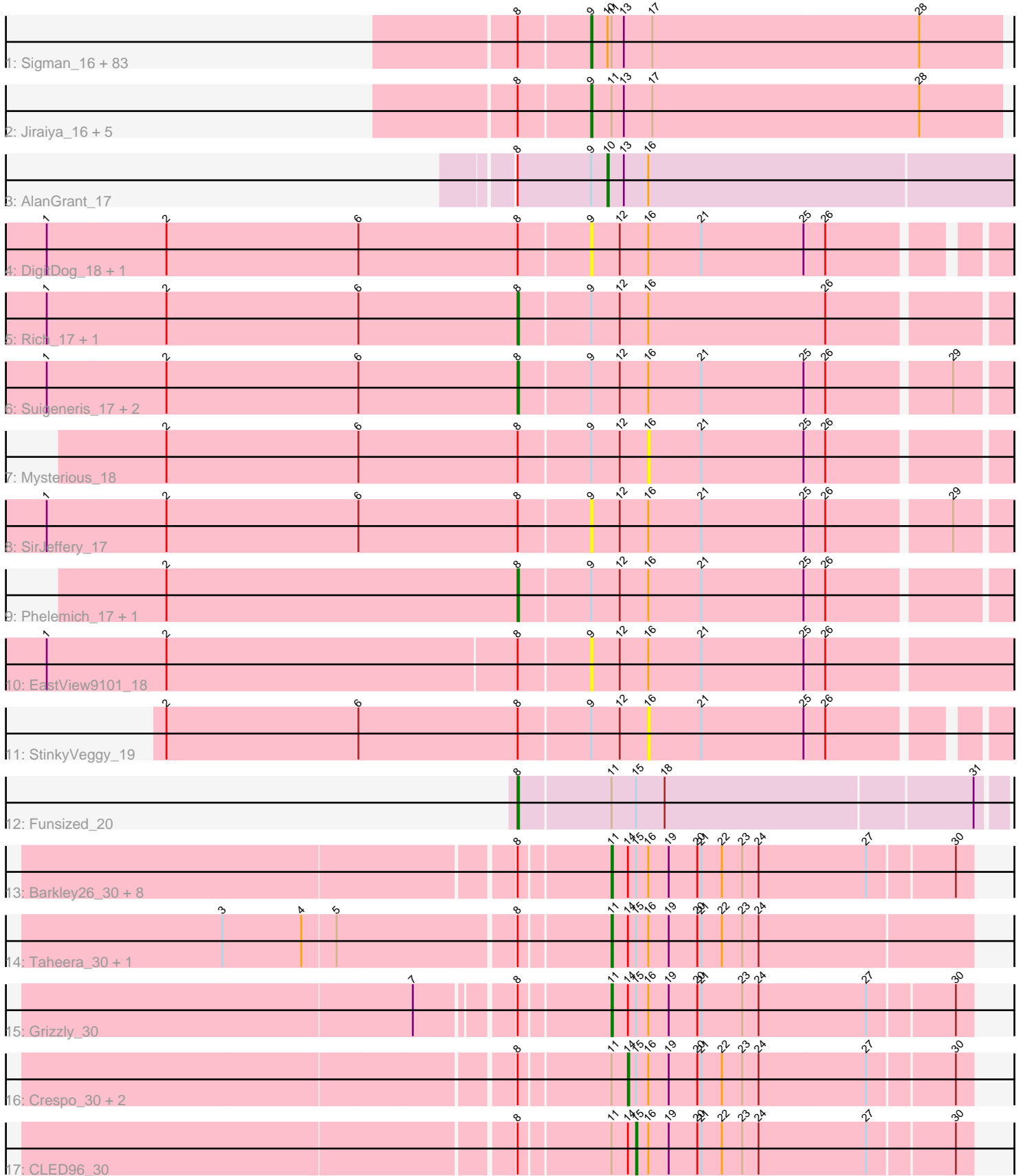


Pham 171305



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 171305 Report

This analysis was run 07/10/24 on database version 566.

Pham number 171305 has 121 members, 29 are drafts.

Phages represented in each track:

- Track 1 : Sigman\_16, Maskar\_15, Pops\_16, MelsMeow\_15, TallGrassMM\_16, Longacauda\_15, Megatron\_16, Puhltonio\_16, Fang\_16, BatteryCK\_15, Olive\_16, Swish\_16, Cornobble\_15, Oosterbaan\_16, Numberten\_16, PhatLouie\_16, Anderson\_16, Pinkman\_15, Harvey\_16, LeiMonet\_16, Andre\_16, DuchessDung\_15, Doddsville\_16, Nyala\_15, Matalotodo\_15, Orwigg\_16, Gwilliam\_16, Chah\_16, Yoshand\_16, Virgeve\_15, Inverness\_16, Etaye\_16, Phipps\_16, Orfeu\_15, Chute\_15, Banjo\_15, JDog\_15, KLucky39\_16, Newman\_16, Badfish\_16, Kikipoo\_16, MrPhizzler\_15, Scoot17C\_16, Thora\_16, Lasso\_16, Ashraf\_15, Lopsy\_15, UncleHowie\_16, Daffy\_16, Eremos\_16, Apizium\_15, DelRivs\_15, Katniss\_16, Dice\_16, ABU\_16, Ricotta\_16, Pacifista\_17, Hamish\_16, OSmaximus\_16, Suffolk\_16, Orion\_16, Colbert\_16, Rimu\_15, Gophee\_16, Schueller\_15, ThreeOh3D2\_16, IsaacEli\_16, Vortex\_16, PG1\_16, Coletti\_15, Mana\_15, ImtiyazSitla\_15, Swiphy\_16, Morgushi\_16, Selr12\_16, FluffyNinja\_16, Olak\_15, Eugenia\_16, Murdoc\_16, Megamind20\_16, Vaishali24\_15, Iridoclysis\_16, Serendipity\_16, Potter\_15
- Track 2 : Jiraiya\_16, OliverWalter\_16, Manad\_15, Basato\_17, Prickles\_16, Thunderbird\_16
- Track 3 : AlanGrant\_17
- Track 4 : DigitDog\_18, Nangang\_17
- Track 5 : Rich\_17, Bae\_17
- Track 6 : Suigeneris\_17, Donny\_17, Acadian\_17
- Track 7 : Mysterious\_18
- Track 8 : SirJeffery\_17
- Track 9 : Phelemich\_17, Reprobate\_17
- Track 10 : EastView9101\_18
- Track 11 : StinkyVeggy\_19
- Track 12 : Funsized\_20
- Track 13 : Barkley26\_30, Sweets\_30, DNAllI\_0030, Cedasite\_30, ECartman\_30, Camri\_30, Kasen3\_30, Hotshotbaby7\_30, Olga\_30
- Track 14 : Taheera\_30, Terror\_30
- Track 15 : Grizzly\_30
- Track 16 : Crespo\_30, ZoMa\_30, Phish\_30
- Track 17 : CLED96\_30

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

The start number called the most often in the published annotations is 9, it was called in 69 of the 92 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ABU\_16, Anderson\_16, Andre\_16, Apizium\_15, Ashraf\_15, Badfish\_16, Banjo\_15, Basato\_17, BatteryCK\_15, Chah\_16, Chute\_15, Colbert\_16, Coletti\_15, Cornobble\_15, Daffy\_16, DelRivs\_15, Dice\_16, DigitDog\_18, Doddsville\_16, DuchessDung\_15, EastView9101\_18, Eremos\_16, Etaye\_16, Eugenia\_16, Fang\_16, FluffyNinja\_16, Gophee\_16, Gwilliam\_16, Hamish\_16, Harvey\_16, ImtiyazSitla\_15, Inverness\_16, Iridoclysis\_16, IsaacEli\_16, JDog\_15, Jiraiya\_16, KLucky39\_16, Katniss\_16, Kikipoo\_16, Lasso\_16, LeiMonet\_16, Longacauda\_15, Lopsy\_15, Mana\_15, Manad\_15, Maskar\_15, Matalotodo\_15, Megamind20\_16, Megatron\_16, MelsMeow\_15, Morgushi\_16, MrPhizzler\_15, Murdoc\_16, Nangang\_17, Newman\_16, Numberten\_16, Nyala\_15, OSmaximus\_16, Olak\_15, Olive\_16, OliverWalter\_16, Oosterbaan\_16, Orfeu\_15, Orion\_16, Orwigg\_16, PG1\_16, Pacifista\_17, PhatLouie\_16, Phipps\_16, Pinkman\_15, Pops\_16, Potter\_15, Prickles\_16, Puhltonio\_16, Ricotta\_16, Rimu\_15, Schueller\_15, Scoot17C\_16, Selr12\_16, Serendipity\_16, Sigman\_16, SirJeffery\_17, Suffolk\_16, Swiphy\_16, Swish\_16, TallGrassMM\_16, Thora\_16, ThreeOh3D2\_16, Thunderbird\_16, UncleHowie\_16, Vaishali24\_15, Virgeve\_15, Vortex\_16, Yoshand\_16,

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

- Acadian\_17, AlanGrant\_17, Bae\_17, Donny\_17, Mysterious\_18, Phelemich\_17, Reprobate\_17, Rich\_17, StinkyVeggy\_19, Suigeneris\_17,

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

- Barkley26\_30, CLED96\_30, Camri\_30, Cedasite\_30, Crespo\_30, DNAllI\_0030, ECartman\_30, Funsized\_20, Grizzly\_30, Hotshotbaby7\_30, Kasen3\_30, Olga\_30, Phish\_30, Sweets\_30, Taheera\_30, Terror\_30, ZoMa\_30,

### Summary by start number:

Start 8:

- Found in 121 of 121 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 8 of 92
- Called 6.6% of time when present
- Phage (with cluster) where this start called: Acadian\_17 (B5), Bae\_17 (B5), Donny\_17 (B5), Funsized\_20 (B9), Phelemich\_17 (B5), Reprobate\_17 (B5), Rich\_17 (B5), Suigeneris\_17 (B5),

Start 9:

- Found in 104 of 121 ( 86.0% ) of genes in pham
- Manual Annotations of this start: 69 of 92
- Called 90.4% of time when present
- Phage (with cluster) where this start called: ABU\_16 (B1), Anderson\_16 (B1), Andre\_16 (B1), Apizium\_15 (B1), Ashraf\_15 (B1), Badfish\_16 (B1), Banjo\_15 (B1), Basato\_17 (B1), BatteryCK\_15 (B1), Chah\_16 (B1), Chute\_15 (B1), Colbert\_16 (B1), Coletti\_15 (B1), Cornobble\_15 (B1), Daffy\_16 (B1), DelRivs\_15 (B1), Dice\_16 (B1), DigitDog\_18 (B5), Doddsville\_16 (B1), DuchessDung\_15 (B1), EastView9101\_18 (B5), Eremos\_16 (B1), Etaye\_16 (B1), Eugenia\_16 (B1), Fang\_16 (B1), FluffyNinja\_16 (B1), Gophee\_16 (B1), Gwilliam\_16 (B1), Hamish\_16 (B1), Harvey\_16 (B1), ImtiyazSitla\_15 (B1), Inverness\_16 (B1), Iridoclysis\_16 (B1), IsaacEli\_16 (B1),

JDog\_15 (B1), Jiraiya\_16 (B1), KLucky39\_16 (B1), Katniss\_16 (B1), Kikipoo\_16 (B1), Lasso\_16 (B1), LeiMonet\_16 (B1), Longacauda\_15 (B1), Lopsy\_15 (B1), Mana\_15 (B1), Manad\_15 (B1), Maskar\_15 (B1), Matalotodo\_15 (B1), Megamind20\_16 (B1), Megatron\_16 (B1), MelsMeow\_15 (B1), Morgushi\_16 (B1), MrPhizzler\_15 (B1), Murdoc\_16 (B1), Nangang\_17 (B5), Newman\_16 (B1), Numberbert\_16 (B1), Nyala\_15 (B1), OSmaximus\_16 (B1), Olak\_15 (B1), Olive\_16 (B1), OliverWalter\_16 (B1), Oosterbaan\_16 (B1), Orfeu\_15 (B1), Orion\_16 (B1), Orwigg\_16 (B1), PG1\_16 (B1), Pacifista\_17 (B1), PhatLouie\_16 (B1), Phipps\_16 (B1), Pinkman\_15 (B1), Pops\_16 (B1), Potter\_15 (B1), Prickles\_16 (B1), Puhltonio\_16 (B1), Ricotta\_16 (B1), Rimu\_15 (B1), Schueller\_15 (B1), Scoot17C\_16 (B1), Selr12\_16 (B1), Serendipity\_16 (B1), Sigman\_16 (B1), SirJeffery\_17 (B5), Suffolk\_16 (B1), Swiphy\_16 (B1), Swish\_16 (B1), TallGrassMM\_16 (B1), Thora\_16 (B1), ThreeOh3D2\_16 (B1), Thunderbird\_16 (B1), UncleHowie\_16 (B1), Vaishali24\_15 (B1), Virgeve\_15 (B1), Vortex\_16 (B1), Yoshand\_16 (B1),

Start 10:

- Found in 85 of 121 ( 70.2% ) of genes in pham
- Manual Annotations of this start: 1 of 92
- Called 1.2% of time when present
- Phage (with cluster) where this start called: AlanGrant\_17 (B4),

Start 11:

- Found in 107 of 121 ( 88.4% ) of genes in pham
- Manual Annotations of this start: 11 of 92
- Called 11.2% of time when present
- Phage (with cluster) where this start called: Barkley26\_30 (G1), Camri\_30 (G1), Cedasite\_30 (G1), DNAlll\_0030 (G1), ECartman\_30 (G1), Grizzly\_30 (G1), Hotshotbaby7\_30 (G1), Kasen3\_30 (G1), Olga\_30 (G1), Sweets\_30 (G1), Taheera\_30 (G1), Terror\_30 (G1),

Start 14:

- Found in 16 of 121 ( 13.2% ) of genes in pham
- Manual Annotations of this start: 2 of 92
- Called 18.8% of time when present
- Phage (with cluster) where this start called: Crespo\_30 (G1), Phish\_30 (G1), ZoMa\_30 (G1),

Start 15:

- Found in 17 of 121 ( 14.0% ) of genes in pham
- Manual Annotations of this start: 1 of 92
- Called 5.9% of time when present
- Phage (with cluster) where this start called: CLED96\_30 (G1),

Start 16:

- Found in 30 of 121 ( 24.8% ) of genes in pham
- No Manual Annotations of this start.
- Called 6.7% of time when present
- Phage (with cluster) where this start called: Mysterious\_18 (B5), StinkyVeggy\_19 (B5),

### Summary by clusters:

There are 5 clusters represented in this pham: B4, B5, B1, G1, B9,

Info for manual annotations of cluster B1:

- Start number 9 was manually annotated 69 times for cluster B1.

Info for manual annotations of cluster B4:

- Start number 10 was manually annotated 1 time for cluster B4.

Info for manual annotations of cluster B5:

- Start number 8 was manually annotated 7 times for cluster B5.

Info for manual annotations of cluster B9:

- Start number 8 was manually annotated 1 time for cluster B9.

Info for manual annotations of cluster G1:

- Start number 11 was manually annotated 11 times for cluster G1.
- Start number 14 was manually annotated 2 times for cluster G1.
- Start number 15 was manually annotated 1 time for cluster G1.

### ***Gene Information:***

Gene: ABU\_16 Start: 13693, Stop: 13992, Start Num: 9

Candidate Starts for ABU\_16:

(Start: 8 @13642 has 8 MA's), (Start: 9 @13693 has 69 MA's), (Start: 10 @13705 has 1 MA's), (Start: 11 @13708 has 11 MA's), (13, 13717), (17, 13738), (28, 13933),

Gene: Acadian\_17 Start: 15257, Stop: 15601, Start Num: 8

Candidate Starts for Acadian\_17:

(1, 14912), (2, 14999), (6, 15140), (Start: 8 @15257 has 8 MA's), (Start: 9 @15308 has 69 MA's), (12, 15329), (16, 15350), (21, 15389), (25, 15464), (26, 15479), (29, 15563),

Gene: AlanGrant\_17 Start: 16219, Stop: 16518, Start Num: 10

Candidate Starts for AlanGrant\_17:

(Start: 8 @16153 has 8 MA's), (Start: 9 @16207 has 69 MA's), (Start: 10 @16219 has 1 MA's), (13, 16231), (16, 16249),

Gene: Anderson\_16 Start: 13686, Stop: 13985, Start Num: 9

Candidate Starts for Anderson\_16:

(Start: 8 @13635 has 8 MA's), (Start: 9 @13686 has 69 MA's), (Start: 10 @13698 has 1 MA's), (Start: 11 @13701 has 11 MA's), (13, 13710), (17, 13731), (28, 13926),

Gene: Andre\_16 Start: 13684, Stop: 13983, Start Num: 9

Candidate Starts for Andre\_16:

(Start: 8 @13633 has 8 MA's), (Start: 9 @13684 has 69 MA's), (Start: 10 @13696 has 1 MA's), (Start: 11 @13699 has 11 MA's), (13, 13708), (17, 13729), (28, 13924),

Gene: Apizium\_15 Start: 13430, Stop: 13729, Start Num: 9

Candidate Starts for Apizium\_15:

(Start: 8 @13379 has 8 MA's), (Start: 9 @13430 has 69 MA's), (Start: 10 @13442 has 1 MA's), (Start: 11 @13445 has 11 MA's), (13, 13454), (17, 13475), (28, 13670),

Gene: Ashraf\_15 Start: 13248, Stop: 13547, Start Num: 9

Candidate Starts for Ashraf\_15:

(Start: 8 @13197 has 8 MA's), (Start: 9 @13248 has 69 MA's), (Start: 10 @13260 has 1 MA's), (Start: 11 @13263 has 11 MA's), (13, 13272), (17, 13293), (28, 13488),

Gene: Badfish\_16 Start: 13719, Stop: 14018, Start Num: 9

Candidate Starts for Badfish\_16:

(Start: 8 @13668 has 8 MA's), (Start: 9 @13719 has 69 MA's), (Start: 10 @13731 has 1 MA's), (Start: 11 @13734 has 11 MA's), (13, 13743), (17, 13764), (28, 13959),

Gene: Bae\_17 Start: 15403, Stop: 15747, Start Num: 8

Candidate Starts for Bae\_17:

(1, 15058), (2, 15145), (6, 15286), (Start: 8 @15403 has 8 MA's), (Start: 9 @15454 has 69 MA's), (12, 15475), (16, 15496), (26, 15625),

Gene: Banjo\_15 Start: 13397, Stop: 13696, Start Num: 9

Candidate Starts for Banjo\_15:

(Start: 8 @13346 has 8 MA's), (Start: 9 @13397 has 69 MA's), (Start: 10 @13409 has 1 MA's), (Start: 11 @13412 has 11 MA's), (13, 13421), (17, 13442), (28, 13637),

Gene: Barkley26\_30 Start: 26875, Stop: 27132, Start Num: 11

Candidate Starts for Barkley26\_30:

(Start: 8 @26812 has 8 MA's), (Start: 11 @26875 has 11 MA's), (Start: 14 @26887 has 2 MA's), (Start: 15 @26893 has 1 MA's), (16, 26902), (19, 26917), (20, 26938), (21, 26941), (22, 26956), (23, 26971), (24, 26983), (27, 27061), (30, 27121),

Gene: Basato\_17 Start: 13923, Stop: 14222, Start Num: 9

Candidate Starts for Basato\_17:

(Start: 8 @13872 has 8 MA's), (Start: 9 @13923 has 69 MA's), (Start: 11 @13938 has 11 MA's), (13, 13947), (17, 13968), (28, 14163),

Gene: BatteryCK\_15 Start: 13254, Stop: 13553, Start Num: 9

Candidate Starts for BatteryCK\_15:

(Start: 8 @13203 has 8 MA's), (Start: 9 @13254 has 69 MA's), (Start: 10 @13266 has 1 MA's), (Start: 11 @13269 has 11 MA's), (13, 13278), (17, 13299), (28, 13494),

Gene: CLED96\_30 Start: 26871, Stop: 27110, Start Num: 15

Candidate Starts for CLED96\_30:

(Start: 8 @26790 has 8 MA's), (Start: 11 @26853 has 11 MA's), (Start: 14 @26865 has 2 MA's), (Start: 15 @26871 has 1 MA's), (16, 26880), (19, 26895), (20, 26916), (21, 26919), (22, 26934), (23, 26949), (24, 26961), (27, 27039), (30, 27099),

Gene: Camri\_30 Start: 26853, Stop: 27110, Start Num: 11

Candidate Starts for Camri\_30:

(Start: 8 @26790 has 8 MA's), (Start: 11 @26853 has 11 MA's), (Start: 14 @26865 has 2 MA's), (Start: 15 @26871 has 1 MA's), (16, 26880), (19, 26895), (20, 26916), (21, 26919), (22, 26934), (23, 26949), (24, 26961), (27, 27039), (30, 27099),

Gene: Cedasite\_30 Start: 26853, Stop: 27110, Start Num: 11

Candidate Starts for Cedasite\_30:

(Start: 8 @26790 has 8 MA's), (Start: 11 @26853 has 11 MA's), (Start: 14 @26865 has 2 MA's), (Start: 15 @26871 has 1 MA's), (16, 26880), (19, 26895), (20, 26916), (21, 26919), (22, 26934), (23, 26949), (24, 26961), (27, 27039), (30, 27099),

Gene: Chah\_16 Start: 13720, Stop: 14019, Start Num: 9

Candidate Starts for Chah\_16:

(Start: 8 @13669 has 8 MA's), (Start: 9 @13720 has 69 MA's), (Start: 10 @13732 has 1 MA's), (Start: 11 @13735 has 11 MA's), (13, 13744), (17, 13765), (28, 13960),

Gene: Chute\_15 Start: 13716, Stop: 14015, Start Num: 9

Candidate Starts for Chute\_15:

(Start: 8 @13665 has 8 MA's), (Start: 9 @13716 has 69 MA's), (Start: 10 @13728 has 1 MA's), (Start: 11 @13731 has 11 MA's), (13, 13740), (17, 13761), (28, 13956),

Gene: Colbert\_16 Start: 13704, Stop: 14003, Start Num: 9

Candidate Starts for Colbert\_16:

(Start: 8 @13653 has 8 MA's), (Start: 9 @13704 has 69 MA's), (Start: 10 @13716 has 1 MA's), (Start: 11 @13719 has 11 MA's), (13, 13728), (17, 13749), (28, 13944),

Gene: Coletti\_15 Start: 13716, Stop: 14015, Start Num: 9

Candidate Starts for Coletti\_15:

(Start: 8 @13665 has 8 MA's), (Start: 9 @13716 has 69 MA's), (Start: 10 @13728 has 1 MA's), (Start: 11 @13731 has 11 MA's), (13, 13740), (17, 13761), (28, 13956),

Gene: Cornobble\_15 Start: 13261, Stop: 13560, Start Num: 9

Candidate Starts for Cornobble\_15:

(Start: 8 @13210 has 8 MA's), (Start: 9 @13261 has 69 MA's), (Start: 10 @13273 has 1 MA's), (Start: 11 @13276 has 11 MA's), (13, 13285), (17, 13306), (28, 13501),

Gene: Crespo\_30 Start: 26866, Stop: 27111, Start Num: 14

Candidate Starts for Crespo\_30:

(Start: 8 @26791 has 8 MA's), (Start: 11 @26854 has 11 MA's), (Start: 14 @26866 has 2 MA's), (Start: 15 @26872 has 1 MA's), (16, 26881), (19, 26896), (20, 26917), (21, 26920), (22, 26935), (23, 26950), (24, 26962), (27, 27040), (30, 27100),

Gene: DNAIII\_0030 Start: 26604, Stop: 26861, Start Num: 11

Candidate Starts for DNAIII\_0030:

(Start: 8 @26541 has 8 MA's), (Start: 11 @26604 has 11 MA's), (Start: 14 @26616 has 2 MA's), (Start: 15 @26622 has 1 MA's), (16, 26631), (19, 26646), (20, 26667), (21, 26670), (22, 26685), (23, 26700), (24, 26712), (27, 26790), (30, 26850),

Gene: Daffy\_16 Start: 13426, Stop: 13725, Start Num: 9

Candidate Starts for Daffy\_16:

(Start: 8 @13375 has 8 MA's), (Start: 9 @13426 has 69 MA's), (Start: 10 @13438 has 1 MA's), (Start: 11 @13441 has 11 MA's), (13, 13450), (17, 13471), (28, 13666),

Gene: DelRivs\_15 Start: 13413, Stop: 13712, Start Num: 9

Candidate Starts for DelRivs\_15:

(Start: 8 @13362 has 8 MA's), (Start: 9 @13413 has 69 MA's), (Start: 10 @13425 has 1 MA's), (Start: 11 @13428 has 11 MA's), (13, 13437), (17, 13458), (28, 13653),

Gene: Dice\_16 Start: 13401, Stop: 13700, Start Num: 9

Candidate Starts for Dice\_16:

(Start: 8 @13350 has 8 MA's), (Start: 9 @13401 has 69 MA's), (Start: 10 @13413 has 1 MA's), (Start: 11 @13416 has 11 MA's), (13, 13425), (17, 13446), (28, 13641),

Gene: DigitDog\_18 Start: 15284, Stop: 15568, Start Num: 9

Candidate Starts for DigitDog\_18:

(1, 14888), (2, 14975), (6, 15116), (Start: 8 @15233 has 8 MA's), (Start: 9 @15284 has 69 MA's), (12, 15305), (16, 15326), (21, 15365), (25, 15440), (26, 15455),

Gene: Doddsville\_16 Start: 13414, Stop: 13713, Start Num: 9

Candidate Starts for Doddsville\_16:

(Start: 8 @13363 has 8 MA's), (Start: 9 @13414 has 69 MA's), (Start: 10 @13426 has 1 MA's), (Start: 11 @13429 has 11 MA's), (13, 13438), (17, 13459), (28, 13654),

Gene: Donny\_17 Start: 15259, Stop: 15603, Start Num: 8

Candidate Starts for Donny\_17:

(1, 14914), (2, 15001), (6, 15142), (Start: 8 @15259 has 8 MA's), (Start: 9 @15310 has 69 MA's), (12, 15331), (16, 15352), (21, 15391), (25, 15466), (26, 15481), (29, 15565),

Gene: DuchessDung\_15 Start: 13254, Stop: 13553, Start Num: 9

Candidate Starts for DuchessDung\_15:

(Start: 8 @13203 has 8 MA's), (Start: 9 @13254 has 69 MA's), (Start: 10 @13266 has 1 MA's), (Start: 11 @13269 has 11 MA's), (13, 13278), (17, 13299), (28, 13494),

Gene: ECartman\_30 Start: 26853, Stop: 27110, Start Num: 11

Candidate Starts for ECartman\_30:

(Start: 8 @26790 has 8 MA's), (Start: 11 @26853 has 11 MA's), (Start: 14 @26865 has 2 MA's), (Start: 15 @26871 has 1 MA's), (16, 26880), (19, 26895), (20, 26916), (21, 26919), (22, 26934), (23, 26949), (24, 26961), (27, 27039), (30, 27099),

Gene: EastView9101\_18 Start: 15313, Stop: 15612, Start Num: 9

Candidate Starts for EastView9101\_18:

(1, 14920), (2, 15007), (Start: 8 @15262 has 8 MA's), (Start: 9 @15313 has 69 MA's), (12, 15334), (16, 15355), (21, 15394), (25, 15469), (26, 15484),

Gene: Eremos\_16 Start: 13701, Stop: 14000, Start Num: 9

Candidate Starts for Eremos\_16:

(Start: 8 @13650 has 8 MA's), (Start: 9 @13701 has 69 MA's), (Start: 10 @13713 has 1 MA's), (Start: 11 @13716 has 11 MA's), (13, 13725), (17, 13746), (28, 13941),

Gene: Etaye\_16 Start: 13686, Stop: 13985, Start Num: 9

Candidate Starts for Etaye\_16:

(Start: 8 @13635 has 8 MA's), (Start: 9 @13686 has 69 MA's), (Start: 10 @13698 has 1 MA's), (Start: 11 @13701 has 11 MA's), (13, 13710), (17, 13731), (28, 13926),

Gene: Eugenia\_16 Start: 13714, Stop: 14013, Start Num: 9

Candidate Starts for Eugenia\_16:

(Start: 8 @13663 has 8 MA's), (Start: 9 @13714 has 69 MA's), (Start: 10 @13726 has 1 MA's), (Start: 11 @13729 has 11 MA's), (13, 13738), (17, 13759), (28, 13954),

Gene: Fang\_16 Start: 13717, Stop: 14016, Start Num: 9

Candidate Starts for Fang\_16:

(Start: 8 @13666 has 8 MA's), (Start: 9 @13717 has 69 MA's), (Start: 10 @13729 has 1 MA's), (Start: 11 @13732 has 11 MA's), (13, 13741), (17, 13762), (28, 13957),

Gene: FluffyNinja\_16 Start: 13705, Stop: 14004, Start Num: 9

Candidate Starts for FluffyNinja\_16:



(Start: 8 @13654 has 8 MA's), (Start: 9 @13705 has 69 MA's), (Start: 10 @13717 has 1 MA's), (Start: 11 @13720 has 11 MA's), (13, 13729), (17, 13750), (28, 13945),

Gene: Funsized\_20 Start: 17389, Stop: 17733, Start Num: 8

Candidate Starts for Funsized\_20:

(Start: 8 @17389 has 8 MA's), (Start: 11 @17455 has 11 MA's), (Start: 15 @17473 has 1 MA's), (18, 17494), (31, 17713),

Gene: Gophee\_16 Start: 13686, Stop: 13985, Start Num: 9

Candidate Starts for Gophee\_16:

(Start: 8 @13635 has 8 MA's), (Start: 9 @13686 has 69 MA's), (Start: 10 @13698 has 1 MA's), (Start: 11 @13701 has 11 MA's), (13, 13710), (17, 13731), (28, 13926),

Gene: Grizzly\_30 Start: 26853, Stop: 27110, Start Num: 11

Candidate Starts for Grizzly\_30:

(7, 26727), (Start: 8 @26790 has 8 MA's), (Start: 11 @26853 has 11 MA's), (Start: 14 @26865 has 2 MA's), (Start: 15 @26871 has 1 MA's), (16, 26880), (19, 26895), (20, 26916), (21, 26919), (23, 26949), (24, 26961), (27, 27039), (30, 27099),

Gene: Gwilliam\_16 Start: 13698, Stop: 13997, Start Num: 9

Candidate Starts for Gwilliam\_16:

(Start: 8 @13647 has 8 MA's), (Start: 9 @13698 has 69 MA's), (Start: 10 @13710 has 1 MA's), (Start: 11 @13713 has 11 MA's), (13, 13722), (17, 13743), (28, 13938),

Gene: Hamish\_16 Start: 13695, Stop: 13994, Start Num: 9

Candidate Starts for Hamish\_16:

(Start: 8 @13644 has 8 MA's), (Start: 9 @13695 has 69 MA's), (Start: 10 @13707 has 1 MA's), (Start: 11 @13710 has 11 MA's), (13, 13719), (17, 13740), (28, 13935),

Gene: Harvey\_16 Start: 13723, Stop: 14022, Start Num: 9

Candidate Starts for Harvey\_16:

(Start: 8 @13672 has 8 MA's), (Start: 9 @13723 has 69 MA's), (Start: 10 @13735 has 1 MA's), (Start: 11 @13738 has 11 MA's), (13, 13747), (17, 13768), (28, 13963),

Gene: Hotshotbaby7\_30 Start: 26853, Stop: 27110, Start Num: 11

Candidate Starts for Hotshotbaby7\_30:

(Start: 8 @26790 has 8 MA's), (Start: 11 @26853 has 11 MA's), (Start: 14 @26865 has 2 MA's), (Start: 15 @26871 has 1 MA's), (16, 26880), (19, 26895), (20, 26916), (21, 26919), (22, 26934), (23, 26949), (24, 26961), (27, 27039), (30, 27099),

Gene: ImtiyazSitla\_15 Start: 13248, Stop: 13547, Start Num: 9

Candidate Starts for ImtiyazSitla\_15:

(Start: 8 @13197 has 8 MA's), (Start: 9 @13248 has 69 MA's), (Start: 10 @13260 has 1 MA's), (Start: 11 @13263 has 11 MA's), (13, 13272), (17, 13293), (28, 13488),

Gene: Inverness\_16 Start: 13709, Stop: 14008, Start Num: 9

Candidate Starts for Inverness\_16:

(Start: 8 @13658 has 8 MA's), (Start: 9 @13709 has 69 MA's), (Start: 10 @13721 has 1 MA's), (Start: 11 @13724 has 11 MA's), (13, 13733), (17, 13754), (28, 13949),

Gene: Iridoclysis\_16 Start: 13681, Stop: 13980, Start Num: 9

Candidate Starts for Iridoclysis\_16:

(Start: 8 @13630 has 8 MA's), (Start: 9 @13681 has 69 MA's), (Start: 10 @13693 has 1 MA's), (Start: 11 @13696 has 11 MA's), (13, 13705), (17, 13726), (28, 13921),

Gene: IsaacEli\_16 Start: 13713, Stop: 14012, Start Num: 9

Candidate Starts for IsaacEli\_16:

(Start: 8 @13662 has 8 MA's), (Start: 9 @13713 has 69 MA's), (Start: 10 @13725 has 1 MA's), (Start: 11 @13728 has 11 MA's), (13, 13737), (17, 13758), (28, 13953),

Gene: JDog\_15 Start: 13416, Stop: 13715, Start Num: 9

Candidate Starts for JDog\_15:

(Start: 8 @13365 has 8 MA's), (Start: 9 @13416 has 69 MA's), (Start: 10 @13428 has 1 MA's), (Start: 11 @13431 has 11 MA's), (13, 13440), (17, 13461), (28, 13656),

Gene: Jiraiya\_16 Start: 13416, Stop: 13715, Start Num: 9

Candidate Starts for Jiraiya\_16:

(Start: 8 @13365 has 8 MA's), (Start: 9 @13416 has 69 MA's), (Start: 11 @13431 has 11 MA's), (13, 13440), (17, 13461), (28, 13656),

Gene: KLucky39\_16 Start: 13701, Stop: 14000, Start Num: 9

Candidate Starts for KLucky39\_16:

(Start: 8 @13650 has 8 MA's), (Start: 9 @13701 has 69 MA's), (Start: 10 @13713 has 1 MA's), (Start: 11 @13716 has 11 MA's), (13, 13725), (17, 13746), (28, 13941),

Gene: Kasen3\_30 Start: 26854, Stop: 27111, Start Num: 11

Candidate Starts for Kasen3\_30:

(Start: 8 @26791 has 8 MA's), (Start: 11 @26854 has 11 MA's), (Start: 14 @26866 has 2 MA's), (Start: 15 @26872 has 1 MA's), (16, 26881), (19, 26896), (20, 26917), (21, 26920), (22, 26935), (23, 26950), (24, 26962), (27, 27040), (30, 27100),

Gene: Katniss\_16 Start: 13720, Stop: 14019, Start Num: 9

Candidate Starts for Katniss\_16:

(Start: 8 @13669 has 8 MA's), (Start: 9 @13720 has 69 MA's), (Start: 10 @13732 has 1 MA's), (Start: 11 @13735 has 11 MA's), (13, 13744), (17, 13765), (28, 13960),

Gene: Kikipoo\_16 Start: 13713, Stop: 14012, Start Num: 9

Candidate Starts for Kikipoo\_16:

(Start: 8 @13662 has 8 MA's), (Start: 9 @13713 has 69 MA's), (Start: 10 @13725 has 1 MA's), (Start: 11 @13728 has 11 MA's), (13, 13737), (17, 13758), (28, 13953),

Gene: Lasso\_16 Start: 13680, Stop: 13979, Start Num: 9

Candidate Starts for Lasso\_16:

(Start: 8 @13629 has 8 MA's), (Start: 9 @13680 has 69 MA's), (Start: 10 @13692 has 1 MA's), (Start: 11 @13695 has 11 MA's), (13, 13704), (17, 13725), (28, 13920),

Gene: LeiMonet\_16 Start: 13410, Stop: 13709, Start Num: 9

Candidate Starts for LeiMonet\_16:

(Start: 8 @13359 has 8 MA's), (Start: 9 @13410 has 69 MA's), (Start: 10 @13422 has 1 MA's), (Start: 11 @13425 has 11 MA's), (13, 13434), (17, 13455), (28, 13650),

Gene: Longacauda\_15 Start: 13404, Stop: 13703, Start Num: 9

Candidate Starts for Longacauda\_15:

(Start: 8 @13353 has 8 MA's), (Start: 9 @13404 has 69 MA's), (Start: 10 @13416 has 1 MA's), (Start: 11 @13419 has 11 MA's), (13, 13428), (17, 13449), (28, 13644),

Gene: Lopsy\_15 Start: 13260, Stop: 13559, Start Num: 9

Candidate Starts for Lopsy\_15:

(Start: 8 @13209 has 8 MA's), (Start: 9 @13260 has 69 MA's), (Start: 10 @13272 has 1 MA's), (Start: 11 @13275 has 11 MA's), (13, 13284), (17, 13305), (28, 13500),

Gene: Mana\_15 Start: 13408, Stop: 13707, Start Num: 9

Candidate Starts for Mana\_15:

(Start: 8 @13357 has 8 MA's), (Start: 9 @13408 has 69 MA's), (Start: 10 @13420 has 1 MA's), (Start: 11 @13423 has 11 MA's), (13, 13432), (17, 13453), (28, 13648),

Gene: Manad\_15 Start: 13258, Stop: 13557, Start Num: 9

Candidate Starts for Manad\_15:

(Start: 8 @13207 has 8 MA's), (Start: 9 @13258 has 69 MA's), (Start: 11 @13273 has 11 MA's), (13, 13282), (17, 13303), (28, 13498),

Gene: Maskar\_15 Start: 13248, Stop: 13547, Start Num: 9

Candidate Starts for Maskar\_15:

(Start: 8 @13197 has 8 MA's), (Start: 9 @13248 has 69 MA's), (Start: 10 @13260 has 1 MA's), (Start: 11 @13263 has 11 MA's), (13, 13272), (17, 13293), (28, 13488),

Gene: Matalotodo\_15 Start: 13696, Stop: 13995, Start Num: 9

Candidate Starts for Matalotodo\_15:

(Start: 8 @13645 has 8 MA's), (Start: 9 @13696 has 69 MA's), (Start: 10 @13708 has 1 MA's), (Start: 11 @13711 has 11 MA's), (13, 13720), (17, 13741), (28, 13936),

Gene: Megamind20\_16 Start: 13421, Stop: 13720, Start Num: 9

Candidate Starts for Megamind20\_16:

(Start: 8 @13370 has 8 MA's), (Start: 9 @13421 has 69 MA's), (Start: 10 @13433 has 1 MA's), (Start: 11 @13436 has 11 MA's), (13, 13445), (17, 13466), (28, 13661),

Gene: Megatron\_16 Start: 13701, Stop: 14000, Start Num: 9

Candidate Starts for Megatron\_16:

(Start: 8 @13650 has 8 MA's), (Start: 9 @13701 has 69 MA's), (Start: 10 @13713 has 1 MA's), (Start: 11 @13716 has 11 MA's), (13, 13725), (17, 13746), (28, 13941),

Gene: MelsMeow\_15 Start: 13260, Stop: 13559, Start Num: 9

Candidate Starts for MelsMeow\_15:

(Start: 8 @13209 has 8 MA's), (Start: 9 @13260 has 69 MA's), (Start: 10 @13272 has 1 MA's), (Start: 11 @13275 has 11 MA's), (13, 13284), (17, 13305), (28, 13500),

Gene: Morgushi\_16 Start: 13412, Stop: 13711, Start Num: 9

Candidate Starts for Morgushi\_16:

(Start: 8 @13361 has 8 MA's), (Start: 9 @13412 has 69 MA's), (Start: 10 @13424 has 1 MA's), (Start: 11 @13427 has 11 MA's), (13, 13436), (17, 13457), (28, 13652),

Gene: MrPhizzler\_15 Start: 13413, Stop: 13712, Start Num: 9

Candidate Starts for MrPhizzler\_15:

(Start: 8 @13362 has 8 MA's), (Start: 9 @13413 has 69 MA's), (Start: 10 @13425 has 1 MA's), (Start: 11 @13428 has 11 MA's), (13, 13437), (17, 13458), (28, 13653),

Gene: Murdoc\_16 Start: 13701, Stop: 14000, Start Num: 9

Candidate Starts for Murdoc\_16:

(Start: 8 @13650 has 8 MA's), (Start: 9 @13701 has 69 MA's), (Start: 10 @13713 has 1 MA's), (Start: 11 @13716 has 11 MA's), (13, 13725), (17, 13746), (28, 13941),

Gene: Mysterious\_18 Start: 15593, Stop: 15844, Start Num: 16

Candidate Starts for Mysterious\_18:

(2, 15242), (6, 15383), (Start: 8 @15500 has 8 MA's), (Start: 9 @15551 has 69 MA's), (12, 15572), (16, 15593), (21, 15632), (25, 15707), (26, 15722),

Gene: Nangang\_17 Start: 15284, Stop: 15568, Start Num: 9

Candidate Starts for Nangang\_17:

(1, 14888), (2, 14975), (6, 15116), (Start: 8 @15233 has 8 MA's), (Start: 9 @15284 has 69 MA's), (12, 15305), (16, 15326), (21, 15365), (25, 15440), (26, 15455),

Gene: Newman\_16 Start: 13701, Stop: 14000, Start Num: 9

Candidate Starts for Newman\_16:

(Start: 8 @13650 has 8 MA's), (Start: 9 @13701 has 69 MA's), (Start: 10 @13713 has 1 MA's), (Start: 11 @13716 has 11 MA's), (13, 13725), (17, 13746), (28, 13941),

Gene: Numberten\_16 Start: 13704, Stop: 14003, Start Num: 9

Candidate Starts for Numberten\_16:

(Start: 8 @13653 has 8 MA's), (Start: 9 @13704 has 69 MA's), (Start: 10 @13716 has 1 MA's), (Start: 11 @13719 has 11 MA's), (13, 13728), (17, 13749), (28, 13944),

Gene: Nyala\_15 Start: 13403, Stop: 13702, Start Num: 9

Candidate Starts for Nyala\_15:

(Start: 8 @13352 has 8 MA's), (Start: 9 @13403 has 69 MA's), (Start: 10 @13415 has 1 MA's), (Start: 11 @13418 has 11 MA's), (13, 13427), (17, 13448), (28, 13643),

Gene: OSmaximus\_16 Start: 13711, Stop: 14010, Start Num: 9

Candidate Starts for OSmaximus\_16:

(Start: 8 @13660 has 8 MA's), (Start: 9 @13711 has 69 MA's), (Start: 10 @13723 has 1 MA's), (Start: 11 @13726 has 11 MA's), (13, 13735), (17, 13756), (28, 13951),

Gene: Olak\_15 Start: 13400, Stop: 13699, Start Num: 9

Candidate Starts for Olak\_15:

(Start: 8 @13349 has 8 MA's), (Start: 9 @13400 has 69 MA's), (Start: 10 @13412 has 1 MA's), (Start: 11 @13415 has 11 MA's), (13, 13424), (17, 13445), (28, 13640),

Gene: Olga\_30 Start: 26853, Stop: 27110, Start Num: 11

Candidate Starts for Olga\_30:

(Start: 8 @26790 has 8 MA's), (Start: 11 @26853 has 11 MA's), (Start: 14 @26865 has 2 MA's), (Start: 15 @26871 has 1 MA's), (16, 26880), (19, 26895), (20, 26916), (21, 26919), (22, 26934), (23, 26949), (24, 26961), (27, 27039), (30, 27099),

Gene: Olive\_16 Start: 13692, Stop: 13991, Start Num: 9

Candidate Starts for Olive\_16:

(Start: 8 @13641 has 8 MA's), (Start: 9 @13692 has 69 MA's), (Start: 10 @13704 has 1 MA's), (Start: 11 @13707 has 11 MA's), (13, 13716), (17, 13737), (28, 13932),

Gene: OliverWalter\_16 Start: 13709, Stop: 14008, Start Num: 9

Candidate Starts for OliverWalter\_16:

(Start: 8 @13658 has 8 MA's), (Start: 9 @13709 has 69 MA's), (Start: 11 @13724 has 11 MA's), (13, 13733), (17, 13754), (28, 13949),

Gene: Oosterbaan\_16 Start: 13702, Stop: 14001, Start Num: 9

Candidate Starts for Oosterbaan\_16:

(Start: 8 @13651 has 8 MA's), (Start: 9 @13702 has 69 MA's), (Start: 10 @13714 has 1 MA's), (Start: 11 @13717 has 11 MA's), (13, 13726), (17, 13747), (28, 13942),

Gene: Orfeu\_15 Start: 13401, Stop: 13700, Start Num: 9

Candidate Starts for Orfeu\_15:

(Start: 8 @13350 has 8 MA's), (Start: 9 @13401 has 69 MA's), (Start: 10 @13413 has 1 MA's), (Start: 11 @13416 has 11 MA's), (13, 13425), (17, 13446), (28, 13641),

Gene: Orion\_16 Start: 13702, Stop: 14001, Start Num: 9

Candidate Starts for Orion\_16:

(Start: 8 @13651 has 8 MA's), (Start: 9 @13702 has 69 MA's), (Start: 10 @13714 has 1 MA's), (Start: 11 @13717 has 11 MA's), (13, 13726), (17, 13747), (28, 13942),

Gene: Orwigg\_16 Start: 13394, Stop: 13693, Start Num: 9

Candidate Starts for Orwigg\_16:

(Start: 8 @13343 has 8 MA's), (Start: 9 @13394 has 69 MA's), (Start: 10 @13406 has 1 MA's), (Start: 11 @13409 has 11 MA's), (13, 13418), (17, 13439), (28, 13634),

Gene: PG1\_16 Start: 13714, Stop: 14013, Start Num: 9

Candidate Starts for PG1\_16:

(Start: 8 @13663 has 8 MA's), (Start: 9 @13714 has 69 MA's), (Start: 10 @13726 has 1 MA's), (Start: 11 @13729 has 11 MA's), (13, 13738), (17, 13759), (28, 13954),

Gene: Pacifista\_17 Start: 13405, Stop: 13704, Start Num: 9

Candidate Starts for Pacifista\_17:

(Start: 8 @13354 has 8 MA's), (Start: 9 @13405 has 69 MA's), (Start: 10 @13417 has 1 MA's), (Start: 11 @13420 has 11 MA's), (13, 13429), (17, 13450), (28, 13645),

Gene: PhatLouie\_16 Start: 13701, Stop: 14000, Start Num: 9

Candidate Starts for PhatLouie\_16:

(Start: 8 @13650 has 8 MA's), (Start: 9 @13701 has 69 MA's), (Start: 10 @13713 has 1 MA's), (Start: 11 @13716 has 11 MA's), (13, 13725), (17, 13746), (28, 13941),

Gene: Phelemich\_17 Start: 15504, Stop: 15848, Start Num: 8

Candidate Starts for Phelemich\_17:

(2, 15246), (Start: 8 @15504 has 8 MA's), (Start: 9 @15555 has 69 MA's), (12, 15576), (16, 15597), (21, 15636), (25, 15711), (26, 15726),

Gene: Phipps\_16 Start: 13680, Stop: 13979, Start Num: 9

Candidate Starts for Phipps\_16:

(Start: 8 @13629 has 8 MA's), (Start: 9 @13680 has 69 MA's), (Start: 10 @13692 has 1 MA's), (Start: 11 @13695 has 11 MA's), (13, 13704), (17, 13725), (28, 13920),

Gene: Phish\_30 Start: 26865, Stop: 27110, Start Num: 14

Candidate Starts for Phish\_30:

(Start: 8 @26790 has 8 MA's), (Start: 11 @26853 has 11 MA's), (Start: 14 @26865 has 2 MA's), (Start: 15 @26871 has 1 MA's), (16, 26880), (19, 26895), (20, 26916), (21, 26919), (22, 26934), (23, 26949), (24, 26961), (27, 27039), (30, 27099),

Gene: Pinkman\_15 Start: 13260, Stop: 13559, Start Num: 9

Candidate Starts for Pinkman\_15:

(Start: 8 @13209 has 8 MA's), (Start: 9 @13260 has 69 MA's), (Start: 10 @13272 has 1 MA's), (Start: 11 @13275 has 11 MA's), (13, 13284), (17, 13305), (28, 13500),

Gene: Pops\_16 Start: 13704, Stop: 14003, Start Num: 9

Candidate Starts for Pops\_16:

(Start: 8 @13653 has 8 MA's), (Start: 9 @13704 has 69 MA's), (Start: 10 @13716 has 1 MA's), (Start: 11 @13719 has 11 MA's), (13, 13728), (17, 13749), (28, 13944),

Gene: Potter\_15 Start: 13415, Stop: 13714, Start Num: 9

Candidate Starts for Potter\_15:

(Start: 8 @13364 has 8 MA's), (Start: 9 @13415 has 69 MA's), (Start: 10 @13427 has 1 MA's), (Start: 11 @13430 has 11 MA's), (13, 13439), (17, 13460), (28, 13655),

Gene: Prickles\_16 Start: 13695, Stop: 13994, Start Num: 9

Candidate Starts for Prickles\_16:

(Start: 8 @13644 has 8 MA's), (Start: 9 @13695 has 69 MA's), (Start: 11 @13710 has 11 MA's), (13, 13719), (17, 13740), (28, 13935),

Gene: Puhltonio\_16 Start: 13710, Stop: 14009, Start Num: 9

Candidate Starts for Puhltonio\_16:

(Start: 8 @13659 has 8 MA's), (Start: 9 @13710 has 69 MA's), (Start: 10 @13722 has 1 MA's), (Start: 11 @13725 has 11 MA's), (13, 13734), (17, 13755), (28, 13950),

Gene: Reprobate\_17 Start: 15501, Stop: 15845, Start Num: 8

Candidate Starts for Reprobate\_17:

(2, 15243), (Start: 8 @15501 has 8 MA's), (Start: 9 @15552 has 69 MA's), (12, 15573), (16, 15594), (21, 15633), (25, 15708), (26, 15723),

Gene: Rich\_17 Start: 15400, Stop: 15744, Start Num: 8

Candidate Starts for Rich\_17:

(1, 15055), (2, 15142), (6, 15283), (Start: 8 @15400 has 8 MA's), (Start: 9 @15451 has 69 MA's), (12, 15472), (16, 15493), (26, 15622),

Gene: Ricotta\_16 Start: 13425, Stop: 13724, Start Num: 9

Candidate Starts for Ricotta\_16:

(Start: 8 @13374 has 8 MA's), (Start: 9 @13425 has 69 MA's), (Start: 10 @13437 has 1 MA's), (Start: 11 @13440 has 11 MA's), (13, 13449), (17, 13470), (28, 13665),

Gene: Rimu\_15 Start: 13413, Stop: 13712, Start Num: 9

Candidate Starts for Rimu\_15:

(Start: 8 @13362 has 8 MA's), (Start: 9 @13413 has 69 MA's), (Start: 10 @13425 has 1 MA's), (Start: 11 @13428 has 11 MA's), (13, 13437), (17, 13458), (28, 13653),

Gene: Schueller\_15 Start: 13399, Stop: 13698, Start Num: 9

Candidate Starts for Schueller\_15:

(Start: 8 @13348 has 8 MA's), (Start: 9 @13399 has 69 MA's), (Start: 10 @13411 has 1 MA's), (Start: 11 @13414 has 11 MA's), (13, 13423), (17, 13444), (28, 13639),

Gene: Scoot17C\_16 Start: 13702, Stop: 14001, Start Num: 9

Candidate Starts for Scoot17C\_16:

(Start: 8 @13651 has 8 MA's), (Start: 9 @13702 has 69 MA's), (Start: 10 @13714 has 1 MA's), (Start: 11 @13717 has 11 MA's), (13, 13726), (17, 13747), (28, 13942),

Gene: Selr12\_16 Start: 13426, Stop: 13725, Start Num: 9

Candidate Starts for Selr12\_16:

(Start: 8 @13375 has 8 MA's), (Start: 9 @13426 has 69 MA's), (Start: 10 @13438 has 1 MA's), (Start: 11 @13441 has 11 MA's), (13, 13450), (17, 13471), (28, 13666),

Gene: Serendipity\_16 Start: 13722, Stop: 14021, Start Num: 9

Candidate Starts for Serendipity\_16:

(Start: 8 @13671 has 8 MA's), (Start: 9 @13722 has 69 MA's), (Start: 10 @13734 has 1 MA's), (Start: 11 @13737 has 11 MA's), (13, 13746), (17, 13767), (28, 13962),

Gene: Sigman\_16 Start: 13692, Stop: 13991, Start Num: 9

Candidate Starts for Sigman\_16:

(Start: 8 @13641 has 8 MA's), (Start: 9 @13692 has 69 MA's), (Start: 10 @13704 has 1 MA's), (Start: 11 @13707 has 11 MA's), (13, 13716), (17, 13737), (28, 13932),

Gene: SirJeffery\_17 Start: 15310, Stop: 15603, Start Num: 9

Candidate Starts for SirJeffery\_17:

(1, 14914), (2, 15001), (6, 15142), (Start: 8 @15259 has 8 MA's), (Start: 9 @15310 has 69 MA's), (12, 15331), (16, 15352), (21, 15391), (25, 15466), (26, 15481), (29, 15565),

Gene: StinkyVeggy\_19 Start: 15482, Stop: 15724, Start Num: 16

Candidate Starts for StinkyVeggy\_19:

(2, 15131), (6, 15272), (Start: 8 @15389 has 8 MA's), (Start: 9 @15440 has 69 MA's), (12, 15461), (16, 15482), (21, 15521), (25, 15596), (26, 15611),

Gene: Suffolk\_16 Start: 13700, Stop: 13999, Start Num: 9

Candidate Starts for Suffolk\_16:

(Start: 8 @13649 has 8 MA's), (Start: 9 @13700 has 69 MA's), (Start: 10 @13712 has 1 MA's), (Start: 11 @13715 has 11 MA's), (13, 13724), (17, 13745), (28, 13940),

Gene: Suigeneris\_17 Start: 15259, Stop: 15603, Start Num: 8

Candidate Starts for Suigeneris\_17:

(1, 14914), (2, 15001), (6, 15142), (Start: 8 @15259 has 8 MA's), (Start: 9 @15310 has 69 MA's), (12, 15331), (16, 15352), (21, 15391), (25, 15466), (26, 15481), (29, 15565),

Gene: Sweets\_30 Start: 26848, Stop: 27105, Start Num: 11

Candidate Starts for Sweets\_30:

(Start: 8 @26785 has 8 MA's), (Start: 11 @26848 has 11 MA's), (Start: 14 @26860 has 2 MA's), (Start: 15 @26866 has 1 MA's), (16, 26875), (19, 26890), (20, 26911), (21, 26914), (22, 26929), (23, 26944), (24, 26956), (27, 27034), (30, 27094),

Gene: Swiphy\_16 Start: 13701, Stop: 14000, Start Num: 9

Candidate Starts for Swiphy\_16:

(Start: 8 @13650 has 8 MA's), (Start: 9 @13701 has 69 MA's), (Start: 10 @13713 has 1 MA's), (Start: 11 @13716 has 11 MA's), (13, 13725), (17, 13746), (28, 13941),

Gene: Swish\_16 Start: 13696, Stop: 13995, Start Num: 9

Candidate Starts for Swish\_16:

(Start: 8 @13645 has 8 MA's), (Start: 9 @13696 has 69 MA's), (Start: 10 @13708 has 1 MA's), (Start: 11 @13711 has 11 MA's), (13, 13720), (17, 13741), (28, 13936),

Gene: Taheera\_30 Start: 26974, Stop: 27234, Start Num: 11

Candidate Starts for Taheera\_30:

(3, 26707), (4, 26764), (5, 26788), (Start: 8 @26911 has 8 MA's), (Start: 11 @26974 has 11 MA's), (Start: 14 @26986 has 2 MA's), (Start: 15 @26992 has 1 MA's), (16, 27001), (19, 27016), (20, 27037), (21, 27040), (22, 27055), (23, 27070), (24, 27082),

Gene: TallGrassMM\_16 Start: 13426, Stop: 13725, Start Num: 9

Candidate Starts for TallGrassMM\_16:

(Start: 8 @13375 has 8 MA's), (Start: 9 @13426 has 69 MA's), (Start: 10 @13438 has 1 MA's), (Start: 11 @13441 has 11 MA's), (13, 13450), (17, 13471), (28, 13666),

Gene: Terror\_30 Start: 26974, Stop: 27234, Start Num: 11

Candidate Starts for Terror\_30:

(3, 26707), (4, 26764), (5, 26788), (Start: 8 @26911 has 8 MA's), (Start: 11 @26974 has 11 MA's), (Start: 14 @26986 has 2 MA's), (Start: 15 @26992 has 1 MA's), (16, 27001), (19, 27016), (20, 27037), (21, 27040), (22, 27055), (23, 27070), (24, 27082),

Gene: Thora\_16 Start: 13710, Stop: 14009, Start Num: 9

Candidate Starts for Thora\_16:

(Start: 8 @13659 has 8 MA's), (Start: 9 @13710 has 69 MA's), (Start: 10 @13722 has 1 MA's), (Start: 11 @13725 has 11 MA's), (13, 13734), (17, 13755), (28, 13950),

Gene: ThreeOh3D2\_16 Start: 13711, Stop: 14010, Start Num: 9

Candidate Starts for ThreeOh3D2\_16:

(Start: 8 @13660 has 8 MA's), (Start: 9 @13711 has 69 MA's), (Start: 10 @13723 has 1 MA's), (Start: 11 @13726 has 11 MA's), (13, 13735), (17, 13756), (28, 13951),

Gene: Thunderbird\_16 Start: 13410, Stop: 13709, Start Num: 9

Candidate Starts for Thunderbird\_16:

(Start: 8 @13359 has 8 MA's), (Start: 9 @13410 has 69 MA's), (Start: 11 @13425 has 11 MA's), (13, 13434), (17, 13455), (28, 13650),

Gene: UncleHowie\_16 Start: 13408, Stop: 13707, Start Num: 9

Candidate Starts for UncleHowie\_16:

(Start: 8 @13357 has 8 MA's), (Start: 9 @13408 has 69 MA's), (Start: 10 @13420 has 1 MA's), (Start: 11 @13423 has 11 MA's), (13, 13432), (17, 13453), (28, 13648),

Gene: Vaishali24\_15 Start: 13361, Stop: 13660, Start Num: 9

Candidate Starts for Vaishali24\_15:

(Start: 8 @13310 has 8 MA's), (Start: 9 @13361 has 69 MA's), (Start: 10 @13373 has 1 MA's), (Start: 11 @13376 has 11 MA's), (13, 13385), (17, 13406), (28, 13601),

Gene: Virgeve\_15 Start: 13414, Stop: 13713, Start Num: 9

Candidate Starts for Virgeve\_15:

(Start: 8 @13363 has 8 MA's), (Start: 9 @13414 has 69 MA's), (Start: 10 @13426 has 1 MA's), (Start: 11 @13429 has 11 MA's), (13, 13438), (17, 13459), (28, 13654),

Gene: Vortex\_16 Start: 13415, Stop: 13714, Start Num: 9

Candidate Starts for Vortex\_16:

(Start: 8 @13364 has 8 MA's), (Start: 9 @13415 has 69 MA's), (Start: 10 @13427 has 1 MA's), (Start: 11 @13430 has 11 MA's), (13, 13439), (17, 13460), (28, 13655),

Gene: Yoshand\_16 Start: 13705, Stop: 14004, Start Num: 9

Candidate Starts for Yoshand\_16:



(Start: 8 @13654 has 8 MA's), (Start: 9 @13705 has 69 MA's), (Start: 10 @13717 has 1 MA's), (Start: 11 @13720 has 11 MA's), (13, 13729), (17, 13750), (28, 13945),

Gene: ZoMa\_30 Start: 26865, Stop: 27110, Start Num: 14

Candidate Starts for ZoMa\_30:

(Start: 8 @26790 has 8 MA's), (Start: 11 @26853 has 11 MA's), (Start: 14 @26865 has 2 MA's), (Start: 15 @26871 has 1 MA's), (16, 26880), (19, 26895), (20, 26916), (21, 26919), (22, 26934), (23, 26949), (24, 26961), (27, 27039), (30, 27099),