Pham 296457

1: Boohoo_48 + 8
2: DekHockey33_48
3: Switzerland_48 + 5
4: KatherineG_75
5: DekHockey33_76 + 4
6: Epsocamisio_71 + 3
7: Battleship_77
8: Warrior24_49
9: Elle_44
10: Ramus_48 + 1
11: Ravana_50
12: MinecraftSteve_49
13: Anon_43
14: Battleship_49
15: EagleEye_71 + 2
16: Blue7_70 + 23
17: SuperAwesome_68 + 13
18: Jordennis_67
19: VohminGhazi_68 + 6
20: Gruunaga_69
21: Priamo_70
22: JewelBug_68
23: BABullseye_61

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 296457 Report

This analysis was run 04/25/26 on database version 644.

Pham number 296457 has 88 members, 6 are drafts.

Phages represented in each track:
• Track 1 : Boohoo_48, ShayRa_49, Anaysia_48, LastResort_47, Soups_48, Nebulosus_47, KatherineG_49, Looper_48, ReMo_47
• Track 2 : DekHockey33_48
• Track 3 : Switzerland_48, Oofda_48, Rosalind_47, Epsocamisio_47, Waits_48, JSwag_47
• Track 4 : KatherineG_75
• Track 5 : DekHockey33_76, Rosalind_73, ShayRa_75, Switzerland_74, Soups_75
• Track 6 : Epsocamisio_71, Nebulosus_72, JSwag_74, MinecraftSteve_75
• Track 7 : Battleship_77
• Track 8 : Warrior24_49
• Track 9 : Elle_44
• Track 10 : Remus_48, Strosahl_48
• Track 11 : Ravana_50
• Track 12 : MinecraftSteve_49
• Track 13 : Anon_43
• Track 14 : Battleship_49
• Track 15 : EagleEye_71, Lucyedi_70, PainterBoy_69
• Track 16 : Blue7_70, Rifter_69, Temprado_70, Gladiator_66, Tucker_69, Hexamo_69, Indra_72, Roksolana_70, Jeffabunny_69, Hammer_69, Lilbunny_68, ToneTone_66, BennyP_68, Artemis2UCLA_69, Koko_71, Yokurt_68, WunderPhul_69, BlessJoy_69, Zulu_70, Wiks_68, Zaka_69, Helmet_71, Garak_70, CloudWang3_70
• Track 17 : SuperAwesome_68, Cookiedough_68, Polyphemus_70, DelvinSonDorr_65, McFly_68, Isiphiwo_66, Neeharika16_67, GreedyLawyer_65, SuperCallie99_65, Newrala_68, Dorothea_68, Pmask_67, Chartreuse_67, DaVinci_66
• Track 18 : Jordennis_67
• Track 19 : VohminGhazi_68, Kazan_69, SmellyB_68, Hoot_63, Candra_66, Kipper29_68, EricB_67
• Track 20 : Gruunaga_69
• Track 21 : Priamo_70
• Track 22 : JewelBug_68
• Track 23 : BABullseye_61

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

The start number called the most often in the published annotations is 16, it was called in 48 of the 82 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Artemis2UCLA_69, BABullseye_61, BennyP_68, BlessJoy_69, Blue7_70, Candra_66, Chartreuse_67, CloudWang3_70, Cookiedough_68, DaVinci_66, DelvinSonDorr_65, Dorothea_68, EagleEye_71, EricB_67, Garak_70, Gladiator_66, GreedyLawyer_65, Hammer_69, Helmet_71, Hexamo_69, Hoot_63, Indra_72, Isiphiwo_66, Jeffabunny_69, JewelBug_68, Jordennis_67, Kazan_69, Kipper29_68, Koko_71, Lilbunny_68, Lucyedi_70, McFly_68, Neeharika16_67, Newrala_68, PainterBoy_69, Pmask_67, Polyphemus_70, Priamo_70, Rifter_69, Roksolana_70, SmellyB_68, SuperAwesome_68, SuperCallie99_65, Temprado_70, ToneTone_66, Tucker_69, VohminGhazi_68, Wiks_68, WunderPhul_69, Yokurt_68, Zaka_69, Zulu_70,

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

Genes that do not have the "Most Annotated" start:
• Anaysia_48, Anon_43, Battleship_49, Battleship_77, Boohoo_48, DekHockey33_48, DekHockey33_76, Elle_44, Epsocamisio_47, Epsocamisio_71, Gruunaga_69, JSwag_47, JSwag_74, KatherineG_49, KatherineG_75, LastResort_47, Looper_48, MinecraftSteve_49, MinecraftSteve_75, Nebulosus_47, Nebulosus_72, Oofda_48, Ravana_50, ReMo_47, Remus_48, Rosalind_47, Rosalind_73, ShayRa_49, ShayRa_75, Soups_48, Soups_75, Strosahl_48, Switzerland_48, Switzerland_74, Waits_48, Warrior24_49,

Summary by start number:

Start 12:
• Found in 11 of 88 (12.5%) of genes in pham
• Manual Annotations of this start: 1 of 82
• Called 9.1% of time when present
• Phage (with cluster) where this start called: Battleship_77 (A15),

Start 13:
• Found in 11 of 88 (12.5%) of genes in pham
• Manual Annotations of this start: 10 of 82
• Called 90.9% of time when present
• Phage (with cluster) where this start called: DekHockey33_76 (A15), Epsocamisio_71 (A15), JSwag_74 (A15), KatherineG_75 (A15), MinecraftSteve_75 (A15), Nebulosus_72 (A15), Rosalind_73 (A15), ShayRa_75 (A15), Soups_75 (A15), Switzerland_74 (A15),

Start 15:
• Found in 10 of 88 (11.4%) of genes in pham
• Manual Annotations of this start: 1 of 82
• Called 10.0% of time when present
• Phage (with cluster) where this start called: DekHockey33_48 (A15),

Start 16:
• Found in 52 of 88 (59.1%) of genes in pham

• Manual Annotations of this start: 48 of 82
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Artemis2UCLA_69 (A6), BABullseye_61 (A6), BennyP_68 (A6), BlessJoy_69 (A6), Blue7_70 (A6), Candra_66 (A6), Chartreuse_67 (A6), CloudWang3_70 (A6), Cookiedough_68 (A6), DaVinci_66 (A6), DelvinSonDorr_65 (A6), Dorothea_68 (A6), EagleEye_71 (A16), EricB_67 (A6), Garak_70 (A6), Gladiator_66 (A6), GreedyLawyer_65 (A6), Hammer_69 (A6), Helmet_71 (A6), Hexamo_69 (A6), Hoot_63 (A6), Indra_72 (A6), Isiphiwo_66 (A6), Jeffabunny_69 (A6), JewelBug_68 (A6), Jordennis_67 (A6), Kazan_69 (A6), Kipper29_68 (A6), Koko_71 (A6), Lilbunny_68 (A6), Lucyedi_70 (A16), McFly_68 (A6), Neeharika16_67 (A6), Newrala_68 (A6), PainterBoy_69 (A16), Pmask_67 (A6), Polyphemus_70 (A6), Priamo_70 (A6), Rifter_69 (A6), Roksolana_70 (A6), SmellyB_68 (A6), SuperAwesome_68 (A6), SuperCallie99_65 (A6), Temprado_70 (A6), ToneTone_66 (A6), Tucker_69 (A6), VohminGhazi_68 (A6), Wiks_68 (A6), WunderPhul_69 (A6), Yokurt_68 (A6), Zaka_69 (A6), Zulu_70 (A6),

Start 17:
• Found in 24 of 88 (27.3%) of genes in pham
• Manual Annotations of this start: 21 of 82
• Called 95.8% of time when present
• Phage (with cluster) where this start called: Anaysia_48 (A15), Anon_43 (A15), Battleship_49 (A15), Boohoo_48 (A15), Elle_44 (A15), Epsocamisio_47 (A15), JSwag_47 (A15), KatherineG_49 (A15), LastResort_47 (A15), Looper_48 (A15), MinecraftSteve_49 (A15), Nebulosus_47 (A15), Oofda_48 (A15), Ravana_50 (A15), ReMo_47 (A15), Remus_48 (A15), Rosalind_47 (A15), ShayRa_49 (A15), Soups_48 (A15), Strosahl_48 (A15), Switzerland_48 (A15), Waits_48 (A15), Warrior24_49 (A15),

Start 23:
• Found in 25 of 88 (28.4%) of genes in pham
• Manual Annotations of this start: 1 of 82
• Called 4.0% of time when present
• Phage (with cluster) where this start called: Gruunaga_69 (A6),

Summary by clusters:

There are 3 clusters represented in this pham: A15, A16, A6,

Info for manual annotations of cluster A15:
•Start number 12 was manually annotated 1 time for cluster A15.
•Start number 13 was manually annotated 10 times for cluster A15.
•Start number 15 was manually annotated 1 time for cluster A15.
•Start number 17 was manually annotated 21 times for cluster A15.

Info for manual annotations of cluster A16:
•Start number 16 was manually annotated 3 times for cluster A16.

Info for manual annotations of cluster A6:
•Start number 16 was manually annotated 45 times for cluster A6.
•Start number 23 was manually annotated 1 time for cluster A6.

Gene Information:

Gene: Anaysia_48 Start: 30327, Stop: 29968, Start Num: 17
Candidate Starts for Anaysia_48:
(Start: 15 @30330 has 1 MA's), (Start: 17 @30327 has 21 MA's), (25, 30219), (39, 30003),

Gene: Anon_43 Start: 29368, Stop: 29009, Start Num: 17
Candidate Starts for Anon_43:
(Start: 17 @29368 has 21 MA's), (27, 29230),

Gene: Artemis2UCLA_69 Start: 40044, Stop: 39688, Start Num: 16
Candidate Starts for Artemis2UCLA_69:
(8, 40161), (9, 40158), (10, 40140), (Start: 16 @40044 has 48 MA's), (Start: 23 @39942 has 1 MA's), (29, 39897), (35, 39774), (37, 39747), (39, 39720), (40, 39699),

Gene: BABullseye_61 Start: 37712, Stop: 37356, Start Num: 16
Candidate Starts for BABullseye_61:
(Start: 16 @37712 has 48 MA's), (19, 37646), (28, 37568), (31, 37511), (35, 37442), (36, 37436), (37, 37415), (40, 37367),

Gene: Battleship_77 Start: 41490, Stop: 41044, Start Num: 12
Candidate Starts for Battleship_77:
(Start: 12 @41490 has 1 MA's), (Start: 13 @41460 has 10 MA's), (14, 41448), (20, 41358), (22, 41331), (33, 41175), (38, 41094),

Gene: Battleship_49 Start: 30296, Stop: 29937, Start Num: 17
Candidate Starts for Battleship_49:
(2, 30701), (4, 30617), (5, 30614), (Start: 17 @30296 has 21 MA's), (25, 30188), (39, 29972),

Gene: BennyP_68 Start: 40114, Stop: 39758, Start Num: 16
Candidate Starts for BennyP_68:
(8, 40231), (9, 40228), (10, 40210), (Start: 16 @40114 has 48 MA's), (Start: 23 @40012 has 1 MA's), (29, 39967), (35, 39844), (37, 39817), (39, 39790), (40, 39769),

Gene: BlessJoy_69 Start: 40470, Stop: 40114, Start Num: 16
Candidate Starts for BlessJoy_69:
(8, 40587), (9, 40584), (10, 40566), (Start: 16 @40470 has 48 MA's), (Start: 23 @40368 has 1 MA's), (29, 40323), (35, 40200), (37, 40173), (39, 40146), (40, 40125),

Gene: Blue7_70 Start: 40172, Stop: 39816, Start Num: 16
Candidate Starts for Blue7_70:
(8, 40289), (9, 40286), (10, 40268), (Start: 16 @40172 has 48 MA's), (Start: 23 @40070 has 1 MA's), (29, 40025), (35, 39902), (37, 39875), (39, 39848), (40, 39827),

Gene: Boohoo_48 Start: 30327, Stop: 29968, Start Num: 17
Candidate Starts for Boohoo_48:
(Start: 15 @30330 has 1 MA's), (Start: 17 @30327 has 21 MA's), (25, 30219), (39, 30003),

Gene: Candra_66 Start: 40076, Stop: 39720, Start Num: 16
Candidate Starts for Candra_66:
(11, 40154), (Start: 16 @40076 has 48 MA's), (19, 40010), (28, 39932), (31, 39875), (35, 39806), (36, 39800), (37, 39779), (39, 39752), (40, 39731),

Gene: Chartreuse_67 Start: 39392, Stop: 39036, Start Num: 16
Candidate Starts for Chartreuse_67:
(11, 39470), (Start: 16 @39392 has 48 MA's), (28, 39248), (31, 39191), (35, 39122), (37, 39095), (39, 39068), (40, 39047),

Gene: CloudWang3_70 Start: 40556, Stop: 40200, Start Num: 16
Candidate Starts for CloudWang3_70:
(8, 40673), (9, 40670), (10, 40652), (Start: 16 @40556 has 48 MA's), (Start: 23 @40454 has 1 MA's), (29, 40409), (35, 40286), (37, 40259), (39, 40232), (40, 40211),

Gene: Cookiedough_68 Start: 40020, Stop: 39664, Start Num: 16
Candidate Starts for Cookiedough_68:
(11, 40098), (Start: 16 @40020 has 48 MA's), (28, 39876), (31, 39819), (35, 39750), (37, 39723), (39, 39696), (40, 39675),

Gene: DaVinci_66 Start: 39446, Stop: 39090, Start Num: 16
Candidate Starts for DaVinci_66:
(11, 39524), (Start: 16 @39446 has 48 MA's), (28, 39302), (31, 39245), (35, 39176), (37, 39149), (39, 39122), (40, 39101),

Gene: DekHockey33_48 Start: 30545, Stop: 30183, Start Num: 15
Candidate Starts for DekHockey33_48:
(Start: 15 @30545 has 1 MA's), (Start: 17 @30542 has 21 MA's), (25, 30434), (39, 30218),

Gene: DekHockey33_76 Start: 41545, Stop: 41129, Start Num: 13
Candidate Starts for DekHockey33_76:
(Start: 12 @41575 has 1 MA's), (Start: 13 @41545 has 10 MA's), (14, 41533), (20, 41443), (22, 41416), (33, 41260), (38, 41179),

Gene: DelvinSonDorr_65 Start: 40251, Stop: 39895, Start Num: 16
Candidate Starts for DelvinSonDorr_65:
(11, 40329), (Start: 16 @40251 has 48 MA's), (28, 40107), (31, 40050), (35, 39981), (37, 39954), (39, 39927), (40, 39906),

Gene: Dorothea_68 Start: 40018, Stop: 39662, Start Num: 16
Candidate Starts for Dorothea_68:
(11, 40096), (Start: 16 @40018 has 48 MA's), (28, 39874), (31, 39817), (35, 39748), (37, 39721), (39, 39694), (40, 39673),

Gene: EagleEye_71 Start: 41731, Stop: 41372, Start Num: 16
Candidate Starts for EagleEye_71:
(7, 41836), (8, 41833), (9, 41830), (Start: 16 @41731 has 48 MA's), (18, 41689), (21, 41656), (32, 41506), (34, 41461), (35, 41458), (40, 41383),

Gene: Elle_44 Start: 28787, Stop: 28425, Start Num: 17
Candidate Starts for Elle_44:
(3, 29156), (Start: 17 @28787 has 21 MA's), (22, 28697), (26, 28673), (27, 28649), (28, 28646), (30, 28607), (39, 28460),

Gene: Epsocamisio_71 Start: 40692, Stop: 40276, Start Num: 13
Candidate Starts for Epsocamisio_71:
(Start: 12 @40722 has 1 MA's), (Start: 13 @40692 has 10 MA's), (14, 40680), (20, 40590), (22, 40563), (33, 40407), (38, 40326),

Gene: Epsocamisio_47 Start: 30101, Stop: 29742, Start Num: 17
Candidate Starts for Epsocamisio_47:
(2, 30503), (4, 30419), (Start: 17 @30101 has 21 MA's), (25, 29993), (39, 29777),

Gene: EricB_67 Start: 40033, Stop: 39677, Start Num: 16
Candidate Starts for EricB_67:
(11, 40111), (Start: 16 @40033 has 48 MA's), (19, 39967), (28, 39889), (31, 39832), (35, 39763), (36, 39757), (37, 39736), (39, 39709), (40, 39688),

Gene: Garak_70 Start: 40411, Stop: 40055, Start Num: 16
Candidate Starts for Garak_70:
(8, 40528), (9, 40525), (10, 40507), (Start: 16 @40411 has 48 MA's), (Start: 23 @40309 has 1 MA's), (29, 40264), (35, 40141), (37, 40114), (39, 40087), (40, 40066),

Gene: Gladiator_66 Start: 39636, Stop: 39280, Start Num: 16
Candidate Starts for Gladiator_66:
(8, 39753), (9, 39750), (10, 39732), (Start: 16 @39636 has 48 MA's), (Start: 23 @39534 has 1 MA's), (29, 39489), (35, 39366), (37, 39339), (39, 39312), (40, 39291),

Gene: GreedyLawyer_65 Start: 40006, Stop: 39650, Start Num: 16
Candidate Starts for GreedyLawyer_65:
(11, 40084), (Start: 16 @40006 has 48 MA's), (28, 39862), (31, 39805), (35, 39736), (37, 39709), (39, 39682), (40, 39661),

Gene: Gruunaga_69 Start: 40267, Stop: 40013, Start Num: 23
Candidate Starts for Gruunaga_69:
(8, 40486), (9, 40483), (10, 40465), (Start: 23 @40267 has 1 MA's), (29, 40222), (35, 40099), (37, 40072), (39, 40045), (40, 40024),

Gene: Hammer_69 Start: 39976, Stop: 39620, Start Num: 16
Candidate Starts for Hammer_69:
(8, 40093), (9, 40090), (10, 40072), (Start: 16 @39976 has 48 MA's), (Start: 23 @39874 has 1 MA's), (29, 39829), (35, 39706), (37, 39679), (39, 39652), (40, 39631),

Gene: Helmet_71 Start: 40411, Stop: 40055, Start Num: 16
Candidate Starts for Helmet_71:
(8, 40528), (9, 40525), (10, 40507), (Start: 16 @40411 has 48 MA's), (Start: 23 @40309 has 1 MA's), (29, 40264), (35, 40141), (37, 40114), (39, 40087), (40, 40066),

Gene: Hexamo_69 Start: 40041, Stop: 39685, Start Num: 16
Candidate Starts for Hexamo_69:
(8, 40158), (9, 40155), (10, 40137), (Start: 16 @40041 has 48 MA's), (Start: 23 @39939 has 1 MA's), (29, 39894), (35, 39771), (37, 39744), (39, 39717), (40, 39696),

Gene: Hoot_63 Start: 37891, Stop: 37535, Start Num: 16
Candidate Starts for Hoot_63:
(11, 37969), (Start: 16 @37891 has 48 MA's), (19, 37825), (28, 37747), (31, 37690), (35, 37621), (36, 37615), (37, 37594), (39, 37567), (40, 37546),

Gene: Indra_72 Start: 40412, Stop: 40056, Start Num: 16
Candidate Starts for Indra_72:

(8, 40529), (9, 40526), (10, 40508), (Start: 16 @40412 has 48 MA's), (Start: 23 @40310 has 1 MA's), (29, 40265), (35, 40142), (37, 40115), (39, 40088), (40, 40067),

Gene: Isiphiwo_66 Start: 39572, Stop: 39216, Start Num: 16
Candidate Starts for Isiphiwo_66:
(11, 39650), (Start: 16 @39572 has 48 MA's), (28, 39428), (31, 39371), (35, 39302), (37, 39275), (39, 39248), (40, 39227),

Gene: JSwag_74 Start: 40977, Stop: 40561, Start Num: 13
Candidate Starts for JSwag_74:
(Start: 12 @41007 has 1 MA's), (Start: 13 @40977 has 10 MA's), (14, 40965), (20, 40875), (22, 40848), (33, 40692), (38, 40611),

Gene: JSwag_47 Start: 30039, Stop: 29680, Start Num: 17
Candidate Starts for JSwag_47:
(2, 30441), (4, 30357), (Start: 17 @30039 has 21 MA's), (25, 29931), (39, 29715),

Gene: Jeffabunny_69 Start: 40038, Stop: 39682, Start Num: 16
Candidate Starts for Jeffabunny_69:
(8, 40155), (9, 40152), (10, 40134), (Start: 16 @40038 has 48 MA's), (Start: 23 @39936 has 1 MA's), (29, 39891), (35, 39768), (37, 39741), (39, 39714), (40, 39693),

Gene: JewelBug_68 Start: 40312, Stop: 39956, Start Num: 16
Candidate Starts for JewelBug_68:
(11, 40390), (Start: 16 @40312 has 48 MA's), (28, 40168), (31, 40111), (35, 40042), (36, 40036), (37, 40015), (39, 39988), (40, 39967),

Gene: Jordennis_67 Start: 39793, Stop: 39437, Start Num: 16
Candidate Starts for Jordennis_67:
(Start: 16 @39793 has 48 MA's), (19, 39727), (28, 39649), (31, 39592), (35, 39523), (37, 39496), (40, 39448),

Gene: KatherineG_75 Start: 41450, Stop: 41034, Start Num: 13
Candidate Starts for KatherineG_75:
(6, 41561), (Start: 12 @41480 has 1 MA's), (Start: 13 @41450 has 10 MA's), (14, 41438), (20, 41348), (22, 41321), (33, 41165), (38, 41084),

Gene: KatherineG_49 Start: 30542, Stop: 30183, Start Num: 17
Candidate Starts for KatherineG_49:
(Start: 15 @30545 has 1 MA's), (Start: 17 @30542 has 21 MA's), (25, 30434), (39, 30218),

Gene: Kazan_69 Start: 40046, Stop: 39690, Start Num: 16
Candidate Starts for Kazan_69:
(11, 40124), (Start: 16 @40046 has 48 MA's), (19, 39980), (28, 39902), (31, 39845), (35, 39776), (36, 39770), (37, 39749), (39, 39722), (40, 39701),

Gene: Kipper29_68 Start: 40059, Stop: 39703, Start Num: 16
Candidate Starts for Kipper29_68:
(11, 40137), (Start: 16 @40059 has 48 MA's), (19, 39993), (28, 39915), (31, 39858), (35, 39789), (36, 39783), (37, 39762), (39, 39735), (40, 39714),

Gene: Koko_71 Start: 40896, Stop: 40540, Start Num: 16
Candidate Starts for Koko_71:

(8, 41013), (9, 41010), (10, 40992), (Start: 16 @40896 has 48 MA's), (Start: 23 @40794 has 1 MA's), (29, 40749), (35, 40626), (37, 40599), (39, 40572), (40, 40551),

Gene: LastResort_47 Start: 30103, Stop: 29744, Start Num: 17
Candidate Starts for LastResort_47:
(Start: 15 @30106 has 1 MA's), (Start: 17 @30103 has 21 MA's), (25, 29995), (39, 29779),

Gene: Lilbunny_68 Start: 40042, Stop: 39686, Start Num: 16
Candidate Starts for Lilbunny_68:
(8, 40159), (9, 40156), (10, 40138), (Start: 16 @40042 has 48 MA's), (Start: 23 @39940 has 1 MA's), (29, 39895), (35, 39772), (37, 39745), (39, 39718), (40, 39697),

Gene: Looper_48 Start: 30080, Stop: 29721, Start Num: 17
Candidate Starts for Looper_48:
(Start: 15 @30083 has 1 MA's), (Start: 17 @30080 has 21 MA's), (25, 29972), (39, 29756),

Gene: Lucyedi_70 Start: 41927, Stop: 41568, Start Num: 16
Candidate Starts for Lucyedi_70:
(7, 42032), (8, 42029), (9, 42026), (Start: 16 @41927 has 48 MA's), (18, 41885), (21, 41852), (32, 41702), (34, 41657), (35, 41654), (40, 41579),

Gene: McFly_68 Start: 40005, Stop: 39649, Start Num: 16
Candidate Starts for McFly_68:
(11, 40083), (Start: 16 @40005 has 48 MA's), (28, 39861), (31, 39804), (35, 39735), (37, 39708), (39, 39681), (40, 39660),

Gene: MinecraftSteve_75 Start: 41265, Stop: 40849, Start Num: 13
Candidate Starts for MinecraftSteve_75:
(Start: 12 @41295 has 1 MA's), (Start: 13 @41265 has 10 MA's), (14, 41253), (20, 41163), (22, 41136), (33, 40980), (38, 40899),

Gene: MinecraftSteve_49 Start: 30303, Stop: 29944, Start Num: 17
Candidate Starts for MinecraftSteve_49:
(2, 30705), (4, 30621), (Start: 17 @30303 has 21 MA's), (25, 30195), (32, 30078), (39, 29979),

Gene: Nebulosus_72 Start: 40929, Stop: 40513, Start Num: 13
Candidate Starts for Nebulosus_72:
(Start: 12 @40959 has 1 MA's), (Start: 13 @40929 has 10 MA's), (14, 40917), (20, 40827), (22, 40800), (33, 40644), (38, 40563),

Gene: Nebulosus_47 Start: 30099, Stop: 29740, Start Num: 17
Candidate Starts for Nebulosus_47:
(Start: 15 @30102 has 1 MA's), (Start: 17 @30099 has 21 MA's), (25, 29991), (39, 29775),

Gene: Neeharika16_67 Start: 39472, Stop: 39116, Start Num: 16
Candidate Starts for Neeharika16_67:
(11, 39550), (Start: 16 @39472 has 48 MA's), (28, 39328), (31, 39271), (35, 39202), (37, 39175), (39, 39148), (40, 39127),

Gene: Newrala_68 Start: 40007, Stop: 39651, Start Num: 16
Candidate Starts for Newrala_68:
(11, 40085), (Start: 16 @40007 has 48 MA's), (28, 39863), (31, 39806), (35, 39737), (37, 39710), (39, 39683), (40, 39662),

Gene: Oofda_48 Start: 30194, Stop: 29835, Start Num: 17
Candidate Starts for Oofda_48:
(2, 30596), (4, 30512), (Start: 17 @30194 has 21 MA's), (25, 30086), (39, 29870),

Gene: PainterBoy_69 Start: 41636, Stop: 41277, Start Num: 16
Candidate Starts for PainterBoy_69:
(7, 41741), (8, 41738), (9, 41735), (Start: 16 @41636 has 48 MA's), (18, 41594), (21, 41561), (32, 41411), (34, 41366), (35, 41363), (40, 41288),

Gene: Pmask_67 Start: 40008, Stop: 39652, Start Num: 16
Candidate Starts for Pmask_67:
(11, 40086), (Start: 16 @40008 has 48 MA's), (28, 39864), (31, 39807), (35, 39738), (37, 39711), (39, 39684), (40, 39663),

Gene: Polyphemus_70 Start: 40393, Stop: 40037, Start Num: 16
Candidate Starts for Polyphemus_70:
(11, 40471), (Start: 16 @40393 has 48 MA's), (28, 40249), (31, 40192), (35, 40123), (37, 40096), (39, 40069), (40, 40048),

Gene: Priamo_70 Start: 39859, Stop: 39503, Start Num: 16
Candidate Starts for Priamo_70:
(11, 39937), (Start: 16 @39859 has 48 MA's), (28, 39715), (31, 39658), (35, 39589), (37, 39562), (40, 39514),

Gene: Ravana_50 Start: 30731, Stop: 30372, Start Num: 17
Candidate Starts for Ravana_50:
(Start: 17 @30731 has 21 MA's), (39, 30407),

Gene: ReMo_47 Start: 30100, Stop: 29741, Start Num: 17
Candidate Starts for ReMo_47:
(Start: 15 @30103 has 1 MA's), (Start: 17 @30100 has 21 MA's), (25, 29992), (39, 29776),

Gene: Remus_48 Start: 30019, Stop: 29660, Start Num: 17
Candidate Starts for Remus_48:
(1, 30424), (2, 30421), (4, 30337), (Start: 17 @30019 has 21 MA's), (25, 29911), (39, 29695),

Gene: Rifter_69 Start: 39572, Stop: 39216, Start Num: 16
Candidate Starts for Rifter_69:
(8, 39689), (9, 39686), (10, 39668), (Start: 16 @39572 has 48 MA's), (Start: 23 @39470 has 1 MA's), (29, 39425), (35, 39302), (37, 39275), (39, 39248), (40, 39227),

Gene: Roksolana_70 Start: 40406, Stop: 40050, Start Num: 16
Candidate Starts for Roksolana_70:
(8, 40523), (9, 40520), (10, 40502), (Start: 16 @40406 has 48 MA's), (Start: 23 @40304 has 1 MA's), (29, 40259), (35, 40136), (37, 40109), (39, 40082), (40, 40061),

Gene: Rosalind_73 Start: 41184, Stop: 40768, Start Num: 13
Candidate Starts for Rosalind_73:
(Start: 12 @41214 has 1 MA's), (Start: 13 @41184 has 10 MA's), (14, 41172), (20, 41082), (22, 41055), (33, 40899), (38, 40818),

Gene: Rosalind_47 Start: 30222, Stop: 29863, Start Num: 17

Candidate Starts for Rosalind_47:
(2, 30624), (4, 30540), (Start: 17 @30222 has 21 MA's), (25, 30114), (39, 29898),

Gene: ShayRa_49 Start: 30304, Stop: 29945, Start Num: 17
Candidate Starts for ShayRa_49:
(Start: 15 @30307 has 1 MA's), (Start: 17 @30304 has 21 MA's), (25, 30196), (39, 29980),

Gene: ShayRa_75 Start: 41213, Stop: 40797, Start Num: 13
Candidate Starts for ShayRa_75:
(Start: 12 @41243 has 1 MA's), (Start: 13 @41213 has 10 MA's), (14, 41201), (20, 41111), (22, 41084), (33, 40928), (38, 40847),

Gene: SmellyB_68 Start: 40040, Stop: 39684, Start Num: 16
Candidate Starts for SmellyB_68:
(11, 40118), (Start: 16 @40040 has 48 MA's), (19, 39974), (28, 39896), (31, 39839), (35, 39770), (36, 39764), (37, 39743), (39, 39716), (40, 39695),

Gene: Soups_48 Start: 30303, Stop: 29944, Start Num: 17
Candidate Starts for Soups_48:
(Start: 15 @30306 has 1 MA's), (Start: 17 @30303 has 21 MA's), (25, 30195), (39, 29979),

Gene: Soups_75 Start: 41477, Stop: 41061, Start Num: 13
Candidate Starts for Soups_75:
(Start: 12 @41507 has 1 MA's), (Start: 13 @41477 has 10 MA's), (14, 41465), (20, 41375), (22, 41348), (33, 41192), (38, 41111),

Gene: Strosahl_48 Start: 30019, Stop: 29660, Start Num: 17
Candidate Starts for Strosahl_48:
(1, 30424), (2, 30421), (4, 30337), (Start: 17 @30019 has 21 MA's), (25, 29911), (39, 29695),

Gene: SuperAwesome_68 Start: 40045, Stop: 39689, Start Num: 16
Candidate Starts for SuperAwesome_68:
(11, 40123), (Start: 16 @40045 has 48 MA's), (28, 39901), (31, 39844), (35, 39775), (37, 39748), (39, 39721), (40, 39700),

Gene: SuperCallie99_65 Start: 39892, Stop: 39536, Start Num: 16
Candidate Starts for SuperCallie99_65:
(11, 39970), (Start: 16 @39892 has 48 MA's), (28, 39748), (31, 39691), (35, 39622), (37, 39595), (39, 39568), (40, 39547),

Gene: Switzerland_48 Start: 30402, Stop: 30043, Start Num: 17
Candidate Starts for Switzerland_48:
(2, 30804), (4, 30720), (Start: 17 @30402 has 21 MA's), (25, 30294), (39, 30078),

Gene: Switzerland_74 Start: 41352, Stop: 40936, Start Num: 13
Candidate Starts for Switzerland_74:
(Start: 12 @41382 has 1 MA's), (Start: 13 @41352 has 10 MA's), (14, 41340), (20, 41250), (22, 41223), (33, 41067), (38, 40986),

Gene: Temprado_70 Start: 40411, Stop: 40055, Start Num: 16
Candidate Starts for Temprado_70:
(8, 40528), (9, 40525), (10, 40507), (Start: 16 @40411 has 48 MA's), (Start: 23 @40309 has 1 MA's), (29, 40264), (35, 40141), (37, 40114), (39, 40087), (40, 40066),

Gene: ToneTone_66 Start: 39971, Stop: 39615, Start Num: 16
Candidate Starts for ToneTone_66:
(8, 40088), (9, 40085), (10, 40067), (Start: 16 @39971 has 48 MA's), (Start: 23 @39869 has 1 MA's), (29, 39824), (35, 39701), (37, 39674), (39, 39647), (40, 39626),

Gene: Tucker_69 Start: 40174, Stop: 39818, Start Num: 16
Candidate Starts for Tucker_69:
(8, 40291), (9, 40288), (10, 40270), (Start: 16 @40174 has 48 MA's), (Start: 23 @40072 has 1 MA's), (29, 40027), (35, 39904), (37, 39877), (39, 39850), (40, 39829),

Gene: VohminGhazi_68 Start: 40041, Stop: 39685, Start Num: 16
Candidate Starts for VohminGhazi_68:
(11, 40119), (Start: 16 @40041 has 48 MA's), (19, 39975), (28, 39897), (31, 39840), (35, 39771), (36, 39765), (37, 39744), (39, 39717), (40, 39696),

Gene: Waits_48 Start: 30191, Stop: 29832, Start Num: 17
Candidate Starts for Waits_48:
(2, 30593), (4, 30509), (Start: 17 @30191 has 21 MA's), (25, 30083), (39, 29867),

Gene: Warrior24_49 Start: 30398, Stop: 30039, Start Num: 17
Candidate Starts for Warrior24_49:
(2, 30803), (4, 30719), (5, 30716), (Start: 17 @30398 has 21 MA's), (22, 30308), (24, 30299), (27, 30260), (39, 30074),

Gene: Wiks_68 Start: 40042, Stop: 39686, Start Num: 16
Candidate Starts for Wiks_68:
(8, 40159), (9, 40156), (10, 40138), (Start: 16 @40042 has 48 MA's), (Start: 23 @39940 has 1 MA's), (29, 39895), (35, 39772), (37, 39745), (39, 39718), (40, 39697),

Gene: WunderPhul_69 Start: 40040, Stop: 39684, Start Num: 16
Candidate Starts for WunderPhul_69:
(8, 40157), (9, 40154), (10, 40136), (Start: 16 @40040 has 48 MA's), (Start: 23 @39938 has 1 MA's), (29, 39893), (35, 39770), (37, 39743), (39, 39716), (40, 39695),

Gene: Yokurt_68 Start: 40042, Stop: 39686, Start Num: 16
Candidate Starts for Yokurt_68:
(8, 40159), (9, 40156), (10, 40138), (Start: 16 @40042 has 48 MA's), (Start: 23 @39940 has 1 MA's), (29, 39895), (35, 39772), (37, 39745), (39, 39718), (40, 39697),

Gene: Zaka_69 Start: 40042, Stop: 39686, Start Num: 16
Candidate Starts for Zaka_69:
(8, 40159), (9, 40156), (10, 40138), (Start: 16 @40042 has 48 MA's), (Start: 23 @39940 has 1 MA's), (29, 39895), (35, 39772), (37, 39745), (39, 39718), (40, 39697),

Gene: Zulu_70 Start: 40420, Stop: 40064, Start Num: 16
Candidate Starts for Zulu_70:
(8, 40537), (9, 40534), (10, 40516), (Start: 16 @40420 has 48 MA's), (Start: 23 @40318 has 1 MA's), (29, 40273), (35, 40150), (37, 40123), (39, 40096), (40, 40075),