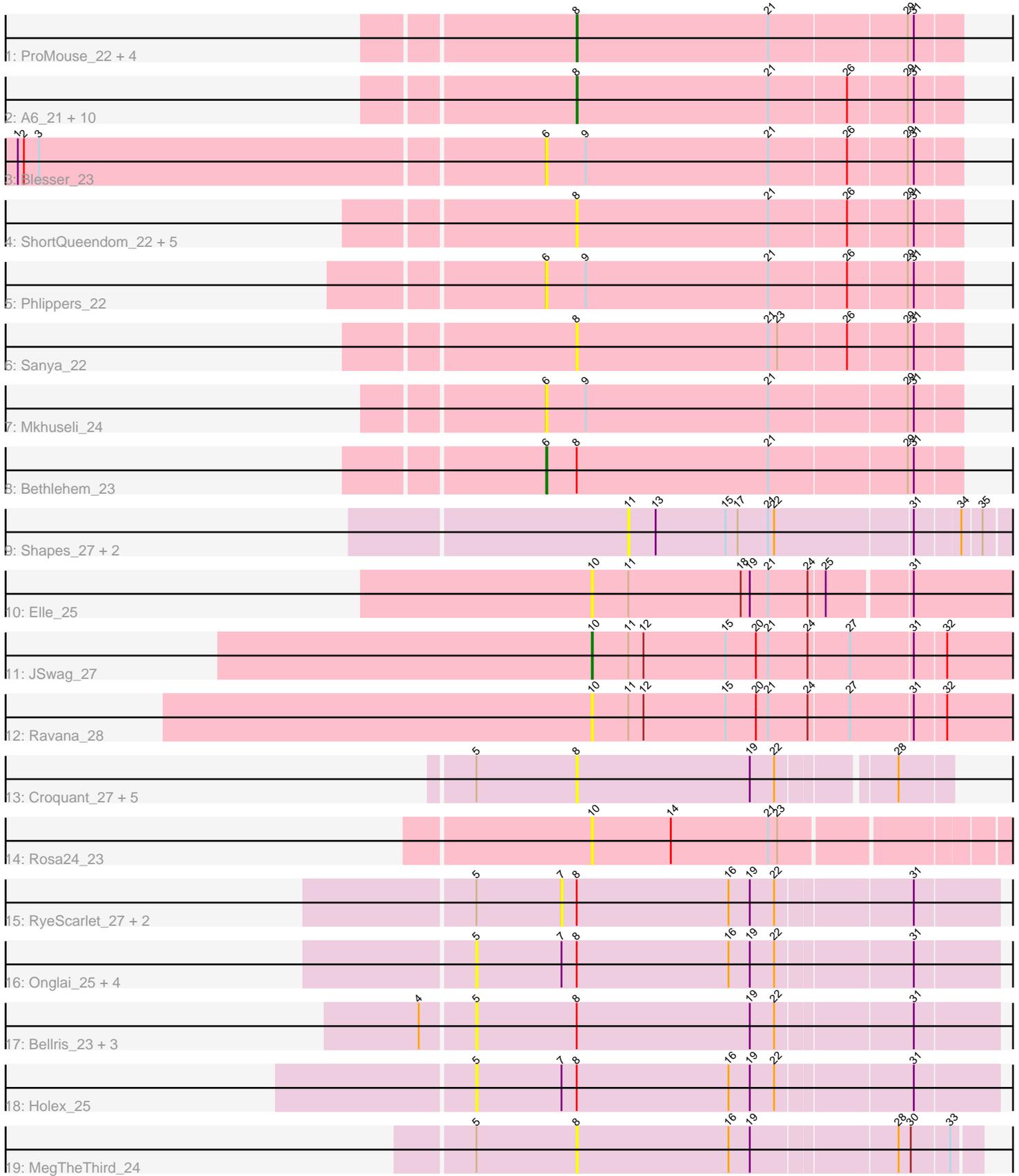


Pham 291221



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 291221 Report

This analysis was run 03/28/26 on database version 641.

Pham number 291221 has 54 members, 47 are drafts.

Phages represented in each track:

- Track 1 : ProMouse\_22, Puppet\_23, Aeneas\_25, U2\_23, PhrostyMug\_23
- Track 2 : A6\_21, Aldrich\_24, CatBus\_24, DirtDevil\_24, Iqorha\_22, Noxious\_24, Inyanga\_22, KikiBouba\_24, StewieG\_22, GroundGoblin\_24, BK1\_21
- Track 3 : Blessor\_23
- Track 4 : ShortQueendom\_22, Sandaddy\_22, Teodoridan\_21, Whitspits\_24, Gachnar\_23, Blackflame\_23
- Track 5 : Phlippers\_22
- Track 6 : Sanya\_22
- Track 7 : Mkhusele\_24
- Track 8 : Bethlehem\_23
- Track 9 : Shapes\_27, Rowdy\_27, DustyMartin\_27
- Track 10 : Elle\_25
- Track 11 : JSwag\_27
- Track 12 : Ravana\_28
- Track 13 : Croquant\_27, Lowa\_26, Montavir\_25, Bigflo\_26, Gwennie\_25, ClownCar\_27
- Track 14 : Rosa24\_23
- Track 15 : RyeScarlet\_27, EdogawaKiddo\_24, Jiawan\_25
- Track 16 : Onglai\_25, Lilleskat\_24, Ayanochan\_27, Hanray\_25, Sachima\_24
- Track 17 : Bellris\_23, WorldCup\_23, CogOmlette\_23, Minispark\_23
- Track 18 : Holes\_25
- Track 19 : MegTheThird\_24

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

The start number called the most often in the published annotations is 8, it was called in 5 of the 7 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- A6\_21, Aeneas\_25, Aldrich\_24, BK1\_21, Bigflo\_26, Blackflame\_23, CatBus\_24, ClownCar\_27, Croquant\_27, DirtDevil\_24, Gachnar\_23, GroundGoblin\_24, Gwennie\_25, Inyanga\_22, Iqorha\_22, KikiBouba\_24, Lowa\_26, MegTheThird\_24, Montavir\_25, Noxious\_24, PhrostyMug\_23, ProMouse\_22, Puppet\_23, Sandaddy\_22, Sanya\_22, ShortQueendom\_22, StewieG\_22, Teodoridan\_21, U2\_23,

Whitspit\_24,

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

- Ayanochan\_27, Bellris\_23, Bethlehem\_23, CogOmlette\_23, EdogawaKiddo\_24, Hanray\_25, Holecx\_25, Jiawan\_25, Lilleskat\_24, Minispark\_23, Onglai\_25, RyeScarlet\_27, Sachima\_24, WorldCup\_23,

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

- Blesser\_23, DustyMartin\_27, Elle\_25, JSwag\_27, Mkhuseleli\_24, Phlippers\_22, Ravana\_28, Rosa24\_23, Rowdy\_27, Shapes\_27,

### Summary by start number:

Start 5:

- Found in 20 of 54 ( 37.0% ) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Ayanochan\_27 (A9), Bellris\_23 (A9), CogOmlette\_23 (A9), Hanray\_25 (A9), Holecx\_25 (A9), Lilleskat\_24 (A9), Minispark\_23 (A9), Onglai\_25 (A9), Sachima\_24 (A9), WorldCup\_23 (A9),

Start 6:

- Found in 4 of 54 ( 7.4% ) of genes in pham
- Manual Annotations of this start: 1 of 7
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bethlehem\_23 (A1), Blesser\_23 (A1), Mkhuseleli\_24 (A1), Phlippers\_22 (A1),

Start 7:

- Found in 9 of 54 ( 16.7% ) of genes in pham
- No Manual Annotations of this start.
- Called 33.3% of time when present
- Phage (with cluster) where this start called: EdogawaKiddo\_24 (A9), Jiawan\_25 (A9), RyeScarlet\_27 (A9),

Start 8:

- Found in 44 of 54 ( 81.5% ) of genes in pham
- Manual Annotations of this start: 5 of 7
- Called 68.2% of time when present
- Phage (with cluster) where this start called: A6\_21 (A1), Aeneas\_25 (A1), Aldrich\_24 (A1), BK1\_21 (A1), Bigflo\_26 (A3), Blackflame\_23 (A1), CatBus\_24 (A1), ClownCar\_27 (A3), Croquant\_27 (A3), DirtDevil\_24 (A1), Gachnar\_23 (A1), GroundGoblin\_24 (A1), Gwennie\_25 (A3), Inyanga\_22 (A1), Iqorha\_22 (A1), KikiBouba\_24 (A1), Lowa\_26 (A3), MegTheThird\_24 (A9), Montavir\_25 (A3), Noxious\_24 (A1), PhrostyMug\_23 (A1), ProMouse\_22 (A1), Puppet\_23 (A1), Sandaddy\_22 (A1), Sanya\_22 (A1), ShortQueendom\_22 (A1), StewieG\_22 (A1), Teodoridan\_21 (A1), U2\_23 (A1), Whitspit\_24 (A1),

Start 10:

- Found in 4 of 54 ( 7.4% ) of genes in pham
- Manual Annotations of this start: 1 of 7
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Elle\_25 (A15), JSwag\_27 (A15), Ravana\_28 (A15), Rosa24\_23 (A4),

Start 11:

- Found in 6 of 54 ( 11.1% ) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: DustyMartin\_27 (A10), Rowdy\_27 (A10), Shapes\_27 (A10),

### **Summary by clusters:**

There are 6 clusters represented in this pham: A15, A10, A1, A3, A4, A9,

Info for manual annotations of cluster A1:

- Start number 6 was manually annotated 1 time for cluster A1.
- Start number 8 was manually annotated 5 times for cluster A1.

Info for manual annotations of cluster A15:

- Start number 10 was manually annotated 1 time for cluster A15.

### **Gene Information:**

Gene: A6\_21 Start: 15547, Stop: 15918, Start Num: 8

Candidate Starts for A6\_21:

(Start: 8 @15547 has 5 MA's), (21, 15736), (26, 15811), (29, 15868), (31, 15874),

Gene: Aeneas\_25 Start: 16311, Stop: 16682, Start Num: 8

Candidate Starts for Aeneas\_25:

(Start: 8 @16311 has 5 MA's), (21, 16500), (29, 16632), (31, 16638),

Gene: Aldrich\_24 Start: 16812, Stop: 17183, Start Num: 8

Candidate Starts for Aldrich\_24:

(Start: 8 @16812 has 5 MA's), (21, 17001), (26, 17076), (29, 17133), (31, 17139),

Gene: Ayanochan\_27 Start: 16994, Stop: 17494, Start Num: 5

Candidate Starts for Ayanochan\_27:

(5, 16994), (7, 17078), (Start: 8 @17093 has 5 MA's), (16, 17243), (19, 17264), (22, 17288), (31, 17414),

Gene: BK1\_21 Start: 15547, Stop: 15918, Start Num: 8

Candidate Starts for BK1\_21:

(Start: 8 @15547 has 5 MA's), (21, 15736), (26, 15811), (29, 15868), (31, 15874),

Gene: Bellris\_23 Start: 15039, Stop: 15539, Start Num: 5

Candidate Starts for Bellris\_23:

(4, 14988), (5, 15039), (Start: 8 @15138 has 5 MA's), (19, 15309), (22, 15333), (31, 15459),

Gene: Bethlehem\_23 Start: 17213, Stop: 17614, Start Num: 6  
Candidate Starts for Bethlehem\_23:  
(Start: 6 @17213 has 1 MA's), (Start: 8 @17243 has 5 MA's), (21, 17432), (29, 17564), (31, 17570),

Gene: Bigflo\_26 Start: 15631, Stop: 15978, Start Num: 8  
Candidate Starts for Bigflo\_26:  
(5, 15532), (Start: 8 @15631 has 5 MA's), (19, 15802), (22, 15826), (28, 15928),

Gene: Blackflame\_23 Start: 15998, Stop: 16369, Start Num: 8  
Candidate Starts for Blackflame\_23:  
(Start: 8 @15998 has 5 MA's), (21, 16187), (26, 16262), (29, 16319), (31, 16325),

Gene: Blesser\_23 Start: 16246, Stop: 16647, Start Num: 6  
Candidate Starts for Blesser\_23:  
(1, 15736), (2, 15742), (3, 15757), (Start: 6 @16246 has 1 MA's), (9, 16285), (21, 16465), (26, 16540),  
(29, 16597), (31, 16603),

Gene: CatBus\_24 Start: 17004, Stop: 17375, Start Num: 8  
Candidate Starts for CatBus\_24:  
(Start: 8 @17004 has 5 MA's), (21, 17193), (26, 17268), (29, 17325), (31, 17331),

Gene: ClownCar\_27 Start: 15702, Stop: 16049, Start Num: 8  
Candidate Starts for ClownCar\_27:  
(5, 15603), (Start: 8 @15702 has 5 MA's), (19, 15873), (22, 15897), (28, 15999),

Gene: CogOmlette\_23 Start: 15039, Stop: 15539, Start Num: 5  
Candidate Starts for CogOmlette\_23:  
(4, 14988), (5, 15039), (Start: 8 @15138 has 5 MA's), (19, 15309), (22, 15333), (31, 15459),

Gene: Croquant\_27 Start: 15630, Stop: 15977, Start Num: 8  
Candidate Starts for Croquant\_27:  
(5, 15531), (Start: 8 @15630 has 5 MA's), (19, 15801), (22, 15825), (28, 15927),

Gene: DirtDevil\_24 Start: 16812, Stop: 17183, Start Num: 8  
Candidate Starts for DirtDevil\_24:  
(Start: 8 @16812 has 5 MA's), (21, 17001), (26, 17076), (29, 17133), (31, 17139),

Gene: DustyMartin\_27 Start: 15449, Stop: 15850, Start Num: 11  
Candidate Starts for DustyMartin\_27:  
(11, 15449), (13, 15476), (15, 15545), (17, 15557), (21, 15587), (22, 15593), (31, 15725), (34, 15767),  
(35, 15785),

Gene: EdogawaKiddo\_24 Start: 17045, Stop: 17461, Start Num: 7  
Candidate Starts for EdogawaKiddo\_24:  
(5, 16961), (7, 17045), (Start: 8 @17060 has 5 MA's), (16, 17210), (19, 17231), (22, 17255), (31,  
17381),

Gene: Elle\_25 Start: 15065, Stop: 15514, Start Num: 10  
Candidate Starts for Elle\_25:  
(Start: 10 @15065 has 1 MA's), (11, 15101), (18, 15212), (19, 15221), (21, 15239), (24, 15278), (25,  
15293), (31, 15371),

Gene: Gachnar\_23 Start: 16002, Stop: 16373, Start Num: 8  
Candidate Starts for Gachnar\_23:  
(Start: 8 @16002 has 5 MA's), (21, 16191), (26, 16266), (29, 16323), (31, 16329),

Gene: GroundGoblin\_24 Start: 16812, Stop: 17183, Start Num: 8  
Candidate Starts for GroundGoblin\_24:  
(Start: 8 @16812 has 5 MA's), (21, 17001), (26, 17076), (29, 17133), (31, 17139),

Gene: Gwennie\_25 Start: 15632, Stop: 15979, Start Num: 8  
Candidate Starts for Gwennie\_25:  
(5, 15533), (Start: 8 @15632 has 5 MA's), (19, 15803), (22, 15827), (28, 15929),

Gene: Hanray\_25 Start: 16965, Stop: 17465, Start Num: 5  
Candidate Starts for Hanray\_25:  
(5, 16965), (7, 17049), (Start: 8 @17064 has 5 MA's), (16, 17214), (19, 17235), (22, 17259), (31, 17385),

Gene: Horex\_25 Start: 16965, Stop: 17465, Start Num: 5  
Candidate Starts for Horex\_25:  
(5, 16965), (7, 17049), (Start: 8 @17064 has 5 MA's), (16, 17214), (19, 17235), (22, 17259), (31, 17385),

Gene: Inyanga\_22 Start: 15755, Stop: 16126, Start Num: 8  
Candidate Starts for Inyanga\_22:  
(Start: 8 @15755 has 5 MA's), (21, 15944), (26, 16019), (29, 16076), (31, 16082),

Gene: Iqorha\_22 Start: 15754, Stop: 16125, Start Num: 8  
Candidate Starts for Iqorha\_22:  
(Start: 8 @15754 has 5 MA's), (21, 15943), (26, 16018), (29, 16075), (31, 16081),

Gene: JSwag\_27 Start: 15383, Stop: 15838, Start Num: 10  
Candidate Starts for JSwag\_27:  
(Start: 10 @15383 has 1 MA's), (11, 15419), (12, 15434), (15, 15515), (20, 15545), (21, 15557), (24, 15596), (27, 15635), (31, 15695), (32, 15725),

Gene: Jiawan\_25 Start: 17081, Stop: 17497, Start Num: 7  
Candidate Starts for Jiawan\_25:  
(5, 16997), (7, 17081), (Start: 8 @17096 has 5 MA's), (16, 17246), (19, 17267), (22, 17291), (31, 17417),

Gene: KikiBouba\_24 Start: 16813, Stop: 17184, Start Num: 8  
Candidate Starts for KikiBouba\_24:  
(Start: 8 @16813 has 5 MA's), (21, 17002), (26, 17077), (29, 17134), (31, 17140),

Gene: Lilleskat\_24 Start: 16961, Stop: 17461, Start Num: 5  
Candidate Starts for Lilleskat\_24:  
(5, 16961), (7, 17045), (Start: 8 @17060 has 5 MA's), (16, 17210), (19, 17231), (22, 17255), (31, 17381),

Gene: Lowa\_26 Start: 15624, Stop: 15971, Start Num: 8  
Candidate Starts for Lowa\_26:  
(5, 15525), (Start: 8 @15624 has 5 MA's), (19, 15795), (22, 15819), (28, 15921),

Gene: MegTheThird\_24 Start: 15183, Stop: 15563, Start Num: 8  
Candidate Starts for MegTheThird\_24:  
(5, 15084), (Start: 8 @15183 has 5 MA's), (16, 15333), (19, 15354), (28, 15489), (30, 15501), (33, 15537),

Gene: Minispark\_23 Start: 15039, Stop: 15539, Start Num: 5  
Candidate Starts for Minispark\_23:  
(4, 14988), (5, 15039), (Start: 8 @15138 has 5 MA's), (19, 15309), (22, 15333), (31, 15459),

Gene: Mkhuseli\_24 Start: 16008, Stop: 16409, Start Num: 6  
Candidate Starts for Mkhuseli\_24:  
(Start: 6 @16008 has 1 MA's), (9, 16047), (21, 16227), (29, 16359), (31, 16365),

Gene: Montavir\_25 Start: 15632, Stop: 15979, Start Num: 8  
Candidate Starts for Montavir\_25:  
(5, 15533), (Start: 8 @15632 has 5 MA's), (19, 15803), (22, 15827), (28, 15929),

Gene: Noxious\_24 Start: 17004, Stop: 17375, Start Num: 8  
Candidate Starts for Noxious\_24:  
(Start: 8 @17004 has 5 MA's), (21, 17193), (26, 17268), (29, 17325), (31, 17331),

Gene: Onglai\_25 Start: 15295, Stop: 15795, Start Num: 5  
Candidate Starts for Onglai\_25:  
(5, 15295), (7, 15379), (Start: 8 @15394 has 5 MA's), (16, 15544), (19, 15565), (22, 15589), (31, 15715),

Gene: Phlippers\_22 Start: 16908, Stop: 17309, Start Num: 6  
Candidate Starts for Phlippers\_22:  
(Start: 6 @16908 has 1 MA's), (9, 16947), (21, 17127), (26, 17202), (29, 17259), (31, 17265),

Gene: PhrostyMug\_23 Start: 16015, Stop: 16386, Start Num: 8  
Candidate Starts for PhrostyMug\_23:  
(Start: 8 @16015 has 5 MA's), (21, 16204), (29, 16336), (31, 16342),

Gene: ProMouse\_22 Start: 16469, Stop: 16840, Start Num: 8  
Candidate Starts for ProMouse\_22:  
(Start: 8 @16469 has 5 MA's), (21, 16658), (29, 16790), (31, 16796),

Gene: Puppet\_23 Start: 16019, Stop: 16390, Start Num: 8  
Candidate Starts for Puppet\_23:  
(Start: 8 @16019 has 5 MA's), (21, 16208), (29, 16340), (31, 16346),

Gene: Ravana\_28 Start: 15358, Stop: 15813, Start Num: 10  
Candidate Starts for Ravana\_28:  
(Start: 10 @15358 has 1 MA's), (11, 15394), (12, 15409), (15, 15490), (20, 15520), (21, 15532), (24, 15571), (27, 15610), (31, 15670), (32, 15700),

Gene: Rosa24\_23 Start: 15507, Stop: 15938, Start Num: 10  
Candidate Starts for Rosa24\_23:  
(Start: 10 @15507 has 1 MA's), (14, 15585), (21, 15681), (23, 15690),

Gene: Rowdy\_27 Start: 15449, Stop: 15850, Start Num: 11  
Candidate Starts for Rowdy\_27:

(11, 15449), (13, 15476), (15, 15545), (17, 15557), (21, 15587), (22, 15593), (31, 15725), (34, 15767), (35, 15785),

Gene: RyeScarlet\_27 Start: 17049, Stop: 17465, Start Num: 7

Candidate Starts for RyeScarlet\_27:

(5, 16965), (7, 17049), (Start: 8 @17064 has 5 MA's), (16, 17214), (19, 17235), (22, 17259), (31, 17385),

Gene: Sachima\_24 Start: 16961, Stop: 17461, Start Num: 5

Candidate Starts for Sachima\_24:

(5, 16961), (7, 17045), (Start: 8 @17060 has 5 MA's), (16, 17210), (19, 17231), (22, 17255), (31, 17381),

Gene: Sandaddy\_22 Start: 15945, Stop: 16316, Start Num: 8

Candidate Starts for Sandaddy\_22:

(Start: 8 @15945 has 5 MA's), (21, 16134), (26, 16209), (29, 16266), (31, 16272),

Gene: Sanya\_22 Start: 16607, Stop: 16978, Start Num: 8

Candidate Starts for Sanya\_22:

(Start: 8 @16607 has 5 MA's), (21, 16796), (23, 16805), (26, 16871), (29, 16928), (31, 16934),

Gene: Shapes\_27 Start: 15449, Stop: 15850, Start Num: 11

Candidate Starts for Shapes\_27:

(11, 15449), (13, 15476), (15, 15545), (17, 15557), (21, 15587), (22, 15593), (31, 15725), (34, 15767), (35, 15785),

Gene: ShortQueendom\_22 Start: 15905, Stop: 16276, Start Num: 8

Candidate Starts for ShortQueendom\_22:

(Start: 8 @15905 has 5 MA's), (21, 16094), (26, 16169), (29, 16226), (31, 16232),

Gene: StewieG\_22 Start: 15788, Stop: 16159, Start Num: 8

Candidate Starts for StewieG\_22:

(Start: 8 @15788 has 5 MA's), (21, 15977), (26, 16052), (29, 16109), (31, 16115),

Gene: Teodoridan\_21 Start: 15353, Stop: 15724, Start Num: 8

Candidate Starts for Teodoridan\_21:

(Start: 8 @15353 has 5 MA's), (21, 15542), (26, 15617), (29, 15674), (31, 15680),

Gene: U2\_23 Start: 16127, Stop: 16498, Start Num: 8

Candidate Starts for U2\_23:

(Start: 8 @16127 has 5 MA's), (21, 16316), (29, 16448), (31, 16454),

Gene: Whitspit\_24 Start: 16630, Stop: 17001, Start Num: 8

Candidate Starts for Whitspit\_24:

(Start: 8 @16630 has 5 MA's), (21, 16819), (26, 16894), (29, 16951), (31, 16957),

Gene: WorldCup\_23 Start: 15039, Stop: 15539, Start Num: 5

Candidate Starts for WorldCup\_23:

(4, 14988), (5, 15039), (Start: 8 @15138 has 5 MA's), (19, 15309), (22, 15333), (31, 15459),