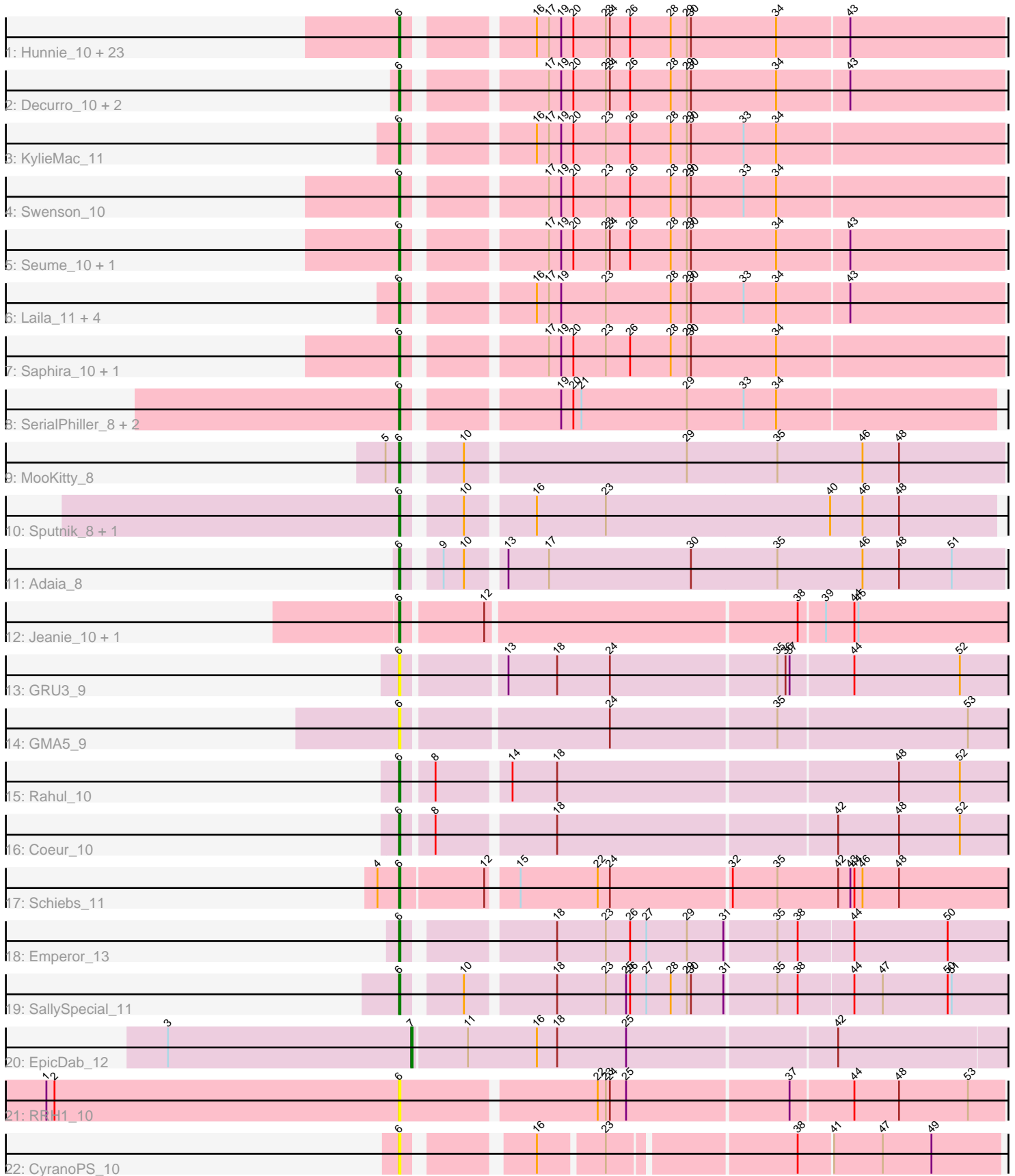


# Pham 163635



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 163635 Report

This analysis was run 04/28/24 on database version 559.

Pham number 163635 has 57 members, 5 are drafts.

Phages represented in each track:

- Track 1 : Hunnie\_10, Stratus\_10, CGermain\_10, TinoCrisci\_10, Jessica\_11, TymAbreu\_10, Mariposa\_10, Maggie\_10, Massimo\_10, Guntur\_10, Sourignavong\_11, Courtney3\_10, Copper\_10, Chestnut\_10, Sandman\_10, Link\_10, Dewayne\_10, Ronnie\_10, Prospero\_10, Inspire2\_10, LouisXIV\_10, Azathoth\_10, Moloch\_10, Arby\_10
- Track 2 : Decurro\_10, Yank\_10, Muttie\_10
- Track 3 : KylieMac\_11
- Track 4 : Swenson\_10
- Track 5 : Seume\_10, Toulouse\_9
- Track 6 : Laila\_11, Blair\_10, Elkhorn\_10, StewieGriff\_10, Lore\_10
- Track 7 : Saphira\_10, Taj14\_10
- Track 8 : SerialPhiller\_8, Kels\_8, Arielagos\_8
- Track 9 : MooKitty\_8
- Track 10 : Sputnik\_8, Atraxa\_8
- Track 11 : Adaia\_8
- Track 12 : Jeanie\_10, McGonagall\_10
- Track 13 : GRU3\_9
- Track 14 : GMA5\_9
- Track 15 : Rahul\_10
- Track 16 : Coeur\_10
- Track 17 : Schiebs\_11
- Track 18 : Emperor\_13
- Track 19 : SallySpecial\_11
- Track 20 : EpicDab\_12
- Track 21 : RRH1\_10
- Track 22 : CyranoPS\_10

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

The start number called the most often in the published annotations is 6, it was called in 51 of the 52 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Adaia\_8, Arby\_10, Arielagos\_8, Atraxa\_8, Azathoth\_10, Blair\_10, CGermain\_10, Chestnut\_10, Coeur\_10, Copper\_10, Courtney3\_10, CyranoPS\_10, Decurro\_10, Dewayne\_10, Elkhorn\_10, Emperor\_13, GMA5\_9, GRU3\_9, Guntur\_10, Hunnie\_10, Inspire2\_10, Jeanie\_10, Jessica\_11, Kels\_8, KylieMac\_11, Laila\_11, Link\_10, Lore\_10, LouisXIV\_10, Maggie\_10, Mariposa\_10, Massimo\_10, McGonagall\_10, Moloch\_10, MooKitty\_8, Muttlie\_10, Prospero\_10, RRH1\_10, Rahul\_10, Ronnie\_10, SallySpecial\_11, Sandman\_10, Saphira\_10, Schiebs\_11, SerialPhiller\_8, Seume\_10, Sourignavong\_11, Sputnik\_8, StewieGriff\_10, Stratus\_10, Swenson\_10, Taj14\_10, TinoCrisci\_10, Toulouse\_9, TymAbreu\_10, Yank\_10,

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

- 

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

- EpicDab\_12,

### Summary by start number:

Start 6:

- Found in 56 of 57 ( 98.2% ) of genes in pham
- Manual Annotations of this start: 51 of 52
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Adaia\_8 (AX), Arby\_10 (AN), Arielagos\_8 (AN), Atraxa\_8 (AX), Azathoth\_10 (AN), Blair\_10 (AN), CGermain\_10 (AN), Chestnut\_10 (AN), Coeur\_10 (CW2), Copper\_10 (AN), Courtney3\_10 (AN), CyranoPS\_10 (singleton), Decurro\_10 (AN), Dewayne\_10 (AN), Elkhorn\_10 (AN), Emperor\_13 (DM), GMA5\_9 (CW2), GRU3\_9 (CW2), Guntur\_10 (AN), Hunnie\_10 (AN), Inspire2\_10 (AN), Jeanie\_10 (CW1), Jessica\_11 (AN), Kels\_8 (AN), KylieMac\_11 (AN), Laila\_11 (AN), Link\_10 (AN), Lore\_10 (AN), LouisXIV\_10 (AN), Maggie\_10 (AN), Mariposa\_10 (AN), Massimo\_10 (AN), McGonagall\_10 (CW1), Moloch\_10 (AN), MooKitty\_8 (AX), Muttlie\_10 (AN), Prospero\_10 (AN), RRH1\_10 (singleton), Rahul\_10 (CW2), Ronnie\_10 (AN), SallySpecial\_11 (DM), Sandman\_10 (AN), Saphira\_10 (AN), Schiebs\_11 (CW3), SerialPhiller\_8 (AN), Seume\_10 (AN), Sourignavong\_11 (AN), Sputnik\_8 (AX), StewieGriff\_10 (AN), Stratus\_10 (AN), Swenson\_10 (AN), Taj14\_10 (AN), TinoCrisci\_10 (AN), Toulouse\_9 (AN), TymAbreu\_10 (AN), Yank\_10 (AN),

Start 7:

- Found in 1 of 57 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 1 of 52
- Called 100.0% of time when present
- Phage (with cluster) where this start called: EpicDab\_12 (DM),

### Summary by clusters:

There are 7 clusters represented in this pham: singleton, DM, CW1, CW3, CW2, AN, AX,

Info for manual annotations of cluster AN:

- Start number 6 was manually annotated 40 times for cluster AN.

Info for manual annotations of cluster AX:

- Start number 6 was manually annotated 4 times for cluster AX.

Info for manual annotations of cluster CW1:

- Start number 6 was manually annotated 2 times for cluster CW1.

Info for manual annotations of cluster CW2:

- Start number 6 was manually annotated 2 times for cluster CW2.

Info for manual annotations of cluster CW3:

- Start number 6 was manually annotated 1 time for cluster CW3.

Info for manual annotations of cluster DM:

- Start number 6 was manually annotated 2 times for cluster DM.
- Start number 7 was manually annotated 1 time for cluster DM.

### **Gene Information:**

Gene: Adaia\_8 Start: 5580, Stop: 6005, Start Num: 6

Candidate Starts for Adaia\_8:

(Start: 6 @5580 has 51 MA's), (9, 5601), (10, 5616), (13, 5640), (17, 5670), (30, 5775), (35, 5838), (46, 5901), (48, 5928), (51, 5967),

Gene: Arby\_10 Start: 6014, Stop: 6436, Start Num: 6

Candidate Starts for Arby\_10:

(Start: 6 @6014 has 51 MA's), (16, 6095), (17, 6104), (19, 6113), (20, 6122), (23, 6146), (24, 6149), (26, 6164), (28, 6194), (29, 6206), (30, 6209), (34, 6272), (43, 6323),

Gene: Arielagos\_8 Start: 5656, Stop: 6072, Start Num: 6

Candidate Starts for Arielagos\_8:

(Start: 6 @5656 has 51 MA's), (19, 5755), (20, 5764), (21, 5770), (29, 5848), (33, 5890), (34, 5914),

Gene: Atraxa\_8 Start: 5666, Stop: 6085, Start Num: 6

Candidate Starts for Atraxa\_8:

(Start: 6 @5666 has 51 MA's), (10, 5702), (16, 5747), (23, 5798), (40, 5963), (46, 5987), (48, 6014),

Gene: Azathoth\_10 Start: 6014, Stop: 6436, Start Num: 6

Candidate Starts for Azathoth\_10:

(Start: 6 @6014 has 51 MA's), (16, 6095), (17, 6104), (19, 6113), (20, 6122), (23, 6146), (24, 6149), (26, 6164), (28, 6194), (29, 6206), (30, 6209), (34, 6272), (43, 6323),

Gene: Blair\_10 Start: 6013, Stop: 6435, Start Num: 6

Candidate Starts for Blair\_10:

(Start: 6 @6013 has 51 MA's), (16, 6094), (17, 6103), (19, 6112), (23, 6145), (28, 6193), (29, 6205), (30, 6208), (33, 6247), (34, 6271), (43, 6322),

Gene: CGermain\_10 Start: 6014, Stop: 6436, Start Num: 6

Candidate Starts for CGermain\_10:

(Start: 6 @6014 has 51 MA's), (16, 6095), (17, 6104), (19, 6113), (20, 6122), (23, 6146), (24, 6149), (26, 6164), (28, 6194), (29, 6206), (30, 6209), (34, 6272), (43, 6323),

Gene: Chestnut\_10 Start: 6014, Stop: 6436, Start Num: 6

Candidate Starts for Chestnut\_10:

(Start: 6 @6014 has 51 MA's), (16, 6095), (17, 6104), (19, 6113), (20, 6122), (23, 6146), (24, 6149), (26, 6164), (28, 6194), (29, 6206), (30, 6209), (34, 6272), (43, 6323),

Gene: Coeur\_10 Start: 6891, Stop: 7346, Start Num: 6

Candidate Starts for Coeur\_10:

(Start: 6 @6891 has 51 MA's), (8, 6912), (18, 6993), (42, 7194), (48, 7239), (52, 7284),

Gene: Copper\_10 Start: 6014, Stop: 6436, Start Num: 6

Candidate Starts for Copper\_10:

(Start: 6 @6014 has 51 MA's), (16, 6095), (17, 6104), (19, 6113), (20, 6122), (23, 6146), (24, 6149), (26, 6164), (28, 6194), (29, 6206), (30, 6209), (34, 6272), (43, 6323),

Gene: Courtney3\_10 Start: 6014, Stop: 6436, Start Num: 6

Candidate Starts for Courtney3\_10:

(Start: 6 @6014 has 51 MA's), (16, 6095), (17, 6104), (19, 6113), (20, 6122), (23, 6146), (24, 6149), (26, 6164), (28, 6194), (29, 6206), (30, 6209), (34, 6272), (43, 6323),

Gene: CyranoPS\_10 Start: 6339, Stop: 6737, Start Num: 6

Candidate Starts for CyranoPS\_10:

(Start: 6 @6339 has 51 MA's), (16, 6417), (23, 6462), (38, 6591), (41, 6615), (47, 6651), (49, 6687),

Gene: Decurro\_10 Start: 6015, Stop: 6437, Start Num: 6

Candidate Starts for Decurro\_10:

(Start: 6 @6015 has 51 MA's), (17, 6105), (19, 6114), (20, 6123), (23, 6147), (24, 6150), (26, 6165), (28, 6195), (29, 6207), (30, 6210), (34, 6273), (43, 6324),

Gene: Dewayne\_10 Start: 6014, Stop: 6436, Start Num: 6

Candidate Starts for Dewayne\_10:

(Start: 6 @6014 has 51 MA's), (16, 6095), (17, 6104), (19, 6113), (20, 6122), (23, 6146), (24, 6149), (26, 6164), (28, 6194), (29, 6206), (30, 6209), (34, 6272), (43, 6323),

Gene: Elkhorn\_10 Start: 6013, Stop: 6435, Start Num: 6

Candidate Starts for Elkhorn\_10:

(Start: 6 @6013 has 51 MA's), (16, 6094), (17, 6103), (19, 6112), (23, 6145), (28, 6193), (29, 6205), (30, 6208), (33, 6247), (34, 6271), (43, 6322),

Gene: Emperor\_13 Start: 8116, Stop: 8556, Start Num: 6

Candidate Starts for Emperor\_13:

(Start: 6 @8116 has 51 MA's), (18, 8212), (23, 8248), (26, 8266), (27, 8278), (29, 8308), (31, 8335), (35, 8371), (38, 8386), (44, 8425), (50, 8494),

Gene: EpicDab\_12 Start: 8084, Stop: 8521, Start Num: 7

Candidate Starts for EpicDab\_12:

(3, 7904), (Start: 7 @8084 has 1 MA's), (11, 8123), (16, 8174), (18, 8189), (25, 8240), (42, 8390),

Gene: GMA5\_9 Start: 6746, Stop: 7207, Start Num: 6

Candidate Starts for GMA5\_9:

(Start: 6 @6746 has 51 MA's), (24, 6890), (35, 7010), (53, 7148),

Gene: GRU3\_9 Start: 6800, Stop: 7261, Start Num: 6

Candidate Starts for GRU3\_9:

(Start: 6 @6800 has 51 MA's), (13, 6869), (18, 6905), (24, 6944), (35, 7064), (36, 7070), (37, 7073), (44, 7118), (52, 7196),

Gene: Guntur\_10 Start: 6014, Stop: 6436, Start Num: 6

Candidate Starts for Guntur\_10:

(Start: 6 @6014 has 51 MA's), (16, 6095), (17, 6104), (19, 6113), (20, 6122), (23, 6146), (24, 6149), (26, 6164), (28, 6194), (29, 6206), (30, 6209), (34, 6272), (43, 6323),

Gene: Hunnie\_10 Start: 6014, Stop: 6436, Start Num: 6

Candidate Starts for Hunnie\_10:

(Start: 6 @6014 has 51 MA's), (16, 6095), (17, 6104), (19, 6113), (20, 6122), (23, 6146), (24, 6149), (26, 6164), (28, 6194), (29, 6206), (30, 6209), (34, 6272), (43, 6323),

Gene: Inspire2\_10 Start: 6014, Stop: 6436, Start Num: 6

Candidate Starts for Inspire2\_10:

(Start: 6 @6014 has 51 MA's), (16, 6095), (17, 6104), (19, 6113), (20, 6122), (23, 6146), (24, 6149), (26, 6164), (28, 6194), (29, 6206), (30, 6209), (34, 6272), (43, 6323),

Gene: Jeanie\_10 Start: 6696, Stop: 7160, Start Num: 6

Candidate Starts for Jeanie\_10:

(Start: 6 @6696 has 51 MA's), (12, 6753), (38, 6975), (39, 6993), (44, 7014), (45, 7017),

Gene: Jessica\_11 Start: 6014, Stop: 6436, Start Num: 6

Candidate Starts for Jessica\_11:

(Start: 6 @6014 has 51 MA's), (16, 6095), (17, 6104), (19, 6113), (20, 6122), (23, 6146), (24, 6149), (26, 6164), (28, 6194), (29, 6206), (30, 6209), (34, 6272), (43, 6323),

Gene: Kels\_8 Start: 5581, Stop: 5997, Start Num: 6

Candidate Starts for Kels\_8:

(Start: 6 @5581 has 51 MA's), (19, 5680), (20, 5689), (21, 5695), (29, 5773), (33, 5815), (34, 5839),

Gene: KylieMac\_11 Start: 6000, Stop: 6422, Start Num: 6

Candidate Starts for KylieMac\_11:

(Start: 6 @6000 has 51 MA's), (16, 6081), (17, 6090), (19, 6099), (20, 6108), (23, 6132), (26, 6150), (28, 6180), (29, 6192), (30, 6195), (33, 6234), (34, 6258),

Gene: Laila\_11 Start: 6013, Stop: 6435, Start Num: 6

Candidate Starts for Laila\_11:

(Start: 6 @6013 has 51 MA's), (16, 6094), (17, 6103), (19, 6112), (23, 6145), (28, 6193), (29, 6205), (30, 6208), (33, 6247), (34, 6271), (43, 6322),

Gene: Link\_10 Start: 6014, Stop: 6436, Start Num: 6

Candidate Starts for Link\_10:

(Start: 6 @6014 has 51 MA's), (16, 6095), (17, 6104), (19, 6113), (20, 6122), (23, 6146), (24, 6149), (26, 6164), (28, 6194), (29, 6206), (30, 6209), (34, 6272), (43, 6323),

Gene: Lore\_10 Start: 6013, Stop: 6435, Start Num: 6

Candidate Starts for Lore\_10:

(Start: 6 @6013 has 51 MA's), (16, 6094), (17, 6103), (19, 6112), (23, 6145), (28, 6193), (29, 6205), (30, 6208), (33, 6247), (34, 6271), (43, 6322),

Gene: LouisXIV\_10 Start: 6014, Stop: 6436, Start Num: 6

Candidate Starts for LouisXIV\_10:

(Start: 6 @6014 has 51 MA's), (16, 6095), (17, 6104), (19, 6113), (20, 6122), (23, 6146), (24, 6149), (26, 6164), (28, 6194), (29, 6206), (30, 6209), (34, 6272), (43, 6323),

Gene: Maggie\_10 Start: 6014, Stop: 6436, Start Num: 6

Candidate Starts for Maggie\_10:

(Start: 6 @6014 has 51 MA's), (16, 6095), (17, 6104), (19, 6113), (20, 6122), (23, 6146), (24, 6149), (26, 6164), (28, 6194), (29, 6206), (30, 6209), (34, 6272), (43, 6323),

Gene: Mariposa\_10 Start: 6014, Stop: 6436, Start Num: 6

Candidate Starts for Mariposa\_10:

(Start: 6 @6014 has 51 MA's), (16, 6095), (17, 6104), (19, 6113), (20, 6122), (23, 6146), (24, 6149), (26, 6164), (28, 6194), (29, 6206), (30, 6209), (34, 6272), (43, 6323),

Gene: Massimo\_10 Start: 6014, Stop: 6436, Start Num: 6

Candidate Starts for Massimo\_10:

(Start: 6 @6014 has 51 MA's), (16, 6095), (17, 6104), (19, 6113), (20, 6122), (23, 6146), (24, 6149), (26, 6164), (28, 6194), (29, 6206), (30, 6209), (34, 6272), (43, 6323),

Gene: McGonagall\_10 Start: 6696, Stop: 7160, Start Num: 6

Candidate Starts for McGonagall\_10:

(Start: 6 @6696 has 51 MA's), (12, 6753), (38, 6975), (39, 6993), (44, 7014), (45, 7017),

Gene: Moloch\_10 Start: 6088, Stop: 6510, Start Num: 6

Candidate Starts for Moloch\_10:

(Start: 6 @6088 has 51 MA's), (16, 6169), (17, 6178), (19, 6187), (20, 6196), (23, 6220), (24, 6223), (26, 6238), (28, 6268), (29, 6280), (30, 6283), (34, 6346), (43, 6397),

Gene: MooKitty\_8 Start: 5563, Stop: 5988, Start Num: 6

Candidate Starts for MooKitty\_8:

(5, 5554), (Start: 6 @5563 has 51 MA's), (10, 5599), (29, 5755), (35, 5821), (46, 5884), (48, 5911),

Gene: Muttie\_10 Start: 6015, Stop: 6437, Start Num: 6

Candidate Starts for Muttie\_10:

(Start: 6 @6015 has 51 MA's), (17, 6105), (19, 6114), (20, 6123), (23, 6147), (24, 6150), (26, 6165), (28, 6195), (29, 6207), (30, 6210), (34, 6273), (43, 6324),

Gene: Prospero\_10 Start: 6014, Stop: 6436, Start Num: 6

Candidate Starts for Prospero\_10:

(Start: 6 @6014 has 51 MA's), (16, 6095), (17, 6104), (19, 6113), (20, 6122), (23, 6146), (24, 6149), (26, 6164), (28, 6194), (29, 6206), (30, 6209), (34, 6272), (43, 6323),

Gene: RRH1\_10 Start: 7140, Stop: 7571, Start Num: 6

Candidate Starts for RRH1\_10:

(1, 6879), (2, 6885), (Start: 6 @7140 has 51 MA's), (22, 7278), (23, 7284), (24, 7287), (25, 7299), (37, 7416), (44, 7461), (48, 7494), (53, 7545),

Gene: Rahul\_10 Start: 6906, Stop: 7367, Start Num: 6

Candidate Starts for Rahul\_10:

(Start: 6 @6906 has 51 MA's), (8, 6927), (14, 6975), (18, 7008), (48, 7254), (52, 7299),

Gene: Ronnie\_10 Start: 6014, Stop: 6436, Start Num: 6

Candidate Starts for Ronnie\_10:

(Start: 6 @6014 has 51 MA's), (16, 6095), (17, 6104), (19, 6113), (20, 6122), (23, 6146), (24, 6149), (26, 6164), (28, 6194), (29, 6206), (30, 6209), (34, 6272), (43, 6323),

Gene: SallySpecial\_11 Start: 7051, Stop: 7497, Start Num: 6

Candidate Starts for SallySpecial\_11:

(Start: 6 @7051 has 51 MA's), (10, 7087), (18, 7147), (23, 7183), (25, 7198), (26, 7201), (27, 7213), (28, 7231), (29, 7243), (30, 7246), (31, 7270), (35, 7306), (38, 7321), (44, 7360), (47, 7381), (50, 7429), (51, 7432),

Gene: Sandman\_10 Start: 6088, Stop: 6510, Start Num: 6

Candidate Starts for Sandman\_10:

(Start: 6 @6088 has 51 MA's), (16, 6169), (17, 6178), (19, 6187), (20, 6196), (23, 6220), (24, 6223), (26, 6238), (28, 6268), (29, 6280), (30, 6283), (34, 6346), (43, 6397),

Gene: Saphira\_10 Start: 6014, Stop: 6436, Start Num: 6

Candidate Starts for Saphira\_10:

(Start: 6 @6014 has 51 MA's), (17, 6104), (19, 6113), (20, 6122), (23, 6146), (26, 6164), (28, 6194), (29, 6206), (30, 6209), (34, 6272),

Gene: Schiebs\_11 Start: 6492, Stop: 6941, Start Num: 6

Candidate Starts for Schiebs\_11:

(4, 6477), (Start: 6 @6492 has 51 MA's), (12, 6552), (15, 6570), (22, 6627), (24, 6636), (32, 6723), (35, 6756), (42, 6801), (43, 6810), (44, 6813), (46, 6819), (48, 6846),

Gene: SerialPhiller\_8 Start: 5656, Stop: 6072, Start Num: 6

Candidate Starts for SerialPhiller\_8:

(Start: 6 @5656 has 51 MA's), (19, 5755), (20, 5764), (21, 5770), (29, 5848), (33, 5890), (34, 5914),

Gene: Seume\_10 Start: 5810, Stop: 6232, Start Num: 6

Candidate Starts for Seume\_10:

(Start: 6 @5810 has 51 MA's), (17, 5900), (19, 5909), (20, 5918), (23, 5942), (24, 5945), (26, 5960), (28, 5990), (29, 6002), (30, 6005), (34, 6068), (43, 6119),

Gene: Sourignavong\_11 Start: 6115, Stop: 6537, Start Num: 6

Candidate Starts for Sourignavong\_11:

(Start: 6 @6115 has 51 MA's), (16, 6196), (17, 6205), (19, 6214), (20, 6223), (23, 6247), (24, 6250), (26, 6265), (28, 6295), (29, 6307), (30, 6310), (34, 6373), (43, 6424),

Gene: Sputnik\_8 Start: 5666, Stop: 6085, Start Num: 6

Candidate Starts for Sputnik\_8:

(Start: 6 @5666 has 51 MA's), (10, 5702), (16, 5747), (23, 5798), (40, 5963), (46, 5987), (48, 6014),

Gene: StewieGriff\_10 Start: 6013, Stop: 6435, Start Num: 6

Candidate Starts for StewieGriff\_10:

(Start: 6 @6013 has 51 MA's), (16, 6094), (17, 6103), (19, 6112), (23, 6145), (28, 6193), (29, 6205), (30, 6208), (33, 6247), (34, 6271), (43, 6322),

Gene: Stratus\_10 Start: 6088, Stop: 6510, Start Num: 6

Candidate Starts for Stratus\_10:

(Start: 6 @6088 has 51 MA's), (16, 6169), (17, 6178), (19, 6187), (20, 6196), (23, 6220), (24, 6223), (26, 6238), (28, 6268), (29, 6280), (30, 6283), (34, 6346), (43, 6397),

Gene: Swenson\_10 Start: 6137, Stop: 6559, Start Num: 6

Candidate Starts for Swenson\_10:

(Start: 6 @6137 has 51 MA's), (17, 6227), (19, 6236), (20, 6245), (23, 6269), (26, 6287), (28, 6317), (29, 6329), (30, 6332), (33, 6371), (34, 6395),



Gene: Taj14\_10 Start: 5993, Stop: 6415, Start Num: 6

Candidate Starts for Taj14\_10:

(Start: 6 @5993 has 51 MA's), (17, 6083), (19, 6092), (20, 6101), (23, 6125), (26, 6143), (28, 6173), (29, 6185), (30, 6188), (34, 6251),

Gene: TinoCrisci\_10 Start: 6014, Stop: 6436, Start Num: 6

Candidate Starts for TinoCrisci\_10:

(Start: 6 @6014 has 51 MA's), (16, 6095), (17, 6104), (19, 6113), (20, 6122), (23, 6146), (24, 6149), (26, 6164), (28, 6194), (29, 6206), (30, 6209), (34, 6272), (43, 6323),

Gene: Toulouse\_9 Start: 5810, Stop: 6232, Start Num: 6

Candidate Starts for Toulouse\_9:

(Start: 6 @5810 has 51 MA's), (17, 5900), (19, 5909), (20, 5918), (23, 5942), (24, 5945), (26, 5960), (28, 5990), (29, 6002), (30, 6005), (34, 6068), (43, 6119),

Gene: TymAbreu\_10 Start: 6014, Stop: 6436, Start Num: 6

Candidate Starts for TymAbreu\_10:

(Start: 6 @6014 has 51 MA's), (16, 6095), (17, 6104), (19, 6113), (20, 6122), (23, 6146), (24, 6149), (26, 6164), (28, 6194), (29, 6206), (30, 6209), (34, 6272), (43, 6323),

Gene: Yank\_10 Start: 6015, Stop: 6437, Start Num: 6

Candidate Starts for Yank\_10:

(Start: 6 @6015 has 51 MA's), (17, 6105), (19, 6114), (20, 6123), (23, 6147), (24, 6150), (26, 6165), (28, 6195), (29, 6207), (30, 6210), (34, 6273), (43, 6324),