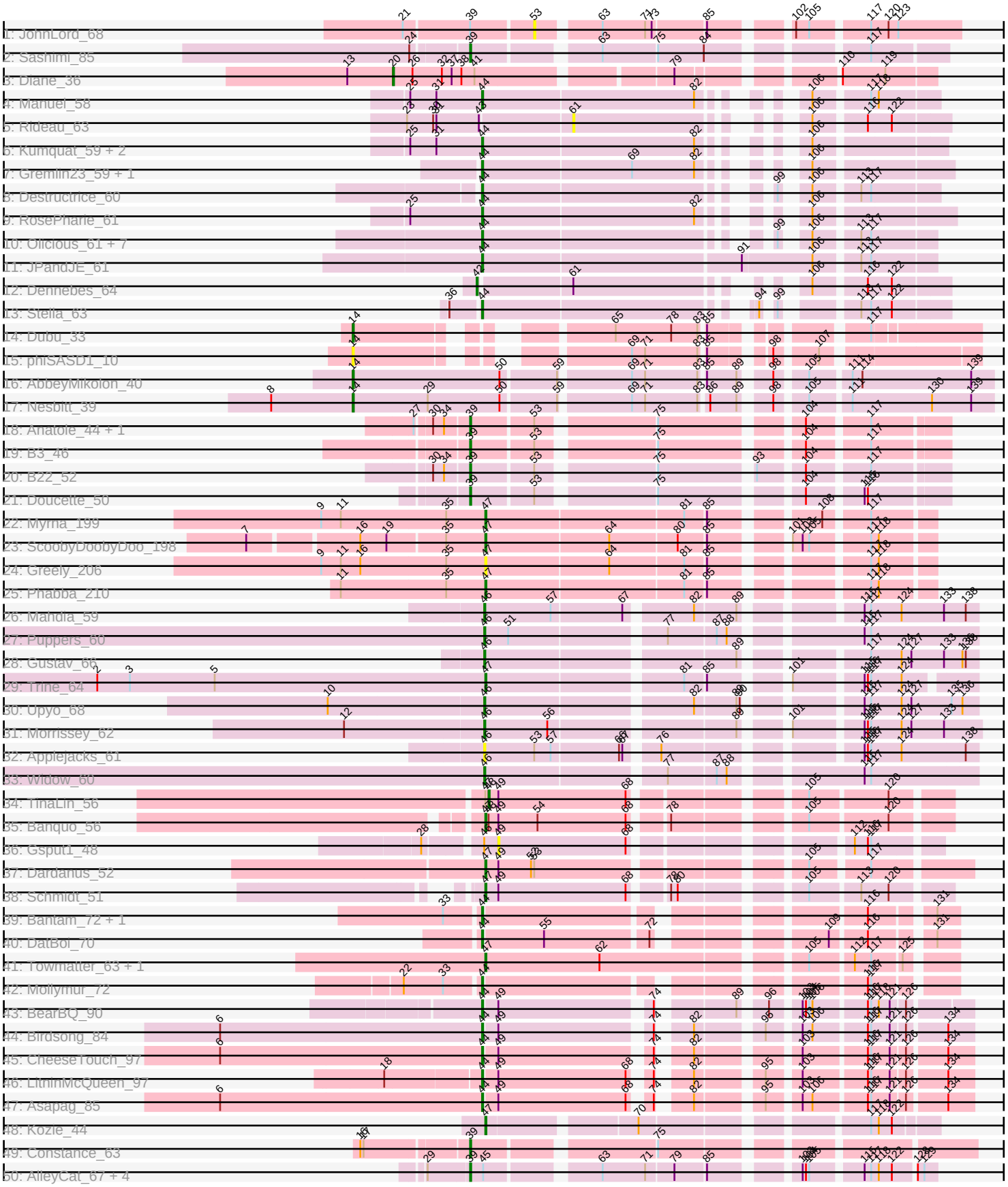
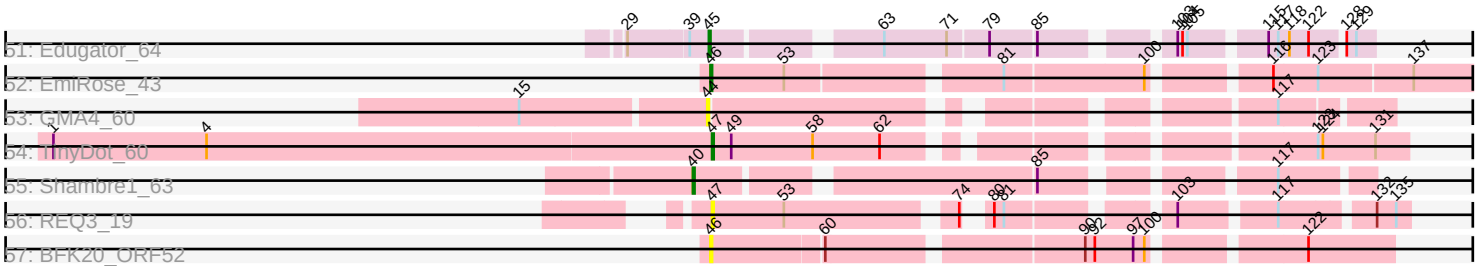
# Pham 294679


1: JohnLord_68
2: Sashimi_85
3: Diane_36
4: Manuel_58
5: Rideau_63
6: Kumquat_59 + 2
7: Gremlin23_59 + 1
8: Destructrice_60
9: RosePhanie_61
10: Olicious_61 + 7
11: JPandJE_61
12: Dennebes_64
13: Stella_63
14: Dubu_33
15: phiSASD1_10
16: AbbeyMikolon_40
17: Nesbitt_39
18: Anatole_44 + 1
19: B3_46
20: B22_52
21: Doucette_50
22: Myrna_199
23: ScoobyDoobyDoo_198
24: Greely_206
25: Phabba_210
26: Mandia_59
27: Puppers_60
28: Gustav_66
29: Trine_64
30: Opyo_68
31: Morrissey_62
32: Applejacks_61
33: Widow_60
34: TinaLin_56
35: Banquo_56
36: Gsputi_48
37: Dardanus_52
38: Schmidt_51
39: Bantam_72 + 1
40: DatBoi_70
41: Towmatter_63 + 1
42: Mollymur_72
43: BearBQ_90
44: Birdsong_84
45: CheeseTouch_97
46: LilninMcQueen_97
47: Asapag_85
48: Kozie_44
49: Constance_63
50: AlleyCat_67 + 4

# Pham 294679


51: Edugator_64
52: EmiRose_43
53: GMA4_60
54: TinyDot_60
55: Shambre1_63
56: REQ3_19
57: BFK20_ORF52

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 294679 Report

This analysis was run 04/18/26 on database version 643.

Pham number 294679 has 74 members, 10 are drafts.

Phages represented in each track:
- Track 1 : JohnLord_68
- Track 2 : Sashimi_85
- Track 3 : Diane_36
- Track 4 : Manuel_58
- Track 5 : Rideau_63
- Track 6 : Kumquat_59, WRightOn_63, Zeigle_59
- Track 7 : Gremlin23_59, Vorvolakos_59
- Track 8 : Destructrice_60
- Track 9 : RosePharie_61
- Track 10 : Olicious_61, HaugeAnator_61, ZooBear_61, Treat_61, Immanuel3_60, Percastrophe_61, ToriToki_61, Romero_61
- Track 11 : JPandJE_61
- Track 12 : Dennebes_64
- Track 13 : Stella_63
- Track 14 : Dubu_33
- Track 15 : phiSASD1_10
- Track 16 : AbbeyMikolon_40
- Track 17 : Nesbitt_39
- Track 18 : Anatole_44, E1_44
- Track 19 : B3_46
- Track 20 : B22_52
- Track 21 : Doucette_50
- Track 22 : Myrna_199
- Track 23 : ScoobyDoobyDoo_198
- Track 24 : Greely_206
- Track 25 : Phabba_210
- Track 26 : Mahdia_59
- Track 27 : Puppers_60
- Track 28 : Gustav_66
- Track 29 : Trine_64
- Track 30 : Upyo_68
- Track 31 : Morrissey_62
- Track 32 : Applejacks_61
- Track 33 : Widow_60
- Track 34 : TinaLin_56
- Track 35 : Banquo_56
- Track 36 : Gsput1_48

• Track 37 : Dardanus_52
• Track 38 : Schmidt_51
• Track 39 : Bantam_72, SpeedDemon_740
• Track 40 : DatBoi_70
• Track 41 : Towmatter_63, Daredevil_63
• Track 42 : Mollymur_72
• Track 43 : BearBQ_90
• Track 44 : Birdsong_84
• Track 45 : CheeseTouch_97
• Track 46 : LitninMcQueen_97
• Track 47 : Asapag_85
• Track 48 : Kozie_44
• Track 49 : Constance_63
• Track 50 : AlleyCat_67, Neighly_67, Psycho_65, Larva_66, Dadosky_67
• Track 51 : Edugator_64
• Track 52 : EmiRose_43
• Track 53 : GMA4_60
• Track 54 : TinyDot_60
• Track 55 : Shambre1_63
• Track 56 : REQ3_19
• Track 57 : BFK20_ORF52

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

The start number called the most often in the published annotations is 44, it was called in 27 of the 64 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Asapag_85, Bantam_72, BearBQ_90, Birdsong_84, CheeseTouch_97, DatBoi_70, Destructrice_60, GMA4_60, Gremlin23_59, HaugeAnator_61, Immanuel3_60, JPandJE_61, Kumquat_59, LitninMcQueen_97, Manuel_58, Mollymur_72, Olicious_61, Percastrophe_61, Romero_61, RosePharie_61, SpeedDemon_740, Stella_63, ToriToki_61, Treat_61, Vorvolakos_59, WRightOn_63, Zeigle_59, ZooBear_61,

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

Genes that do not have the "Most Annotated" start:
• AbbeyMikolon_40, AlleyCat_67, Anatole_44, Applejacks_61, B22_52, B3_46, BFK20_ORF52, Banquo_56, Constance_63, Dadosky_67, Dardanus_52, Daredevil_63, Dennebes_64, Diane_36, Doucette_50, Dubu_33, E1_44, Edugator_64, EmiRose_43, Greely_206, Gsput1_48, Gustav_66, JohnLord_68, Kozie_44, Larva_66, Mahdia_59, Morrissey_62, Myrna_199, Neighly_67, Nesbitt_39, Phabba_210, Psycho_65, Puppers_60, REQ3_19, Rideau_63, Sashimi_85, Schmidt_51, ScoobyDoobyDoo_198, Shambre1_63, TinaLin_56, TinyDot_60, Towmatter_63, Trine_64, Upyo_68, Widow_60, phiSASD1_10,

**Summary by start number:**

Start 14:
• Found in 4 of 74 ( 5.4% ) of genes in pham
• Manual Annotations of this start: 3 of 64
• Called 100.0% of time when present
• Phage (with cluster) where this start called: AbbeyMikolon_40 (BL), Dubu_33 (BJ), Nesbitt_39 (BL), phiSASD1_10 (BJ),

Start 20:
• Found in 1 of 74 ( 1.4% ) 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: Diane_36 (BD2),

Start 39:
• Found in 14 of 74 ( 18.9% ) of genes in pham
• Manual Annotations of this start: 11 of 64
• Called 85.7% of time when present
• Phage (with cluster) where this start called: AlleyCat_67 (K5), Anatole_44 (BV), B22_52 (BW), B3_46 (BV), Constance_63 (FA), Dadosky_67 (K5), Doucette_50 (BW), E1_44 (BV), Larva_66 (K5), Neighly_67 (K3), Psycho_65 (K5), Sashimi_85 (AY),

Start 40:
• Found in 1 of 74 ( 1.4% ) 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: Shambre1_63 (singleton),

Start 42:
• Found in 1 of 74 ( 1.4% ) 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: Dennebes_64 (BF),

Start 44:
• Found in 28 of 74 ( 37.8% ) of genes in pham
• Manual Annotations of this start: 27 of 64
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Asapag_85 (DN1), Bantam_72 (DL), BearBQ_90 (DN), Birdsong_84 (DN), CheeseTouch_97 (DN1), DatBoi_70 (DL), Destructrice_60 (BF), GMA4_60 (singleton), Gremlin23_59 (BF), HaugeAnator_61 (BF), Immanuel3_60 (BF), JPandJE_61 (BF), Kumquat_59 (BF), LitninMcQueen_97 (DN1), Manuel_58 (BF), Mollymur_72 (DL), Olicious_61 (BF), Percastrophe_61 (BF), Romero_61 (BF), RosePharie_61 (BF), SpeedDemon_740 (DL), Stella_63 (BF), ToriToki_61 (BF), Treat_61 (BF), Vorvolakos_59 (BF), WRightOn_63 (BF), Zeigle_59 (BF), ZooBear_61 (BF),

Start 45:
• Found in 6 of 74 ( 8.1% ) of genes in pham
• Manual Annotations of this start: 1 of 64
• Called 16.7% of time when present
• Phage (with cluster) where this start called: Edugator_64 (K5),

Start 46:
• Found in 10 of 74 ( 13.5% ) of genes in pham
• Manual Annotations of this start: 7 of 64
• Called 90.0% of time when present
• Phage (with cluster) where this start called: Applejacks_61 (CD), BFK20_ORF52 (singleton), EmiRose_43 (singleton), Gustav_66 (CD), Mahdia_59 (CD), Morrissey_62 (CD), Puppers_60 (CD), Upyo_68 (CD), Widow_60 (CD),

Start 47:
• Found in 14 of 74 ( 18.9% ) of genes in pham
• Manual Annotations of this start: 11 of 64
• Called 92.9% of time when present
• Phage (with cluster) where this start called: Banquo_56 (CU1), Dardanus_52 (CU3), Daredevil_63 (DL), Greely_206 (C2), Kozie_44 (EI), Myrna_199 (C2), Phabba_210 (C2), REQ3_19 (singleton), Schmidt_51 (CU4), ScoobyDoobyDoo_198 (C2), TinyDot_60 (singleton), Towmatter_63 (DL), Trine_64 (CD),

Start 48:
• Found in 2 of 74 ( 2.7% ) of genes in pham
• Manual Annotations of this start: 1 of 64
• Called 50.0% of time when present
• Phage (with cluster) where this start called: TinaLin_56 (CU1),

Start 49:
• Found in 11 of 74 ( 14.9% ) of genes in pham
• No Manual Annotations of this start.
• Called 9.1% of time when present
• Phage (with cluster) where this start called: Gsput1_48 (CU2),

Start 53:
• Found in 10 of 74 ( 13.5% ) of genes in pham
• No Manual Annotations of this start.
• Called 10.0% of time when present
• Phage (with cluster) where this start called: JohnLord_68 (AD),

Start 61:
• Found in 2 of 74 ( 2.7% ) of genes in pham
• No Manual Annotations of this start.
• Called 50.0% of time when present
• Phage (with cluster) where this start called: Rideau_63 (BF),

**Summary by clusters:**

There are 22 clusters represented in this pham: DN, DL, BL, singleton, BJ, K3, FA, BV, BW, K5, CU4, CU3, CU2, CU1, BF, DN1, BD2, C2, EI, AD, CD, AY,

Info for manual annotations of cluster AY:
•Start number 39 was manually annotated 1 time for cluster AY.

Info for manual annotations of cluster BD2:
•Start number 20 was manually annotated 1 time for cluster BD2.

Info for manual annotations of cluster BF:
•Start number 42 was manually annotated 1 time for cluster BF.
•Start number 44 was manually annotated 18 times for cluster BF.

Info for manual annotations of cluster BJ:
•Start number 14 was manually annotated 1 time for cluster BJ.

Info for manual annotations of cluster BL:
•Start number 14 was manually annotated 2 times for cluster BL.

Info for manual annotations of cluster BV:
•Start number 39 was manually annotated 3 times for cluster BV.

Info for manual annotations of cluster BW:
•Start number 39 was manually annotated 2 times for cluster BW.

Info for manual annotations of cluster C2:
•Start number 47 was manually annotated 3 times for cluster C2.

Info for manual annotations of cluster CD:
•Start number 46 was manually annotated 6 times for cluster CD.
•Start number 47 was manually annotated 1 time for cluster CD.

Info for manual annotations of cluster CU1:
•Start number 47 was manually annotated 1 time for cluster CU1.
•Start number 48 was manually annotated 1 time for cluster CU1.

Info for manual annotations of cluster CU3:
•Start number 47 was manually annotated 1 time for cluster CU3.

Info for manual annotations of cluster CU4:
•Start number 47 was manually annotated 1 time for cluster CU4.

Info for manual annotations of cluster DL:
•Start number 44 was manually annotated 4 times for cluster DL.
•Start number 47 was manually annotated 2 times for cluster DL.

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

Info for manual annotations of cluster DN1:
•Start number 44 was manually annotated 3 times for cluster DN1.

Info for manual annotations of cluster EI:
•Start number 47 was manually annotated 1 time for cluster EI.

Info for manual annotations of cluster FA:
•Start number 39 was manually annotated 1 time for cluster FA.

Info for manual annotations of cluster K5:
•Start number 39 was manually annotated 4 times for cluster K5.

•Start number 45 was manually annotated 1 time for cluster K5.

### *Gene Information:*

Gene: AbbeyMikolon_40 Start: 26256, Stop: 26795, Start Num: 14
Candidate Starts for AbbeyMikolon_40:
(Start: 14 @26256 has 3 MA's), (50, 26391), (59, 26439), (69, 26499), (71, 26511), (83, 26559), (85, 26562), (89, 26589), (98, 26610), (105, 26634), (111, 26667), (114, 26676), (139, 26775),

Gene: AlleyCat_67 Start: 46184, Stop: 46549, Start Num: 39
Candidate Starts for AlleyCat_67:
(29, 46148), (Start: 39 @46184 has 11 MA's), (Start: 45 @46196 has 1 MA's), (63, 46286), (71, 46325), (79, 46349), (85, 46376), (103, 46442), (104, 46445), (105, 46448), (115, 46490), (117, 46496), (118, 46502), (122, 46514), (128, 46532), (129, 46538),

Gene: Anatole_44 Start: 29853, Stop: 30233, Start Num: 39
Candidate Starts for Anatole_44:
(27, 29811), (30, 29823), (34, 29832), (Start: 39 @29853 has 11 MA's), (53, 29907), (75, 30003), (104, 30117), (117, 30168),

Gene: Applejacks_61 Start: 41338, Stop: 41739, Start Num: 46
Candidate Starts for Applejacks_61:
(Start: 46 @41338 has 7 MA's), (53, 41383), (57, 41398), (66, 41458), (67, 41461), (76, 41485), (115, 41638), (116, 41641), (117, 41644), (124, 41671), (138, 41728),

Gene: Asapag_85 Start: 49353, Stop: 49730, Start Num: 44
Candidate Starts for Asapag_85:
(6, 49113), (Start: 44 @49353 has 27 MA's), (49, 49365), (68, 49482), (74, 49494), (82, 49515), (95, 49566), (103, 49590), (106, 49599), (116, 49644), (117, 49647), (121, 49662), (126, 49674), (134, 49707),

Gene: B22_52 Start: 33281, Stop: 33661, Start Num: 39
Candidate Starts for B22_52:
(30, 33251), (34, 33260), (Start: 39 @33281 has 11 MA's), (53, 33335), (75, 33431), (93, 33509), (104, 33545), (117, 33596),

Gene: B3_46 Start: 30516, Stop: 30896, Start Num: 39
Candidate Starts for B3_46:
(Start: 39 @30516 has 11 MA's), (53, 30570), (75, 30666), (104, 30780), (117, 30831),

Gene: BFK20_ORF52 Start: 41172, Stop: 41558, Start Num: 46
Candidate Starts for BFK20_ORF52:
(Start: 46 @41172 has 7 MA's), (60, 41238), (90, 41385), (92, 41391), (97, 41415), (100, 41421), (122, 41505),

Gene: Banquo_56 Start: 37048, Stop: 37422, Start Num: 47
Candidate Starts for Banquo_56:
(Start: 47 @37048 has 11 MA's), (Start: 48 @37051 has 1 MA's), (49, 37060), (54, 37096), (68, 37177), (78, 37204), (105, 37306), (120, 37372),

Gene: Bantam_72 Start: 52490, Stop: 52125, Start Num: 44

Candidate Starts for Bantam_72:
(33, 52520), (Start: 44 @52490 has 27 MA's), (116, 52193), (131, 52145),

Gene: BearBQ_90 Start: 50811, Stop: 51185, Start Num: 44
Candidate Starts for BearBQ_90:
(Start: 44 @50811 has 27 MA's), (49, 50823), (74, 50952), (89, 51009), (96, 51027), (103, 51048), (104, 51051), (105, 51054), (106, 51057), (116, 51102), (117, 51105), (118, 51111), (121, 51120), (126, 51132),

Gene: Birdsong_84 Start: 49089, Stop: 49466, Start Num: 44
Candidate Starts for Birdsong_84:
(6, 48849), (Start: 44 @49089 has 27 MA's), (49, 49101), (74, 49230), (82, 49251), (95, 49302), (103, 49326), (106, 49335), (116, 49380), (117, 49383), (121, 49398), (126, 49410), (134, 49443),

Gene: CheeseTouch_97 Start: 48676, Stop: 49053, Start Num: 44
Candidate Starts for CheeseTouch_97:
(6, 48436), (Start: 44 @48676 has 27 MA's), (49, 48688), (74, 48817), (82, 48838), (103, 48913), (116, 48967), (117, 48970), (121, 48985), (126, 48997), (134, 49030),

Gene: Constance_63 Start: 40957, Stop: 41358, Start Num: 39
Candidate Starts for Constance_63:
(16, 40867), (17, 40870), (Start: 39 @40957 has 11 MA's), (75, 41107),

Gene: Dadosky_67 Start: 46186, Stop: 46551, Start Num: 39
Candidate Starts for Dadosky_67:
(29, 46150), (Start: 39 @46186 has 11 MA's), (Start: 45 @46198 has 1 MA's), (63, 46288), (71, 46327), (79, 46351), (85, 46378), (103, 46444), (104, 46447), (105, 46450), (115, 46492), (117, 46498), (118, 46504), (122, 46516), (128, 46534), (129, 46540),

Gene: Dardanus_52 Start: 35477, Stop: 35866, Start Num: 47
Candidate Starts for Dardanus_52:
(Start: 47 @35477 has 11 MA's), (49, 35489), (52, 35519), (53, 35522), (105, 35735), (117, 35783),

Gene: Daredevil_63 Start: 48481, Stop: 48092, Start Num: 47
Candidate Starts for Daredevil_63:
(Start: 47 @48481 has 11 MA's), (62, 48376), (105, 48208), (112, 48172), (117, 48157), (125, 48133),

Gene: DatBoi_70 Start: 52480, Stop: 52115, Start Num: 44
Candidate Starts for DatBoi_70:
(Start: 44 @52480 has 27 MA's), (55, 52426), (72, 52336), (109, 52213), (116, 52183), (131, 52135),

Gene: Dennebes_64 Start: 31702, Stop: 31352, Start Num: 42
Candidate Starts for Dennebes_64:
(Start: 42 @31702 has 1 MA's), (61, 31621), (106, 31465), (116, 31423), (122, 31402),

Gene: Destructrice_60 Start: 31598, Stop: 31254, Start Num: 44
Candidate Starts for Destructrice_60:
(Start: 44 @31598 has 27 MA's), (99, 31373), (106, 31358), (113, 31322), (117, 31313),

Gene: Diane_36 Start: 27972, Stop: 28412, Start Num: 20
Candidate Starts for Diane_36:
(13, 27930), (Start: 20 @27972 has 1 MA's), (26, 27990), (32, 28017), (37, 28026), (38, 28035), (41, 28047), (79, 28209), (110, 28329), (119, 28368),

Gene: Doucette_50 Start: 32710, Stop: 33090, Start Num: 39
Candidate Starts for Doucette_50:
(Start: 39 @32710 has 11 MA's), (53, 32764), (75, 32860), (104, 32974), (115, 33019), (116, 33022),

Gene: Dubu_33 Start: 24220, Stop: 24681, Start Num: 14
Candidate Starts for Dubu_33:
(Start: 14 @24220 has 3 MA's), (65, 24400), (78, 24451), (83, 24475), (85, 24478), (117, 24589),

Gene: E1_44 Start: 29853, Stop: 30233, Start Num: 39
Candidate Starts for E1_44:
(27, 29811), (30, 29823), (34, 29832), (Start: 39 @29853 has 11 MA's), (53, 29907), (75, 30003), (104, 30117), (117, 30168),

Gene: Edugator_64 Start: 47616, Stop: 47969, Start Num: 45
Candidate Starts for Edugator_64:
(29, 47568), (Start: 39 @47604 has 11 MA's), (Start: 45 @47616 has 1 MA's), (63, 47706), (71, 47745), (79, 47769), (85, 47796), (103, 47862), (104, 47865), (105, 47868), (115, 47910), (117, 47916), (118, 47922), (122, 47934), (128, 47952), (129, 47958),

Gene: EmiRose_43 Start: 35914, Stop: 36360, Start Num: 46
Candidate Starts for EmiRose_43:
(Start: 46 @35914 has 7 MA's), (53, 35959), (81, 36082), (100, 36166), (116, 36229), (123, 36256), (137, 36313),

Gene: GMA4_60 Start: 40216, Stop: 40572, Start Num: 44
Candidate Starts for GMA4_60:
(15, 40105), (Start: 44 @40216 has 27 MA's), (117, 40510),

Gene: Greely_206 Start: 116895, Stop: 117263, Start Num: 47
Candidate Starts for Greely_206:
(9, 116745), (11, 116763), (16, 116781), (35, 116859), (Start: 47 @116895 has 11 MA's), (64, 117006), (81, 117072), (85, 117090), (117, 117210), (118, 117216),

Gene: Gremlin23_59 Start: 31138, Stop: 30782, Start Num: 44
Candidate Starts for Gremlin23_59:
(Start: 44 @31138 has 27 MA's), (69, 31003), (82, 30946), (106, 30898),

Gene: Gsput1_48 Start: 35124, Stop: 35474, Start Num: 49
Candidate Starts for Gsput1_48:
(28, 35067), (Start: 46 @35112 has 7 MA's), (49, 35124), (68, 35241), (112, 35403), (116, 35415), (117, 35418),

Gene: Gustav_66 Start: 43170, Stop: 43571, Start Num: 46
Candidate Starts for Gustav_66:
(Start: 46 @43170 has 7 MA's), (89, 43383), (117, 43476), (124, 43503), (127, 43512), (133, 43542), (136, 43557), (138, 43560),

Gene: HaugeAnator_61 Start: 31665, Stop: 31324, Start Num: 44
Candidate Starts for HaugeAnator_61:
(Start: 44 @31665 has 27 MA's), (99, 31440), (106, 31425), (113, 31389), (117, 31380),

Gene: Immanuel3_60 Start: 31668, Stop: 31327, Start Num: 44

Candidate Starts for Immanuel3_60:
(Start: 44 @31668 has 27 MA's), (99, 31443), (106, 31428), (113, 31392), (117, 31383),

Gene: JPandJE_61 Start: 32184, Stop: 31789, Start Num: 44
Candidate Starts for JPandJE_61:
(Start: 44 @32184 has 27 MA's), (91, 31953), (106, 31890), (113, 31854), (117, 31845),

Gene: JohnLord_68 Start: 50343, Stop: 50684, Start Num: 53
Candidate Starts for JohnLord_68:
(21, 50232), (Start: 39 @50289 has 11 MA's), (53, 50343), (63, 50394), (71, 50433), (73, 50439), (85, 50484), (102, 50544), (105, 50556), (117, 50604), (120, 50619), (123, 50628),

Gene: Kozie_44 Start: 32286, Stop: 32642, Start Num: 47
Candidate Starts for Kozie_44:
(Start: 47 @32286 has 11 MA's), (70, 32409), (117, 32586), (118, 32592), (122, 32604),

Gene: Kumquat_59 Start: 31123, Stop: 30773, Start Num: 44
Candidate Starts for Kumquat_59:
(25, 31189), (31, 31165), (Start: 44 @31123 has 27 MA's), (82, 30931), (106, 30883),

Gene: Larva_66 Start: 47058, Stop: 47423, Start Num: 39
Candidate Starts for Larva_66:
(29, 47022), (Start: 39 @47058 has 11 MA's), (Start: 45 @47070 has 1 MA's), (63, 47160), (71, 47199), (79, 47223), (85, 47250), (103, 47316), (104, 47319), (105, 47322), (115, 47364), (117, 47370), (118, 47376), (122, 47388), (128, 47406), (129, 47412),

Gene: LitninMcQueen_97 Start: 51856, Stop: 52233, Start Num: 44
Candidate Starts for LitninMcQueen_97:
(18, 51772), (Start: 44 @51856 has 27 MA's), (49, 51868), (68, 51985), (74, 51997), (82, 52018), (95, 52069), (103, 52093), (116, 52147), (117, 52150), (121, 52165), (126, 52177), (134, 52210),

Gene: Mahdia_59 Start: 41385, Stop: 41786, Start Num: 46
Candidate Starts for Mahdia_59:
(Start: 46 @41385 has 7 MA's), (57, 41445), (67, 41508), (82, 41562), (89, 41598), (115, 41685), (117, 41691), (124, 41718), (133, 41757), (138, 41775),

Gene: Manuel_58 Start: 31424, Stop: 31080, Start Num: 44
Candidate Starts for Manuel_58:
(25, 31490), (31, 31466), (Start: 44 @31424 has 27 MA's), (82, 31232), (106, 31184), (117, 31139), (118, 31133),

Gene: Mollymur_72 Start: 52998, Stop: 52633, Start Num: 44
Candidate Starts for Mollymur_72:
(22, 53064), (33, 53028), (Start: 44 @52998 has 27 MA's), (116, 52701), (117, 52698),

Gene: Morrissey_62 Start: 43281, Stop: 43685, Start Num: 46
Candidate Starts for Morrissey_62:
(12, 43155), (Start: 46 @43281 has 7 MA's), (56, 43338), (89, 43494), (101, 43524), (115, 43581), (116, 43584), (117, 43587), (124, 43614), (127, 43623), (133, 43653),

Gene: Myrna_199 Start: 116281, Stop: 116649, Start Num: 47
Candidate Starts for Myrna_199:

(9, 116131), (11, 116149), (35, 116245), (Start: 47 @116281 has 11 MA's), (81, 116458), (85, 116476), (108, 116560), (117, 116596),

Gene: Neighly_67 Start: 47057, Stop: 47422, Start Num: 39
Candidate Starts for Neighly_67:
(29, 47021), (Start: 39 @47057 has 11 MA's), (Start: 45 @47069 has 1 MA's), (63, 47159), (71, 47198), (79, 47222), (85, 47249), (103, 47315), (104, 47318), (105, 47321), (115, 47363), (117, 47369), (118, 47375), (122, 47387), (128, 47405), (129, 47411),

Gene: Nesbitt_39 Start: 26358, Stop: 26897, Start Num: 14
Candidate Starts for Nesbitt_39:
(8, 26283), (Start: 14 @26358 has 3 MA's), (29, 26427), (50, 26493), (59, 26541), (69, 26601), (71, 26613), (83, 26661), (86, 26667), (89, 26691), (98, 26712), (105, 26736), (111, 26769), (130, 26841), (139, 26877),

Gene: Olicious_61 Start: 31665, Stop: 31324, Start Num: 44
Candidate Starts for Olicious_61:
(Start: 44 @31665 has 27 MA's), (99, 31440), (106, 31425), (113, 31389), (117, 31380),

Gene: Percastrophe_61 Start: 31599, Stop: 31258, Start Num: 44
Candidate Starts for Percastrophe_61:
(Start: 44 @31599 has 27 MA's), (99, 31374), (106, 31359), (113, 31323), (117, 31314),

Gene: Phabba_210 Start: 116249, Stop: 116617, Start Num: 47
Candidate Starts for Phabba_210:
(11, 116117), (35, 116213), (Start: 47 @116249 has 11 MA's), (81, 116426), (85, 116444), (117, 116564), (118, 116570),

Gene: Psycho_65 Start: 46183, Stop: 46548, Start Num: 39
Candidate Starts for Psycho_65:
(29, 46147), (Start: 39 @46183 has 11 MA's), (Start: 45 @46195 has 1 MA's), (63, 46285), (71, 46324), (79, 46348), (85, 46375), (103, 46441), (104, 46444), (105, 46447), (115, 46489), (117, 46495), (118, 46501), (122, 46513), (128, 46531), (129, 46537),

Gene: Puppers_60 Start: 41273, Stop: 41683, Start Num: 46
Candidate Starts for Puppers_60:
(Start: 46 @41273 has 7 MA's), (51, 41294), (77, 41426), (87, 41468), (88, 41477), (115, 41582), (117, 41588),

Gene: REQ3_19 Start: 8920, Stop: 9282, Start Num: 47
Candidate Starts for REQ3_19:
(Start: 47 @8920 has 11 MA's), (53, 8965), (74, 9061), (80, 9067), (81, 9073), (103, 9157), (117, 9211), (132, 9262), (135, 9274),

Gene: Rideau_63 Start: 31621, Stop: 31352, Start Num: 61
Candidate Starts for Rideau_63:
(23, 31768), (30, 31744), (31, 31741), (43, 31702), (61, 31621), (106, 31465), (116, 31423), (122, 31402),

Gene: Romero_61 Start: 31658, Stop: 31317, Start Num: 44
Candidate Starts for Romero_61:
(Start: 44 @31658 has 27 MA's), (99, 31433), (106, 31418), (113, 31382), (117, 31373),

Gene: RosePharie_61 Start: 31485, Stop: 31126, Start Num: 44
Candidate Starts for RosePharie_61:
(25, 31551), (Start: 44 @31485 has 27 MA's), (82, 31293), (106, 31245),

Gene: Sashimi_85 Start: 47693, Stop: 48073, Start Num: 39
Candidate Starts for Sashimi_85:
(24, 47648), (Start: 39 @47693 has 11 MA's), (63, 47795), (75, 47843), (84, 47885), (117, 48008),

Gene: Schmidt_51 Start: 34772, Stop: 35146, Start Num: 47
Candidate Starts for Schmidt_51:
(Start: 47 @34772 has 11 MA's), (49, 34784), (68, 34901), (78, 34928), (80, 34934), (105, 35030), (113, 35072), (120, 35096),

Gene: ScoobyDoobyDoo_198 Start: 114464, Stop: 114832, Start Num: 47
Candidate Starts for ScoobyDoobyDoo_198:
(7, 114260), (16, 114353), (19, 114377), (35, 114428), (Start: 47 @114464 has 11 MA's), (64, 114575), (80, 114635), (85, 114659), (101, 114716), (103, 114725), (105, 114731), (117, 114779), (118, 114785),

Gene: Shambre1_63 Start: 40417, Stop: 40782, Start Num: 40
Candidate Starts for Shambre1_63:
(Start: 40 @40417 has 1 MA's), (85, 40609), (117, 40729),

Gene: SpeedDemon_740 Start: 54721, Stop: 54356, Start Num: 44
Candidate Starts for SpeedDemon_740:
(33, 54751), (Start: 44 @54721 has 27 MA's), (116, 54424), (131, 54376),

Gene: Stella_63 Start: 32170, Stop: 31820, Start Num: 44
Candidate Starts for Stella_63:
(36, 32194), (Start: 44 @32170 has 27 MA's), (94, 31954), (99, 31948), (113, 31897), (117, 31888), (122, 31870),

Gene: TinaLin_56 Start: 36975, Stop: 37346, Start Num: 48
Candidate Starts for TinaLin_56:
(Start: 47 @36972 has 11 MA's), (Start: 48 @36975 has 1 MA's), (49, 36984), (68, 37101), (105, 37230), (120, 37296),

Gene: TinyDot_60 Start: 38014, Stop: 38394, Start Num: 47
Candidate Starts for TinyDot_60:
(1, 37603), (4, 37699), (Start: 47 @38014 has 11 MA's), (49, 38026), (58, 38077), (62, 38119), (123, 38338), (124, 38341), (131, 38374),

Gene: ToriToki_61 Start: 31661, Stop: 31320, Start Num: 44
Candidate Starts for ToriToki_61:
(Start: 44 @31661 has 27 MA's), (99, 31436), (106, 31421), (113, 31385), (117, 31376),

Gene: Towmatter_63 Start: 48560, Stop: 48171, Start Num: 47
Candidate Starts for Towmatter_63:
(Start: 47 @48560 has 11 MA's), (62, 48455), (105, 48287), (112, 48251), (117, 48236), (125, 48212),

Gene: Treat_61 Start: 31602, Stop: 31261, Start Num: 44
Candidate Starts for Treat_61:
(Start: 44 @31602 has 27 MA's), (99, 31377), (106, 31362), (113, 31326), (117, 31317),

Gene: Trine_64 Start: 42629, Stop: 43021, Start Num: 47
Candidate Starts for Trine_64:
(2, 42272), (3, 42302), (5, 42380), (Start: 47 @42629 has 11 MA's), (81, 42797), (85, 42815), (101, 42872), (115, 42929), (116, 42932), (117, 42935), (124, 42962),

Gene: Upyo_68 Start: 44581, Stop: 44982, Start Num: 46
Candidate Starts for Upyo_68:
(10, 44440), (Start: 46 @44581 has 7 MA's), (82, 44758), (89, 44794), (90, 44797), (115, 44881), (117, 44887), (124, 44914), (127, 44923), (135, 44959), (136, 44968),

Gene: Vorvolakos_59 Start: 31137, Stop: 30781, Start Num: 44
Candidate Starts for Vorvolakos_59:
(Start: 44 @31137 has 27 MA's), (69, 31002), (82, 30945), (106, 30897),

Gene: WRightOn_63 Start: 31279, Stop: 30929, Start Num: 44
Candidate Starts for WRightOn_63:
(25, 31345), (31, 31321), (Start: 44 @31279 has 27 MA's), (82, 31087), (106, 31039),

Gene: Widow_60 Start: 41819, Stop: 42229, Start Num: 46
Candidate Starts for Widow_60:
(Start: 46 @41819 has 7 MA's), (77, 41972), (87, 42014), (88, 42023), (115, 42128), (117, 42134),

Gene: Zeigle_59 Start: 31123, Stop: 30773, Start Num: 44
Candidate Starts for Zeigle_59:
(25, 31189), (31, 31165), (Start: 44 @31123 has 27 MA's), (82, 30931), (106, 30883),

Gene: ZooBear_61 Start: 31665, Stop: 31324, Start Num: 44
Candidate Starts for ZooBear_61:
(Start: 44 @31665 has 27 MA's), (99, 31440), (106, 31425), (113, 31389), (117, 31380),

Gene: phiSASD1_10 Start: 25051, Stop: 25515, Start Num: 14
Candidate Starts for phiSASD1_10:
(Start: 14 @25051 has 3 MA's), (69, 25246), (71, 25258), (83, 25306), (85, 25309), (98, 25351), (107, 25384),