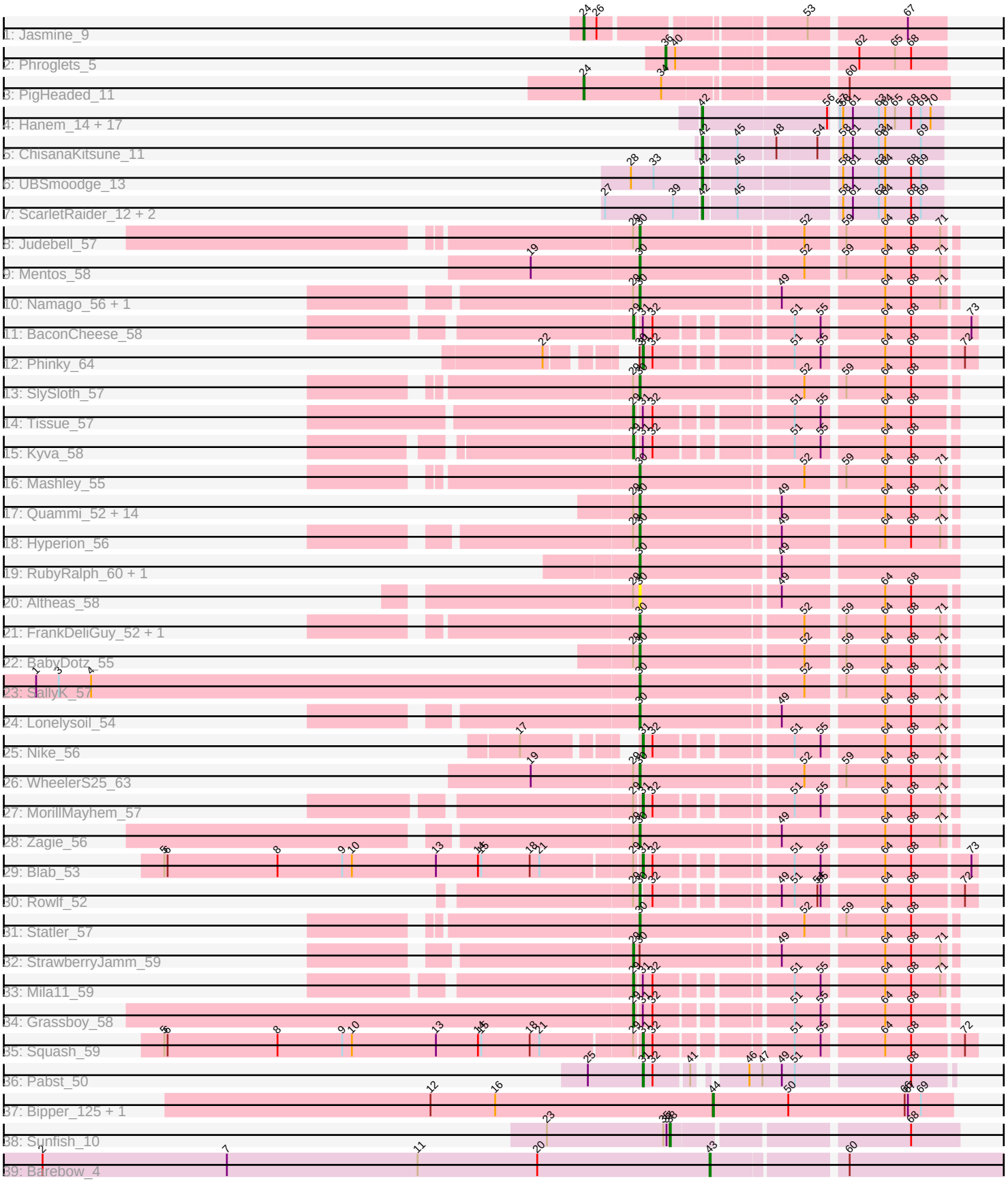
Pham 347554


1: Jasmine_9
2: Phroglets_5
3: PigHeaded_11
4: Hanem_14 + 17
5: ChisanaKitsune_11
6: UBSmoodge_13
7: ScarletRaider_12 + 2
8: Judebell_57
9: Mentos_58
10: Namago_56 + 1
11: BaconCheese_58
12: Phinky_64
13: SlySloth_57
14: Tissue_57
15: Kyva_58
16: Mashley_55
17: Quammi_52 + 14
18: Hyperion_56
19: RubyRalph_60 + 1
20: Altheas_58
21: FrankDeliGuy_52 + 1
22: BabyDotz_55
23: SallyK_57
24: Lonelysoil_54
25: Nike_56
26: WheelerS25_63
27: MorillMayhem_57
28: Zagie_56
29: Blab_53
30: Rowlf_52
31: Statler_57
32: StrawberryJamm_59
33: Mila11_59
34: Grassboy_58
35: Squash_59
36: Pabst_50
37: Bipper_125 + 1
38: Sunfish_10
39: Barebow_4

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 347554 Report

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

Pham number 347554 has 76 members, 12 are drafts.

Phages represented in each track:
- Track 1 : Jasmine_9
- Track 2 : Phroglets_5
- Track 3 : PigHeaded_11
- Track 4 : Hanem_14, Twin_14, Pakusa_14, Kabocha_14, Lenoshki_15, Oogie_15, MintFritos_14, Amoonguss_14, Gray_14, Aloki_14, EmoNemo_14, Beted_15, Farrylious_14, Argena_14, Chidiebere_14, Toneprano_14, Mikronejon_14, Schomber_14
- Track 5 : ChisanaKitsune_11
- Track 6 : UBSmoodge_13
- Track 7 : ScarletRaider_12, FruityLoops_11, FlyingTortilla_12
- Track 8 : Judebell_57
- Track 9 : Mentos_58
- Track 10 : Namago_56, Gazebo_55
- Track 11 : BaconCheese_58
- Track 12 : Phinky_64
- Track 13 : SlySloth_57
- Track 14 : Tissue_57
- Track 15 : Kyva_58
- Track 16 : Mashley_55
- Track 17 : Quammi_52, DonaldDuck_54, Wheelie_54, Viceroy_53, Rudy_52, EverythinBagel_53, Casend_55, Wayne3_56, LilCahh_53, Jehoshaphat_56, Llemily_54, Phabia_54, Sillytadpoles_55, Zhafia_57, Teehee_55
- Track 18 : Hyperion_56
- Track 19 : RubyRalph_60, Fransoyer_58
- Track 20 : Altheas_58
- Track 21 : FrankDeliGuy_52, ZestyBestie_53
- Track 22 : BabyDotz_55
- Track 23 : SallyK_57
- Track 24 : Lonelysoil_54
- Track 25 : Nike_56
- Track 26 : WheelerS25_63
- Track 27 : MorillMayhem_57
- Track 28 : Zagie_56
- Track 29 : Blab_53
- Track 30 : Rowlf_52
- Track 31 : Statler_57
- Track 32 : StrawberryJamm_59

• Track 33 : Mila11_59
• Track 34 : Grassboy_58
• Track 35 : Squash_59
• Track 36 : Pabst_50
• Track 37 : Bipper_125, Cracklewink_126
• Track 38 : Sunfish_10
• Track 39 : Barebow_4

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

The start number called the most often in the published annotations is 30, it was called in 31 of the 64 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Altheas_58, BabyDotz_55, Casend_55, DonaldDuck_54, EverythinBagel_53, FrankDeliGuy_52, Fransoyer_58, Gazebo_55, Hyperion_56, Jehoshaphat_56, Judebell_57, LilCahh_53, Llemily_54, Lonelysoil_54, Mashley_55, Mentos_58, Namago_56, Phabia_54, Quammi_52, Rowlf_52, RubyRalph_60, Rudy_52, SallyK_57, Sillytadpoles_55, SlySloth_57, Statler_57, Teehee_55, Viceroy_53, Wayne3_56, WheelerS25_63, Wheelie_54, Zagie_56, ZestyBestie_53, Zhafia_57,

Genes that have the "Most Annotated" start but do not call it:
• Phinky_64, StrawberryJamm_59,

Genes that do not have the "Most Annotated" start:
• Aloki_14, Amoonguss_14, Argena_14, BaconCheese_58, Barebow_4, Beted_15, Bipper_125, Blab_53, Chidiebere_14, ChisanaKitsune_11, Cracklewink_126, EmoNemo_14, Farrylious_14, FlyingTortilla_12, FruityLoops_11, Grassboy_58, Gray_14, Hanem_14, Jasmine_9, Kabocha_14, Kyva_58, Lenoshki_15, Mikronejon_14, Mila11_59, MintFritos_14, MorillMayhem_57, Nike_56, Oogie_15, Pabst_50, Pakusa_14, Phroglets_5, PigHeaded_11, ScarletRaider_12, Schomber_14, Squash_59, Sunfish_10, Tissue_57, Toneprano_14, Twin_14, UBSmoodge_13,

Summary by start number:

Start 24:
• Found in 2 of 76 (2.6%) of genes in pham
• Manual Annotations of this start: 2 of 64
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Jasmine_9 (AV), PigHeaded_11 (AV),

Start 29:
• Found in 34 of 76 (44.7%) of genes in pham
• Manual Annotations of this start: 6 of 64
• Called 17.6% of time when present
• Phage (with cluster) where this start called: BaconCheese_58 (EG), Grassboy_58 (EG), Kyva_58 (EG), Mila11_59 (EG), StrawberryJamm_59 (EG), Tissue_57 (EG),

Start 30:

• Found in 36 of 76 (47.4%) of genes in pham
• Manual Annotations of this start: 31 of 64
• Called 94.4% of time when present
• Phage (with cluster) where this start called: Altheas_58 (EG), BabyDotz_55 (EG), Casend_55 (EG), DonaldDuck_54 (EG), EverythinBagel_53 (EG), FrankDeliGuy_52 (EG), Fransoyer_58 (EG), Gazebo_55 (EG), Hyperion_56 (EG), Jehoshaphat_56 (EG), Judebell_57 (EG), LilCahh_53 (EG), Llemily_54 (EG), Lonelysoil_54 (EG), Mashley_55 (EG), Mentos_58 (EG), Namago_56 (EG), Phabia_54 (EG), Quammi_52 (EG), Rowlf_52 (EG), RubyRalph_60 (EG), Rudy_52 (EG), SallyK_57 (EG), Sillytadpoles_55 (EG), SlySloth_57 (EG), Statler_57 (EG), Teehee_55 (EG), Viceroy_53 (EG), Wayne3_56 (EG), WheelerS25_63 (EG), Wheelie_54 (EG), Zagie_56 (EG), ZestyBestie_53 (EG), Zhafia_57 (EG),

Start 31:
• Found in 11 of 76 (14.5%) of genes in pham
• Manual Annotations of this start: 6 of 64
• Called 54.5% of time when present
• Phage (with cluster) where this start called: Blab_53 (EG), MorillMayhem_57 (EG), Nike_56 (EG), Pabst_50 (EK1), Phinky_64 (EG), Squash_59 (EG),

Start 36:
• Found in 1 of 76 (1.3%) of genes in pham
• Manual Annotations of this start: 1 of 64
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Phroglets_5 (AV),

Start 38:
• Found in 1 of 76 (1.3%) of genes in pham
• Manual Annotations of this start: 1 of 64
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Sunfish_10 (singleton),

Start 42:
• Found in 23 of 76 (30.3%) of genes in pham
• Manual Annotations of this start: 14 of 64
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Aloki_14 (DQ), Amoonguss_14 (DQ), Argena_14 (DQ), Beted_15 (DQ), Chidiebere_14 (DQ), ChisanaKitsune_11 (DQ), EmoNemo_14 (DQ), Farrylious_14 (DQ), FlyingTortilla_12 (DQ), FruityLoops_11 (DQ), Gray_14 (DQ), Hanem_14 (DQ), Kabocha_14 (DQ), Lenoshki_15 (DQ), Mikronejon_14 (DQ), MintFritos_14 (DQ), Oogie_15 (DQ), Pakusa_14 (DQ), ScarletRaider_12 (DQ), Schomber_14 (DQ), Toneprano_14 (DQ), Twin_14 (DQ), UBSmoodge_13 (DQ),

Start 43:
• Found in 1 of 76 (1.3%) of genes in pham
• Manual Annotations of this start: 1 of 64
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Barebow_4 (singleton),

Start 44:
• Found in 2 of 76 (2.6%) of genes in pham
• Manual Annotations of this start: 2 of 64

• Called 100.0% of time when present
• Phage (with cluster) where this start called: Bipper_125 (Y), Cracklewink_126 (Y),

Summary by clusters:

There are 6 clusters represented in this pham: singleton, EG, AV, Y, EK1, DQ,

Info for manual annotations of cluster AV:
•Start number 24 was manually annotated 2 times for cluster AV.
•Start number 36 was manually annotated 1 time for cluster AV.

Info for manual annotations of cluster DQ:
•Start number 42 was manually annotated 14 times for cluster DQ.

Info for manual annotations of cluster EG:
•Start number 29 was manually annotated 6 times for cluster EG.
•Start number 30 was manually annotated 31 times for cluster EG.
•Start number 31 was manually annotated 5 times for cluster EG.

Info for manual annotations of cluster EK1:
•Start number 31 was manually annotated 1 time for cluster EK1.

Info for manual annotations of cluster Y:
•Start number 44 was manually annotated 2 times for cluster Y.

Gene Information:

Gene: Aloki_14 Start: 5685, Stop: 5897, Start Num: 42
Candidate Starts for Aloki_14:
(Start: 42 @5685 has 14 MA's), (56, 5799), (57, 5802), (58, 5805), (61, 5814), (63, 5838), (64, 5844), (65, 5853), (68, 5868), (69, 5877), (70, 5886),

Gene: Altheas_58 Start: 42617, Stop: 42345, Start Num: 30
Candidate Starts for Altheas_58:
(Start: 29 @42623 has 6 MA's), (Start: 30 @42617 has 31 MA's), (49, 42494), (64, 42407), (68, 42383),

Gene: Amoonguss_14 Start: 5685, Stop: 5897, Start Num: 42
Candidate Starts for Amoonguss_14:
(Start: 42 @5685 has 14 MA's), (56, 5799), (57, 5802), (58, 5805), (61, 5814), (63, 5838), (64, 5844), (65, 5853), (68, 5868), (69, 5877), (70, 5886),

Gene: Argena_14 Start: 5685, Stop: 5897, Start Num: 42
Candidate Starts for Argena_14:
(Start: 42 @5685 has 14 MA's), (56, 5799), (57, 5802), (58, 5805), (61, 5814), (63, 5838), (64, 5844), (65, 5853), (68, 5868), (69, 5877), (70, 5886),

Gene: BabyDotz_55 Start: 42840, Stop: 42568, Start Num: 30
Candidate Starts for BabyDotz_55:
(Start: 29 @42843 has 6 MA's), (Start: 30 @42840 has 31 MA's), (52, 42696), (59, 42666), (64, 42630), (68, 42606), (71, 42579),

Gene: BaconCheese_58 Start: 43502, Stop: 43224, Start Num: 29
Candidate Starts for BaconCheese_58:
(Start: 29 @43502 has 6 MA's), (Start: 31 @43496 has 6 MA's), (32, 43487), (51, 43379), (55, 43355), (64, 43304), (68, 43280), (73, 43229),

Gene: Barebow_4 Start: 3104, Stop: 3373, Start Num: 43
Candidate Starts for Barebow_4:
(2, 2486), (7, 2657), (11, 2834), (20, 2945), (Start: 43 @3104 has 1 MA's), (60, 3218),

Gene: Beted_15 Start: 5582, Stop: 5794, Start Num: 42
Candidate Starts for Beted_15:
(Start: 42 @5582 has 14 MA's), (56, 5696), (57, 5699), (58, 5702), (61, 5711), (63, 5735), (64, 5741), (65, 5750), (68, 5765), (69, 5774), (70, 5783),

Gene: Bipper_125 Start: 73005, Stop: 73226, Start Num: 44
Candidate Starts for Bipper_125:
(12, 72744), (16, 72804), (Start: 44 @73005 has 2 MA's), (50, 73074), (66, 73182), (67, 73185), (69, 73197),

Gene: Blab_53 Start: 41667, Stop: 41395, Start Num: 31
Candidate Starts for Blab_53:
(5, 42102), (6, 42099), (8, 41997), (9, 41937), (10, 41928), (13, 41850), (14, 41811), (15, 41808), (18, 41763), (21, 41754), (Start: 29 @41673 has 6 MA's), (Start: 31 @41667 has 6 MA's), (32, 41658), (51, 41550), (55, 41526), (64, 41475), (68, 41451), (73, 41400),

Gene: Casend_55 Start: 42251, Stop: 41979, Start Num: 30
Candidate Starts for Casend_55:
(Start: 29 @42254 has 6 MA's), (Start: 30 @42251 has 31 MA's), (49, 42128), (64, 42041), (68, 42017), (71, 41990),

Gene: Chidiebere_14 Start: 5685, Stop: 5897, Start Num: 42
Candidate Starts for Chidiebere_14:
(Start: 42 @5685 has 14 MA's), (56, 5799), (57, 5802), (58, 5805), (61, 5814), (63, 5838), (64, 5844), (65, 5853), (68, 5868), (69, 5877), (70, 5886),

Gene: ChisanaKitsune_11 Start: 4663, Stop: 4869, Start Num: 42
Candidate Starts for ChisanaKitsune_11:
(Start: 42 @4663 has 14 MA's), (45, 4693), (48, 4726), (54, 4762), (58, 4777), (61, 4786), (63, 4810), (64, 4816), (69, 4849),

Gene: Cracklewink_126 Start: 72157, Stop: 72378, Start Num: 44
Candidate Starts for Cracklewink_126:
(12, 71896), (16, 71956), (Start: 44 @72157 has 2 MA's), (50, 72226), (66, 72334), (67, 72337), (69, 72349),

Gene: DonaldDuck_54 Start: 41600, Stop: 41328, Start Num: 30
Candidate Starts for DonaldDuck_54:
(Start: 29 @41603 has 6 MA's), (Start: 30 @41600 has 31 MA's), (49, 41477), (64, 41390), (68, 41366), (71, 41339),

Gene: EmoNemo_14 Start: 5685, Stop: 5897, Start Num: 42
Candidate Starts for EmoNemo_14:

(Start: 42 @5685 has 14 MA's), (56, 5799), (57, 5802), (58, 5805), (61, 5814), (63, 5838), (64, 5844), (65, 5853), (68, 5868), (69, 5877), (70, 5886),

Gene: EverythinBagel_53 Start: 41961, Stop: 41689, Start Num: 30
Candidate Starts for EverythinBagel_53:
(Start: 29 @41964 has 6 MA's), (Start: 30 @41961 has 31 MA's), (49, 41838), (64, 41751), (68, 41727), (71, 41700),

Gene: Farrylious_14 Start: 5709, Stop: 5921, Start Num: 42
Candidate Starts for Farrylious_14:
(Start: 42 @5709 has 14 MA's), (56, 5823), (57, 5826), (58, 5829), (61, 5838), (63, 5862), (64, 5868), (65, 5877), (68, 5892), (69, 5901), (70, 5910),

Gene: FlyingTortilla_12 Start: 6471, Stop: 6677, Start Num: 42
Candidate Starts for FlyingTortilla_12:
(27, 6384), (39, 6447), (Start: 42 @6471 has 14 MA's), (45, 6501), (58, 6585), (61, 6594), (63, 6618), (64, 6624), (68, 6648), (69, 6657),

Gene: FrankDeliGuy_52 Start: 41773, Stop: 41501, Start Num: 30
Candidate Starts for FrankDeliGuy_52:
(Start: 30 @41773 has 31 MA's), (52, 41629), (59, 41599), (64, 41563), (68, 41539), (71, 41512),

Gene: Fransoyer_58 Start: 44153, Stop: 43872, Start Num: 30
Candidate Starts for Fransoyer_58:
(Start: 30 @44153 has 31 MA's), (49, 44027),

Gene: FruityLoops_11 Start: 6380, Stop: 6586, Start Num: 42
Candidate Starts for FruityLoops_11:
(27, 6293), (39, 6356), (Start: 42 @6380 has 14 MA's), (45, 6410), (58, 6494), (61, 6503), (63, 6527), (64, 6533), (68, 6557), (69, 6566),

Gene: Gazebo_55 Start: 42275, Stop: 42003, Start Num: 30
Candidate Starts for Gazebo_55:
(Start: 29 @42281 has 6 MA's), (Start: 30 @42275 has 31 MA's), (49, 42152), (64, 42065), (68, 42041), (71, 42014),

Gene: Grassboy_58 Start: 42646, Stop: 42386, Start Num: 29
Candidate Starts for Grassboy_58:
(Start: 29 @42646 has 6 MA's), (Start: 31 @42640 has 6 MA's), (32, 42631), (51, 42523), (55, 42499), (64, 42448), (68, 42424),

Gene: Gray_14 Start: 5685, Stop: 5897, Start Num: 42
Candidate Starts for Gray_14:
(Start: 42 @5685 has 14 MA's), (56, 5799), (57, 5802), (58, 5805), (61, 5814), (63, 5838), (64, 5844), (65, 5853), (68, 5868), (69, 5877), (70, 5886),

Gene: Hanem_14 Start: 5685, Stop: 5897, Start Num: 42
Candidate Starts for Hanem_14:
(Start: 42 @5685 has 14 MA's), (56, 5799), (57, 5802), (58, 5805), (61, 5814), (63, 5838), (64, 5844), (65, 5853), (68, 5868), (69, 5877), (70, 5886),

Gene: Hyperion_56 Start: 42456, Stop: 42184, Start Num: 30
Candidate Starts for Hyperion_56:

(Start: 29 @42459 has 6 MA's), (Start: 30 @42456 has 31 MA's), (49, 42333), (64, 42246), (68, 42222), (71, 42195),

Gene: Jasmine_9 Start: 4149, Stop: 4448, Start Num: 24
Candidate Starts for Jasmine_9:
(Start: 24 @4149 has 2 MA's), (26, 4161), (53, 4329), (67, 4413),

Gene: Jehoshaphat_56 Start: 42519, Stop: 42247, Start Num: 30
Candidate Starts for Jehoshaphat_56:
(Start: 29 @42522 has 6 MA's), (Start: 30 @42519 has 31 MA's), (49, 42396), (64, 42309), (68, 42285), (71, 42258),

Gene: Judebell_57 Start: 42165, Stop: 41893, Start Num: 30
Candidate Starts for Judebell_57:
(Start: 29 @42168 has 6 MA's), (Start: 30 @42165 has 31 MA's), (52, 42021), (59, 41991), (64, 41955), (68, 41931), (71, 41904),

Gene: Kabocha_14 Start: 5685, Stop: 5897, Start Num: 42
Candidate Starts for Kabocha_14:
(Start: 42 @5685 has 14 MA's), (56, 5799), (57, 5802), (58, 5805), (61, 5814), (63, 5838), (64, 5844), (65, 5853), (68, 5868), (69, 5877), (70, 5886),

Gene: Kyva_58 Start: 42703, Stop: 42443, Start Num: 29
Candidate Starts for Kyva_58:
(Start: 29 @42703 has 6 MA's), (Start: 31 @42697 has 6 MA's), (32, 42688), (51, 42580), (55, 42556), (64, 42505), (68, 42481),

Gene: Lenoshki_15 Start: 5582, Stop: 5794, Start Num: 42
Candidate Starts for Lenoshki_15:
(Start: 42 @5582 has 14 MA's), (56, 5696), (57, 5699), (58, 5702), (61, 5711), (63, 5735), (64, 5741), (65, 5750), (68, 5765), (69, 5774), (70, 5783),

Gene: LilCahh_53 Start: 41589, Stop: 41317, Start Num: 30
Candidate Starts for LilCahh_53:
(Start: 29 @41592 has 6 MA's), (Start: 30 @41589 has 31 MA's), (49, 41466), (64, 41379), (68, 41355), (71, 41328),

Gene: Llemily_54 Start: 41295, Stop: 41023, Start Num: 30
Candidate Starts for Llemily_54:
(Start: 29 @41298 has 6 MA's), (Start: 30 @41295 has 31 MA's), (49, 41172), (64, 41085), (68, 41061), (71, 41034),

Gene: Lonelysoil_54 Start: 41648, Stop: 41376, Start Num: 30
Candidate Starts for Lonelysoil_54:
(Start: 30 @41648 has 31 MA's), (49, 41525), (64, 41438), (68, 41414), (71, 41387),

Gene: Mashley_55 Start: 42232, Stop: 41960, Start Num: 30
Candidate Starts for Mashley_55:
(Start: 30 @42232 has 31 MA's), (52, 42088), (59, 42058), (64, 42022), (68, 41998), (71, 41971),

Gene: Mentos_58 Start: 43466, Stop: 43194, Start Num: 30
Candidate Starts for Mentos_58:

(19, 43562), (Start: 30 @43466 has 31 MA's), (52, 43322), (59, 43292), (64, 43256), (68, 43232), (71, 43205),

Gene: Mikronejon_14 Start: 5685, Stop: 5897, Start Num: 42
Candidate Starts for Mikronejon_14:
(Start: 42 @5685 has 14 MA's), (56, 5799), (57, 5802), (58, 5805), (61, 5814), (63, 5838), (64, 5844), (65, 5853), (68, 5868), (69, 5877), (70, 5886),

Gene: Mila11_59 Start: 43691, Stop: 43431, Start Num: 29
Candidate Starts for Mila11_59:
(Start: 29 @43691 has 6 MA's), (Start: 31 @43685 has 6 MA's), (32, 43676), (51, 43568), (55, 43544), (64, 43493), (68, 43469), (71, 43442),

Gene: MintFritos_14 Start: 5685, Stop: 5897, Start Num: 42
Candidate Starts for MintFritos_14:
(Start: 42 @5685 has 14 MA's), (56, 5799), (57, 5802), (58, 5805), (61, 5814), (63, 5838), (64, 5844), (65, 5853), (68, 5868), (69, 5877), (70, 5886),

Gene: MorillMayhem_57 Start: 42562, Stop: 42308, Start Num: 31
Candidate Starts for MorillMayhem_57:
(Start: 29 @42568 has 6 MA's), (Start: 31 @42562 has 6 MA's), (32, 42553), (51, 42445), (55, 42421), (64, 42370), (68, 42346), (71, 42319),

Gene: Namago_56 Start: 41635, Stop: 41363, Start Num: 30
Candidate Starts for Namago_56:
(Start: 29 @41641 has 6 MA's), (Start: 30 @41635 has 31 MA's), (49, 41512), (64, 41425), (68, 41401), (71, 41374),

Gene: Nike_56 Start: 42603, Stop: 42349, Start Num: 31
Candidate Starts for Nike_56:
(17, 42684), (Start: 31 @42603 has 6 MA's), (32, 42594), (51, 42486), (55, 42462), (64, 42411), (68, 42387), (71, 42360),

Gene: Oogie_15 Start: 5582, Stop: 5794, Start Num: 42
Candidate Starts for Oogie_15:
(Start: 42 @5582 has 14 MA's), (56, 5696), (57, 5699), (58, 5702), (61, 5711), (63, 5735), (64, 5741), (65, 5750), (68, 5765), (69, 5774), (70, 5783),

Gene: Pabst_50 Start: 50450, Stop: 50701, Start Num: 31
Candidate Starts for Pabst_50:
(25, 50399), (Start: 31 @50450 has 6 MA's), (32, 50459), (41, 50489), (46, 50525), (47, 50537), (49, 50555), (51, 50567), (68, 50666),

Gene: Pakusa_14 Start: 5427, Stop: 5639, Start Num: 42
Candidate Starts for Pakusa_14:
(Start: 42 @5427 has 14 MA's), (56, 5541), (57, 5544), (58, 5547), (61, 5556), (63, 5580), (64, 5586), (65, 5595), (68, 5610), (69, 5619), (70, 5628),

Gene: Phabia_54 Start: 41710, Stop: 41438, Start Num: 30
Candidate Starts for Phabia_54:
(Start: 29 @41713 has 6 MA's), (Start: 30 @41710 has 31 MA's), (49, 41587), (64, 41500), (68, 41476), (71, 41449),

Gene: Phinky_64 Start: 44342, Stop: 44070, Start Num: 31
Candidate Starts for Phinky_64:
(22, 44396), (Start: 30 @44345 has 31 MA's), (Start: 31 @44342 has 6 MA's), (32, 44333), (51, 44225), (55, 44201), (64, 44150), (68, 44126), (72, 44081),

Gene: Phroglets_5 Start: 3497, Stop: 3736, Start Num: 36
Candidate Starts for Phroglets_5:
(Start: 36 @3497 has 1 MA's), (40, 3506), (62, 3656), (65, 3689), (68, 3704),

Gene: PigHeaded_11 Start: 4878, Stop: 5192, Start Num: 24
Candidate Starts for PigHeaded_11:
(Start: 24 @4878 has 2 MA's), (34, 4950), (60, 5100),

Gene: Quammi_52 Start: 41410, Stop: 41138, Start Num: 30
Candidate Starts for Quammi_52:
(Start: 29 @41413 has 6 MA's), (Start: 30 @41410 has 31 MA's), (49, 41287), (64, 41200), (68, 41176), (71, 41149),

Gene: Rowlf_52 Start: 41508, Stop: 41236, Start Num: 30
Candidate Starts for Rowlf_52:
(Start: 29 @41511 has 6 MA's), (Start: 30 @41508 has 31 MA's), (32, 41499), (49, 41403), (51, 41391), (54, 41370), (55, 41367), (64, 41316), (68, 41292), (72, 41247),

Gene: RubyRalph_60 Start: 44491, Stop: 44210, Start Num: 30
Candidate Starts for RubyRalph_60:
(Start: 30 @44491 has 31 MA's), (49, 44365),

Gene: Rudy_52 Start: 41446, Stop: 41174, Start Num: 30
Candidate Starts for Rudy_52:
(Start: 29 @41449 has 6 MA's), (Start: 30 @41446 has 31 MA's), (49, 41323), (64, 41236), (68, 41212), (71, 41185),

Gene: SallyK_57 Start: 42760, Stop: 42488, Start Num: 30
Candidate Starts for SallyK_57:
(1, 43315), (3, 43294), (4, 43264), (Start: 30 @42760 has 31 MA's), (52, 42616), (59, 42586), (64, 42550), (68, 42526), (71, 42499),

Gene: ScarletRaider_12 Start: 6498, Stop: 6704, Start Num: 42
Candidate Starts for ScarletRaider_12:
(27, 6411), (39, 6474), (Start: 42 @6498 has 14 MA's), (45, 6528), (58, 6612), (61, 6621), (63, 6645), (64, 6651), (68, 6675), (69, 6684),

Gene: Schomber_14 Start: 5685, Stop: 5897, Start Num: 42
Candidate Starts for Schomber_14:
(Start: 42 @5685 has 14 MA's), (56, 5799), (57, 5802), (58, 5805), (61, 5814), (63, 5838), (64, 5844), (65, 5853), (68, 5868), (69, 5877), (70, 5886),

Gene: Sillytadpoles_55 Start: 41283, Stop: 41011, Start Num: 30
Candidate Starts for Sillytadpoles_55:
(Start: 29 @41286 has 6 MA's), (Start: 30 @41283 has 31 MA's), (49, 41160), (64, 41073), (68, 41049), (71, 41022),

Gene: SlySloth_57 Start: 42152, Stop: 41880, Start Num: 30

Candidate Starts for SlySloth_57:
(Start: 29 @42155 has 6 MA's), (Start: 30 @42152 has 31 MA's), (52, 42008), (59, 41978), (64, 41942), (68, 41918),

Gene: Squash_59 Start: 42626, Stop: 42354, Start Num: 31
Candidate Starts for Squash_59:
(5, 43061), (6, 43058), (8, 42956), (9, 42896), (10, 42887), (13, 42809), (14, 42770), (15, 42767), (18, 42722), (21, 42713), (Start: 29 @42632 has 6 MA's), (Start: 31 @42626 has 6 MA's), (32, 42617), (51, 42509), (55, 42485), (64, 42434), (68, 42410), (72, 42365),

Gene: Statler_57 Start: 42227, Stop: 41955, Start Num: 30
Candidate Starts for Statler_57:
(Start: 30 @42227 has 31 MA's), (52, 42083), (59, 42053), (64, 42017), (68, 41993),

Gene: StrawberryJamm_59 Start: 41944, Stop: 41666, Start Num: 29
Candidate Starts for StrawberryJamm_59:
(Start: 29 @41944 has 6 MA's), (Start: 30 @41938 has 31 MA's), (49, 41815), (64, 41728), (68, 41704), (71, 41677),

Gene: Sunfish_10 Start: 3392, Stop: 3637, Start Num: 38
Candidate Starts for Sunfish_10:
(23, 3278), (35, 3386), (37, 3389), (Start: 38 @3392 has 1 MA's), (68, 3593),

Gene: Teehee_55 Start: 42516, Stop: 42244, Start Num: 30
Candidate Starts for Teehee_55:
(Start: 29 @42519 has 6 MA's), (Start: 30 @42516 has 31 MA's), (49, 42393), (64, 42306), (68, 42282), (71, 42255),

Gene: Tissue_57 Start: 42542, Stop: 42282, Start Num: 29
Candidate Starts for Tissue_57:
(Start: 29 @42542 has 6 MA's), (Start: 31 @42536 has 6 MA's), (32, 42527), (51, 42419), (55, 42395), (64, 42344), (68, 42320),

Gene: Toneprano_14 Start: 5685, Stop: 5897, Start Num: 42
Candidate Starts for Toneprano_14:
(Start: 42 @5685 has 14 MA's), (56, 5799), (57, 5802), (58, 5805), (61, 5814), (63, 5838), (64, 5844), (65, 5853), (68, 5868), (69, 5877), (70, 5886),

Gene: Twin_14 Start: 5685, Stop: 5897, Start Num: 42
Candidate Starts for Twin_14:
(Start: 42 @5685 has 14 MA's), (56, 5799), (57, 5802), (58, 5805), (61, 5814), (63, 5838), (64, 5844), (65, 5853), (68, 5868), (69, 5877), (70, 5886),

Gene: UBSmoodge_13 Start: 6871, Stop: 7077, Start Num: 42
Candidate Starts for UBSmoodge_13:
(28, 6808), (33, 6829), (Start: 42 @6871 has 14 MA's), (45, 6901), (58, 6985), (61, 6994), (63, 7018), (64, 7024), (68, 7048), (69, 7057),

Gene: Viceroy_53 Start: 41416, Stop: 41144, Start Num: 30
Candidate Starts for Viceroy_53:
(Start: 29 @41419 has 6 MA's), (Start: 30 @41416 has 31 MA's), (49, 41293), (64, 41206), (68, 41182), (71, 41155),

Gene: Wayne3_56 Start: 42279, Stop: 42007, Start Num: 30
Candidate Starts for Wayne3_56:
(Start: 29 @42282 has 6 MA's), (Start: 30 @42279 has 31 MA's), (49, 42156), (64, 42069), (68, 42045), (71, 42018),

Gene: WheelerS25_63 Start: 43635, Stop: 43363, Start Num: 30
Candidate Starts for WheelerS25_63:
(19, 43731), (Start: 29 @43638 has 6 MA's), (Start: 30 @43635 has 31 MA's), (52, 43491), (59, 43461), (64, 43425), (68, 43401), (71, 43374),

Gene: Wheelie_54 Start: 41600, Stop: 41328, Start Num: 30
Candidate Starts for Wheelie_54:
(Start: 29 @41603 has 6 MA's), (Start: 30 @41600 has 31 MA's), (49, 41477), (64, 41390), (68, 41366), (71, 41339),

Gene: Zagie_56 Start: 42135, Stop: 41863, Start Num: 30
Candidate Starts for Zagie_56:
(Start: 29 @42141 has 6 MA's), (Start: 30 @42135 has 31 MA's), (49, 42012), (64, 41925), (68, 41901), (71, 41874),

Gene: ZestyBestie_53 Start: 41768, Stop: 41496, Start Num: 30
Candidate Starts for ZestyBestie_53:
(Start: 30 @41768 has 31 MA's), (52, 41624), (59, 41594), (64, 41558), (68, 41534), (71, 41507),

Gene: Zhafia_57 Start: 42080, Stop: 41808, Start Num: 30
Candidate Starts for Zhafia_57:
(Start: 29 @42083 has 6 MA's), (Start: 30 @42080 has 31 MA's), (49, 41957), (64, 41870), (68, 41846), (71, 41819),