





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 291092 Report

This analysis was run 03/28/26 on database version 641.

Pham number 291092 has 80 members, 8 are drafts.

Phages represented in each track:

- Track 1 : Sharkboy\_60, Kamdara\_58, Kieran\_58
- Track 2 : Akino08\_60, Loviatar\_60
- Track 3 : BabyYoda\_59, Stromboli\_59
- Track 4 : PhigPhack\_64
- Track 5 : SansAfet\_63
- Track 6 : Bernstein\_60, Clayda5\_62, Brahms\_60, Skylord\_60, Rollins\_60, Coltrane\_60, Vitas\_60, Armstrong\_60
- Track 7 : Arroyo\_62
- Track 8 : Celaena\_58
- Track 9 : Phisb\_63
- Track 10 : Gack\_59
- Track 11 : TukTuk\_63
- Track 12 : BubbaBear\_61
- Track 13 : Cashington\_61
- Track 14 : Lilo27\_63
- Track 15 : Elva\_63
- Track 16 : DickRichards\_60, Burritobowl\_63, CroZenni\_62
- Track 17 : Jabb\_61, CupcakePrincess\_61, MsUbiquitous\_61
- Track 18 : Didgeridoo\_67
- Track 19 : AylexOG\_63
- Track 20 : Bachaco\_58
- Track 21 : LimaBean\_61, Doobus\_60
- Track 22 : ChiliPepper\_58, Rona\_58
- Track 23 : Finalfrontier\_62
- Track 24 : Solea\_64, Milomuff\_63
- Track 25 : Pecas\_62
- Track 26 : IndyLu\_64
- Track 27 : Avocadoman\_61
- Track 28 : DirtyBubble\_59
- Track 29 : Lahqtemish\_62
- Track 30 : FlameThrower\_57, Katzastrophic\_59
- Track 31 : SarBear\_62
- Track 32 : SanaSana\_61, Stoor\_59
- Track 33 : BabyDaisy\_64
- Track 34 : AnnaLie\_61, BelmontSKP\_61
- Track 35 : AvGardian\_62
- Track 36 : Kate33\_66, Softsoap\_63

- Track 37 : Eden\_60
- Track 38 : Albedo\_63
- Track 39 : BAjuniper\_59
- Track 40 : WalkingDead\_62
- Track 41 : Albright\_61
- Track 42 : Franklin22\_62
- Track 43 : Nicky22\_61
- Track 44 : PastaFagioli\_63
- Track 45 : Jovita\_60
- Track 46 : SirBeanington\_62
- Track 47 : QMacho\_63
- Track 48 : Eula\_61
- Track 49 : Johnathan\_61
- Track 50 : Slay\_63
- Track 51 : Bengal\_64
- Track 52 : Swervy\_62
- Track 53 : Lynlen\_62
- Track 54 : Icarian\_62
- Track 55 : Abigail\_61
- Track 56 : PondAmelia\_73
- Track 57 : Kenzers\_61
- Track 58 : Quenya\_62

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

The start number called the most often in the published annotations is 9, it was called in 50 of the 72 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abigail\_61, Akino08\_60, Albedo\_63, Albright\_61, AnnaLie\_61, Arroyo\_62, Avacadoman\_61, AylexOG\_63, BabyDaisy\_64, BabyYoda\_59, BelmontSKP\_61, Bengal\_64, BubbaBear\_61, Burritobowl\_63, Cashington\_61, CroZenni\_62, CupcakePrincess\_61, DickRichards\_60, Didgeridoo\_67, DirtyBubble\_59, Doobus\_60, Elva\_63, Eula\_61, Finalfrontier\_62, Icarian\_62, IndyLu\_64, Jabb\_61, Johnathan\_61, Jovita\_60, Kate33\_66, Kenzers\_61, Lahqtemish\_62, Lilo27\_63, LimaBean\_61, Loviatar\_60, Lynlen\_62, Milomuff\_63, MsUbiquitous\_61, Nicky22\_61, PastaFagioli\_63, Pecas\_62, PhigPhack\_64, Phisb\_63, PondAmelia\_73, QMacho\_63, SanaSana\_61, SansAfet\_63, SarBear\_62, SirBeanington\_62, Slay\_63, Softsoap\_63, Solea\_64, Stoor\_59, Stromboli\_59, Swervy\_62, TukTuk\_63,

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

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

- Armstrong\_60, AvGardian\_62, BAjuniper\_59, Bachaco\_58, Bernstein\_60, Brahms\_60, Celaena\_58, ChiliPepper\_58, Clayda5\_62, Coltrane\_60, Eden\_60, FlameThrower\_57, Franklin22\_62, Gack\_59, Kamdara\_58, Katzastrophic\_59, Kieran\_58, Quenya\_62, Rollins\_60, Rona\_58, Sharkboy\_60, Skylord\_60, Vitas\_60, WalkingDead\_62,

## Summary by start number:

### Start 8:

- Found in 24 of 80 ( 30.0% ) of genes in pham
- Manual Annotations of this start: 22 of 72
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Armstrong\_60 (EB), AvGardian\_62 (EB), BAjuniper\_59 (EB), Bachaco\_58 (EB), Bernstein\_60 (EB), Brahms\_60 (EB), Celaena\_58 (EB), ChiliPepper\_58 (EB), Clayda5\_62 (EB), Coltrane\_60 (EB), Eden\_60 (EB), FlameThrower\_57 (EB), Franklin22\_62 (EB), Gack\_59 (EB), Kamdara\_58 (EB), Katzastrophic\_59 (EB), Kieran\_58 (EB), Quenya\_62 (EB), Rollins\_60 (EB), Rona\_58 (EB), Sharkboy\_60 (EB), Skylord\_60 (EB), Vitas\_60 (EB), WalkingDead\_62 (EB),

### Start 9:

- Found in 56 of 80 ( 70.0% ) of genes in pham
- Manual Annotations of this start: 50 of 72
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abigail\_61 (EB), Akino08\_60 (EB), Albedo\_63 (EB), Albright\_61 (EB), AnnaLie\_61 (EB), Arroyo\_62 (EB), Avocadoman\_61 (EB), AylexOG\_63 (EB), BabyDaisy\_64 (EB), BabyYoda\_59 (EB), BelmontSKP\_61 (EB), Bengal\_64 (EB), BubbaBear\_61 (EB), Burritobowl\_63 (EB), Cashington\_61 (EB), CroZenni\_62 (EB), CupcakePrincess\_61 (EB), DickRichards\_60 (EB), Didgeridoo\_67 (EB), DirtyBubble\_59 (EB), Doobus\_60 (EB), Elva\_63 (EB), Eula\_61 (EB), Finalfrontier\_62 (EB), Icarian\_62 (EB), IndyLu\_64 (EB), Jabb\_61 (EB), Johnathan\_61 (EB), Jovita\_60 (EB), Kate33\_66 (EB), Kenzers\_61 (EB), Lahqtemish\_62 (EB), Lilo27\_63 (EB), LimaBean\_61 (EB), Loviatar\_60 (EB), Lynlen\_62 (EB), Milomuff\_63 (EB), MsUbiquitous\_61 (EB), Nicky22\_61 (EB), PastaFagioli\_63 (EB), Pecas\_62 (EB), PhigPhack\_64 (EB), Phisb\_63 (EB), PondAmelia\_73 (EB), QMacho\_63 (EB), SanaSana\_61 (EB), SansAfet\_63 (EB), SarBear\_62 (EB), SirBeanington\_62 (EB), Slay\_63 (EB), Softsoap\_63 (EB), Solea\_64 (EB), Stoor\_59 (EB), Stromboli\_59 (EB), Swervy\_62 (EB), TukTuk\_63 (EB),

## Summary by clusters:

There is one cluster represented in this pham: EB

### Info for manual annotations of cluster EB:

- Start number 8 was manually annotated 22 times for cluster EB.
- Start number 9 was manually annotated 50 times for cluster EB.

### **Gene Information:**

Gene: Abigail\_61 Start: 38638, Stop: 38832, Start Num: 9

Candidate Starts for Abigail\_61:

(3, 38281), (Start: 9 @38638 has 50 MA's), (13, 38674), (18, 38692), (22, 38719),

Gene: Akino08\_60 Start: 40091, Stop: 40291, Start Num: 9

Candidate Starts for Akino08\_60:

(Start: 9 @40091 has 50 MA's), (13, 40124), (15, 40130), (17, 40139), (22, 40169), (34, 40259),

Gene: Albedo\_63 Start: 39558, Stop: 39752, Start Num: 9  
Candidate Starts for Albedo\_63:  
(1, 39117), (3, 39201), (Start: 9 @39558 has 50 MA's), (13, 39594), (18, 39612), (22, 39639), (34, 39729),

Gene: Albright\_61 Start: 38623, Stop: 38814, Start Num: 9  
Candidate Starts for Albright\_61:  
(Start: 9 @38623 has 50 MA's), (13, 38656), (15, 38662), (18, 38674), (22, 38701),

Gene: AnnaLie\_61 Start: 39293, Stop: 39487, Start Num: 9  
Candidate Starts for AnnaLie\_61:  
(Start: 9 @39293 has 50 MA's), (13, 39329), (15, 39335), (18, 39347), (22, 39374),

Gene: Armstrong\_60 Start: 37153, Stop: 37329, Start Num: 8  
Candidate Starts for Armstrong\_60:  
(Start: 8 @37153 has 22 MA's), (12, 37183), (15, 37198), (16, 37201), (19, 37216), (21, 37228), (28, 37294), (31, 37303),

Gene: Arroyo\_62 Start: 39595, Stop: 39789, Start Num: 9  
Candidate Starts for Arroyo\_62:  
(Start: 9 @39595 has 50 MA's), (13, 39631), (18, 39649), (22, 39676),

Gene: AvGardian\_62 Start: 39340, Stop: 39543, Start Num: 8  
Candidate Starts for AvGardian\_62:  
(Start: 8 @39340 has 22 MA's), (10, 39346), (13, 39376), (15, 39382), (22, 39421), (34, 39511),

Gene: Avocadoman\_61 Start: 38566, Stop: 38760, Start Num: 9  
Candidate Starts for Avocadoman\_61:  
(7, 38554), (Start: 9 @38566 has 50 MA's), (13, 38602), (22, 38647), (32, 38722),

Gene: AylexOG\_63 Start: 39204, Stop: 39398, Start Num: 9  
Candidate Starts for AylexOG\_63:  
(Start: 9 @39204 has 50 MA's), (12, 39231), (13, 39240), (15, 39246), (18, 39258), (22, 39285), (34, 39375),

Gene: BAjuniper\_59 Start: 39343, Stop: 39519, Start Num: 8  
Candidate Starts for BAjuniper\_59:  
(Start: 8 @39343 has 22 MA's), (13, 39382), (16, 39391), (21, 39418), (23, 39436), (26, 39478), (27, 39481),

Gene: BabyDaisy\_64 Start: 40097, Stop: 40297, Start Num: 9  
Candidate Starts for BabyDaisy\_64:  
(7, 40085), (Start: 9 @40097 has 50 MA's), (13, 40130), (15, 40136), (22, 40175), (27, 40229), (28, 40232),

Gene: BabyYoda\_59 Start: 39000, Stop: 39200, Start Num: 9  
Candidate Starts for BabyYoda\_59:  
(Start: 9 @39000 has 50 MA's), (13, 39033), (15, 39039), (17, 39048), (18, 39051), (22, 39078), (34, 39168),

Gene: Bachaco\_58 Start: 40052, Stop: 40240, Start Num: 8  
Candidate Starts for Bachaco\_58:  
(Start: 8 @40052 has 22 MA's), (13, 40091), (16, 40100), (22, 40136), (30, 40199), (33, 40220),

Gene: BelmontSKP\_61 Start: 39293, Stop: 39487, Start Num: 9

Candidate Starts for BelmontSKP\_61:

(Start: 9 @39293 has 50 MA's), (13, 39329), (15, 39335), (18, 39347), (22, 39374),

Gene: Bengal\_64 Start: 39353, Stop: 39547, Start Num: 9

Candidate Starts for Bengal\_64:

(1, 38912), (3, 38996), (Start: 9 @39353 has 50 MA's), (13, 39389), (22, 39434),

Gene: Bernstein\_60 Start: 37151, Stop: 37327, Start Num: 8

Candidate Starts for Bernstein\_60:

(Start: 8 @37151 has 22 MA's), (12, 37181), (15, 37196), (16, 37199), (19, 37214), (21, 37226), (28, 37292), (31, 37301),

Gene: Brahms\_60 Start: 37053, Stop: 37229, Start Num: 8

Candidate Starts for Brahms\_60:

(Start: 8 @37053 has 22 MA's), (12, 37083), (15, 37098), (16, 37101), (19, 37116), (21, 37128), (28, 37194), (31, 37203),

Gene: BubbaBear\_61 Start: 39350, Stop: 39544, Start Num: 9

Candidate Starts for BubbaBear\_61:

(7, 39338), (Start: 9 @39350 has 50 MA's), (13, 39386), (15, 39392), (18, 39404), (22, 39431),

Gene: Burritobowl\_63 Start: 39121, Stop: 39315, Start Num: 9

Candidate Starts for Burritobowl\_63:

(Start: 9 @39121 has 50 MA's), (13, 39157), (15, 39163), (18, 39175), (22, 39202),

Gene: Cashington\_61 Start: 38697, Stop: 38891, Start Num: 9

Candidate Starts for Cashington\_61:

(Start: 9 @38697 has 50 MA's), (17, 38748), (18, 38751), (22, 38778), (34, 38868),

Gene: Celaena\_58 Start: 39814, Stop: 40002, Start Num: 8

Candidate Starts for Celaena\_58:

(Start: 8 @39814 has 22 MA's), (22, 39898), (30, 39961), (33, 39982),

Gene: ChiliPepper\_58 Start: 39356, Stop: 39556, Start Num: 8

Candidate Starts for ChiliPepper\_58:

(Start: 8 @39356 has 22 MA's), (12, 39386), (14, 39407), (22, 39452), (23, 39461),

Gene: Clayda5\_62 Start: 37118, Stop: 37294, Start Num: 8

Candidate Starts for Clayda5\_62:

(Start: 8 @37118 has 22 MA's), (12, 37148), (15, 37163), (16, 37166), (19, 37181), (21, 37193), (28, 37259), (31, 37268),

Gene: Coltrane\_60 Start: 37053, Stop: 37229, Start Num: 8

Candidate Starts for Coltrane\_60:

(Start: 8 @37053 has 22 MA's), (12, 37083), (15, 37098), (16, 37101), (19, 37116), (21, 37128), (28, 37194), (31, 37203),

Gene: CroZenni\_62 Start: 38911, Stop: 39105, Start Num: 9

Candidate Starts for CroZenni\_62:

(Start: 9 @38911 has 50 MA's), (13, 38947), (15, 38953), (18, 38965), (22, 38992),

Gene: CupcakePrincess\_61 Start: 38675, Stop: 38869, Start Num: 9  
Candidate Starts for CupcakePrincess\_61:  
(Start: 9 @38675 has 50 MA's), (12, 38702), (13, 38711), (15, 38717), (18, 38729), (22, 38756),

Gene: DickRichards\_60 Start: 39077, Stop: 39271, Start Num: 9  
Candidate Starts for DickRichards\_60:  
(Start: 9 @39077 has 50 MA's), (13, 39113), (15, 39119), (18, 39131), (22, 39158),

Gene: Didgeridoo\_67 Start: 40207, Stop: 40407, Start Num: 9  
Candidate Starts for Didgeridoo\_67:  
(7, 40195), (Start: 9 @40207 has 50 MA's), (13, 40240), (17, 40255), (22, 40285), (27, 40339),

Gene: DirtyBubble\_59 Start: 39038, Stop: 39238, Start Num: 9  
Candidate Starts for DirtyBubble\_59:  
(Start: 9 @39038 has 50 MA's), (13, 39071), (15, 39077), (22, 39116), (34, 39206),

Gene: Doobus\_60 Start: 38752, Stop: 38946, Start Num: 9  
Candidate Starts for Doobus\_60:  
(Start: 9 @38752 has 50 MA's), (13, 38788), (18, 38806), (22, 38833), (32, 38908),

Gene: Eden\_60 Start: 37901, Stop: 38077, Start Num: 8  
Candidate Starts for Eden\_60:  
(Start: 8 @37901 has 22 MA's), (29, 38045),

Gene: Elva\_63 Start: 39777, Stop: 39971, Start Num: 9  
Candidate Starts for Elva\_63:  
(Start: 9 @39777 has 50 MA's), (13, 39807), (15, 39813), (22, 39852), (27, 39906), (34, 39942),

Gene: Eula\_61 Start: 38661, Stop: 38855, Start Num: 9  
Candidate Starts for Eula\_61:  
(Start: 9 @38661 has 50 MA's), (12, 38688), (13, 38697), (15, 38703), (22, 38742), (34, 38832),

Gene: Finalfrontier\_62 Start: 39825, Stop: 40019, Start Num: 9  
Candidate Starts for Finalfrontier\_62:  
(Start: 9 @39825 has 50 MA's), (13, 39861), (15, 39867), (18, 39879), (22, 39906),

Gene: FlameThrower\_57 Start: 38851, Stop: 39039, Start Num: 8  
Candidate Starts for FlameThrower\_57:  
(Start: 8 @38851 has 22 MA's), (13, 38890), (23, 38944), (30, 38998), (33, 39019),

Gene: Franklin22\_62 Start: 37616, Stop: 37792, Start Num: 8  
Candidate Starts for Franklin22\_62:  
(Start: 8 @37616 has 22 MA's), (20, 37685), (24, 37745), (30, 37763),

Gene: Gack\_59 Start: 37534, Stop: 37710, Start Num: 8  
Candidate Starts for Gack\_59:  
(Start: 8 @37534 has 22 MA's), (22, 37618), (24, 37663), (25, 37666),

Gene: Icarian\_62 Start: 39689, Stop: 39889, Start Num: 9  
Candidate Starts for Icarian\_62:  
(Start: 9 @39689 has 50 MA's), (13, 39722), (15, 39728), (22, 39767), (27, 39821), (34, 39857),

Gene: IndyLu\_64 Start: 39828, Stop: 40028, Start Num: 9

Candidate Starts for IndyLu\_64:

(7, 39816), (Start: 9 @39828 has 50 MA's), (13, 39861), (15, 39867), (22, 39906), (27, 39960),

Gene: Jabb\_61 Start: 38675, Stop: 38869, Start Num: 9

Candidate Starts for Jabb\_61:

(Start: 9 @38675 has 50 MA's), (12, 38702), (13, 38711), (15, 38717), (18, 38729), (22, 38756),

Gene: Johnathan\_61 Start: 38621, Stop: 38815, Start Num: 9

Candidate Starts for Johnathan\_61:

(Start: 9 @38621 has 50 MA's), (13, 38657), (15, 38663), (22, 38702),

Gene: Jovita\_60 Start: 38432, Stop: 38626, Start Num: 9

Candidate Starts for Jovita\_60:

(Start: 9 @38432 has 50 MA's), (11, 38444), (13, 38468), (15, 38474), (18, 38486), (22, 38513),

Gene: Kamdara\_58 Start: 39315, Stop: 39515, Start Num: 8

Candidate Starts for Kamdara\_58:

(Start: 8 @39315 has 22 MA's), (12, 39345), (14, 39366), (22, 39411), (23, 39420),

Gene: Kate33\_66 Start: 39564, Stop: 39764, Start Num: 9

Candidate Starts for Kate33\_66:

(7, 39552), (Start: 9 @39564 has 50 MA's), (13, 39597), (15, 39603), (17, 39612), (22, 39642), (27, 39696),

Gene: Katzastrophic\_59 Start: 39361, Stop: 39549, Start Num: 8

Candidate Starts for Katzastrophic\_59:

(Start: 8 @39361 has 22 MA's), (13, 39400), (23, 39454), (30, 39508), (33, 39529),

Gene: Kenzers\_61 Start: 38491, Stop: 38685, Start Num: 9

Candidate Starts for Kenzers\_61:

(3, 38134), (Start: 9 @38491 has 50 MA's), (12, 38518), (13, 38527), (15, 38533), (18, 38545), (22, 38572),

Gene: Kieran\_58 Start: 39318, Stop: 39518, Start Num: 8

Candidate Starts for Kieran\_58:

(Start: 8 @39318 has 22 MA's), (12, 39348), (14, 39369), (22, 39414), (23, 39423),

Gene: Lahqtemish\_62 Start: 39841, Stop: 40041, Start Num: 9

Candidate Starts for Lahqtemish\_62:

(7, 39829), (Start: 9 @39841 has 50 MA's), (13, 39874), (15, 39880), (17, 39889), (22, 39919), (27, 39973), (28, 39976),

Gene: Lilo27\_63 Start: 39102, Stop: 39296, Start Num: 9

Candidate Starts for Lilo27\_63:

(Start: 9 @39102 has 50 MA's), (13, 39138), (15, 39144), (22, 39183), (34, 39273),

Gene: LimaBean\_61 Start: 38515, Stop: 38709, Start Num: 9

Candidate Starts for LimaBean\_61:

(Start: 9 @38515 has 50 MA's), (13, 38551), (18, 38569), (22, 38596), (32, 38671),

Gene: Loviatar\_60 Start: 40106, Stop: 40306, Start Num: 9

Candidate Starts for Loviatar\_60:

(Start: 9 @40106 has 50 MA's), (13, 40139), (15, 40145), (17, 40154), (22, 40184), (34, 40274),

Gene: Lynlen\_62 Start: 38674, Stop: 38868, Start Num: 9

Candidate Starts for Lynlen\_62:

(Start: 9 @38674 has 50 MA's), (13, 38710), (15, 38716), (18, 38728), (22, 38755),

Gene: Milomuff\_63 Start: 39210, Stop: 39404, Start Num: 9

Candidate Starts for Milomuff\_63:

(1, 38769), (3, 38853), (Start: 9 @39210 has 50 MA's), (13, 39246), (15, 39252), (18, 39264), (22, 39291),

Gene: MsUbiquitous\_61 Start: 38675, Stop: 38869, Start Num: 9

Candidate Starts for MsUbiquitous\_61:

(Start: 9 @38675 has 50 MA's), (12, 38702), (13, 38711), (15, 38717), (18, 38729), (22, 38756),

Gene: Nicky22\_61 Start: 39083, Stop: 39277, Start Num: 9

Candidate Starts for Nicky22\_61:

(Start: 9 @39083 has 50 MA's), (13, 39119), (15, 39125), (22, 39164),

Gene: PastaFagioli\_63 Start: 39787, Stop: 39987, Start Num: 9

Candidate Starts for PastaFagioli\_63:

(Start: 9 @39787 has 50 MA's), (13, 39820), (15, 39826), (17, 39835), (22, 39865), (27, 39919), (28, 39922), (34, 39955),

Gene: Pecas\_62 Start: 38944, Stop: 39138, Start Num: 9

Candidate Starts for Pecas\_62:

(1, 38503), (2, 38578), (3, 38587), (Start: 9 @38944 has 50 MA's), (13, 38980), (15, 38986), (18, 38998), (22, 39025), (34, 39115),

Gene: PhigPhack\_64 Start: 39217, Stop: 39411, Start Num: 9

Candidate Starts for PhigPhack\_64:

(3, 38860), (Start: 9 @39217 has 50 MA's), (13, 39253), (15, 39259), (18, 39271), (22, 39298), (34, 39388),

Gene: Phisb\_63 Start: 39190, Stop: 39384, Start Num: 9

Candidate Starts for Phisb\_63:

(Start: 9 @39190 has 50 MA's), (13, 39226), (15, 39232), (18, 39244), (22, 39271),

Gene: PondAmelia\_73 Start: 39066, Stop: 39266, Start Num: 9

Candidate Starts for PondAmelia\_73:

(4, 38859), (6, 38910), (Start: 9 @39066 has 50 MA's), (12, 39090), (13, 39099), (15, 39105), (22, 39144), (27, 39198), (34, 39234),

Gene: QMacho\_63 Start: 39321, Stop: 39515, Start Num: 9

Candidate Starts for QMacho\_63:

(Start: 9 @39321 has 50 MA's), (13, 39357), (18, 39375), (22, 39402),

Gene: Quenya\_62 Start: 39756, Stop: 39944, Start Num: 8

Candidate Starts for Quenya\_62:

(Start: 8 @39756 has 22 MA's), (13, 39795), (15, 39801), (22, 39840), (24, 39885), (30, 39903), (33, 39924),

Gene: Rollins\_60 Start: 37151, Stop: 37327, Start Num: 8

Candidate Starts for Rollins\_60:

(Start: 8 @37151 has 22 MA's), (12, 37181), (15, 37196), (16, 37199), (19, 37214), (21, 37226), (28, 37292), (31, 37301),

Gene: Rona\_58 Start: 39268, Stop: 39468, Start Num: 8

Candidate Starts for Rona\_58:

(Start: 8 @39268 has 22 MA's), (12, 39298), (14, 39319), (22, 39364), (23, 39373),

Gene: SanaSana\_61 Start: 39449, Stop: 39649, Start Num: 9

Candidate Starts for SanaSana\_61:

(Start: 9 @39449 has 50 MA's), (12, 39473), (13, 39482), (15, 39488), (17, 39497), (22, 39527), (34, 39617),

Gene: SansAfet\_63 Start: 39166, Stop: 39360, Start Num: 9

Candidate Starts for SansAfet\_63:

(5, 38977), (Start: 9 @39166 has 50 MA's), (13, 39202), (15, 39208), (18, 39220), (22, 39247), (34, 39337),

Gene: SarBear\_62 Start: 38730, Stop: 38924, Start Num: 9

Candidate Starts for SarBear\_62:

(Start: 9 @38730 has 50 MA's), (13, 38766), (22, 38811), (34, 38901),

Gene: Sharkboy\_60 Start: 39642, Stop: 39842, Start Num: 8

Candidate Starts for Sharkboy\_60:

(Start: 8 @39642 has 22 MA's), (12, 39672), (14, 39693), (22, 39738), (23, 39747),

Gene: SirBeanington\_62 Start: 39425, Stop: 39619, Start Num: 9

Candidate Starts for SirBeanington\_62:

(1, 38984), (3, 39068), (Start: 9 @39425 has 50 MA's), (13, 39461), (15, 39467), (18, 39479), (22, 39506), (34, 39596),

Gene: Skylord\_60 Start: 37068, Stop: 37244, Start Num: 8

Candidate Starts for Skylord\_60:

(Start: 8 @37068 has 22 MA's), (12, 37098), (15, 37113), (16, 37116), (19, 37131), (21, 37143), (28, 37209), (31, 37218),

Gene: Slay\_63 Start: 39700, Stop: 39894, Start Num: 9

Candidate Starts for Slay\_63:

(Start: 9 @39700 has 50 MA's), (13, 39736), (18, 39754), (22, 39781),

Gene: Softsoap\_63 Start: 39383, Stop: 39583, Start Num: 9

Candidate Starts for Softsoap\_63:

(7, 39371), (Start: 9 @39383 has 50 MA's), (13, 39416), (15, 39422), (17, 39431), (22, 39461), (27, 39515),

Gene: Solea\_64 Start: 39209, Stop: 39403, Start Num: 9

Candidate Starts for Solea\_64:

(1, 38768), (3, 38852), (Start: 9 @39209 has 50 MA's), (13, 39245), (15, 39251), (18, 39263), (22, 39290),

Gene: Stoor\_59 Start: 39236, Stop: 39436, Start Num: 9

Candidate Starts for Stoor\_59:

(Start: 9 @39236 has 50 MA's), (12, 39260), (13, 39269), (15, 39275), (17, 39284), (22, 39314), (34, 39404),

Gene: Stromboli\_59 Start: 39037, Stop: 39237, Start Num: 9

Candidate Starts for Stromboli\_59:

(Start: 9 @39037 has 50 MA's), (13, 39070), (15, 39076), (17, 39085), (18, 39088), (22, 39115), (34, 39205),

Gene: Swervy\_62 Start: 38794, Stop: 38988, Start Num: 9

Candidate Starts for Swervy\_62:

(1, 38353), (2, 38428), (3, 38437), (Start: 9 @38794 has 50 MA's), (13, 38830), (22, 38875), (34, 38965),

Gene: TukTuk\_63 Start: 39239, Stop: 39433, Start Num: 9

Candidate Starts for TukTuk\_63:

(1, 38798), (2, 38873), (3, 38882), (Start: 9 @39239 has 50 MA's), (13, 39275), (18, 39293), (22, 39320), (34, 39410),

Gene: Vitas\_60 Start: 37124, Stop: 37300, Start Num: 8

Candidate Starts for Vitas\_60:

(Start: 8 @37124 has 22 MA's), (12, 37154), (15, 37169), (16, 37172), (19, 37187), (21, 37199), (28, 37265), (31, 37274),

Gene: WalkingDead\_62 Start: 40213, Stop: 40407, Start Num: 8

Candidate Starts for WalkingDead\_62:

(Start: 8 @40213 has 22 MA's), (13, 40249), (15, 40255), (22, 40294),