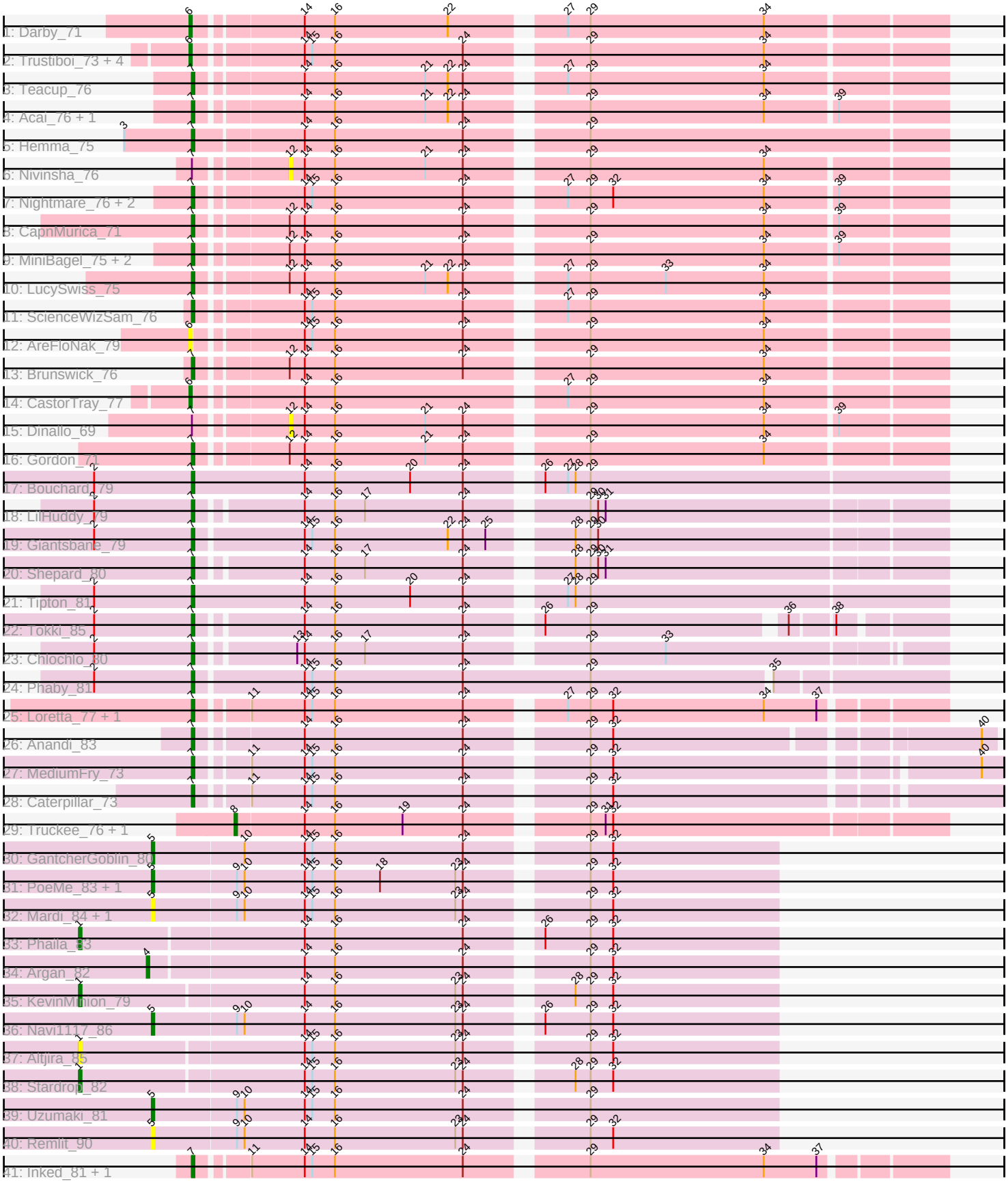
Pham 334886


1: Darby_71
2: Trustiboi_73 + 4
3: Teacup_76
4: Acai_76 + 1
5: Hemma_75
6: Nivinsha_76
7: Nightmare_76 + 2
8: CapnMurica_71
9: MiniBagel_75 + 2
10: LucySwiss_75
11: ScienceWizSam_76
12: AreFloNak_79
13: Brunswick_76
14: CastorTray_77
15: Dinallo_69
16: Gordon_71
17: Bouchard_79
18: LilHuddy_79
19: Giantsbane_79
20: Shepard_80
21: Tipton_81
22: Tokki_85
23: Chlochlo_80
24: Phaby_81
25: Loretta_77 + 1
26: Anandi_83
27: MediumFry_73
28: Caterpillar_73
29: Truckee_76 + 1
30: GantcherGoblin_80
31: PoeMe_83 + 1
32: Mardi_84 + 1
33: Phaila_83
34: Argan_82
35: KevinMinion_79
36: Navi1117_86
37: Altjira_85
38: Stardrop_82
39: Uzumaki_81
40: Remlit_90
41: Inked_81 + 1

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 334886 Report

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

Pham number 334886 has 55 members, 8 are drafts.

Phages represented in each track:
- Track 1 : Darby_71
- Track 2 : Trustiboi_73, Tatanka_69, Synepsis_70, Breylor17_71, Westerlin_72
- Track 3 : Teacup_76
- Track 4 : Acai_76, DevitoJr_74
- Track 5 : Hemma_75
- Track 6 : Nivinsha_76
- Track 7 : Nightmare_76, Niktson_75, ElephantMan_75
- Track 8 : CapnMurica_71
- Track 9 : MiniBagel_75, Issa_69, Tenno_74
- Track 10 : LucySwiss_75
- Track 11 : ScienceWizSam_76
- Track 12 : AreFloNak_79
- Track 13 : Brunswick_76
- Track 14 : CastorTray_77
- Track 15 : Dinallo_69
- Track 16 : Gordon_71
- Track 17 : Bouchard_79
- Track 18 : LilHuddy_79
- Track 19 : Giantsbane_79
- Track 20 : Shepard_80
- Track 21 : Tipton_81
- Track 22 : Tokki_85
- Track 23 : Chlochlo_80
- Track 24 : Phaby_81
- Track 25 : Loretta_77, Ingrid_81
- Track 26 : Anandi_83
- Track 27 : MediumFry_73
- Track 28 : Caterpillar_73
- Track 29 : Truckee_76, Makai_78
- Track 30 : GantcherGoblin_80
- Track 31 : PoeMe_83, Zeina_84
- Track 32 : Mardi_84, BlackHoleSun_83
- Track 33 : Phaila_83
- Track 34 : Argan_82
- Track 35 : KevinMinion_79
- Track 36 : Navi1117_86
- Track 37 : Altjira_85

• Track 38 : Stardrop_82
• Track 39 : Uzumaki_81
• Track 40 : Remlit_90
• Track 41 : Inked_81, Zippen_81

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

The start number called the most often in the published annotations is 7, it was called in 30 of the 47 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Acai_76, Anandi_83, Bouchard_79, Brunswick_76, CapnMurica_71, Caterpillar_73, Chlochlo_80, DevitoJr_74, ElephantMan_75, Giantsbane_79, Gordon_71, Hemma_75, Ingrid_81, Inked_81, Issa_69, LilHuddy_79, Loretta_77, LucySwiss_75, MediumFry_73, MiniBagel_75, Nightmare_76, Niktson_75, Phaby_81, ScienceWizSam_76, Shepard_80, Teacup_76, Tenno_74, Tipton_81, Tokki_85, Zippen_81,

Genes that have the "Most Annotated" start but do not call it:
• Dinallo_69, Nivinsha_76,

Genes that do not have the "Most Annotated" start:
• Altjira_85, AreFloNak_79, Argan_82, BlackHoleSun_83, Breylor17_71, CastorTray_77, Darby_71, GantcherGoblin_80, KevinMinion_79, Makai_78, Mardi_84, Navi1117_86, Phaila_83, PoeMe_83, Remlit_90, Stardrop_82, Synepsis_70, Tatanka_69, Truckee_76, Trustiboi_73, Uzumaki_81, Westerlin_72, Zeina_84,

Summary by start number:

Start 1:
• Found in 4 of 55 (7.3%) of genes in pham
• Manual Annotations of this start: 3 of 47
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Altjira_85 (AU6), KevinMinion_79 (AU6), Phaila_83 (AU6), Stardrop_82 (AU6),

Start 4:
• Found in 1 of 55 (1.8%) of genes in pham
• Manual Annotations of this start: 1 of 47
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Argan_82 (AU6),

Start 5:
• Found in 8 of 55 (14.5%) of genes in pham
• Manual Annotations of this start: 5 of 47
• Called 100.0% of time when present
• Phage (with cluster) where this start called: BlackHoleSun_83 (AU6), GantcherGoblin_80 (AU6), Mardi_84 (AU6), Navi1117_86 (AU6), PoeMe_83 (AU6), Remlit_90 (AU6), Uzumaki_81 (AU6), Zeina_84 (AU6),

Start 6:
• Found in 8 of 55 (14.5%) of genes in pham
• Manual Annotations of this start: 6 of 47
• Called 100.0% of time when present
• Phage (with cluster) where this start called: AreFloNak_79 (AU1), Breylor17_71 (AU1), CastorTray_77 (AU1), Darby_71 (AU1), Synepsis_70 (AU1), Tatanka_69 (AU1), Trustiboi_73 (AU1), Westerlin_72 (AU1),

Start 7:
• Found in 32 of 55 (58.2%) of genes in pham
• Manual Annotations of this start: 30 of 47
• Called 93.8% of time when present
• Phage (with cluster) where this start called: Acai_76 (AU1), Anandi_83 (AU4), Bouchard_79 (AU2), Brunswick_76 (AU1), CapnMurica_71 (AU1), Caterpillar_73 (AU4), Chlochlo_80 (AU2), DevitoJr_74 (AU1), ElephantMan_75 (AU1), Giantsbane_79 (AU2), Gordon_71 (AU1), Hemma_75 (AU1), Ingrid_81 (AU3), Inked_81 (AU7), Issa_69 (AU1), LilHuddy_79 (AU2), Loretta_77 (AU3), LucySwiss_75 (AU1), MediumFry_73 (AU4), MiniBagel_75 (AU1), Nightmare_76 (AU1), Niktson_75 (AU1), Phaby_81 (AU2), ScienceWizSam_76 (AU1), Shepard_80 (AU2), Teacup_76 (AU1), Tenno_74 (AU1), Tipton_81 (AU2), Tokki_85 (AU2), Zippen_81 (AU7),

Start 8:
• Found in 2 of 55 (3.6%) of genes in pham
• Manual Annotations of this start: 2 of 47
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Makai_78 (AU5), Truckee_76 (AU5),

Start 12:
• Found in 9 of 55 (16.4%) of genes in pham
• No Manual Annotations of this start.
• Called 22.2% of time when present
• Phage (with cluster) where this start called: Dinallo_69 (AU1), Nivinsha_76 (AU1),

Summary by clusters:

There are 7 clusters represented in this pham: AU1, AU3, AU2, AU5, AU4, AU7, AU6,

Info for manual annotations of cluster AU1:
•Start number 6 was manually annotated 6 times for cluster AU1.
•Start number 7 was manually annotated 15 times for cluster AU1.

Info for manual annotations of cluster AU2:
•Start number 7 was manually annotated 8 times for cluster AU2.

Info for manual annotations of cluster AU3:
•Start number 7 was manually annotated 2 times for cluster AU3.

Info for manual annotations of cluster AU4:
•Start number 7 was manually annotated 3 times for cluster AU4.

Info for manual annotations of cluster AU5:

•Start number 8 was manually annotated 2 times for cluster AU5.

Info for manual annotations of cluster AU6:
•Start number 1 was manually annotated 3 times for cluster AU6.
•Start number 4 was manually annotated 1 time for cluster AU6.
•Start number 5 was manually annotated 5 times for cluster AU6.

Info for manual annotations of cluster AU7:
•Start number 7 was manually annotated 2 times for cluster AU7.

Gene Information:

Gene: Acai_76 Start: 49896, Stop: 50177, Start Num: 7
Candidate Starts for Acai_76:
(Start: 7 @49896 has 30 MA's), (14, 49935), (16, 49947), (21, 49983), (22, 49992), (24, 49998), (29, 50040), (34, 50109), (39, 50136),

Gene: Altjira_85 Start: 49900, Stop: 50166, Start Num: 1
Candidate Starts for Altjira_85:
(Start: 1 @49900 has 3 MA's), (14, 49987), (15, 49990), (16, 49999), (23, 50047), (24, 50050), (29, 50092), (32, 50101),

Gene: Anandi_83 Start: 50396, Stop: 50689, Start Num: 7
Candidate Starts for Anandi_83:
(Start: 7 @50396 has 30 MA's), (14, 50435), (16, 50447), (24, 50498), (29, 50540), (32, 50549), (40, 50684),

Gene: AreFloNak_79 Start: 49764, Stop: 50045, Start Num: 6
Candidate Starts for AreFloNak_79:
(Start: 6 @49764 has 6 MA's), (14, 49803), (15, 49806), (16, 49815), (24, 49866), (29, 49908), (34, 49977),

Gene: Argan_82 Start: 48814, Stop: 49053, Start Num: 4
Candidate Starts for Argan_82:
(Start: 4 @48814 has 1 MA's), (14, 48874), (16, 48886), (24, 48937), (29, 48979), (32, 48988),

Gene: BlackHoleSun_83 Start: 48890, Stop: 49129, Start Num: 5
Candidate Starts for BlackHoleSun_83:
(Start: 5 @48890 has 5 MA's), (9, 48923), (10, 48926), (14, 48950), (15, 48953), (16, 48962), (23, 49010), (24, 49013), (29, 49055), (32, 49064),

Gene: Bouchard_79 Start: 50245, Stop: 50535, Start Num: 7
Candidate Starts for Bouchard_79:
(2, 50206), (Start: 7 @50245 has 30 MA's), (14, 50290), (16, 50302), (20, 50332), (24, 50353), (26, 50377), (27, 50386), (28, 50389), (29, 50395),

Gene: Breylor17_71 Start: 50154, Stop: 50435, Start Num: 6
Candidate Starts for Breylor17_71:
(Start: 6 @50154 has 6 MA's), (14, 50193), (15, 50196), (16, 50205), (24, 50256), (29, 50298), (34, 50367),

Gene: Brunswick_76 Start: 49891, Stop: 50172, Start Num: 7
Candidate Starts for Brunswick_76:
(Start: 7 @49891 has 30 MA's), (12, 49924), (14, 49930), (16, 49942), (24, 49993), (29, 50035), (34, 50104),

Gene: CapnMurica_71 Start: 50221, Stop: 50502, Start Num: 7
Candidate Starts for CapnMurica_71:
(Start: 7 @50221 has 30 MA's), (12, 50254), (14, 50260), (16, 50272), (24, 50323), (29, 50365), (34, 50434), (39, 50461),

Gene: CastorTray_77 Start: 50282, Stop: 50563, Start Num: 6
Candidate Starts for CastorTray_77:
(Start: 6 @50282 has 6 MA's), (14, 50321), (16, 50333), (27, 50417), (29, 50426), (34, 50495),

Gene: Caterpillar_73 Start: 48920, Stop: 49216, Start Num: 7
Candidate Starts for Caterpillar_73:
(Start: 7 @48920 has 30 MA's), (11, 48938), (14, 48959), (15, 48962), (16, 48971), (24, 49022), (29, 49064), (32, 49073),

Gene: Chlochlo_80 Start: 49778, Stop: 50056, Start Num: 7
Candidate Starts for Chlochlo_80:
(2, 49739), (Start: 7 @49778 has 30 MA's), (13, 49814), (14, 49817), (16, 49829), (17, 49841), (24, 49880), (29, 49922), (33, 49952),

Gene: Darby_71 Start: 49328, Stop: 49609, Start Num: 6
Candidate Starts for Darby_71:
(Start: 6 @49328 has 6 MA's), (14, 49367), (16, 49379), (22, 49424), (27, 49463), (29, 49472), (34, 49541),

Gene: DevitoJr_74 Start: 49710, Stop: 49991, Start Num: 7
Candidate Starts for DevitoJr_74:
(Start: 7 @49710 has 30 MA's), (14, 49749), (16, 49761), (21, 49797), (22, 49806), (24, 49812), (29, 49854), (34, 49923), (39, 49950),

Gene: Dinallo_69 Start: 50500, Stop: 50748, Start Num: 12
Candidate Starts for Dinallo_69:
(Start: 7 @50467 has 30 MA's), (12, 50500), (14, 50506), (16, 50518), (21, 50554), (24, 50569), (29, 50611), (34, 50680), (39, 50707),

Gene: ElephantMan_75 Start: 50484, Stop: 50765, Start Num: 7
Candidate Starts for ElephantMan_75:
(Start: 7 @50484 has 30 MA's), (14, 50523), (15, 50526), (16, 50535), (24, 50586), (27, 50619), (29, 50628), (32, 50637), (34, 50697), (39, 50724),

Gene: GantcherGoblin_80 Start: 48628, Stop: 48867, Start Num: 5
Candidate Starts for GantcherGoblin_80:
(Start: 5 @48628 has 5 MA's), (10, 48664), (14, 48688), (15, 48691), (16, 48700), (24, 48751), (29, 48793), (32, 48802),

Gene: Giantsbane_79 Start: 48817, Stop: 49101, Start Num: 7
Candidate Starts for Giantsbane_79:
(2, 48778), (Start: 7 @48817 has 30 MA's), (14, 48859), (15, 48862), (16, 48871), (22, 48916), (24, 48922), (25, 48931), (28, 48958), (29, 48964), (30, 48967),

Gene: Gordon_71 Start: 50124, Stop: 50405, Start Num: 7
Candidate Starts for Gordon_71:
(Start: 7 @50124 has 30 MA's), (12, 50157), (14, 50163), (16, 50175), (21, 50211), (24, 50226), (29, 50268), (34, 50337),

Gene: Hemma_75 Start: 47518, Stop: 47805, Start Num: 7
Candidate Starts for Hemma_75:
(3, 47491), (Start: 7 @47518 has 30 MA's), (14, 47560), (16, 47572), (24, 47623), (29, 47665),

Gene: Ingrid_81 Start: 50079, Stop: 50357, Start Num: 7
Candidate Starts for Ingrid_81:
(Start: 7 @50079 has 30 MA's), (11, 50097), (14, 50118), (15, 50121), (16, 50130), (24, 50181), (27, 50214), (29, 50223), (32, 50232), (34, 50292), (37, 50313),

Gene: Inked_81 Start: 50798, Stop: 51076, Start Num: 7
Candidate Starts for Inked_81:
(Start: 7 @50798 has 30 MA's), (11, 50816), (14, 50837), (15, 50840), (16, 50849), (24, 50900), (29, 50942), (34, 51011), (37, 51032),

Gene: Issa_69 Start: 49292, Stop: 49573, Start Num: 7
Candidate Starts for Issa_69:
(Start: 7 @49292 has 30 MA's), (12, 49325), (14, 49331), (16, 49343), (24, 49394), (29, 49436), (34, 49505), (39, 49532),

Gene: KevinMinion_79 Start: 49418, Stop: 49684, Start Num: 1
Candidate Starts for KevinMinion_79:
(Start: 1 @49418 has 3 MA's), (14, 49505), (16, 49517), (23, 49565), (24, 49568), (28, 49604), (29, 49610), (32, 49619),

Gene: LilHuddy_79 Start: 49982, Stop: 50263, Start Num: 7
Candidate Starts for LilHuddy_79:
(2, 49943), (Start: 7 @49982 has 30 MA's), (14, 50021), (16, 50033), (17, 50045), (24, 50084), (29, 50126), (30, 50129), (31, 50132),

Gene: Loretta_77 Start: 50079, Stop: 50357, Start Num: 7
Candidate Starts for Loretta_77:
(Start: 7 @50079 has 30 MA's), (11, 50097), (14, 50118), (15, 50121), (16, 50130), (24, 50181), (27, 50214), (29, 50223), (32, 50232), (34, 50292), (37, 50313),

Gene: LucySwiss_75 Start: 49549, Stop: 49830, Start Num: 7
Candidate Starts for LucySwiss_75:
(Start: 7 @49549 has 30 MA's), (12, 49582), (14, 49588), (16, 49600), (21, 49636), (22, 49645), (24, 49651), (27, 49684), (29, 49693), (33, 49723), (34, 49762),

Gene: Makai_78 Start: 50400, Stop: 50669, Start Num: 8
Candidate Starts for Makai_78:
(Start: 8 @50400 has 2 MA's), (14, 50427), (16, 50439), (19, 50466), (24, 50490), (29, 50532), (31, 50538), (32, 50541),

Gene: Mardi_84 Start: 49620, Stop: 49859, Start Num: 5
Candidate Starts for Mardi_84:

(Start: 5 @49620 has 5 MA's), (9, 49653), (10, 49656), (14, 49680), (15, 49683), (16, 49692), (23, 49740), (24, 49743), (29, 49785), (32, 49794),

Gene: MediumFry_73 Start: 49440, Stop: 49736, Start Num: 7
Candidate Starts for MediumFry_73:
(Start: 7 @49440 has 30 MA's), (11, 49458), (14, 49479), (15, 49482), (16, 49491), (24, 49542), (29, 49584), (32, 49593), (40, 49728),

Gene: MiniBagel_75 Start: 50225, Stop: 50506, Start Num: 7
Candidate Starts for MiniBagel_75:
(Start: 7 @50225 has 30 MA's), (12, 50258), (14, 50264), (16, 50276), (24, 50327), (29, 50369), (34, 50438), (39, 50465),

Gene: Navi1117_86 Start: 50186, Stop: 50425, Start Num: 5
Candidate Starts for Navi1117_86:
(Start: 5 @50186 has 5 MA's), (9, 50219), (10, 50222), (14, 50246), (16, 50258), (23, 50306), (24, 50309), (26, 50333), (29, 50351), (32, 50360),

Gene: Nightmare_76 Start: 50651, Stop: 50932, Start Num: 7
Candidate Starts for Nightmare_76:
(Start: 7 @50651 has 30 MA's), (14, 50690), (15, 50693), (16, 50702), (24, 50753), (27, 50786), (29, 50795), (32, 50804), (34, 50864), (39, 50891),

Gene: Niktson_75 Start: 50484, Stop: 50765, Start Num: 7
Candidate Starts for Niktson_75:
(Start: 7 @50484 has 30 MA's), (14, 50523), (15, 50526), (16, 50535), (24, 50586), (27, 50619), (29, 50628), (32, 50637), (34, 50697), (39, 50724),

Gene: Nivinsha_76 Start: 49798, Stop: 50046, Start Num: 12
Candidate Starts for Nivinsha_76:
(Start: 7 @49765 has 30 MA's), (12, 49798), (14, 49804), (16, 49816), (21, 49852), (24, 49867), (29, 49909), (34, 49978),

Gene: Phaby_81 Start: 50450, Stop: 50740, Start Num: 7
Candidate Starts for Phaby_81:
(2, 50411), (Start: 7 @50450 has 30 MA's), (14, 50492), (15, 50495), (16, 50504), (24, 50555), (29, 50606), (35, 50675),

Gene: Phaila_83 Start: 49012, Stop: 49278, Start Num: 1
Candidate Starts for Phaila_83:
(Start: 1 @49012 has 3 MA's), (14, 49099), (16, 49111), (24, 49162), (26, 49186), (29, 49204), (32, 49213),

Gene: PoeMe_83 Start: 49612, Stop: 49851, Start Num: 5
Candidate Starts for PoeMe_83:
(Start: 5 @49612 has 5 MA's), (9, 49645), (10, 49648), (14, 49672), (15, 49675), (16, 49684), (18, 49702), (23, 49732), (24, 49735), (29, 49777), (32, 49786),

Gene: Remlit_90 Start: 49570, Stop: 49809, Start Num: 5
Candidate Starts for Remlit_90:
(Start: 5 @49570 has 5 MA's), (9, 49603), (10, 49606), (14, 49630), (16, 49642), (23, 49690), (24, 49693), (29, 49735), (32, 49744),

Gene: ScienceWizSam_76 Start: 49883, Stop: 50164, Start Num: 7
Candidate Starts for ScienceWizSam_76:
(Start: 7 @49883 has 30 MA's), (14, 49922), (15, 49925), (16, 49934), (24, 49985), (27, 50018), (29, 50027), (34, 50096),

Gene: Shepard_80 Start: 49850, Stop: 50131, Start Num: 7
Candidate Starts for Shepard_80:
(Start: 7 @49850 has 30 MA's), (14, 49889), (16, 49901), (17, 49913), (24, 49952), (28, 49988), (29, 49994), (30, 49997), (31, 50000),

Gene: Stardrop_82 Start: 49574, Stop: 49840, Start Num: 1
Candidate Starts for Stardrop_82:
(Start: 1 @49574 has 3 MA's), (14, 49661), (15, 49664), (16, 49673), (23, 49721), (24, 49724), (28, 49760), (29, 49766), (32, 49775),

Gene: Synepsis_70 Start: 49691, Stop: 49972, Start Num: 6
Candidate Starts for Synepsis_70:
(Start: 6 @49691 has 6 MA's), (14, 49730), (15, 49733), (16, 49742), (24, 49793), (29, 49835), (34, 49904),

Gene: Tatanka_69 Start: 49869, Stop: 50150, Start Num: 6
Candidate Starts for Tatanka_69:
(Start: 6 @49869 has 6 MA's), (14, 49908), (15, 49911), (16, 49920), (24, 49971), (29, 50013), (34, 50082),

Gene: Teacup_76 Start: 50542, Stop: 50823, Start Num: 7
Candidate Starts for Teacup_76:
(Start: 7 @50542 has 30 MA's), (14, 50581), (16, 50593), (21, 50629), (22, 50638), (24, 50644), (27, 50677), (29, 50686), (34, 50755),

Gene: Tenno_74 Start: 50258, Stop: 50539, Start Num: 7
Candidate Starts for Tenno_74:
(Start: 7 @50258 has 30 MA's), (12, 50291), (14, 50297), (16, 50309), (24, 50360), (29, 50402), (34, 50471), (39, 50498),

Gene: Tipton_81 Start: 50326, Stop: 50616, Start Num: 7
Candidate Starts for Tipton_81:
(2, 50287), (Start: 7 @50326 has 30 MA's), (14, 50371), (16, 50383), (20, 50413), (24, 50434), (27, 50467), (28, 50470), (29, 50476),

Gene: Tokki_85 Start: 50275, Stop: 50544, Start Num: 7
Candidate Starts for Tokki_85:
(2, 50236), (Start: 7 @50275 has 30 MA's), (14, 50314), (16, 50326), (24, 50377), (26, 50401), (29, 50419), (36, 50491), (38, 50506),

Gene: Truckee_76 Start: 50185, Stop: 50454, Start Num: 8
Candidate Starts for Truckee_76:
(Start: 8 @50185 has 2 MA's), (14, 50212), (16, 50224), (19, 50251), (24, 50275), (29, 50317), (31, 50323), (32, 50326),

Gene: Trustiboi_73 Start: 49972, Stop: 50253, Start Num: 6
Candidate Starts for Trustiboi_73:

(Start: 6 @49972 has 6 MA's), (14, 50011), (15, 50014), (16, 50023), (24, 50074), (29, 50116), (34, 50185),

Gene: Uzumaki_81 Start: 48596, Stop: 48835, Start Num: 5
Candidate Starts for Uzumaki_81:
(Start: 5 @48596 has 5 MA's), (9, 48629), (10, 48632), (14, 48656), (15, 48659), (16, 48668), (24, 48719), (29, 48761),

Gene: Westerlin_72 Start: 50888, Stop: 51172, Start Num: 6
Candidate Starts for Westerlin_72:
(Start: 6 @50888 has 6 MA's), (14, 50927), (15, 50930), (16, 50939), (24, 50990), (29, 51032), (34, 51101),

Gene: Zeina_84 Start: 48968, Stop: 49207, Start Num: 5
Candidate Starts for Zeina_84:
(Start: 5 @48968 has 5 MA's), (9, 49001), (10, 49004), (14, 49028), (15, 49031), (16, 49040), (18, 49058), (23, 49088), (24, 49091), (29, 49133), (32, 49142),

Gene: Zippen_81 Start: 50672, Stop: 50950, Start Num: 7
Candidate Starts for Zippen_81:
(Start: 7 @50672 has 30 MA's), (11, 50690), (14, 50711), (15, 50714), (16, 50723), (24, 50774), (29, 50816), (34, 50885), (37, 50906),