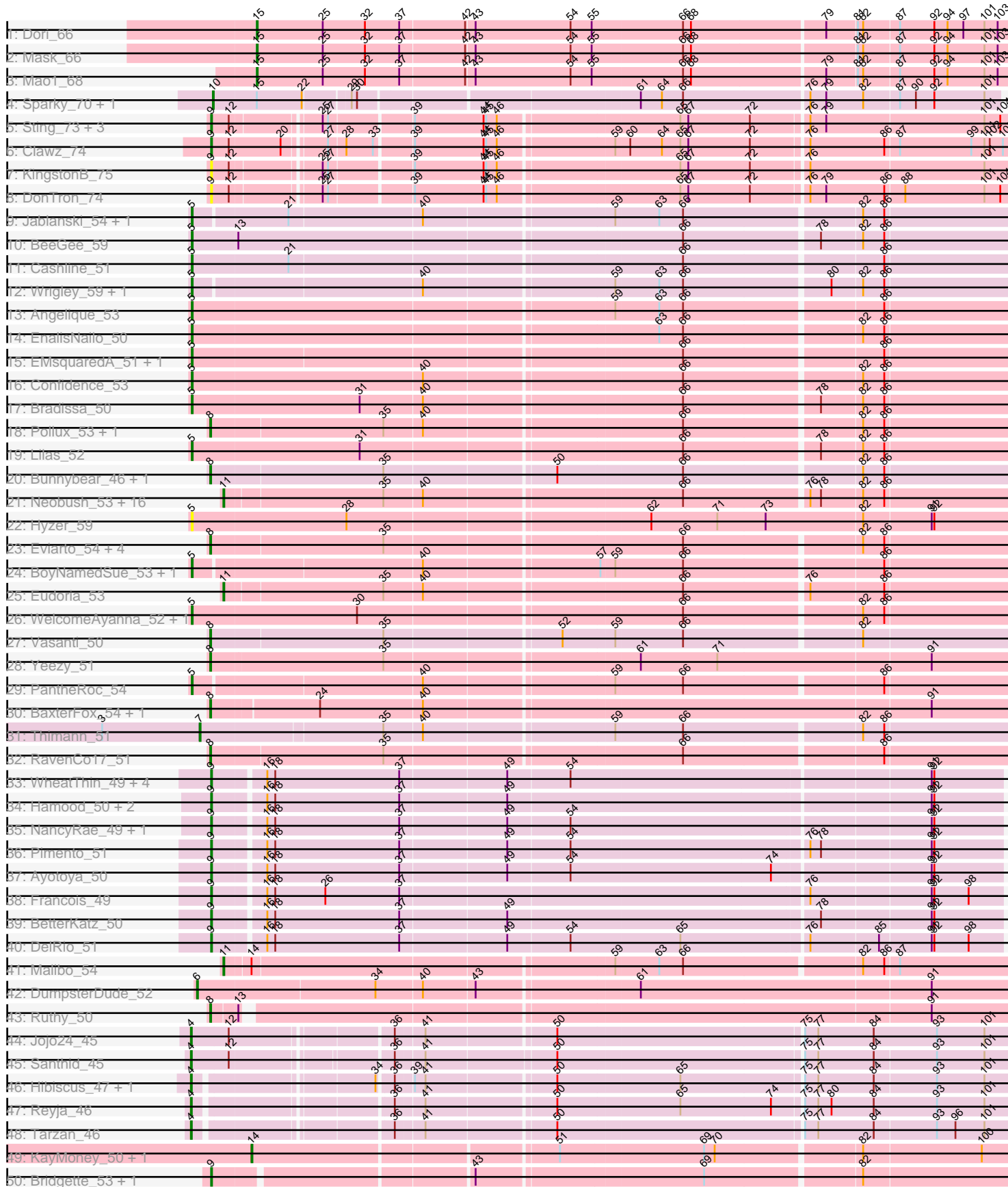
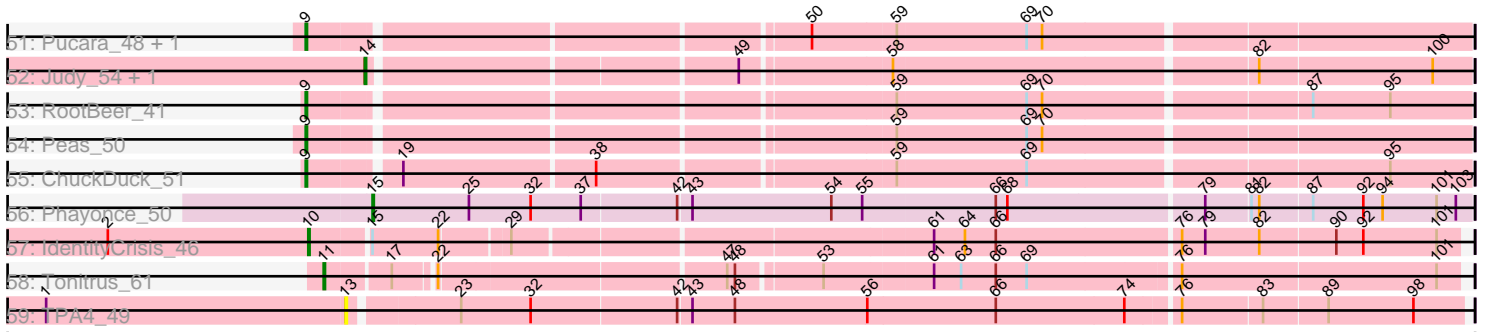


Pham 182147



Pham 182147



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 182147 Report

This analysis was run 11/02/24 on database version 579.

Pham number 182147 has 103 members, 10 are drafts.

Phages represented in each track:

- Track 1 : Dori_66
- Track 2 : Mask_66
- Track 3 : Mao1_68
- Track 4 : Sparky_70, Farewell_71
- Track 5 : Sting_73, Jollymon_75, ColdSoup_75, Soos_70
- Track 6 : Clawz_74
- Track 7 : KingstonB_75
- Track 8 : DonTron_74
- Track 9 : Jablanski_54, Pytheas_54
- Track 10 : BeeGee_59
- Track 11 : Cashline_51
- Track 12 : Wrigley_59, Posh_57
- Track 13 : Angelique_53
- Track 14 : EnalisNailo_50
- Track 15 : EMSquaredA_51, Marteena_50
- Track 16 : Confidence_53
- Track 17 : Bradissa_50
- Track 18 : Pollux_53, Floral_51
- Track 19 : Lilas_52
- Track 20 : Bunnybear_46, Maridalia_54
- Track 21 : Neobush_53, Antonio_53, Bialota_51, Kita_54, Pickett_46, Manasvini_54, Trumpet_53, Yeet412_48, Polly_50, LordFarquaad_50, EdnaMode_47, Tayonia_53, SoilAssassin_48, Z̄irinka_50, Zameen_53, Attis_48, Suscepit_53
- Track 22 : Hyzer_59
- Track 23 : Eviarto_54, BatStarr_53, Nymphadora_54, TimTam_54, Hugley_50
- Track 24 : BoyNamedSue_53, AlumE_53
- Track 25 : Eudoria_53
- Track 26 : WelcomeAyanna_52, ThankyouJordi_52
- Track 27 : Vasanti_50
- Track 28 : Yeezy_51
- Track 29 : PantheRoc_54
- Track 30 : BaxterFox_54, Madeline_51
- Track 31 : Thimann_51
- Track 32 : RavenCo17_51
- Track 33 : WheatThin_49, Mulch_50, Nadeem_50, Brylie_50, Parada_50
- Track 34 : Hamood_50, Chop_50, GrandSlam_50

- Track 35 : NancyRae_49, Bock_50
- Track 36 : Pimento_51
- Track 37 : Ayotoya_50
- Track 38 : Francois_49
- Track 39 : BetterKatz_50
- Track 40 : DelRio_51
- Track 41 : Malibo_54
- Track 42 : DumpsterDude_52
- Track 43 : Ruthy_50
- Track 44 : Jojo24_45
- Track 45 : Santhid_45
- Track 46 : Hibiscus_47, Heinz_47
- Track 47 : Reyja_46
- Track 48 : Tarzan_46
- Track 49 : KayMoney_50, Constance_51
- Track 50 : Bridgette_53, Karkharias_50
- Track 51 : Pucara_48, PeggyLeg03_51
- Track 52 : Judy_54, GlobiWarming_53
- Track 53 : RootBeer_41
- Track 54 : Peas_50
- Track 55 : ChuckDuck_51
- Track 56 : Phayonce_50
- Track 57 : IdentityCrisis_46
- Track 58 : Tonitrus_61
- Track 59 : TPA4_49

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

The start number called the most often in the published annotations is 9, it was called in 24 of the 93 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Ayotoya_50, BetterKatz_50, Bock_50, Bridgette_53, Brylie_50, Chop_50, ChuckDuck_51, Clawz_74, ColdSoup_75, DelRio_51, DonTron_74, Francois_49, GrandSlam_50, Hamood_50, Jollymon_75, Karkharias_50, KingstonB_75, Mulch_50, Nadeem_50, NancyRae_49, Parada_50, Peas_50, PeggyLeg03_51, Pimento_51, Pucara_48, RootBeer_41, Soos_70, Sting_73, WheatThin_49,

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

-

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

- AlumE_53, Angelique_53, Antonio_53, Attis_48, BatStarr_53, BaxterFox_54, BeeGee_59, Bialota_51, BoyNamedSue_53, Bradissa_50, Bunnybear_46, Cashline_51, Confidence_53, Constance_51, Dori_66, DumpsterDude_52, EMSquaredA_51, EdnaMode_47, EnalisNailo_50, Eudoria_53, Eviarto_54, Farewell_71, Floral_51, GlobiWarming_53, Heinz_47, Hibiscus_47, Hugley_50, Hyzer_59, IdentityCrisis_46, Jablanski_54, Jojo24_45, Judy_54, KayMoney_50, Kita_54, Lilas_52, LordFarquaad_50, Madeline_51, Malibo_54, Manasvini_54, Mao1_68, Maridalia_54, Marteena_50, Mask_66, Neobush_53, Nymphadora_54,

PantheRoc_54, Phayonce_50, Pickett_46, Pollux_53, Polly_50, Posh_57, Pytheas_54, RavenCo17_51, Reyja_46, Ruthy_50, Santhid_45, SoilAssassin_48, Sparky_70, Suscepit_53, TPA4_49, Tarzan_46, Tayonia_53, ThankyouJordi_52, Thimann_51, TimTam_54, Tonitrus_61, Trumpet_53, Vasanti_50, WelcomeAyanna_52, Wrigley_59, Yeet412_48, Yeezy_51, Zameen_53, Zirinka_50,

Summary by start number:

Start 4:

- Found in 6 of 103 (5.8%) of genes in pham
- Manual Annotations of this start: 5 of 93
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Heinz_47 (DY), Hibiscus_47 (DY), Jojo24_45 (DY), Reyja_46 (DY), Santhid_45 (DY), Tarzan_46 (DY),

Start 5:

- Found in 19 of 103 (18.4%) of genes in pham
- Manual Annotations of this start: 18 of 93
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AlumE_53 (CZ1), Angelique_53 (CY1), BeeGee_59 (CY), BoyNamedSue_53 (CZ1), Bradissa_50 (CY1), Cashline_51 (CY), Confidence_53 (CY1), EMSquaredA_51 (CY1), EnalisNailo_50 (CY1), Hyzer_59 (CZ1), Jablanski_54 (CY), Lilas_52 (CY1), Marteena_50 (CY1), PantheRoc_54 (CZ3), Posh_57 (CY), Pytheas_54 (CY), ThankyouJordi_52 (CZ1), WelcomeAyanna_52 (CZ1), Wrigley_59 (CY),

Start 6:

- Found in 1 of 103 (1.0%) of genes in pham
- Manual Annotations of this start: 1 of 93
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DumpsterDude_52 (DW),

Start 7:

- Found in 1 of 103 (1.0%) of genes in pham
- Manual Annotations of this start: 1 of 93
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Thimann_51 (CZ4),

Start 8:

- Found in 15 of 103 (14.6%) of genes in pham
- Manual Annotations of this start: 14 of 93
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BatStarr_53 (CZ1), BaxterFox_54 (CZ3), Bunnybear_46 (CZ), Eviarto_54 (CZ1), Floral_51 (CY1), Hugley_50 (CZ1), Madeline_51 (CZ1), Maridalia_54 (CZ1), Nymphadora_54 (CZ1), Pollux_53 (CY1), RavenCo17_51 (CZ8), Ruthy_50 (DW), TimTam_54 (CZ1), Vasanti_50 (CZ2), Yeezy_51 (CZ3),

Start 9:

- Found in 29 of 103 (28.2%) of genes in pham
- Manual Annotations of this start: 24 of 93
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Ayotoya_50 (DI), BetterKatz_50 (DI), Bock_50 (DI), Bridgette_53 (FA), Brylie_50 (DI), Chop_50 (DI), ChuckDuck_51 (FA), Clawz_74 (CP), ColdSoup_75 (CP), DelRio_51 (DI), DonTron_74 (CP), Francois_49 (DI), GrandSlam_50 (DI), Hamood_50 (DI), Jollymon_75 (CP), Karkharias_50 (FA), KingstonB_75 (CP), Mulch_50 (DI), Nadeem_50 (DI), NancyRae_49 (DI), Parada_50 (DI), Peas_50 (FA), PeggyLeg03_51 (FA), Pimento_51 (DI), Pucara_48 (FA), RootBeer_41 (FA), Soos_70 (CP), Sting_73 (CP), WheatThin_49 (DI),

Start 10:

- Found in 3 of 103 (2.9%) of genes in pham
- Manual Annotations of this start: 3 of 93
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Farewell_71 (AF), IdentityCrisis_46 (singleton), Sparky_70 (AF),

Start 11:

- Found in 20 of 103 (19.4%) of genes in pham
- Manual Annotations of this start: 20 of 93
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Antonio_53 (CZ1), Attis_48 (CZ2), Bialota_51 (CZ1), EdnaMode_47 (CZ2), Eudoria_53 (CZ1), Kita_54 (CZ1), LordFarquaad_50 (CZ2), Malibo_54 (DW), Manasvini_54 (CZ1), Neobush_53 (CZ1), Pickett_46 (CZ2), Polly_50 (CZ1), SoilAssassin_48 (CZ2), Suscepit_53 (CZ1), Tayonia_53 (CZ1), Tonitrus_61 (singleton), Trumpet_53 (CZ1), Yeet412_48 (CZ2), Zameen_53 (CZ1), Zirinka_50 (CZ1),

Start 13:

- Found in 3 of 103 (2.9%) of genes in pham
- No Manual Annotations of this start.
- Called 33.3% of time when present
- Phage (with cluster) where this start called: TPA4_49 (singleton),

Start 14:

- Found in 5 of 103 (4.9%) of genes in pham
- Manual Annotations of this start: 3 of 93
- Called 80.0% of time when present
- Phage (with cluster) where this start called: Constance_51 (FA), GlobiWarming_53 (FA), Judy_54 (FA), KayMoney_50 (FA),

Start 15:

- Found in 7 of 103 (6.8%) of genes in pham
- Manual Annotations of this start: 4 of 93
- Called 57.1% of time when present
- Phage (with cluster) where this start called: Dori_66 (AD), Mao1_68 (AD), Mask_66 (AD), Phayonce_50 (P5),

Summary by clusters:

There are 17 clusters represented in this pham: CZ8, AD, DI, CZ2, CZ3, CZ1, CY1, CZ4, FA, CY, AF, DY, CZ, DW, singleton, CP, P5,

Info for manual annotations of cluster AD:

- Start number 15 was manually annotated 3 times for cluster AD.

Info for manual annotations of cluster AF:

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

Info for manual annotations of cluster CP:

- Start number 9 was manually annotated 3 times for cluster CP.

Info for manual annotations of cluster CY:

- Start number 5 was manually annotated 6 times for cluster CY.

Info for manual annotations of cluster CY1:

- Start number 5 was manually annotated 7 times for cluster CY1.
- Start number 8 was manually annotated 2 times for cluster CY1.

Info for manual annotations of cluster CZ:

- Start number 8 was manually annotated 1 time for cluster CZ.

Info for manual annotations of cluster CZ1:

- Start number 5 was manually annotated 4 times for cluster CZ1.
- Start number 8 was manually annotated 6 times for cluster CZ1.
- Start number 11 was manually annotated 12 times for cluster CZ1.

Info for manual annotations of cluster CZ2:

- Start number 8 was manually annotated 1 time for cluster CZ2.
- Start number 11 was manually annotated 6 times for cluster CZ2.

Info for manual annotations of cluster CZ3:

- Start number 5 was manually annotated 1 time for cluster CZ3.
- Start number 8 was manually annotated 2 times for cluster CZ3.

Info for manual annotations of cluster CZ4:

- Start number 7 was manually annotated 1 time for cluster CZ4.

Info for manual annotations of cluster CZ8:

- Start number 8 was manually annotated 1 time for cluster CZ8.

Info for manual annotations of cluster DI:

- Start number 9 was manually annotated 15 times for cluster DI.

Info for manual annotations of cluster DW:

- Start number 6 was manually annotated 1 time for cluster DW.
- Start number 8 was manually annotated 1 time for cluster DW.
- Start number 11 was manually annotated 1 time for cluster DW.

Info for manual annotations of cluster DY:

- Start number 4 was manually annotated 5 times for cluster DY.

Info for manual annotations of cluster FA:

- Start number 9 was manually annotated 6 times for cluster FA.
- Start number 14 was manually annotated 3 times for cluster FA.

Info for manual annotations of cluster P5:

- Start number 15 was manually annotated 1 time for cluster P5.

Gene Information:

Gene: AlumE_53 Start: 38055, Stop: 38939, Start Num: 5

Candidate Starts for AlumE_53:

(Start: 5 @38055 has 18 MA's), (40, 38304), (57, 38493), (59, 38508), (66, 38583), (86, 38799),

Gene: Angelique_53 Start: 39273, Stop: 40166, Start Num: 5

Candidate Starts for Angelique_53:

(Start: 5 @39273 has 18 MA's), (59, 39735), (63, 39783), (66, 39810), (86, 40026),

Gene: Antonio_53 Start: 37328, Stop: 38179, Start Num: 11

Candidate Starts for Antonio_53:

(Start: 11 @37328 has 20 MA's), (35, 37502), (40, 37544), (66, 37823), (76, 37958), (78, 37970), (82, 38015), (86, 38039),

Gene: Attis_48 Start: 34461, Stop: 35312, Start Num: 11

Candidate Starts for Attis_48:

(Start: 11 @34461 has 20 MA's), (35, 34635), (40, 34677), (66, 34956), (76, 35091), (78, 35103), (82, 35148), (86, 35172),

Gene: Ayotoya_50 Start: 36390, Stop: 37253, Start Num: 9

Candidate Starts for Ayotoya_50:

(Start: 9 @36390 has 24 MA's), (16, 36444), (18, 36453), (37, 36594), (49, 36711), (54, 36780), (74, 37005), (91, 37173), (92, 37176),

Gene: BatStarr_53 Start: 39301, Stop: 40170, Start Num: 8

Candidate Starts for BatStarr_53:

(Start: 8 @39301 has 14 MA's), (35, 39493), (66, 39814), (82, 40006), (86, 40030),

Gene: BaxterFox_54 Start: 39130, Stop: 40005, Start Num: 8

Candidate Starts for BaxterFox_54:

(Start: 8 @39130 has 14 MA's), (24, 39247), (40, 39361), (91, 39916),

Gene: BeeGee_59 Start: 39213, Stop: 40106, Start Num: 5

Candidate Starts for BeeGee_59:

(Start: 5 @39213 has 18 MA's), (13, 39264), (66, 39750), (78, 39897), (82, 39942), (86, 39966),

Gene: BetterKatz_50 Start: 35876, Stop: 36739, Start Num: 9

Candidate Starts for BetterKatz_50:

(Start: 9 @35876 has 24 MA's), (16, 35930), (18, 35939), (37, 36080), (49, 36197), (78, 36539), (91, 36659), (92, 36662),

Gene: Bialota_51 Start: 37960, Stop: 38811, Start Num: 11

Candidate Starts for Bialota_51:

(Start: 11 @37960 has 20 MA's), (35, 38134), (40, 38176), (66, 38455), (76, 38590), (78, 38602), (82, 38647), (86, 38671),

Gene: Bock_50 Start: 35610, Stop: 36473, Start Num: 9

Candidate Starts for Bock_50:

(Start: 9 @35610 has 24 MA's), (16, 35664), (18, 35673), (37, 35814), (49, 35931), (54, 36000), (91, 36393), (92, 36396),

Gene: BoyNamedSue_53 Start: 38055, Stop: 38939, Start Num: 5

Candidate Starts for BoyNamedSue_53:

(Start: 5 @38055 has 18 MA's), (40, 38304), (57, 38493), (59, 38508), (66, 38583), (86, 38799),

Gene: Bradissa_50 Start: 38423, Stop: 39316, Start Num: 5

Candidate Starts for Bradissa_50:

(Start: 5 @38423 has 18 MA's), (31, 38612), (40, 38681), (66, 38960), (78, 39107), (82, 39152), (86, 39176),

Gene: Bridgette_53 Start: 33693, Stop: 34538, Start Num: 9

Candidate Starts for Bridgette_53:

(Start: 9 @33693 has 24 MA's), (43, 33963), (69, 34209), (82, 34377),

Gene: Brylie_50 Start: 35660, Stop: 36523, Start Num: 9

Candidate Starts for Brylie_50:

(Start: 9 @35660 has 24 MA's), (16, 35714), (18, 35723), (37, 35864), (49, 35981), (54, 36050), (91, 36443), (92, 36446),

Gene: Bunnybear_46 Start: 35755, Stop: 36624, Start Num: 8

Candidate Starts for Bunnybear_46:

(Start: 8 @35755 has 14 MA's), (35, 35947), (50, 36130), (66, 36268), (82, 36460), (86, 36484),

Gene: Cashline_51 Start: 38564, Stop: 39454, Start Num: 5

Candidate Starts for Cashline_51:

(Start: 5 @38564 has 18 MA's), (21, 38672), (66, 39098), (86, 39314),

Gene: Chop_50 Start: 36140, Stop: 37003, Start Num: 9

Candidate Starts for Chop_50:

(Start: 9 @36140 has 24 MA's), (16, 36194), (18, 36203), (37, 36344), (49, 36461), (91, 36923), (92, 36926),

Gene: ChuckDuck_51 Start: 32702, Stop: 33550, Start Num: 9

Candidate Starts for ChuckDuck_51:

(Start: 9 @32702 has 24 MA's), (19, 32762), (38, 32906), (59, 33122), (69, 33221), (95, 33488),

Gene: Clawz_74 Start: 48756, Stop: 49607, Start Num: 9

Candidate Starts for Clawz_74:

(Start: 9 @48756 has 24 MA's), (12, 48774), (20, 48831), (27, 48873), (28, 48891), (33, 48921), (39, 48960), (44, 49038), (45, 49041), (46, 49053), (59, 49176), (60, 49191), (64, 49227), (65, 49248), (67, 49257), (72, 49326), (76, 49386), (86, 49470), (87, 49485), (99, 49566), (101, 49581), (102, 49587), (105, 49602),

Gene: ColdSoup_75 Start: 48960, Stop: 49811, Start Num: 9

Candidate Starts for ColdSoup_75:

(Start: 9 @48960 has 24 MA's), (12, 48978), (25, 49068), (27, 49074), (39, 49161), (44, 49239), (45, 49242), (46, 49254), (65, 49449), (67, 49458), (72, 49527), (76, 49587), (79, 49605), (101, 49782), (104, 49800),

Gene: Confidence_53 Start: 36720, Stop: 37613, Start Num: 5

Candidate Starts for Confidence_53:

(Start: 5 @36720 has 18 MA's), (40, 36978), (66, 37257), (82, 37449), (86, 37473),

Gene: Constance_51 Start: 33323, Stop: 34138, Start Num: 14

Candidate Starts for Constance_51:

(Start: 14 @33323 has 3 MA's), (51, 33650), (69, 33809), (70, 33821), (82, 33977), (100, 34109),

Gene: DelRio_51 Start: 36854, Stop: 37717, Start Num: 9

Candidate Starts for DelRio_51:

(Start: 9 @36854 has 24 MA's), (16, 36908), (18, 36917), (37, 37058), (49, 37175), (54, 37244), (65, 37367), (76, 37505), (85, 37580), (91, 37637), (92, 37640), (98, 37679),

Gene: DonTron_74 Start: 48997, Stop: 49848, Start Num: 9

Candidate Starts for DonTron_74:

(Start: 9 @48997 has 24 MA's), (12, 49015), (25, 49105), (27, 49111), (39, 49198), (44, 49276), (45, 49279), (46, 49291), (65, 49486), (67, 49495), (72, 49564), (76, 49624), (79, 49642), (86, 49708), (88, 49729), (101, 49819), (104, 49837),

Gene: Dori_66 Start: 51686, Stop: 52519, Start Num: 15

Candidate Starts for Dori_66:

(Start: 15 @51686 has 4 MA's), (25, 51761), (32, 51809), (37, 51848), (42, 51920), (43, 51929), (54, 52037), (55, 52061), (66, 52163), (68, 52172), (79, 52319), (81, 52352), (82, 52358), (87, 52397), (92, 52436), (94, 52451), (97, 52469), (101, 52493), (103, 52508),

Gene: DumpsterDude_52 Start: 40585, Stop: 41478, Start Num: 6

Candidate Starts for DumpsterDude_52:

(Start: 6 @40585 has 1 MA's), (34, 40783), (40, 40834), (43, 40891), (61, 41065), (91, 41389),

Gene: EMSquaredA_51 Start: 37224, Stop: 38114, Start Num: 5

Candidate Starts for EMSquaredA_51:

(Start: 5 @37224 has 18 MA's), (66, 37758), (86, 37974),

Gene: EdnaMode_47 Start: 33149, Stop: 34000, Start Num: 11

Candidate Starts for EdnaMode_47:

(Start: 11 @33149 has 20 MA's), (35, 33323), (40, 33365), (66, 33644), (76, 33779), (78, 33791), (82, 33836), (86, 33860),

Gene: EnalisNailo_50 Start: 37936, Stop: 38829, Start Num: 5

Candidate Starts for EnalisNailo_50:

(Start: 5 @37936 has 18 MA's), (63, 38446), (66, 38473), (82, 38665), (86, 38689),

Gene: Eudoria_53 Start: 37328, Stop: 38179, Start Num: 11

Candidate Starts for Eudoria_53:

(Start: 11 @37328 has 20 MA's), (35, 37502), (40, 37544), (66, 37823), (76, 37958), (86, 38039),

Gene: Eviarto_54 Start: 39276, Stop: 40145, Start Num: 8

Candidate Starts for Eviarto_54:

(Start: 8 @39276 has 14 MA's), (35, 39468), (66, 39789), (82, 39981), (86, 40005),

Gene: Farewell_71 Start: 48032, Stop: 48883, Start Num: 10

Candidate Starts for Farewell_71:

(Start: 10 @48032 has 3 MA's), (Start: 15 @48080 has 4 MA's), (22, 48131), (29, 48179), (30, 48185), (61, 48485), (64, 48509), (66, 48533), (76, 48671), (79, 48689), (82, 48731), (87, 48770), (90, 48788), (92, 48809), (101, 48866),

Gene: Floral_51 Start: 38684, Stop: 39553, Start Num: 8
Candidate Starts for Floral_51:
(Start: 8 @38684 has 14 MA's), (35, 38876), (40, 38918), (66, 39197), (82, 39389), (86, 39413),

Gene: Francois_49 Start: 35662, Stop: 36525, Start Num: 9
Candidate Starts for Francois_49:
(Start: 9 @35662 has 24 MA's), (16, 35716), (18, 35725), (26, 35782), (37, 35866), (76, 36313), (91, 36445), (92, 36448), (98, 36487),

Gene: GlobiWarming_53 Start: 33087, Stop: 33893, Start Num: 14
Candidate Starts for GlobiWarming_53:
(Start: 14 @33087 has 3 MA's), (49, 33354), (58, 33462), (82, 33732), (100, 33864),

Gene: GrandSlam_50 Start: 36140, Stop: 37003, Start Num: 9
Candidate Starts for GrandSlam_50:
(Start: 9 @36140 has 24 MA's), (16, 36194), (18, 36203), (37, 36344), (49, 36461), (91, 36923), (92, 36926),

Gene: Hamood_50 Start: 36140, Stop: 37003, Start Num: 9
Candidate Starts for Hamood_50:
(Start: 9 @36140 has 24 MA's), (16, 36194), (18, 36203), (37, 36344), (49, 36461), (91, 36923), (92, 36926),

Gene: Heinz_47 Start: 29864, Stop: 30724, Start Num: 4
Candidate Starts for Heinz_47:
(Start: 4 @29864 has 5 MA's), (34, 30047), (36, 30062), (39, 30080), (41, 30092), (50, 30230), (65, 30365), (75, 30497), (77, 30512), (84, 30575), (93, 30644), (101, 30698),

Gene: Hibiscus_47 Start: 29813, Stop: 30673, Start Num: 4
Candidate Starts for Hibiscus_47:
(Start: 4 @29813 has 5 MA's), (34, 29996), (36, 30011), (39, 30029), (41, 30041), (50, 30179), (65, 30314), (75, 30446), (77, 30461), (84, 30524), (93, 30593), (101, 30647),

Gene: Hugley_50 Start: 39300, Stop: 40169, Start Num: 8
Candidate Starts for Hugley_50:
(Start: 8 @39300 has 14 MA's), (35, 39492), (66, 39813), (82, 40005), (86, 40029),

Gene: Hyzer_59 Start: 40629, Stop: 41531, Start Num: 5
Candidate Starts for Hyzer_59:
(Start: 5 @40629 has 18 MA's), (28, 40803), (62, 41130), (71, 41205), (73, 41259), (82, 41367), (91, 41442), (92, 41445),

Gene: IdentityCrisis_46 Start: 30184, Stop: 31029, Start Num: 10
Candidate Starts for IdentityCrisis_46:
(2, 30028), (Start: 10 @30184 has 3 MA's), (Start: 15 @30226 has 4 MA's), (22, 30277), (29, 30325), (61, 30631), (64, 30655), (66, 30679), (76, 30817), (79, 30835), (82, 30877), (90, 30934), (92, 30955), (101, 31012),

Gene: Jablanski_54 Start: 40313, Stop: 41197, Start Num: 5
Candidate Starts for Jablanski_54:
(Start: 5 @40313 has 18 MA's), (21, 40415), (40, 40562), (59, 40766), (63, 40814), (66, 40841), (82, 41033), (86, 41057),

Gene: Jojo24_45 Start: 30491, Stop: 31363, Start Num: 4

Candidate Starts for Jojo24_45:

(Start: 4 @30491 has 5 MA's), (12, 30533), (36, 30698), (41, 30728), (50, 30866), (75, 31133), (77, 31148), (84, 31211), (93, 31283), (101, 31337),

Gene: Jollymon_75 Start: 48960, Stop: 49811, Start Num: 9

Candidate Starts for Jollymon_75:

(Start: 9 @48960 has 24 MA's), (12, 48978), (25, 49068), (27, 49074), (39, 49161), (44, 49239), (45, 49242), (46, 49254), (65, 49449), (67, 49458), (72, 49527), (76, 49587), (79, 49605), (101, 49782), (104, 49800),

Gene: Judy_54 Start: 34155, Stop: 34961, Start Num: 14

Candidate Starts for Judy_54:

(Start: 14 @34155 has 3 MA's), (49, 34422), (58, 34530), (82, 34800), (100, 34932),

Gene: Karkharias_50 Start: 33234, Stop: 34079, Start Num: 9

Candidate Starts for Karkharias_50:

(Start: 9 @33234 has 24 MA's), (43, 33504), (69, 33750), (82, 33918),

Gene: KayMoney_50 Start: 32666, Stop: 33481, Start Num: 14

Candidate Starts for KayMoney_50:

(Start: 14 @32666 has 3 MA's), (51, 32993), (69, 33152), (70, 33164), (82, 33320), (100, 33452),

Gene: KingstonB_75 Start: 48435, Stop: 49286, Start Num: 9

Candidate Starts for KingstonB_75:

(Start: 9 @48435 has 24 MA's), (12, 48453), (25, 48543), (27, 48549), (39, 48636), (44, 48714), (45, 48717), (46, 48729), (65, 48924), (67, 48933), (72, 49002), (76, 49062), (101, 49257),

Gene: Kita_54 Start: 37337, Stop: 38188, Start Num: 11

Candidate Starts for Kita_54:

(Start: 11 @37337 has 20 MA's), (35, 37511), (40, 37553), (66, 37832), (76, 37967), (78, 37979), (82, 38024), (86, 38048),

Gene: Lilas_52 Start: 39668, Stop: 40561, Start Num: 5

Candidate Starts for Lilas_52:

(Start: 5 @39668 has 18 MA's), (31, 39857), (66, 40205), (78, 40352), (82, 40397), (86, 40421),

Gene: LordFarquaad_50 Start: 34442, Stop: 35293, Start Num: 11

Candidate Starts for LordFarquaad_50:

(Start: 11 @34442 has 20 MA's), (35, 34616), (40, 34658), (66, 34937), (76, 35072), (78, 35084), (82, 35129), (86, 35153),

Gene: Madeline_51 Start: 38260, Stop: 39135, Start Num: 8

Candidate Starts for Madeline_51:

(Start: 8 @38260 has 14 MA's), (24, 38377), (40, 38491), (91, 39046),

Gene: Malibo_54 Start: 38001, Stop: 38852, Start Num: 11

Candidate Starts for Malibo_54:

(Start: 11 @38001 has 20 MA's), (Start: 14 @38028 has 3 MA's), (59, 38421), (63, 38469), (66, 38496), (82, 38688), (86, 38712), (87, 38727),

Gene: Manasvini_54 Start: 37352, Stop: 38203, Start Num: 11

Candidate Starts for Manasvini_54:

(Start: 11 @37352 has 20 MA's), (35, 37526), (40, 37568), (66, 37847), (76, 37982), (78, 37994), (82, 38039), (86, 38063),

Gene: Mao1_68 Start: 50146, Stop: 50979, Start Num: 15

Candidate Starts for Mao1_68:

(Start: 15 @50146 has 4 MA's), (25, 50221), (32, 50269), (37, 50308), (42, 50380), (43, 50389), (54, 50497), (55, 50521), (66, 50623), (68, 50632), (79, 50779), (81, 50812), (82, 50818), (87, 50857), (92, 50896), (94, 50911), (101, 50953), (103, 50968),

Gene: Maridalia_54 Start: 37501, Stop: 38370, Start Num: 8

Candidate Starts for Maridalia_54:

(Start: 8 @37501 has 14 MA's), (35, 37693), (50, 37876), (66, 38014), (82, 38206), (86, 38230),

Gene: Marteena_50 Start: 37224, Stop: 38114, Start Num: 5

Candidate Starts for Marteena_50:

(Start: 5 @37224 has 18 MA's), (66, 37758), (86, 37974),

Gene: Mask_66 Start: 52429, Stop: 53262, Start Num: 15

Candidate Starts for Mask_66:

(Start: 15 @52429 has 4 MA's), (25, 52504), (32, 52552), (37, 52591), (42, 52663), (43, 52672), (54, 52780), (55, 52804), (66, 52906), (68, 52915), (81, 53095), (82, 53101), (87, 53140), (92, 53179), (94, 53194), (101, 53236), (103, 53251),

Gene: Mulch_50 Start: 35660, Stop: 36523, Start Num: 9

Candidate Starts for Mulch_50:

(Start: 9 @35660 has 24 MA's), (16, 35714), (18, 35723), (37, 35864), (49, 35981), (54, 36050), (91, 36443), (92, 36446),

Gene: Nadeem_50 Start: 35660, Stop: 36523, Start Num: 9

Candidate Starts for Nadeem_50:

(Start: 9 @35660 has 24 MA's), (16, 35714), (18, 35723), (37, 35864), (49, 35981), (54, 36050), (91, 36443), (92, 36446),

Gene: NancyRae_49 Start: 35679, Stop: 36542, Start Num: 9

Candidate Starts for NancyRae_49:

(Start: 9 @35679 has 24 MA's), (16, 35733), (18, 35742), (37, 35883), (49, 36000), (54, 36069), (91, 36462), (92, 36465),

Gene: Neobush_53 Start: 37322, Stop: 38173, Start Num: 11

Candidate Starts for Neobush_53:

(Start: 11 @37322 has 20 MA's), (35, 37496), (40, 37538), (66, 37817), (76, 37952), (78, 37964), (82, 38009), (86, 38033),

Gene: Nymphadora_54 Start: 39300, Stop: 40169, Start Num: 8

Candidate Starts for Nymphadora_54:

(Start: 8 @39300 has 14 MA's), (35, 39492), (66, 39813), (82, 40005), (86, 40029),

Gene: PantheRoc_54 Start: 38106, Stop: 38990, Start Num: 5

Candidate Starts for PantheRoc_54:

(Start: 5 @38106 has 18 MA's), (40, 38355), (59, 38559), (66, 38634), (86, 38850),

Gene: Parada_50 Start: 35660, Stop: 36523, Start Num: 9

Candidate Starts for Parada_50:

(Start: 9 @35660 has 24 MA's), (16, 35714), (18, 35723), (37, 35864), (49, 35981), (54, 36050), (91, 36443), (92, 36446),

Gene: Peas_50 Start: 34597, Stop: 35445, Start Num: 9

Candidate Starts for Peas_50:

(Start: 9 @34597 has 24 MA's), (59, 35017), (69, 35116), (70, 35128),

Gene: PeggyLeg03_51 Start: 33338, Stop: 34186, Start Num: 9

Candidate Starts for PeggyLeg03_51:

(Start: 9 @33338 has 24 MA's), (50, 33695), (59, 33758), (69, 33857), (70, 33869),

Gene: Phayonce_50 Start: 36309, Stop: 37142, Start Num: 15

Candidate Starts for Phayonce_50:

(Start: 15 @36309 has 4 MA's), (25, 36384), (32, 36432), (37, 36471), (42, 36543), (43, 36552), (54, 36660), (55, 36684), (66, 36786), (68, 36795), (79, 36942), (81, 36975), (82, 36981), (87, 37020), (92, 37059), (94, 37074), (101, 37116), (103, 37131),

Gene: Pickett_46 Start: 31625, Stop: 32476, Start Num: 11

Candidate Starts for Pickett_46:

(Start: 11 @31625 has 20 MA's), (35, 31799), (40, 31841), (66, 32120), (76, 32255), (78, 32267), (82, 32312), (86, 32336),

Gene: Pimento_51 Start: 35257, Stop: 36120, Start Num: 9

Candidate Starts for Pimento_51:

(Start: 9 @35257 has 24 MA's), (16, 35311), (18, 35320), (37, 35461), (49, 35578), (54, 35647), (76, 35908), (78, 35920), (91, 36040), (92, 36043),

Gene: Pollux_53 Start: 38684, Stop: 39553, Start Num: 8

Candidate Starts for Pollux_53:

(Start: 8 @38684 has 14 MA's), (35, 38876), (40, 38918), (66, 39197), (82, 39389), (86, 39413),

Gene: Polly_50 Start: 36771, Stop: 37622, Start Num: 11

Candidate Starts for Polly_50:

(Start: 11 @36771 has 20 MA's), (35, 36945), (40, 36987), (66, 37266), (76, 37401), (78, 37413), (82, 37458), (86, 37482),

Gene: Posh_57 Start: 40046, Stop: 40936, Start Num: 5

Candidate Starts for Posh_57:

(Start: 5 @40046 has 18 MA's), (40, 40301), (59, 40505), (63, 40553), (66, 40580), (80, 40739), (82, 40772), (86, 40796),

Gene: Pucara_48 Start: 32943, Stop: 33791, Start Num: 9

Candidate Starts for Pucara_48:

(Start: 9 @32943 has 24 MA's), (50, 33300), (59, 33363), (69, 33462), (70, 33474),

Gene: Pytheas_54 Start: 40312, Stop: 41196, Start Num: 5

Candidate Starts for Pytheas_54:

(Start: 5 @40312 has 18 MA's), (21, 40414), (40, 40561), (59, 40765), (63, 40813), (66, 40840), (82, 41032), (86, 41056),

Gene: RavenCo17_51 Start: 37505, Stop: 38374, Start Num: 8

Candidate Starts for RavenCo17_51:

(Start: 8 @37505 has 14 MA's), (35, 37697), (66, 38018), (86, 38234),

Gene: Reyja_46 Start: 30927, Stop: 31790, Start Num: 4

Candidate Starts for Reyja_46:

(Start: 4 @30927 has 5 MA's), (36, 31125), (41, 31155), (50, 31293), (65, 31428), (74, 31530), (75, 31560), (77, 31575), (80, 31590), (84, 31638), (93, 31710), (101, 31764),

Gene: RootBeer_41 Start: 29068, Stop: 29916, Start Num: 9

Candidate Starts for RootBeer_41:

(Start: 9 @29068 has 24 MA's), (59, 29488), (69, 29587), (70, 29599), (87, 29794), (95, 29854),

Gene: Ruthy_50 Start: 37941, Stop: 38801, Start Num: 8

Candidate Starts for Ruthy_50:

(Start: 8 @37941 has 14 MA's), (13, 37968), (91, 38712),

Gene: Santhid_45 Start: 29208, Stop: 30077, Start Num: 4

Candidate Starts for Santhid_45:

(Start: 4 @29208 has 5 MA's), (12, 29250), (36, 29412), (41, 29442), (50, 29583), (75, 29850), (77, 29865), (84, 29928), (93, 29997), (101, 30051),

Gene: SoilAssassin_48 Start: 34460, Stop: 35311, Start Num: 11

Candidate Starts for SoilAssassin_48:

(Start: 11 @34460 has 20 MA's), (35, 34634), (40, 34676), (66, 34955), (76, 35090), (78, 35102), (82, 35147), (86, 35171),

Gene: Soos_70 Start: 48164, Stop: 49015, Start Num: 9

Candidate Starts for Soos_70:

(Start: 9 @48164 has 24 MA's), (12, 48182), (25, 48272), (27, 48278), (39, 48365), (44, 48443), (45, 48446), (46, 48458), (65, 48653), (67, 48662), (72, 48731), (76, 48791), (79, 48809), (101, 48986), (104, 49004),

Gene: Sparky_70 Start: 49626, Stop: 50477, Start Num: 10

Candidate Starts for Sparky_70:

(Start: 10 @49626 has 3 MA's), (Start: 15 @49674 has 4 MA's), (22, 49725), (29, 49773), (30, 49779), (61, 50079), (64, 50103), (66, 50127), (76, 50265), (79, 50283), (82, 50325), (87, 50364), (90, 50382), (92, 50403), (101, 50460),

Gene: Sting_73 Start: 48603, Stop: 49454, Start Num: 9

Candidate Starts for Sting_73:

(Start: 9 @48603 has 24 MA's), (12, 48621), (25, 48711), (27, 48717), (39, 48804), (44, 48882), (45, 48885), (46, 48897), (65, 49092), (67, 49101), (72, 49170), (76, 49230), (79, 49248), (101, 49425), (104, 49443),

Gene: Suscepit_53 Start: 37329, Stop: 38180, Start Num: 11

Candidate Starts for Suscepit_53:

(Start: 11 @37329 has 20 MA's), (35, 37503), (40, 37545), (66, 37824), (76, 37959), (78, 37971), (82, 38016), (86, 38040),

Gene: TPA4_49 Start: 37276, Stop: 38109, Start Num: 13

Candidate Starts for TPA4_49:

(1, 37045), (13, 37276), (23, 37354), (32, 37408), (42, 37519), (43, 37528), (48, 37561), (56, 37663), (66, 37762), (74, 37861), (76, 37897), (83, 37957), (89, 38005), (98, 38071),

Gene: Tarzan_46 Start: 30318, Stop: 31178, Start Num: 4

Candidate Starts for Tarzan_46:

(Start: 4 @30318 has 5 MA's), (36, 30516), (41, 30546), (50, 30684), (75, 30951), (77, 30966), (84, 31029), (93, 31098), (96, 31119), (101, 31152),

Gene: Tayonia_53 Start: 37328, Stop: 38179, Start Num: 11

Candidate Starts for Tayonia_53:

(Start: 11 @37328 has 20 MA's), (35, 37502), (40, 37544), (66, 37823), (76, 37958), (78, 37970), (82, 38015), (86, 38039),

Gene: ThankyouJordi_52 Start: 39176, Stop: 40069, Start Num: 5

Candidate Starts for ThankyouJordi_52:

(Start: 5 @39176 has 18 MA's), (30, 39362), (66, 39713), (82, 39905), (86, 39929),

Gene: Thimann_51 Start: 35487, Stop: 36365, Start Num: 7

Candidate Starts for Thimann_51:

(3, 35376), (Start: 7 @35487 has 1 MA's), (35, 35688), (40, 35730), (59, 35934), (66, 36009), (82, 36201), (86, 36225),

Gene: TimTam_54 Start: 39300, Stop: 40169, Start Num: 8

Candidate Starts for TimTam_54:

(Start: 8 @39300 has 14 MA's), (35, 39492), (66, 39813), (82, 40005), (86, 40029),

Gene: Tonitrus_61 Start: 44978, Stop: 45802, Start Num: 11

Candidate Starts for Tonitrus_61:

(Start: 11 @44978 has 20 MA's), (17, 45023), (22, 45050), (47, 45260), (48, 45266), (53, 45326), (61, 45407), (63, 45428), (66, 45455), (69, 45479), (76, 45590), (101, 45785),

Gene: Trumpet_53 Start: 37329, Stop: 38180, Start Num: 11

Candidate Starts for Trumpet_53:

(Start: 11 @37329 has 20 MA's), (35, 37503), (40, 37545), (66, 37824), (76, 37959), (78, 37971), (82, 38016), (86, 38040),

Gene: Vasanti_50 Start: 33874, Stop: 34743, Start Num: 8

Candidate Starts for Vasanti_50:

(Start: 8 @33874 has 14 MA's), (35, 34066), (52, 34255), (59, 34312), (66, 34387), (82, 34579),

Gene: WelcomeAyanna_52 Start: 39323, Stop: 40216, Start Num: 5

Candidate Starts for WelcomeAyanna_52:

(Start: 5 @39323 has 18 MA's), (30, 39509), (66, 39860), (82, 40052), (86, 40076),

Gene: WheatThin_49 Start: 35660, Stop: 36523, Start Num: 9

Candidate Starts for WheatThin_49:

(Start: 9 @35660 has 24 MA's), (16, 35714), (18, 35723), (37, 35864), (49, 35981), (54, 36050), (91, 36443), (92, 36446),

Gene: Wrigley_59 Start: 39635, Stop: 40519, Start Num: 5

Candidate Starts for Wrigley_59:

(Start: 5 @39635 has 18 MA's), (40, 39884), (59, 40088), (63, 40136), (66, 40163), (80, 40322), (82, 40355), (86, 40379),

Gene: Yeet412_48 Start: 34461, Stop: 35312, Start Num: 11

Candidate Starts for Yeet412_48:

(Start: 11 @34461 has 20 MA's), (35, 34635), (40, 34677), (66, 34956), (76, 35091), (78, 35103), (82, 35148), (86, 35172),

Gene: Yeezy_51 Start: 36236, Stop: 37114, Start Num: 8

Candidate Starts for Yeezy_51:

(Start: 8 @36236 has 14 MA's), (35, 36428), (61, 36701), (71, 36788), (91, 37025),

Gene: Zameen_53 Start: 37328, Stop: 38179, Start Num: 11

Candidate Starts for Zameen_53:

(Start: 11 @37328 has 20 MA's), (35, 37502), (40, 37544), (66, 37823), (76, 37958), (78, 37970), (82, 38015), (86, 38039),

Gene: Zirinka_50 Start: 37948, Stop: 38799, Start Num: 11

Candidate Starts for Zirinka_50:

(Start: 11 @37948 has 20 MA's), (35, 38122), (40, 38164), (66, 38443), (76, 38578), (78, 38590), (82, 38635), (86, 38659),