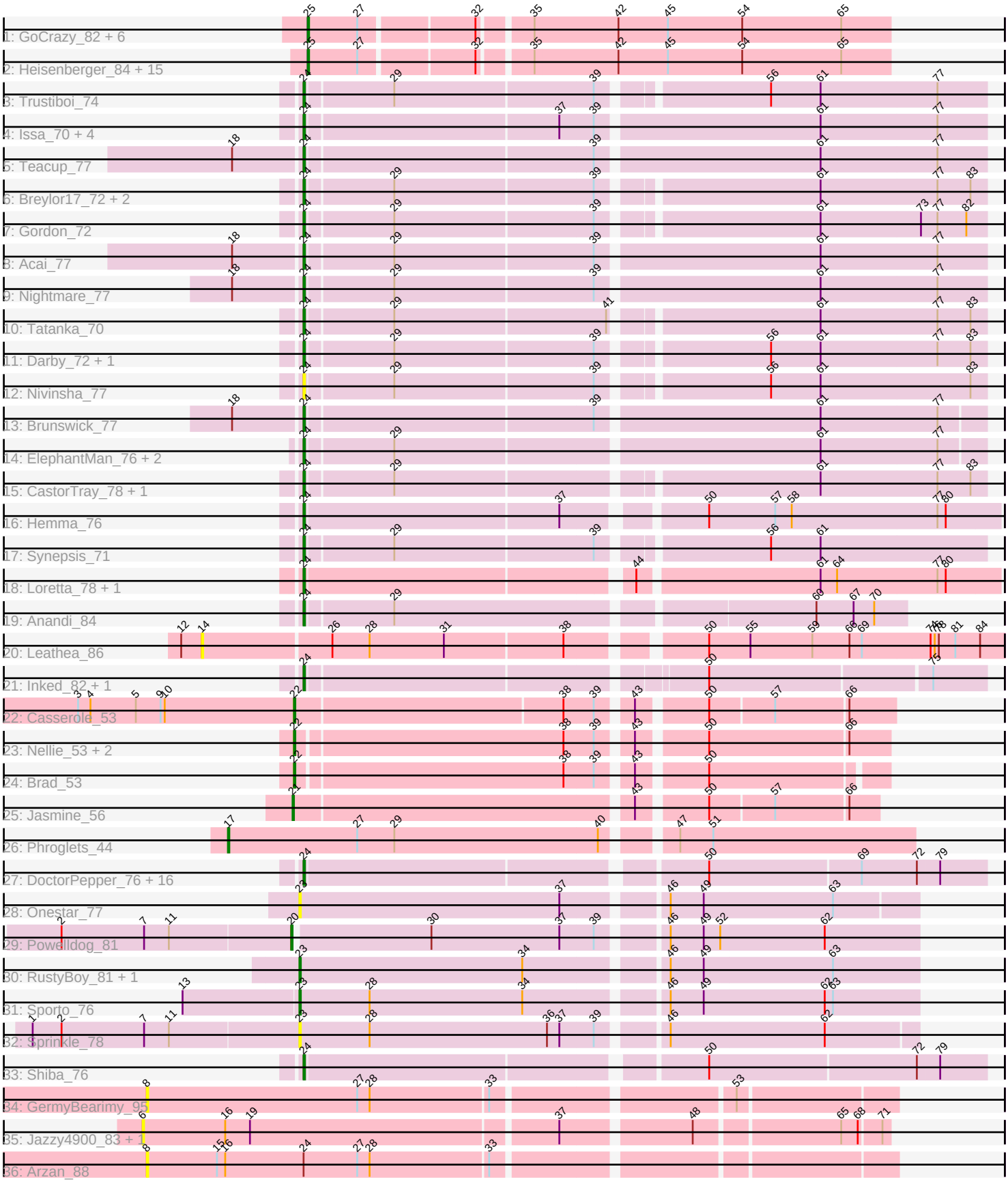
Pham 347491


1: GoCrazy_82 + 6
2: Heisenberger_84 + 15
3: Trustiboi_74
4: Issa_70 + 4
5: Teacup_77
6: Breylor17_72 + 2
7: Gordon_72
8: Acai_77
9: Nightmare_77
10: Tatanka_70
11: Darby_72 + 1
12: Nivinsha_77
13: Brunswick_77
14: ElephantMan_76 + 2
15: CastorTray_78 + 1
16: Hemma_76
17: Synepsis_71
18: Loretta_78 + 1
19: Anandi_84
20: Leathea_86
21: Inked_82 + 1
22: Casserole_53
23: Nellie_53 + 2
24: Brad_53
25: Jasmine_56
26: Phroglets_44
27: DoctorPepper_76 + 16
28: Onestar_77
29: Powelldog_81
30: RustyBoy_81 + 1
31: Sporto_76
32: Sprinkle_78
33: Shiba_76
34: GermyBearimy_95
35: Jazzy4900_83 + 1
36: Arzan_88

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 347491 Report

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

Pham number 347491 has 89 members, 15 are drafts.

Phages represented in each track:
• Track 1 : GoCrazy_82, KeaneyLin_82, Bowling_87, Xenomorph_80, Benllo_82, BenitoAntonio_85, Cheesy_86
• Track 2 : Heisenberger_84, Hankly_85, Mudcat_81, Kardesai_85, Elsa_85, Correa_83, Arcadia_85, Circum_85, Nason_85, Dynamite_85, NapoleonB_86, Tribby_87, Mooshroom_86, YoshiYama_86, JEGGS_84, Stardom_84
• Track 3 : Trustiboi_74
• Track 4 : Issa_70, Tenno_75, Dinallo_70, CapnMurica_72, MiniBagel_76
• Track 5 : Teacup_77
• Track 6 : Breylor17_72, DevitoJr_75, Westerlin_73
• Track 7 : Gordon_72
• Track 8 : Acai_77
• Track 9 : Nightmare_77
• Track 10 : Tatanka_70
• Track 11 : Darby_72, AreFloNak_80
• Track 12 : Nivinsha_77
• Track 13 : Brunswick_77
• Track 14 : ElephantMan_76, LucySwiss_76, Niktson_76
• Track 15 : CastorTray_78, ScienceWizSam_77
• Track 16 : Hemma_76
• Track 17 : Synepsis_71
• Track 18 : Loretta_78, Ingrid_82
• Track 19 : Anandi_84
• Track 20 : Leathea_86
• Track 21 : Inked_82, Zippen_82
• Track 22 : Casserole_53
• Track 23 : Nellie_53, Adat_53, GurgleFerb_53
• Track 24 : Brad_53
• Track 25 : Jasmine_56
• Track 26 : Phroglets_44
• Track 27 : DoctorPepper_76, Raunak_77, Michelle_77, MrAaronian_77, HerbBucket_76, Djungelskog_76, Spain_77, Linda_77, Jeremy4pt0_76, StarLord_77, Sloopyjoe_77, ProfFrink_77, Salk_77, Egad_77, Stayer_77, Boog_76, BronxBay_77
• Track 28 : Onestar_77
• Track 29 : Powelldog_81
• Track 30 : RustyBoy_81, Natasha_80
• Track 31 : Sporto_76
• Track 32 : Sprinkle_78

• Track 33 : Shiba_76
• Track 34 : GermyBearimy_95
• Track 35 : Jazzy4900_83, Sunny4976_82
• Track 36 : Arzan_88

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

The start number called the most often in the published annotations is 24, it was called in 42 of the 74 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Acai_77, Anandi_84, AreFloNak_80, Boog_76, Breylor17_72, BronxBay_77, Brunswick_77, CapnMurica_72, CastorTray_78, Darby_72, DevitoJr_75, Dinallo_70, Djungelskog_76, DoctorPepper_76, Egad_77, ElephantMan_76, Gordon_72, Hemma_76, HerbBucket_76, Ingrid_82, Inked_82, Issa_70, Jeremy4pt0_76, Linda_77, Loretta_78, LucySwiss_76, Michelle_77, MiniBagel_76, MrAaronian_77, Nightmare_77, Niktson_76, Nivinsha_77, ProfFrink_77, Raunak_77, Salk_77, ScienceWizSam_77, Shiba_76, Sloopyjoe_77, Spain_77, StarLord_77, Stayer_77, Synepsis_71, Tatanka_70, Teacup_77, Tenno_75, Trustiboi_74, Westerlin_73, Zippen_82,

Genes that have the "Most Annotated" start but do not call it:
• Arzan_88,

Genes that do not have the "Most Annotated" start:
• Adat_53, Arcadia_85, BenitoAntonio_85, Benllo_82, Bowling_87, Brad_53, Casserole_53, Cheesy_86, Circum_85, Correa_83, Dynamite_85, Elsa_85, GermyBearimy_95, GoCrazy_82, GurgleFerb_53, Hankly_85, Heisenberger_84, JEGGS_84, Jasmine_56, Jazzy4900_83, Kardesai_85, KeaneyLin_82, Leathea_86, Mooshroom_86, Mudcat_81, NapoleonB_86, Nason_85, Natasha_80, Nellie_53, Onestar_77, Phroglets_44, Powelldog_81, RustyBoy_81, Sporto_76, Sprinkle_78, Stardom_84, Sunny4976_82, Tribby_87, Xenomorph_80, YoshiYama_86,

Summary by start number:

Start 6:
• Found in 2 of 89 (2.2%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Jazzy4900_83 (FI), Sunny4976_82 (FI),

Start 8:
• Found in 2 of 89 (2.2%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Arzan_88 (FI), GermyBearimy_95 (FI),

Start 14:
• Found in 1 of 89 (1.1%) of genes in pham
• No Manual Annotations of this start.

• Called 100.0% of time when present
• Phage (with cluster) where this start called: Leathea_86 (AU6),

Start 17:
• Found in 1 of 89 (1.1%) of genes in pham
• Manual Annotations of this start: 1 of 74
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Phroglets_44 (AV),

Start 20:
• Found in 1 of 89 (1.1%) of genes in pham
• Manual Annotations of this start: 1 of 74
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Powelldog_81 (AW),

Start 21:
• Found in 1 of 89 (1.1%) of genes in pham
• Manual Annotations of this start: 1 of 74
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Jasmine_56 (AV),

Start 22:
• Found in 5 of 89 (5.6%) of genes in pham
• Manual Annotations of this start: 5 of 74
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Adat_53 (AV), Brad_53 (AV), Casserole_53 (AV), GurgleFerb_53 (AV), Nellie_53 (AV),

Start 23:
• Found in 5 of 89 (5.6%) of genes in pham
• Manual Annotations of this start: 3 of 74
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Natasha_80 (AW), Onestar_77 (AW), RustyBoy_81 (AW), Sporto_76 (AW), Sprinkle_78 (AW),

Start 24:
• Found in 49 of 89 (55.1%) of genes in pham
• Manual Annotations of this start: 42 of 74
• Called 98.0% of time when present
• Phage (with cluster) where this start called: Acai_77 (AU1), Anandi_84 (AU4), AreFloNak_80 (AU1), Boog_76 (AW), Breylor17_72 (AU1), BronxBay_77 (AW), Brunswick_77 (AU1), CapnMurica_72 (AU1), CastorTray_78 (AU1), Darby_72 (AU1), DevitoJr_75 (AU1), Dinallo_70 (AU1), Djungelskog_76 (AW), DoctorPepper_76 (AW), Egad_77 (AW), ElephantMan_76 (AU1), Gordon_72 (AU1), Hemma_76 (AU1), HerbBucket_76 (AW), Ingrid_82 (AU3), Inked_82 (AU7), Issa_70 (AU1), Jeremy4pt0_76 (AW), Linda_77 (AW), Loretta_78 (AU3), LucySwiss_76 (AU1), Michelle_77 (AW), MiniBagel_76 (AU1), MrAaronian_77 (AW), Nightmare_77 (AU1), Niktson_76 (AU1), Nivinsha_77 (AU1), ProfFrink_77 (AW), Raunak_77 (AW), Salk_77 (AW), ScienceWizSam_77 (AU1), Shiba_76 (AW), Sloopyjoe_77 (AW), Spain_77 (AW), StarLord_77 (AW), Stayer_77 (AW), Synepsis_71 (AU1), Tatanka_70 (AU1), Teacup_77 (AU1), Tenno_75 (AU1), Trustiboi_74 (AU1), Westerlin_73 (AU1), Zippen_82 (AU7),

Start 25:
• Found in 23 of 89 (25.8%) of genes in pham
• Manual Annotations of this start: 21 of 74
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Arcadia_85 (AM), BenitoAntonio_85 (AM), Benllo_82 (AM), Bowling_87 (AM), Cheesy_86 (AM), Circum_85 (AM), Correa_83 (AM), Dynamite_85 (AM), Elsa_85 (AM), GoCrazy_82 (AM), Hankly_85 (AM), Heisenberger_84 (AM), JEGGS_84 (AM), Kardesai_85 (AM), KeaneyLin_82 (AM), Mooshroom_86 (AM), Mudcat_81 (AM), NapoleonB_86 (AM), Nason_85 (AM), Stardom_84 (AM), Tribby_87 (AM), Xenomorph_80 (AM), YoshiYama_86 (AM),

Summary by clusters:

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

Info for manual annotations of cluster AM:
•Start number 25 was manually annotated 21 times for cluster AM.

Info for manual annotations of cluster AU1:
•Start number 24 was manually annotated 21 times for cluster AU1.

Info for manual annotations of cluster AU3:
•Start number 24 was manually annotated 2 times for cluster AU3.

Info for manual annotations of cluster AU4:
•Start number 24 was manually annotated 1 time for cluster AU4.

Info for manual annotations of cluster AU7:
•Start number 24 was manually annotated 2 times for cluster AU7.

Info for manual annotations of cluster AV:
•Start number 17 was manually annotated 1 time for cluster AV.
•Start number 21 was manually annotated 1 time for cluster AV.
•Start number 22 was manually annotated 5 times for cluster AV.

Info for manual annotations of cluster AW:
•Start number 20 was manually annotated 1 time for cluster AW.
•Start number 23 was manually annotated 3 times for cluster AW.
•Start number 24 was manually annotated 16 times for cluster AW.

Gene Information:

Gene: Acai_77 Start: 50191, Stop: 50667, Start Num: 24
Candidate Starts for Acai_77:
(18, 50143), (Start: 24 @50191 has 42 MA's), (29, 50251), (39, 50392), (61, 50548), (77, 50632),

Gene: Adat_53 Start: 43182, Stop: 42778, Start Num: 22
Candidate Starts for Adat_53:

(Start: 22 @43182 has 5 MA's), (38, 42993), (39, 42972), (43, 42951), (50, 42906), (66, 42807),

Gene: Anandi_84 Start: 50714, Stop: 51127, Start Num: 24
Candidate Starts for Anandi_84:
(Start: 24 @50714 has 42 MA's), (29, 50774), (60, 51062), (67, 51089), (70, 51104),

Gene: Arcadia_85 Start: 50574, Stop: 50978, Start Num: 25
Candidate Starts for Arcadia_85:
(Start: 25 @50574 has 21 MA's), (27, 50610), (32, 50688), (35, 50721), (42, 50781), (45, 50817), (54, 50871), (65, 50943),

Gene: AreFloNak_80 Start: 50058, Stop: 50525, Start Num: 24
Candidate Starts for AreFloNak_80:
(Start: 24 @50058 has 42 MA's), (29, 50118), (39, 50259), (56, 50370), (61, 50406), (77, 50490), (83, 50514),

Gene: Arzan_88 Start: 51953, Stop: 52468, Start Num: 8
Candidate Starts for Arzan_88:
(8, 51953), (15, 52004), (16, 52010), (Start: 24 @52067 has 42 MA's), (27, 52106), (28, 52115), (33, 52199),

Gene: BenitoAntonio_85 Start: 50151, Stop: 50555, Start Num: 25
Candidate Starts for BenitoAntonio_85:
(Start: 25 @50151 has 21 MA's), (27, 50187), (32, 50265), (35, 50298), (42, 50358), (45, 50394), (54, 50448), (65, 50520),

Gene: Benllo_82 Start: 50469, Stop: 50873, Start Num: 25
Candidate Starts for Benllo_82:
(Start: 25 @50469 has 21 MA's), (27, 50505), (32, 50583), (35, 50616), (42, 50676), (45, 50712), (54, 50766), (65, 50838),

Gene: Boog_76 Start: 47985, Stop: 48449, Start Num: 24
Candidate Starts for Boog_76:
(Start: 24 @47985 has 42 MA's), (50, 48255), (69, 48363), (72, 48402), (79, 48417),

Gene: Bowling_87 Start: 50927, Stop: 51331, Start Num: 25
Candidate Starts for Bowling_87:
(Start: 25 @50927 has 21 MA's), (27, 50963), (32, 51041), (35, 51074), (42, 51134), (45, 51170), (54, 51224), (65, 51296),

Gene: Brad_53 Start: 43174, Stop: 42776, Start Num: 22
Candidate Starts for Brad_53:
(Start: 22 @43174 has 5 MA's), (38, 42985), (39, 42964), (43, 42943), (50, 42898),

Gene: Breylor17_72 Start: 50448, Stop: 50915, Start Num: 24
Candidate Starts for Breylor17_72:
(Start: 24 @50448 has 42 MA's), (29, 50508), (39, 50649), (61, 50796), (77, 50880), (83, 50904),

Gene: BronxBay_77 Start: 48274, Stop: 48738, Start Num: 24
Candidate Starts for BronxBay_77:
(Start: 24 @48274 has 42 MA's), (50, 48544), (69, 48652), (72, 48691), (79, 48706),

Gene: Brunswick_77 Start: 50186, Stop: 50659, Start Num: 24

Candidate Starts for Brunswick_77:
(18, 50138), (Start: 24 @50186 has 42 MA's), (39, 50387), (61, 50543), (77, 50627),

Gene: CapnMurica_72 Start: 50515, Stop: 50991, Start Num: 24
Candidate Starts for CapnMurica_72:
(Start: 24 @50515 has 42 MA's), (37, 50692), (39, 50716), (61, 50872), (77, 50956),

Gene: Casserole_53 Start: 44279, Stop: 43875, Start Num: 22
Candidate Starts for Casserole_53:
(3, 44435), (4, 44426), (5, 44393), (9, 44375), (10, 44372), (Start: 22 @44279 has 5 MA's), (38, 44090), (39, 44069), (43, 44048), (50, 44003), (57, 43958), (66, 43907),

Gene: CastorTray_78 Start: 50576, Stop: 51043, Start Num: 24
Candidate Starts for CastorTray_78:
(Start: 24 @50576 has 42 MA's), (29, 50636), (61, 50924), (77, 51008), (83, 51032),

Gene: Cheesy_86 Start: 50366, Stop: 50770, Start Num: 25
Candidate Starts for Cheesy_86:
(Start: 25 @50366 has 21 MA's), (27, 50402), (32, 50480), (35, 50513), (42, 50573), (45, 50609), (54, 50663), (65, 50735),

Gene: Circum_85 Start: 50423, Stop: 50827, Start Num: 25
Candidate Starts for Circum_85:
(Start: 25 @50423 has 21 MA's), (27, 50459), (32, 50537), (35, 50570), (42, 50630), (45, 50666), (54, 50720), (65, 50792),

Gene: Correa_83 Start: 49923, Stop: 50327, Start Num: 25
Candidate Starts for Correa_83:
(Start: 25 @49923 has 21 MA's), (27, 49959), (32, 50037), (35, 50070), (42, 50130), (45, 50166), (54, 50220), (65, 50292),

Gene: Darby_72 Start: 49622, Stop: 50089, Start Num: 24
Candidate Starts for Darby_72:
(Start: 24 @49622 has 42 MA's), (29, 49682), (39, 49823), (56, 49934), (61, 49970), (77, 50054), (83, 50078),

Gene: DevitoJr_75 Start: 50004, Stop: 50471, Start Num: 24
Candidate Starts for DevitoJr_75:
(Start: 24 @50004 has 42 MA's), (29, 50064), (39, 50205), (61, 50352), (77, 50436), (83, 50460),

Gene: Dinallo_70 Start: 50761, Stop: 51237, Start Num: 24
Candidate Starts for Dinallo_70:
(Start: 24 @50761 has 42 MA's), (37, 50938), (39, 50962), (61, 51118), (77, 51202),

Gene: Djungelskog_76 Start: 48276, Stop: 48740, Start Num: 24
Candidate Starts for Djungelskog_76:
(Start: 24 @48276 has 42 MA's), (50, 48546), (69, 48654), (72, 48693), (79, 48708),

Gene: DoctorPepper_76 Start: 47969, Stop: 48433, Start Num: 24
Candidate Starts for DoctorPepper_76:
(Start: 24 @47969 has 42 MA's), (50, 48239), (69, 48347), (72, 48386), (79, 48401),

Gene: Dynamite_85 Start: 49942, Stop: 50346, Start Num: 25

Candidate Starts for Dynamite_85:
(Start: 25 @49942 has 21 MA's), (27, 49978), (32, 50056), (35, 50089), (42, 50149), (45, 50185), (54, 50239), (65, 50311),

Gene: Egad_77 Start: 48243, Stop: 48707, Start Num: 24
Candidate Starts for Egad_77:
(Start: 24 @48243 has 42 MA's), (50, 48513), (69, 48621), (72, 48660), (79, 48675),

Gene: ElephantMan_76 Start: 50779, Stop: 51252, Start Num: 24
Candidate Starts for ElephantMan_76:
(Start: 24 @50779 has 42 MA's), (29, 50839), (61, 51136), (77, 51220),

Gene: Elsa_85 Start: 50574, Stop: 50978, Start Num: 25
Candidate Starts for Elsa_85:
(Start: 25 @50574 has 21 MA's), (27, 50610), (32, 50688), (35, 50721), (42, 50781), (45, 50817), (54, 50871), (65, 50943),

Gene: GermyBearimy_95 Start: 52960, Stop: 53475, Start Num: 8
Candidate Starts for GermyBearimy_95:
(8, 52960), (27, 53113), (28, 53122), (33, 53206), (53, 53365),

Gene: GoCrazy_82 Start: 49202, Stop: 49606, Start Num: 25
Candidate Starts for GoCrazy_82:
(Start: 25 @49202 has 21 MA's), (27, 49238), (32, 49316), (35, 49349), (42, 49409), (45, 49445), (54, 49499), (65, 49571),

Gene: Gordon_72 Start: 50418, Stop: 50885, Start Num: 24
Candidate Starts for Gordon_72:
(Start: 24 @50418 has 42 MA's), (29, 50478), (39, 50619), (61, 50766), (73, 50838), (77, 50850), (82, 50871),

Gene: GurgleFerb_53 Start: 43181, Stop: 42777, Start Num: 22
Candidate Starts for GurgleFerb_53:
(Start: 22 @43181 has 5 MA's), (38, 42992), (39, 42971), (43, 42950), (50, 42905), (66, 42806),

Gene: Hankly_85 Start: 49580, Stop: 49984, Start Num: 25
Candidate Starts for Hankly_85:
(Start: 25 @49580 has 21 MA's), (27, 49616), (32, 49694), (35, 49727), (42, 49787), (45, 49823), (54, 49877), (65, 49949),

Gene: Heisenberger_84 Start: 49831, Stop: 50235, Start Num: 25
Candidate Starts for Heisenberger_84:
(Start: 25 @49831 has 21 MA's), (27, 49867), (32, 49945), (35, 49978), (42, 50038), (45, 50074), (54, 50128), (65, 50200),

Gene: Hemma_76 Start: 47826, Stop: 48302, Start Num: 24
Candidate Starts for Hemma_76:
(Start: 24 @47826 has 42 MA's), (37, 48006), (50, 48093), (57, 48141), (58, 48153), (77, 48258), (80, 48264),

Gene: HerbBucket_76 Start: 47969, Stop: 48433, Start Num: 24
Candidate Starts for HerbBucket_76:
(Start: 24 @47969 has 42 MA's), (50, 48239), (69, 48347), (72, 48386), (79, 48401),

Gene: Ingrid_82 Start: 50381, Stop: 50857, Start Num: 24
Candidate Starts for Ingrid_82:
(Start: 24 @50381 has 42 MA's), (44, 50603), (61, 50729), (64, 50741), (77, 50813), (80, 50819),

Gene: Inked_82 Start: 51097, Stop: 51561, Start Num: 24
Candidate Starts for Inked_82:
(Start: 24 @51097 has 42 MA's), (50, 51367), (75, 51523),

Gene: Issa_70 Start: 49586, Stop: 50062, Start Num: 24
Candidate Starts for Issa_70:
(Start: 24 @49586 has 42 MA's), (37, 49763), (39, 49787), (61, 49943), (77, 50027),

Gene: JEGGS_84 Start: 49910, Stop: 50314, Start Num: 25
Candidate Starts for JEGGS_84:
(Start: 25 @49910 has 21 MA's), (27, 49946), (32, 50024), (35, 50057), (42, 50117), (45, 50153), (54, 50207), (65, 50279),

Gene: Jasmine_56 Start: 44695, Stop: 44300, Start Num: 21
Candidate Starts for Jasmine_56:
(Start: 21 @44695 has 1 MA's), (43, 44461), (50, 44416), (57, 44371), (66, 44320),

Gene: Jazzy4900_83 Start: 51980, Stop: 52492, Start Num: 6
Candidate Starts for Jazzy4900_83:
(6, 51980), (16, 52040), (19, 52058), (37, 52274), (48, 52361), (65, 52460), (68, 52472), (71, 52487),

Gene: Jeremy4pt0_76 Start: 47961, Stop: 48425, Start Num: 24
Candidate Starts for Jeremy4pt0_76:
(Start: 24 @47961 has 42 MA's), (50, 48231), (69, 48339), (72, 48378), (79, 48393),

Gene: Kardesai_85 Start: 49517, Stop: 49921, Start Num: 25
Candidate Starts for Kardesai_85:
(Start: 25 @49517 has 21 MA's), (27, 49553), (32, 49631), (35, 49664), (42, 49724), (45, 49760), (54, 49814), (65, 49886),

Gene: KeaneyLin_82 Start: 49645, Stop: 50049, Start Num: 25
Candidate Starts for KeaneyLin_82:
(Start: 25 @49645 has 21 MA's), (27, 49681), (32, 49759), (35, 49792), (42, 49852), (45, 49888), (54, 49942), (65, 50014),

Gene: Leathea_86 Start: 48939, Stop: 49490, Start Num: 14
Candidate Starts for Leathea_86:
(12, 48924), (14, 48939), (26, 49029), (28, 49056), (31, 49110), (38, 49194), (50, 49278), (55, 49308), (59, 49353), (66, 49380), (69, 49389), (74, 49437), (76, 49440), (78, 49443), (81, 49455), (84, 49473),

Gene: Linda_77 Start: 48256, Stop: 48720, Start Num: 24
Candidate Starts for Linda_77:
(Start: 24 @48256 has 42 MA's), (50, 48526), (69, 48634), (72, 48673), (79, 48688),

Gene: Loretta_78 Start: 50381, Stop: 50857, Start Num: 24
Candidate Starts for Loretta_78:
(Start: 24 @50381 has 42 MA's), (44, 50603), (61, 50729), (64, 50741), (77, 50813), (80, 50819),

Gene: LucySwiss_76 Start: 49844, Stop: 50320, Start Num: 24
Candidate Starts for LucySwiss_76:
(Start: 24 @49844 has 42 MA's), (29, 49904), (61, 50201), (77, 50285),

Gene: Michelle_77 Start: 48273, Stop: 48737, Start Num: 24
Candidate Starts for Michelle_77:
(Start: 24 @48273 has 42 MA's), (50, 48543), (69, 48651), (72, 48690), (79, 48705),

Gene: MiniBagel_76 Start: 50519, Stop: 50995, Start Num: 24
Candidate Starts for MiniBagel_76:
(Start: 24 @50519 has 42 MA's), (37, 50696), (39, 50720), (61, 50876), (77, 50960),

Gene: Mooshroom_86 Start: 49517, Stop: 49921, Start Num: 25
Candidate Starts for Mooshroom_86:
(Start: 25 @49517 has 21 MA's), (27, 49553), (32, 49631), (35, 49664), (42, 49724), (45, 49760), (54, 49814), (65, 49886),

Gene: MrAaronian_77 Start: 48273, Stop: 48737, Start Num: 24
Candidate Starts for MrAaronian_77:
(Start: 24 @48273 has 42 MA's), (50, 48543), (69, 48651), (72, 48690), (79, 48705),

Gene: Mudcat_81 Start: 51268, Stop: 51672, Start Num: 25
Candidate Starts for Mudcat_81:
(Start: 25 @51268 has 21 MA's), (27, 51304), (32, 51382), (35, 51415), (42, 51475), (45, 51511), (54, 51565), (65, 51637),

Gene: NapoleonB_86 Start: 49942, Stop: 50346, Start Num: 25
Candidate Starts for NapoleonB_86:
(Start: 25 @49942 has 21 MA's), (27, 49978), (32, 50056), (35, 50089), (42, 50149), (45, 50185), (54, 50239), (65, 50311),

Gene: Nason_85 Start: 50574, Stop: 50978, Start Num: 25
Candidate Starts for Nason_85:
(Start: 25 @50574 has 21 MA's), (27, 50610), (32, 50688), (35, 50721), (42, 50781), (45, 50817), (54, 50871), (65, 50943),

Gene: Natasha_80 Start: 48586, Stop: 49020, Start Num: 23
Candidate Starts for Natasha_80:
(Start: 23 @48586 has 3 MA's), (34, 48748), (46, 48841), (49, 48865), (63, 48958),

Gene: Nellie_53 Start: 43182, Stop: 42778, Start Num: 22
Candidate Starts for Nellie_53:
(Start: 22 @43182 has 5 MA's), (38, 42993), (39, 42972), (43, 42951), (50, 42906), (66, 42807),

Gene: Nightmare_77 Start: 50946, Stop: 51422, Start Num: 24
Candidate Starts for Nightmare_77:
(18, 50898), (Start: 24 @50946 has 42 MA's), (29, 51006), (39, 51147), (61, 51303), (77, 51387),

Gene: Niktson_76 Start: 50779, Stop: 51252, Start Num: 24
Candidate Starts for Niktson_76:
(Start: 24 @50779 has 42 MA's), (29, 50839), (61, 51136), (77, 51220),

Gene: Nivinsha_77 Start: 50059, Stop: 50526, Start Num: 24

Candidate Starts for Nivinsha_77:
(Start: 24 @50059 has 42 MA's), (29, 50119), (39, 50260), (56, 50371), (61, 50407), (83, 50515),

Gene: Onestar_77 Start: 48716, Stop: 49147, Start Num: 23
Candidate Starts for Onestar_77:
(Start: 23 @48716 has 3 MA's), (37, 48905), (46, 48971), (49, 48995), (63, 49088),

Gene: Phroglets_44 Start: 39189, Stop: 38710, Start Num: 17
Candidate Starts for Phroglets_44:
(Start: 17 @39189 has 1 MA's), (27, 39096), (29, 39069), (40, 38922), (47, 38880), (51, 38856),

Gene: Powelldog_81 Start: 49417, Stop: 49851, Start Num: 20
Candidate Starts for Powelldog_81:
(2, 49252), (7, 49312), (11, 49330), (Start: 20 @49417 has 1 MA's), (30, 49513), (37, 49606), (39, 49630), (46, 49672), (49, 49696), (52, 49708), (62, 49783),

Gene: ProfFrink_77 Start: 48242, Stop: 48706, Start Num: 24
Candidate Starts for ProfFrink_77:
(Start: 24 @48242 has 42 MA's), (50, 48512), (69, 48620), (72, 48659), (79, 48674),

Gene: Raunak_77 Start: 47952, Stop: 48416, Start Num: 24
Candidate Starts for Raunak_77:
(Start: 24 @47952 has 42 MA's), (50, 48222), (69, 48330), (72, 48369), (79, 48384),

Gene: RustyBoy_81 Start: 48785, Stop: 49219, Start Num: 23
Candidate Starts for RustyBoy_81:
(Start: 23 @48785 has 3 MA's), (34, 48947), (46, 49040), (49, 49064), (63, 49157),

Gene: Salk_77 Start: 48256, Stop: 48720, Start Num: 24
Candidate Starts for Salk_77:
(Start: 24 @48256 has 42 MA's), (50, 48526), (69, 48634), (72, 48673), (79, 48688),

Gene: ScienceWizSam_77 Start: 50177, Stop: 50644, Start Num: 24
Candidate Starts for ScienceWizSam_77:
(Start: 24 @50177 has 42 MA's), (29, 50237), (61, 50525), (77, 50609), (83, 50633),

Gene: Shiba_76 Start: 47968, Stop: 48432, Start Num: 24
Candidate Starts for Shiba_76:
(Start: 24 @47968 has 42 MA's), (50, 48238), (72, 48385), (79, 48400),

Gene: Sloopyjoe_77 Start: 48275, Stop: 48739, Start Num: 24
Candidate Starts for Sloopyjoe_77:
(Start: 24 @48275 has 42 MA's), (50, 48545), (69, 48653), (72, 48692), (79, 48707),

Gene: Spain_77 Start: 48273, Stop: 48737, Start Num: 24
Candidate Starts for Spain_77:
(Start: 24 @48273 has 42 MA's), (50, 48543), (69, 48651), (72, 48690), (79, 48705),

Gene: Sporto_76 Start: 49277, Stop: 49711, Start Num: 23
Candidate Starts for Sporto_76:
(13, 49196), (Start: 23 @49277 has 3 MA's), (28, 49328), (34, 49439), (46, 49532), (49, 49556), (62, 49643), (63, 49649),

Gene: Sprinkle_78 Start: 49214, Stop: 49645, Start Num: 23
Candidate Starts for Sprinkle_78:
(1, 49022), (2, 49043), (7, 49103), (11, 49121), (Start: 23 @49214 has 3 MA's), (28, 49265), (36, 49394), (37, 49403), (39, 49427), (46, 49469), (62, 49580),

Gene: StarLord_77 Start: 48268, Stop: 48732, Start Num: 24
Candidate Starts for StarLord_77:
(Start: 24 @48268 has 42 MA's), (50, 48538), (69, 48646), (72, 48685), (79, 48700),

Gene: Stardom_84 Start: 49332, Stop: 49736, Start Num: 25
Candidate Starts for Stardom_84:
(Start: 25 @49332 has 21 MA's), (27, 49368), (32, 49446), (35, 49479), (42, 49539), (45, 49575), (54, 49629), (65, 49701),

Gene: Stayer_77 Start: 48271, Stop: 48735, Start Num: 24
Candidate Starts for Stayer_77:
(Start: 24 @48271 has 42 MA's), (50, 48541), (69, 48649), (72, 48688), (79, 48703),

Gene: Sunny4976_82 Start: 51980, Stop: 52492, Start Num: 6
Candidate Starts for Sunny4976_82:
(6, 51980), (16, 52040), (19, 52058), (37, 52274), (48, 52361), (65, 52460), (68, 52472), (71, 52487),

Gene: Synepsis_71 Start: 49985, Stop: 50452, Start Num: 24
Candidate Starts for Synepsis_71:
(Start: 24 @49985 has 42 MA's), (29, 50045), (39, 50186), (56, 50297), (61, 50333),

Gene: Tatanka_70 Start: 50163, Stop: 50630, Start Num: 24
Candidate Starts for Tatanka_70:
(Start: 24 @50163 has 42 MA's), (29, 50223), (41, 50373), (61, 50511), (77, 50595), (83, 50619),

Gene: Teacup_77 Start: 50837, Stop: 51313, Start Num: 24
Candidate Starts for Teacup_77:
(18, 50789), (Start: 24 @50837 has 42 MA's), (39, 51038), (61, 51194), (77, 51278),

Gene: Tenno_75 Start: 50552, Stop: 51028, Start Num: 24
Candidate Starts for Tenno_75:
(Start: 24 @50552 has 42 MA's), (37, 50729), (39, 50753), (61, 50909), (77, 50993),

Gene: Tribby_87 Start: 50701, Stop: 51105, Start Num: 25
Candidate Starts for Tribby_87:
(Start: 25 @50701 has 21 MA's), (27, 50737), (32, 50815), (35, 50848), (42, 50908), (45, 50944), (54, 50998), (65, 51070),

Gene: Trustiboi_74 Start: 50266, Stop: 50733, Start Num: 24
Candidate Starts for Trustiboi_74:
(Start: 24 @50266 has 42 MA's), (29, 50326), (39, 50467), (56, 50578), (61, 50614), (77, 50698),

Gene: Westerlin_73 Start: 51185, Stop: 51652, Start Num: 24
Candidate Starts for Westerlin_73:
(Start: 24 @51185 has 42 MA's), (29, 51245), (39, 51386), (61, 51533), (77, 51617), (83, 51641),

Gene: Xenomorph_80 Start: 50228, Stop: 50632, Start Num: 25
Candidate Starts for Xenomorph_80:

(Start: 25 @50228 has 21 MA's), (27, 50264), (32, 50342), (35, 50375), (42, 50435), (45, 50471), (54, 50525), (65, 50597),

Gene: YoshiYama_86 Start: 50980, Stop: 51384, Start Num: 25
Candidate Starts for YoshiYama_86:
(Start: 25 @50980 has 21 MA's), (27, 51016), (32, 51094), (35, 51127), (42, 51187), (45, 51223), (54, 51277), (65, 51349),

Gene: Zippen_82 Start: 50971, Stop: 51435, Start Num: 24
Candidate Starts for Zippen_82:
(Start: 24 @50971 has 42 MA's), (50, 51241), (75, 51397),