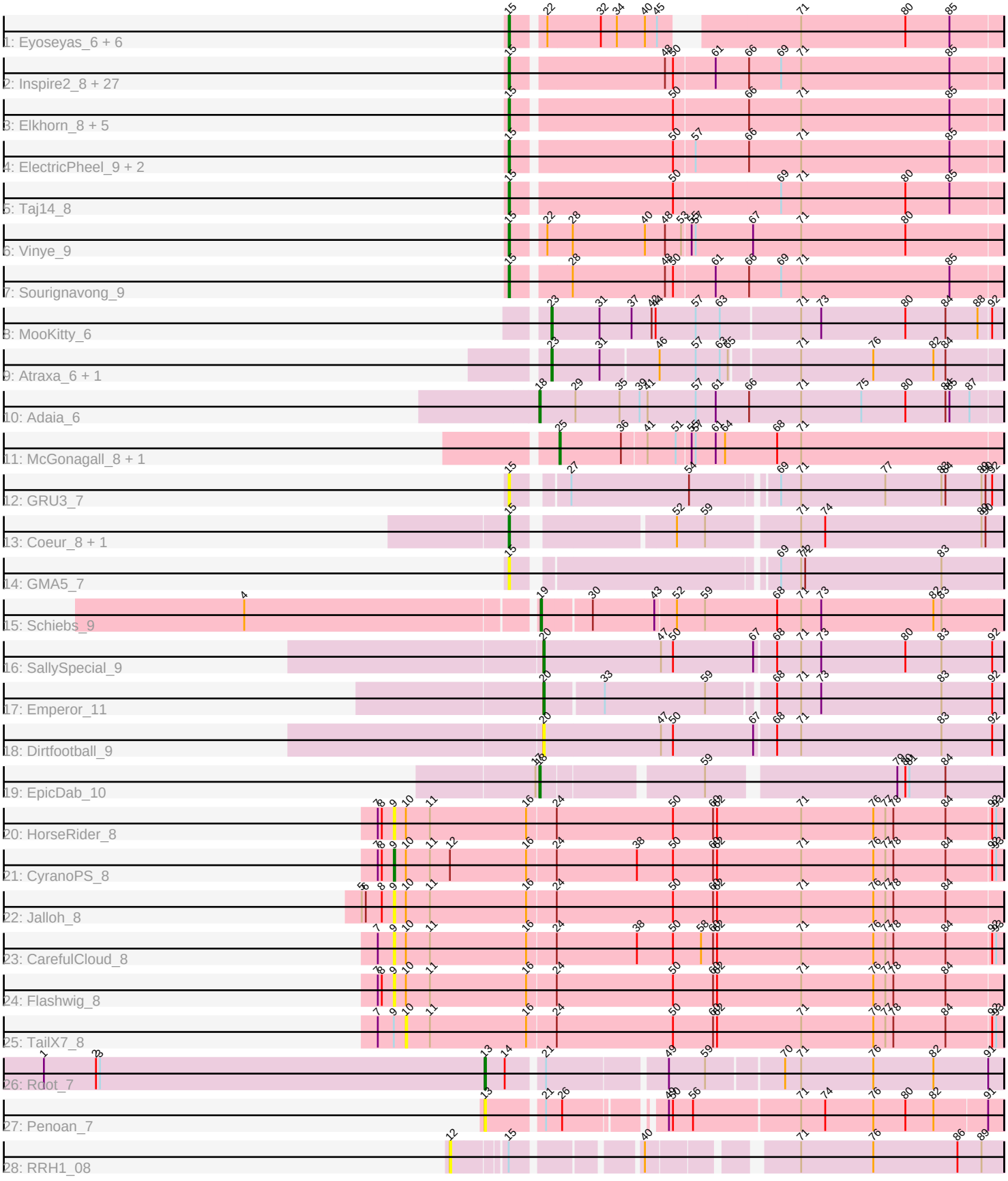
Pham 342117


1: Eyoseyas_6 + 6
2: Inspire2_8 + 27
3: Elkhorn_8 + 5
4: ElectricPheel_9 + 2
5: Taj14_8
6: Vinye_9
7: Sourignavong_9
8: MooKitty_6
9: Atraxa_6 + 1
10: Adaia_6
11: McGonagall_8 + 1
12: GRU3_7
13: Coeur_8 + 1
14: GMA5_7
15: Schiebs_9
16: SallySpecial_9
17: Emperor_11
18: Dirtfootball_9
19: EpicDab_10
20: HorseRider_8
21: CyranoPS_8
22: Jalloh_8
23: CarefulCloud_8
24: Flashwig_8
25: TailX7_8
26: Rdot_7
27: Penoan_7
28: RRH1_08

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 342117 Report

This analysis was run 11/14/26 on database version 672.

Pham number 342117 has 71 members, 11 are drafts.

Phages represented in each track:
• Track 1 : Eyoseyas_6, Kels_6, SerialPhiller_6, StrawberryLem_6, FirePit_6, Ximeno_6, Arielagos_6
• Track 2 : Inspire2_8, Guntur_8, Sandman_8, TinoCrisci_8, LouisXIV_8, Muttlie_8, Moloch_8, Courtney3_8, Chestnut_8, Jessica_9, Toulouse_7, Copper_8, Maggie_8, Yank_8, Ronnie_8, Arby_8, Stratus_8, Seume_8, CGermain_8, Massimo_8, Azathoth_8, Link_8, Mariposa_8, Decurro_8, Dewayne_8, Hunnie_8, Prospero_8, TymAbreu_8
• Track 3 : Elkhorn_8, Laila_9, Blair_8, Lore_8, KylieMac_9, StewieGriff_8
• Track 4 : ElectricPheel_9, Swenson_8, Saphira_8
• Track 5 : Taj14_8
• Track 6 : Vinye_9
• Track 7 : Sourignavong_9
• Track 8 : MooKitty_6
• Track 9 : Atraxa_6, Sputnik_6
• Track 10 : Adaia_6
• Track 11 : McGonagall_8, Jeanie_8
• Track 12 : GRU3_7
• Track 13 : Coeur_8, Rahul_8
• Track 14 : GMA5_7
• Track 15 : Schiebs_9
• Track 16 : SallySpecial_9
• Track 17 : Emperor_11
• Track 18 : Dirtfootball_9
• Track 19 : EpicDab_10
• Track 20 : HorseRider_8
• Track 21 : CyranoPS_8
• Track 22 : Jalloh_8
• Track 23 : CarefulCloud_8
• Track 24 : Flashwig_8
• Track 25 : TailX7_8
• Track 26 : Root_7
• Track 27 : Penoan_7
• Track 28 : RRH1_08

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

The start number called the most often in the published annotations is 15, it was called in 48 of the 60 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Arby_8, Arielagos_6, Azathoth_8, Blair_8, CGermain_8, Chestnut_8, Coeur_8, Copper_8, Courtney3_8, Decurro_8, Dewayne_8, ElectricPheel_9, Elkhorn_8, Eyoseyas_6, FirePit_6, GMA5_7, GRU3_7, Guntur_8, Hunnie_8, Inspire2_8, Jessica_9, Kels_6, KylieMac_9, Laila_9, Link_8, Lore_8, LouisXIV_8, Maggie_8, Mariposa_8, Massimo_8, Moloch_8, Muttlie_8, Prospero_8, Rahul_8, Ronnie_8, Sandman_8, Saphira_8, SerialPhiller_6, Seume_8, Sourignavong_9, StewieGriff_8, Stratus_8, StrawberryLem_6, Swenson_8, Taj14_8, TinoCrisci_8, Toulouse_7, TymAbreu_8, Vinye_9, Ximeno_6, Yank_8,

Genes that have the "Most Annotated" start but do not call it:
• RRH1_08,

Genes that do not have the "Most Annotated" start:
• Adaia_6, Atraxa_6, CarefulCloud_8, CyranoPS_8, Dirtfootball_9, Emperor_11, EpicDab_10, Flashwig_8, HorseRider_8, Jalloh_8, Jeanie_8, McGonagall_8, MooKitty_6, Penoan_7, Root_7, SallySpecial_9, Schiebs_9, Sputnik_6, TailX7_8,

Summary by start number:

Start 9:
• Found in 6 of 71 (8.5%) of genes in pham
• Manual Annotations of this start: 1 of 60
• Called 83.3% of time when present
• Phage (with cluster) where this start called: CarefulCloud_8 (ER), CyranoPS_8 (ER), Flashwig_8 (ER), HorseRider_8 (ER), Jalloh_8 (ER),

Start 10:
• Found in 6 of 71 (8.5%) of genes in pham
• No Manual Annotations of this start.
• Called 16.7% of time when present
• Phage (with cluster) where this start called: TailX7_8 (ER),

Start 12:
• Found in 2 of 71 (2.8%) of genes in pham
• No Manual Annotations of this start.
• Called 50.0% of time when present
• Phage (with cluster) where this start called: RRH1_08 (singleton),

Start 13:
• Found in 2 of 71 (2.8%) of genes in pham
• Manual Annotations of this start: 1 of 60
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Penoan_7 (UNK), Root_7 (JC),

Start 15:
• Found in 52 of 71 (73.2%) of genes in pham
• Manual Annotations of this start: 48 of 60
• Called 98.1% of time when present

• Phage (with cluster) where this start called: Arby_8 (AN), Arielagos_6 (AN), Azathoth_8 (AN), Blair_8 (AN), CGermain_8 (AN), Chestnut_8 (AN), Coeur_8 (CW2), Copper_8 (AN), Courtney3_8 (AN), Decurro_8 (AN), Dewayne_8 (AN), ElectricPheel_9 (AN), Elkhorn_8 (AN), Eyoseyas_6 (AN), FirePit_6 (AN), GMA5_7 (CW2), GRU3_7 (CW2), Guntur_8 (AN), Hunnie_8 (AN), Inspire2_8 (AN), Jessica_9 (AN), Kels_6 (AN), KylieMac_9 (AN), Laila_9 (AN), Link_8 (AN), Lore_8 (AN), LouisXIV_8 (AN), Maggie_8 (AN), Mariposa_8 (AN), Massimo_8 (AN), Moloch_8 (AN), Muttlie_8 (AN), Prospero_8 (AN), Rahul_8 (CW2), Ronnie_8 (AN), Sandman_8 (AN), Saphira_8 (AN), SerialPhiller_6 (AN), Seume_8 (AN), Sourignavong_9 (AN), StewieGriff_8 (AN), Stratus_8 (AN), StrawberryLem_6 (AN), Swenson_8 (AN), Taj14_8 (AN), TinoCrisci_8 (AN), Toulouse_7 (AN), TymAbreu_8 (AN), Vinye_9 (AN), Ximeno_6 (AN), Yank_8 (AN),

Start 18:
• Found in 2 of 71 (2.8%) of genes in pham
• Manual Annotations of this start: 2 of 60
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Adaia_6 (AX), EpicDab_10 (DM),

Start 19:
• Found in 1 of 71 (1.4%) of genes in pham
• Manual Annotations of this start: 1 of 60
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Schiebs_9 (CW3),

Start 20:
• Found in 3 of 71 (4.2%) of genes in pham
• Manual Annotations of this start: 2 of 60
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Dirtfootball_9 (DM), Emperor_11 (DM), SallySpecial_9 (DM),

Start 23:
• Found in 3 of 71 (4.2%) of genes in pham
• Manual Annotations of this start: 3 of 60
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Atraxa_6 (AX), MooKitty_6 (AX), Sputnik_6 (AX),

Start 25:
• Found in 2 of 71 (2.8%) of genes in pham
• Manual Annotations of this start: 2 of 60
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Jeanie_8 (CW1), McGonagall_8 (CW1),

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 15 was manually annotated 46 times for cluster AN.

Info for manual annotations of cluster AX:
•Start number 18 was manually annotated 1 time for cluster AX.
•Start number 23 was manually annotated 3 times for cluster AX.

Info for manual annotations of cluster CW1:
•Start number 25 was manually annotated 2 times for cluster CW1.

Info for manual annotations of cluster CW2:
•Start number 15 was manually annotated 2 times for cluster CW2.

Info for manual annotations of cluster CW3:
•Start number 19 was manually annotated 1 time for cluster CW3.

Info for manual annotations of cluster DM:
•Start number 18 was manually annotated 1 time for cluster DM.
•Start number 20 was manually annotated 2 times for cluster DM.

Info for manual annotations of cluster ER:
•Start number 9 was manually annotated 1 time for cluster ER.

Info for manual annotations of cluster JC:
•Start number 13 was manually annotated 1 time for cluster JC.

Gene Information:

Gene: Adaia_6 Start: 4849, Stop: 5193, Start Num: 18
Candidate Starts for Adaia_6:
(Start: 18 @4849 has 2 MA's), (29, 4876), (35, 4909), (39, 4924), (41, 4930), (57, 4966), (61, 4981), (66, 5005), (71, 5044), (75, 5089), (80, 5122), (84, 5152), (85, 5155), (87, 5170),

Gene: Arby_8 Start: 5291, Stop: 5647, Start Num: 15
Candidate Starts for Arby_8:
(Start: 15 @5291 has 48 MA's), (48, 5399), (50, 5405), (61, 5435), (66, 5459), (69, 5483), (71, 5498), (85, 5609),

Gene: Arielagos_6 Start: 4949, Stop: 5284, Start Num: 15
Candidate Starts for Arielagos_6:
(Start: 15 @4949 has 48 MA's), (22, 4970), (32, 5009), (34, 5021), (40, 5042), (45, 5051), (71, 5135), (80, 5213), (85, 5246),

Gene: Atraxa_6 Start: 4957, Stop: 5283, Start Num: 23
Candidate Starts for Atraxa_6:
(Start: 23 @4957 has 3 MA's), (31, 4993), (46, 5035), (57, 5062), (63, 5080), (65, 5086), (71, 5134), (76, 5188), (82, 5233), (84, 5242),

Gene: Azathoth_8 Start: 5291, Stop: 5647, Start Num: 15
Candidate Starts for Azathoth_8:
(Start: 15 @5291 has 48 MA's), (48, 5399), (50, 5405), (61, 5435), (66, 5459), (69, 5483), (71, 5498), (85, 5609),

Gene: Blair_8 Start: 5293, Stop: 5649, Start Num: 15
Candidate Starts for Blair_8:
(Start: 15 @5293 has 48 MA's), (50, 5407), (66, 5461), (71, 5500), (85, 5611),

Gene: CGermain_8 Start: 5291, Stop: 5647, Start Num: 15
Candidate Starts for CGermain_8:
(Start: 15 @5291 has 48 MA's), (48, 5399), (50, 5405), (61, 5435), (66, 5459), (69, 5483), (71, 5498), (85, 5609),

Gene: CarefulCloud_8 Start: 5508, Stop: 5960, Start Num: 9
Candidate Starts for CarefulCloud_8:
(7, 5496), (Start: 9 @5508 has 1 MA's), (10, 5517), (11, 5535), (16, 5607), (24, 5628), (38, 5688), (50, 5715), (58, 5736), (60, 5745), (62, 5748), (71, 5811), (76, 5865), (77, 5874), (78, 5880), (84, 5919), (92, 5952), (93, 5955),

Gene: Chestnut_8 Start: 5291, Stop: 5647, Start Num: 15
Candidate Starts for Chestnut_8:
(Start: 15 @5291 has 48 MA's), (48, 5399), (50, 5405), (61, 5435), (66, 5459), (69, 5483), (71, 5498), (85, 5609),

Gene: Coeur_8 Start: 6193, Stop: 6537, Start Num: 15
Candidate Starts for Coeur_8:
(Start: 15 @6193 has 48 MA's), (52, 6301), (59, 6322), (71, 6388), (74, 6406), (89, 6523), (90, 6526),

Gene: Copper_8 Start: 5291, Stop: 5647, Start Num: 15
Candidate Starts for Copper_8:
(Start: 15 @5291 has 48 MA's), (48, 5399), (50, 5405), (61, 5435), (66, 5459), (69, 5483), (71, 5498), (85, 5609),

Gene: Courtney3_8 Start: 5291, Stop: 5647, Start Num: 15
Candidate Starts for Courtney3_8:
(Start: 15 @5291 has 48 MA's), (48, 5399), (50, 5405), (61, 5435), (66, 5459), (69, 5483), (71, 5498), (85, 5609),

Gene: CyranoPS_8 Start: 5506, Stop: 5958, Start Num: 9
Candidate Starts for CyranoPS_8:
(7, 5494), (8, 5497), (Start: 9 @5506 has 1 MA's), (10, 5515), (11, 5533), (12, 5548), (16, 5605), (24, 5626), (38, 5686), (50, 5713), (60, 5743), (62, 5746), (71, 5809), (76, 5863), (77, 5872), (78, 5878), (84, 5917), (92, 5950), (93, 5953),

Gene: Decurro_8 Start: 5291, Stop: 5647, Start Num: 15
Candidate Starts for Decurro_8:
(Start: 15 @5291 has 48 MA's), (48, 5399), (50, 5405), (61, 5435), (66, 5459), (69, 5483), (71, 5498), (85, 5609),

Gene: Dewayne_8 Start: 5291, Stop: 5647, Start Num: 15
Candidate Starts for Dewayne_8:
(Start: 15 @5291 has 48 MA's), (48, 5399), (50, 5405), (61, 5435), (66, 5459), (69, 5483), (71, 5498), (85, 5609),

Gene: Dirtfootball_9 Start: 6351, Stop: 6689, Start Num: 20
Candidate Starts for Dirtfootball_9:

(Start: 20 @6351 has 2 MA's), (47, 6438), (50, 6447), (67, 6507), (68, 6522), (71, 6540), (83, 6645), (92, 6681),

Gene: ElectricPheel_9 Start: 5367, Stop: 5723, Start Num: 15
Candidate Starts for ElectricPheel_9:
(Start: 15 @5367 has 48 MA's), (50, 5481), (57, 5496), (66, 5535), (71, 5574), (85, 5685),

Gene: Elkhorn_8 Start: 5293, Stop: 5649, Start Num: 15
Candidate Starts for Elkhorn_8:
(Start: 15 @5293 has 48 MA's), (50, 5407), (66, 5461), (71, 5500), (85, 5611),

Gene: Emperor_11 Start: 7418, Stop: 7747, Start Num: 20
Candidate Starts for Emperor_11:
(Start: 20 @7418 has 2 MA's), (33, 7460), (59, 7535), (68, 7580), (71, 7598), (73, 7613), (83, 7703), (92, 7739),

Gene: EpicDab_10 Start: 7408, Stop: 7728, Start Num: 18
Candidate Starts for EpicDab_10:
(17, 7405), (Start: 18 @7408 has 2 MA's), (59, 7519), (79, 7651), (80, 7657), (81, 7660), (84, 7687),

Gene: Eyoseyas_6 Start: 4949, Stop: 5284, Start Num: 15
Candidate Starts for Eyoseyas_6:
(Start: 15 @4949 has 48 MA's), (22, 4970), (32, 5009), (34, 5021), (40, 5042), (45, 5051), (71, 5135), (80, 5213), (85, 5246),

Gene: FirePit_6 Start: 4949, Stop: 5284, Start Num: 15
Candidate Starts for FirePit_6:
(Start: 15 @4949 has 48 MA's), (22, 4970), (32, 5009), (34, 5021), (40, 5042), (45, 5051), (71, 5135), (80, 5213), (85, 5246),

Gene: Flashwig_8 Start: 5508, Stop: 5960, Start Num: 9
Candidate Starts for Flashwig_8:
(7, 5496), (8, 5499), (Start: 9 @5508 has 1 MA's), (10, 5517), (11, 5535), (16, 5607), (24, 5628), (50, 5715), (60, 5745), (62, 5748), (71, 5811), (76, 5865), (77, 5874), (78, 5880), (84, 5919),

Gene: GMA5_7 Start: 6050, Stop: 6391, Start Num: 15
Candidate Starts for GMA5_7:
(Start: 15 @6050 has 48 MA's), (69, 6227), (71, 6242), (72, 6245), (83, 6347),

Gene: GRU3_7 Start: 6107, Stop: 6448, Start Num: 15
Candidate Starts for GRU3_7:
(Start: 15 @6107 has 48 MA's), (27, 6140), (54, 6227), (69, 6284), (71, 6299), (77, 6362), (83, 6404), (84, 6407), (89, 6434), (90, 6437), (92, 6440),

Gene: Guntur_8 Start: 5291, Stop: 5647, Start Num: 15
Candidate Starts for Guntur_8:
(Start: 15 @5291 has 48 MA's), (48, 5399), (50, 5405), (61, 5435), (66, 5459), (69, 5483), (71, 5498), (85, 5609),

Gene: HorseRider_8 Start: 5508, Stop: 5960, Start Num: 9
Candidate Starts for HorseRider_8:
(7, 5496), (8, 5499), (Start: 9 @5508 has 1 MA's), (10, 5517), (11, 5535), (16, 5607), (24, 5628), (50, 5715), (60, 5745), (62, 5748), (71, 5811), (76, 5865), (77, 5874), (78, 5880), (84, 5919), (92, 5952), (93,

5955),

Gene: Hunnie_8 Start: 5291, Stop: 5647, Start Num: 15
Candidate Starts for Hunnie_8:
(Start: 15 @5291 has 48 MA's), (48, 5399), (50, 5405), (61, 5435), (66, 5459), (69, 5483), (71, 5498), (85, 5609),

Gene: Inspire2_8 Start: 5291, Stop: 5647, Start Num: 15
Candidate Starts for Inspire2_8:
(Start: 15 @5291 has 48 MA's), (48, 5399), (50, 5405), (61, 5435), (66, 5459), (69, 5483), (71, 5498), (85, 5609),

Gene: Jalloh_8 Start: 5516, Stop: 5968, Start Num: 9
Candidate Starts for Jalloh_8:
(5, 5492), (6, 5495), (8, 5507), (Start: 9 @5516 has 1 MA's), (10, 5525), (11, 5543), (16, 5615), (24, 5636), (50, 5723), (60, 5753), (62, 5756), (71, 5819), (76, 5873), (77, 5882), (78, 5888), (84, 5927),

Gene: Jeanie_8 Start: 6026, Stop: 6349, Start Num: 25
Candidate Starts for Jeanie_8:
(Start: 25 @6026 has 2 MA's), (36, 6071), (41, 6089), (51, 6110), (55, 6119), (57, 6122), (61, 6137), (64, 6143), (68, 6182), (71, 6200),

Gene: Jessica_9 Start: 5291, Stop: 5647, Start Num: 15
Candidate Starts for Jessica_9:
(Start: 15 @5291 has 48 MA's), (48, 5399), (50, 5405), (61, 5435), (66, 5459), (69, 5483), (71, 5498), (85, 5609),

Gene: Kels_6 Start: 4874, Stop: 5209, Start Num: 15
Candidate Starts for Kels_6:
(Start: 15 @4874 has 48 MA's), (22, 4895), (32, 4934), (34, 4946), (40, 4967), (45, 4976), (71, 5060), (80, 5138), (85, 5171),

Gene: KylieMac_9 Start: 5280, Stop: 5636, Start Num: 15
Candidate Starts for KylieMac_9:
(Start: 15 @5280 has 48 MA's), (50, 5394), (66, 5448), (71, 5487), (85, 5598),

Gene: Laila_9 Start: 5293, Stop: 5649, Start Num: 15
Candidate Starts for Laila_9:
(Start: 15 @5293 has 48 MA's), (50, 5407), (66, 5461), (71, 5500), (85, 5611),

Gene: Link_8 Start: 5291, Stop: 5647, Start Num: 15
Candidate Starts for Link_8:
(Start: 15 @5291 has 48 MA's), (48, 5399), (50, 5405), (61, 5435), (66, 5459), (69, 5483), (71, 5498), (85, 5609),

Gene: Lore_8 Start: 5293, Stop: 5649, Start Num: 15
Candidate Starts for Lore_8:
(Start: 15 @5293 has 48 MA's), (50, 5407), (66, 5461), (71, 5500), (85, 5611),

Gene: LouisXIV_8 Start: 5291, Stop: 5647, Start Num: 15
Candidate Starts for LouisXIV_8:
(Start: 15 @5291 has 48 MA's), (48, 5399), (50, 5405), (61, 5435), (66, 5459), (69, 5483), (71, 5498), (85, 5609),

Gene: Maggie_8 Start: 5291, Stop: 5647, Start Num: 15
Candidate Starts for Maggie_8:
(Start: 15 @5291 has 48 MA's), (48, 5399), (50, 5405), (61, 5435), (66, 5459), (69, 5483), (71, 5498), (85, 5609),

Gene: Mariposa_8 Start: 5291, Stop: 5647, Start Num: 15
Candidate Starts for Mariposa_8:
(Start: 15 @5291 has 48 MA's), (48, 5399), (50, 5405), (61, 5435), (66, 5459), (69, 5483), (71, 5498), (85, 5609),

Gene: Massimo_8 Start: 5291, Stop: 5647, Start Num: 15
Candidate Starts for Massimo_8:
(Start: 15 @5291 has 48 MA's), (48, 5399), (50, 5405), (61, 5435), (66, 5459), (69, 5483), (71, 5498), (85, 5609),

Gene: McGonagall_8 Start: 6026, Stop: 6349, Start Num: 25
Candidate Starts for McGonagall_8:
(Start: 25 @6026 has 2 MA's), (36, 6071), (41, 6089), (51, 6110), (55, 6119), (57, 6122), (61, 6137), (64, 6143), (68, 6182), (71, 6200),

Gene: Moloch_8 Start: 5365, Stop: 5721, Start Num: 15
Candidate Starts for Moloch_8:
(Start: 15 @5365 has 48 MA's), (48, 5473), (50, 5479), (61, 5509), (66, 5533), (69, 5557), (71, 5572), (85, 5683),

Gene: MooKitty_6 Start: 4861, Stop: 5193, Start Num: 23
Candidate Starts for MooKitty_6:
(Start: 23 @4861 has 3 MA's), (31, 4897), (37, 4921), (42, 4936), (44, 4939), (57, 4969), (63, 4987), (71, 5044), (73, 5059), (80, 5122), (84, 5152), (88, 5176), (92, 5185),

Gene: Muttlie_8 Start: 5291, Stop: 5647, Start Num: 15
Candidate Starts for Muttlie_8:
(Start: 15 @5291 has 48 MA's), (48, 5399), (50, 5405), (61, 5435), (66, 5459), (69, 5483), (71, 5498), (85, 5609),

Gene: Penoan_7 Start: 5622, Stop: 5981, Start Num: 13
Candidate Starts for Penoan_7:
(Start: 13 @5622 has 1 MA's), (21, 5661), (26, 5673), (49, 5736), (50, 5739), (56, 5754), (71, 5832), (74, 5850), (76, 5886), (80, 5910), (82, 5931), (91, 5970),

Gene: Prospero_8 Start: 5291, Stop: 5647, Start Num: 15
Candidate Starts for Prospero_8:
(Start: 15 @5291 has 48 MA's), (48, 5399), (50, 5405), (61, 5435), (66, 5459), (69, 5483), (71, 5498), (85, 5609),

Gene: RRH1_08 Start: 6428, Stop: 6784, Start Num: 12
Candidate Starts for RRH1_08:
(12, 6428), (Start: 15 @6464 has 48 MA's), (40, 6542), (71, 6635), (76, 6689), (86, 6752), (89, 6770),

Gene: Rahul_8 Start: 6208, Stop: 6552, Start Num: 15
Candidate Starts for Rahul_8:
(Start: 15 @6208 has 48 MA's), (52, 6316), (59, 6337), (71, 6403), (74, 6421), (89, 6538), (90, 6541),

Gene: Ronnie_8 Start: 5291, Stop: 5647, Start Num: 15
Candidate Starts for Ronnie_8:
(Start: 15 @5291 has 48 MA's), (48, 5399), (50, 5405), (61, 5435), (66, 5459), (69, 5483), (71, 5498), (85, 5609),

Gene: Root_7 Start: 5699, Stop: 6064, Start Num: 13
Candidate Starts for Root_7:
(1, 5369), (2, 5408), (3, 5411), (Start: 13 @5699 has 1 MA's), (14, 5714), (21, 5738), (49, 5822), (59, 5849), (70, 5903), (71, 5915), (76, 5969), (82, 6014), (91, 6053),

Gene: SallySpecial_9 Start: 6348, Stop: 6686, Start Num: 20
Candidate Starts for SallySpecial_9:
(Start: 20 @6348 has 2 MA's), (47, 6435), (50, 6444), (67, 6504), (68, 6519), (71, 6537), (73, 6552), (80, 6615), (83, 6642), (92, 6678),

Gene: Sandman_8 Start: 5365, Stop: 5721, Start Num: 15
Candidate Starts for Sandman_8:
(Start: 15 @5365 has 48 MA's), (48, 5473), (50, 5479), (61, 5509), (66, 5533), (69, 5557), (71, 5572), (85, 5683),

Gene: Saphira_8 Start: 5293, Stop: 5649, Start Num: 15
Candidate Starts for Saphira_8:
(Start: 15 @5293 has 48 MA's), (50, 5407), (57, 5422), (66, 5461), (71, 5500), (85, 5611),

Gene: Schiebs_9 Start: 5793, Stop: 6128, Start Num: 19
Candidate Starts for Schiebs_9:
(4, 5583), (Start: 19 @5793 has 1 MA's), (30, 5826), (43, 5871), (52, 5886), (59, 5907), (68, 5961), (71, 5979), (73, 5994), (82, 6078), (83, 6084),

Gene: SerialPhiller_6 Start: 4949, Stop: 5284, Start Num: 15
Candidate Starts for SerialPhiller_6:
(Start: 15 @4949 has 48 MA's), (22, 4970), (32, 5009), (34, 5021), (40, 5042), (45, 5051), (71, 5135), (80, 5213), (85, 5246),

Gene: Seume_8 Start: 5087, Stop: 5443, Start Num: 15
Candidate Starts for Seume_8:
(Start: 15 @5087 has 48 MA's), (48, 5195), (50, 5201), (61, 5231), (66, 5255), (69, 5279), (71, 5294), (85, 5405),

Gene: Sourignavong_9 Start: 5392, Stop: 5748, Start Num: 15
Candidate Starts for Sourignavong_9:
(Start: 15 @5392 has 48 MA's), (28, 5431), (48, 5500), (50, 5506), (61, 5536), (66, 5560), (69, 5584), (71, 5599), (85, 5710),

Gene: Sputnik_6 Start: 4957, Stop: 5283, Start Num: 23
Candidate Starts for Sputnik_6:
(Start: 23 @4957 has 3 MA's), (31, 4993), (46, 5035), (57, 5062), (63, 5080), (65, 5086), (71, 5134), (76, 5188), (82, 5233), (84, 5242),

Gene: StewieGriff_8 Start: 5293, Stop: 5649, Start Num: 15
Candidate Starts for StewieGriff_8:
(Start: 15 @5293 has 48 MA's), (50, 5407), (66, 5461), (71, 5500), (85, 5611),

Gene: Stratus_8 Start: 5365, Stop: 5721, Start Num: 15
Candidate Starts for Stratus_8:
(Start: 15 @5365 has 48 MA's), (48, 5473), (50, 5479), (61, 5509), (66, 5533), (69, 5557), (71, 5572), (85, 5683),

Gene: StrawberryLem_6 Start: 4874, Stop: 5209, Start Num: 15
Candidate Starts for StrawberryLem_6:
(Start: 15 @4874 has 48 MA's), (22, 4895), (32, 4934), (34, 4946), (40, 4967), (45, 4976), (71, 5060), (80, 5138), (85, 5171),

Gene: Swenson_8 Start: 5416, Stop: 5772, Start Num: 15
Candidate Starts for Swenson_8:
(Start: 15 @5416 has 48 MA's), (50, 5530), (57, 5545), (66, 5584), (71, 5623), (85, 5734),

Gene: TailX7_8 Start: 5514, Stop: 5957, Start Num: 10
Candidate Starts for TailX7_8:
(7, 5493), (Start: 9 @5505 has 1 MA's), (10, 5514), (11, 5532), (16, 5604), (24, 5625), (50, 5712), (60, 5742), (62, 5745), (71, 5808), (76, 5862), (77, 5871), (78, 5877), (84, 5916), (92, 5949), (93, 5952),

Gene: Taj14_8 Start: 5272, Stop: 5628, Start Num: 15
Candidate Starts for Taj14_8:
(Start: 15 @5272 has 48 MA's), (50, 5386), (69, 5464), (71, 5479), (80, 5557), (85, 5590),

Gene: TinoCrisci_8 Start: 5291, Stop: 5647, Start Num: 15
Candidate Starts for TinoCrisci_8:
(Start: 15 @5291 has 48 MA's), (48, 5399), (50, 5405), (61, 5435), (66, 5459), (69, 5483), (71, 5498), (85, 5609),

Gene: Toulouse_7 Start: 5087, Stop: 5443, Start Num: 15
Candidate Starts for Toulouse_7:
(Start: 15 @5087 has 48 MA's), (48, 5195), (50, 5201), (61, 5231), (66, 5255), (69, 5279), (71, 5294), (85, 5405),

Gene: TymAbreu_8 Start: 5291, Stop: 5647, Start Num: 15
Candidate Starts for TymAbreu_8:
(Start: 15 @5291 has 48 MA's), (48, 5399), (50, 5405), (61, 5435), (66, 5459), (69, 5483), (71, 5498), (85, 5609),

Gene: Vinye_9 Start: 5318, Stop: 5674, Start Num: 15
Candidate Starts for Vinye_9:
(Start: 15 @5318 has 48 MA's), (22, 5339), (28, 5357), (40, 5411), (48, 5426), (53, 5438), (55, 5444), (57, 5447), (67, 5489), (71, 5525), (80, 5603),

Gene: Ximeno_6 Start: 4949, Stop: 5284, Start Num: 15
Candidate Starts for Ximeno_6:
(Start: 15 @4949 has 48 MA's), (22, 4970), (32, 5009), (34, 5021), (40, 5042), (45, 5051), (71, 5135), (80, 5213), (85, 5246),

Gene: Yank_8 Start: 5291, Stop: 5647, Start Num: 15
Candidate Starts for Yank_8:
(Start: 15 @5291 has 48 MA's), (48, 5399), (50, 5405), (61, 5435), (66, 5459), (69, 5483), (71, 5498), (85, 5609),