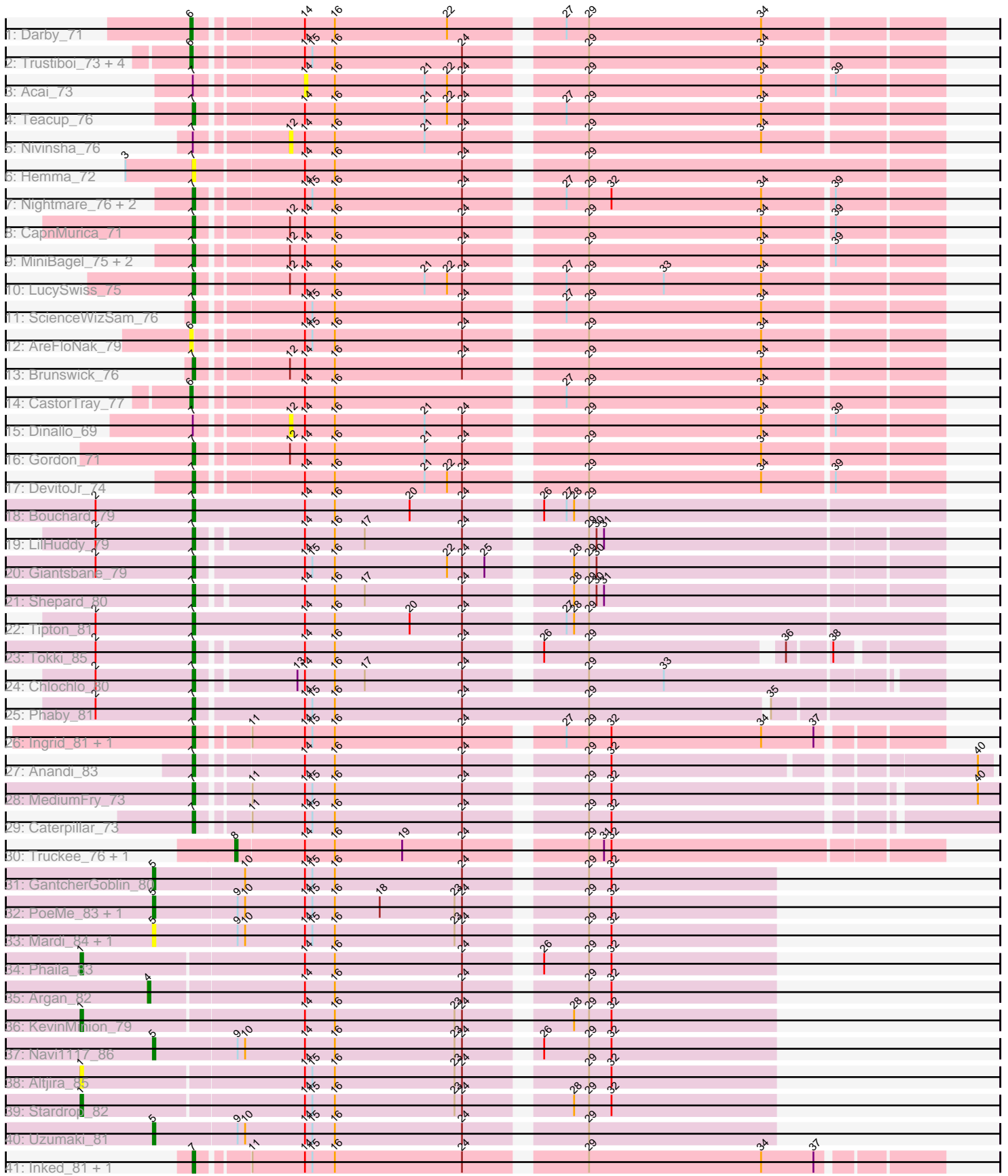


Pham 301438



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 301438 Report

This analysis was run 06/08/26 on database version 649.

Pham number 301438 has 54 members, 9 are drafts.

Phages represented in each track:

- Track 1 : Darby\_71
- Track 2 : Trustiboi\_73, Synepsis\_70, Breylor17\_71, Tatanka\_69, Westerlin\_72
- Track 3 : Acai\_73
- Track 4 : Teacup\_76
- Track 5 : Nivinsha\_76
- Track 6 : Hemma\_72
- 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 : DevitoJr\_74
- Track 18 : Bouchard\_79
- Track 19 : LilHuddy\_79
- Track 20 : Giantsbane\_79
- Track 21 : Shepard\_80
- Track 22 : Tipton\_81
- Track 23 : Tokki\_85
- Track 24 : Chlochlo\_80
- Track 25 : Phaby\_81
- Track 26 : Ingrid\_81, Loretta\_77
- Track 27 : Anandi\_83
- Track 28 : MediumFry\_73
- Track 29 : Caterpillar\_73
- Track 30 : Truckee\_76, Makai\_78
- Track 31 : GantcherGoblin\_80
- Track 32 : PoeMe\_83, Zeina\_84
- Track 33 : Mardi\_84, BlackHoleSun\_83
- Track 34 : Phaila\_83
- Track 35 : Argan\_82
- Track 36 : KevinMinion\_79
- Track 37 : Navi1117\_86

- Track 38 : Altjira\_85
- Track 39 : Stardrop\_82
- Track 40 : Uzumaki\_81
- 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 28 of the 45 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Anandi\_83, Bouchard\_79, Brunswick\_76, CapnMurica\_71, Caterpillar\_73, Chlochlo\_80, DevitoJr\_74, ElephantMan\_75, Giantsbane\_79, Gordon\_71, Hemma\_72, 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:

- Acai\_73, 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, 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 54 ( 7.4% ) of genes in pham
- Manual Annotations of this start: 3 of 45
- 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 54 ( 1.9% ) of genes in pham
- Manual Annotations of this start: 1 of 45
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Argan\_82 (AU6),

Start 5:

- Found in 7 of 54 ( 13.0% ) of genes in pham
- Manual Annotations of this start: 5 of 45
- 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), Uzumaki\_81 (AU6), Zeina\_84 (AU6),

#### Start 6:

- Found in 8 of 54 ( 14.8% ) of genes in pham
- Manual Annotations of this start: 6 of 45
- 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), Synopsis\_70 (AU1), Tatanka\_69 (AU1), Trustiboi\_73 (AU1), Westerlin\_72 (AU1),

#### Start 7:

- Found in 32 of 54 ( 59.3% ) of genes in pham
- Manual Annotations of this start: 28 of 45
- Called 90.6% of time when present
- Phage (with cluster) where this start called: 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\_72 (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 54 ( 3.7% ) of genes in pham
- Manual Annotations of this start: 2 of 45
- 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 54 ( 16.7% ) 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),

#### Start 14:

- Found in 54 of 54 ( 100.0% ) of genes in pham
- No Manual Annotations of this start.
- Called 1.9% of time when present
- Phage (with cluster) where this start called: Acai\_73 (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 13 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\_73 Start: 49935, Stop: 50177, Start Num: 14

Candidate Starts for Acai\_73:

(Start: 7 @49896 has 28 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 28 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 28 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 28 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 28 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 28 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 28 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 28 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 28 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 28 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 28 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 28 MA's), (12, 50157), (14, 50163), (16, 50175), (21, 50211), (24, 50226), (29, 50268), (34, 50337),

Gene: Hemma\_72 Start: 47518, Stop: 47805, Start Num: 7

Candidate Starts for Hemma\_72:

(3, 47491), (Start: 7 @47518 has 28 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 28 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 28 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 28 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 28 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 28 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 28 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 28 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 28 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 28 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 28 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 28 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 28 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: ScienceWizSam\_76 Start: 49883, Stop: 50164, Start Num: 7

Candidate Starts for ScienceWizSam\_76:

(Start: 7 @49883 has 28 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 28 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: Synopsis\_70 Start: 49691, Stop: 49972, Start Num: 6

Candidate Starts for Synopsis\_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 28 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 28 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 28 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 28 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 28 MA's), (11, 50690), (14, 50711), (15, 50714), (16, 50723), (24, 50774), (29, 50816), (34, 50885), (37, 50906),