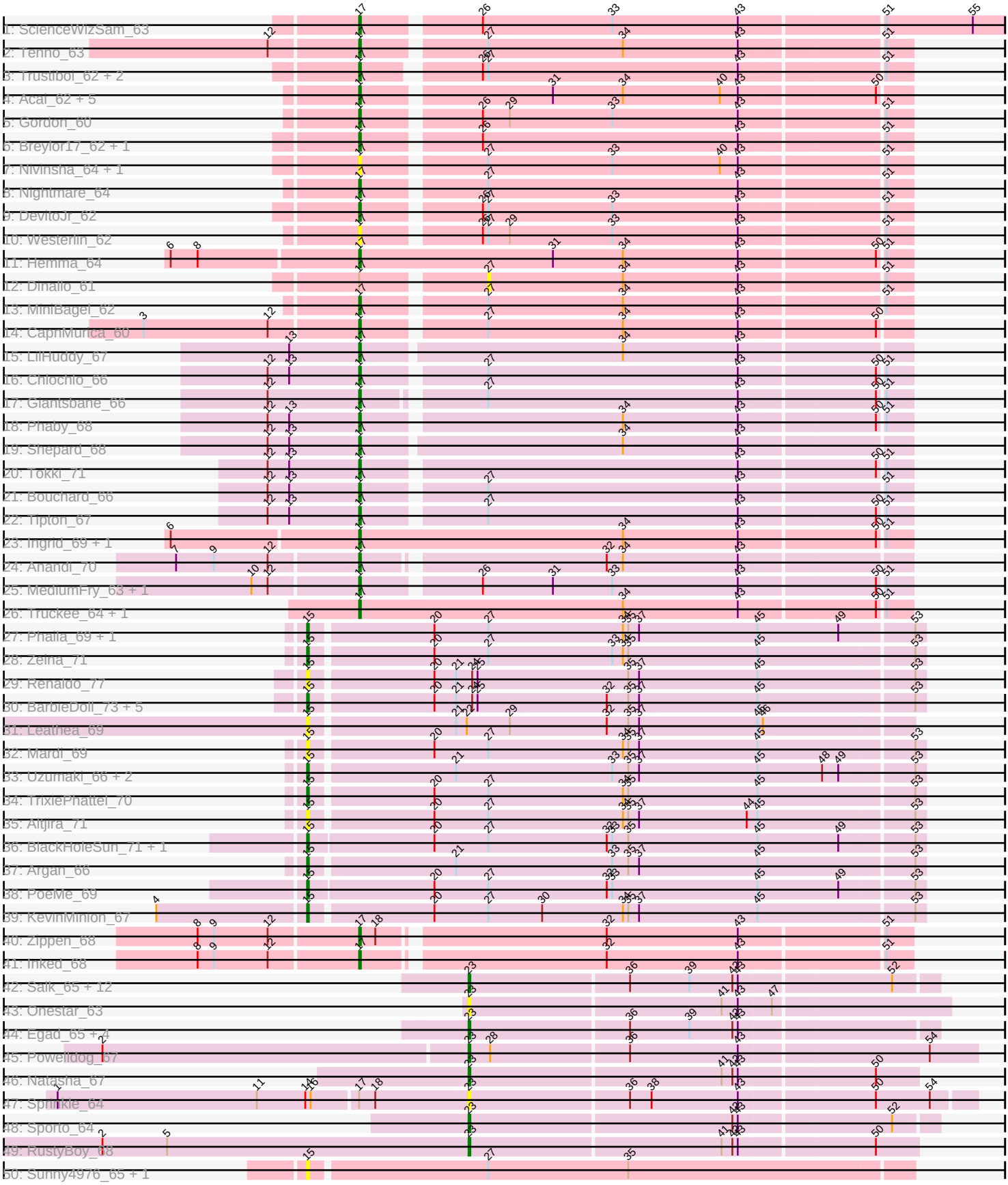
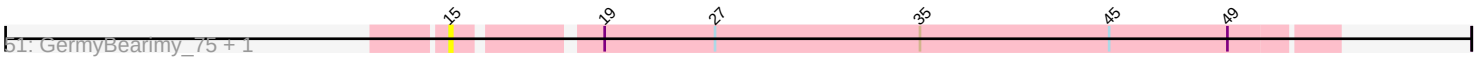
Pham 345613


1: ScienceWizSam_63
2: Tenno_63
3: Trustiboi_62 + 2
4: Acai_62 + 5
5: Gordon_60
6: Breylor17_62 + 1
7: Nivinsha_64 + 1
8: Nightmare_64
9: DevitoJr_62
10: Westerlin_62
11: Hemma_64
12: Dinallo_61
13: MiniBagel_62
14: CaphMunca_60
15: LilHuddy_67
16: Chiochio_66
17: Giantsbane_66
18: Phaby_68
19: Shepard_68
20: Tokki_71
21: Bouchard_66
22: Tipton_67
23: Ingrid_69 + 1
24: Anandi_70
25: MediumFry_63 + 1
26: Truckee_64 + 1
27: Phalla_69 + 1
28: Zeina_71
29: Renaldo_77
30: BarbieDoll_73 + 5
31: Leathea_69
32: Mardi_69
33: Uzumaki_66 + 2
34: TrixiePhattel_70
35: Altjira_71
36: BlackHoleSun_71 + 1
37: Argan_66
38: PoeMe_69
39: KevinMinion_67
40: Zippen_68
41: Inked_68
42: Salk_65 + 12
43: Onestar_63
44: Egad_65 + 4
45: Powelldog_67
46: Natasha_67
47: Sprinkle_64
48: Sporto_64
49: RustyBoy_68
50: Sunny4976_65 + 1

Pham 345613



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 345613 Report

This analysis was run 11/14/26 on database version 672.

Pham number 345613 has 90 members, 18 are drafts.

Phages represented in each track:
- Track 1 : ScienceWizSam_63
- Track 2 : Tenno_63
- Track 3 : Trustiboi_62, Darby_61, Synepsis_61
- Track 4 : Acai_62, Brunswick_63, LucySwiss_62, Niktson_62, ElephantMan_62, Teacup_63
- Track 5 : Gordon_60
- Track 6 : Breylor17_62, CastorTray_66
- Track 7 : Nivinsha_64, AreFloNak_65
- Track 8 : Nightmare_64
- Track 9 : DevitoJr_62
- Track 10 : Westerlin_62
- Track 11 : Hemma_64
- Track 12 : Dinallo_61
- Track 13 : MiniBagel_62
- Track 14 : CapnMurica_60
- Track 15 : LilHuddy_67
- Track 16 : Chlochlo_66
- Track 17 : Giantsbane_66
- Track 18 : Phaby_68
- Track 19 : Shepard_68
- Track 20 : Tokki_71
- Track 21 : Bouchard_66
- Track 22 : Tipton_67
- Track 23 : Ingrid_69, Loretta_66
- Track 24 : Anandi_70
- Track 25 : MediumFry_63, Caterpillar_62
- Track 26 : Truckee_64, Makai_66
- Track 27 : Phaila_69, Navi1117_71
- Track 28 : Zeina_71
- Track 29 : Renaldo_77
- Track 30 : BarbieDoll_73, Muglass_70, Barbonzobean_72, Biscute_69, Lewando_72, Kinny_72
- Track 31 : Leathea_69
- Track 32 : Mardi_69
- Track 33 : Uzumaki_66, GantcherGoblin_67, Tenney120_70
- Track 34 : TrixiePhattel_70
- Track 35 : Altjira_71

• Track 36 : BlackHoleSun_71, Stardrop_69
• Track 37 : Argan_66
• Track 38 : PoeMe_69
• Track 39 : KevinMinion_67
• Track 40 : Zippen_68
• Track 41 : Inked_68
• Track 42 : Salk_65, BronxBay_65, Shiba_64, MrAaronian_65, DoctorPepper_64, Sloopyjoe_65, Linda_65, Michelle_65, Jeremy4pt0_64, Djungelskog_64, Spain_65, Stayer_65, StarLord_65
• Track 43 : Onestar_63
• Track 44 : Egad_65, Raunak_65, Boog_64, HerbBucket_63, ProfFrink_65
• Track 45 : Powelldog_67
• Track 46 : Natasha_67
• Track 47 : Sprinkle_64
• Track 48 : Sporto_64
• Track 49 : RustyBoy_68
• Track 50 : Sunny4976_65, Jazzy4900_66
• Track 51 : GermyBearimy_75, Arzan_67

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

The start number called the most often in the published annotations is 17, it was called in 36 of the 72 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Acai_62, Anandi_70, AreFloNak_65, Bouchard_66, Breylor17_62, Brunswick_63, CapnMurica_60, CastorTray_66, Caterpillar_62, Chlochlo_66, Darby_61, DevitoJr_62, ElephantMan_62, Giantsbane_66, Gordon_60, Hemma_64, Ingrid_69, Inked_68, LilHuddy_67, Loretta_66, LucySwiss_62, Makai_66, MediumFry_63, MiniBagel_62, Nightmare_64, Niktson_62, Nivinsha_64, Phaby_68, ScienceWizSam_63, Shepard_68, Synepsis_61, Teacup_63, Tenno_63, Tipton_67, Tokki_71, Truckee_64, Trustiboi_62, Westerlin_62, Zippen_68,

Genes that have the "Most Annotated" start but do not call it:
• Dinallo_61, Sprinkle_64,

Genes that do not have the "Most Annotated" start:
• Altjira_71, Argan_66, Arzan_67, BarbieDoll_73, Barbonzobean_72, Biscute_69, BlackHoleSun_71, Boog_64, BronxBay_65, Djungelskog_64, DoctorPepper_64, Egad_65, GantcherGoblin_67, GermyBearimy_75, HerbBucket_63, Jazzy4900_66, Jeremy4pt0_64, KevinMinion_67, Kinny_72, Leathea_69, Lewando_72, Linda_65, Mardi_69, Michelle_65, MrAaronian_65, Muglass_70, Natasha_67, Navi1117_71, Onestar_63, Phaila_69, PoeMe_69, Powelldog_67, ProfFrink_65, Raunak_65, Renaldo_77, RustyBoy_68, Salk_65, Shiba_64, Sloopyjoe_65, Spain_65, Sporto_64, StarLord_65, Stardrop_69, Stayer_65, Sunny4976_65, Tenney120_70, TrixiePhattel_70, Uzumaki_66, Zeina_71,

Summary by start number:

Start 15:

• Found in 26 of 90 (28.9%) of genes in pham
• Manual Annotations of this start: 16 of 72
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Altjira_71 (AU6), Argan_66 (AU6), Arzan_67 (FI), BarbieDoll_73 (AU6), Barbonzobean_72 (AU6), Biscute_69 (AU6), BlackHoleSun_71 (AU6), GantcherGoblin_67 (AU6), GermyBearimy_75 (FI), Jazzy4900_66 (FI), KevinMinion_67 (AU6), Kinny_72 (AU6), Leathea_69 (AU6), Lewando_72 (AU6), Mardi_69 (AU6), Muglass_70 (AU6), Navi1117_71 (AU6), Phaila_69 (AU6), PoeMe_69 (AU6), Renaldo_77 (AU6), Stardrop_69 (AU6), Sunny4976_65 (FI), Tenney120_70 (AU6), TrixiePhattel_70 (AU6), Uzumaki_66 (AU6), Zeina_71 (AU6),

Start 17:
• Found in 41 of 90 (45.6%) of genes in pham
• Manual Annotations of this start: 36 of 72
• Called 95.1% of time when present
• Phage (with cluster) where this start called: Acai_62 (AU1), Anandi_70 (AU4), AreFloNak_65 (AU1), Bouchard_66 (AU2), Breylor17_62 (AU1), Brunswick_63 (AU1), CapnMurica_60 (AU1), CastorTray_66 (AU1), Caterpillar_62 (AU4), Chlochlo_66 (AU2), Darby_61 (AU1), DevitoJr_62 (AU1), ElephantMan_62 (AU1), Giantsbane_66 (AU2), Gordon_60 (AU1), Hemma_64 (AU1), Ingrid_69 (AU3), Inked_68 (AU7), LilHuddy_67 (AU2), Loretta_66 (AU3), LucySwiss_62 (AU1), Makai_66 (AU5), MediumFry_63 (AU4), MiniBagel_62 (AU1), Nightmare_64 (AU1), Niktson_62 (AU1), Nivinsha_64 (AU1), Phaby_68 (AU2), ScienceWizSam_63 (AU1), Shepard_68 (AU2), Synepsis_61 (AU1), Teacup_63 (AU1), Tenno_63 (AU1), Tipton_67 (AU2), Tokki_71 (AU2), Truckee_64 (AU5), Trustiboi_62 (AU1), Westerlin_62 (AU1), Zippen_68 (AU7),

Start 23:
• Found in 24 of 90 (26.7%) of genes in pham
• Manual Annotations of this start: 20 of 72
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Boog_64 (AW), BronxBay_65 (AW), Djungelskog_64 (AW), DoctorPepper_64 (AW), Egad_65 (AW), HerbBucket_63 (AW), Jeremy4pt0_64 (AW), Linda_65 (AW), Michelle_65 (AW), MrAaronian_65 (AW), Natasha_67 (AW), Onestar_63 (AW), Powelldog_67 (AW), ProfFrink_65 (AW), Raunak_65 (AW), RustyBoy_68 (AW), Salk_65 (AW), Shiba_64 (AW), Sloopyjoe_65 (AW), Spain_65 (AW), Sporto_64 (AW), Sprinkle_64 (AW), StarLord_65 (AW), Stayer_65 (AW),

Start 27:
• Found in 30 of 90 (33.3%) of genes in pham
• No Manual Annotations of this start.
• Called 3.3% of time when present
• Phage (with cluster) where this start called: Dinallo_61 (AU1),

Summary by clusters:

There are 9 clusters represented in this pham: AU7, AU1, AU3, AU2, AU5, AU4, AW, AU6, FI,

Info for manual annotations of cluster AU1:
•Start number 17 was manually annotated 19 times for cluster AU1.

Info for manual annotations of cluster AU2:
•Start number 17 was manually annotated 8 times for cluster AU2.

Info for manual annotations of cluster AU3:
•Start number 17 was manually annotated 2 times for cluster AU3.

Info for manual annotations of cluster AU4:
•Start number 17 was manually annotated 3 times for cluster AU4.

Info for manual annotations of cluster AU5:
•Start number 17 was manually annotated 2 times for cluster AU5.

Info for manual annotations of cluster AU6:
•Start number 15 was manually annotated 16 times for cluster AU6.

Info for manual annotations of cluster AU7:
•Start number 17 was manually annotated 2 times for cluster AU7.

Info for manual annotations of cluster AW:
•Start number 23 was manually annotated 20 times for cluster AW.

Gene Information:

Gene: Acai_62 Start: 44324, Stop: 44614, Start Num: 17
Candidate Starts for Acai_62:
(Start: 17 @44324 has 36 MA's), (31, 44423), (34, 44462), (40, 44516), (43, 44525), (50, 44597),

Gene: Altjira_71 Start: 44527, Stop: 44862, Start Num: 15
Candidate Starts for Altjira_71:
(Start: 15 @44527 has 16 MA's), (20, 44593), (27, 44623), (34, 44698), (35, 44701), (37, 44707), (44, 44767), (45, 44773), (53, 44857),

Gene: Anandi_70 Start: 44977, Stop: 45264, Start Num: 17
Candidate Starts for Anandi_70:
(7, 44878), (9, 44899), (12, 44929), (Start: 17 @44977 has 36 MA's), (32, 45103), (34, 45112), (43, 45175),

Gene: AreFloNak_65 Start: 44289, Stop: 44579, Start Num: 17
Candidate Starts for AreFloNak_65:
(Start: 17 @44289 has 36 MA's), (27, 44352), (33, 44421), (40, 44481), (43, 44490), (51, 44565),

Gene: Argan_66 Start: 43247, Stop: 43582, Start Num: 15
Candidate Starts for Argan_66:
(Start: 15 @43247 has 16 MA's), (21, 43325), (33, 43412), (35, 43421), (37, 43427), (45, 43493), (53, 43577),

Gene: Arzan_67 Start: 44099, Stop: 44422, Start Num: 15
Candidate Starts for Arzan_67:
(Start: 15 @44099 has 16 MA's), (19, 44147), (27, 44189), (35, 44267), (45, 44339), (49, 44384),

Gene: BarbieDoll_73 Start: 44960, Stop: 45295, Start Num: 15
Candidate Starts for BarbieDoll_73:
(Start: 15 @44960 has 16 MA's), (20, 45026), (21, 45038), (24, 45047), (25, 45050), (32, 45122), (35, 45134), (37, 45140), (45, 45206), (53, 45290),

Gene: Barbonzobean_72 Start: 45208, Stop: 45543, Start Num: 15
Candidate Starts for Barbonzobean_72:
(Start: 15 @45208 has 16 MA's), (20, 45274), (21, 45286), (24, 45295), (25, 45298), (32, 45370), (35, 45382), (37, 45388), (45, 45454), (53, 45538),

Gene: Biscute_69 Start: 44612, Stop: 44947, Start Num: 15
Candidate Starts for Biscute_69:
(Start: 15 @44612 has 16 MA's), (20, 44678), (21, 44690), (24, 44699), (25, 44702), (32, 44774), (35, 44786), (37, 44792), (45, 44858), (53, 44942),

Gene: BlackHoleSun_71 Start: 43365, Stop: 43703, Start Num: 15
Candidate Starts for BlackHoleSun_71:
(Start: 15 @43365 has 16 MA's), (20, 43434), (27, 43464), (32, 43530), (33, 43533), (35, 43542), (45, 43614), (49, 43659), (53, 43698),

Gene: Boog_64 Start: 42243, Stop: 42494, Start Num: 23
Candidate Starts for Boog_64:
(Start: 23 @42243 has 20 MA's), (36, 42330), (39, 42363), (42, 42387), (43, 42390),

Gene: Bouchard_66 Start: 44943, Stop: 45233, Start Num: 17
Candidate Starts for Bouchard_66:
(12, 44892), (13, 44904), (Start: 17 @44943 has 36 MA's), (27, 45006), (43, 45144), (51, 45219),

Gene: Breylor17_62 Start: 44864, Stop: 45154, Start Num: 17
Candidate Starts for Breylor17_62:
(Start: 17 @44864 has 36 MA's), (26, 44924), (43, 45065), (51, 45140),

Gene: BronxBay_65 Start: 42499, Stop: 42750, Start Num: 23
Candidate Starts for BronxBay_65:
(Start: 23 @42499 has 20 MA's), (36, 42586), (39, 42619), (42, 42643), (43, 42646), (52, 42727),

Gene: Brunswick_63 Start: 44167, Stop: 44457, Start Num: 17
Candidate Starts for Brunswick_63:
(Start: 17 @44167 has 36 MA's), (31, 44266), (34, 44305), (40, 44359), (43, 44368), (50, 44440),

Gene: CapnMurica_60 Start: 45050, Stop: 45340, Start Num: 17
Candidate Starts for CapnMurica_60:
(3, 44933), (12, 45002), (Start: 17 @45050 has 36 MA's), (27, 45113), (34, 45188), (43, 45251), (50, 45323),

Gene: CastorTray_66 Start: 45053, Stop: 45343, Start Num: 17
Candidate Starts for CastorTray_66:
(Start: 17 @45053 has 36 MA's), (26, 45113), (43, 45254), (51, 45329),

Gene: Caterpillar_62 Start: 43978, Stop: 44268, Start Num: 17
Candidate Starts for Caterpillar_62:
(10, 43921), (12, 43930), (Start: 17 @43978 has 36 MA's), (26, 44038), (31, 44077), (33, 44110), (43, 44179), (50, 44251), (51, 44254),

Gene: Chlochlo_66 Start: 44469, Stop: 44759, Start Num: 17
Candidate Starts for Chlochlo_66:
(12, 44418), (13, 44430), (Start: 17 @44469 has 36 MA's), (27, 44532), (43, 44670), (50, 44742), (51, 44745),

Gene: Darby_61 Start: 44099, Stop: 44389, Start Num: 17
Candidate Starts for Darby_61:
(Start: 17 @44099 has 36 MA's), (26, 44159), (27, 44162), (43, 44300), (51, 44375),

Gene: DevitoJr_62 Start: 44485, Stop: 44775, Start Num: 17
Candidate Starts for DevitoJr_62:
(Start: 17 @44485 has 36 MA's), (26, 44545), (27, 44548), (33, 44617), (43, 44686), (51, 44761),

Gene: Dinallo_61 Start: 45423, Stop: 45650, Start Num: 27
Candidate Starts for Dinallo_61:
(Start: 17 @45360 has 36 MA's), (27, 45423), (34, 45498), (43, 45561), (51, 45636),

Gene: Djungelskog_64 Start: 42498, Stop: 42749, Start Num: 23
Candidate Starts for Djungelskog_64:
(Start: 23 @42498 has 20 MA's), (36, 42585), (39, 42618), (42, 42642), (43, 42645), (52, 42726),

Gene: DoctorPepper_64 Start: 42203, Stop: 42454, Start Num: 23
Candidate Starts for DoctorPepper_64:
(Start: 23 @42203 has 20 MA's), (36, 42290), (39, 42323), (42, 42347), (43, 42350), (52, 42431),

Gene: Egad_65 Start: 42494, Stop: 42745, Start Num: 23
Candidate Starts for Egad_65:
(Start: 23 @42494 has 20 MA's), (36, 42581), (39, 42614), (42, 42638), (43, 42641),

Gene: ElephantMan_62 Start: 44797, Stop: 45087, Start Num: 17
Candidate Starts for ElephantMan_62:
(Start: 17 @44797 has 36 MA's), (31, 44896), (34, 44935), (40, 44989), (43, 44998), (50, 45070),

Gene: GantcherGoblin_67 Start: 43303, Stop: 43638, Start Num: 15
Candidate Starts for GantcherGoblin_67:
(Start: 15 @43303 has 16 MA's), (21, 43381), (33, 43468), (35, 43477), (37, 43483), (45, 43549), (48, 43585), (49, 43594), (53, 43633),

Gene: GermyBearimy_75 Start: 45669, Stop: 45992, Start Num: 15
Candidate Starts for GermyBearimy_75:
(Start: 15 @45669 has 16 MA's), (19, 45717), (27, 45759), (35, 45837), (45, 45909), (49, 45954),

Gene: Giantsbane_66 Start: 43674, Stop: 43961, Start Num: 17
Candidate Starts for Giantsbane_66:
(12, 43623), (Start: 17 @43674 has 36 MA's), (27, 43734), (43, 43872), (50, 43944), (51, 43947),

Gene: Gordon_60 Start: 44977, Stop: 45267, Start Num: 17
Candidate Starts for Gordon_60:
(Start: 17 @44977 has 36 MA's), (26, 45037), (29, 45052), (33, 45109), (43, 45178), (51, 45253),

Gene: Hemma_64 Start: 41564, Stop: 41863, Start Num: 17
Candidate Starts for Hemma_64:

(6, 41462), (8, 41477), (Start: 17 @41564 has 36 MA's), (31, 41672), (34, 41711), (43, 41774), (50, 41846), (51, 41849),

Gene: HerbBucket_63 Start: 42225, Stop: 42476, Start Num: 23
Candidate Starts for HerbBucket_63:
(Start: 23 @42225 has 20 MA's), (36, 42312), (39, 42345), (42, 42369), (43, 42372),

Gene: Ingrid_69 Start: 44855, Stop: 45154, Start Num: 17
Candidate Starts for Ingrid_69:
(6, 44753), (Start: 17 @44855 has 36 MA's), (34, 45002), (43, 45065), (50, 45137), (51, 45140),

Gene: Inked_68 Start: 45528, Stop: 45815, Start Num: 17
Candidate Starts for Inked_68:
(8, 45441), (9, 45450), (12, 45480), (Start: 17 @45528 has 36 MA's), (32, 45654), (43, 45726), (51, 45801),

Gene: Jazzy4900_66 Start: 44859, Stop: 45188, Start Num: 15
Candidate Starts for Jazzy4900_66:
(Start: 15 @44859 has 16 MA's), (27, 44955), (35, 45033),

Gene: Jeremy4pt0_64 Start: 42198, Stop: 42449, Start Num: 23
Candidate Starts for Jeremy4pt0_64:
(Start: 23 @42198 has 20 MA's), (36, 42285), (39, 42318), (42, 42342), (43, 42345), (52, 42426),

Gene: KevinMinion_67 Start: 44198, Stop: 44533, Start Num: 15
Candidate Starts for KevinMinion_67:
(4, 44117), (Start: 15 @44198 has 16 MA's), (20, 44264), (27, 44294), (30, 44324), (34, 44369), (35, 44372), (37, 44378), (45, 44444), (53, 44528),

Gene: Kinny_72 Start: 45440, Stop: 45775, Start Num: 15
Candidate Starts for Kinny_72:
(Start: 15 @45440 has 16 MA's), (20, 45506), (21, 45518), (24, 45527), (25, 45530), (32, 45602), (35, 45614), (37, 45620), (45, 45686), (53, 45770),

Gene: Leathea_69 Start: 43211, Stop: 43540, Start Num: 15
Candidate Starts for Leathea_69:
(Start: 15 @43211 has 16 MA's), (21, 43289), (22, 43295), (29, 43319), (32, 43373), (35, 43385), (37, 43391), (45, 43457), (46, 43460),

Gene: Lewando_72 Start: 45032, Stop: 45367, Start Num: 15
Candidate Starts for Lewando_72:
(Start: 15 @45032 has 16 MA's), (20, 45098), (21, 45110), (24, 45119), (25, 45122), (32, 45194), (35, 45206), (37, 45212), (45, 45278), (53, 45362),

Gene: LilHuddy_67 Start: 44781, Stop: 45074, Start Num: 17
Candidate Starts for LilHuddy_67:
(13, 44742), (Start: 17 @44781 has 36 MA's), (34, 44922), (43, 44985),

Gene: Linda_65 Start: 42496, Stop: 42747, Start Num: 23
Candidate Starts for Linda_65:
(Start: 23 @42496 has 20 MA's), (36, 42583), (39, 42616), (42, 42640), (43, 42643), (52, 42724),

Gene: Loretta_66 Start: 44855, Stop: 45154, Start Num: 17

Candidate Starts for Loretta_66:
(6, 44753), (Start: 17 @44855 has 36 MA's), (34, 45002), (43, 45065), (50, 45137), (51, 45140),

Gene: LucySwiss_62 Start: 43948, Stop: 44238, Start Num: 17
Candidate Starts for LucySwiss_62:
(Start: 17 @43948 has 36 MA's), (31, 44047), (34, 44086), (40, 44140), (43, 44149), (50, 44221),

Gene: Makai_66 Start: 44929, Stop: 45228, Start Num: 17
Candidate Starts for Makai_66:
(Start: 17 @44929 has 36 MA's), (34, 45076), (43, 45139), (50, 45211), (51, 45214),

Gene: Mardi_69 Start: 43768, Stop: 44103, Start Num: 15
Candidate Starts for Mardi_69:
(Start: 15 @43768 has 16 MA's), (20, 43834), (27, 43864), (34, 43939), (35, 43942), (37, 43948), (45, 44014), (53, 44098),

Gene: MediumFry_63 Start: 44274, Stop: 44564, Start Num: 17
Candidate Starts for MediumFry_63:
(10, 44217), (12, 44226), (Start: 17 @44274 has 36 MA's), (26, 44334), (31, 44373), (33, 44406), (43, 44475), (50, 44547), (51, 44550),

Gene: Michelle_65 Start: 42498, Stop: 42749, Start Num: 23
Candidate Starts for Michelle_65:
(Start: 23 @42498 has 20 MA's), (36, 42585), (39, 42618), (42, 42642), (43, 42645), (52, 42726),

Gene: MiniBagel_62 Start: 45041, Stop: 45331, Start Num: 17
Candidate Starts for MiniBagel_62:
(Start: 17 @45041 has 36 MA's), (27, 45104), (34, 45179), (43, 45242), (51, 45317),

Gene: MrAaronian_65 Start: 42498, Stop: 42749, Start Num: 23
Candidate Starts for MrAaronian_65:
(Start: 23 @42498 has 20 MA's), (36, 42585), (39, 42618), (42, 42642), (43, 42645), (52, 42726),

Gene: Muglass_70 Start: 44516, Stop: 44851, Start Num: 15
Candidate Starts for Muglass_70:
(Start: 15 @44516 has 16 MA's), (20, 44582), (21, 44594), (24, 44603), (25, 44606), (32, 44678), (35, 44690), (37, 44696), (45, 44762), (53, 44846),

Gene: Natasha_67 Start: 42448, Stop: 42690, Start Num: 23
Candidate Starts for Natasha_67:
(Start: 23 @42448 has 20 MA's), (41, 42586), (42, 42592), (43, 42595), (50, 42667),

Gene: Navi1117_71 Start: 44207, Stop: 44542, Start Num: 15
Candidate Starts for Navi1117_71:
(Start: 15 @44207 has 16 MA's), (20, 44273), (27, 44303), (34, 44378), (35, 44381), (37, 44387), (45, 44453), (49, 44498), (53, 44537),

Gene: Nightmare_64 Start: 45339, Stop: 45629, Start Num: 17
Candidate Starts for Nightmare_64:
(Start: 17 @45339 has 36 MA's), (27, 45402), (43, 45540), (51, 45615),

Gene: Niktson_62 Start: 44797, Stop: 45087, Start Num: 17
Candidate Starts for Niktson_62:

(Start: 17 @44797 has 36 MA's), (31, 44896), (34, 44935), (40, 44989), (43, 44998), (50, 45070),

Gene: Nivinsha_64 Start: 44289, Stop: 44579, Start Num: 17
Candidate Starts for Nivinsha_64:
(Start: 17 @44289 has 36 MA's), (27, 44352), (33, 44421), (40, 44481), (43, 44490), (51, 44565),

Gene: Onestar_63 Start: 42253, Stop: 42513, Start Num: 23
Candidate Starts for Onestar_63:
(Start: 23 @42253 has 20 MA's), (41, 42391), (43, 42400), (47, 42418),

Gene: Phaby_68 Start: 45345, Stop: 45635, Start Num: 17
Candidate Starts for Phaby_68:
(12, 45294), (13, 45306), (Start: 17 @45345 has 36 MA's), (34, 45483), (43, 45546), (50, 45618), (51, 45621),

Gene: Phaila_69 Start: 43433, Stop: 43768, Start Num: 15
Candidate Starts for Phaila_69:
(Start: 15 @43433 has 16 MA's), (20, 43499), (27, 43529), (34, 43604), (35, 43607), (37, 43613), (45, 43679), (49, 43724), (53, 43763),

Gene: PoeMe_69 Start: 43918, Stop: 44256, Start Num: 15
Candidate Starts for PoeMe_69:
(Start: 15 @43918 has 16 MA's), (20, 43987), (27, 44017), (32, 44083), (33, 44086), (45, 44167), (49, 44212), (53, 44251),

Gene: Powelldog_67 Start: 42912, Stop: 43187, Start Num: 23
Candidate Starts for Powelldog_67:
(2, 42711), (Start: 23 @42912 has 20 MA's), (28, 42924), (36, 42999), (43, 43059), (54, 43161),

Gene: ProfFrink_65 Start: 42493, Stop: 42744, Start Num: 23
Candidate Starts for ProfFrink_65:
(Start: 23 @42493 has 20 MA's), (36, 42580), (39, 42613), (42, 42637), (43, 42640),

Gene: Raunak_65 Start: 42154, Stop: 42405, Start Num: 23
Candidate Starts for Raunak_65:
(Start: 23 @42154 has 20 MA's), (36, 42241), (39, 42274), (42, 42298), (43, 42301),

Gene: Renaldo_77 Start: 45398, Stop: 45733, Start Num: 15
Candidate Starts for Renaldo_77:
(Start: 15 @45398 has 16 MA's), (20, 45464), (21, 45476), (24, 45485), (25, 45488), (35, 45572), (37, 45578), (45, 45644), (53, 45728),

Gene: RustyBoy_68 Start: 42647, Stop: 42889, Start Num: 23
Candidate Starts for RustyBoy_68:
(2, 42443), (5, 42479), (Start: 23 @42647 has 20 MA's), (41, 42785), (42, 42791), (43, 42794), (50, 42866),

Gene: Salk_65 Start: 42496, Stop: 42747, Start Num: 23
Candidate Starts for Salk_65:
(Start: 23 @42496 has 20 MA's), (36, 42583), (39, 42616), (42, 42640), (43, 42643), (52, 42724),

Gene: ScienceWizSam_63 Start: 44451, Stop: 44792, Start Num: 17
Candidate Starts for ScienceWizSam_63:

(Start: 17 @44451 has 36 MA's), (26, 44511), (33, 44583), (43, 44652), (51, 44727), (55, 44775),

Gene: Shepard_68 Start: 44640, Stop: 44933, Start Num: 17
Candidate Starts for Shepard_68:
(12, 44589), (13, 44601), (Start: 17 @44640 has 36 MA's), (34, 44781), (43, 44844),

Gene: Shiba_64 Start: 42154, Stop: 42405, Start Num: 23
Candidate Starts for Shiba_64:
(Start: 23 @42154 has 20 MA's), (36, 42241), (39, 42274), (42, 42298), (43, 42301), (52, 42382),

Gene: Sloopyjoe_65 Start: 42500, Stop: 42751, Start Num: 23
Candidate Starts for Sloopyjoe_65:
(Start: 23 @42500 has 20 MA's), (36, 42587), (39, 42620), (42, 42644), (43, 42647), (52, 42728),

Gene: Spain_65 Start: 42498, Stop: 42749, Start Num: 23
Candidate Starts for Spain_65:
(Start: 23 @42498 has 20 MA's), (36, 42585), (39, 42618), (42, 42642), (43, 42645), (52, 42726),

Gene: Sporto_64 Start: 43615, Stop: 43866, Start Num: 23
Candidate Starts for Sporto_64:
(Start: 23 @43615 has 20 MA's), (42, 43759), (43, 43762), (52, 43843),

Gene: Sprinkle_64 Start: 42655, Stop: 42927, Start Num: 23
Candidate Starts for Sprinkle_64:
(1, 42430), (11, 42541), (14, 42568), (16, 42571), (Start: 17 @42595 has 36 MA's), (18, 42604), (Start: 23 @42655 has 20 MA's), (36, 42742), (38, 42754), (43, 42802), (50, 42874), (54, 42904),

Gene: StarLord_65 Start: 42493, Stop: 42744, Start Num: 23
Candidate Starts for StarLord_65:
(Start: 23 @42493 has 20 MA's), (36, 42580), (39, 42613), (42, 42637), (43, 42640), (52, 42721),

Gene: Stardrop_69 Start: 44020, Stop: 44358, Start Num: 15
Candidate Starts for Stardrop_69:
(Start: 15 @44020 has 16 MA's), (20, 44089), (27, 44119), (32, 44185), (33, 44188), (35, 44197), (45, 44269), (49, 44314), (53, 44353),

Gene: Stayer_65 Start: 42496, Stop: 42747, Start Num: 23
Candidate Starts for Stayer_65:
(Start: 23 @42496 has 20 MA's), (36, 42583), (39, 42616), (42, 42640), (43, 42643), (52, 42724),

Gene: Sunny4976_65 Start: 44859, Stop: 45188, Start Num: 15
Candidate Starts for Sunny4976_65:
(Start: 15 @44859 has 16 MA's), (27, 44955), (35, 45033),

Gene: Synepsis_61 Start: 44455, Stop: 44742, Start Num: 17
Candidate Starts for Synepsis_61:
(Start: 17 @44455 has 36 MA's), (26, 44512), (27, 44515), (43, 44653), (51, 44728),

Gene: Teacup_63 Start: 44876, Stop: 45166, Start Num: 17
Candidate Starts for Teacup_63:
(Start: 17 @44876 has 36 MA's), (31, 44975), (34, 45014), (40, 45068), (43, 45077), (50, 45149),

Gene: Tenney120_70 Start: 43963, Stop: 44298, Start Num: 15

Candidate Starts for Tenney120_70:
(Start: 15 @43963 has 16 MA's), (21, 44041), (33, 44128), (35, 44137), (37, 44143), (45, 44209), (48, 44245), (49, 44254), (53, 44293),

Gene: Tenno_63 Start: 45105, Stop: 45395, Start Num: 17
Candidate Starts for Tenno_63:
(12, 45057), (Start: 17 @45105 has 36 MA's), (27, 45168), (34, 45243), (43, 45306), (51, 45381),

Gene: Tipton_67 Start: 44963, Stop: 45253, Start Num: 17
Candidate Starts for Tipton_67:
(12, 44912), (13, 44924), (Start: 17 @44963 has 36 MA's), (27, 45026), (43, 45164), (50, 45236), (51, 45239),

Gene: Tokki_71 Start: 44994, Stop: 45284, Start Num: 17
Candidate Starts for Tokki_71:
(12, 44943), (13, 44955), (Start: 17 @44994 has 36 MA's), (43, 45195), (50, 45267), (51, 45270),

Gene: TrixiePhattel_70 Start: 43595, Stop: 43930, Start Num: 15
Candidate Starts for TrixiePhattel_70:
(Start: 15 @43595 has 16 MA's), (20, 43661), (27, 43691), (34, 43766), (35, 43769), (45, 43841), (53, 43925),

Gene: Truckee_64 Start: 44713, Stop: 45012, Start Num: 17
Candidate Starts for Truckee_64:
(Start: 17 @44713 has 36 MA's), (34, 44860), (43, 44923), (50, 44995), (51, 44998),

Gene: Trustiboi_62 Start: 44710, Stop: 44997, Start Num: 17
Candidate Starts for Trustiboi_62:
(Start: 17 @44710 has 36 MA's), (26, 44767), (27, 44770), (43, 44908), (51, 44983),

Gene: Uzumaki_66 Start: 43404, Stop: 43739, Start Num: 15
Candidate Starts for Uzumaki_66:
(Start: 15 @43404 has 16 MA's), (21, 43482), (33, 43569), (35, 43578), (37, 43584), (45, 43650), (48, 43686), (49, 43695), (53, 43734),

Gene: Westerlin_62 Start: 45796, Stop: 46086, Start Num: 17
Candidate Starts for Westerlin_62:
(Start: 17 @45796 has 36 MA's), (26, 45856), (27, 45859), (29, 45871), (33, 45928), (43, 45997), (51, 46072),

Gene: Zeina_71 Start: 44101, Stop: 44436, Start Num: 15
Candidate Starts for Zeina_71:
(Start: 15 @44101 has 16 MA's), (20, 44167), (27, 44197), (33, 44266), (34, 44272), (35, 44275), (45, 44347), (53, 44431),

Gene: Zippen_68 Start: 45396, Stop: 45683, Start Num: 17
Candidate Starts for Zippen_68:
(8, 45309), (9, 45318), (12, 45348), (Start: 17 @45396 has 36 MA's), (18, 45405), (32, 45522), (43, 45594), (51, 45669),