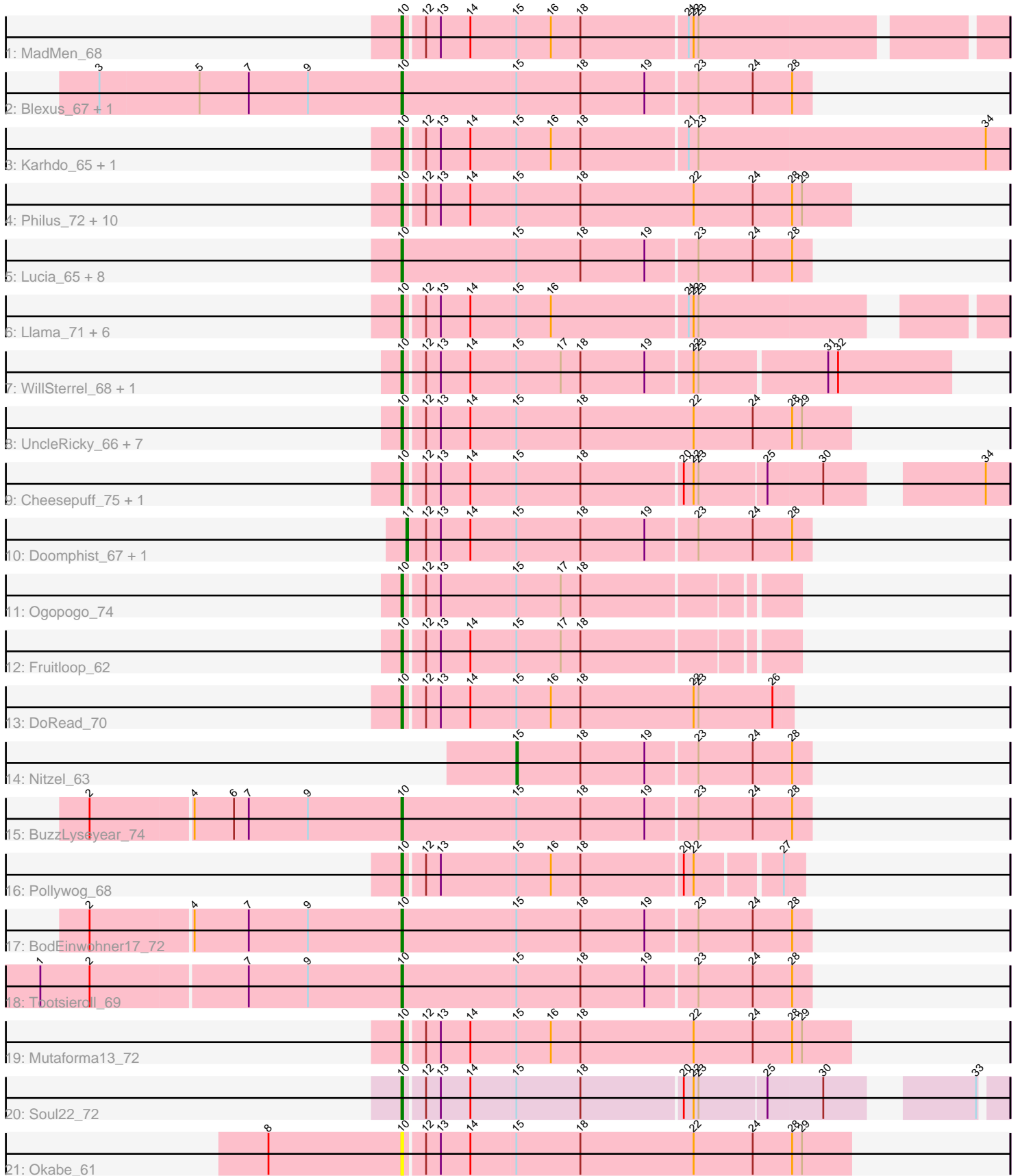


# Pham 296609



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 296609 Report

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

Pham number 296609 has 57 members, 6 are drafts.

Phages represented in each track:

- Track 1 : MadMen\_68
- Track 2 : Blexus\_67, Maravista\_70
- Track 3 : Karhdo\_65, Bipolar\_66
- Track 4 : Philus\_72, Doomslug\_75, Hegedechwinu\_66, DRBy19\_73, VRedHorse\_66, EleanorGeorge\_70, Chevrolet\_71, Gandolph\_69, ArcusAngelus\_68, Cornucopia\_68, Topiatin\_73
- Track 5 : Lucia\_65, Inventum\_62, DaddyRickover\_66, Dorothy\_65, Juniper1\_68, Sassafras\_65, Stap\_64, RedBird\_65, Che9d\_78
- Track 6 : Llama\_71, Ochi17\_70, Jinglebell\_72, AlpineSix\_72, Sebastian\_72, OfUltron\_72, Modragons\_70
- Track 7 : WillSterrel\_68, IrishSherpFalk\_68
- Track 8 : UncleRicky\_66, Lorde\_67, Drago\_64, Enby\_68, Oksu\_72, Llij\_63, DirtMcgirt\_66, Phatniss\_65
- Track 9 : Cheesepuff\_75, Che8\_71
- Track 10 : Doomphist\_67, Poenanya\_67
- Track 11 : Ogopogo\_74
- Track 12 : Fruitloop\_62
- Track 13 : DoRead\_70
- Track 14 : Nitzel\_63
- Track 15 : BuzzLyseyear\_74
- Track 16 : Pollywog\_68
- Track 17 : BodEinwohner17\_72
- Track 18 : Tootsieroll\_69
- Track 19 : Mutaforma13\_72
- Track 20 : Soul22\_72
- Track 21 : Okabe\_61

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

The start number called the most often in the published annotations is 10, it was called in 48 of the 51 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AlpineSix\_72, ArcusAngelus\_68, Bipolar\_66, Blexus\_67, BodEinwohner17\_72, BuzzLyseyear\_74, Che8\_71, Che9d\_78, Cheesepuff\_75, Chevrolet\_71, Cornucopia\_68, DRBy19\_73, DaddyRickover\_66, DirtMcgirt\_66, DoRead\_70, Doomslug\_75, Dorothy\_65, Drago\_64, EleanorGeorge\_70, Enby\_68, Fruitloop\_62, Gandolph\_69, Hegedechwinu\_66, Inventum\_62, IrishSherpFalk\_68, Jinglebell\_72, Juniper1\_68, Karhdo\_65, Llama\_71, Llij\_63, Lorde\_67, Lucia\_65, MadMen\_68, Maravista\_70, Modragons\_70, Mutaforma13\_72, Ochi17\_70, OfUltron\_72, Ogopogo\_74, Okabe\_61, Oksu\_72, Phatniss\_65, Philus\_72, Pollywog\_68, RedBird\_65, Sassafras\_65, Seabastian\_72, Soul22\_72, Stap\_64, Tootsieroll\_69, Topiatin\_73, UncleRicky\_66, VRedHorse\_66, WillSterrel\_68,

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

- 

Genes that do not have the "Most Annotated" start:

- Doomphist\_67, Nitzel\_63, Poenanya\_67,

### Summary by start number:

Start 10:

- Found in 54 of 57 ( 94.7% ) of genes in pham
- Manual Annotations of this start: 48 of 51
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AlpineSix\_72 (F1), ArcusAngelus\_68 (F1), Bipolar\_66 (F1), Blexus\_67 (F1), BodEinwohner17\_72 (F1), BuzzLyseyear\_74 (F1), Che8\_71 (F1), Che9d\_78 (F2), Cheesepuff\_75 (F1), Chevrolet\_71 (F1), Cornucopia\_68 (F1), DRBy19\_73 (F1), DaddyRickover\_66 (F1), DirtMcgirt\_66 (F1), DoRead\_70 (F1), Doomslug\_75 (F), Dorothy\_65 (F1), Drago\_64 (F1), EleanorGeorge\_70 (F1), Enby\_68 (F1), Fruitloop\_62 (F1), Gandolph\_69 (F1), Hegedechwinu\_66 (F1), Inventum\_62 (F1), IrishSherpFalk\_68 (F1), Jinglebell\_72 (F1), Juniper1\_68 (F1), Karhdo\_65 (F1), Llama\_71 (F1), Llij\_63 (F1), Lorde\_67 (F1), Lucia\_65 (F1), MadMen\_68 (F1), Maravista\_70 (F1), Modragons\_70 (F1), Mutaforma13\_72 (F1), Ochi17\_70 (F1), OfUltron\_72 (F1), Ogopogo\_74 (F1), Okabe\_61 (F8), Oksu\_72 (F1), Phatniss\_65 (F1), Philus\_72 (F1), Pollywog\_68 (F1), RedBird\_65 (F1), Sassafras\_65 (F1), Seabastian\_72 (F1), Soul22\_72 (F2), Stap\_64 (F1), Tootsieroll\_69 (F1), Topiatin\_73 (F1), UncleRicky\_66 (F1), VRedHorse\_66 (F1), WillSterrel\_68 (F1),

Start 11:

- Found in 2 of 57 ( 3.5% ) of genes in pham
- Manual Annotations of this start: 2 of 51
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Doomphist\_67 (F1), Poenanya\_67 (F1),

Start 15:

- Found in 57 of 57 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 1 of 51
- Called 1.8% of time when present
- Phage (with cluster) where this start called: Nitzel\_63 (F1),

### Summary by clusters:

There are 4 clusters represented in this pham: F8, F1, F2, F,

Info for manual annotations of cluster F1:

- Start number 10 was manually annotated 46 times for cluster F1.
- Start number 11 was manually annotated 2 times for cluster F1.
- Start number 15 was manually annotated 1 time for cluster F1.

Info for manual annotations of cluster F2:

- Start number 10 was manually annotated 2 times for cluster F2.

### **Gene Information:**

Gene: AlpineSix\_72 Start: 45678, Stop: 46013, Start Num: 10

Candidate Starts for AlpineSix\_72:

(Start: 10 @45678 has 48 MA's), (12, 45690), (13, 45699), (14, 45717), (Start: 15 @45744 has 1 MA's), (16, 45765), (21, 45846), (22, 45849), (23, 45852),

Gene: ArcusAngelus\_68 Start: 42991, Stop: 43260, Start Num: 10

Candidate Starts for ArcusAngelus\_68:

(Start: 10 @42991 has 48 MA's), (12, 43003), (13, 43012), (14, 43030), (Start: 15 @43057 has 1 MA's), (18, 43096), (22, 43165), (24, 43201), (28, 43225), (29, 43231),

Gene: Bipolar\_66 Start: 43049, Stop: 43411, Start Num: 10

Candidate Starts for Bipolar\_66:

(Start: 10 @43049 has 48 MA's), (12, 43061), (13, 43070), (14, 43088), (Start: 15 @43115 has 1 MA's), (16, 43136), (18, 43154), (21, 43217), (23, 43223), (34, 43397),

Gene: Blexus\_67 Start: 45581, Stop: 45826, Start Num: 10

Candidate Starts for Blexus\_67:

(3, 45398), (5, 45458), (7, 45488), (9, 45524), (Start: 10 @45581 has 48 MA's), (Start: 15 @45650 has 1 MA's), (18, 45689), (19, 45728), (23, 45758), (24, 45791), (28, 45815),

Gene: BodEinwohner17\_72 Start: 46110, Stop: 46355, Start Num: 10

Candidate Starts for BodEinwohner17\_72:

(2, 45924), (4, 45984), (7, 46017), (9, 46053), (Start: 10 @46110 has 48 MA's), (Start: 15 @46179 has 1 MA's), (18, 46218), (19, 46257), (23, 46287), (24, 46320), (28, 46344),

Gene: BuzzLyseyear\_74 Start: 47580, Stop: 47825, Start Num: 10

Candidate Starts for BuzzLyseyear\_74:

(2, 47394), (4, 47454), (6, 47478), (7, 47487), (9, 47523), (Start: 10 @47580 has 48 MA's), (Start: 15 @47649 has 1 MA's), (18, 47688), (19, 47727), (23, 47757), (24, 47790), (28, 47814),

Gene: Che8\_71 Start: 45454, Stop: 45789, Start Num: 10

Candidate Starts for Che8\_71:

(Start: 10 @45454 has 48 MA's), (12, 45466), (13, 45475), (14, 45493), (Start: 15 @45520 has 1 MA's), (18, 45559), (20, 45619), (22, 45625), (23, 45628), (25, 45667), (30, 45700), (34, 45775),

Gene: Che9d\_78 Start: 44614, Stop: 44859, Start Num: 10

Candidate Starts for Che9d\_78:

(Start: 10 @44614 has 48 MA's), (Start: 15 @44683 has 1 MA's), (18, 44722), (19, 44761), (23, 44791), (24, 44824), (28, 44848),

Gene: Cheese puff\_75 Start: 44839, Stop: 45174, Start Num: 10

Candidate Starts for Cheese puff\_75:

(Start: 10 @44839 has 48 MA's), (12, 44851), (13, 44860), (14, 44878), (Start: 15 @44905 has 1 MA's), (18, 44944), (20, 45004), (22, 45010), (23, 45013), (25, 45052), (30, 45085), (34, 45160),

Gene: Chevrolet\_71 Start: 42992, Stop: 43261, Start Num: 10

Candidate Starts for Chevrolet\_71:

(Start: 10 @42992 has 48 MA's), (12, 43004), (13, 43013), (14, 43031), (Start: 15 @43058 has 1 MA's), (18, 43097), (22, 43166), (24, 43202), (28, 43226), (29, 43232),

Gene: Cornucopia\_68 Start: 42938, Stop: 43207, Start Num: 10

Candidate Starts for Cornucopia\_68:

(Start: 10 @42938 has 48 MA's), (12, 42950), (13, 42959), (14, 42977), (Start: 15 @43004 has 1 MA's), (18, 43043), (22, 43112), (24, 43148), (28, 43172), (29, 43178),

Gene: DRBy19\_73 Start: 47235, Stop: 47504, Start Num: 10

Candidate Starts for DRBy19\_73:

(Start: 10 @47235 has 48 MA's), (12, 47247), (13, 47256), (14, 47274), (Start: 15 @47301 has 1 MA's), (18, 47340), (22, 47409), (24, 47445), (28, 47469), (29, 47475),

Gene: DaddyRickover\_66 Start: 43446, Stop: 43691, Start Num: 10

Candidate Starts for DaddyRickover\_66:

(Start: 10 @43446 has 48 MA's), (Start: 15 @43515 has 1 MA's), (18, 43554), (19, 43593), (23, 43623), (24, 43656), (28, 43680),

Gene: DirtMcgirt\_66 Start: 41587, Stop: 41856, Start Num: 10

Candidate Starts for DirtMcgirt\_66:

(Start: 10 @41587 has 48 MA's), (12, 41599), (13, 41608), (14, 41626), (Start: 15 @41653 has 1 MA's), (18, 41692), (22, 41761), (24, 41797), (28, 41821), (29, 41827),

Gene: DoRead\_70 Start: 42700, Stop: 42933, Start Num: 10

Candidate Starts for DoRead\_70:

(Start: 10 @42700 has 48 MA's), (12, 42712), (13, 42721), (14, 42739), (Start: 15 @42766 has 1 MA's), (16, 42787), (18, 42805), (22, 42874), (23, 42877), (26, 42922),

Gene: Doomphist\_67 Start: 43997, Stop: 44239, Start Num: 11

Candidate Starts for Doomphist\_67:

(Start: 11 @43997 has 2 MA's), (12, 44009), (13, 44018), (14, 44036), (Start: 15 @44063 has 1 MA's), (18, 44102), (19, 44141), (23, 44171), (24, 44204), (28, 44228),

Gene: Doomslug\_75 Start: 43351, Stop: 43620, Start Num: 10

Candidate Starts for Doomslug\_75:

(Start: 10 @43351 has 48 MA's), (12, 43363), (13, 43372), (14, 43390), (Start: 15 @43417 has 1 MA's), (18, 43456), (22, 43525), (24, 43561), (28, 43585), (29, 43591),

Gene: Dorothy\_65 Start: 42620, Stop: 42865, Start Num: 10

Candidate Starts for Dorothy\_65:

(Start: 10 @42620 has 48 MA's), (Start: 15 @42689 has 1 MA's), (18, 42728), (19, 42767), (23, 42797), (24, 42830), (28, 42854),

Gene: Drago\_64 Start: 41590, Stop: 41859, Start Num: 10

Candidate Starts for Drago\_64:

(Start: 10 @41590 has 48 MA's), (12, 41602), (13, 41611), (14, 41629), (Start: 15 @41656 has 1 MA's), (18, 41695), (22, 41764), (24, 41800), (28, 41824), (29, 41830),

Gene: EleanorGeorge\_70 Start: 45365, Stop: 45634, Start Num: 10

Candidate Starts for EleanorGeorge\_70:

(Start: 10 @45365 has 48 MA's), (12, 45377), (13, 45386), (14, 45404), (Start: 15 @45431 has 1 MA's), (18, 45470), (22, 45539), (24, 45575), (28, 45599), (29, 45605),

Gene: Enby\_68 Start: 41866, Stop: 42135, Start Num: 10

Candidate Starts for Enby\_68:

(Start: 10 @41866 has 48 MA's), (12, 41878), (13, 41887), (14, 41905), (Start: 15 @41932 has 1 MA's), (18, 41971), (22, 42040), (24, 42076), (28, 42100), (29, 42106),

Gene: Fruitloop\_62 Start: 43224, Stop: 43451, Start Num: 10

Candidate Starts for Fruitloop\_62:

(Start: 10 @43224 has 48 MA's), (12, 43236), (13, 43245), (14, 43263), (Start: 15 @43290 has 1 MA's), (17, 43317), (18, 43329),

Gene: Gandalph\_69 Start: 43079, Stop: 43348, Start Num: 10

Candidate Starts for Gandalph\_69:

(Start: 10 @43079 has 48 MA's), (12, 43091), (13, 43100), (14, 43118), (Start: 15 @43145 has 1 MA's), (18, 43184), (22, 43253), (24, 43289), (28, 43313), (29, 43319),

Gene: Hegedechwinu\_66 Start: 41869, Stop: 42138, Start Num: 10

Candidate Starts for Hegedechwinu\_66:

(Start: 10 @41869 has 48 MA's), (12, 41881), (13, 41890), (14, 41908), (Start: 15 @41935 has 1 MA's), (18, 41974), (22, 42043), (24, 42079), (28, 42103), (29, 42109),

Gene: Inventum\_62 Start: 42818, Stop: 43063, Start Num: 10

Candidate Starts for Inventum\_62:

(Start: 10 @42818 has 48 MA's), (Start: 15 @42887 has 1 MA's), (18, 42926), (19, 42965), (23, 42995), (24, 43028), (28, 43052),

Gene: IrishSherpFalk\_68 Start: 44580, Stop: 44903, Start Num: 10

Candidate Starts for IrishSherpFalk\_68:

(Start: 10 @44580 has 48 MA's), (12, 44592), (13, 44601), (14, 44619), (Start: 15 @44646 has 1 MA's), (17, 44673), (18, 44685), (19, 44724), (22, 44751), (23, 44754), (31, 44829), (32, 44835),

Gene: Jinglebell\_72 Start: 45677, Stop: 46012, Start Num: 10

Candidate Starts for Jinglebell\_72:

(Start: 10 @45677 has 48 MA's), (12, 45689), (13, 45698), (14, 45716), (Start: 15 @45743 has 1 MA's), (16, 45764), (21, 45845), (22, 45848), (23, 45851),

Gene: Juniper1\_68 Start: 44785, Stop: 45030, Start Num: 10

Candidate Starts for Juniper1\_68:

(Start: 10 @44785 has 48 MA's), (Start: 15 @44854 has 1 MA's), (18, 44893), (19, 44932), (23, 44962), (24, 44995), (28, 45019),

Gene: Karhdo\_65 Start: 43664, Stop: 44026, Start Num: 10

Candidate Starts for Karhdo\_65:

(Start: 10 @43664 has 48 MA's), (12, 43676), (13, 43685), (14, 43703), (Start: 15 @43730 has 1 MA's), (16, 43751), (18, 43769), (21, 43832), (23, 43838), (34, 44012),

Gene: Llama\_71 Start: 45532, Stop: 45867, Start Num: 10

Candidate Starts for Llama\_71:

(Start: 10 @45532 has 48 MA's), (12, 45544), (13, 45553), (14, 45571), (Start: 15 @45598 has 1 MA's), (16, 45619), (21, 45700), (22, 45703), (23, 45706),

Gene: Llij\_63 Start: 41744, Stop: 42013, Start Num: 10

Candidate Starts for Llij\_63:

(Start: 10 @41744 has 48 MA's), (12, 41756), (13, 41765), (14, 41783), (Start: 15 @41810 has 1 MA's), (18, 41849), (22, 41918), (24, 41954), (28, 41978), (29, 41984),

Gene: Lorde\_67 Start: 41031, Stop: 41300, Start Num: 10

Candidate Starts for Lorde\_67:

(Start: 10 @41031 has 48 MA's), (12, 41043), (13, 41052), (14, 41070), (Start: 15 @41097 has 1 MA's), (18, 41136), (22, 41205), (24, 41241), (28, 41265), (29, 41271),

Gene: Lucia\_65 Start: 41190, Stop: 41435, Start Num: 10

Candidate Starts for Lucia\_65:

(Start: 10 @41190 has 48 MA's), (Start: 15 @41259 has 1 MA's), (18, 41298), (19, 41337), (23, 41367), (24, 41400), (28, 41424),

Gene: MadMen\_68 Start: 44017, Stop: 44364, Start Num: 10

Candidate Starts for MadMen\_68:

(Start: 10 @44017 has 48 MA's), (12, 44029), (13, 44038), (14, 44056), (Start: 15 @44083 has 1 MA's), (16, 44104), (18, 44122), (21, 44185), (22, 44188), (23, 44191),

Gene: Maravista\_70 Start: 47085, Stop: 47330, Start Num: 10

Candidate Starts for Maravista\_70:

(3, 46902), (5, 46962), (7, 46992), (9, 47028), (Start: 10 @47085 has 48 MA's), (Start: 15 @47154 has 1 MA's), (18, 47193), (19, 47232), (23, 47262), (24, 47295), (28, 47319),

Gene: Modragons\_70 Start: 45521, Stop: 45856, Start Num: 10

Candidate Starts for Modragons\_70:

(Start: 10 @45521 has 48 MA's), (12, 45533), (13, 45542), (14, 45560), (Start: 15 @45587 has 1 MA's), (16, 45608), (21, 45689), (22, 45692), (23, 45695),

Gene: Mutaforma13\_72 Start: 46032, Stop: 46301, Start Num: 10

Candidate Starts for Mutaforma13\_72:

(Start: 10 @46032 has 48 MA's), (12, 46044), (13, 46053), (14, 46071), (Start: 15 @46098 has 1 MA's), (16, 46119), (18, 46137), (22, 46206), (24, 46242), (28, 46266), (29, 46272),

Gene: Nitzel\_63 Start: 41918, Stop: 42094, Start Num: 15

Candidate Starts for Nitzel\_63:

(Start: 15 @41918 has 1 MA's), (18, 41957), (19, 41996), (23, 42026), (24, 42059), (28, 42083),

Gene: Ochi17\_70 Start: 45128, Stop: 45463, Start Num: 10

Candidate Starts for Ochi17\_70:

(Start: 10 @45128 has 48 MA's), (12, 45140), (13, 45149), (14, 45167), (Start: 15 @45194 has 1 MA's), (16, 45215), (21, 45296), (22, 45299), (23, 45302),

Gene: OfUltron\_72 Start: 45677, Stop: 46012, Start Num: 10

Candidate Starts for OfUltron\_72:

(Start: 10 @45677 has 48 MA's), (12, 45689), (13, 45698), (14, 45716), (Start: 15 @45743 has 1 MA's), (16, 45764), (21, 45845), (22, 45848), (23, 45851),

Gene: Ogotogo\_74 Start: 44524, Stop: 44751, Start Num: 10

Candidate Starts for Ogotogo\_74:

(Start: 10 @44524 has 48 MA's), (12, 44536), (13, 44545), (Start: 15 @44590 has 1 MA's), (17, 44617), (18, 44629),

Gene: Okabe\_61 Start: 39327, Stop: 39596, Start Num: 10

Candidate Starts for Okabe\_61:

(8, 39246), (Start: 10 @39327 has 48 MA's), (12, 39339), (13, 39348), (14, 39366), (Start: 15 @39393 has 1 MA's), (18, 39432), (22, 39501), (24, 39537), (28, 39561), (29, 39567),

Gene: Oksu\_72 Start: 46973, Stop: 47242, Start Num: 10

Candidate Starts for Oksu\_72:

(Start: 10 @46973 has 48 MA's), (12, 46985), (13, 46994), (14, 47012), (Start: 15 @47039 has 1 MA's), (18, 47078), (22, 47147), (24, 47183), (28, 47207), (29, 47213),

Gene: Phatniss\_65 Start: 42839, Stop: 43108, Start Num: 10

Candidate Starts for Phatniss\_65:

(Start: 10 @42839 has 48 MA's), (12, 42851), (13, 42860), (14, 42878), (Start: 15 @42905 has 1 MA's), (18, 42944), (22, 43013), (24, 43049), (28, 43073), (29, 43079),

Gene: Philus\_72 Start: 47211, Stop: 47480, Start Num: 10

Candidate Starts for Philus\_72:

(Start: 10 @47211 has 48 MA's), (12, 47223), (13, 47232), (14, 47250), (Start: 15 @47277 has 1 MA's), (18, 47316), (22, 47385), (24, 47421), (28, 47445), (29, 47451),

Gene: Poenanya\_67 Start: 43997, Stop: 44239, Start Num: 11

Candidate Starts for Poenanya\_67:

(Start: 11 @43997 has 2 MA's), (12, 44009), (13, 44018), (14, 44036), (Start: 15 @44063 has 1 MA's), (18, 44102), (19, 44141), (23, 44171), (24, 44204), (28, 44228),

Gene: Pollywog\_68 Start: 45277, Stop: 45507, Start Num: 10

Candidate Starts for Pollywog\_68:

(Start: 10 @45277 has 48 MA's), (12, 45289), (13, 45298), (Start: 15 @45343 has 1 MA's), (16, 45364), (18, 45382), (20, 45442), (22, 45448), (27, 45496),

Gene: RedBird\_65 Start: 42499, Stop: 42744, Start Num: 10

Candidate Starts for RedBird\_65:

(Start: 10 @42499 has 48 MA's), (Start: 15 @42568 has 1 MA's), (18, 42607), (19, 42646), (23, 42676), (24, 42709), (28, 42733),

Gene: Sassafras\_65 Start: 42817, Stop: 43062, Start Num: 10

Candidate Starts for Sassafras\_65:

(Start: 10 @42817 has 48 MA's), (Start: 15 @42886 has 1 MA's), (18, 42925), (19, 42964), (23, 42994), (24, 43027), (28, 43051),

Gene: Seabastian\_72 Start: 45678, Stop: 46013, Start Num: 10

Candidate Starts for Seabastian\_72:

(Start: 10 @45678 has 48 MA's), (12, 45690), (13, 45699), (14, 45717), (Start: 15 @45744 has 1 MA's), (16, 45765), (21, 45846), (22, 45849), (23, 45852),

Gene: Soul22\_72 Start: 43836, Stop: 44165, Start Num: 10

Candidate Starts for Soul22\_72:

(Start: 10 @43836 has 48 MA's), (12, 43848), (13, 43857), (14, 43875), (Start: 15 @43902 has 1 MA's), (18, 43941), (20, 44001), (22, 44007), (23, 44010), (25, 44049), (30, 44082), (33, 44151),

Gene: Stap\_64 Start: 42706, Stop: 42951, Start Num: 10

Candidate Starts for Stap\_64:

(Start: 10 @42706 has 48 MA's), (Start: 15 @42775 has 1 MA's), (18, 42814), (19, 42853), (23, 42883), (24, 42916), (28, 42940),

Gene: Tootsieroll\_69 Start: 46518, Stop: 46763, Start Num: 10

Candidate Starts for Tootsieroll\_69:

(1, 46302), (2, 46332), (7, 46425), (9, 46461), (Start: 10 @46518 has 48 MA's), (Start: 15 @46587 has 1 MA's), (18, 46626), (19, 46665), (23, 46695), (24, 46728), (28, 46752),

Gene: Topiatin\_73 Start: 45311, Stop: 45580, Start Num: 10

Candidate Starts for Topiatin\_73:

(Start: 10 @45311 has 48 MA's), (12, 45323), (13, 45332), (14, 45350), (Start: 15 @45377 has 1 MA's), (18, 45416), (22, 45485), (24, 45521), (28, 45545), (29, 45551),

Gene: UncleRicky\_66 Start: 43087, Stop: 43356, Start Num: 10

Candidate Starts for UncleRicky\_66:

(Start: 10 @43087 has 48 MA's), (12, 43099), (13, 43108), (14, 43126), (Start: 15 @43153 has 1 MA's), (18, 43192), (22, 43261), (24, 43297), (28, 43321), (29, 43327),

Gene: VRedHorse\_66 Start: 41756, Stop: 42025, Start Num: 10

Candidate Starts for VRedHorse\_66:

(Start: 10 @41756 has 48 MA's), (12, 41768), (13, 41777), (14, 41795), (Start: 15 @41822 has 1 MA's), (18, 41861), (22, 41930), (24, 41966), (28, 41990), (29, 41996),

Gene: WillSterrel\_68 Start: 44613, Stop: 44936, Start Num: 10

Candidate Starts for WillSterrel\_68:

(Start: 10 @44613 has 48 MA's), (12, 44625), (13, 44634), (14, 44652), (Start: 15 @44679 has 1 MA's), (17, 44706), (18, 44718), (19, 44757), (22, 44784), (23, 44787), (31, 44862), (32, 44868),