Pham 347626


1: Persistence_42
2: Tiff81_43
3: Tonenili_51
4: Vortrix_53
5: BotCity_88 + 5
6: Budski_90
7: CheeseTouch_91
8: Kamaru_80
9: Whitney_84
10: Manda_40
11: Jinglebell_56 + 6
12: Misha28_81 + 2
13: Piper2020_83
14: Marker_51
15: Toron_89
16: Eileen_50
17: Peas_55
18: PeggyLeg03_56 + 1
19: Karkharias_54
20: HotPotato_55
21: Gibbzilla_47
22: Melville_65 + 15
23: Chewbacca_62 + 1
24: Rebel_55
25: EGUnicorn_55
26: Tessdabest_61
27: Tortellini_65
28: Purky_67
29: ZenTime222_57
30: Cracklewink_97 + 1
31: LilSpotty_78

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 347626 Report

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

Pham number 347626 has 62 members, 5 are drafts.

Phages represented in each track:
• Track 1 : Persistence_42
• Track 2 : Tiff81_43
• Track 3 : Tonenili_51
• Track 4 : Vortrix_53
• Track 5 : BotCity_88, Lutum_87, Kenna_81, BENtherdunthat_86, Getalong_89, Phabuloso_93
• Track 6 : Budski_90
• Track 7 : CheeseTouch_91
• Track 8 : Kamaru_80
• Track 9 : Whitney_84
• Track 10 : Manda_40
• Track 11 : Jinglebell_56, Ochi17_54, AlpineSix_56, Seabastian_56, OfUltron_56, Modragons_55, Llama_56
• Track 12 : Misha28_81, Awesomesauce_81, TootsiePop_81
• Track 13 : Piper2020_83
• Track 14 : Marker_51
• Track 15 : Toron_89
• Track 16 : Eileen_50
• Track 17 : Peas_55
• Track 18 : PeggyLeg03_56, Pucara_53
• Track 19 : Karkharias_54
• Track 20 : HotPotato_55
• Track 21 : Gibbzilla_47
• Track 22 : Melville_65, Duplicity_58, Frankie_78, Parmesanjohn_60, Schnauzer_61, Pipsqueaks_61, Silvy_56, Philonius_60, Smurph_60, Aggie_56, Gex_61, Fulbright_58, Carcharodon_60, Xerxes_60, Phloss_58, Silvafighter_61
• Track 23 : Chewbacca_62, FirstPlacePfu_61
• Track 24 : Rebel_55
• Track 25 : EGUnicorn_55
• Track 26 : Tessdabest_61
• Track 27 : Tortellini_65
• Track 28 : Purky_67
• Track 29 : ZenTime222_57
• Track 30 : Cracklewink_97, Bipper_97
• Track 31 : LilSpotty_78

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

The start number called the most often in the published annotations is 34, it was called in 20 of the 57 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Aggie_56, Carcharodon_60, Chewbacca_62, Duplicity_58, EGUnicorn_55, FirstPlacePfu_61, Frankie_78, Fulbright_58, Gex_61, Melville_65, Parmesanjohn_60, Philonius_60, Phloss_58, Piper2020_83, Pipsqueaks_61, Schnauzer_61, Silvafighter_61, Silvy_56, Smurph_60, Tessdabest_61, Xerxes_60,

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

Genes that do not have the "Most Annotated" start:
• AlpineSix_56, Awesomesauce_81, BENtherdunthat_86, Bipper_97, BotCity_88, Budski_90, CheeseTouch_91, Cracklewink_97, Eileen_50, Getalong_89, Gibbzilla_47, HotPotato_55, Jinglebell_56, Kamaru_80, Karkharias_54, Kenna_81, LilSpotty_78, Llama_56, Lutum_87, Manda_40, Marker_51, Misha28_81, Modragons_55, Ochi17_54, OfUltron_56, Peas_55, PeggyLeg03_56, Persistence_42, Phabuloso_93, Pucara_53, Purky_67, Rebel_55, Seabastian_56, Tiff81_43, Tonenili_51, TootsiePop_81, Toron_89, Tortellini_65, Vortrix_53, Whitney_84, ZenTime222_57,

Summary by start number:

Start 25:
• Found in 2 of 62 (3.2%) of genes in pham
• Manual Annotations of this start: 1 of 57
• Called 50.0% of time when present
• Phage (with cluster) where this start called: Marker_51 (F1),

Start 28:
• Found in 9 of 62 (14.5%) of genes in pham
• Manual Annotations of this start: 8 of 57
• Called 100.0% of time when present
• Phage (with cluster) where this start called: AlpineSix_56 (F1), Jinglebell_56 (F1), Llama_56 (F1), Modragons_55 (F1), Ochi17_54 (F1), OfUltron_56 (F1), Seabastian_56 (F1), Tonenili_51 (C1), Vortrix_53 (C1),

Start 33:
• Found in 10 of 62 (16.1%) of genes in pham
• Manual Annotations of this start: 10 of 57
• Called 100.0% of time when present
• Phage (with cluster) where this start called: BENtherdunthat_86 (DN1), BotCity_88 (DN), Budski_90 (DN), CheeseTouch_91 (DN1), Getalong_89 (DN1), Kamaru_80 (DN1), Kenna_81 (DN1), Lutum_87 (DN1), Phabuloso_93 (DN1), Whitney_84 (DN1),

Start 34:
• Found in 21 of 62 (33.9%) of genes in pham
• Manual Annotations of this start: 20 of 57
• Called 100.0% of time when present

• Phage (with cluster) where this start called: Aggie_56 (N), Carcharodon_60 (N), Chewbacca_62 (N), Duplicity_58 (N), EGUnicorn_55 (N), FirstPlacePfu_61 (P1), Frankie_78 (F1), Fulbright_58 (N), Gex_61 (N), Melville_65 (N), Parmesanjohn_60 (N), Philonius_60 (N), Phloss_58 (N), Piper2020_83 (F1), Pipsqueaks_61 (N), Schnauzer_61 (N), Silvafighter_61 (N), Silvy_56 (N), Smurph_60 (N), Tessdabest_61 (N), Xerxes_60 (N),

Start 35:
• Found in 9 of 62 (14.5%) of genes in pham
• Manual Annotations of this start: 7 of 57
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Eileen_50 (FA), Gibbzilla_47 (FB), HotPotato_55 (FA), Karkharias_54 (FA), Peas_55 (FA), PeggyLeg03_56 (FA), Persistence_42 (AY), Pucara_53 (FA), Tiff81_43 (AY),

Start 38:
• Found in 3 of 62 (4.8%) of genes in pham
• Manual Annotations of this start: 3 of 57
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Awesomesauce_81 (F1), Misha28_81 (F1), TootsiePop_81 (F1),

Start 40:
• Found in 2 of 62 (3.2%) of genes in pham
• Manual Annotations of this start: 2 of 57
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Bipper_97 (Y), Cracklewink_97 (Y),

Start 43:
• Found in 7 of 62 (11.3%) of genes in pham
• Manual Annotations of this start: 1 of 57
• Called 14.3% of time when present
• Phage (with cluster) where this start called: Manda_40 (E),

Start 44:
• Found in 3 of 62 (4.8%) of genes in pham
• Manual Annotations of this start: 1 of 57
• Called 33.3% of time when present
• Phage (with cluster) where this start called: Purky_67 (P6),

Start 48:
• Found in 3 of 62 (4.8%) of genes in pham
• Manual Annotations of this start: 2 of 57
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Rebel_55 (N), Toron_89 (F6), Tortellini_65 (P2),

Start 49:
• Found in 1 of 62 (1.6%) of genes in pham
• Manual Annotations of this start: 1 of 57
• Called 100.0% of time when present
• Phage (with cluster) where this start called: LilSpotty_78 (singleton),

Start 51:
• Found in 1 of 62 (1.6%) of genes in pham
• Manual Annotations of this start: 1 of 57
• Called 100.0% of time when present
• Phage (with cluster) where this start called: ZenTime222_57 (T),

Summary by clusters:

There are 16 clusters represented in this pham: DN, F1, singleton, P1, P6, F6, P2, FB, N, FA, AY, DN1, T, Y, E, C1,

Info for manual annotations of cluster AY:
•Start number 35 was manually annotated 2 times for cluster AY.

Info for manual annotations of cluster C1:
•Start number 28 was manually annotated 1 time for cluster C1.

Info for manual annotations of cluster DN:
•Start number 33 was manually annotated 2 times for cluster DN.

Info for manual annotations of cluster DN1:
•Start number 33 was manually annotated 8 times for cluster DN1.

Info for manual annotations of cluster E:
•Start number 43 was manually annotated 1 time for cluster E.

Info for manual annotations of cluster F1:
•Start number 25 was manually annotated 1 time for cluster F1.
•Start number 28 was manually annotated 7 times for cluster F1.
•Start number 34 was manually annotated 2 times for cluster F1.
•Start number 38 was manually annotated 3 times for cluster F1.

Info for manual annotations of cluster FA:
•Start number 35 was manually annotated 4 times for cluster FA.

Info for manual annotations of cluster FB:
•Start number 35 was manually annotated 1 time for cluster FB.

Info for manual annotations of cluster N:
•Start number 34 was manually annotated 17 times for cluster N.
•Start number 48 was manually annotated 1 time for cluster N.

Info for manual annotations of cluster P1:
•Start number 34 was manually annotated 1 time for cluster P1.

Info for manual annotations of cluster P2:
•Start number 48 was manually annotated 1 time for cluster P2.

Info for manual annotations of cluster P6:
•Start number 44 was manually annotated 1 time for cluster P6.

Info for manual annotations of cluster T:

•Start number 51 was manually annotated 1 time for cluster T.

Info for manual annotations of cluster Y:
•Start number 40 was manually annotated 2 times for cluster Y.

Gene Information:

Gene: Aggie_56 Start: 38873, Stop: 39247, Start Num: 34
Candidate Starts for Aggie_56:
(21, 38804), (Start: 34 @38873 has 20 MA's), (41, 38903), (63, 39035), (64, 39038), (66, 39059), (77, 39116), (78, 39122), (94, 39218), (97, 39236),

Gene: AlpineSix_56 Start: 38900, Stop: 39235, Start Num: 28
Candidate Starts for AlpineSix_56:
(Start: 28 @38900 has 8 MA's), (39, 38933), (47, 38960), (50, 38972), (53, 38984), (65, 39068), (78, 39134), (86, 39170), (94, 39209),

Gene: Awesomesauce_81 Start: 49905, Stop: 50261, Start Num: 38
Candidate Starts for Awesomesauce_81:
(18, 49779), (29, 49875), (Start: 38 @49905 has 3 MA's), (46, 49938), (63, 50049), (64, 50052), (94, 50232),

Gene: BENtherdunthat_86 Start: 47569, Stop: 47898, Start Num: 33
Candidate Starts for BENtherdunthat_86:
(23, 47518), (26, 47542), (32, 47566), (Start: 33 @47569 has 10 MA's), (Start: 43 @47614 has 1 MA's), (45, 47623), (46, 47626), (63, 47707), (70, 47761), (71, 47764), (76, 47794), (84, 47812), (91, 47839),

Gene: Bipper_97 Start: 61646, Stop: 61966, Start Num: 40
Candidate Starts for Bipper_97:
(3, 61067), (4, 61097), (5, 61241), (7, 61340), (14, 61490), (Start: 40 @61646 has 2 MA's), (66, 61820), (69, 61841), (78, 61868), (89, 61910), (94, 61937),

Gene: BotCity_88 Start: 49098, Stop: 49427, Start Num: 33
Candidate Starts for BotCity_88:
(23, 49047), (26, 49071), (32, 49095), (Start: 33 @49098 has 10 MA's), (Start: 43 @49143 has 1 MA's), (45, 49152), (46, 49155), (63, 49236), (70, 49290), (71, 49293), (76, 49323), (84, 49341), (91, 49368),

Gene: Budski_90 Start: 49904, Stop: 50302, Start Num: 33
Candidate Starts for Budski_90:
(12, 49745), (15, 49784), (32, 49901), (Start: 33 @49904 has 10 MA's), (63, 50090), (74, 50156), (94, 50261), (96, 50264), (98, 50285),

Gene: Carcharodon_60 Start: 38217, Stop: 38591, Start Num: 34
Candidate Starts for Carcharodon_60:
(21, 38148), (Start: 34 @38217 has 20 MA's), (41, 38247), (63, 38379), (64, 38382), (66, 38403), (77, 38460), (78, 38466), (94, 38562), (97, 38580),

Gene: CheeseTouch_91 Start: 45223, Stop: 45627, Start Num: 33
Candidate Starts for CheeseTouch_91:
(32, 45220), (Start: 33 @45223 has 10 MA's), (Start: 44 @45271 has 1 MA's), (52, 45295), (63, 45379), (81, 45508), (99, 45616),

Gene: Chewbacca_62 Start: 38112, Stop: 38486, Start Num: 34
Candidate Starts for Chewbacca_62:
(Start: 34 @38112 has 20 MA's), (41, 38142), (63, 38274), (64, 38277), (66, 38298), (77, 38355), (78, 38361), (94, 38457), (97, 38475),

Gene: Cracklewink_97 Start: 60881, Stop: 61201, Start Num: 40
Candidate Starts for Cracklewink_97:
(3, 60302), (4, 60332), (5, 60476), (7, 60575), (14, 60725), (Start: 40 @60881 has 2 MA's), (66, 61055), (69, 61076), (78, 61103), (89, 61145), (94, 61172),

Gene: Duplicity_58 Start: 37474, Stop: 37848, Start Num: 34
Candidate Starts for Duplicity_58:
(21, 37405), (Start: 34 @37474 has 20 MA's), (41, 37504), (63, 37636), (64, 37639), (66, 37660), (77, 37717), (78, 37723), (94, 37819), (97, 37837),

Gene: EGUnicorn_55 Start: 36707, Stop: 37078, Start Num: 34
Candidate Starts for EGUnicorn_55:
(Start: 34 @36707 has 20 MA's), (63, 36854), (64, 36857), (66, 36878), (77, 36935), (78, 36941),

Gene: Eileen_50 Start: 33209, Stop: 33589, Start Num: 35
Candidate Starts for Eileen_50:
(17, 33095), (Start: 35 @33209 has 7 MA's), (95, 33563),

Gene: FirstPlacePfu_61 Start: 38017, Stop: 38391, Start Num: 34
Candidate Starts for FirstPlacePfu_61:
(Start: 34 @38017 has 20 MA's), (41, 38047), (63, 38179), (64, 38182), (66, 38203), (77, 38260), (78, 38266), (94, 38362), (97, 38380),

Gene: Frankie_78 Start: 46606, Stop: 46980, Start Num: 34
Candidate Starts for Frankie_78:
(21, 46537), (Start: 34 @46606 has 20 MA's), (41, 46636), (63, 46768), (64, 46771), (66, 46792), (77, 46849), (78, 46855), (94, 46951), (97, 46969),

Gene: Fulbright_58 Start: 36911, Stop: 37285, Start Num: 34
Candidate Starts for Fulbright_58:
(21, 36842), (Start: 34 @36911 has 20 MA's), (41, 36941), (63, 37073), (64, 37076), (66, 37097), (77, 37154), (78, 37160), (94, 37256), (97, 37274),

Gene: Getalong_89 Start: 50024, Stop: 50353, Start Num: 33
Candidate Starts for Getalong_89:
(23, 49973), (26, 49997), (32, 50021), (Start: 33 @50024 has 10 MA's), (Start: 43 @50069 has 1 MA's), (45, 50078), (46, 50081), (63, 50162), (70, 50216), (71, 50219), (76, 50249), (84, 50267), (91, 50294),

Gene: Gex_61 Start: 38233, Stop: 38607, Start Num: 34
Candidate Starts for Gex_61:
(21, 38164), (Start: 34 @38233 has 20 MA's), (41, 38263), (63, 38395), (64, 38398), (66, 38419), (77, 38476), (78, 38482), (94, 38578), (97, 38596),

Gene: Gibbzilla_47 Start: 28393, Stop: 28776, Start Num: 35
Candidate Starts for Gibbzilla_47:
(20, 28315), (Start: 35 @28393 has 7 MA's), (42, 28426), (58, 28507), (62, 28546), (77, 28648), (84, 28687), (94, 28744),

Gene: HotPotato_55 Start: 35870, Stop: 36250, Start Num: 35
Candidate Starts for HotPotato_55:
(2, 35288), (17, 35756), (Start: 35 @35870 has 7 MA's),

Gene: Jinglebell_56 Start: 38899, Stop: 39234, Start Num: 28
Candidate Starts for Jinglebell_56:
(Start: 28 @38899 has 8 MA's), (39, 38932), (47, 38959), (50, 38971), (53, 38983), (65, 39067), (78, 39133), (86, 39169), (94, 39208),

Gene: Kamaru_80 Start: 46524, Stop: 46901, Start Num: 33
Candidate Starts for Kamaru_80:
(32, 46521), (Start: 33 @46524 has 10 MA's), (Start: 44 @46572 has 1 MA's), (52, 46596), (63, 46680), (70, 46737), (74, 46746), (99, 46890),

Gene: Karkharias_54 Start: 35360, Stop: 35740, Start Num: 35
Candidate Starts for Karkharias_54:
(1, 34703), (2, 34778), (17, 35246), (Start: 35 @35360 has 7 MA's),

Gene: Kenna_81 Start: 46842, Stop: 47171, Start Num: 33
Candidate Starts for Kenna_81:
(23, 46791), (26, 46815), (32, 46839), (Start: 33 @46842 has 10 MA's), (Start: 43 @46887 has 1 MA's), (45, 46896), (46, 46899), (63, 46980), (70, 47034), (71, 47037), (76, 47067), (84, 47085), (91, 47112),

Gene: LilSpotty_78 Start: 45396, Stop: 45701, Start Num: 49
Candidate Starts for LilSpotty_78:
(Start: 49 @45396 has 1 MA's), (55, 45426), (63, 45489), (66, 45513), (94, 45672),

Gene: Llama_56 Start: 38897, Stop: 39232, Start Num: 28
Candidate Starts for Llama_56:
(Start: 28 @38897 has 8 MA's), (39, 38930), (47, 38957), (50, 38969), (53, 38981), (65, 39065), (78, 39131), (86, 39167), (94, 39206),

Gene: Lutum_87 Start: 48004, Stop: 48333, Start Num: 33
Candidate Starts for Lutum_87:
(23, 47953), (26, 47977), (32, 48001), (Start: 33 @48004 has 10 MA's), (Start: 43 @48049 has 1 MA's), (45, 48058), (46, 48061), (63, 48142), (70, 48196), (71, 48199), (76, 48229), (84, 48247), (91, 48274),

Gene: Manda_40 Start: 34836, Stop: 34465, Start Num: 43
Candidate Starts for Manda_40:
(Start: 25 @34917 has 1 MA's), (29, 34887), (31, 34884), (37, 34860), (Start: 43 @34836 has 1 MA's), (45, 34827), (54, 34794), (61, 34728), (63, 34713), (80, 34599), (90, 34548),

Gene: Marker_51 Start: 36567, Stop: 36971, Start Num: 25
Candidate Starts for Marker_51:
(Start: 25 @36567 has 1 MA's), (30, 36597), (59, 36705), (60, 36729), (63, 36750), (64, 36753), (82, 36873), (94, 36942),

Gene: Melville_65 Start: 37788, Stop: 38162, Start Num: 34
Candidate Starts for Melville_65:
(21, 37719), (Start: 34 @37788 has 20 MA's), (41, 37818), (63, 37950), (64, 37953), (66, 37974), (77, 38031), (78, 38037), (94, 38133), (97, 38151),

Gene: Misha28_81 Start: 50604, Stop: 50960, Start Num: 38
Candidate Starts for Misha28_81:
(18, 50478), (29, 50574), (Start: 38 @50604 has 3 MA's), (46, 50637), (63, 50748), (64, 50751), (94, 50931),

Gene: Modragons_55 Start: 38743, Stop: 39078, Start Num: 28
Candidate Starts for Modragons_55:
(Start: 28 @38743 has 8 MA's), (39, 38776), (47, 38803), (50, 38815), (53, 38827), (65, 38911), (78, 38977), (86, 39013), (94, 39052),

Gene: Ochi17_54 Start: 38350, Stop: 38685, Start Num: 28
Candidate Starts for Ochi17_54:
(Start: 28 @38350 has 8 MA's), (39, 38383), (47, 38410), (50, 38422), (53, 38434), (65, 38518), (78, 38584), (86, 38620), (94, 38659),

Gene: OfUltron_56 Start: 38899, Stop: 39234, Start Num: 28
Candidate Starts for OfUltron_56:
(Start: 28 @38899 has 8 MA's), (39, 38932), (47, 38959), (50, 38971), (53, 38983), (65, 39067), (78, 39133), (86, 39169), (94, 39208),

Gene: Parmesanjohn_60 Start: 38237, Stop: 38611, Start Num: 34
Candidate Starts for Parmesanjohn_60:
(21, 38168), (Start: 34 @38237 has 20 MA's), (41, 38267), (63, 38399), (64, 38402), (66, 38423), (77, 38480), (78, 38486), (94, 38582), (97, 38600),

Gene: Peas_55 Start: 37101, Stop: 37481, Start Num: 35
Candidate Starts for Peas_55:
(10, 36861), (17, 36987), (Start: 35 @37101 has 7 MA's),

Gene: PeggyLeg03_56 Start: 35841, Stop: 36212, Start Num: 35
Candidate Starts for PeggyLeg03_56:
(17, 35727), (Start: 35 @35841 has 7 MA's), (66, 36039), (85, 36135),

Gene: Persistence_42 Start: 28529, Stop: 28921, Start Num: 35
Candidate Starts for Persistence_42:
(Start: 35 @28529 has 7 MA's), (58, 28643), (71, 28760),

Gene: Phabuloso_93 Start: 49496, Stop: 49825, Start Num: 33
Candidate Starts for Phabuloso_93:
(23, 49445), (26, 49469), (32, 49493), (Start: 33 @49496 has 10 MA's), (Start: 43 @49541 has 1 MA's), (45, 49550), (46, 49553), (63, 49634), (70, 49688), (71, 49691), (76, 49721), (84, 49739), (91, 49766),

Gene: Philonius_60 Start: 38402, Stop: 38776, Start Num: 34
Candidate Starts for Philonius_60:
(21, 38333), (Start: 34 @38402 has 20 MA's), (41, 38432), (63, 38564), (64, 38567), (66, 38588), (77, 38645), (78, 38651), (94, 38747), (97, 38765),

Gene: Phloss_58 Start: 37644, Stop: 38018, Start Num: 34
Candidate Starts for Phloss_58:
(21, 37575), (Start: 34 @37644 has 20 MA's), (41, 37674), (63, 37806), (64, 37809), (66, 37830), (77, 37887), (78, 37893), (94, 37989), (97, 38007),

Gene: Piper2020_83 Start: 51001, Stop: 51375, Start Num: 34

Candidate Starts for Piper2020_83:
(Start: 34 @51001 has 20 MA's), (41, 51031), (63, 51163), (64, 51166), (66, 51187), (77, 51244), (78, 51250), (94, 51346), (97, 51364),

Gene: Pipsqueaks_61 Start: 38215, Stop: 38589, Start Num: 34
Candidate Starts for Pipsqueaks_61:
(21, 38146), (Start: 34 @38215 has 20 MA's), (41, 38245), (63, 38377), (64, 38380), (66, 38401), (77, 38458), (78, 38464), (94, 38560), (97, 38578),

Gene: Pucara_53 Start: 35446, Stop: 35817, Start Num: 35
Candidate Starts for Pucara_53:
(17, 35332), (Start: 35 @35446 has 7 MA's), (66, 35644), (85, 35740),

Gene: Purky_67 Start: 42925, Stop: 43284, Start Num: 44
Candidate Starts for Purky_67:
(27, 42868), (Start: 44 @42925 has 1 MA's), (67, 43117), (71, 43123), (83, 43189), (97, 43270),

Gene: Rebel_55 Start: 35427, Stop: 35744, Start Num: 48
Candidate Starts for Rebel_55:
(36, 35397), (Start: 48 @35427 has 2 MA's), (64, 35526), (72, 35583), (97, 35730),

Gene: Schnauzer_61 Start: 38237, Stop: 38611, Start Num: 34
Candidate Starts for Schnauzer_61:
(21, 38168), (Start: 34 @38237 has 20 MA's), (41, 38267), (63, 38399), (64, 38402), (66, 38423), (77, 38480), (78, 38486), (94, 38582), (97, 38600),

Gene: Seabastian_56 Start: 38900, Stop: 39235, Start Num: 28
Candidate Starts for Seabastian_56:
(Start: 28 @38900 has 8 MA's), (39, 38933), (47, 38960), (50, 38972), (53, 38984), (65, 39068), (78, 39134), (86, 39170), (94, 39209),

Gene: Silvafighter_61 Start: 37780, Stop: 38154, Start Num: 34
Candidate Starts for Silvafighter_61:
(21, 37711), (Start: 34 @37780 has 20 MA's), (41, 37810), (63, 37942), (64, 37945), (66, 37966), (77, 38023), (78, 38029), (94, 38125), (97, 38143),

Gene: Silvy_56 Start: 38873, Stop: 39247, Start Num: 34
Candidate Starts for Silvy_56:
(21, 38804), (Start: 34 @38873 has 20 MA's), (41, 38903), (63, 39035), (64, 39038), (66, 39059), (77, 39116), (78, 39122), (94, 39218), (97, 39236),

Gene: Smurph_60 Start: 38237, Stop: 38611, Start Num: 34
Candidate Starts for Smurph_60:
(21, 38168), (Start: 34 @38237 has 20 MA's), (41, 38267), (63, 38399), (64, 38402), (66, 38423), (77, 38480), (78, 38486), (94, 38582), (97, 38600),

Gene: Tessdabest_61 Start: 38370, Stop: 38741, Start Num: 34
Candidate Starts for Tessdabest_61:
(21, 38301), (Start: 34 @38370 has 20 MA's), (41, 38400), (63, 38532), (64, 38535), (66, 38556), (77, 38613), (78, 38619), (90, 38682),

Gene: Tiff81_43 Start: 27821, Stop: 28186, Start Num: 35
Candidate Starts for Tiff81_43:

(Start: 35 @27821 has 7 MA's), (58, 27935), (75, 28052), (77, 28067), (87, 28121), (92, 28142),

Gene: Tonenili_51 Start: 16033, Stop: 16419, Start Num: 28
Candidate Starts for Tonenili_51:
(Start: 28 @16033 has 8 MA's), (60, 16195), (64, 16219), (78, 16294), (86, 16330), (94, 16369),

Gene: TootsiePop_81 Start: 50604, Stop: 50960, Start Num: 38
Candidate Starts for TootsiePop_81:
(18, 50478), (29, 50574), (Start: 38 @50604 has 3 MA's), (46, 50637), (63, 50748), (64, 50751), (94, 50931),

Gene: Toron_89 Start: 52551, Stop: 52856, Start Num: 48
Candidate Starts for Toron_89:
(Start: 48 @52551 has 2 MA's), (64, 52647), (71, 52701), (97, 52842),

Gene: Tortellini_65 Start: 44207, Stop: 44539, Start Num: 48
Candidate Starts for Tortellini_65:
(6, 43856), (8, 43892), (9, 43898), (11, 43970), (13, 44024), (16, 44048), (19, 44078), (22, 44099), (24, 44111), (Start: 48 @44207 has 2 MA's), (64, 44312), (79, 44417), (88, 44465), (95, 44507),

Gene: Vortrix_53 Start: 16317, Stop: 16712, Start Num: 28
Candidate Starts for Vortrix_53:
(Start: 28 @16317 has 8 MA's), (60, 16479), (64, 16503), (72, 16560), (73, 16563), (89, 16635), (94, 16662),

Gene: Whitney_84 Start: 49207, Stop: 49602, Start Num: 33
Candidate Starts for Whitney_84:
(12, 49048), (15, 49087), (32, 49204), (Start: 33 @49207 has 10 MA's), (57, 49327), (68, 49435), (84, 49504), (91, 49543), (93, 49549),

Gene: Xerxes_60 Start: 38234, Stop: 38608, Start Num: 34
Candidate Starts for Xerxes_60:
(21, 38165), (Start: 34 @38234 has 20 MA's), (41, 38264), (63, 38396), (64, 38399), (66, 38420), (77, 38477), (78, 38483), (94, 38579), (97, 38597),

Gene: ZenTime222_57 Start: 39491, Stop: 39808, Start Num: 51
Candidate Starts for ZenTime222_57:
(Start: 51 @39491 has 1 MA's), (56, 39521), (63, 39584), (64, 39587), (66, 39608), (77, 39665), (78, 39671), (94, 39767),