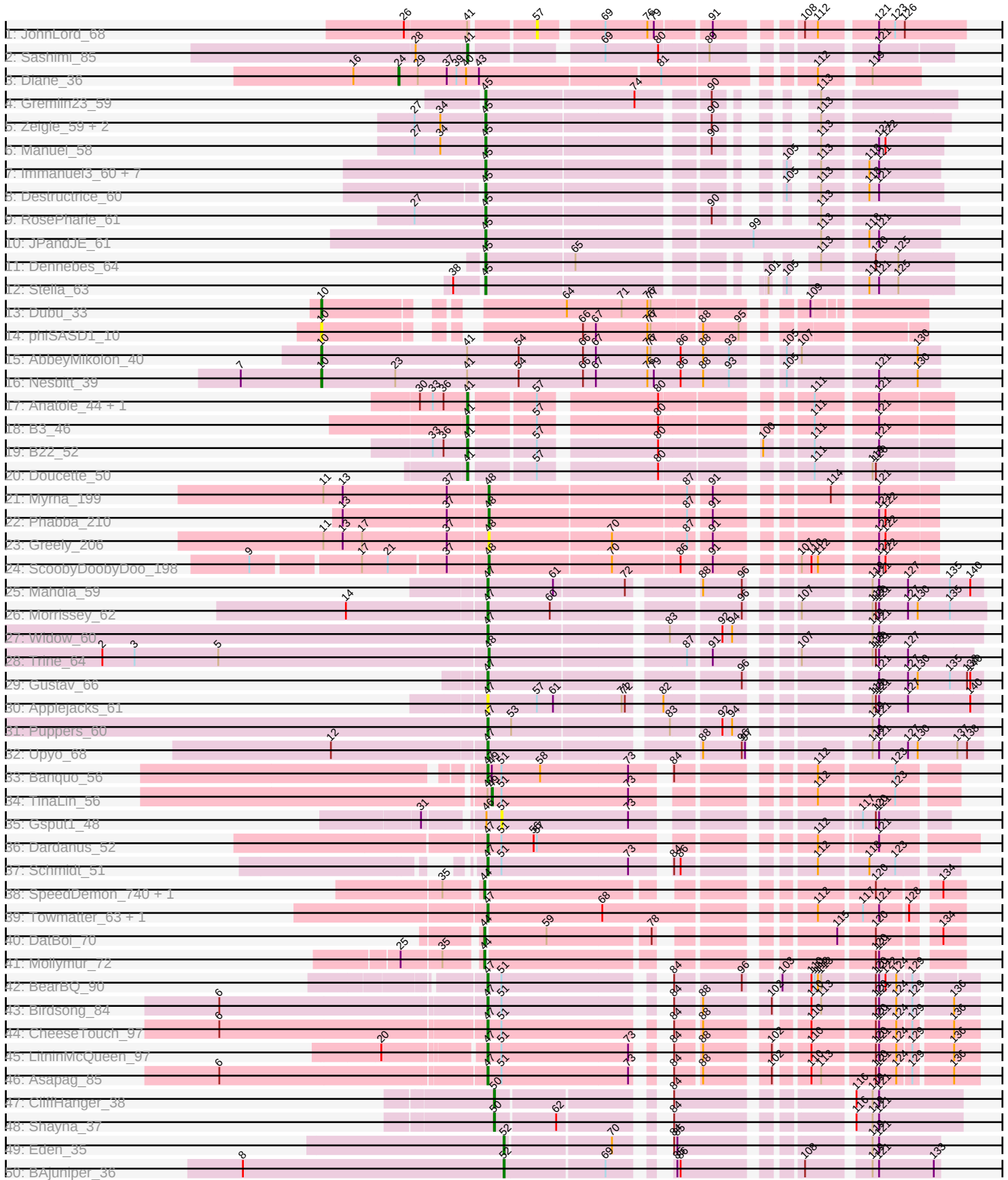
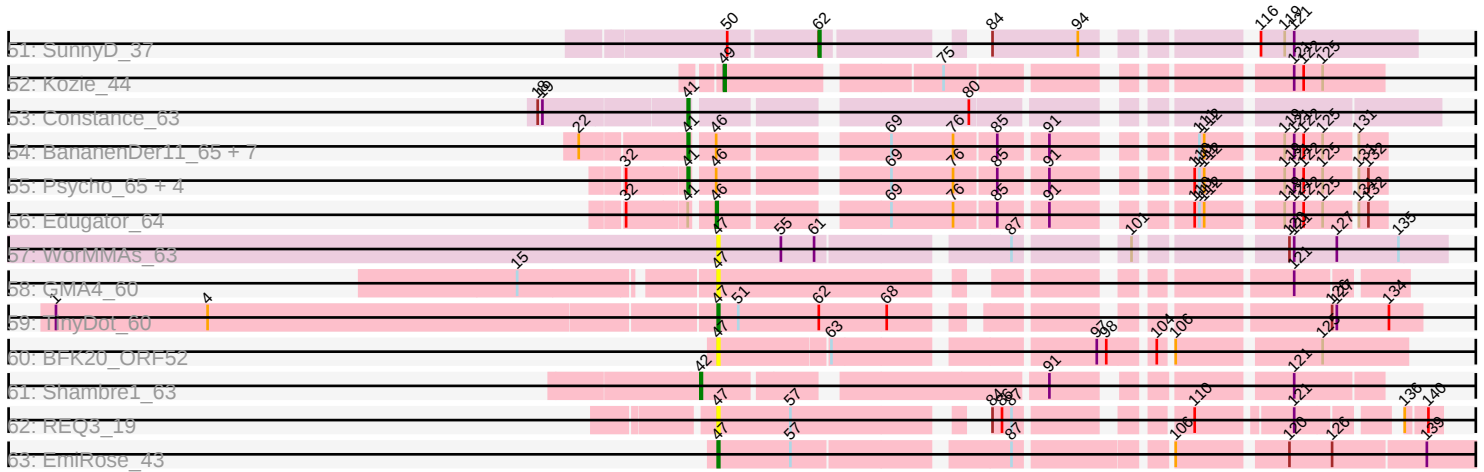


Pham 330734



Pham 330734



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 330734 Report

This analysis was run 09/05/26 on database version 662.

Pham number 330734 has 86 members, 11 are drafts.

Phages represented in each track:

- Track 1 : JohnLord_68
- Track 2 : Sashimi_85
- Track 3 : Diane_36
- Track 4 : Gremlin23_59
- Track 5 : Zeigle_59, WRightOn_63, Kumquat_59
- Track 6 : Manuel_58
- Track 7 : Immanuel3_60, ToriToki_61, HaugeAnator_61, Olicious_61, ZooBear_61, Romero_61, Percastrophe_61, Treat_61
- Track 8 : Destructrice_60
- Track 9 : RosePharie_61
- Track 10 : JPandJE_61
- Track 11 : Dennebes_64
- Track 12 : Stella_63
- Track 13 : Dubu_33
- Track 14 : phiSASD1_10
- Track 15 : AbbeyMikolon_40
- Track 16 : Nesbitt_39
- Track 17 : Anatole_44, E1_44
- Track 18 : B3_46
- Track 19 : B22_52
- Track 20 : Doucette_50
- Track 21 : Myrna_199
- Track 22 : Phabba_210
- Track 23 : Greely_206
- Track 24 : ScoobyDoobyDoo_198
- Track 25 : Mahdia_59
- Track 26 : Morrissey_62
- Track 27 : Widow_60
- Track 28 : Trine_64
- Track 29 : Gustav_66
- Track 30 : Applejacks_61
- Track 31 : Puppies_60
- Track 32 : Upyo_68
- Track 33 : Banquo_56
- Track 34 : TinaLin_56
- Track 35 : Gsput1_48
- Track 36 : Dardanus_52

- Track 37 : Schmidt_51
- Track 38 : SpeedDemon_740, Bantam_72
- Track 39 : Towmatter_63, Daredevil_63
- Track 40 : DatBoi_70
- Track 41 : Mollymur_72
- Track 42 : BearBQ_90
- Track 43 : Birdsong_84
- Track 44 : CheeseTouch_97
- Track 45 : LitninMcQueen_97
- Track 46 : Asapag_85
- Track 47 : CliffHanger_38
- Track 48 : Shayna_37
- Track 49 : Eden_35
- Track 50 : BAJuniper_36
- Track 51 : SunnyD_37
- Track 52 : Kozie_44
- Track 53 : Constance_63
- Track 54 : BananenDer11_65, Collard_63, InvictusManeo_63, DoubleChamp_62, Kratio_63, Agent47_65, ViviJ_64, LilDirt_64
- Track 55 : Psycho_65, Dadosky_67, AlleyCat_67, Larva_66, Neighly_67
- Track 56 : Edugator_64
- Track 57 : WorMMAs_63
- Track 58 : GMA4_60
- Track 59 : TinyDot_60
- Track 60 : BFK20_ORF52
- Track 61 : Shambre1_63
- Track 62 : REQ3_19
- Track 63 : EmiRose_43

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

The start number called the most often in the published annotations is 41, it was called in 18 of the 75 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Agent47_65, AlleyCat_67, Anatole_44, B22_52, B3_46, BananenDer11_65, Collard_63, Constance_63, Dadosky_67, DoubleChamp_62, Doucette_50, E1_44, InvictusManeo_63, Kratio_63, Larva_66, LilDirt_64, Neighly_67, Psycho_65, Sashimi_85, ViviJ_64,

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

- AbbeyMikolon_40, Edugator_64, JohnLord_68, Nesbitt_39,

Genes that do not have the "Most Annotated" start:

- Applejacks_61, Asapag_85, BAJuniper_36, BFK20_ORF52, Banquo_56, Bantam_72, BearBQ_90, Birdsong_84, CheeseTouch_97, CliffHanger_38, Dardanus_52, Daredevil_63, DatBoi_70, Dennebes_64, Destructrice_60, Diane_36, Dubu_33, Eden_35, EmiRose_43, GMA4_60, Greely_206, Gremlin23_59, Gsput1_48, Gustav_66, HaugeAnator_61, Immanuel3_60, JPandJE_61, Kozie_44, Kumquat_59, LitninMcQueen_97, Mahdia_59, Manuel_58, Mollymur_72,

Morrissey_62, Myrna_199, Olicious_61, Percastrophe_61, Phabba_210, Puppies_60, REQ3_19, Romero_61, RosePharie_61, Schmidt_51, ScoobyDoobyDoo_198, Shambre1_63, Shayna_37, SpeedDemon_740, Stella_63, SunnyD_37, TinaLin_56, TinyDot_60, ToriToki_61, Towmatter_63, Treat_61, Trine_64, Upyo_68, WRightOn_63, Widow_60, WorMMAs_63, Zeigle_59, ZooBear_61, phiSASD1_10,

Summary by start number:

Start 10:

- Found in 4 of 86 (4.7%) of genes in pham
- Manual Annotations of this start: 3 of 75
- 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 24:

- Found in 1 of 86 (1.2%) of genes in pham
- Manual Annotations of this start: 1 of 75
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Diane_36 (BD2),

Start 41:

- Found in 24 of 86 (27.9%) of genes in pham
- Manual Annotations of this start: 18 of 75
- Called 83.3% of time when present
- Phage (with cluster) where this start called: Agent47_65 (K5), AlleyCat_67 (K5), Anatole_44 (BV), B22_52 (BW), B3_46 (BV), BananenDer11_65 (K5), Collard_63 (K5), Constance_63 (FA), Dadosky_67 (K5), DoubleChamp_62 (K5), Doucette_50 (BW), E1_44 (BV), InvictusManeo_63 (K5), Kratio_63 (K5), Larva_66 (K5), LilDirt_64 (K5), Neighly_67 (K3), Psycho_65 (K5), Sashimi_85 (AY), ViviJ_64 (K5),

Start 42:

- Found in 1 of 86 (1.2%) of genes in pham
- Manual Annotations of this start: 1 of 75
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Shambre1_63 (singleton),

Start 44:

- Found in 4 of 86 (4.7%) of genes in pham
- Manual Annotations of this start: 4 of 75
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bantam_72 (DL), DatBoi_70 (DL), Mollymur_72 (DL), SpeedDemon_740 (DL),

Start 45:

- Found in 18 of 86 (20.9%) of genes in pham
- Manual Annotations of this start: 18 of 75
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Dennebes_64 (BF), Destructrice_60 (BF), Gremlin23_59 (BF), HaugeAnator_61 (BF), Immanuel3_60 (BF), JPandJE_61 (BF), Kumquat_59 (BF), Manuel_58 (BF), Olicious_61 (BF), Percastrophe_61 (BF), Romero_61 (BF), RosePharie_61 (BF), Stella_63 (BF), ToriToki_61 (BF), Treat_61 (BF), WRightOn_63 (BF), Zeigle_59 (BF), ZooBear_61 (BF),

Start 46:

- Found in 15 of 86 (17.4%) of genes in pham
- Manual Annotations of this start: 1 of 75
- Called 6.7% of time when present
- Phage (with cluster) where this start called: Edugator_64 (K5),

Start 47:

- Found in 24 of 86 (27.9%) of genes in pham
- Manual Annotations of this start: 18 of 75
- Called 95.8% of time when present
- Phage (with cluster) where this start called: Applejacks_61 (CD), Asapag_85 (DN1), BFK20_ORF52 (singleton), Banquo_56 (CU1), BearBQ_90 (DN), Birdsong_84 (DN), CheeseTouch_97 (DN1), Dardanus_52 (CU3), Daredevil_63 (DL), EmiRose_43 (singleton), GMA4_60 (singleton), Gustav_66 (CD), LitninMcQueen_97 (DN1), Mahdia_59 (CD), Morrissey_62 (CD), Puppies_60 (CD), REQ3_19 (singleton), Schmidt_51 (CU4), TinyDot_60 (singleton), Towmatter_63 (DL), Upyo_68 (CD), Widow_60 (CD), WorMMAs_63 (UNK),

Start 48:

- Found in 5 of 86 (5.8%) of genes in pham
- Manual Annotations of this start: 4 of 75
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Greely_206 (C2), Myrna_199 (C2), Phabba_210 (C2), ScoobyDoobyDoo_198 (C2), Trine_64 (CD),

Start 49:

- Found in 3 of 86 (3.5%) of genes in pham
- Manual Annotations of this start: 2 of 75
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Koze_44 (EI), TinaLin_56 (CU1),

Start 50:

- Found in 3 of 86 (3.5%) of genes in pham
- Manual Annotations of this start: 2 of 75
- Called 66.7% of time when present
- Phage (with cluster) where this start called: CliffHanger_38 (EB), Shayna_37 (EB),

Start 51:

- Found in 11 of 86 (12.8%) 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 52:

- Found in 2 of 86 (2.3%) of genes in pham
- Manual Annotations of this start: 2 of 75
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BAjuniper_36 (EB), Eden_35 (EB),

Start 57:

- Found in 10 of 86 (11.6%) 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 62:

- Found in 3 of 86 (3.5%) of genes in pham
- Manual Annotations of this start: 1 of 75
- Called 33.3% of time when present
- Phage (with cluster) where this start called: SunnyD_37 (EB),

Summary by clusters:

There are 24 clusters represented in this pham: DN, BF, BL, DL, BJ, K3, FA, BV, BW, K5, CU4, CU3, CU2, CU1, DN1, BD2, C2, EI, AD, EB, AY, singleton, UNK, CD,

Info for manual annotations of cluster AY:

- Start number 41 was manually annotated 1 time for cluster AY.

Info for manual annotations of cluster BD2:

- Start number 24 was manually annotated 1 time for cluster BD2.

Info for manual annotations of cluster BF:

- Start number 45 was manually annotated 18 times for cluster BF.

Info for manual annotations of cluster BJ:

- Start number 10 was manually annotated 1 time for cluster BJ.

Info for manual annotations of cluster BL:

- Start number 10 was manually annotated 2 times for cluster BL.

Info for manual annotations of cluster BV:

- Start number 41 was manually annotated 3 times for cluster BV.

Info for manual annotations of cluster BW:

- Start number 41 was manually annotated 2 times for cluster BW.

Info for manual annotations of cluster C2:

- Start number 48 was manually annotated 3 times for cluster C2.

Info for manual annotations of cluster CD:

- Start number 47 was manually annotated 6 times for cluster CD.
- Start number 48 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 49 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 47 was manually annotated 2 times for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 47 was manually annotated 3 times for cluster DN1.

Info for manual annotations of cluster EB:

- Start number 50 was manually annotated 2 times for cluster EB.
- Start number 52 was manually annotated 2 times for cluster EB.
- Start number 62 was manually annotated 1 time for cluster EB.

Info for manual annotations of cluster EI:

- Start number 49 was manually annotated 1 time for cluster EI.

Info for manual annotations of cluster FA:

- Start number 41 was manually annotated 1 time for cluster FA.

Info for manual annotations of cluster K5:

- Start number 41 was manually annotated 11 times for cluster K5.
- Start number 46 was manually annotated 1 time for cluster K5.

Gene Information:

Gene: AbbeyMikolon_40 Start: 26256, Stop: 26795, Start Num: 10

Candidate Starts for AbbeyMikolon_40:

(Start: 10 @26256 has 3 MA's), (Start: 41 @26391 has 18 MA's), (54, 26439), (66, 26499), (67, 26511), (76, 26559), (77, 26562), (86, 26589), (88, 26610), (93, 26634), (105, 26667), (107, 26676), (130, 26775),

Gene: Agent47_65 Start: 45856, Stop: 46221, Start Num: 41

Candidate Starts for Agent47_65:

(22, 45793), (Start: 41 @45856 has 18 MA's), (Start: 46 @45868 has 1 MA's), (69, 45958), (76, 45997), (85, 46021), (91, 46048), (111, 46117), (112, 46120), (119, 46162), (121, 46168), (122, 46174), (125, 46186), (131, 46204),

Gene: AlleyCat_67 Start: 46184, Stop: 46549, Start Num: 41

Candidate Starts for AlleyCat_67:

(32, 46148), (Start: 41 @46184 has 18 MA's), (Start: 46 @46196 has 1 MA's), (69, 46286), (76, 46325), (85, 46349), (91, 46376), (110, 46442), (111, 46445), (112, 46448), (119, 46490), (121, 46496), (122, 46502), (125, 46514), (131, 46532), (132, 46538),

Gene: Anatole_44 Start: 29853, Stop: 30233, Start Num: 41

Candidate Starts for Anatole_44:

(30, 29811), (33, 29823), (36, 29832), (Start: 41 @29853 has 18 MA's), (57, 29907), (80, 30003), (111, 30117), (121, 30168),

Gene: Applejacks_61 Start: 41338, Stop: 41739, Start Num: 47

Candidate Starts for Applejacks_61:

(Start: 47 @41338 has 18 MA's), (57, 41383), (61, 41398), (71, 41458), (72, 41461), (82, 41485), (119, 41638), (120, 41641), (121, 41644), (127, 41671), (140, 41728),

Gene: Asapag_85 Start: 49353, Stop: 49730, Start Num: 47

Candidate Starts for Asapag_85:

(6, 49113), (Start: 47 @49353 has 18 MA's), (51, 49365), (73, 49482), (84, 49494), (88, 49515), (102, 49566), (110, 49590), (113, 49599), (120, 49644), (121, 49647), (124, 49662), (129, 49674), (136, 49707),

Gene: B22_52 Start: 33281, Stop: 33661, Start Num: 41

Candidate Starts for B22_52:

(33, 33251), (36, 33260), (Start: 41 @33281 has 18 MA's), (57, 33335), (80, 33431), (100, 33509), (111, 33545), (121, 33596),

Gene: B3_46 Start: 30516, Stop: 30896, Start Num: 41

Candidate Starts for B3_46:

(Start: 41 @30516 has 18 MA's), (57, 30570), (80, 30666), (111, 30780), (121, 30831),

Gene: BAJuniper_36 Start: 26884, Stop: 27216, Start Num: 52

Candidate Starts for BAJuniper_36:

(8, 26641), (Start: 52 @26884 has 2 MA's), (69, 26974), (85, 27010), (86, 27013), (108, 27103), (119, 27154), (121, 27160), (133, 27211),

Gene: BFK20_ORF52 Start: 41172, Stop: 41558, Start Num: 47

Candidate Starts for BFK20_ORF52:

(Start: 47 @41172 has 18 MA's), (63, 41238), (97, 41385), (98, 41391), (104, 41415), (106, 41421), (125, 41505),

Gene: BananenDer11_65 Start: 45817, Stop: 46182, Start Num: 41

Candidate Starts for BananenDer11_65:

(22, 45754), (Start: 41 @45817 has 18 MA's), (Start: 46 @45829 has 1 MA's), (69, 45919), (76, 45958), (85, 45982), (91, 46009), (111, 46078), (112, 46081), (119, 46123), (121, 46129), (122, 46135), (125, 46147), (131, 46165),

Gene: Banquo_56 Start: 37048, Stop: 37422, Start Num: 47

Candidate Starts for Banquo_56:

(Start: 47 @37048 has 18 MA's), (Start: 49 @37051 has 2 MA's), (51, 37060), (58, 37096), (73, 37177), (84, 37204), (112, 37306), (123, 37372),

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

Candidate Starts for Bantam_72:

(35, 52520), (Start: 44 @52490 has 4 MA's), (120, 52193), (134, 52145),

Gene: BearBQ_90 Start: 50811, Stop: 51185, Start Num: 47

Candidate Starts for BearBQ_90:

(Start: 47 @50811 has 18 MA's), (51, 50823), (84, 50952), (96, 51009), (103, 51027), (110, 51048), (111, 51051), (112, 51054), (113, 51057), (120, 51102), (121, 51105), (122, 51111), (124, 51120), (129, 51132),

Gene: Birdsong_84 Start: 49089, Stop: 49466, Start Num: 47

Candidate Starts for Birdsong_84:

(6, 48849), (Start: 47 @49089 has 18 MA's), (51, 49101), (84, 49230), (88, 49251), (102, 49302), (110, 49326), (113, 49335), (120, 49380), (121, 49383), (124, 49398), (129, 49410), (136, 49443),

Gene: CheeseTouch_97 Start: 48676, Stop: 49053, Start Num: 47

Candidate Starts for CheeseTouch_97:

(6, 48436), (Start: 47 @48676 has 18 MA's), (51, 48688), (84, 48817), (88, 48838), (110, 48913), (120, 48967), (121, 48970), (124, 48985), (129, 48997), (136, 49030),

Gene: CliffHanger_38 Start: 24541, Stop: 24900, Start Num: 50

Candidate Starts for CliffHanger_38:

(Start: 50 @24541 has 2 MA's), (84, 24670), (116, 24802), (119, 24817), (121, 24823),

Gene: Collard_63 Start: 45817, Stop: 46182, Start Num: 41

Candidate Starts for Collard_63:

(22, 45754), (Start: 41 @45817 has 18 MA's), (Start: 46 @45829 has 1 MA's), (69, 45919), (76, 45958), (85, 45982), (91, 46009), (111, 46078), (112, 46081), (119, 46123), (121, 46129), (122, 46135), (125, 46147), (131, 46165),

Gene: Constance_63 Start: 40957, Stop: 41358, Start Num: 41

Candidate Starts for Constance_63:

(18, 40867), (19, 40870), (Start: 41 @40957 has 18 MA's), (80, 41107),

Gene: Dadosky_67 Start: 46186, Stop: 46551, Start Num: 41

Candidate Starts for Dadosky_67:

(32, 46150), (Start: 41 @46186 has 18 MA's), (Start: 46 @46198 has 1 MA's), (69, 46288), (76, 46327), (85, 46351), (91, 46378), (110, 46444), (111, 46447), (112, 46450), (119, 46492), (121, 46498), (122, 46504), (125, 46516), (131, 46534), (132, 46540),

Gene: Dardanus_52 Start: 35477, Stop: 35866, Start Num: 47

Candidate Starts for Dardanus_52:

(Start: 47 @35477 has 18 MA's), (51, 35489), (56, 35519), (57, 35522), (112, 35735), (121, 35783),

Gene: Daredevil_63 Start: 48481, Stop: 48092, Start Num: 47

Candidate Starts for Daredevil_63:

(Start: 47 @48481 has 18 MA's), (68, 48376), (112, 48208), (117, 48172), (121, 48157), (128, 48133),

Gene: DatBoi_70 Start: 52480, Stop: 52115, Start Num: 44

Candidate Starts for DatBoi_70:

(Start: 44 @52480 has 4 MA's), (59, 52426), (78, 52336), (115, 52213), (120, 52183), (134, 52135),

Gene: Dennebes_64 Start: 31702, Stop: 31352, Start Num: 45

Candidate Starts for Dennebes_64:

(Start: 45 @31702 has 18 MA's), (65, 31621), (113, 31465), (120, 31423), (125, 31402),

Gene: Destructrice_60 Start: 31598, Stop: 31254, Start Num: 45

Candidate Starts for Destructrice_60:

(Start: 45 @31598 has 18 MA's), (105, 31373), (113, 31358), (118, 31322), (121, 31313),

Gene: Diane_36 Start: 27972, Stop: 28412, Start Num: 24

Candidate Starts for Diane_36:

(16, 27930), (Start: 24 @27972 has 1 MA's), (29, 27990), (37, 28017), (39, 28026), (40, 28035), (43, 28047), (81, 28209), (112, 28329), (119, 28368),

Gene: DoubleChamp_62 Start: 45817, Stop: 46182, Start Num: 41

Candidate Starts for DoubleChamp_62:

(22, 45754), (Start: 41 @45817 has 18 MA's), (Start: 46 @45829 has 1 MA's), (69, 45919), (76, 45958), (85, 45982), (91, 46009), (111, 46078), (112, 46081), (119, 46123), (121, 46129), (122, 46135), (125, 46147), (131, 46165),

Gene: Doucette_50 Start: 32710, Stop: 33090, Start Num: 41

Candidate Starts for Doucette_50:

(Start: 41 @32710 has 18 MA's), (57, 32764), (80, 32860), (111, 32974), (119, 33019), (120, 33022),

Gene: Dubu_33 Start: 24220, Stop: 24681, Start Num: 10

Candidate Starts for Dubu_33:

(Start: 10 @24220 has 3 MA's), (64, 24400), (71, 24451), (76, 24475), (77, 24478), (109, 24589),

Gene: E1_44 Start: 29853, Stop: 30233, Start Num: 41

Candidate Starts for E1_44:

(30, 29811), (33, 29823), (36, 29832), (Start: 41 @29853 has 18 MA's), (57, 29907), (80, 30003), (111, 30117), (121, 30168),

Gene: Eden_35 Start: 24432, Stop: 24761, Start Num: 52

Candidate Starts for Eden_35:

(Start: 52 @24432 has 2 MA's), (70, 24525), (84, 24552), (85, 24555), (119, 24699), (121, 24705),

Gene: Edugator_64 Start: 47616, Stop: 47969, Start Num: 46

Candidate Starts for Edugator_64:

(32, 47568), (Start: 41 @47604 has 18 MA's), (Start: 46 @47616 has 1 MA's), (69, 47706), (76, 47745), (85, 47769), (91, 47796), (110, 47862), (111, 47865), (112, 47868), (119, 47910), (121, 47916), (122, 47922), (125, 47934), (131, 47952), (132, 47958),

Gene: EmiRose_43 Start: 35914, Stop: 36360, Start Num: 47

Candidate Starts for EmiRose_43:

(Start: 47 @35914 has 18 MA's), (57, 35959), (87, 36082), (106, 36166), (120, 36229), (126, 36256), (139, 36313),

Gene: GMA4_60 Start: 40216, Stop: 40572, Start Num: 47

Candidate Starts for GMA4_60:

(15, 40105), (Start: 47 @40216 has 18 MA's), (121, 40510),

Gene: Greely_206 Start: 116895, Stop: 117263, Start Num: 48

Candidate Starts for Greely_206:

(11, 116745), (13, 116763), (17, 116781), (37, 116859), (Start: 48 @116895 has 4 MA's), (70, 117006), (87, 117072), (91, 117090), (121, 117210), (122, 117216),

Gene: Gremlin23_59 Start: 31138, Stop: 30782, Start Num: 45

Candidate Starts for Gremlin23_59:

(Start: 45 @31138 has 18 MA's), (74, 31003), (90, 30946), (113, 30898),

Gene: Gsput1_48 Start: 35124, Stop: 35474, Start Num: 51

Candidate Starts for Gsput1_48:

(31, 35067), (Start: 46 @35112 has 1 MA's), (51, 35124), (73, 35241), (117, 35403), (120, 35415), (121, 35418),

Gene: Gustav_66 Start: 43170, Stop: 43571, Start Num: 47

Candidate Starts for Gustav_66:

(Start: 47 @43170 has 18 MA's), (96, 43383), (121, 43476), (127, 43503), (130, 43512), (135, 43542), (138, 43557), (140, 43560),

Gene: HaugeAnator_61 Start: 31665, Stop: 31324, Start Num: 45

Candidate Starts for HaugeAnator_61:

(Start: 45 @31665 has 18 MA's), (105, 31440), (113, 31425), (118, 31389), (121, 31380),

Gene: Immanuel3_60 Start: 31668, Stop: 31327, Start Num: 45

Candidate Starts for Immanuel3_60:

(Start: 45 @31668 has 18 MA's), (105, 31443), (113, 31428), (118, 31392), (121, 31383),

Gene: InvictusManeo_63 Start: 45860, Stop: 46225, Start Num: 41

Candidate Starts for InvictusManeo_63:

(22, 45797), (Start: 41 @45860 has 18 MA's), (Start: 46 @45872 has 1 MA's), (69, 45962), (76, 46001), (85, 46025), (91, 46052), (111, 46121), (112, 46124), (119, 46166), (121, 46172), (122, 46178), (125, 46190), (131, 46208),

Gene: JPandJE_61 Start: 32184, Stop: 31789, Start Num: 45

Candidate Starts for JPandJE_61:

(Start: 45 @32184 has 18 MA's), (99, 31953), (113, 31890), (118, 31854), (121, 31845),

Gene: JohnLord_68 Start: 50343, Stop: 50684, Start Num: 57

Candidate Starts for JohnLord_68:

(26, 50232), (Start: 41 @50289 has 18 MA's), (57, 50343), (69, 50394), (76, 50433), (79, 50439), (91, 50484), (108, 50544), (112, 50556), (121, 50604), (123, 50619), (126, 50628),

Gene: Kozie_44 Start: 32286, Stop: 32642, Start Num: 49

Candidate Starts for Kozie_44:

(Start: 49 @32286 has 2 MA's), (75, 32409), (121, 32586), (122, 32592), (125, 32604),

Gene: Kratio_63 Start: 45599, Stop: 45964, Start Num: 41

Candidate Starts for Kratio_63:

(22, 45536), (Start: 41 @45599 has 18 MA's), (Start: 46 @45611 has 1 MA's), (69, 45701), (76, 45740), (85, 45764), (91, 45791), (111, 45860), (112, 45863), (119, 45905), (121, 45911), (122, 45917), (125, 45929), (131, 45947),

Gene: Kumquat_59 Start: 31123, Stop: 30773, Start Num: 45

Candidate Starts for Kumquat_59:

(27, 31189), (34, 31165), (Start: 45 @31123 has 18 MA's), (90, 30931), (113, 30883),

Gene: Larva_66 Start: 47058, Stop: 47423, Start Num: 41

Candidate Starts for Larva_66:

(32, 47022), (Start: 41 @47058 has 18 MA's), (Start: 46 @47070 has 1 MA's), (69, 47160), (76, 47199), (85, 47223), (91, 47250), (110, 47316), (111, 47319), (112, 47322), (119, 47364), (121, 47370), (122, 47376), (125, 47388), (131, 47406), (132, 47412),

Gene: LilDirt_64 Start: 45618, Stop: 45983, Start Num: 41

Candidate Starts for LilDirt_64:

(22, 45555), (Start: 41 @45618 has 18 MA's), (Start: 46 @45630 has 1 MA's), (69, 45720), (76, 45759), (85, 45783), (91, 45810), (111, 45879), (112, 45882), (119, 45924), (121, 45930), (122, 45936), (125, 45948), (131, 45966),

Gene: LitninMcQueen_97 Start: 51856, Stop: 52233, Start Num: 47

Candidate Starts for LitninMcQueen_97:

(20, 51772), (Start: 47 @51856 has 18 MA's), (51, 51868), (73, 51985), (84, 51997), (88, 52018), (102, 52069), (110, 52093), (120, 52147), (121, 52150), (124, 52165), (129, 52177), (136, 52210),

Gene: Mahdia_59 Start: 41385, Stop: 41786, Start Num: 47

Candidate Starts for Mahdia_59:

(Start: 47 @41385 has 18 MA's), (61, 41445), (72, 41508), (88, 41562), (96, 41598), (119, 41685), (121, 41691), (127, 41718), (135, 41757), (140, 41775),

Gene: Manuel_58 Start: 31424, Stop: 31080, Start Num: 45

Candidate Starts for Manuel_58:

(27, 31490), (34, 31466), (Start: 45 @31424 has 18 MA's), (90, 31232), (113, 31184), (121, 31139), (122, 31133),

Gene: Mollymur_72 Start: 52998, Stop: 52633, Start Num: 44

Candidate Starts for Mollymur_72:

(25, 53064), (35, 53028), (Start: 44 @52998 has 4 MA's), (120, 52701), (121, 52698),

Gene: Morrissey_62 Start: 43281, Stop: 43685, Start Num: 47

Candidate Starts for Morrissey_62:

(14, 43155), (Start: 47 @43281 has 18 MA's), (60, 43338), (96, 43494), (107, 43524), (119, 43581), (120, 43584), (121, 43587), (127, 43614), (130, 43623), (135, 43653),

Gene: Myrna_199 Start: 116281, Stop: 116649, Start Num: 48

Candidate Starts for Myrna_199:

(11, 116131), (13, 116149), (37, 116245), (Start: 48 @116281 has 4 MA's), (87, 116458), (91, 116476), (114, 116560), (121, 116596),

Gene: Neighly_67 Start: 47057, Stop: 47422, Start Num: 41

Candidate Starts for Neighly_67:

(32, 47021), (Start: 41 @47057 has 18 MA's), (Start: 46 @47069 has 1 MA's), (69, 47159), (76, 47198), (85, 47222), (91, 47249), (110, 47315), (111, 47318), (112, 47321), (119, 47363), (121, 47369), (122, 47375), (125, 47387), (131, 47405), (132, 47411),

Gene: Nesbitt_39 Start: 26358, Stop: 26897, Start Num: 10

Candidate Starts for Nesbitt_39:

(7, 26283), (Start: 10 @26358 has 3 MA's), (23, 26427), (Start: 41 @26493 has 18 MA's), (54, 26541), (66, 26601), (67, 26613), (76, 26661), (79, 26667), (86, 26691), (88, 26712), (93, 26736), (105, 26769), (121, 26841), (130, 26877),

Gene: Olicious_61 Start: 31665, Stop: 31324, Start Num: 45

Candidate Starts for Olicious_61:

(Start: 45 @31665 has 18 MA's), (105, 31440), (113, 31425), (118, 31389), (121, 31380),

Gene: Percastrophe_61 Start: 31599, Stop: 31258, Start Num: 45

Candidate Starts for Percastrophe_61:

(Start: 45 @31599 has 18 MA's), (105, 31374), (113, 31359), (118, 31323), (121, 31314),

Gene: Phabba_210 Start: 116249, Stop: 116617, Start Num: 48

Candidate Starts for Phabba_210:

(13, 116117), (37, 116213), (Start: 48 @116249 has 4 MA's), (87, 116426), (91, 116444), (121, 116564), (122, 116570),

Gene: Psycho_65 Start: 46183, Stop: 46548, Start Num: 41

Candidate Starts for Psycho_65:

(32, 46147), (Start: 41 @46183 has 18 MA's), (Start: 46 @46195 has 1 MA's), (69, 46285), (76, 46324), (85, 46348), (91, 46375), (110, 46441), (111, 46444), (112, 46447), (119, 46489), (121, 46495), (122, 46501), (125, 46513), (131, 46531), (132, 46537),

Gene: Puppies_60 Start: 41273, Stop: 41683, Start Num: 47

Candidate Starts for Puppies_60:

(Start: 47 @41273 has 18 MA's), (53, 41294), (83, 41426), (92, 41468), (94, 41477), (119, 41582), (121, 41588),

Gene: REQ3_19 Start: 8920, Stop: 9282, Start Num: 47

Candidate Starts for REQ3_19:

(Start: 47 @8920 has 18 MA's), (57, 8965), (84, 9061), (86, 9067), (87, 9073), (110, 9157), (121, 9211), (136, 9262), (140, 9274),

Gene: Romero_61 Start: 31658, Stop: 31317, Start Num: 45

Candidate Starts for Romero_61:

(Start: 45 @31658 has 18 MA's), (105, 31433), (113, 31418), (118, 31382), (121, 31373),

Gene: RosePharie_61 Start: 31485, Stop: 31126, Start Num: 45

Candidate Starts for RosePharie_61:

(27, 31551), (Start: 45 @31485 has 18 MA's), (90, 31293), (113, 31245),

Gene: Sashimi_85 Start: 47693, Stop: 48073, Start Num: 41

Candidate Starts for Sashimi_85:

(28, 47648), (Start: 41 @47693 has 18 MA's), (69, 47795), (80, 47843), (89, 47885), (121, 48008),

Gene: Schmidt_51 Start: 34772, Stop: 35146, Start Num: 47

Candidate Starts for Schmidt_51:

(Start: 47 @34772 has 18 MA's), (51, 34784), (73, 34901), (84, 34928), (86, 34934), (112, 35030), (118, 35072), (123, 35096),

Gene: ScoobyDoobyDoo_198 Start: 114464, Stop: 114832, Start Num: 48

Candidate Starts for ScoobyDoobyDoo_198:

(9, 114260), (17, 114353), (21, 114377), (37, 114428), (Start: 48 @114464 has 4 MA's), (70, 114575), (86, 114635), (91, 114659), (107, 114716), (110, 114725), (112, 114731), (121, 114779), (122, 114785),

Gene: Shambre1_63 Start: 40417, Stop: 40782, Start Num: 42

Candidate Starts for Shambre1_63:

(Start: 42 @40417 has 1 MA's), (91, 40609), (121, 40729),

Gene: Shayna_37 Start: 24987, Stop: 25346, Start Num: 50

Candidate Starts for Shayna_37:

(Start: 50 @24987 has 2 MA's), (Start: 62 @25041 has 1 MA's), (84, 25116), (116, 25248), (119, 25263), (121, 25269),

Gene: SpeedDemon_740 Start: 54721, Stop: 54356, Start Num: 44

Candidate Starts for SpeedDemon_740:

(35, 54751), (Start: 44 @54721 has 4 MA's), (120, 54424), (134, 54376),

Gene: Stella_63 Start: 32170, Stop: 31820, Start Num: 45

Candidate Starts for Stella_63:

(38, 32194), (Start: 45 @32170 has 18 MA's), (101, 31954), (105, 31948), (118, 31897), (121, 31888), (125, 31870),

Gene: SunnyD_37 Start: 25043, Stop: 25348, Start Num: 62

Candidate Starts for SunnyD_37:

(Start: 50 @24989 has 2 MA's), (Start: 62 @25043 has 1 MA's), (84, 25118), (94, 25172), (116, 25250), (119, 25265), (121, 25271),

Gene: TinaLin_56 Start: 36975, Stop: 37346, Start Num: 49

Candidate Starts for TinaLin_56:

(Start: 47 @36972 has 18 MA's), (Start: 49 @36975 has 2 MA's), (51, 36984), (73, 37101), (112, 37230), (123, 37296),

Gene: TinyDot_60 Start: 38014, Stop: 38394, Start Num: 47

Candidate Starts for TinyDot_60:

(1, 37603), (4, 37699), (Start: 47 @38014 has 18 MA's), (51, 38026), (Start: 62 @38077 has 1 MA's), (68, 38119), (126, 38338), (127, 38341), (134, 38374),

Gene: ToriToki_61 Start: 31661, Stop: 31320, Start Num: 45

Candidate Starts for ToriToki_61:

(Start: 45 @31661 has 18 MA's), (105, 31436), (113, 31421), (118, 31385), (121, 31376),

Gene: Towmatter_63 Start: 48560, Stop: 48171, Start Num: 47

Candidate Starts for Towmatter_63:

(Start: 47 @48560 has 18 MA's), (68, 48455), (112, 48287), (117, 48251), (121, 48236), (128, 48212),

Gene: Treat_61 Start: 31602, Stop: 31261, Start Num: 45

Candidate Starts for Treat_61:

(Start: 45 @31602 has 18 MA's), (105, 31377), (113, 31362), (118, 31326), (121, 31317),

Gene: Trine_64 Start: 42629, Stop: 43021, Start Num: 48

Candidate Starts for Trine_64:

(2, 42272), (3, 42302), (5, 42380), (Start: 48 @42629 has 4 MA's), (87, 42797), (91, 42815), (107, 42872), (119, 42929), (120, 42932), (121, 42935), (127, 42962),

Gene: Upyo_68 Start: 44581, Stop: 44982, Start Num: 47

Candidate Starts for Upyo_68:

(12, 44440), (Start: 47 @44581 has 18 MA's), (88, 44758), (96, 44794), (97, 44797), (119, 44881), (121, 44887), (127, 44914), (130, 44923), (137, 44959), (138, 44968),

Gene: ViviJ_64 Start: 45617, Stop: 45982, Start Num: 41

Candidate Starts for ViviJ_64:

(22, 45554), (Start: 41 @45617 has 18 MA's), (Start: 46 @45629 has 1 MA's), (69, 45719), (76, 45758), (85, 45782), (91, 45809), (111, 45878), (112, 45881), (119, 45923), (121, 45929), (122, 45935), (125, 45947), (131, 45965),

Gene: WRightOn_63 Start: 31279, Stop: 30929, Start Num: 45

Candidate Starts for WRightOn_63:

(27, 31345), (34, 31321), (Start: 45 @31279 has 18 MA's), (90, 31087), (113, 31039),

Gene: Widow_60 Start: 41819, Stop: 42229, Start Num: 47

Candidate Starts for Widow_60:

(Start: 47 @41819 has 18 MA's), (83, 41972), (92, 42014), (94, 42023), (119, 42128), (121, 42134),

Gene: WorMMAs_63 Start: 41631, Stop: 42032, Start Num: 47

Candidate Starts for WorMMAs_63:

(Start: 47 @41631 has 18 MA's), (55, 41670), (61, 41691), (87, 41799), (101, 41856), (120, 41934), (121, 41937), (127, 41964), (135, 42003),

Gene: Zeigle_59 Start: 31123, Stop: 30773, Start Num: 45

Candidate Starts for Zeigle_59:

(27, 31189), (34, 31165), (Start: 45 @31123 has 18 MA's), (90, 30931), (113, 30883),

Gene: ZooBear_61 Start: 31665, Stop: 31324, Start Num: 45

Candidate Starts for ZooBear_61:

(Start: 45 @31665 has 18 MA's), (105, 31440), (113, 31425), (118, 31389), (121, 31380),

Gene: phiSASD1_10 Start: 25051, Stop: 25515, Start Num: 10

Candidate Starts for phiSASD1_10:

(Start: 10 @25051 has 3 MA's), (66, 25246), (67, 25258), (76, 25306), (77, 25309), (88, 25351), (95, 25384),