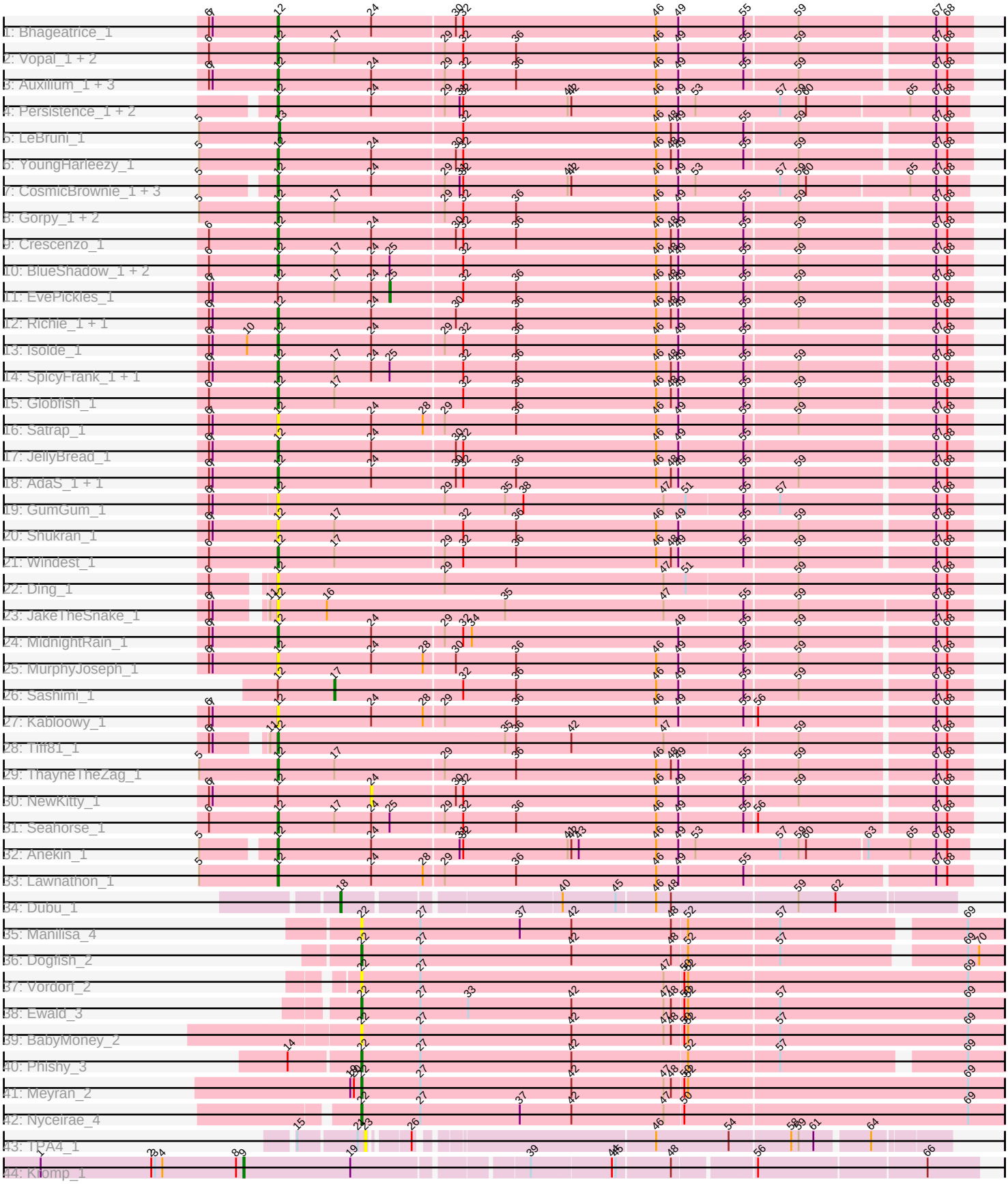
Pham 305022


1: Bhageatrice_1
2: Vopal_1 + 2
3: Auxilium_1 + 3
4: Persistence_1 + 2
5: LeBruni_1
6: YoungHarleezy_1
7: CosmicBrownie_1 + 3
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: GumGum_1
20: Shukran_1
21: Windest_1
22: Ding_1
23: JakeTheSnake_1
24: MidnightRain_1
25: MurphyJoseph_1
26: Sashimi_1
27: Kabloowy_1
28: Tiff81_1
29: ThayneTheZag_1
30: NewKitty_1
31: Seahorse_1
32: Anekin_1
33: Lawnathon_1
34: Dubu_1
35: Manilisa_4
36: Dogfish_2
37: Vordori_2
38: Ewald_3
39: BabyMoney_2
40: Phishy_3
41: Meyran_2
42: Nyceirae_4
43: TPA4_1
44: 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 305022 Report

This analysis was run 06/08/26 on database version 649.

Pham number 305022 has 61 members, 17 are drafts.

Phages represented in each track:
- Track 1 : Bhageatrice_1
- Track 2 : Vopal_1, RadFad_1, Hillester_1
- Track 3 : Auxilium_1, BenchScraper_1, Raphaella_1, CookieBear_1
- Track 4 : Persistence_1, Nyilah_1, Mapleville_1
- Track 5 : LeBruni_1
- Track 6 : YoungHarleezy_1
- Track 7 : CosmicBrownie_1, Hestia_1, MUWow_1, Phrank15_1
- Track 8 : Gorpy_1, BillyTP_1, Sakai_1
- Track 9 : Crescenzo_1
- Track 10 : BlueShadow_1, MaterMagnus_1, Aikyam_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 : GumGum_1
- Track 20 : Shukran_1
- Track 21 : Windest_1
- Track 22 : Ding_1
- Track 23 : JakeTheSnake_1
- Track 24 : MidnightRain_1
- Track 25 : MurphyJoseph_1
- Track 26 : Sashimi_1
- Track 27 : Kabloowy_1
- Track 28 : Tiff81_1
- Track 29 : ThayneTheZag_1
- Track 30 : NewKitty_1
- Track 31 : Seahorse_1
- Track 32 : Anekin_1
- Track 33 : Lawnathon_1
- Track 34 : Dubu_1
- Track 35 : Manilisa_4
- Track 36 : Dogfish_2
- Track 37 : Vordorf_2

• Track 38 : Ewald_3
• Track 39 : BabyMoney_2
• Track 40 : Phishy_3
• Track 41 : Meyran_2
• Track 42 : Nyceirae_4
• Track 43 : TPA4_1
• Track 44 : 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 34 of the 44 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, JakeTheSnake_1, JellyBread_1, Kabloowy_1, Lasker_1, Lawnathon_1, MUWow_1, Mapleville_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:
• EvePickles_1, NewKitty_1, Sashimi_1,

Genes that do not have the "Most Annotated" start:
• BabyMoney_2, Dogfish_2, Dubu_1, Ewald_3, Kromp_1, LeBruni_1, Manilisa_4, Meyran_2, Nyceirae_4, Phishy_3, TPA4_1, Vordorf_2,

Summary by start number:

Start 9:
• Found in 1 of 61 (1.6%) of genes in pham
• Manual Annotations of this start: 1 of 44
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Kromp_1 (singleton),

Start 12:
• Found in 49 of 61 (80.3%) of genes in pham
• Manual Annotations of this start: 34 of 44
• Called 93.9% 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), JakeTheSnake_1 (AY), JellyBread_1 (AY), Kabloowy_1 (AY), Lasker_1 (AY), Lawnathon_1 (AY), MUWow_1 (AY), Mapleville_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 13:
• Found in 1 of 61 (1.6%) of genes in pham
• Manual Annotations of this start: 1 of 44
• Called 100.0% of time when present
• Phage (with cluster) where this start called: LeBruni_1 (AY),

Start 17:
• Found in 18 of 61 (29.5%) of genes in pham
• Manual Annotations of this start: 1 of 44
• Called 5.6% of time when present
• Phage (with cluster) where this start called: Sashimi_1 (AY),

Start 18:
• Found in 1 of 61 (1.6%) of genes in pham
• Manual Annotations of this start: 1 of 44
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Dubu_1 (BJ),

Start 22:
• Found in 8 of 61 (13.1%) of genes in pham
• Manual Annotations of this start: 5 of 44
• Called 100.0% of time when present
• Phage (with cluster) where this start called: BabyMoney_2 (DT), Dogfish_2 (DT), Ewald_3 (DT), Manilisa_4 (DT), Meyran_2 (DT), Nyceirae_4 (DT), Phishy_3 (DT), Vordorf_2 (DT),

Start 23:
• Found in 1 of 61 (1.6%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: TPA4_1 (singleton),

Start 24:
• Found in 34 of 61 (55.7%) of genes in pham
• No Manual Annotations of this start.
• Called 2.9% of time when present
• Phage (with cluster) where this start called: NewKitty_1 (AY),

Start 25:
• Found in 7 of 61 (11.5%) of genes in pham
• Manual Annotations of this start: 1 of 44
• Called 14.3% of time when present
• Phage (with cluster) where this start called: EvePickles_1 (AY),

Summary by clusters:

There are 4 clusters represented in this pham: AY, DT, singleton, BJ,

Info for manual annotations of cluster AY:

•Start number 12 was manually annotated 34 times for cluster AY.
•Start number 13 was manually annotated 1 time for cluster AY.
•Start number 17 was manually annotated 1 time for cluster AY.
•Start number 25 was manually annotated 1 time for cluster AY.

Info for manual annotations of cluster BJ:
•Start number 18 was manually annotated 1 time for cluster BJ.

Info for manual annotations of cluster DT:
•Start number 22 was manually annotated 5 times for cluster DT.

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 34 MA's), (24, 139), (30, 205), (32, 211), (36, 253), (46, 367), (48, 379), (49, 385), (55, 436), (59, 478), (67, 583), (68, 592),

Gene: Aikyam_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for Aikyam_1:
(6, 10), (Start: 12 @64 has 34 MA's), (Start: 17 @109 has 1 MA's), (24, 139), (Start: 25 @154 has 1 MA's), (32, 211), (46, 367), (48, 379), (49, 385), (55, 436), (59, 478), (67, 583), (68, 592),

Gene: Anekin_1 Start: 56, Stop: 607, Start Num: 12
Candidate Starts for Anekin_1:
(5, 2), (Start: 12 @56 has 34 MA's), (24, 131), (31, 200), (32, 203), (41, 287), (42, 290), (43, 296), (46, 359), (49, 377), (53, 389), (57, 458), (59, 473), (60, 479), (63, 527), (65, 560), (67, 581), (68, 590),

Gene: Auxilium_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for Auxilium_1:
(6, 10), (7, 13), (Start: 12 @64 has 34 MA's), (24, 139), (29, 196), (32, 211), (36, 253), (46, 367), (49, 385), (55, 436), (59, 478), (67, 583), (68, 592),

Gene: BabyMoney_2 Start: 312, Stop: 830, Start Num: 22
Candidate Starts for BabyMoney_2:
(Start: 22 @312 has 5 MA's), (27, 360), (42, 483), (47, 558), (48, 564), (50, 573), (52, 576), (57, 648), (69, 801),

Gene: BenchScraper_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for BenchScraper_1:
(6, 10), (7, 13), (Start: 12 @64 has 34 MA's), (24, 139), (29, 196), (32, 211), (36, 253), (46, 367), (49, 385), (55, 436), (59, 478), (67, 583), (68, 592),

Gene: Bhageatrice_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for Bhageatrice_1:
(6, 10), (7, 13), (Start: 12 @64 has 34 MA's), (24, 139), (30, 205), (32, 211), (46, 367), (49, 385), (55, 436), (59, 478), (67, 583), (68, 592),

Gene: BillyTP_1 Start: 65, Stop: 613, Start Num: 12
Candidate Starts for BillyTP_1:

(5, 2), (Start: 12 @65 has 34 MA's), (Start: 17 @110 has 1 MA's), (29, 197), (32, 212), (36, 254), (46, 368), (49, 386), (55, 437), (59, 479), (67, 584), (68, 593),

Gene: BlueShadow_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for BlueShadow_1:
(6, 10), (Start: 12 @64 has 34 MA's), (Start: 17 @109 has 1 MA's), (24, 139), (Start: 25 @154 has 1 MA's), (32, 211), (46, 367), (48, 379), (49, 385), (55, 436), (59, 478), (67, 583), (68, 592),

Gene: CookieBear_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for CookieBear_1:
(6, 10), (7, 13), (Start: 12 @64 has 34 MA's), (24, 139), (29, 196), (32, 211), (36, 253), (46, 367), (49, 385), (55, 436), (59, 478), (67, 583), (68, 592),

Gene: CosmicBrownie_1 Start: 56, Stop: 607, Start Num: 12
Candidate Starts for CosmicBrownie_1:
(5, 2), (Start: 12 @56 has 34 MA's), (24, 131), (29, 188), (31, 200), (32, 203), (41, 287), (42, 290), (46, 359), (49, 377), (53, 389), (57, 458), (59, 473), (60, 479), (65, 560), (67, 581), (68, 590),

Gene: Crescenzo_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for Crescenzo_1:
(6, 10), (Start: 12 @64 has 34 MA's), (24, 139), (30, 205), (32, 211), (36, 253), (46, 367), (48, 379), (49, 385), (55, 436), (59, 478), (67, 583), (68, 592),

Gene: DarwinJr_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for DarwinJr_1:
(6, 10), (7, 13), (Start: 12 @64 has 34 MA's), (24, 139), (30, 205), (32, 211), (36, 253), (46, 367), (48, 379), (49, 385), (55, 436), (59, 478), (67, 583), (68, 592),

Gene: Ding_1 Start: 52, Stop: 609, Start Num: 12
Candidate Starts for Ding_1:
(6, 10), (Start: 12 @52 has 34 MA's), (29, 187), (47, 364), (51, 382), (59, 469), (67, 580), (68, 589),

Gene: Dogfish_2 Start: 447, Stop: 947, Start Num: 22
Candidate Starts for Dogfish_2:
(Start: 22 @447 has 5 MA's), (27, 495), (42, 618), (48, 699), (52, 711), (57, 783), (69, 918), (70, 927),

Gene: Dubu_1 Start: 90, Stop: 557, Start Num: 18
Candidate Starts for Dubu_1:
(Start: 18 @90 has 1 MA's), (40, 252), (45, 294), (46, 324), (48, 336), (59, 435), (62, 465),

Gene: EvePickles_1 Start: 154, Stop: 612, Start Num: 25
Candidate Starts for EvePickles_1:
(6, 10), (7, 13), (Start: 12 @64 has 34 MA's), (Start: 17 @109 has 1 MA's), (24, 139), (Start: 25 @154 has 1 MA's), (32, 211), (36, 253), (46, 367), (48, 379), (49, 385), (55, 436), (59, 478), (67, 583), (68, 592),

Gene: Ewald_3 Start: 702, Stop: 1220, Start Num: 22
Candidate Starts for Ewald_3:
(Start: 22 @702 has 5 MA's), (27, 750), (33, 789), (42, 873), (47, 948), (48, 954), (50, 963), (52, 966), (57, 1038), (69, 1191),

Gene: Faja_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for Faja_1:

(6, 10), (7, 13), (Start: 12 @64 has 34 MA's), (24, 139), (30, 205), (36, 253), (46, 367), (48, 379), (49, 385), (55, 436), (59, 478), (67, 583), (68, 592),

Gene: Globfish_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for Globfish_1:
(6, 10), (Start: 12 @64 has 34 MA's), (Start: 17 @109 has 1 MA's), (32, 211), (36, 253), (46, 367), (48, 379), (49, 385), (55, 436), (59, 478), (67, 583), (68, 592),

Gene: Gorpy_1 Start: 65, Stop: 613, Start Num: 12
Candidate Starts for Gorpy_1:
(5, 2), (Start: 12 @65 has 34 MA's), (Start: 17 @110 has 1 MA's), (29, 197), (32, 212), (36, 254), (46, 368), (49, 386), (55, 437), (59, 479), (67, 584), (68, 593),

Gene: GumGum_1 Start: 64, Stop: 615, Start Num: 12
Candidate Starts for GumGum_1:
(6, 10), (7, 13), (Start: 12 @64 has 34 MA's), (29, 199), (35, 247), (38, 262), (47, 376), (51, 394), (55, 439), (57, 466), (67, 586), (68, 595),

Gene: Hestia_1 Start: 56, Stop: 607, Start Num: 12
Candidate Starts for Hestia_1:
(5, 2), (Start: 12 @56 has 34 MA's), (24, 131), (29, 188), (31, 200), (32, 203), (41, 287), (42, 290), (46, 359), (49, 377), (53, 389), (57, 458), (59, 473), (60, 479), (65, 560), (67, 581), (68, 590),

Gene: Hillester_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for Hillester_1:
(6, 10), (Start: 12 @64 has 34 MA's), (Start: 17 @109 has 1 MA's), (29, 196), (32, 211), (36, 253), (46, 367), (49, 385), (55, 436), (59, 478), (67, 583), (68, 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 34 MA's), (24, 139), (29, 196), (32, 211), (36, 253), (46, 367), (49, 385), (55, 436), (67, 583), (68, 592),

Gene: JakeTheSnake_1 Start: 52, Stop: 606, Start Num: 12
Candidate Starts for JakeTheSnake_1:
(6, 10), (7, 13), (11, 46), (Start: 12 @52 has 34 MA's), (16, 91), (35, 235), (47, 364), (55, 427), (59, 469), (67, 577), (68, 586),

Gene: JellyBread_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for JellyBread_1:
(6, 10), (7, 13), (Start: 12 @64 has 34 MA's), (24, 139), (30, 205), (32, 211), (46, 367), (49, 385), (55, 436), (67, 583), (68, 592),

Gene: Kabloowy_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for Kabloowy_1:
(6, 10), (7, 13), (Start: 12 @64 has 34 MA's), (24, 139), (28, 181), (29, 196), (36, 253), (46, 367), (49, 385), (55, 436), (56, 445), (67, 583), (68, 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), (19, 287), (39, 416), (44, 479), (45, 482), (48, 524), (56, 584), (66, 713),

Gene: Lasker_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for Lasker_1:
(6, 10), (7, 13), (Start: 12 @64 has 34 MA's), (Start: 17 @109 has 1 MA's), (24, 139), (Start: 25 @154 has 1 MA's), (32, 211), (36, 253), (46, 367), (48, 379), (49, 385), (55, 436), (59, 478), (67, 583), (68, 592),

Gene: Lawnathon_1 Start: 65, Stop: 613, Start Num: 12
Candidate Starts for Lawnathon_1:
(5, 2), (Start: 12 @65 has 34 MA's), (24, 140), (28, 182), (29, 197), (36, 254), (46, 368), (49, 386), (55, 437), (67, 584), (68, 593),

Gene: LeBruni_1 Start: 65, Stop: 613, Start Num: 13
Candidate Starts for LeBruni_1:
(5, 2), (Start: 13 @65 has 1 MA's), (32, 212), (46, 368), (48, 380), (49, 386), (55, 437), (59, 479), (67, 584), (68, 593),

Gene: MUWow_1 Start: 56, Stop: 607, Start Num: 12
Candidate Starts for MUWow_1:
(5, 2), (Start: 12 @56 has 34 MA's), (24, 131), (29, 188), (31, 200), (32, 203), (41, 287), (42, 290), (46, 359), (49, 377), (53, 389), (57, 458), (59, 473), (60, 479), (65, 560), (67, 581), (68, 590),

Gene: Manilisa_4 Start: 1002, Stop: 1505, Start Num: 22
Candidate Starts for Manilisa_4:
(Start: 22 @1002 has 5 MA's), (27, 1050), (37, 1131), (42, 1173), (48, 1254), (52, 1266), (57, 1338), (69, 1476),

Gene: Mapleville_1 Start: 55, Stop: 606, Start Num: 12
Candidate Starts for Mapleville_1:
(Start: 12 @55 has 34 MA's), (24, 130), (29, 187), (31, 199), (32, 202), (41, 286), (42, 289), (46, 358), (49, 376), (53, 388), (57, 457), (59, 472), (60, 478), (65, 559), (67, 580), (68, 589),

Gene: MaterMagnus_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for MaterMagnus_1:
(6, 10), (Start: 12 @64 has 34 MA's), (Start: 17 @109 has 1 MA's), (24, 139), (Start: 25 @154 has 1 MA's), (32, 211), (46, 367), (48, 379), (49, 385), (55, 436), (59, 478), (67, 583), (68, 592),

Gene: Meyran_2 Start: 851, Stop: 1369, Start Num: 22
Candidate Starts for Meyran_2:
(19, 842), (20, 845), (Start: 22 @851 has 5 MA's), (27, 899), (42, 1022), (47, 1097), (48, 1103), (50, 1112), (52, 1115), (69, 1340),

Gene: MidnightRain_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for MidnightRain_1:
(6, 10), (7, 13), (Start: 12 @64 has 34 MA's), (24, 139), (29, 196), (32, 211), (34, 217), (49, 385), (55, 436), (59, 478), (67, 583), (68, 592),

Gene: MurphyJoseph_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for MurphyJoseph_1:
(6, 10), (7, 13), (Start: 12 @64 has 34 MA's), (24, 139), (28, 181), (30, 205), (36, 253), (46, 367), (49, 385), (55, 436), (59, 478), (67, 583), (68, 592),

Gene: NewKitty_1 Start: 139, Stop: 612, Start Num: 24
Candidate Starts for NewKitty_1:

(6, 10), (7, 13), (Start: 12 @64 has 34 MA's), (24, 139), (30, 205), (32, 211), (46, 367), (49, 385), (55, 436), (59, 478), (67, 583), (68, 592),

Gene: Nyceirae_4 Start: 828, Stop: 1346, Start Num: 22
Candidate Starts for Nyceirae_4:
(Start: 22 @828 has 5 MA's), (27, 876), (37, 957), (42, 999), (47, 1074), (50, 1089), (69, 1317),

Gene: Nyilah_1 Start: 55, Stop: 606, Start Num: 12
Candidate Starts for Nyilah_1:
(Start: 12 @55 has 34 MA's), (24, 130), (29, 187), (31, 199), (32, 202), (41, 286), (42, 289), (46, 358), (49, 376), (53, 388), (57, 457), (59, 472), (60, 478), (65, 559), (67, 580), (68, 589),

Gene: Persistence_1 Start: 55, Stop: 606, Start Num: 12
Candidate Starts for Persistence_1:
(Start: 12 @55 has 34 MA's), (24, 130), (29, 187), (31, 199), (32, 202), (41, 286), (42, 289), (46, 358), (49, 376), (53, 388), (57, 457), (59, 472), (60, 478), (65, 559), (67, 580), (68, 589),

Gene: Phishy_3 Start: 800, Stop: 1303, Start Num: 22
Candidate Starts for Phishy_3:
(14, 746), (Start: 22 @800 has 5 MA's), (27, 848), (42, 971), (52, 1064), (57, 1136), (69, 1274),

Gene: Phrank15_1 Start: 56, Stop: 607, Start Num: 12
Candidate Starts for Phrank15_1:
(5, 2), (Start: 12 @56 has 34 MA's), (24, 131), (29, 188), (31, 200), (32, 203), (41, 287), (42, 290), (46, 359), (49, 377), (53, 389), (57, 458), (59, 473), (60, 479), (65, 560), (67, 581), (68, 590),

Gene: RadFad_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for RadFad_1:
(6, 10), (Start: 12 @64 has 34 MA's), (Start: 17 @109 has 1 MA's), (29, 196), (32, 211), (36, 253), (46, 367), (49, 385), (55, 436), (59, 478), (67, 583), (68, 592),

Gene: Raphaella_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for Raphaella_1:
(6, 10), (7, 13), (Start: 12 @64 has 34 MA's), (24, 139), (29, 196), (32, 211), (36, 253), (46, 367), (49, 385), (55, 436), (59, 478), (67, 583), (68, 592),

Gene: Richie_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for Richie_1:
(6, 10), (7, 13), (Start: 12 @64 has 34 MA's), (24, 139), (30, 205), (36, 253), (46, 367), (48, 379), (49, 385), (55, 436), (59, 478), (67, 583), (68, 592),

Gene: Sakai_1 Start: 65, Stop: 613, Start Num: 12
Candidate Starts for Sakai_1:
(5, 2), (Start: 12 @65 has 34 MA's), (Start: 17 @110 has 1 MA's), (29, 197), (32, 212), (36, 254), (46, 368), (49, 386), (55, 437), (59, 479), (67, 584), (68, 593),

Gene: Sashimi_1 Start: 109, Stop: 612, Start Num: 17
Candidate Starts for Sashimi_1:
(Start: 12 @64 has 34 MA's), (Start: 17 @109 has 1 MA's), (32, 211), (36, 253), (46, 367), (49, 385), (55, 436), (59, 478), (67, 583), (68, 592),

Gene: Satrap_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for Satrap_1:

(6, 10), (7, 13), (Start: 12 @64 has 34 MA's), (24, 139), (28, 181), (29, 196), (36, 253), (46, 367), (49, 385), (55, 436), (59, 478), (67, 583), (68, 592),

Gene: Seahorse_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for Seahorse_1:
(6, 10), (Start: 12 @64 has 34 MA's), (Start: 17 @109 has 1 MA's), (24, 139), (Start: 25 @154 has 1 MA's), (29, 196), (32, 211), (36, 253), (46, 367), (49, 385), (55, 436), (56, 445), (67, 583), (68, 592),

Gene: Shukran_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for Shukran_1:
(6, 10), (7, 13), (Start: 12 @64 has 34 MA's), (Start: 17 @109 has 1 MA's), (32, 211), (36, 253), (46, 367), (49, 385), (55, 436), (59, 478), (67, 583), (68, 592),

Gene: SpicyFrank_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for SpicyFrank_1:
(6, 10), (7, 13), (Start: 12 @64 has 34 MA's), (Start: 17 @109 has 1 MA's), (24, 139), (Start: 25 @154 has 1 MA's), (32, 211), (36, 253), (46, 367), (48, 379), (49, 385), (55, 436), (59, 478), (67, 583), (68, 592),

Gene: TPA4_1 Start: 75, Stop: 497, Start Num: 23
Candidate Starts for TPA4_1:
(15, 24), (21, 69), (23, 75), (26, 102), (46, 279), (54, 336), (58, 384), (59, 390), (61, 402), (64, 441),

Gene: ThayneTheZag_1 Start: 65, Stop: 613, Start Num: 12
Candidate Starts for ThayneTheZag_1:
(5, 2), (Start: 12 @65 has 34 MA's), (Start: 17 @110 has 1 MA's), (29, 197), (36, 254), (46, 368), (48, 380), (49, 386), (55, 437), (59, 479), (67, 584), (68, 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 34 MA's), (35, 235), (36, 244), (42, 289), (47, 364), (59, 469), (67, 574), (68, 583),

Gene: Vopal_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for Vopal_1:
(6, 10), (Start: 12 @64 has 34 MA's), (Start: 17 @109 has 1 MA's), (29, 196), (32, 211), (36, 253), (46, 367), (49, 385), (55, 436), (59, 478), (67, 583), (68, 592),

Gene: Vordorf_2 Start: 594, Stop: 1112, Start Num: 22
Candidate Starts for Vordorf_2:
(Start: 22 @594 has 5 MA's), (27, 642), (47, 840), (50, 855), (52, 858), (69, 1083),

Gene: Windest_1 Start: 64, Stop: 612, Start Num: 12
Candidate Starts for Windest_1:
(6, 10), (Start: 12 @64 has 34 MA's), (Start: 17 @109 has 1 MA's), (29, 196), (32, 211), (36, 253), (46, 367), (48, 379), (49, 385), (55, 436), (59, 478), (67, 583), (68, 592),

Gene: YoungHarleezy_1 Start: 65, Stop: 613, Start Num: 12
Candidate Starts for YoungHarleezy_1:
(5, 2), (Start: 12 @65 has 34 MA's), (24, 140), (30, 206), (32, 212), (46, 368), (48, 380), (49, 386), (55, 437), (59, 479), (67, 584), (68, 593),