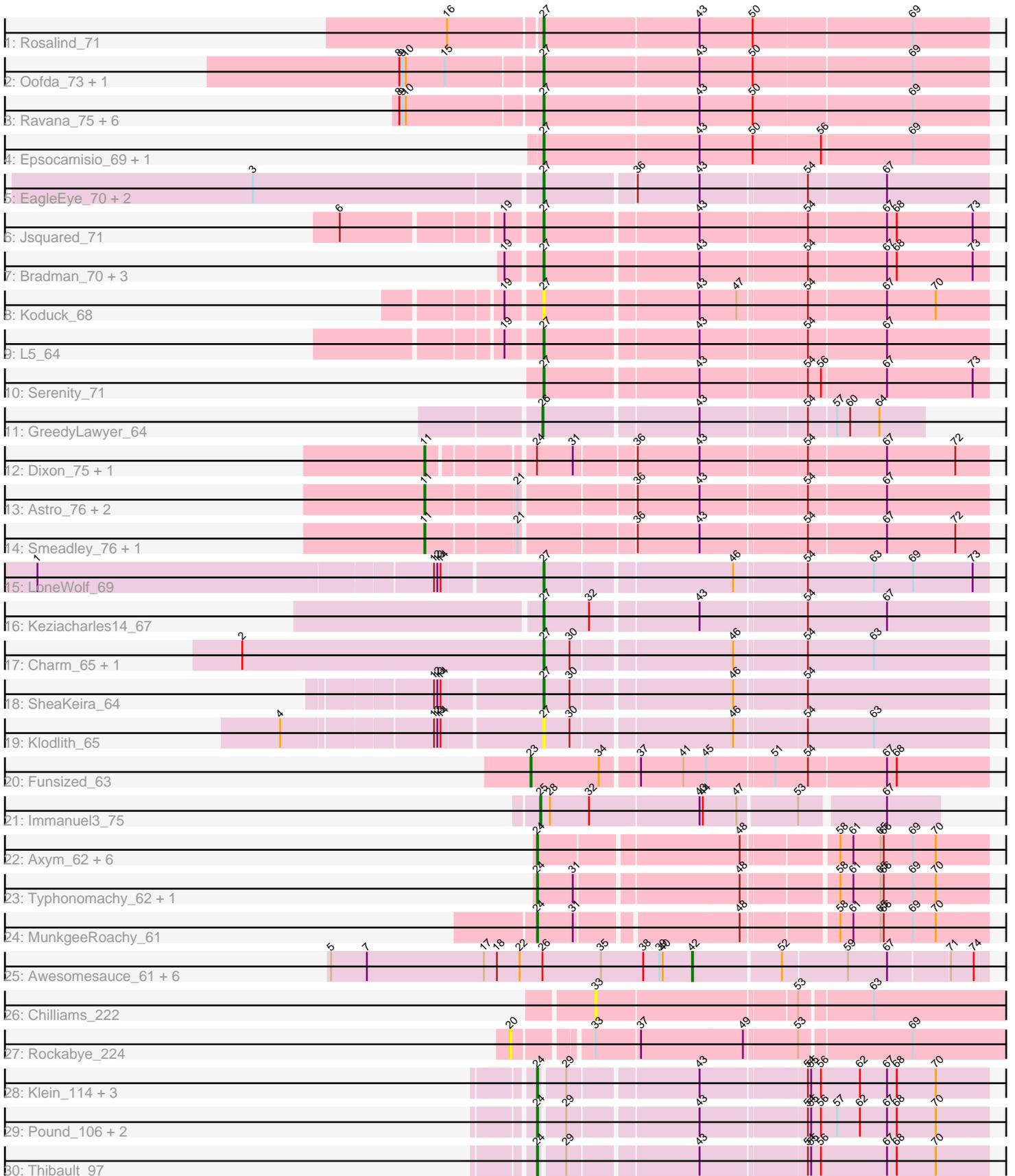


Pham 283793



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 283793 Report

This analysis was run 02/23/26 on database version 636.

Pham number 283793 has 66 members, 14 are drafts.

Phages represented in each track:

- Track 1 : Rosalind_71
- Track 2 : Oofda_73, Warrior24_74
- Track 3 : Ravana_75, Anaysia_73, LastResort_71, Soups_73, Boohoo_73, ReMo_71, Looper_72
- Track 4 : Epsocamisio_69, Nebulosus_70
- Track 5 : EagleEye_70, Lucyedi_69, PainterBoy_68
- Track 6 : Jsquared_71
- Track 7 : Bradman_70, Quokka_69, MajorMajor_69, TipsytheTRex_67
- Track 8 : Koduck_68
- Track 9 : L5_64
- Track 10 : Serenity_71
- Track 11 : GreedyLawyer_64
- Track 12 : Dixon_75, Caitlin_74
- Track 13 : Astro_76, Stephig9_75, Groundhog_75
- Track 14 : Smeadley_76, Expelliarmus_73
- Track 15 : LoneWolf_69
- Track 16 : Keziacharles14_67
- Track 17 : Charm_65, DreamTeam1_65
- Track 18 : SheaKeira_64
- Track 19 : Klodlith_65
- Track 20 : Funsized_63
- Track 21 : Immanuel3_75
- Track 22 : Axym_62, GoldHunter_64, RADical_64, Agatha_63, Starburst_63, Cozz_62, Bubble_62
- Track 23 : Typhonomachy_62, Socotra_64
- Track 24 : MunkgeeRoachy_61
- Track 25 : Awesomesauce_61, Misha28_59, DocMcStuffins_61, Aloeri_62, Piper2020_62, ChickenDinner_61, TootsiePop_59
- Track 26 : Chilliams_222
- Track 27 : Rockabye_224
- Track 28 : Klein_114, Wanda_117, Constella_99, Xiaokay_105
- Track 29 : Pound_106, Minerva_114, Optimus_108
- Track 30 : Thibault_97

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

The start number called the most often in the published annotations is 27, it was called in 23 of the 52 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Anaysia_73, Boohoo_73, Bradman_70, Charm_65, DreamTeam1_65, EagleEye_70, Epsocamisio_69, Jsquared_71, Keziacharles14_67, Klodlith_65, Koduck_68, L5_64, LastResort_71, LoneWolf_69, Looper_72, Lucyedi_69, MajorMajor_69, Nebulosus_70, Oofda_73, PainterBoy_68, Quokka_69, Ravana_75, ReMo_71, Rosalind_71, Serenity_71, SheaKeira_64, Soups_73, TipsytheTRex_67, Warrior24_74,

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

-

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

- Agatha_63, Aloeri_62, Astro_76, Awesomesauce_61, Axym_62, Bubble_62, Caitlin_74, ChickenDinner_61, Chilliams_222, Constella_99, Cozz_62, Dixon_75, DocMcStuffins_61, Expelliarmus_73, Funsized_63, GoldHunter_64, GreedyLawyer_64, Groundhog_75, Immanuel3_75, Klein_114, Minerva_114, Misha28_59, MunkgeeRoachy_61, Optimus_108, Piper2020_62, Pound_106, RADical_64, Rockabye_224, Smeadley_76, Socotra_64, Starburst_63, Stephig9_75, Thibault_97, TootsiePop_59, Typhonomachy_62, Wanda_117, Xiaokay_105,

Summary by start number:

Start 11:

- Found in 7 of 66 (10.6%) of genes in pham
- Manual Annotations of this start: 6 of 52
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Astro_76 (A8), Caitlin_74 (A8), Dixon_75 (A8), Expelliarmus_73 (A8), Groundhog_75 (A8), Smeadley_76 (A8), Stephig9_75 (A8),

Start 20:

- Found in 1 of 66 (1.5%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Rockabye_224 (FC),

Start 23:

- Found in 1 of 66 (1.5%) of genes in pham
- Manual Annotations of this start: 1 of 52
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Funsized_63 (B9),

Start 24:

- Found in 20 of 66 (30.3%) of genes in pham
- Manual Annotations of this start: 13 of 52
- Called 90.0% of time when present
- Phage (with cluster) where this start called: Agatha_63 (CT), Axym_62 (CT), Bubble_62 (CT), Constella_99 (J), Cozz_62 (CT), GoldHunter_64 (CT), Klein_114 (J), Minerva_114 (J), MunkgeeRoachy_61 (CT), Optimus_108 (J), Pound_106 (J),

RADical_64 (CT), Socotra_64 (CT), Starburst_63 (CT), Thibault_97 (J), Typhonomachy_62 (CT), Wanda_117 (J), Xiaokay_105 (J),

Start 25:

- Found in 1 of 66 (1.5%) of genes in pham
- Manual Annotations of this start: 1 of 52
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Immanuel3_75 (BF),

Start 26:

- Found in 8 of 66 (12.1%) of genes in pham
- Manual Annotations of this start: 1 of 52
- Called 12.5% of time when present
- Phage (with cluster) where this start called: GreedyLawyer_64 (A6),

Start 27:

- Found in 29 of 66 (43.9%) of genes in pham
- Manual Annotations of this start: 23 of 52
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Anaysia_73 (A15), Boohoo_73 (A15), Bradman_70 (A2), Charm_65 (A9), DreamTeam1_65 (A9), EagleEye_70 (A16), Epsocamisio_69 (A15), Jsquared_71 (A2), Keziacharles14_67 (A9), Klodlith_65 (A9), Koduck_68 (A2), L5_64 (A2), LastResort_71 (A15), LoneWolf_69 (A9), Looper_72 (A15), Lucyedi_69 (A16), MajorMajor_69 (A2), Nebulosus_70 (A15), Oofda_73 (A15), PainterBoy_68 (A16), Quokka_69 (A2), Ravana_75 (A15), ReMo_71 (A15), Rosalind_71 (A15), Serenity_71 (A2), SheaKeira_64 (A9), Soups_73 (A15), TipsytheTRex_67 (A2), Warrior24_74 (A15),

Start 33:

- Found in 2 of 66 (3.0%) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Chilliams_222 (FC),

Start 42:

- Found in 7 of 66 (10.6%) of genes in pham
- Manual Annotations of this start: 7 of 52
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aloeri_62 (F1), Awesomesauce_61 (F1), ChickenDinner_61 (F1), DocMcStuffins_61 (F1), Misha28_59 (F1), Piper2020_62 (F1), TootsiePop_59 (F1),

Summary by clusters:

There are 12 clusters represented in this pham: A15, F1, BF, A16, FC, J, A2, A6, A9, A8, B9, CT,

Info for manual annotations of cluster A15:

- Start number 27 was manually annotated 11 times for cluster A15.

Info for manual annotations of cluster A16:

- Start number 27 was manually annotated 3 times for cluster A16.

Info for manual annotations of cluster A2:

- Start number 27 was manually annotated 4 times for cluster A2.

Info for manual annotations of cluster A6:

- Start number 26 was manually annotated 1 time for cluster A6.

Info for manual annotations of cluster A8:

- Start number 11 was manually annotated 6 times for cluster A8.

Info for manual annotations of cluster A9:

- Start number 27 was manually annotated 5 times for cluster A9.

Info for manual annotations of cluster B9:

- Start number 23 was manually annotated 1 time for cluster B9.

Info for manual annotations of cluster BF:

- Start number 25 was manually annotated 1 time for cluster BF.

Info for manual annotations of cluster CT:

- Start number 24 was manually annotated 6 times for cluster CT.

Info for manual annotations of cluster F1:

- Start number 42 was manually annotated 7 times for cluster F1.

Info for manual annotations of cluster J:

- Start number 24 was manually annotated 7 times for cluster J.

Gene Information:

Gene: Agatha_63 Start: 43367, Stop: 43753, Start Num: 24

Candidate Starts for Agatha_63:

(Start: 24 @43367 has 13 MA's), (48, 43541), (58, 43619), (61, 43631), (65, 43655), (66, 43658), (69, 43685), (70, 43706),

Gene: Aloeri_62 Start: 39902, Stop: 40159, Start Num: 42

Candidate Starts for Aloeri_62:

(5, 39569), (7, 39602), (17, 39710), (18, 39722), (22, 39743), (Start: 26 @39764 has 1 MA's), (35, 39818), (38, 39857), (39, 39872), (40, 39875), (Start: 42 @39902 has 7 MA's), (52, 39980), (59, 40037), (67, 40073), (71, 40127), (74, 40148),

Gene: Anaysia_73 Start: 40644, Stop: 40246, Start Num: 27

Candidate Starts for Anaysia_73:

(8, 40770), (9, 40767), (10, 40764), (Start: 27 @40644 has 23 MA's), (43, 40503), (50, 40455), (69, 40314),

Gene: Astro_76 Start: 42589, Stop: 42107, Start Num: 11

Candidate Starts for Astro_76:

(Start: 11 @42589 has 6 MA's), (21, 42511), (36, 42415), (43, 42358), (54, 42268), (67, 42199),

Gene: Awesomesauce_61 Start: 38985, Stop: 39242, Start Num: 42

Candidate Starts for Awesomesauce_61:

(5, 38652), (7, 38685), (17, 38793), (18, 38805), (22, 38826), (Start: 26 @38847 has 1 MA's), (35, 38901), (38, 38940), (39, 38955), (40, 38958), (Start: 42 @38985 has 7 MA's), (52, 39063), (59, 39120), (67, 39156), (71, 39210), (74, 39231),

Gene: Axym_62 Start: 43254, Stop: 43640, Start Num: 24

Candidate Starts for Axym_62:

(Start: 24 @43254 has 13 MA's), (48, 43428), (58, 43506), (61, 43518), (65, 43542), (66, 43545), (69, 43572), (70, 43593),

Gene: Boohoo_73 Start: 40644, Stop: 40246, Start Num: 27

Candidate Starts for Boohoo_73:

(8, 40770), (9, 40767), (10, 40764), (Start: 27 @40644 has 23 MA's), (43, 40503), (50, 40455), (69, 40314),

Gene: Bradman_70 Start: 41009, Stop: 40623, Start Num: 27

Candidate Starts for Bradman_70:

(19, 41039), (Start: 27 @41009 has 23 MA's), (43, 40874), (54, 40784), (67, 40715), (68, 40706), (73, 40637),

Gene: Bubble_62 Start: 43372, Stop: 43758, Start Num: 24

Candidate Starts for Bubble_62:

(Start: 24 @43372 has 13 MA's), (48, 43546), (58, 43624), (61, 43636), (65, 43660), (66, 43663), (69, 43690), (70, 43711),

Gene: Caitlin_74 Start: 42281, Stop: 41808, Start Num: 11

Candidate Starts for Caitlin_74:

(Start: 11 @42281 has 6 MA's), (Start: 24 @42200 has 13 MA's), (31, 42167), (36, 42116), (43, 42059), (54, 41969), (67, 41900), (72, 41837),

Gene: Charm_65 Start: 40574, Stop: 40188, Start Num: 27

Candidate Starts for Charm_65:

(2, 40850), (Start: 27 @40574 has 23 MA's), (30, 40550), (46, 40412), (54, 40352), (63, 40292),

Gene: ChickenDinner_61 Start: 39902, Stop: 40159, Start Num: 42

Candidate Starts for ChickenDinner_61:

(5, 39569), (7, 39602), (17, 39710), (18, 39722), (22, 39743), (Start: 26 @39764 has 1 MA's), (35, 39818), (38, 39857), (39, 39872), (40, 39875), (Start: 42 @39902 has 7 MA's), (52, 39980), (59, 40037), (67, 40073), (71, 40127), (74, 40148),

Gene: Chilliams_222 Start: 145062, Stop: 145415, Start Num: 33

Candidate Starts for Chilliams_222:

(33, 145062), (53, 145236), (63, 145296),

Gene: Constella_99 Start: 58878, Stop: 59264, Start Num: 24

Candidate Starts for Constella_99:

(Start: 24 @58878 has 13 MA's), (29, 58899), (43, 59010), (54, 59100), (55, 59103), (56, 59112), (62, 59148), (67, 59172), (68, 59181), (70, 59217),

Gene: Cozz_62 Start: 43369, Stop: 43755, Start Num: 24

Candidate Starts for Cozz_62:

(Start: 24 @43369 has 13 MA's), (48, 43543), (58, 43621), (61, 43633), (65, 43657), (66, 43660), (69, 43687), (70, 43708),

Gene: Dixon_75 Start: 42148, Stop: 41675, Start Num: 11

Candidate Starts for Dixon_75:

(Start: 11 @42148 has 6 MA's), (Start: 24 @42067 has 13 MA's), (31, 42034), (36, 41983), (43, 41926), (54, 41836), (67, 41767), (72, 41704),

Gene: DocMcStuffins_61 Start: 39902, Stop: 40159, Start Num: 42

Candidate Starts for DocMcStuffins_61:

(5, 39569), (7, 39602), (17, 39710), (18, 39722), (22, 39743), (Start: 26 @39764 has 1 MA's), (35, 39818), (38, 39857), (39, 39872), (40, 39875), (Start: 42 @39902 has 7 MA's), (52, 39980), (59, 40037), (67, 40073), (71, 40127), (74, 40148),

Gene: DreamTeam1_65 Start: 40406, Stop: 40020, Start Num: 27

Candidate Starts for DreamTeam1_65:

(2, 40682), (Start: 27 @40406 has 23 MA's), (30, 40382), (46, 40244), (54, 40184), (63, 40124),

Gene: EagleEye_70 Start: 41375, Stop: 40989, Start Num: 27

Candidate Starts for EagleEye_70:

(3, 41633), (Start: 27 @41375 has 23 MA's), (36, 41297), (43, 41240), (54, 41150), (67, 41081),

Gene: Epsocamisio_69 Start: 40081, Stop: 39683, Start Num: 27

Candidate Starts for Epsocamisio_69:

(Start: 27 @40081 has 23 MA's), (43, 39940), (50, 39892), (56, 39832), (69, 39751),

Gene: Expelliarmus_73 Start: 42362, Stop: 41880, Start Num: 11

Candidate Starts for Expelliarmus_73:

(Start: 11 @42362 has 6 MA's), (21, 42284), (36, 42188), (43, 42131), (54, 42041), (67, 41972), (72, 41909),

Gene: Funsized_63 Start: 58183, Stop: 57782, Start Num: 23

Candidate Starts for Funsized_63:

(Start: 23 @58183 has 1 MA's), (34, 58120), (37, 58090), (41, 58051), (45, 58030), (51, 57973), (54, 57943), (67, 57874), (68, 57865),

Gene: GoldHunter_64 Start: 43358, Stop: 43744, Start Num: 24

Candidate Starts for GoldHunter_64:

(Start: 24 @43358 has 13 MA's), (48, 43532), (58, 43610), (61, 43622), (65, 43646), (66, 43649), (69, 43676), (70, 43697),

Gene: GreedyLawyer_64 Start: 39653, Stop: 39324, Start Num: 26

Candidate Starts for GreedyLawyer_64:

(Start: 26 @39653 has 1 MA's), (43, 39518), (54, 39428), (57, 39404), (60, 39392), (64, 39365),

Gene: Groundhog_75 Start: 42567, Stop: 42085, Start Num: 11

Candidate Starts for Groundhog_75:

(Start: 11 @42567 has 6 MA's), (21, 42489), (36, 42393), (43, 42336), (54, 42246), (67, 42177),

Gene: Immanuel3_75 Start: 39592, Stop: 39245, Start Num: 25

Candidate Starts for Immanuel3_75:

(Start: 25 @39592 has 1 MA's), (28, 39583), (32, 39547), (43, 39448), (44, 39445), (47, 39415), (53, 39364), (67, 39292),

Gene: Jsquared_71 Start: 41166, Stop: 40780, Start Num: 27

Candidate Starts for Jsquared_71:

(6, 41331), (19, 41196), (Start: 27 @41166 has 23 MA's), (43, 41031), (54, 40941), (67, 40872), (68, 40863), (73, 40794),

Gene: Keziacharles14_67 Start: 41988, Stop: 41599, Start Num: 27

Candidate Starts for Keziacharles14_67:

(Start: 27 @41988 has 23 MA's), (32, 41946), (43, 41853), (54, 41763), (67, 41691),

Gene: Klein_114 Start: 63260, Stop: 63646, Start Num: 24

Candidate Starts for Klein_114:

(Start: 24 @63260 has 13 MA's), (29, 63281), (43, 63392), (54, 63482), (55, 63485), (56, 63494), (62, 63530), (67, 63554), (68, 63563), (70, 63599),

Gene: Klodlith_65 Start: 40471, Stop: 40085, Start Num: 27

Candidate Starts for Klodlith_65:

(4, 40693), (12, 40564), (13, 40561), (14, 40558), (Start: 27 @40471 has 23 MA's), (30, 40447), (46, 40309), (54, 40249), (63, 40189),

Gene: Koduck_68 Start: 40602, Stop: 40216, Start Num: 27

Candidate Starts for Koduck_68:

(19, 40632), (Start: 27 @40602 has 23 MA's), (43, 40467), (47, 40434), (54, 40377), (67, 40308), (70, 40263),

Gene: L5_64 Start: 40755, Stop: 40369, Start Num: 27

Candidate Starts for L5_64:

(19, 40785), (Start: 27 @40755 has 23 MA's), (43, 40620), (54, 40530), (67, 40461),

Gene: LastResort_71 Start: 40420, Stop: 40022, Start Num: 27

Candidate Starts for LastResort_71:

(8, 40546), (9, 40543), (10, 40540), (Start: 27 @40420 has 23 MA's), (43, 40279), (50, 40231), (69, 40090),

Gene: LoneWolf_69 Start: 41266, Stop: 40880, Start Num: 27

Candidate Starts for LoneWolf_69:

(1, 41716), (12, 41359), (13, 41356), (14, 41353), (Start: 27 @41266 has 23 MA's), (46, 41104), (54, 41044), (63, 40984), (69, 40948), (73, 40894),

Gene: Looper_72 Start: 40332, Stop: 39934, Start Num: 27

Candidate Starts for Looper_72:

(8, 40458), (9, 40455), (10, 40452), (Start: 27 @40332 has 23 MA's), (43, 40191), (50, 40143), (69, 40002),

Gene: Lucyedi_69 Start: 41571, Stop: 41185, Start Num: 27

Candidate Starts for Lucyedi_69:

(3, 41829), (Start: 27 @41571 has 23 MA's), (36, 41493), (43, 41436), (54, 41346), (67, 41277),

Gene: MajorMajor_69 Start: 41009, Stop: 40623, Start Num: 27

Candidate Starts for MajorMajor_69:

(19, 41039), (Start: 27 @41009 has 23 MA's), (43, 40874), (54, 40784), (67, 40715), (68, 40706), (73, 40637),

Gene: Minerva_114 Start: 64539, Stop: 64925, Start Num: 24

Candidate Starts for Minerva_114:

(Start: 24 @64539 has 13 MA's), (29, 64560), (43, 64671), (54, 64761), (55, 64764), (56, 64773), (57, 64788), (62, 64809), (67, 64833), (68, 64842), (70, 64878),

Gene: Misha28_59 Start: 38990, Stop: 39247, Start Num: 42

Candidate Starts for Misha28_59:

(5, 38657), (7, 38690), (17, 38798), (18, 38810), (22, 38831), (Start: 26 @38852 has 1 MA's), (35, 38906), (38, 38945), (39, 38960), (40, 38963), (Start: 42 @38990 has 7 MA's), (52, 39068), (59, 39125), (67, 39161), (71, 39215), (74, 39236),

Gene: MunkgeeRoachy_61 Start: 42695, Stop: 43078, Start Num: 24

Candidate Starts for MunkgeeRoachy_61:

(Start: 24 @42695 has 13 MA's), (31, 42728), (48, 42866), (58, 42944), (61, 42956), (65, 42980), (66, 42983), (69, 43010), (70, 43031),

Gene: Nebulosus_70 Start: 40318, Stop: 39920, Start Num: 27

Candidate Starts for Nebulosus_70:

(Start: 27 @40318 has 23 MA's), (43, 40177), (50, 40129), (56, 40069), (69, 39988),

Gene: Oofda_73 Start: 40533, Stop: 40135, Start Num: 27

Candidate Starts for Oofda_73:

(8, 40659), (9, 40656), (10, 40653), (15, 40617), (Start: 27 @40533 has 23 MA's), (43, 40392), (50, 40344), (69, 40203),

Gene: Optimus_108 Start: 63211, Stop: 63597, Start Num: 24

Candidate Starts for Optimus_108:

(Start: 24 @63211 has 13 MA's), (29, 63232), (43, 63343), (54, 63433), (55, 63436), (56, 63445), (57, 63460), (62, 63481), (67, 63505), (68, 63514), (70, 63550),

Gene: PainterBoy_68 Start: 41280, Stop: 40894, Start Num: 27

Candidate Starts for PainterBoy_68:

(3, 41538), (Start: 27 @41280 has 23 MA's), (36, 41202), (43, 41145), (54, 41055), (67, 40986),

Gene: Piper2020_62 Start: 39885, Stop: 40142, Start Num: 42

Candidate Starts for Piper2020_62:

(5, 39552), (7, 39585), (17, 39693), (18, 39705), (22, 39726), (Start: 26 @39747 has 1 MA's), (35, 39801), (38, 39840), (39, 39855), (40, 39858), (Start: 42 @39885 has 7 MA's), (52, 39963), (59, 40020), (67, 40056), (71, 40110), (74, 40131),

Gene: Pound_106 Start: 63557, Stop: 63943, Start Num: 24

Candidate Starts for Pound_106:

(Start: 24 @63557 has 13 MA's), (29, 63578), (43, 63689), (54, 63779), (55, 63782), (56, 63791), (57, 63806), (62, 63827), (67, 63851), (68, 63860), (70, 63896),

Gene: Quokka_69 Start: 41009, Stop: 40623, Start Num: 27

Candidate Starts for Quokka_69:

(19, 41039), (Start: 27 @41009 has 23 MA's), (43, 40874), (54, 40784), (67, 40715), (68, 40706), (73, 40637),

Gene: RADical_64 Start: 43245, Stop: 43631, Start Num: 24

Candidate Starts for RADical_64:

(Start: 24 @43245 has 13 MA's), (48, 43419), (58, 43497), (61, 43509), (65, 43533), (66, 43536), (69, 43563), (70, 43584),

Gene: Ravana_75 Start: 41729, Stop: 41331, Start Num: 27

Candidate Starts for Ravana_75:

(8, 41855), (9, 41852), (10, 41849), (Start: 27 @41729 has 23 MA's), (43, 41588), (50, 41540), (69, 41399),

Gene: ReMo_71 Start: 40417, Stop: 40019, Start Num: 27

Candidate Starts for ReMo_71:

(8, 40543), (9, 40540), (10, 40537), (Start: 27 @40417 has 23 MA's), (43, 40276), (50, 40228), (69, 40087),

Gene: Rockabye_224 Start: 143435, Stop: 143854, Start Num: 20

Candidate Starts for Rockabye_224:

(20, 143435), (33, 143495), (37, 143534), (49, 143627), (53, 143672), (69, 143768),

Gene: Rosalind_71 Start: 40575, Stop: 40177, Start Num: 27

Candidate Starts for Rosalind_71:

(16, 40656), (Start: 27 @40575 has 23 MA's), (43, 40434), (50, 40386), (69, 40245),

Gene: Serenity_71 Start: 41233, Stop: 40847, Start Num: 27

Candidate Starts for Serenity_71:

(Start: 27 @41233 has 23 MA's), (43, 41098), (54, 41008), (56, 40996), (67, 40939), (73, 40861),

Gene: SheaKeira_64 Start: 40347, Stop: 39961, Start Num: 27

Candidate Starts for SheaKeira_64:

(12, 40440), (13, 40437), (14, 40434), (Start: 27 @40347 has 23 MA's), (30, 40323), (46, 40185), (54, 40125),

Gene: Smeadley_76 Start: 42484, Stop: 42002, Start Num: 11

Candidate Starts for Smeadley_76:

(Start: 11 @42484 has 6 MA's), (21, 42406), (36, 42310), (43, 42253), (54, 42163), (67, 42094), (72, 42031),

Gene: Socotra_64 Start: 43351, Stop: 43737, Start Num: 24

Candidate Starts for Socotra_64:

(Start: 24 @43351 has 13 MA's), (31, 43384), (48, 43525), (58, 43603), (61, 43615), (65, 43639), (66, 43642), (69, 43669), (70, 43690),

Gene: Soups_73 Start: 40867, Stop: 40469, Start Num: 27

Candidate Starts for Soups_73:

(8, 40993), (9, 40990), (10, 40987), (Start: 27 @40867 has 23 MA's), (43, 40726), (50, 40678), (69, 40537),

Gene: Starburst_63 Start: 43247, Stop: 43633, Start Num: 24

Candidate Starts for Starburst_63:

(Start: 24 @43247 has 13 MA's), (48, 43421), (58, 43499), (61, 43511), (65, 43535), (66, 43538), (69, 43565), (70, 43586),

Gene: Stephig9_75 Start: 42420, Stop: 41938, Start Num: 11

Candidate Starts for Stephig9_75:

(Start: 11 @42420 has 6 MA's), (21, 42342), (36, 42246), (43, 42189), (54, 42099), (67, 42030),

Gene: Thibault_97 Start: 59154, Stop: 59540, Start Num: 24

Candidate Starts for Thibault_97:

(Start: 24 @59154 has 13 MA's), (29, 59175), (43, 59286), (54, 59376), (55, 59379), (56, 59388), (67, 59448), (68, 59457), (70, 59493),

Gene: TopsytheTRex_67 Start: 41208, Stop: 40822, Start Num: 27

Candidate Starts for TopsytheTRex_67:

(19, 41238), (Start: 27 @41208 has 23 MA's), (43, 41073), (54, 40983), (67, 40914), (68, 40905), (73, 40836),

Gene: TootsiePop_59 Start: 38990, Stop: 39247, Start Num: 42

Candidate Starts for TootsiePop_59:

(5, 38657), (7, 38690), (17, 38798), (18, 38810), (22, 38831), (Start: 26 @38852 has 1 MA's), (35, 38906), (38, 38945), (39, 38960), (40, 38963), (Start: 42 @38990 has 7 MA's), (52, 39068), (59, 39125), (67, 39161), (71, 39215), (74, 39236),

Gene: Typhonomachy_62 Start: 43067, Stop: 43453, Start Num: 24

Candidate Starts for Typhonomachy_62:

(Start: 24 @43067 has 13 MA's), (31, 43100), (48, 43241), (58, 43319), (61, 43331), (65, 43355), (66, 43358), (69, 43385), (70, 43406),

Gene: Wanda_117 Start: 63537, Stop: 63923, Start Num: 24

Candidate Starts for Wanda_117:

(Start: 24 @63537 has 13 MA's), (29, 63558), (43, 63669), (54, 63759), (55, 63762), (56, 63771), (62, 63807), (67, 63831), (68, 63840), (70, 63876),

Gene: Warrior24_74 Start: 40988, Stop: 40590, Start Num: 27

Candidate Starts for Warrior24_74:

(8, 41114), (9, 41111), (10, 41108), (15, 41072), (Start: 27 @40988 has 23 MA's), (43, 40847), (50, 40799), (69, 40658),

Gene: Xiaokay_105 Start: 62064, Stop: 62450, Start Num: 24

Candidate Starts for Xiaokay_105:

(Start: 24 @62064 has 13 MA's), (29, 62085), (43, 62196), (54, 62286), (55, 62289), (56, 62298), (62, 62334), (67, 62358), (68, 62367), (70, 62403),