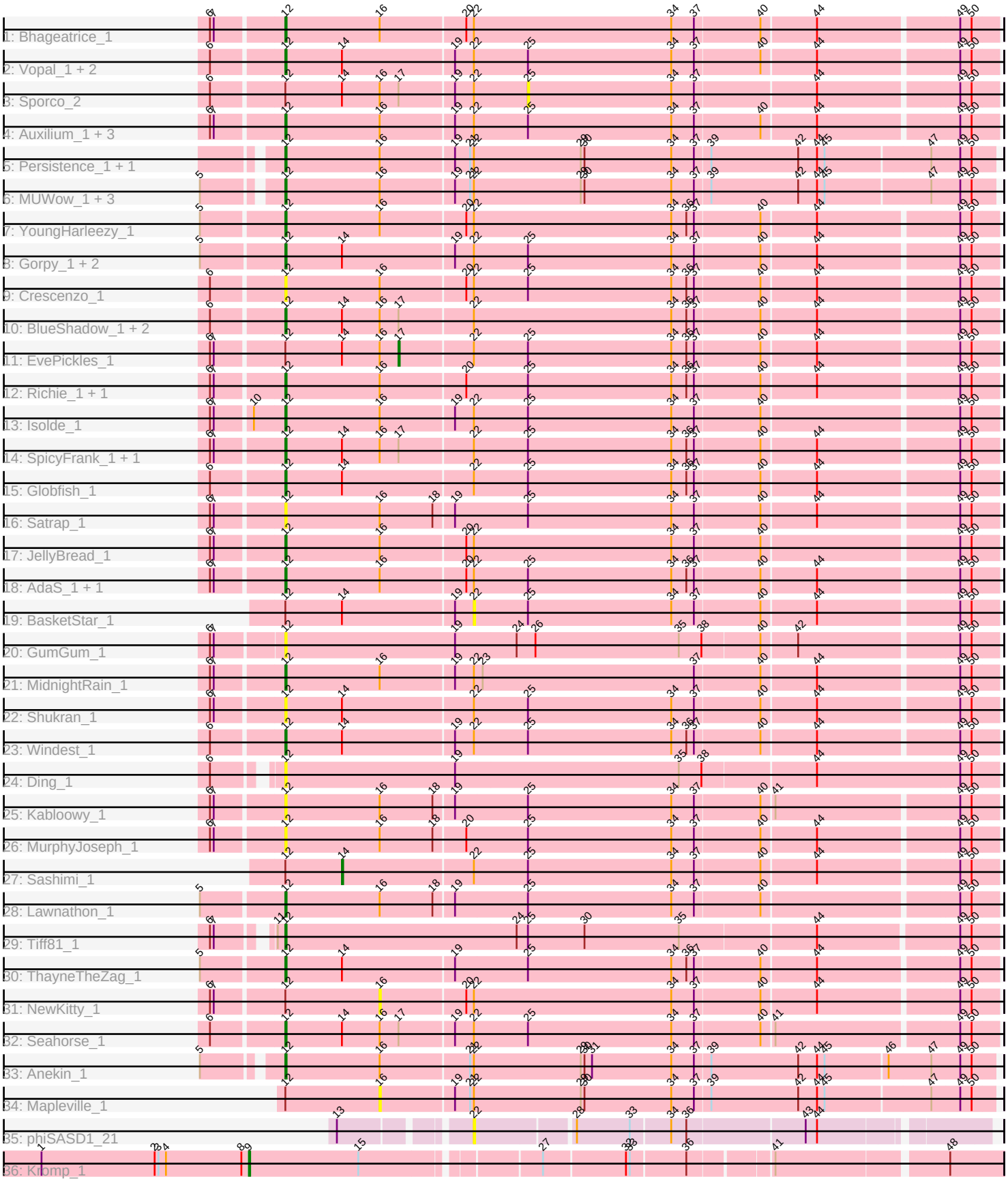
Pham 291245


1: Bhageatrice_1
2: Vopal_1 + 2
3: Sporco_2
4: Auxilium_1 + 3
5: Persistence_1 + 1
6: MUWow_1 + 3
7: YoungHarleezy_1
8: Gorpy_1 + 2
9: Crescenzo_1
10: BlueShadow_1 + 2
11: EvePickles_1
12: Richie_1 + 1
13: Isolde_1
14: SpicyFrank_1 + 1
15: Globfish_1
16: Satrap_1
17: JellyBread_1
18: AdaS_1 + 1
19: BasketStar_1
20: GumGum_1
21: MidnightRain_1
22: Shukran_1
23: Windest_1
24: Ding_1
25: Kabloowy_1
26: MurphyJoseph_1
27: Sashimi_1
28: Lawnathon_1
29: Tiff81_1
30: ThayneTheZag_1
31: NewKitty_1
32: Seahorse_1
33: Anekin_1
34: Mapleville_1
35: phiSASD1_21
36: Klomp_1

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 291245 Report

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

Pham number 291245 has 52 members, 18 are drafts.

Phages represented in each track:
- Track 1 : Bhageatrice_1
- Track 2 : Vopal_1, RadFad_1, Hillester_1
- Track 3 : Sporco_2
- Track 4 : Auxilium_1, BenchScraper_1, Raphaella_1, CookieBear_1
- Track 5 : Persistence_1, Nyilah_1
- Track 6 : MUWow_1, CosmicBrownie_1, Hestia_1, Phrank15_1
- Track 7 : YoungHarleezy_1
- Track 8 : Gorpy_1, BillyTP_1, Sakai_1
- Track 9 : Crescenzo_1
- Track 10 : BlueShadow_1, Aikyam_1, MaterMagnus_1
- Track 11 : EvePickles_1
- Track 12 : Richie_1, Faja_1
- Track 13 : Isolde_1
- Track 14 : SpicyFrank_1, Lasker_1
- Track 15 : Globfish_1
- Track 16 : Satrap_1
- Track 17 : JellyBread_1
- Track 18 : AdaS_1, DarwinJr_1
- Track 19 : BasketStar_1
- Track 20 : GumGum_1
- Track 21 : MidnightRain_1
- Track 22 : Shukran_1
- Track 23 : Windest_1
- Track 24 : Ding_1
- Track 25 : Kabloowy_1
- Track 26 : MurphyJoseph_1
- Track 27 : Sashimi_1
- Track 28 : Lawnathon_1
- Track 29 : Tiff81_1
- Track 30 : ThayneTheZag_1
- Track 31 : NewKitty_1
- Track 32 : Seahorse_1
- Track 33 : Anekin_1
- Track 34 : Mapleville_1
- Track 35 : phiSASD1_21
- Track 36 : Kromp_1

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

The start number called the most often in the published annotations is 12, it was called in 31 of the 34 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• AdaS_1, Aikyam_1, Anekin_1, Auxilium_1, BenchScraper_1, Bhageatrice_1, BillyTP_1, BlueShadow_1, CookieBear_1, CosmicBrownie_1, Crescenzo_1, DarwinJr_1, Ding_1, Faja_1, Globfish_1, Gorpy_1, GumGum_1, Hestia_1, Hillester_1, Isolde_1, JellyBread_1, Kabloowy_1, Lasker_1, Lawnathon_1, MUWow_1, MaterMagnus_1, MidnightRain_1, MurphyJoseph_1, Nyilah_1, Persistence_1, Phrank15_1, RadFad_1, Raphaella_1, Richie_1, Sakai_1, Satrap_1, Seahorse_1, Shukran_1, SpicyFrank_1, ThayneTheZag_1, Tiff81_1, Vopal_1, Windest_1, YoungHarleezy_1,

Genes that have the "Most Annotated" start but do not call it:
• BasketStar_1, EvePickles_1, Mapleville_1, NewKitty_1, Sashimi_1, Sporco_2,

Genes that do not have the "Most Annotated" start:
• Kromp_1, phiSASD1_21,

Summary by start number:

Start 9:
• Found in 1 of 52 (1.9%) of genes in pham
• Manual Annotations of this start: 1 of 34
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Kromp_1 (singleton),

Start 12:
• Found in 50 of 52 (96.2%) of genes in pham
• Manual Annotations of this start: 31 of 34
• Called 88.0% of time when present
• Phage (with cluster) where this start called: AdaS_1 (AY), Aikyam_1 (AY), Anekin_1 (AY), Auxilium_1 (AY), BenchScraper_1 (AY), Bhageatrice_1 (AY), BillyTP_1 (AY), BlueShadow_1 (AY), CookieBear_1 (AY), CosmicBrownie_1 (AY), Crescenzo_1 (AY), DarwinJr_1 (AY), Ding_1 (AY), Faja_1 (AY), Globfish_1 (AY), Gorpy_1 (AY), GumGum_1 (AY), Hestia_1 (AY), Hillester_1 (AY), Isolde_1 (AY), JellyBread_1 (AY), Kabloowy_1 (AY), Lasker_1 (AY), Lawnathon_1 (AY), MUWow_1 (AY), MaterMagnus_1 (AY), MidnightRain_1 (AY), MurphyJoseph_1 (AY), Nyilah_1 (AY), Persistence_1 (AY), Phrank15_1 (AY), RadFad_1 (AY), Raphaella_1 (AY), Richie_1 (AY), Sakai_1 (AY), Satrap_1 (AY), Seahorse_1 (AY), Shukran_1 (AY), SpicyFrank_1 (AY), ThayneTheZag_1 (AY), Tiff81_1 (AY), Vopal_1 (AY), Windest_1 (AY), YoungHarleezy_1 (AY),

Start 14:
• Found in 20 of 52 (38.5%) of genes in pham
• Manual Annotations of this start: 1 of 34
• Called 5.0% of time when present
• Phage (with cluster) where this start called: Sashimi_1 (AY),

Start 16:
• Found in 35 of 52 (67.3%) of genes in pham
• No Manual Annotations of this start.
• Called 5.7% of time when present
• Phage (with cluster) where this start called: Mapleville_1 (AY), NewKitty_1 (AY),

Start 17:
• Found in 8 of 52 (15.4%) of genes in pham
• Manual Annotations of this start: 1 of 34
• Called 12.5% of time when present
• Phage (with cluster) where this start called: EvePickles_1 (AY),

Start 22:
• Found in 41 of 52 (78.8%) of genes in pham
• No Manual Annotations of this start.
• Called 4.9% of time when present
• Phage (with cluster) where this start called: BasketStar_1 (AY), phiSASD1_21 (BJ),

Start 25:
• Found in 32 of 52 (61.5%) of genes in pham
• No Manual Annotations of this start.
• Called 3.1% of time when present
• Phage (with cluster) where this start called: Sporco_2 (AY),

Summary by clusters:

There are 3 clusters represented in this pham: AY, singleton, BJ,

Info for manual annotations of cluster AY:
•Start number 12 was manually annotated 31 times for cluster AY.
•Start number 14 was manually annotated 1 time for cluster AY.
•Start number 17 was manually annotated 1 time for cluster AY.

Gene Information:

Gene: AdaS_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for AdaS_1:
(6, 10), (7, 13), (Start: 12 @64 has 31 MA's), (16, 139), (20, 205), (22, 211), (25, 253), (34, 367), (36, 379), (37, 385), (40, 436), (44, 478), (49, 583), (50, 592),

Gene: Aikyam_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for Aikyam_1:
(6, 10), (Start: 12 @64 has 31 MA's), (Start: 14 @109 has 1 MA's), (16, 139), (Start: 17 @154 has 1 MA's), (22, 211), (34, 367), (36, 379), (37, 385), (40, 436), (44, 478), (49, 583), (50, 592),

Gene: Anekin_1 Start: 56, Stop: 607, Start Num: 12
Candidate Starts for Anekin_1:
(5, 2), (Start: 12 @56 has 31 MA's), (16, 131), (21, 200), (22, 203), (29, 287), (30, 290), (31, 296), (34, 359), (37, 377), (39, 389), (42, 458), (44, 473), (45, 479), (46, 527), (47, 560), (49, 581), (50, 590),

Gene: Auxilium_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for Auxilium_1:
(6, 10), (7, 13), (Start: 12 @64 has 31 MA's), (16, 139), (19, 196), (22, 211), (25, 253), (34, 367), (37, 385), (40, 436), (44, 478), (49, 583), (50, 592),

Gene: BasketStar_1 Start: 212, Stop: 613, Start Num: 22
Candidate Starts for BasketStar_1:
(Start: 12 @65 has 31 MA's), (Start: 14 @110 has 1 MA's), (19, 197), (22, 212), (25, 254), (34, 368), (37, 386), (40, 437), (44, 479), (49, 584), (50, 593),

Gene: BenchScraper_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for BenchScraper_1:
(6, 10), (7, 13), (Start: 12 @64 has 31 MA's), (16, 139), (19, 196), (22, 211), (25, 253), (34, 367), (37, 385), (40, 436), (44, 478), (49, 583), (50, 592),

Gene: Bhageatrice_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for Bhageatrice_1:
(6, 10), (7, 13), (Start: 12 @64 has 31 MA's), (16, 139), (20, 205), (22, 211), (34, 367), (37, 385), (40, 436), (44, 478), (49, 583), (50, 592),

Gene: BillyTP_1 Start: 65, Stop: 613, Start Num: 12
Candidate Starts for BillyTP_1:
(5, 2), (Start: 12 @65 has 31 MA's), (Start: 14 @110 has 1 MA's), (19, 197), (22, 212), (25, 254), (34, 368), (37, 386), (40, 437), (44, 479), (49, 584), (50, 593),

Gene: BlueShadow_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for BlueShadow_1:
(6, 10), (Start: 12 @64 has 31 MA's), (Start: 14 @109 has 1 MA's), (16, 139), (Start: 17 @154 has 1 MA's), (22, 211), (34, 367), (36, 379), (37, 385), (40, 436), (44, 478), (49, 583), (50, 592),

Gene: CookieBear_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for CookieBear_1:
(6, 10), (7, 13), (Start: 12 @64 has 31 MA's), (16, 139), (19, 196), (22, 211), (25, 253), (34, 367), (37, 385), (40, 436), (44, 478), (49, 583), (50, 592),

Gene: CosmicBrownie_1 Start: 56, Stop: 607, Start Num: 12
Candidate Starts for CosmicBrownie_1:
(5, 2), (Start: 12 @56 has 31 MA's), (16, 131), (19, 188), (21, 200), (22, 203), (29, 287), (30, 290), (34, 359), (37, 377), (39, 389), (42, 458), (44, 473), (45, 479), (47, 560), (49, 581), (50, 590),

Gene: Crescenzo_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for Crescenzo_1:
(6, 10), (Start: 12 @64 has 31 MA's), (16, 139), (20, 205), (22, 211), (25, 253), (34, 367), (36, 379), (37, 385), (40, 436), (44, 478), (49, 583), (50, 592),

Gene: DarwinJr_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for DarwinJr_1:
(6, 10), (7, 13), (Start: 12 @64 has 31 MA's), (16, 139), (20, 205), (22, 211), (25, 253), (34, 367), (36, 379), (37, 385), (40, 436), (44, 478), (49, 583), (50, 592),

Gene: Ding_1 Start: 52, Stop: 609, Start Num: 12
Candidate Starts for Ding_1:

(6, 10), (Start: 12 @52 has 31 MA's), (19, 187), (35, 364), (38, 382), (44, 469), (49, 580), (50, 589),

Gene: EvePickles_1 Start: 154, Stop: 612, Start Num: 17
Candidate Starts for EvePickles_1:
(6, 10), (7, 13), (Start: 12 @64 has 31 MA's), (Start: 14 @109 has 1 MA's), (16, 139), (Start: 17 @154 has 1 MA's), (22, 211), (25, 253), (34, 367), (36, 379), (37, 385), (40, 436), (44, 478), (49, 583), (50, 592),

Gene: Faja_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for Faja_1:
(6, 10), (7, 13), (Start: 12 @64 has 31 MA's), (16, 139), (20, 205), (25, 253), (34, 367), (36, 379), (37, 385), (40, 436), (44, 478), (49, 583), (50, 592),

Gene: Globfish_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for Globfish_1:
(6, 10), (Start: 12 @64 has 31 MA's), (Start: 14 @109 has 1 MA's), (22, 211), (25, 253), (34, 367), (36, 379), (37, 385), (40, 436), (44, 478), (49, 583), (50, 592),

Gene: Gorpy_1 Start: 65, Stop: 613, Start Num: 12
Candidate Starts for Gorpy_1:
(5, 2), (Start: 12 @65 has 31 MA's), (Start: 14 @110 has 1 MA's), (19, 197), (22, 212), (25, 254), (34, 368), (37, 386), (40, 437), (44, 479), (49, 584), (50, 593),

Gene: GumGum_1 Start: 64, Stop: 615, Start Num: 12
Candidate Starts for GumGum_1:
(6, 10), (7, 13), (Start: 12 @64 has 31 MA's), (19, 199), (24, 247), (26, 262), (35, 376), (38, 394), (40, 439), (42, 466), (49, 586), (50, 595),

Gene: Hestia_1 Start: 56, Stop: 607, Start Num: 12
Candidate Starts for Hestia_1:
(5, 2), (Start: 12 @56 has 31 MA's), (16, 131), (19, 188), (21, 200), (22, 203), (29, 287), (30, 290), (34, 359), (37, 377), (39, 389), (42, 458), (44, 473), (45, 479), (47, 560), (49, 581), (50, 590),

Gene: Hillester_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for Hillester_1:
(6, 10), (Start: 12 @64 has 31 MA's), (Start: 14 @109 has 1 MA's), (19, 196), (22, 211), (25, 253), (34, 367), (37, 385), (40, 436), (44, 478), (49, 583), (50, 592),

Gene: Isolde_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for Isolde_1:
(6, 10), (7, 13), (10, 40), (Start: 12 @64 has 31 MA's), (16, 139), (19, 196), (22, 211), (25, 253), (34, 367), (37, 385), (40, 436), (49, 583), (50, 592),

Gene: JellyBread_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for JellyBread_1:
(6, 10), (7, 13), (Start: 12 @64 has 31 MA's), (16, 139), (20, 205), (22, 211), (34, 367), (37, 385), (40, 436), (49, 583), (50, 592),

Gene: Kabloowy_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for Kabloowy_1:
(6, 10), (7, 13), (Start: 12 @64 has 31 MA's), (16, 139), (18, 181), (19, 196), (25, 253), (34, 367), (37, 385), (40, 436), (41, 445), (49, 583), (50, 592),

Gene: Kromp_1 Start: 200, Stop: 754, Start Num: 9
Candidate Starts for Kromp_1:
(1, 35), (2, 125), (3, 128), (4, 134), (8, 194), (Start: 9 @200 has 1 MA's), (15, 287), (27, 416), (32, 479), (33, 482), (36, 524), (41, 584), (48, 713),

Gene: Lasker_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for Lasker_1:
(6, 10), (7, 13), (Start: 12 @64 has 31 MA's), (Start: 14 @109 has 1 MA's), (16, 139), (Start: 17 @154 has 1 MA's), (22, 211), (25, 253), (34, 367), (36, 379), (37, 385), (40, 436), (44, 478), (49, 583), (50, 592),

Gene: Lawnathon_1 Start: 65, Stop: 613, Start Num: 12
Candidate Starts for Lawnathon_1:
(5, 2), (Start: 12 @65 has 31 MA's), (16, 140), (18, 182), (19, 197), (25, 254), (34, 368), (37, 386), (40, 437), (49, 584), (50, 593),

Gene: MUWow_1 Start: 56, Stop: 607, Start Num: 12
Candidate Starts for MUWow_1:
(5, 2), (Start: 12 @56 has 31 MA's), (16, 131), (19, 188), (21, 200), (22, 203), (29, 287), (30, 290), (34, 359), (37, 377), (39, 389), (42, 458), (44, 473), (45, 479), (47, 560), (49, 581), (50, 590),

Gene: Mapleville_1 Start: 130, Stop: 606, Start Num: 16
Candidate Starts for Mapleville_1:
(Start: 12 @55 has 31 MA's), (16, 130), (19, 187), (21, 199), (22, 202), (29, 286), (30, 289), (34, 358), (37, 376), (39, 388), (42, 457), (44, 472), (45, 478), (47, 559), (49, 580), (50, 589),

Gene: MaterMagnus_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for MaterMagnus_1:
(6, 10), (Start: 12 @64 has 31 MA's), (Start: 14 @109 has 1 MA's), (16, 139), (Start: 17 @154 has 1 MA's), (22, 211), (34, 367), (36, 379), (37, 385), (40, 436), (44, 478), (49, 583), (50, 592),

Gene: MidnightRain_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for MidnightRain_1:
(6, 10), (7, 13), (Start: 12 @64 has 31 MA's), (16, 139), (19, 196), (22, 211), (23, 217), (37, 385), (40, 436), (44, 478), (49, 583), (50, 592),

Gene: MurphyJoseph_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for MurphyJoseph_1:
(6, 10), (7, 13), (Start: 12 @64 has 31 MA's), (16, 139), (18, 181), (20, 205), (25, 253), (34, 367), (37, 385), (40, 436), (44, 478), (49, 583), (50, 592),

Gene: NewKitty_1 Start: 139, Stop: 612, Start Num: 16
Candidate Starts for NewKitty_1:
(6, 10), (7, 13), (Start: 12 @64 has 31 MA's), (16, 139), (20, 205), (22, 211), (34, 367), (37, 385), (40, 436), (44, 478), (49, 583), (50, 592),

Gene: Nyilah_1 Start: 55, Stop: 606, Start Num: 12
Candidate Starts for Nyilah_1:
(Start: 12 @55 has 31 MA's), (16, 130), (19, 187), (21, 199), (22, 202), (29, 286), (30, 289), (34, 358), (37, 376), (39, 388), (42, 457), (44, 472), (45, 478), (47, 559), (49, 580), (50, 589),

Gene: Persistence_1 Start: 55, Stop: 606, Start Num: 12
Candidate Starts for Persistence_1:

(Start: 12 @55 has 31 MA's), (16, 130), (19, 187), (21, 199), (22, 202), (29, 286), (30, 289), (34, 358), (37, 376), (39, 388), (42, 457), (44, 472), (45, 478), (47, 559), (49, 580), (50, 589),

Gene: Phrank15_1 Start: 56, Stop: 607, Start Num: 12
Candidate Starts for Phrank15_1:
(5, 2), (Start: 12 @56 has 31 MA's), (16, 131), (19, 188), (21, 200), (22, 203), (29, 287), (30, 290), (34, 359), (37, 377), (39, 389), (42, 458), (44, 473), (45, 479), (47, 560), (49, 581), (50, 590),

Gene: RadFad_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for RadFad_1:
(6, 10), (Start: 12 @64 has 31 MA's), (Start: 14 @109 has 1 MA's), (19, 196), (22, 211), (25, 253), (34, 367), (37, 385), (40, 436), (44, 478), (49, 583), (50, 592),

Gene: Raphaella_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for Raphaella_1:
(6, 10), (7, 13), (Start: 12 @64 has 31 MA's), (16, 139), (19, 196), (22, 211), (25, 253), (34, 367), (37, 385), (40, 436), (44, 478), (49, 583), (50, 592),

Gene: Richie_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for Richie_1:
(6, 10), (7, 13), (Start: 12 @64 has 31 MA's), (16, 139), (20, 205), (25, 253), (34, 367), (36, 379), (37, 385), (40, 436), (44, 478), (49, 583), (50, 592),

Gene: Sakai_1 Start: 65, Stop: 613, Start Num: 12
Candidate Starts for Sakai_1:
(5, 2), (Start: 12 @65 has 31 MA's), (Start: 14 @110 has 1 MA's), (19, 197), (22, 212), (25, 254), (34, 368), (37, 386), (40, 437), (44, 479), (49, 584), (50, 593),

Gene: Sashimi_1 Start: 109, Stop: 612, Start Num: 14
Candidate Starts for Sashimi_1:
(Start: 12 @64 has 31 MA's), (Start: 14 @109 has 1 MA's), (22, 211), (25, 253), (34, 367), (37, 385), (40, 436), (44, 478), (49, 583), (50, 592),

Gene: Satrap_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for Satrap_1:
(6, 10), (7, 13), (Start: 12 @64 has 31 MA's), (16, 139), (18, 181), (19, 196), (25, 253), (34, 367), (37, 385), (40, 436), (44, 478), (49, 583), (50, 592),

Gene: Seahorse_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for Seahorse_1:
(6, 10), (Start: 12 @64 has 31 MA's), (Start: 14 @109 has 1 MA's), (16, 139), (Start: 17 @154 has 1 MA's), (19, 196), (22, 211), (25, 253), (34, 367), (37, 385), (40, 436), (41, 445), (49, 583), (50, 592),

Gene: Shukran_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for Shukran_1:
(6, 10), (7, 13), (Start: 12 @64 has 31 MA's), (Start: 14 @109 has 1 MA's), (22, 211), (25, 253), (34, 367), (37, 385), (40, 436), (44, 478), (49, 583), (50, 592),

Gene: SpicyFrank_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for SpicyFrank_1:
(6, 10), (7, 13), (Start: 12 @64 has 31 MA's), (Start: 14 @109 has 1 MA's), (16, 139), (Start: 17 @154 has 1 MA's), (22, 211), (25, 253), (34, 367), (36, 379), (37, 385), (40, 436), (44, 478), (49, 583), (50, 592),

Gene: Sporco_2 Start: 253, Stop: 612, Start Num: 25
Candidate Starts for Sporco_2:
(6, 10), (Start: 12 @64 has 31 MA's), (Start: 14 @109 has 1 MA's), (16, 139), (Start: 17 @154 has 1 MA's), (19, 196), (22, 211), (25, 253), (34, 367), (37, 385), (44, 478), (49, 583), (50, 592),

Gene: ThayneTheZag_1 Start: 65, Stop: 613, Start Num: 12
Candidate Starts for ThayneTheZag_1:
(5, 2), (Start: 12 @65 has 31 MA's), (Start: 14 @110 has 1 MA's), (19, 197), (25, 254), (34, 368), (36, 380), (37, 386), (40, 437), (44, 479), (49, 584), (50, 593),

Gene: Tiff81_1 Start: 52, Stop: 603, Start Num: 12
Candidate Starts for Tiff81_1:
(6, 10), (7, 13), (11, 46), (Start: 12 @52 has 31 MA's), (24, 235), (25, 244), (30, 289), (35, 364), (44, 469), (49, 574), (50, 583),

Gene: Vopal_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for Vopal_1:
(6, 10), (Start: 12 @64 has 31 MA's), (Start: 14 @109 has 1 MA's), (19, 196), (22, 211), (25, 253), (34, 367), (37, 385), (40, 436), (44, 478), (49, 583), (50, 592),

Gene: Windest_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for Windest_1:
(6, 10), (Start: 12 @64 has 31 MA's), (Start: 14 @109 has 1 MA's), (19, 196), (22, 211), (25, 253), (34, 367), (36, 379), (37, 385), (40, 436), (44, 478), (49, 583), (50, 592),

Gene: YoungHarleezy_1 Start: 65, Stop: 613, Start Num: 12
Candidate Starts for YoungHarleezy_1:
(5, 2), (Start: 12 @65 has 31 MA's), (16, 140), (20, 206), (22, 212), (34, 368), (36, 380), (37, 386), (40, 437), (44, 479), (49, 584), (50, 593),

Gene: phiSASD1_21 Start: 188, Stop: 565, Start Num: 22
Candidate Starts for phiSASD1_21:
(13, 98), (22, 188), (28, 260), (33, 302), (34, 332), (36, 344), (43, 434), (44, 443),