, OctaviousRex\_1, Periodt\_1, Phreak\_1, Rabbs\_1, Remy19\_1, Renaissance\_1, Sneeze\_1, TomBrady\_1, ZoMa\_1, Zombie\_1,

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

- AzulaCat\_1, Cherrybomb426\_1, DMoney\_1, Darionha\_1, GoldenAsh\_1, Grizzly\_1, Hotshotbaby7\_1, Kasen3\_1, Maliketh\_1, Mowgli\_1, Olga\_1, Peeb\_1, Phish\_1, PinkYoshi\_1, Plagueis\_1, Schiebel\_1, ShaboiShabazz\_1, Sizemore\_1, Sweets\_1, Wendigo\_1,

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

- Alkhayr\_28, Antsirabe\_1, Ashwin\_31, Avocado\_1, Blessica\_30, Bora\_27, Cambiare\_2, Catdawg\_29, Corndog\_31, Dylan\_29, Faith5x5\_1, Familton\_30, Firecracker\_30, FlagStaff\_1, FoulBall\_29, Idergollasper\_29, JangDynasty\_29, Jolie2\_1, Krili\_29, Lton\_1, Lucky10\_1, MOOREtheMARYer\_1, MadKillah\_31, Mercurio\_2, Moosehead\_1, Mori\_29, Morkie\_1, Murai\_30, NiebruSaylor\_29, OneDirection\_1, Pace1224\_1, Paito\_1, PhorbesPhlower\_1, Pinnie\_2, REQ2\_01, Ryadel\_32, SchoolBus\_29, Schuy\_31, Shida\_30, Smooch\_32, Stargaze\_1, Taheera\_1, TelAviv\_27, Terror\_1, Vagabond\_28, Vorrps\_29, Wildflower\_30, Winget\_30, YungJamal\_32, Zakhe101\_30,

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

Start 13:

- Found in 60 of 110 ( 54.5% ) of genes in pham
- Manual Annotations of this start: 40 of 101
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Angel\_1 (G1), Annihilator\_1 (G1), Aroostook\_1 (G1), Avrafan\_1 (G1), BPs\_1 (G1), BQuat\_1 (G1), Barkley26\_1 (G1), BruceB\_1 (G1), CLED96\_1 (G1), Camri\_1 (G1), CassieYates\_1 (G1), Cedasite\_1 (G1), Chance64\_1 (G1), Coleslaw\_1 (G1), Crespo\_1 (G1), DNAIII\_001 (G1), ECartman\_1 (G1), Frosty24\_1 (G1), Gideon\_1 (G1), Gomashi\_1 (G1), Halo\_1 (G1), Hope\_1 (G1), Jane\_1 (G1), Jolene\_1 (G1), Jonghyun\_1 (G1), JorRay\_1 (G1), Kareem\_1 (G1), Liefie\_1 (G1), LouisV14\_1 (G1), Marmie\_1 (G1), OctaviousRex\_1 (G1), Periodt\_1 (G1), Phreak\_1 (G1), Rabbs\_1 (G1), Remy19\_1 (G1), Renaissance\_1 (G1), Sneeze\_1 (G1), TomBrady\_1 (G1), ZoMa\_1 (G1), Zombie\_1 (G1),

Start 14:

- Found in 64 of 110 ( 58.2% ) of genes in pham
- Manual Annotations of this start: 19 of 101
- Called 35.9% of time when present
- Phage (with cluster) where this start called: AzulaCat\_1 (G1), Cherrybomb426\_1 (G1), DMoney\_1 (G1), Darionha\_1 (G1), GoldenAsh\_1 (G1), Grizzly\_1 (G1), Hotshotbaby7\_1 (G1), Jolie2\_1 (G4), Kasen3\_1 (G1), Maliketh\_1 (G1), Mowgli\_1 (G1), Olga\_1 (G1), Peeb\_1 (G1), Phish\_1 (G1), PinkYoshi\_1 (G1), Plagueis\_1 (G1), Schiebel\_1 (G1), ShaboiShabazz\_1 (G1), Sizemore\_1 (G1), Sweets\_1 (G1), Taheera\_1 (G1), Terror\_1 (G1), Wendigo\_1 (G1),

#### Start 16:

- Found in 1 of 110 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 1 of 101
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cambiare\_2 (G2),

#### Start 17:

- Found in 7 of 110 ( 6.4% ) of genes in pham
- Manual Annotations of this start: 5 of 101
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Antsirabe\_1 (G5), Avocado\_1 (G2), FlagStaff\_1 (G2), MOOREtheMARYer\_1 (G3), Pace1224\_1 (G2), Pinnie\_2 (G3), Stargaze\_1 (G5),

#### Start 19:

- Found in 1 of 110 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 1 of 101
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Paito\_1 (G1),

#### Start 21:

- Found in 1 of 110 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 1 of 101
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Mercurio\_2 (G4),

#### Start 24:

- Found in 7 of 110 ( 6.4% ) of genes in pham
- Manual Annotations of this start: 7 of 101
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Faith5x5\_1 (CZ6), Lton\_1 (CZ), Lucky10\_1 (DH), Moosehead\_1 (CZ6), Morkie\_1 (DH), OneDirection\_1 (CZ6), PhorbesPhlower\_1 (DH),

#### Start 26:

- Found in 1 of 110 ( 0.9% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: REQ2\_01 (singleton),

#### Start 28:

- Found in 29 of 110 ( 26.4% ) of genes in pham
- Manual Annotations of this start: 22 of 101

- Called 75.9% of time when present
- Phage (with cluster) where this start called: Ashwin\_31 (O), Blessica\_30 (O), Bora\_27 (O), Corndog\_31 (O), Dylan\_29 (O), Familton\_30 (O), Firecracker\_30 (O), FoulBall\_29 (O), Idergollasper\_29 (O), JangDynasty\_29 (O), Krili\_29 (O), MadKillah\_31 (O), Mori\_29 (O), Murai\_30 (O), NiebruSaylor\_29 (O), Schuy\_31 (O), Shida\_30 (O), Smooch\_32 (O), TelAviv\_27 (O), Vorrps\_29 (O), Wildflower\_30 (O), Zakhe101\_30 (O),

Start 29:

- Found in 29 of 110 ( 26.4% ) of genes in pham
- Manual Annotations of this start: 5 of 101
- Called 24.1% of time when present
- Phage (with cluster) where this start called: Alkhayr\_28 (O), Catdawg\_29 (O), Ryadel\_32 (O), SchoolBus\_29 (O), Vagabond\_28 (O), Winget\_30 (O), YungJamal\_32 (O),

### Summary by clusters:

There are 10 clusters represented in this pham: singleton, G4, G3, G1, DH, CZ6, G5, O, CZ, G2,

Info for manual annotations of cluster CZ:

- Start number 24 was manually annotated 1 time for cluster CZ.

Info for manual annotations of cluster CZ6:

- Start number 24 was manually annotated 3 times for cluster CZ6.

Info for manual annotations of cluster DH:

- Start number 24 was manually annotated 3 times for cluster DH.

Info for manual annotations of cluster G1:

- Start number 13 was manually annotated 40 times for cluster G1.
- Start number 14 was manually annotated 19 times for cluster G1.
- Start number 19 was manually annotated 1 time for cluster G1.

Info for manual annotations of cluster G2:

- Start number 16 was manually annotated 1 time for cluster G2.
- Start number 17 was manually annotated 2 times for cluster G2.

Info for manual annotations of cluster G3:

- Start number 17 was manually annotated 2 times for cluster G3.

Info for manual annotations of cluster G4:

- Start number 21 was manually annotated 1 time for cluster G4.

Info for manual annotations of cluster G5:

- Start number 17 was manually annotated 1 time for cluster G5.

Info for manual annotations of cluster O:

- Start number 28 was manually annotated 22 times for cluster O.
- Start number 29 was manually annotated 5 times for cluster O.

### **Gene Information:**

Gene: Alkhayr\_28 Start: 13190, Stop: 13480, Start Num: 29

Candidate Starts for Alkhayr\_28:

(10, 13058), (Start: 28 @13181 has 22 MA's), (Start: 29 @13190 has 5 MA's), (42, 13331), (50, 13373),

Gene: Angel\_1 Start: 43, Stop: 387, Start Num: 13

Candidate Starts for Angel\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Annihilator\_1 Start: 43, Stop: 387, Start Num: 13

Candidate Starts for Annihilator\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Antsirabe\_1 Start: 53, Stop: 382, Start Num: 17

Candidate Starts for Antsirabe\_1:

(Start: 17 @53 has 5 MA's), (25, 80), (34, 146), (39, 191), (41, 215), (43, 245), (47, 266),

Gene: Aroostook\_1 Start: 43, Stop: 387, Start Num: 13

Candidate Starts for Aroostook\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Ashwin\_31 Start: 13191, Stop: 13490, Start Num: 28

Candidate Starts for Ashwin\_31:

(11, 13113), (Start: 28 @13191 has 22 MA's), (Start: 29 @13200 has 5 MA's), (42, 13341), (50, 13383),

Gene: Avocado\_1 Start: 54, Stop: 380, Start Num: 17

Candidate Starts for Avocado\_1:

(Start: 17 @54 has 5 MA's), (34, 144), (36, 177), (39, 189), (46, 255), (49, 273), (50, 276), (52, 285),

Gene: Avrafan\_1 Start: 43, Stop: 387, Start Num: 13

Candidate Starts for Avrafan\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: AzulaCat\_1 Start: 46, Stop: 387, Start Num: 14

Candidate Starts for AzulaCat\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: BPs\_1 Start: 43, Stop: 387, Start Num: 13

Candidate Starts for BPs\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: BQuat\_1 Start: 43, Stop: 387, Start Num: 13

Candidate Starts for BQuat\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Barkley26\_1 Start: 43, Stop: 387, Start Num: 13

Candidate Starts for Barkley26\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Blessica\_30 Start: 13214, Stop: 13513, Start Num: 28

Candidate Starts for Blessica\_30:

(10, 13091), (Start: 28 @13214 has 22 MA's), (Start: 29 @13223 has 5 MA's), (42, 13364), (50, 13406),

Gene: Bora\_27 Start: 12644, Stop: 12943, Start Num: 28

Candidate Starts for Bora\_27:

(11, 12566), (Start: 28 @12644 has 22 MA's), (Start: 29 @12653 has 5 MA's), (42, 12794), (50, 12836),

Gene: BruceB\_1 Start: 43, Stop: 387, Start Num: 13

Candidate Starts for BruceB\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: CLED96\_1 Start: 43, Stop: 387, Start Num: 13

Candidate Starts for CLED96\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Cambiare\_2 Start: 534, Stop: 869, Start Num: 16

Candidate Starts for Cambiare\_2:

(9, 384), (Start: 14 @525 has 19 MA's), (Start: 16 @534 has 1 MA's), (23, 555), (25, 564), (34, 633), (35, 651), (36, 666), (48, 756), (52, 774), (53, 783),

Gene: Camri\_1 Start: 43, Stop: 387, Start Num: 13

Candidate Starts for Camri\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: CassieYates\_1 Start: 43, Stop: 387, Start Num: 13

Candidate Starts for CassieYates\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Catdawg\_29 Start: 12829, Stop: 13119, Start Num: 29

Candidate Starts for Catdawg\_29:

(10, 12697), (Start: 28 @12820 has 22 MA's), (Start: 29 @12829 has 5 MA's), (42, 12970), (50, 13012),

Gene: Cedasite\_1 Start: 43, Stop: 387, Start Num: 13

Candidate Starts for Cedasite\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Chance64\_1 Start: 43, Stop: 387, Start Num: 13

Candidate Starts for Chance64\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Cherrybomb426\_1 Start: 46, Stop: 387, Start Num: 14

Candidate Starts for Cherrybomb426\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Coleslaw\_1 Start: 43, Stop: 387, Start Num: 13

Candidate Starts for Coleslaw\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Corndog\_31 Start: 13270, Stop: 13569, Start Num: 28

Candidate Starts for Corndog\_31:

(11, 13192), (Start: 28 @13270 has 22 MA's), (Start: 29 @13279 has 5 MA's), (42, 13420), (50, 13462),

Gene: Crespo\_1 Start: 44, Stop: 388, Start Num: 13

Candidate Starts for Crespo\_1:

(Start: 13 @44 has 40 MA's), (Start: 14 @47 has 19 MA's), (34, 149), (41, 218), (47, 269),

Gene: DMoney\_1 Start: 46, Stop: 387, Start Num: 14

Candidate Starts for DMoney\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: DNAIII\_001 Start: 52, Stop: 396, Start Num: 13

Candidate Starts for DNAIII\_001:

(Start: 13 @52 has 40 MA's), (Start: 14 @55 has 19 MA's), (34, 157), (41, 226), (47, 277),

Gene: Darionha\_1 Start: 46, Stop: 387, Start Num: 14

Candidate Starts for Darionha\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Dylan\_29 Start: 12996, Stop: 13295, Start Num: 28

Candidate Starts for Dylan\_29:

(11, 12918), (Start: 28 @12996 has 22 MA's), (Start: 29 @13005 has 5 MA's), (42, 13146), (50, 13188),

Gene: ECartman\_1 Start: 43, Stop: 387, Start Num: 13

Candidate Starts for ECartman\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Faith5x5\_1 Start: 103, Stop: 465, Start Num: 24

Candidate Starts for Faith5x5\_1:

(22, 97), (Start: 24 @103 has 7 MA's), (27, 115), (37, 214), (39, 223), (40, 235), (41, 247), (43, 277), (57, 364), (58, 373), (61, 385), (62, 394), (64, 430),

Gene: Familton\_30 Start: 12824, Stop: 13123, Start Num: 28

Candidate Starts for Familton\_30:

(Start: 28 @12824 has 22 MA's), (Start: 29 @12833 has 5 MA's), (42, 12974), (50, 13016),

Gene: Firecracker\_30 Start: 12894, Stop: 13193, Start Num: 28

Candidate Starts for Firecracker\_30:

(11, 12816), (Start: 28 @12894 has 22 MA's), (Start: 29 @12903 has 5 MA's), (42, 13044), (50, 13086),

Gene: FlagStaff\_1 Start: 52, Stop: 387, Start Num: 17

Candidate Starts for FlagStaff\_1:

(Start: 17 @52 has 5 MA's), (25, 79), (41, 214), (43, 244),

Gene: FoulBall\_29 Start: 12818, Stop: 13117, Start Num: 28

Candidate Starts for FoulBall\_29:

(Start: 28 @12818 has 22 MA's), (Start: 29 @12827 has 5 MA's), (42, 12968), (50, 13010),

Gene: Frosty24\_1 Start: 43, Stop: 387, Start Num: 13

Candidate Starts for Frosty24\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),



Gene: Gideon\_1 Start: 43, Stop: 387, Start Num: 13  
Candidate Starts for Gideon\_1:  
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: GoldenAsh\_1 Start: 46, Stop: 387, Start Num: 14  
Candidate Starts for GoldenAsh\_1:  
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Gomashi\_1 Start: 44, Stop: 388, Start Num: 13  
Candidate Starts for Gomashi\_1:  
(Start: 13 @44 has 40 MA's), (Start: 14 @47 has 19 MA's), (34, 149), (41, 218), (47, 269),

Gene: Grizzly\_1 Start: 46, Stop: 387, Start Num: 14  
Candidate Starts for Grizzly\_1:  
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Halo\_1 Start: 43, Stop: 387, Start Num: 13  
Candidate Starts for Halo\_1:  
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Hope\_1 Start: 43, Stop: 387, Start Num: 13  
Candidate Starts for Hope\_1:  
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Hotshotbaby7\_1 Start: 46, Stop: 387, Start Num: 14  
Candidate Starts for Hotshotbaby7\_1:  
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Idergollasper\_29 Start: 12818, Stop: 13117, Start Num: 28  
Candidate Starts for Idergollasper\_29:  
(Start: 28 @12818 has 22 MA's), (Start: 29 @12827 has 5 MA's), (42, 12968), (50, 13010),

Gene: Jane\_1 Start: 43, Stop: 387, Start Num: 13  
Candidate Starts for Jane\_1:  
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: JangDynasty\_29 Start: 12913, Stop: 13212, Start Num: 28  
Candidate Starts for JangDynasty\_29:  
(Start: 28 @12913 has 22 MA's), (Start: 29 @12922 has 5 MA's), (42, 13063), (50, 13105),

Gene: Jolene\_1 Start: 43, Stop: 387, Start Num: 13  
Candidate Starts for Jolene\_1:  
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Jolie2\_1 Start: 45, Stop: 404, Start Num: 14  
Candidate Starts for Jolie2\_1:  
(Start: 14 @45 has 19 MA's), (45, 264), (49, 285), (60, 363),

Gene: Jonghyun\_1 Start: 43, Stop: 387, Start Num: 13  
Candidate Starts for Jonghyun\_1:  
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: JorRay\_1 Start: 43, Stop: 387, Start Num: 13

Candidate Starts for JorRay\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Kareem\_1 Start: 43, Stop: 387, Start Num: 13

Candidate Starts for Kareem\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Kasen3\_1 Start: 46, Stop: 387, Start Num: 14

Candidate Starts for Kasen3\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Krili\_29 Start: 12988, Stop: 13287, Start Num: 28

Candidate Starts for Krili\_29:

(11, 12910), (Start: 28 @12988 has 22 MA's), (Start: 29 @12997 has 5 MA's), (42, 13138), (50, 13180),

Gene: Liefie\_1 Start: 42, Stop: 386, Start Num: 13

Candidate Starts for Liefie\_1:

(Start: 13 @42 has 40 MA's), (Start: 14 @45 has 19 MA's), (34, 147), (41, 216), (47, 267), (53, 297),

Gene: LouisV14\_1 Start: 43, Stop: 387, Start Num: 13

Candidate Starts for LouisV14\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Lton\_1 Start: 107, Stop: 469, Start Num: 24

Candidate Starts for Lton\_1:

(Start: 24 @107 has 7 MA's), (27, 119), (37, 218), (39, 227), (40, 239), (41, 251), (43, 281), (45, 290), (47, 302), (58, 377), (63, 416),

Gene: Lucky10\_1 Start: 45, Stop: 347, Start Num: 24

Candidate Starts for Lucky10\_1:

(Start: 24 @45 has 7 MA's), (31, 111), (33, 117), (34, 120), (37, 156), (39, 165), (40, 177), (48, 243), (56, 300),

Gene: MOOREtheMARYer\_1 Start: 53, Stop: 379, Start Num: 17

Candidate Starts for MOOREtheMARYer\_1:

(15, 50), (Start: 17 @53 has 5 MA's), (25, 80), (34, 143), (36, 176), (39, 188), (46, 254), (49, 272),

Gene: MadKillah\_31 Start: 13207, Stop: 13506, Start Num: 28

Candidate Starts for MadKillah\_31:

(10, 13084), (Start: 28 @13207 has 22 MA's), (Start: 29 @13216 has 5 MA's), (42, 13357), (50, 13399),

Gene: Maliketh\_1 Start: 46, Stop: 387, Start Num: 14

Candidate Starts for Maliketh\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Marmie\_1 Start: 43, Stop: 387, Start Num: 13

Candidate Starts for Marmie\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Mercurio\_2 Start: 700, Stop: 1044, Start Num: 21

Candidate Starts for Mercurio\_2:

(1, 271), (2, 343), (3, 349), (4, 355), (5, 415), (7, 514), (8, 523), (18, 691), (20, 697), (Start: 21 @700 has 1 MA's), (39, 844), (41, 868), (43, 898), (44, 901), (59, 1000),

Gene: Moosehead\_1 Start: 103, Stop: 465, Start Num: 24

Candidate Starts for Moosehead\_1:

(22, 97), (Start: 24 @103 has 7 MA's), (27, 115), (37, 214), (39, 223), (40, 235), (41, 247), (43, 277), (54, 352), (57, 364), (58, 373), (61, 385), (62, 394), (64, 430),

Gene: Mori\_29 Start: 12859, Stop: 13158, Start Num: 28

Candidate Starts for Mori\_29:

(11, 12781), (Start: 28 @12859 has 22 MA's), (Start: 29 @12868 has 5 MA's), (42, 13009), (50, 13051),

Gene: Morkie\_1 Start: 44, Stop: 346, Start Num: 24

Candidate Starts for Morkie\_1:

(Start: 24 @44 has 7 MA's), (31, 110), (37, 155), (39, 164), (40, 176), (48, 242), (56, 299),

Gene: Mowgli\_1 Start: 46, Stop: 387, Start Num: 14

Candidate Starts for Mowgli\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Murai\_30 Start: 13049, Stop: 13348, Start Num: 28

Candidate Starts for Murai\_30:

(Start: 28 @13049 has 22 MA's), (Start: 29 @13058 has 5 MA's), (42, 13199), (50, 13241),

Gene: NiebruSaylor\_29 Start: 12860, Stop: 13159, Start Num: 28

Candidate Starts for NiebruSaylor\_29:

(11, 12782), (Start: 28 @12860 has 22 MA's), (Start: 29 @12869 has 5 MA's), (42, 13010), (50, 13052),

Gene: OctaviousRex\_1 Start: 43, Stop: 387, Start Num: 13

Candidate Starts for OctaviousRex\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Olga\_1 Start: 46, Stop: 387, Start Num: 14

Candidate Starts for Olga\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: OneDirection\_1 Start: 104, Stop: 466, Start Num: 24

Candidate Starts for OneDirection\_1:

(22, 98), (Start: 24 @104 has 7 MA's), (37, 215), (38, 218), (39, 224), (40, 236), (41, 248), (43, 278), (57, 365), (63, 413), (64, 431),

Gene: Pace1224\_1 Start: 52, Stop: 387, Start Num: 17

Candidate Starts for Pace1224\_1:

(Start: 17 @52 has 5 MA's), (25, 79), (41, 214), (43, 244),

Gene: Paito\_1 Start: 47, Stop: 382, Start Num: 19

Candidate Starts for Paito\_1:

(Start: 19 @47 has 1 MA's), (23, 62), (36, 173), (41, 209), (44, 242),

Gene: Peeb\_1 Start: 46, Stop: 387, Start Num: 14

Candidate Starts for Peeb\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Periodt\_1 Start: 43, Stop: 387, Start Num: 13

Candidate Starts for Periodt\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Phish\_1 Start: 46, Stop: 387, Start Num: 14

Candidate Starts for Phish\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: PhorbesPhlower\_1 Start: 44, Stop: 346, Start Num: 24

Candidate Starts for PhorbesPhlower\_1:

(Start: 24 @44 has 7 MA's), (31, 110), (37, 155), (39, 164), (40, 176), (48, 242), (56, 299),

Gene: Phreak\_1 Start: 43, Stop: 387, Start Num: 13

Candidate Starts for Phreak\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: PinkYoshi\_1 Start: 46, Stop: 387, Start Num: 14

Candidate Starts for PinkYoshi\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Pinnie\_2 Start: 520, Stop: 846, Start Num: 17

Candidate Starts for Pinnie\_2:

(6, 322), (Start: 17 @520 has 5 MA's), (25, 547), (34, 613), (36, 646), (39, 658), (46, 724), (49, 742), (51, 748),

Gene: Plagueis\_1 Start: 46, Stop: 387, Start Num: 14

Candidate Starts for Plagueis\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: REQ2\_01 Start: 71, Stop: 421, Start Num: 26

Candidate Starts for REQ2\_01:

(12, 5), (26, 71), (30, 116), (32, 128), (34, 134), (39, 182), (41, 206), (45, 245),

Gene: Rabbs\_1 Start: 44, Stop: 388, Start Num: 13

Candidate Starts for Rabbs\_1:

(Start: 13 @44 has 40 MA's), (Start: 14 @47 has 19 MA's), (34, 149), (41, 218), (47, 269),

Gene: Remy19\_1 Start: 43, Stop: 387, Start Num: 13

Candidate Starts for Remy19\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Renaissance\_1 Start: 43, Stop: 387, Start Num: 13

Candidate Starts for Renaissance\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Ryadel\_32 Start: 13643, Stop: 13933, Start Num: 29

Candidate Starts for Ryadel\_32:

(10, 13511), (Start: 28 @13634 has 22 MA's), (Start: 29 @13643 has 5 MA's), (42, 13784), (50, 13826),

Gene: Schiebel\_1 Start: 46, Stop: 387, Start Num: 14

Candidate Starts for Schiebel\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: SchoolBus\_29 Start: 12830, Stop: 13120, Start Num: 29

Candidate Starts for SchoolBus\_29:

(10, 12698), (Start: 28 @12821 has 22 MA's), (Start: 29 @12830 has 5 MA's), (42, 12971), (50, 13013),

Gene: Schuy\_31 Start: 13207, Stop: 13506, Start Num: 28

Candidate Starts for Schuy\_31:

(10, 13084), (Start: 28 @13207 has 22 MA's), (Start: 29 @13216 has 5 MA's), (42, 13357), (50, 13399),

Gene: ShaboiShabazz\_1 Start: 46, Stop: 387, Start Num: 14

Candidate Starts for ShaboiShabazz\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Shida\_30 Start: 13114, Stop: 13413, Start Num: 28

Candidate Starts for Shida\_30:

(11, 13036), (Start: 28 @13114 has 22 MA's), (Start: 29 @13123 has 5 MA's), (42, 13264), (50, 13306),

Gene: Sizemore\_1 Start: 46, Stop: 387, Start Num: 14

Candidate Starts for Sizemore\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Smooch\_32 Start: 14365, Stop: 14664, Start Num: 28

Candidate Starts for Smooch\_32:

(10, 14242), (Start: 28 @14365 has 22 MA's), (Start: 29 @14374 has 5 MA's), (42, 14515), (50, 14557),

Gene: Sneeze\_1 Start: 43, Stop: 387, Start Num: 13

Candidate Starts for Sneeze\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Stargaze\_1 Start: 52, Stop: 372, Start Num: 17

Candidate Starts for Stargaze\_1:

(Start: 17 @52 has 5 MA's), (34, 136), (39, 181), (41, 205), (47, 256), (55, 310),

Gene: Sweets\_1 Start: 46, Stop: 387, Start Num: 14

Candidate Starts for Sweets\_1:

(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Taheera\_1 Start: 47, Stop: 391, Start Num: 14

Candidate Starts for Taheera\_1:

(Start: 14 @47 has 19 MA's), (34, 149), (41, 218),

Gene: TelAviv\_27 Start: 12815, Stop: 13114, Start Num: 28

Candidate Starts for TelAviv\_27:

(Start: 28 @12815 has 22 MA's), (Start: 29 @12824 has 5 MA's), (42, 12965), (50, 13007),

Gene: Terror\_1 Start: 47, Stop: 391, Start Num: 14

Candidate Starts for Terror\_1:  
(Start: 14 @47 has 19 MA's), (34, 149), (41, 218),

Gene: TomBrady\_1 Start: 44, Stop: 388, Start Num: 13  
Candidate Starts for TomBrady\_1:  
(Start: 13 @44 has 40 MA's), (Start: 14 @47 has 19 MA's), (34, 149), (41, 218), (47, 269),

Gene: Vagabond\_28 Start: 13097, Stop: 13387, Start Num: 29  
Candidate Starts for Vagabond\_28:  
(10, 12965), (Start: 28 @13088 has 22 MA's), (Start: 29 @13097 has 5 MA's), (42, 13238), (50, 13280),

Gene: Vorrps\_29 Start: 12860, Stop: 13159, Start Num: 28  
Candidate Starts for Vorrps\_29:  
(11, 12782), (Start: 28 @12860 has 22 MA's), (Start: 29 @12869 has 5 MA's), (42, 13010), (50, 13052),

Gene: Wendigo\_1 Start: 46, Stop: 387, Start Num: 14  
Candidate Starts for Wendigo\_1:  
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Wildflower\_30 Start: 12855, Stop: 13154, Start Num: 28  
Candidate Starts for Wildflower\_30:  
(11, 12777), (Start: 28 @12855 has 22 MA's), (Start: 29 @12864 has 5 MA's), (42, 13005), (50, 13047),

Gene: Winget\_30 Start: 13096, Stop: 13386, Start Num: 29  
Candidate Starts for Winget\_30:  
(10, 12964), (Start: 28 @13087 has 22 MA's), (Start: 29 @13096 has 5 MA's), (42, 13237), (50, 13279),

Gene: YungJamal\_32 Start: 13159, Stop: 13449, Start Num: 29  
Candidate Starts for YungJamal\_32:  
(11, 13072), (Start: 28 @13150 has 22 MA's), (Start: 29 @13159 has 5 MA's), (42, 13300), (50, 13342),

Gene: Zakhe101\_30 Start: 13000, Stop: 13299, Start Num: 28  
Candidate Starts for Zakhe101\_30:  
(11, 12922), (Start: 28 @13000 has 22 MA's), (Start: 29 @13009 has 5 MA's), (42, 13150), (50, 13192),

Gene: ZoMa\_1 Start: 43, Stop: 387, Start Num: 13  
Candidate Starts for ZoMa\_1:  
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Zombie\_1 Start: 43, Stop: 387, Start Num: 13  
Candidate Starts for Zombie\_1:  
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),