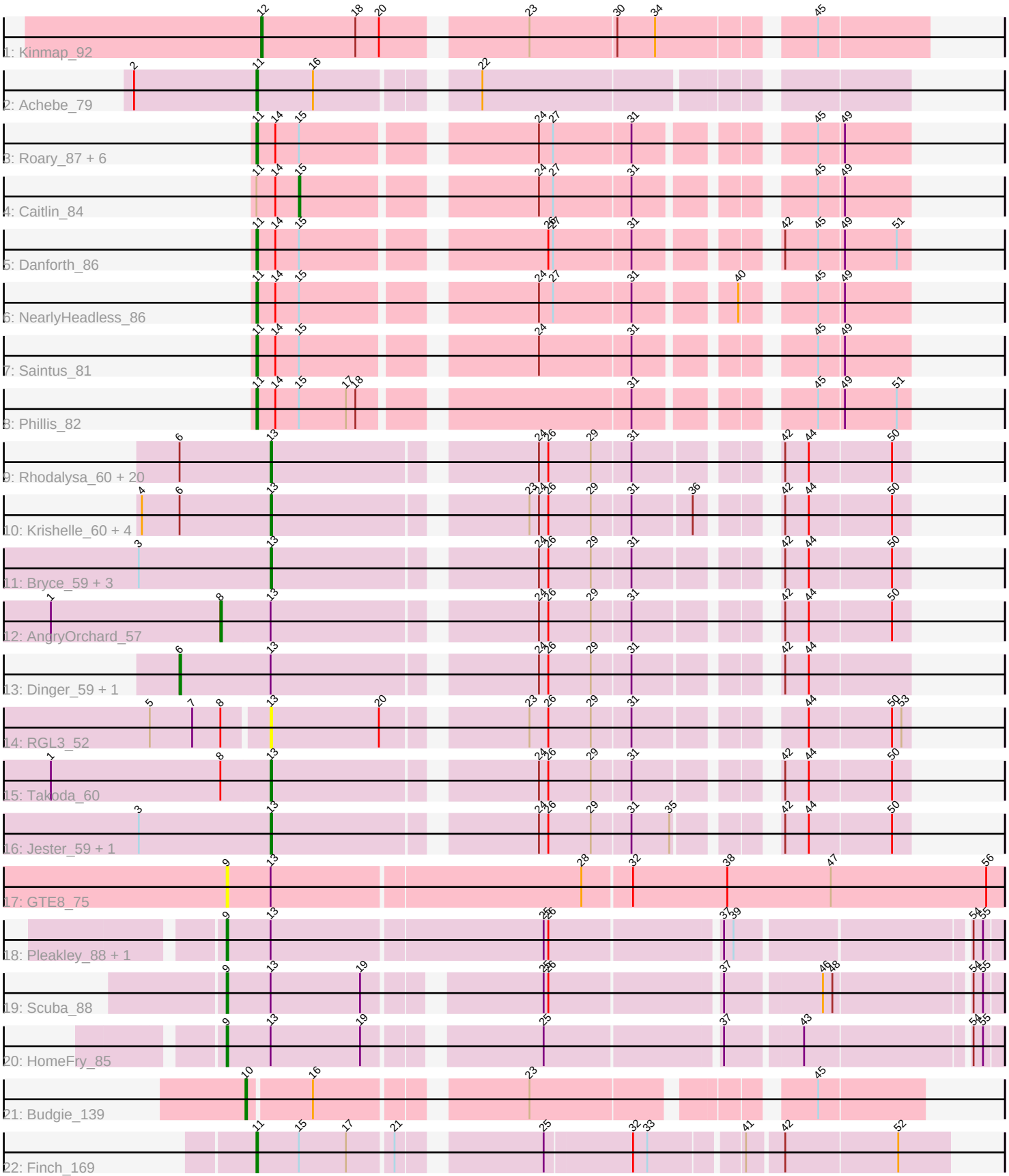
Pham 347663


1: Kinmap_92
2: Achebe_79
3: Roary_87 + 6
4: Caitlin_84
5: Danforth_86
6: NearlyHeadless_86
7: Saintus_81
8: Phillis_82
9: Rhodalysa_60 + 20
10: Krishelle_60 + 4
11: Bryce_59 + 3
12: AngryOrchard_57
13: Dinger_59 + 1
14: RGL3_52
15: Takoda_60
16: Jester_59 + 1
17: GTE8_75
18: Pleakley_88 + 1
19: Scuba_88
20: HomeFry_85
21: Budgie_139
22: Finch_169

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 347663 Report

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

Pham number 347663 has 58 members, 3 are drafts.

Phages represented in each track:
• Track 1 : Kinmap_92
• Track 2 : Achebe_79
• Track 3 : Roary_87, Groundhog_83, Expelliarmus_82, Astro_85, Dixon_84, Smeadley_85, Stephig9_84
• Track 4 : Caitlin_84
• Track 5 : Danforth_86
• Track 6 : NearlyHeadless_86
• Track 7 : Saintus_81
• Track 8 : Phillis_82
• Track 9 : Rhodalysa_60, Bonanza_61, Phrankenstein_60, Lillie_60, Belenaria_61, RexFury_59, Natosaleda_59, Erik_60, Alpacados_59, Swann_60, Yogi_61, Espica_61, Gollum_60, RER2_54, CosmicSans_60, TWAMP_60, UhSalsa_60, Shuman_61, AppleCloud_57, Rasputin_60, Nancinator_59
• Track 10 : Krishelle_60, Bradshaw_60, Naiad_59, Alatin_59, StCroix_59
• Track 11 : Bryce_59, BobbyDazzler_60, Hiro_60, Yoncess_59
• Track 12 : AngryOrchard_57
• Track 13 : Dinger_59, Partridge_59
• Track 14 : RGL3_52
• Track 15 : Takoda_60
• Track 16 : Jester_59, Harlequin_60
• Track 17 : GTE8_75
• Track 18 : Pleakley_88, Fury_88
• Track 19 : Scuba_88
• Track 20 : HomeFry_85
• Track 21 : Budgie_139
• Track 22 : Finch_169

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

The start number called the most often in the published annotations is 13, it was called in 32 of the 55 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

• Alatin_59, Alpacados_59, AppleCloud_57, Belenaria_61, BobbyDazzler_60, Bonanza_61, Bradshaw_60, Bryce_59, CosmicSans_60, Erik_60, Espica_61, Gollum_60, Harlequin_60, Hiro_60, Jester_59, Krishelle_60, Lillie_60, Naiad_59, Nancinator_59, Natosaleda_59, Phrankenstein_60, RER2_54, RGL3_52, Rasputin_60, RexFury_59, Rhodalysa_60, Shuman_61, StCroix_59, Swann_60, TWAMP_60, Takoda_60, UhSalsa_60, Yogi_61, Yoncess_59,

Genes that have the "Most Annotated" start but do not call it:
• AngryOrchard_57, Dinger_59, Fury_88, GTE8_75, HomeFry_85, Partridge_59, Pleakley_88, Scuba_88,

Genes that do not have the "Most Annotated" start:
• Achebe_79, Astro_85, Budgie_139, Caitlin_84, Danforth_86, Dixon_84, Expelliarmus_82, Finch_169, Groundhog_83, Kinmap_92, NearlyHeadless_86, Phillis_82, Roary_87, Saintus_81, Smeadley_85, Stephig9_84,

Summary by start number:

Start 6:
• Found in 28 of 58 (48.3%) of genes in pham
• Manual Annotations of this start: 2 of 55
• Called 7.1% of time when present
• Phage (with cluster) where this start called: Dinger_59 (CA), Partridge_59 (CA),

Start 8:
• Found in 3 of 58 (5.2%) of genes in pham
• Manual Annotations of this start: 1 of 55
• Called 33.3% of time when present
• Phage (with cluster) where this start called: AngryOrchard_57 (CA),

Start 9:
• Found in 5 of 58 (8.6%) of genes in pham
• Manual Annotations of this start: 4 of 55
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Fury_88 (CR5), GTE8_75 (CR2), HomeFry_85 (CR5), Pleakley_88 (CR5), Scuba_88 (CR5),

Start 10:
• Found in 1 of 58 (1.7%) 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: Budgie_139 (E),

Start 11:
• Found in 14 of 58 (24.1%) of genes in pham
• Manual Annotations of this start: 13 of 55
• Called 92.9% of time when present
• Phage (with cluster) where this start called: Achebe_79 (A4), Astro_85 (A8), Danforth_86 (A8), Dixon_84 (A8), Expelliarmus_82 (A8), Finch_169 (singleton), Groundhog_83 (A8), NearlyHeadless_86 (A8), Phillis_82 (A8), Roary_87 (A8), Saintus_81 (A8), Smeadley_85 (A8), Stephig9_84 (A8),

Start 12:

• Found in 1 of 58 (1.7%) 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: Kinmap_92 (A21),

Start 13:
• Found in 42 of 58 (72.4%) of genes in pham
• Manual Annotations of this start: 32 of 55
• Called 81.0% of time when present
• Phage (with cluster) where this start called: Alatin_59 (CA), Alpacados_59 (CA), AppleCloud_57 (CA), Belenaria_61 (CA), BobbyDazzler_60 (CA), Bonanza_61 (CA), Bradshaw_60 (CA), Bryce_59 (CA), CosmicSans_60 (CA), Erik_60 (CA), Espica_61 (CA), Gollum_60 (CA), Harlequin_60 (CA), Hiro_60 (CA), Jester_59 (CA), Krishelle_60 (CA), Lillie_60 (CA), Naiad_59 (CA), Nancinator_59 (CA), Natosaleda_59 (CA), Phrankenstein_60 (CA), RER2_54 (CA), RGL3_52 (CA), Rasputin_60 (CA), RexFury_59 (CA), Rhodalysa_60 (CA), Shuman_61 (CA), StCroix_59 (CA), Swann_60 (CA), TWAMP_60 (CA), Takoda_60 (CA), UhSalsa_60 (CA), Yogi_61 (CA), Yoncess_59 (CA),

Start 15:
• Found in 13 of 58 (22.4%) of genes in pham
• Manual Annotations of this start: 1 of 55
• Called 7.7% of time when present
• Phage (with cluster) where this start called: Caitlin_84 (A8),

Summary by clusters:

There are 8 clusters represented in this pham: CR2, A21, singleton, E, CR5, CA, A4, A8,

Info for manual annotations of cluster A21:
•Start number 12 was manually annotated 1 time for cluster A21.

Info for manual annotations of cluster A4:
•Start number 11 was manually annotated 1 time for cluster A4.

Info for manual annotations of cluster A8:
•Start number 11 was manually annotated 11 times for cluster A8.
•Start number 15 was manually annotated 1 time for cluster A8.

Info for manual annotations of cluster CA:
•Start number 6 was manually annotated 2 times for cluster CA.
•Start number 8 was manually annotated 1 time for cluster CA.
•Start number 13 was manually annotated 32 times for cluster CA.

Info for manual annotations of cluster CR5:
•Start number 9 was manually annotated 4 times for cluster CR5.

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

Gene Information:

Gene: Achebe_79 Start: 48396, Stop: 48028, Start Num: 11
Candidate Starts for Achebe_79:
(2, 48474), (Start: 11 @48396 has 13 MA's), (16, 48360), (22, 48273),

Gene: Alatin_59 Start: 41557, Stop: 41198, Start Num: 13
Candidate Starts for Alatin_59:
(4, 41638), (Start: 6 @41614 has 2 MA's), (Start: 13 @41557 has 32 MA's), (23, 41410), (24, 41404), (26, 41398), (29, 41371), (31, 41347), (36, 41311), (42, 41275), (44, 41260), (50, 41209),

Gene: Alpacados_59 Start: 41380, Stop: 41021, Start Num: 13
Candidate Starts for Alpacados_59:
(Start: 6 @41437 has 2 MA's), (Start: 13 @41380 has 32 MA's), (24, 41227), (26, 41221), (29, 41194), (31, 41170), (42, 41098), (44, 41083), (50, 41032),

Gene: AngryOrchard_57 Start: 41641, Stop: 41252, Start Num: 8
Candidate Starts for AngryOrchard_57:
(1, 41749), (Start: 8 @41641 has 1 MA's), (Start: 13 @41611 has 32 MA's), (24, 41458), (26, 41452), (29, 41425), (31, 41401), (42, 41329), (44, 41314), (50, 41263),

Gene: AppleCloud_57 Start: 41274, Stop: 40915, Start Num: 13
Candidate Starts for AppleCloud_57:
(Start: 6 @41331 has 2 MA's), (Start: 13 @41274 has 32 MA's), (24, 41121), (26, 41115), (29, 41088), (31, 41064), (42, 40992), (44, 40977), (50, 40926),

Gene: Astro_85 Start: 46634, Stop: 46272, Start Num: 11
Candidate Starts for Astro_85:
(Start: 11 @46634 has 13 MA's), (14, 46622), (Start: 15 @46607 has 1 MA's), (24, 46475), (27, 46466), (31, 46418), (45, 46328), (49, 46313),

Gene: Belenaria_61 Start: 41422, Stop: 41063, Start Num: 13
Candidate Starts for Belenaria_61:
(Start: 6 @41479 has 2 MA's), (Start: 13 @41422 has 32 MA's), (24, 41269), (26, 41263), (29, 41236), (31, 41212), (42, 41140), (44, 41125), (50, 41074),

Gene: BobbyDazzler_60 Start: 41527, Stop: 41168, Start Num: 13
Candidate Starts for BobbyDazzler_60:
(3, 41611), (Start: 13 @41527 has 32 MA's), (24, 41374), (26, 41368), (29, 41341), (31, 41317), (42, 41245), (44, 41230), (50, 41179),

Gene: Bonanza_61 Start: 41832, Stop: 41473, Start Num: 13
Candidate Starts for Bonanza_61:
(Start: 6 @41889 has 2 MA's), (Start: 13 @41832 has 32 MA's), (24, 41679), (26, 41673), (29, 41646), (31, 41622), (42, 41550), (44, 41535), (50, 41484),

Gene: Bradshaw_60 Start: 41490, Stop: 41131, Start Num: 13
Candidate Starts for Bradshaw_60:
(4, 41571), (Start: 6 @41547 has 2 MA's), (Start: 13 @41490 has 32 MA's), (23, 41343), (24, 41337), (26, 41331), (29, 41304), (31, 41280), (36, 41244), (42, 41208), (44, 41193), (50, 41142),

Gene: Bryce_59 Start: 41235, Stop: 40876, Start Num: 13
Candidate Starts for Bryce_59:

(3, 41319), (Start: 13 @41235 has 32 MA's), (24, 41082), (26, 41076), (29, 41049), (31, 41025), (42, 40953), (44, 40938), (50, 40887),

Gene: Budgie_139 Start: 72306, Stop: 71932, Start Num: 10
Candidate Starts for Budgie_139:
(Start: 10 @72306 has 1 MA's), (16, 72267), (23, 72150), (45, 71997),

Gene: Caitlin_84 Start: 46299, Stop: 45964, Start Num: 15
Candidate Starts for Caitlin_84:
(Start: 11 @46326 has 13 MA's), (14, 46314), (Start: 15 @46299 has 1 MA's), (24, 46167), (27, 46158), (31, 46110), (45, 46020), (49, 46005),

Gene: CosmicSans_60 Start: 41481, Stop: 41122, Start Num: 13
Candidate Starts for CosmicSans_60:
(Start: 6 @41538 has 2 MA's), (Start: 13 @41481 has 32 MA's), (24, 41328), (26, 41322), (29, 41295), (31, 41271), (42, 41199), (44, 41184), (50, 41133),

Gene: Danforth_86 Start: 46711, Stop: 46349, Start Num: 11
Candidate Starts for Danforth_86:
(Start: 11 @46711 has 13 MA's), (14, 46699), (Start: 15 @46684 has 1 MA's), (26, 46546), (27, 46543), (31, 46495), (42, 46426), (45, 46405), (49, 46390), (51, 46357),

Gene: Dinger_59 Start: 41682, Stop: 41266, Start Num: 6
Candidate Starts for Dinger_59:
(Start: 6 @41682 has 2 MA's), (Start: 13 @41625 has 32 MA's), (24, 41472), (26, 41466), (29, 41439), (31, 41415), (42, 41343), (44, 41328),

Gene: Dixon_84 Start: 46193, Stop: 45831, Start Num: 11
Candidate Starts for Dixon_84:
(Start: 11 @46193 has 13 MA's), (14, 46181), (Start: 15 @46166 has 1 MA's), (24, 46034), (27, 46025), (31, 45977), (45, 45887), (49, 45872),

Gene: Erik_60 Start: 41312, Stop: 40953, Start Num: 13
Candidate Starts for Erik_60:
(Start: 6 @41369 has 2 MA's), (Start: 13 @41312 has 32 MA's), (24, 41159), (26, 41153), (29, 41126), (31, 41102), (42, 41030), (44, 41015), (50, 40964),

Gene: Espica_61 Start: 41422, Stop: 41063, Start Num: 13
Candidate Starts for Espica_61:
(Start: 6 @41479 has 2 MA's), (Start: 13 @41422 has 32 MA's), (24, 41269), (26, 41263), (29, 41236), (31, 41212), (42, 41140), (44, 41125), (50, 41074),

Gene: Expelliarmus_82 Start: 46407, Stop: 46045, Start Num: 11
Candidate Starts for Expelliarmus_82:
(Start: 11 @46407 has 13 MA's), (14, 46395), (Start: 15 @46380 has 1 MA's), (24, 46248), (27, 46239), (31, 46191), (45, 46101), (49, 46086),

Gene: Finch_169 Start: 105239, Stop: 105640, Start Num: 11
Candidate Starts for Finch_169:
(Start: 11 @105239 has 13 MA's), (Start: 15 @105266 has 1 MA's), (17, 105296), (21, 105323), (25, 105401), (32, 105455), (33, 105464), (41, 105518), (42, 105539), (52, 105608),

Gene: Fury_88 Start: 58983, Stop: 59444, Start Num: 9

Candidate Starts for Fury_88:
(Start: 9 @58983 has 4 MA's), (Start: 13 @59010 has 32 MA's), (25, 59178), (26, 59181), (37, 59283), (39, 59289), (54, 59427), (55, 59433),

Gene: GTE8_75 Start: 56582, Stop: 57067, Start Num: 9
Candidate Starts for GTE8_75:
(Start: 9 @56582 has 4 MA's), (Start: 13 @56609 has 32 MA's), (28, 56801), (32, 56831), (38, 56891), (47, 56957), (56, 57056),

Gene: Gollum_60 Start: 41423, Stop: 41064, Start Num: 13
Candidate Starts for Gollum_60:
(Start: 6 @41480 has 2 MA's), (Start: 13 @41423 has 32 MA's), (24, 41270), (26, 41264), (29, 41237), (31, 41213), (42, 41141), (44, 41126), (50, 41075),

Gene: Groundhog_83 Start: 46463, Stop: 46101, Start Num: 11
Candidate Starts for Groundhog_83:
(Start: 11 @46463 has 13 MA's), (14, 46451), (Start: 15 @46436 has 1 MA's), (24, 46304), (27, 46295), (31, 46247), (45, 46157), (49, 46142),

Gene: Harlequin_60 Start: 41270, Stop: 40911, Start Num: 13
Candidate Starts for Harlequin_60:
(3, 41354), (Start: 13 @41270 has 32 MA's), (24, 41117), (26, 41111), (29, 41084), (31, 41060), (35, 41036), (42, 40988), (44, 40973), (50, 40922),

Gene: Hiro_60 Start: 41741, Stop: 41382, Start Num: 13
Candidate Starts for Hiro_60:
(3, 41825), (Start: 13 @41741 has 32 MA's), (24, 41588), (26, 41582), (29, 41555), (31, 41531), (42, 41459), (44, 41444), (50, 41393),

Gene: HomeFry_85 Start: 58080, Stop: 58526, Start Num: 9
Candidate Starts for HomeFry_85:
(Start: 9 @58080 has 4 MA's), (Start: 13 @58107 has 32 MA's), (19, 58164), (25, 58260), (37, 58365), (43, 58410), (54, 58509), (55, 58515),

Gene: Jester_59 Start: 41201, Stop: 40842, Start Num: 13
Candidate Starts for Jester_59:
(3, 41285), (Start: 13 @41201 has 32 MA's), (24, 41048), (26, 41042), (29, 41015), (31, 40991), (35, 40967), (42, 40919), (44, 40904), (50, 40853),

Gene: Kinmap_92 Start: 47843, Stop: 47454, Start Num: 12
Candidate Starts for Kinmap_92:
(Start: 12 @47843 has 1 MA's), (18, 47783), (20, 47768), (23, 47687), (30, 47633), (34, 47609), (45, 47522),

Gene: Krishelle_60 Start: 41850, Stop: 41491, Start Num: 13
Candidate Starts for Krishelle_60:
(4, 41931), (Start: 6 @41907 has 2 MA's), (Start: 13 @41850 has 32 MA's), (23, 41703), (24, 41697), (26, 41691), (29, 41664), (31, 41640), (36, 41604), (42, 41568), (44, 41553), (50, 41502),

Gene: Lillie_60 Start: 41481, Stop: 41122, Start Num: 13
Candidate Starts for Lillie_60:
(Start: 6 @41538 has 2 MA's), (Start: 13 @41481 has 32 MA's), (24, 41328), (26, 41322), (29, 41295), (31, 41271), (42, 41199), (44, 41184), (50, 41133),

Gene: Naiad_59 Start: 41503, Stop: 41144, Start Num: 13
Candidate Starts for Naiad_59:
(4, 41584), (Start: 6 @41560 has 2 MA's), (Start: 13 @41503 has 32 MA's), (23, 41356), (24, 41350), (26, 41344), (29, 41317), (31, 41293), (36, 41257), (42, 41221), (44, 41206), (50, 41155),

Gene: Nancinator_59 Start: 40820, Stop: 40461, Start Num: 13
Candidate Starts for Nancinator_59:
(Start: 6 @40877 has 2 MA's), (Start: 13 @40820 has 32 MA's), (24, 40667), (26, 40661), (29, 40634), (31, 40610), (42, 40538), (44, 40523), (50, 40472),

Gene: Natosaleda_59 Start: 41421, Stop: 41062, Start Num: 13
Candidate Starts for Natosaleda_59:
(Start: 6 @41478 has 2 MA's), (Start: 13 @41421 has 32 MA's), (24, 41268), (26, 41262), (29, 41235), (31, 41211), (42, 41139), (44, 41124), (50, 41073),

Gene: NearlyHeadless_86 Start: 46477, Stop: 46115, Start Num: 11
Candidate Starts for NearlyHeadless_86:
(Start: 11 @46477 has 13 MA's), (14, 46465), (Start: 15 @46450 has 1 MA's), (24, 46318), (27, 46309), (31, 46261), (40, 46207), (45, 46171), (49, 46156),

Gene: Partridge_59 Start: 41839, Stop: 41423, Start Num: 6
Candidate Starts for Partridge_59:
(Start: 6 @41839 has 2 MA's), (Start: 13 @41782 has 32 MA's), (24, 41629), (26, 41623), (29, 41596), (31, 41572), (42, 41500), (44, 41485),

Gene: Phillis_82 Start: 45493, Stop: 45131, Start Num: 11
Candidate Starts for Phillis_82:
(Start: 11 @45493 has 13 MA's), (14, 45481), (Start: 15 @45466 has 1 MA's), (17, 45436), (18, 45430), (31, 45277), (45, 45187), (49, 45172), (51, 45139),

Gene: Phrankenstein_60 Start: 41427, Stop: 41068, Start Num: 13
Candidate Starts for Phrankenstein_60:
(Start: 6 @41484 has 2 MA's), (Start: 13 @41427 has 32 MA's), (24, 41274), (26, 41268), (29, 41241), (31, 41217), (42, 41145), (44, 41130), (50, 41079),

Gene: Pleakley_88 Start: 58984, Stop: 59445, Start Num: 9
Candidate Starts for Pleakley_88:
(Start: 9 @58984 has 4 MA's), (Start: 13 @59011 has 32 MA's), (25, 59179), (26, 59182), (37, 59284), (39, 59290), (54, 59428), (55, 59434),

Gene: RER2_54 Start: 38353, Stop: 37994, Start Num: 13
Candidate Starts for RER2_54:
(Start: 6 @38410 has 2 MA's), (Start: 13 @38353 has 32 MA's), (24, 38200), (26, 38194), (29, 38167), (31, 38143), (42, 38071), (44, 38056), (50, 38005),

Gene: RGL3_52 Start: 39028, Stop: 38669, Start Num: 13
Candidate Starts for RGL3_52:
(5, 39100), (7, 39073), (Start: 8 @39055 has 1 MA's), (Start: 13 @39028 has 32 MA's), (20, 38959), (23, 38881), (26, 38869), (29, 38842), (31, 38818), (44, 38731), (50, 38680), (53, 38674),

Gene: Rasputin_60 Start: 41451, Stop: 41092, Start Num: 13
Candidate Starts for Rasputin_60:

(Start: 6 @41508 has 2 MA's), (Start: 13 @41451 has 32 MA's), (24, 41298), (26, 41292), (29, 41265), (31, 41241), (42, 41169), (44, 41154), (50, 41103),

Gene: RexFury_59 Start: 41511, Stop: 41152, Start Num: 13
Candidate Starts for RexFury_59:
(Start: 6 @41568 has 2 MA's), (Start: 13 @41511 has 32 MA's), (24, 41358), (26, 41352), (29, 41325), (31, 41301), (42, 41229), (44, 41214), (50, 41163),

Gene: Rhodalysa_60 Start: 41481, Stop: 41122, Start Num: 13
Candidate Starts for Rhodalysa_60:
(Start: 6 @41538 has 2 MA's), (Start: 13 @41481 has 32 MA's), (24, 41328), (26, 41322), (29, 41295), (31, 41271), (42, 41199), (44, 41184), (50, 41133),

Gene: Roary_87 Start: 46665, Stop: 46303, Start Num: 11
Candidate Starts for Roary_87:
(Start: 11 @46665 has 13 MA's), (14, 46653), (Start: 15 @46638 has 1 MA's), (24, 46506), (27, 46497), (31, 46449), (45, 46359), (49, 46344),

Gene: Saintus_81 Start: 43313, Stop: 42951, Start Num: 11
Candidate Starts for Saintus_81:
(Start: 11 @43313 has 13 MA's), (14, 43301), (Start: 15 @43286 has 1 MA's), (24, 43154), (31, 43097), (45, 43007), (49, 42992),

Gene: Scuba_88 Start: 59112, Stop: 59558, Start Num: 9
Candidate Starts for Scuba_88:
(Start: 9 @59112 has 4 MA's), (Start: 13 @59139 has 32 MA's), (19, 59196), (25, 59292), (26, 59295), (37, 59397), (46, 59454), (48, 59460), (54, 59541), (55, 59547),

Gene: Shuman_61 Start: 41432, Stop: 41073, Start Num: 13
Candidate Starts for Shuman_61:
(Start: 6 @41489 has 2 MA's), (Start: 13 @41432 has 32 MA's), (24, 41279), (26, 41273), (29, 41246), (31, 41222), (42, 41150), (44, 41135), (50, 41084),

Gene: Smeadley_85 Start: 46529, Stop: 46167, Start Num: 11
Candidate Starts for Smeadley_85:
(Start: 11 @46529 has 13 MA's), (14, 46517), (Start: 15 @46502 has 1 MA's), (24, 46370), (27, 46361), (31, 46313), (45, 46223), (49, 46208),

Gene: StCroix_59 Start: 41503, Stop: 41144, Start Num: 13
Candidate Starts for StCroix_59:
(4, 41584), (Start: 6 @41560 has 2 MA's), (Start: 13 @41503 has 32 MA's), (23, 41356), (24, 41350), (26, 41344), (29, 41317), (31, 41293), (36, 41257), (42, 41221), (44, 41206), (50, 41155),

Gene: Stephig9_84 Start: 46468, Stop: 46106, Start Num: 11
Candidate Starts for Stephig9_84:
(Start: 11 @46468 has 13 MA's), (14, 46456), (Start: 15 @46441 has 1 MA's), (24, 46309), (27, 46300), (31, 46252), (45, 46162), (49, 46147),

Gene: Swann_60 Start: 41479, Stop: 41120, Start Num: 13
Candidate Starts for Swann_60:
(Start: 6 @41536 has 2 MA's), (Start: 13 @41479 has 32 MA's), (24, 41326), (26, 41320), (29, 41293), (31, 41269), (42, 41197), (44, 41182), (50, 41131),

Gene: TWAMP_60 Start: 41481, Stop: 41122, Start Num: 13
Candidate Starts for TWAMP_60:
(Start: 6 @41538 has 2 MA's), (Start: 13 @41481 has 32 MA's), (24, 41328), (26, 41322), (29, 41295), (31, 41271), (42, 41199), (44, 41184), (50, 41133),

Gene: Takoda_60 Start: 41665, Stop: 41306, Start Num: 13
Candidate Starts for Takoda_60:
(1, 41803), (Start: 8 @41695 has 1 MA's), (Start: 13 @41665 has 32 MA's), (24, 41512), (26, 41506), (29, 41479), (31, 41455), (42, 41383), (44, 41368), (50, 41317),

Gene: UhSalsa_60 Start: 41422, Stop: 41063, Start Num: 13
Candidate Starts for UhSalsa_60:
(Start: 6 @41479 has 2 MA's), (Start: 13 @41422 has 32 MA's), (24, 41269), (26, 41263), (29, 41236), (31, 41212), (42, 41140), (44, 41125), (50, 41074),

Gene: Yogi_61 Start: 41832, Stop: 41473, Start Num: 13
Candidate Starts for Yogi_61:
(Start: 6 @41889 has 2 MA's), (Start: 13 @41832 has 32 MA's), (24, 41679), (26, 41673), (29, 41646), (31, 41622), (42, 41550), (44, 41535), (50, 41484),

Gene: Yoncess_59 Start: 41235, Stop: 40876, Start Num: 13
Candidate Starts for Yoncess_59:
(3, 41319), (Start: 13 @41235 has 32 MA's), (24, 41082), (26, 41076), (29, 41049), (31, 41025), (42, 40953), (44, 40938), (50, 40887),