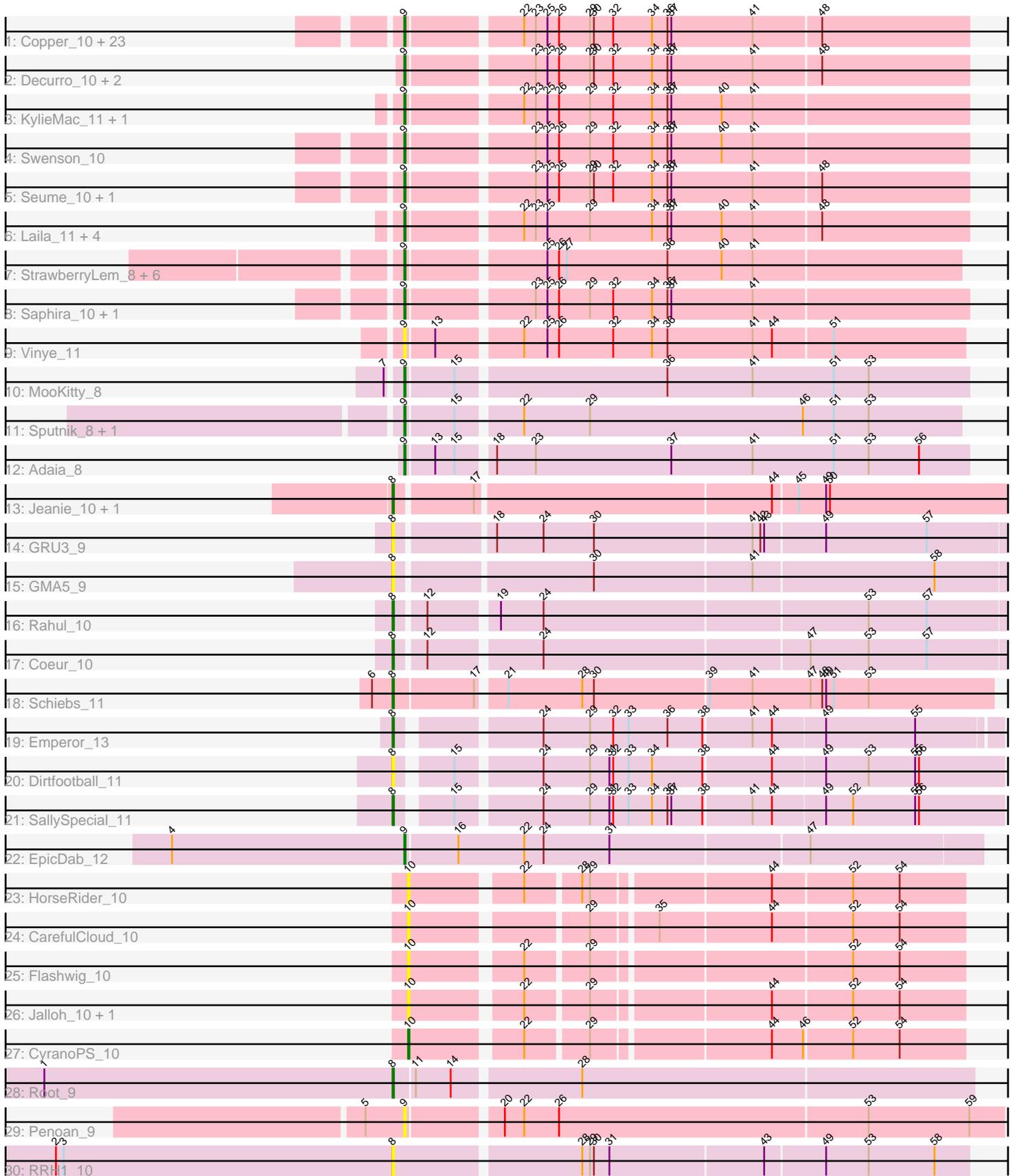# Pham 285538

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 285538 Report

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

Pham number 285538 has 71 members, 16 are drafts.

Phages represented in each track:
- Track 1 : Copper_10, Stratus_10, CGermain_10, TinoCrisci_10, Jessica_11, TymAbreu_10, Mariposa_10, Maggie_10, Massimo_10, Guntur_10, Sourignavong_11, Courtney3_10, Hunnie_10, Chestnut_10, Sandman_10, Dewayne_10, Ronnie_10, Prospero_10, Inspire2_10, Link_10, LouisXIV_10, Azathoth_10, Moloch_10, Arby_10
- Track 2 : Decurro_10, Yank_10, Muttlie_10
- Track 3 : KylieMac_11, ElectricPheel_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 : StrawberryLem_8, FirePit_8, Eyoseyas_8, Ximeno_8, SerialPhiller_8, Kels_8, Arielagos_8
- Track 8 : Saphira_10, Taj14_10
- Track 9 : Vinye_11
- Track 10 : MooKitty_8
- Track 11 : Sputnik_8, Atraxa_8
- Track 12 : Adaia_8
- Track 13 : Jeanie_10, McGonagall_10
- Track 14 : GRU3_9
- Track 15 : GMA5_9
- Track 16 : Rahul_10
- Track 17 : Coeur_10
- Track 18 : Schiebs_11
- Track 19 : Emperor_13
- Track 20 : Dirtfootball_11
- Track 21 : SallySpecial_11
- Track 22 : EpicDab_12
- Track 23 : HorseRider_10
- Track 24 : CarefulCloud_10
- Track 25 : Flashwig_10
- Track 26 : Jalloh_10, TailX7_10
- Track 27 : CyranoPS_10
- Track 28 : Root_9
- Track 29 : Penoan_9
- Track 30 : RRH1_10

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 46 of the 55 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, Copper_10, Courtney3_10, Decurro_10, Dewayne_10, ElectricPheel_11, Elkhorn_10, EpicDab_12, Eyoseyas_8, FirePit_8, Guntur_10, Hunnie_10, Inspire2_10, Jessica_11, Kels_8, KylieMac_11, Laila_11, Link_10, Lore_10, LouisXIV_10, Maggie_10, Mariposa_10, Massimo_10, Moloch_10, MooKitty_8, Muttlie_10, Penoan_9, Prospero_10, Ronnie_10, Sandman_10, Saphira_10, SerialPhiller_8, Seume_10, Sourignavong_11, Sputnik_8, StewieGriff_10, Stratus_10, StrawberryLem_8, Swenson_10, Taj14_10, TinoCrisci_10, Toulouse_9, TymAbreu_10, Vinye_11, Ximeno_8, Yank_10,

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

Genes that do not have the "Most Annotated" start:
• CarefulCloud_10, Coeur_10, CyranoPS_10, Dirtfootball_11, Emperor_13, Flashwig_10, GMA5_9, GRU3_9, HorseRider_10, Jalloh_10, Jeanie_10, McGonagall_10, RRH1_10, Rahul_10, Root_9, SallySpecial_11, Schiebs_11, TailX7_10,

Summary by start number:

Start 8:
• Found in 12 of 71 (16.9%) of genes in pham
• Manual Annotations of this start: 8 of 55
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Coeur_10 (CW2), Dirtfootball_11 (DM), Emperor_13 (DM), GMA5_9 (CW2), GRU3_9 (CW2), Jeanie_10 (CW1), McGonagall_10 (CW1), RRH1_10 (singleton), Rahul_10 (CW2), Root_9 (JC), SallySpecial_11 (DM), Schiebs_11 (CW3),

Start 9:
• Found in 53 of 71 (74.6%) of genes in pham
• Manual Annotations of this start: 46 of 55
• 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), Copper_10 (AN), Courtney3_10 (AN), Decurro_10 (AN), Dewayne_10 (AN), ElectricPheel_11 (AN), Elkhorn_10 (AN), EpicDab_12 (DM), Eyoseyas_8 (AN), FirePit_8 (AN), Guntur_10 (AN), Hunnie_10 (AN), Inspire2_10 (AN), 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), Moloch_10 (AN), MooKitty_8 (AX), Muttlie_10 (AN), Penoan_9 (UNK), Prospero_10 (AN), Ronnie_10 (AN), Sandman_10 (AN), Saphira_10 (AN), SerialPhiller_8 (AN), Seume_10 (AN), Sourignavong_11 (AN), Sputnik_8 (AX), StewieGriff_10 (AN), Stratus_10 (AN), StrawberryLem_8 (AN), Swenson_10 (AN), Taj14_10 (AN), TinoCrisci_10 (AN), Toulouse_9 (AN), TymAbreu_10 (AN), Vinye_11

(AN), Ximeno_8 (AN), Yank_10 (AN),

Start 10:
• Found in 6 of 71 (8.5%) of genes in pham
• Manual Annotations of this start: 1 of 55
• Called 100.0% of time when present
• Phage (with cluster) where this start called: CarefulCloud_10 (ER), CyranoPS_10 (ER), Flashwig_10 (ER), HorseRider_10 (ER), Jalloh_10 (ER), TailX7_10 (ER),

Summary by clusters:

There are 10 clusters represented in this pham: singleton, DM, JC, CW1, CW3, CW2, AN, AX, UNK, ER,

Info for manual annotations of cluster AN:
•Start number 9 was manually annotated 41 times for cluster AN.

Info for manual annotations of cluster AX:
•Start number 9 was manually annotated 4 times for cluster AX.

Info for manual annotations of cluster CW1:
•Start number 8 was manually annotated 2 times for cluster CW1.

Info for manual annotations of cluster CW2:
•Start number 8 was manually annotated 2 times for cluster CW2.

Info for manual annotations of cluster CW3:
•Start number 8 was manually annotated 1 time for cluster CW3.

Info for manual annotations of cluster DM:
•Start number 8 was manually annotated 2 times for cluster DM.
•Start number 9 was manually annotated 1 time for cluster DM.

Info for manual annotations of cluster ER:
•Start number 10 was manually annotated 1 time for cluster ER.

Info for manual annotations of cluster JC:
•Start number 8 was manually annotated 1 time for cluster JC.

Gene Information:

Gene: Adaia_8 Start: 5580, Stop: 6005, Start Num: 9
Candidate Starts for Adaia_8:
(Start: 9 @5580 has 46 MA's), (13, 5601), (15, 5616), (18, 5640), (23, 5670), (37, 5775), (41, 5838), (51, 5901), (53, 5928), (56, 5967),

Gene: Arby_10 Start: 6014, Stop: 6436, Start Num: 9
Candidate Starts for Arby_10:
(Start: 9 @6014 has 46 MA's), (22, 6095), (23, 6104), (25, 6113), (26, 6122), (29, 6146), (30, 6149), (32, 6164), (34, 6194), (36, 6206), (37, 6209), (41, 6272), (48, 6323),

Gene: Arielagos_8 Start: 5656, Stop: 6072, Start Num: 9
Candidate Starts for Arielagos_8:
(Start: 9 @5656 has 46 MA's), (25, 5755), (26, 5764), (27, 5770), (36, 5848), (40, 5890), (41, 5914),

Gene: Atraxa_8 Start: 5666, Stop: 6085, Start Num: 9
Candidate Starts for Atraxa_8:
(Start: 9 @5666 has 46 MA's), (15, 5702), (22, 5747), (29, 5798), (46, 5963), (51, 5987), (53, 6014),

Gene: Azathoth_10 Start: 6014, Stop: 6436, Start Num: 9
Candidate Starts for Azathoth_10:
(Start: 9 @6014 has 46 MA's), (22, 6095), (23, 6104), (25, 6113), (26, 6122), (29, 6146), (30, 6149), (32, 6164), (34, 6194), (36, 6206), (37, 6209), (41, 6272), (48, 6323),

Gene: Blair_10 Start: 6013, Stop: 6435, Start Num: 9
Candidate Starts for Blair_10:
(Start: 9 @6013 has 46 MA's), (22, 6094), (23, 6103), (25, 6112), (29, 6145), (34, 6193), (36, 6205), (37, 6208), (40, 6247), (41, 6271), (48, 6322),

Gene: CGermain_10 Start: 6014, Stop: 6436, Start Num: 9
Candidate Starts for CGermain_10:
(Start: 9 @6014 has 46 MA's), (22, 6095), (23, 6104), (25, 6113), (26, 6122), (29, 6146), (30, 6149), (32, 6164), (34, 6194), (36, 6206), (37, 6209), (41, 6272), (48, 6323),

Gene: CarefulCloud_10 Start: 6341, Stop: 6739, Start Num: 10
Candidate Starts for CarefulCloud_10:
(Start: 10 @6341 has 1 MA's), (29, 6464), (35, 6509), (44, 6593), (52, 6653), (54, 6689),

Gene: Chestnut_10 Start: 6014, Stop: 6436, Start Num: 9
Candidate Starts for Chestnut_10:
(Start: 9 @6014 has 46 MA's), (22, 6095), (23, 6104), (25, 6113), (26, 6122), (29, 6146), (30, 6149), (32, 6164), (34, 6194), (36, 6206), (37, 6209), (41, 6272), (48, 6323),

Gene: Coeur_10 Start: 6891, Stop: 7346, Start Num: 8
Candidate Starts for Coeur_10:
(Start: 8 @6891 has 8 MA's), (12, 6912), (24, 6993), (47, 7194), (53, 7239), (57, 7284),

Gene: Copper_10 Start: 6014, Stop: 6436, Start Num: 9
Candidate Starts for Copper_10:
(Start: 9 @6014 has 46 MA's), (22, 6095), (23, 6104), (25, 6113), (26, 6122), (29, 6146), (30, 6149), (32, 6164), (34, 6194), (36, 6206), (37, 6209), (41, 6272), (48, 6323),

Gene: Courtney3_10 Start: 6014, Stop: 6436, Start Num: 9
Candidate Starts for Courtney3_10:
(Start: 9 @6014 has 46 MA's), (22, 6095), (23, 6104), (25, 6113), (26, 6122), (29, 6146), (30, 6149), (32, 6164), (34, 6194), (36, 6206), (37, 6209), (41, 6272), (48, 6323),

Gene: CyranoPS_10 Start: 6339, Stop: 6737, Start Num: 10
Candidate Starts for CyranoPS_10:
(Start: 10 @6339 has 1 MA's), (22, 6417), (29, 6462), (44, 6591), (46, 6615), (52, 6651), (54, 6687),

Gene: Decurro_10 Start: 6015, Stop: 6437, Start Num: 9
Candidate Starts for Decurro_10:

(Start: 9 @6015 has 46 MA's), (23, 6105), (25, 6114), (26, 6123), (29, 6147), (30, 6150), (32, 6165), (34, 6195), (36, 6207), (37, 6210), (41, 6273), (48, 6324),

Gene: Dewayne_10 Start: 6014, Stop: 6436, Start Num: 9
Candidate Starts for Dewayne_10:
(Start: 9 @6014 has 46 MA's), (22, 6095), (23, 6104), (25, 6113), (26, 6122), (29, 6146), (30, 6149), (32, 6164), (34, 6194), (36, 6206), (37, 6209), (41, 6272), (48, 6323),

Gene: Dirtfootball_11 Start: 7054, Stop: 7500, Start Num: 8
Candidate Starts for Dirtfootball_11:
(Start: 8 @7054 has 8 MA's), (15, 7090), (24, 7150), (29, 7186), (31, 7201), (32, 7204), (33, 7216), (34, 7234), (38, 7273), (44, 7324), (49, 7363), (53, 7396), (55, 7432), (56, 7435),

Gene: ElectricPheel_11 Start: 6087, Stop: 6509, Start Num: 9
Candidate Starts for ElectricPheel_11:
(Start: 9 @6087 has 46 MA's), (22, 6168), (23, 6177), (25, 6186), (26, 6195), (29, 6219), (32, 6237), (34, 6267), (36, 6279), (37, 6282), (40, 6321), (41, 6345),

Gene: Elkhorn_10 Start: 6013, Stop: 6435, Start Num: 9
Candidate Starts for Elkhorn_10:
(Start: 9 @6013 has 46 MA's), (22, 6094), (23, 6103), (25, 6112), (29, 6145), (34, 6193), (36, 6205), (37, 6208), (40, 6247), (41, 6271), (48, 6322),

Gene: Emperor_13 Start: 8116, Stop: 8556, Start Num: 8
Candidate Starts for Emperor_13:
(Start: 8 @8116 has 8 MA's), (24, 8212), (29, 8248), (32, 8266), (33, 8278), (36, 8308), (38, 8335), (41, 8371), (44, 8386), (49, 8425), (55, 8494),

Gene: EpicDab_12 Start: 8084, Stop: 8521, Start Num: 9
Candidate Starts for EpicDab_12:
(4, 7904), (Start: 9 @8084 has 46 MA's), (16, 8123), (22, 8174), (24, 8189), (31, 8240), (47, 8390),

Gene: Eyoseyas_8 Start: 5656, Stop: 6072, Start Num: 9
Candidate Starts for Eyoseyas_8:
(Start: 9 @5656 has 46 MA's), (25, 5755), (26, 5764), (27, 5770), (36, 5848), (40, 5890), (41, 5914),

Gene: FirePit_8 Start: 5656, Stop: 6072, Start Num: 9
Candidate Starts for FirePit_8:
(Start: 9 @5656 has 46 MA's), (25, 5755), (26, 5764), (27, 5770), (36, 5848), (40, 5890), (41, 5914),

Gene: Flashwig_10 Start: 6341, Stop: 6739, Start Num: 10
Candidate Starts for Flashwig_10:
(Start: 10 @6341 has 1 MA's), (22, 6419), (29, 6464), (52, 6653), (54, 6689),

Gene: GMA5_9 Start: 6746, Stop: 7207, Start Num: 8
Candidate Starts for GMA5_9:
(Start: 8 @6746 has 8 MA's), (30, 6890), (41, 7010), (58, 7148),

Gene: GRU3_9 Start: 6800, Stop: 7261, Start Num: 8
Candidate Starts for GRU3_9:
(Start: 8 @6800 has 8 MA's), (18, 6869), (24, 6905), (30, 6944), (41, 7064), (42, 7070), (43, 7073), (49, 7118), (57, 7196),

Gene: Guntur_10 Start: 6014, Stop: 6436, Start Num: 9
Candidate Starts for Guntur_10:
(Start: 9 @6014 has 46 MA's), (22, 6095), (23, 6104), (25, 6113), (26, 6122), (29, 6146), (30, 6149), (32, 6164), (34, 6194), (36, 6206), (37, 6209), (41, 6272), (48, 6323),

Gene: HorseRider_10 Start: 6341, Stop: 6739, Start Num: 10
Candidate Starts for HorseRider_10:
(Start: 10 @6341 has 1 MA's), (22, 6419), (28, 6458), (29, 6464), (44, 6593), (52, 6653), (54, 6689),

Gene: Hunnie_10 Start: 6014, Stop: 6436, Start Num: 9
Candidate Starts for Hunnie_10:
(Start: 9 @6014 has 46 MA's), (22, 6095), (23, 6104), (25, 6113), (26, 6122), (29, 6146), (30, 6149), (32, 6164), (34, 6194), (36, 6206), (37, 6209), (41, 6272), (48, 6323),

Gene: Inspire2_10 Start: 6014, Stop: 6436, Start Num: 9
Candidate Starts for Inspire2_10:
(Start: 9 @6014 has 46 MA's), (22, 6095), (23, 6104), (25, 6113), (26, 6122), (29, 6146), (30, 6149), (32, 6164), (34, 6194), (36, 6206), (37, 6209), (41, 6272), (48, 6323),

Gene: Jalloh_10 Start: 6349, Stop: 6747, Start Num: 10
Candidate Starts for Jalloh_10:
(Start: 10 @6349 has 1 MA's), (22, 6427), (29, 6472), (44, 6601), (52, 6661), (54, 6697),

Gene: Jeanie_10 Start: 6696, Stop: 7160, Start Num: 8
Candidate Starts for Jeanie_10:
(Start: 8 @6696 has 8 MA's), (17, 6753), (44, 6975), (45, 6993), (49, 7014), (50, 7017),

Gene: Jessica_11 Start: 6014, Stop: 6436, Start Num: 9
Candidate Starts for Jessica_11:
(Start: 9 @6014 has 46 MA's), (22, 6095), (23, 6104), (25, 6113), (26, 6122), (29, 6146), (30, 6149), (32, 6164), (34, 6194), (36, 6206), (37, 6209), (41, 6272), (48, 6323),

Gene: Kels_8 Start: 5581, Stop: 5997, Start Num: 9
Candidate Starts for Kels_8:
(Start: 9 @5581 has 46 MA's), (25, 5680), (26, 5689), (27, 5695), (36, 5773), (40, 5815), (41, 5839),

Gene: KylieMac_11 Start: 6000, Stop: 6422, Start Num: 9
Candidate Starts for KylieMac_11:
(Start: 9 @6000 has 46 MA's), (22, 6081), (23, 6090), (25, 6099), (26, 6108), (29, 6132), (32, 6150), (34, 6180), (36, 6192), (37, 6195), (40, 6234), (41, 6258),

Gene: Laila_11 Start: 6013, Stop: 6435, Start Num: 9
Candidate Starts for Laila_11:
(Start: 9 @6013 has 46 MA's), (22, 6094), (23, 6103), (25, 6112), (29, 6145), (34, 6193), (36, 6205), (37, 6208), (40, 6247), (41, 6271), (48, 6322),

Gene: Link_10 Start: 6014, Stop: 6436, Start Num: 9
Candidate Starts for Link_10:
(Start: 9 @6014 has 46 MA's), (22, 6095), (23, 6104), (25, 6113), (26, 6122), (29, 6146), (30, 6149), (32, 6164), (34, 6194), (36, 6206), (37, 6209), (41, 6272), (48, 6323),

Gene: Lore_10 Start: 6013, Stop: 6435, Start Num: 9
Candidate Starts for Lore_10:

(Start: 9 @6013 has 46 MA's), (22, 6094), (23, 6103), (25, 6112), (29, 6145), (34, 6193), (36, 6205), (37, 6208), (40, 6247), (41, 6271), (48, 6322),

Gene: LouisXIV_10 Start: 6014, Stop: 6436, Start Num: 9
Candidate Starts for LouisXIV_10:
(Start: 9 @6014 has 46 MA's), (22, 6095), (23, 6104), (25, 6113), (26, 6122), (29, 6146), (30, 6149), (32, 6164), (34, 6194), (36, 6206), (37, 6209), (41, 6272), (48, 6323),

Gene: Maggie_10 Start: 6014, Stop: 6436, Start Num: 9
Candidate Starts for Maggie_10:
(Start: 9 @6014 has 46 MA's), (22, 6095), (23, 6104), (25, 6113), (26, 6122), (29, 6146), (30, 6149), (32, 6164), (34, 6194), (36, 6206), (37, 6209), (41, 6272), (48, 6323),

Gene: Mariposa_10 Start: 6014, Stop: 6436, Start Num: 9
Candidate Starts for Mariposa_10:
(Start: 9 @6014 has 46 MA's), (22, 6095), (23, 6104), (25, 6113), (26, 6122), (29, 6146), (30, 6149), (32, 6164), (34, 6194), (36, 6206), (37, 6209), (41, 6272), (48, 6323),

Gene: Massimo_10 Start: 6014, Stop: 6436, Start Num: 9
Candidate Starts for Massimo_10:
(Start: 9 @6014 has 46 MA's), (22, 6095), (23, 6104), (25, 6113), (26, 6122), (29, 6146), (30, 6149), (32, 6164), (34, 6194), (36, 6206), (37, 6209), (41, 6272), (48, 6323),

Gene: McGonagall_10 Start: 6696, Stop: 7160, Start Num: 8
Candidate Starts for McGonagall_10:
(Start: 8 @6696 has 8 MA's), (17, 6753), (44, 6975), (45, 6993), (49, 7014), (50, 7017),

Gene: Moloch_10 Start: 6088, Stop: 6510, Start Num: 9
Candidate Starts for Moloch_10:
(Start: 9 @6088 has 46 MA's), (22, 6169), (23, 6178), (25, 6187), (26, 6196), (29, 6220), (30, 6223), (32, 6238), (34, 6268), (36, 6280), (37, 6283), (41, 6346), (48, 6397),

Gene: MooKitty_8 Start: 5563, Stop: 5988, Start Num: 9
Candidate Starts for MooKitty_8:
(7, 5554), (Start: 9 @5563 has 46 MA's), (15, 5599), (36, 5755), (41, 5821), (51, 5884), (53, 5911),

Gene: Muttlie_10 Start: 6015, Stop: 6437, Start Num: 9
Candidate Starts for Muttlie_10:
(Start: 9 @6015 has 46 MA's), (23, 6105), (25, 6114), (26, 6123), (29, 6147), (30, 6150), (32, 6165), (34, 6195), (36, 6207), (37, 6210), (41, 6273), (48, 6324),

Gene: Penoan_9 Start: 6360, Stop: 6809, Start Num: 9
Candidate Starts for Penoan_9:
(5, 6330), (Start: 9 @6360 has 46 MA's), (20, 6426), (22, 6441), (26, 6468), (53, 6705), (59, 6783),

Gene: Prospero_10 Start: 6014, Stop: 6436, Start Num: 9
Candidate Starts for Prospero_10:
(Start: 9 @6014 has 46 MA's), (22, 6095), (23, 6104), (25, 6113), (26, 6122), (29, 6146), (30, 6149), (32, 6164), (34, 6194), (36, 6206), (37, 6209), (41, 6272), (48, 6323),

Gene: RRH1_10 Start: 7140, Stop: 7571, Start Num: 8
Candidate Starts for RRH1_10:

(2, 6879), (3, 6885), (Start: 8 @7140 has 8 MA's), (28, 7278), (29, 7284), (30, 7287), (31, 7299), (43, 7416), (49, 7461), (53, 7494), (58, 7545),

Gene: Rahul_10 Start: 6906, Stop: 7367, Start Num: 8
Candidate Starts for Rahul_10:
(Start: 8 @6906 has 8 MA's), (12, 6927), (19, 6975), (24, 7008), (53, 7254), (57, 7299),

Gene: Ronnie_10 Start: 6014, Stop: 6436, Start Num: 9
Candidate Starts for Ronnie_10:
(Start: 9 @6014 has 46 MA's), (22, 6095), (23, 6104), (25, 6113), (26, 6122), (29, 6146), (30, 6149), (32, 6164), (34, 6194), (36, 6206), (37, 6209), (41, 6272), (48, 6323),

Gene: Root_9 Start: 6429, Stop: 6863, Start Num: 8
Candidate Starts for Root_9:
(1, 6159), (Start: 8 @6429 has 8 MA's), (11, 6444), (14, 6471), (28, 6564),

Gene: SallySpecial_11 Start: 7051, Stop: 7497, Start Num: 8
Candidate Starts for SallySpecial_11:
(Start: 8 @7051 has 8 MA's), (15, 7087), (24, 7147), (29, 7183), (31, 7198), (32, 7201), (33, 7213), (34, 7231), (36, 7243), (37, 7246), (38, 7270), (41, 7306), (44, 7321), (49, 7360), (52, 7381), (55, 7429), (56, 7432),

Gene: Sandman_10 Start: 6088, Stop: 6510, Start Num: 9
Candidate Starts for Sandman_10:
(Start: 9 @6088 has 46 MA's), (22, 6169), (23, 6178), (25, 6187), (26, 6196), (29, 6220), (30, 6223), (32, 6238), (34, 6268), (36, 6280), (37, 6283), (41, 6346), (48, 6397),

Gene: Saphira_10 Start: 6014, Stop: 6436, Start Num: 9
Candidate Starts for Saphira_10:
(Start: 9 @6014 has 46 MA's), (23, 6104), (25, 6113), (26, 6122), (29, 6146), (32, 6164), (34, 6194), (36, 6206), (37, 6209), (41, 6272),

Gene: Schiebs_11 Start: 6492, Stop: 6941, Start Num: 8
Candidate Starts for Schiebs_11:
(6, 6477), (Start: 8 @6492 has 8 MA's), (17, 6552), (21, 6570), (28, 6627), (30, 6636), (39, 6723), (41, 6756), (47, 6801), (48, 6810), (49, 6813), (51, 6819), (53, 6846),

Gene: SerialPhiller_8 Start: 5656, Stop: 6072, Start Num: 9
Candidate Starts for SerialPhiller_8:
(Start: 9 @5656 has 46 MA's), (25, 5755), (26, 5764), (27, 5770), (36, 5848), (40, 5890), (41, 5914),

Gene: Seume_10 Start: 5810, Stop: 6232, Start Num: 9
Candidate Starts for Seume_10:
(Start: 9 @5810 has 46 MA's), (23, 5900), (25, 5909), (26, 5918), (29, 5942), (30, 5945), (32, 5960), (34, 5990), (36, 6002), (37, 6005), (41, 6068), (48, 6119),

Gene: Sourignavong_11 Start: 6115, Stop: 6537, Start Num: 9
Candidate Starts for Sourignavong_11:
(Start: 9 @6115 has 46 MA's), (22, 6196), (23, 6205), (25, 6214), (26, 6223), (29, 6247), (30, 6250), (32, 6265), (34, 6295), (36, 6307), (37, 6310), (41, 6373), (48, 6424),

Gene: Sputnik_8 Start: 5666, Stop: 6085, Start Num: 9
Candidate Starts for Sputnik_8:

(Start: 9 @5666 has 46 MA's), (15, 5702), (22, 5747), (29, 5798), (46, 5963), (51, 5987), (53, 6014),

Gene: StewieGriff_10 Start: 6013, Stop: 6435, Start Num: 9
Candidate Starts for StewieGriff_10:
(Start: 9 @6013 has 46 MA's), (22, 6094), (23, 6103), (25, 6112), (29, 6145), (34, 6193), (36, 6205), (37, 6208), (40, 6247), (41, 6271), (48, 6322),

Gene: Stratus_10 Start: 6088, Stop: 6510, Start Num: 9
Candidate Starts for Stratus_10:
(Start: 9 @6088 has 46 MA's), (22, 6169), (23, 6178), (25, 6187), (26, 6196), (29, 6220), (30, 6223), (32, 6238), (34, 6268), (36, 6280), (37, 6283), (41, 6346), (48, 6397),

Gene: StrawberryLem_8 Start: 5581, Stop: 5997, Start Num: 9
Candidate Starts for StrawberryLem_8:
(Start: 9 @5581 has 46 MA's), (25, 5680), (26, 5689), (27, 5695), (36, 5773), (40, 5815), (41, 5839),

Gene: Swenson_10 Start: 6137, Stop: 6559, Start Num: 9
Candidate Starts for Swenson_10:
(Start: 9 @6137 has 46 MA's), (23, 6227), (25, 6236), (26, 6245), (29, 6269), (32, 6287), (34, 6317), (36, 6329), (37, 6332), (40, 6371), (41, 6395),

Gene: TailX7_10 Start: 6338, Stop: 6736, Start Num: 10
Candidate Starts for TailX7_10:
(Start: 10 @6338 has 1 MA's), (22, 6416), (29, 6461), (44, 6590), (52, 6650), (54, 6686),

Gene: Taj14_10 Start: 5993, Stop: 6415, Start Num: 9
Candidate Starts for Taj14_10:
(Start: 9 @5993 has 46 MA's), (23, 6083), (25, 6092), (26, 6101), (29, 6125), (32, 6143), (34, 6173), (36, 6185), (37, 6188), (41, 6251),

Gene: TinoCrisci_10 Start: 6014, Stop: 6436, Start Num: 9
Candidate Starts for TinoCrisci_10:
(Start: 9 @6014 has 46 MA's), (22, 6095), (23, 6104), (25, 6113), (26, 6122), (29, 6146), (30, 6149), (32, 6164), (34, 6194), (36, 6206), (37, 6209), (41, 6272), (48, 6323),

Gene: Toulouse_9 Start: 5810, Stop: 6232, Start Num: 9
Candidate Starts for Toulouse_9:
(Start: 9 @5810 has 46 MA's), (23, 5900), (25, 5909), (26, 5918), (29, 5942), (30, 5945), (32, 5960), (34, 5990), (36, 6002), (37, 6005), (41, 6068), (48, 6119),

Gene: TymAbreu_10 Start: 6014, Stop: 6436, Start Num: 9
Candidate Starts for TymAbreu_10:
(Start: 9 @6014 has 46 MA's), (22, 6095), (23, 6104), (25, 6113), (26, 6122), (29, 6146), (30, 6149), (32, 6164), (34, 6194), (36, 6206), (37, 6209), (41, 6272), (48, 6323),

Gene: Vinye_11 Start: 6320, Stop: 6739, Start Num: 9
Candidate Starts for Vinye_11:
(Start: 9 @6320 has 46 MA's), (13, 6341), (22, 6401), (25, 6419), (26, 6428), (32, 6470), (34, 6500), (36, 6512), (41, 6578), (44, 6593), (51, 6638),

Gene: Ximeno_8 Start: 5656, Stop: 6072, Start Num: 9
Candidate Starts for Ximeno_8:
(Start: 9 @5656 has 46 MA's), (25, 5755), (26, 5764), (27, 5770), (36, 5848), (40, 5890), (41, 5914),

Gene: Yank_10 Start: 6015, Stop: 6437, Start Num: 9
Candidate Starts for Yank_10:
(Start: 9 @6015 has 46 MA's), (23, 6105), (25, 6114), (26, 6123), (29, 6147), (30, 6150), (32, 6165), (34, 6195), (36, 6207), (37, 6210), (41, 6273), (48, 6324),