

Pham 308378



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 308378 Report

This analysis was run 06/27/26 on database version 652.

Pham number 308378 has 101 members, 9 are drafts.

Phages represented in each track:

- Track 1 : DinoDaryn\_8, Huffy\_8
- Track 2 : Vendetta\_6, Splinter\_6
- Track 3 : Goib\_7
- Track 4 : TinaLin\_9, Banquo\_10
- Track 5 : TZGordon\_8
- Track 6 : Gspu1\_4
- Track 7 : Dardanus\_8
- Track 8 : Schmidt\_4
- Track 9 : Catfish\_5
- Track 10 : Loviatar\_2, SanaSana\_3, Stoor\_2, PondAmelia\_4, Stromboli\_2, BabyYoda\_2, DirtyBubble\_2, Akino08\_2, Elva\_3
- Track 11 : Bachaco\_2, Celaena\_2, Katzastrophic\_2
- Track 12 : FlameThrower\_2
- Track 13 : Vitas\_1, Brahms\_1, Clayda5\_1, Bernstein\_1, Rollins\_1, Coltrane\_1, Armstrong\_1, Skylord\_1
- Track 14 : Teagster\_1
- Track 15 : Kieran\_2, Sharkboy\_2, Dismas\_2, Rona\_2, Kamdara\_2, ChiliPepper\_2
- Track 16 : Pecas\_2, Eula\_2
- Track 17 : Doobus\_2, Lynlen\_2, Avocadoman\_2, Burritobowl\_2, Johnathan\_2, Softsoap\_2, SirBeanington\_2, Kenzers\_2, BubbaBear\_2, Albright\_2, AylexOG\_2, Solea\_2, Abigail\_2, LimaBean\_2, Arroyo\_3, SansAfet\_2, QMacho\_3, Phisb\_2, AnnaLie\_2, Albedo\_2, Milomuff\_2, Cashington\_2, CroZenni\_2, Bengal\_2, Nicky22\_3, Lilo27\_2, BelmontSKP\_2
- Track 18 : Jabb\_2, Finalfrontier\_3, CupcakePrincess\_2, Swervy\_2, TukTuk\_2, MsUbiquitous\_2, SarBear\_2
- Track 19 : Icarian\_3
- Track 20 : Olliecat\_2, Squirrel\_2
- Track 21 : Didgeridoo\_3, IndyLu\_2, BabyDaisy\_3, Kate33\_2
- Track 22 : Buldak\_2
- Track 23 : WalkingDead\_2
- Track 24 : Shayna\_1, SunnyD\_1
- Track 25 : Jovita\_2
- Track 26 : Franklin22\_1, Eden\_1
- Track 27 : AvGardian\_2
- Track 28 : PhigPhack\_2
- Track 29 : BAjuniper\_2
- Track 30 : Lahqtemish\_2, PastaFagioli\_2

- Track 31 : CanFranMach\_2
- Track 32 : DickRichards\_2, Slay\_2
- Track 33 : CliffHanger\_3
- Track 34 : Quenya\_3
- Track 35 : Gack\_1

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

The start number called the most often in the published annotations is 27, it was called in 80 of the 92 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abigail\_2, Akino08\_2, Albedo\_2, Albright\_2, AnnaLie\_2, Armstrong\_1, Arroyo\_3, AvGardian\_2, Avocadoman\_2, AylexOG\_2, BabyDaisy\_3, BabyYoda\_2, Bachaco\_2, BelmontSKP\_2, Bengal\_2, Bernstein\_1, Brahms\_1, BubbaBear\_2, Buldak\_2, Burritobowl\_2, CanFranMach\_2, Cashington\_2, Celaena\_2, ChiliPepper\_2, Clayda5\_1, CliffHanger\_3, Coltrane\_1, CroZenni\_2, CupcakePrincess\_2, DickRichards\_2, Didgeridoo\_3, DirtyBubble\_2, Dismas\_2, Doobus\_2, Eden\_1, Elva\_3, Eula\_2, Finalfrontier\_3, FlameThrower\_2, Franklin22\_1, Gack\_1, Icarian\_3, IndyLu\_2, Jabb\_2, Johnathan\_2, Jovita\_2, Kamdara\_2, Kate33\_2, Katzastrophic\_2, Kenzers\_2, Kieran\_2, Lahqtemish\_2, Lilo27\_2, LimaBean\_2, Loviatar\_2, Lynlen\_2, Milomuff\_2, MsUbiquitous\_2, Nicky22\_3, Olliecat\_2, PastaFagioli\_2, Pecas\_2, PhigPhack\_2, Phisb\_2, PondAmelia\_4, QMacho\_3, Quenya\_3, Rollins\_1, Rona\_2, SanaSana\_3, SansAfet\_2, SarBear\_2, Sharkboy\_2, Shayna\_1, SirBeanington\_2, Skylord\_1, Slay\_2, Softsoap\_2, Solea\_2, Squircle\_2, Stoor\_2, Stromboli\_2, SunnyD\_1, Swervy\_2, Teagster\_1, TukTuk\_2, Vitas\_1, WalkingDead\_2,

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:

- BAjuniper\_2, Banquo\_10, Catfish\_5, Dardanus\_8, DinoDaryn\_8, Goib\_7, Gsput1\_4, Huffy\_8, Schmidt\_4, Splinter\_6, TZGordon\_8, TinaLin\_9, Vendetta\_6,

**Summary by start number:**

Start 20:

- Found in 8 of 101 ( 7.9% ) of genes in pham
- Manual Annotations of this start: 8 of 92
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Banquo\_10 (CU1), DinoDaryn\_8 (CU1), Goib\_7 (CU1), Huffy\_8 (CU1), Splinter\_6 (CU1), TZGordon\_8 (CU1), TinaLin\_9 (CU1), Vendetta\_6 (CU1),

Start 21:

- Found in 1 of 101 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 1 of 92
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Catfish\_5 (CU5),

#### Start 23:

- Found in 11 of 101 ( 10.9% ) of genes in pham
- Manual Annotations of this start: 2 of 92
- Called 27.3% of time when present
- Phage (with cluster) where this start called: Dardanus\_8 (CU3), Gspu1\_4 (CU2), Schmidt\_4 (CU4),

#### Start 26:

- Found in 1 of 101 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 1 of 92
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BAjuniper\_2 (EB),

#### Start 27:

- Found in 88 of 101 ( 87.1% ) of genes in pham
- Manual Annotations of this start: 80 of 92
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abigail\_2 (EB), Akino08\_2 (EB), Albedo\_2 (EB), Albright\_2 (EB), AnnaLie\_2 (EB), Armstrong\_1 (EB), Arroyo\_3 (EB), AvGardian\_2 (EB), Avocadoman\_2 (EB), AylexOG\_2 (EB), BabyDaisy\_3 (EB), BabyYoda\_2 (EB), Bachaco\_2 (EB), BelmontSKP\_2 (EB), Bengal\_2 (EB), Bernstein\_1 (EB), Brahms\_1 (EB), BubbaBear\_2 (EB), Buldak\_2 (EB), Burritobowl\_2 (EB), CanFranMach\_2 (EB), Cashington\_2 (EB), Celaena\_2 (EB), ChiliPepper\_2 (EB), Clayda5\_1 (EB), CliffHanger\_3 (EB), Coltrane\_1 (EB), CroZenni\_2 (EB), CupcakePrincess\_2 (EB), DickRichards\_2 (EB), Didgeridoo\_3 (EB), DirtyBubble\_2 (EB), Dismas\_2 (EB), Doobus\_2 (EB), Eden\_1 (EB), Elva\_3 (EB), Eula\_2 (EB), Finalfrontier\_3 (EB), FlameThrower\_2 (EB), Franklin22\_1 (EB), Gack\_1 (EB), Icarian\_3 (EB), IndyLu\_2 (EB), Jabb\_2 (EB), Johnathan\_2 (EB), Jovita\_2 (EB), Kamdara\_2 (EB), Kate33\_2 (EB), Katzastrophic\_2 (EB), Kenzers\_2 (EB), Kieran\_2 (EB), Lahqtemish\_2 (EB), Lilo27\_2 (EB), LimaBean\_2 (EB), Loviatar\_2 (EB), Lynlen\_2 (EB), Milomuff\_2 (EB), MsUbiquitous\_2 (EB), Nicky22\_3 (EB), Olliecat\_2 (EB), PastaFagioli\_2 (EB), Pecas\_2 (EB), PhigPhack\_2 (EB), Phisb\_2 (EB), PondAmelia\_4 (EB), QMacho\_3 (EB), Quenya\_3 (EB), Rollins\_1 (EB), Rona\_2 (EB), SanaSana\_3 (EB), SansAfet\_2 (EB), SarBear\_2 (EB), Sharkboy\_2 (EB), Shayna\_1 (EB), SirBeanington\_2 (EB), Skylord\_1 (EB), Slay\_2 (EB), Softsoap\_2 (EB), Solea\_2 (EB), Squircle\_2 (EB), Stoor\_2 (EB), Stromboli\_2 (EB), SunnyD\_1 (EB), Swervy\_2 (EB), Teagster\_1 (EB), TukTuk\_2 (EB), Vitas\_1 (EB), WalkingDead\_2 (EB),

#### Summary by clusters:

There are 6 clusters represented in this pham: CU5, CU4, CU3, CU2, CU1, EB,

Info for manual annotations of cluster CU1:

- Start number 20 was manually annotated 8 times for cluster CU1.

Info for manual annotations of cluster CU3:

- Start number 23 was manually annotated 1 time for cluster CU3.

Info for manual annotations of cluster CU4:

- Start number 23 was manually annotated 1 time for cluster CU4.

Info for manual annotations of cluster CU5:

- Start number 21 was manually annotated 1 time for cluster CU5.

Info for manual annotations of cluster EB:

- Start number 26 was manually annotated 1 time for cluster EB.
- Start number 27 was manually annotated 80 times for cluster EB.

**Gene Information:**

Gene: Abigail\_2 Start: 362, Stop: 685, Start Num: 27

Candidate Starts for Abigail\_2:

(10, 179), (Start: 27 @362 has 80 MA's), (40, 599), (45, 647),

Gene: Akino08\_2 Start: 625, Stop: 948, Start Num: 27

Candidate Starts for Akino08\_2:

(Start: 27 @625 has 80 MA's), (40, 862), (45, 910),

Gene: Albedo\_2 Start: 350, Stop: 673, Start Num: 27

Candidate Starts for Albedo\_2:

(10, 167), (Start: 27 @350 has 80 MA's), (40, 587), (45, 635),

Gene: Albright\_2 Start: 362, Stop: 685, Start Num: 27

Candidate Starts for Albright\_2:

(10, 179), (Start: 27 @362 has 80 MA's), (40, 599), (45, 647),

Gene: AnnaLie\_2 Start: 362, Stop: 688, Start Num: 27

Candidate Starts for AnnaLie\_2:

(10, 179), (Start: 27 @362 has 80 MA's), (40, 599), (45, 647),

Gene: Armstrong\_1 Start: 282, Stop: 590, Start Num: 27

Candidate Starts for Armstrong\_1:

(Start: 27 @282 has 80 MA's), (31, 342), (35, 375),

Gene: Arroyo\_3 Start: 832, Stop: 1155, Start Num: 27

Candidate Starts for Arroyo\_3:

(10, 649), (Start: 27 @832 has 80 MA's), (40, 1069), (45, 1117),

Gene: AvGardian\_2 Start: 426, Stop: 752, Start Num: 27

Candidate Starts for AvGardian\_2:

(Start: 27 @426 has 80 MA's), (40, 663), (45, 711),

Gene: Avocadoman\_2 Start: 420, Stop: 743, Start Num: 27

Candidate Starts for Avocadoman\_2:

(10, 237), (Start: 27 @420 has 80 MA's), (40, 657), (45, 705),

Gene: AylexOG\_2 Start: 362, Stop: 688, Start Num: 27

Candidate Starts for AylexOG\_2:

(10, 179), (Start: 27 @362 has 80 MA's), (40, 599), (45, 647),

Gene: BAjuniper\_2 Start: 466, Stop: 777, Start Num: 26

Candidate Starts for BAjuniper\_2:

(Start: 26 @466 has 1 MA's), (30, 523), (45, 739),

Gene: BabyDaisy\_3 Start: 618, Stop: 941, Start Num: 27  
Candidate Starts for BabyDaisy\_3:  
(Start: 27 @618 has 80 MA's), (40, 855), (45, 903),

Gene: BabyYoda\_2 Start: 631, Stop: 954, Start Num: 27  
Candidate Starts for BabyYoda\_2:  
(Start: 27 @631 has 80 MA's), (40, 868), (45, 916),

Gene: Bachaco\_2 Start: 612, Stop: 935, Start Num: 27  
Candidate Starts for Bachaco\_2:  
(10, 429), (Start: 27 @612 has 80 MA's), (40, 849),

Gene: Banquo\_10 Start: 4208, Stop: 4573, Start Num: 20  
Candidate Starts for Banquo\_10:  
(18, 4184), (Start: 20 @4208 has 8 MA's), (Start: 23 @4232 has 2 MA's), (25, 4253), (28, 4274), (43, 4514),

Gene: BelmontSKP\_2 Start: 362, Stop: 688, Start Num: 27  
Candidate Starts for BelmontSKP\_2:  
(10, 179), (Start: 27 @362 has 80 MA's), (40, 599), (45, 647),

Gene: Bengal\_2 Start: 362, Stop: 685, Start Num: 27  
Candidate Starts for Bengal\_2:  
(10, 179), (Start: 27 @362 has 80 MA's), (40, 599), (45, 647),

Gene: Bernstein\_1 Start: 342, Stop: 650, Start Num: 27  
Candidate Starts for Bernstein\_1:  
(Start: 27 @342 has 80 MA's), (31, 402), (35, 435),

Gene: Brahms\_1 Start: 282, Stop: 590, Start Num: 27  
Candidate Starts for Brahms\_1:  
(Start: 27 @282 has 80 MA's), (31, 342), (35, 375),

Gene: BubbaBear\_2 Start: 350, Stop: 673, Start Num: 27  
Candidate Starts for BubbaBear\_2:  
(10, 167), (Start: 27 @350 has 80 MA's), (40, 587), (45, 635),

Gene: Buldak\_2 Start: 702, Stop: 1022, Start Num: 27  
Candidate Starts for Buldak\_2:  
(Start: 27 @702 has 80 MA's), (39, 885), (41, 939), (44, 978),

Gene: Burritobowl\_2 Start: 360, Stop: 683, Start Num: 27  
Candidate Starts for Burritobowl\_2:  
(10, 177), (Start: 27 @360 has 80 MA's), (40, 597), (45, 645),

Gene: CanFranMach\_2 Start: 363, Stop: 686, Start Num: 27  
Candidate Starts for CanFranMach\_2:  
(Start: 27 @363 has 80 MA's), (40, 600), (45, 648),

Gene: Cashington\_2 Start: 350, Stop: 673, Start Num: 27  
Candidate Starts for Cashington\_2:  
(10, 167), (Start: 27 @350 has 80 MA's), (40, 587), (45, 635),

Gene: Catfish\_5 Start: 2214, Stop: 2552, Start Num: 21

Candidate Starts for Catfish\_5:

(Start: 21 @2214 has 1 MA's), (28, 2268),

Gene: Celaena\_2 Start: 549, Stop: 872, Start Num: 27

Candidate Starts for Celaena\_2:

(10, 366), (Start: 27 @549 has 80 MA's), (40, 786),

Gene: ChiliPepper\_2 Start: 615, Stop: 941, Start Num: 27

Candidate Starts for ChiliPepper\_2:

(Start: 27 @615 has 80 MA's), (32, 699), (36, 741), (40, 852), (45, 900),

Gene: Clayda5\_1 Start: 282, Stop: 590, Start Num: 27

Candidate Starts for Clayda5\_1:

(Start: 27 @282 has 80 MA's), (31, 342), (35, 375),

Gene: CliffHanger\_3 Start: 483, Stop: 791, Start Num: 27

Candidate Starts for CliffHanger\_3:

(12, 339), (13, 351), (14, 369), (16, 390), (24, 462), (Start: 27 @483 has 80 MA's), (31, 546), (41, 720),

Gene: Coltrane\_1 Start: 282, Stop: 590, Start Num: 27

Candidate Starts for Coltrane\_1:

(Start: 27 @282 has 80 MA's), (31, 342), (35, 375),

Gene: CroZenni\_2 Start: 362, Stop: 685, Start Num: 27

Candidate Starts for CroZenni\_2:

(10, 179), (Start: 27 @362 has 80 MA's), (40, 599), (45, 647),

Gene: CupcakePrincess\_2 Start: 349, Stop: 672, Start Num: 27

Candidate Starts for CupcakePrincess\_2:

(19, 271), (Start: 27 @349 has 80 MA's), (40, 586), (45, 634),

Gene: Dardanus\_8 Start: 3256, Stop: 3600, Start Num: 23

Candidate Starts for Dardanus\_8:

(Start: 23 @3256 has 2 MA's), (24, 3265), (25, 3277), (28, 3298), (33, 3370), (34, 3373), (38, 3469),

Gene: DickRichards\_2 Start: 833, Stop: 1156, Start Num: 27

Candidate Starts for DickRichards\_2:

(8, 626), (Start: 27 @833 has 80 MA's), (37, 1001), (40, 1070), (45, 1118),

Gene: Didgeridoo\_3 Start: 618, Stop: 941, Start Num: 27

Candidate Starts for Didgeridoo\_3:

(Start: 27 @618 has 80 MA's), (40, 855), (45, 903),

Gene: DinoDaryn\_8 Start: 3297, Stop: 3662, Start Num: 20

Candidate Starts for DinoDaryn\_8:

(18, 3273), (Start: 20 @3297 has 8 MA's), (Start: 23 @3321 has 2 MA's), (25, 3342), (28, 3363), (43, 3603),

Gene: DirtyBubble\_2 Start: 630, Stop: 953, Start Num: 27

Candidate Starts for DirtyBubble\_2:

(Start: 27 @630 has 80 MA's), (40, 867), (45, 915),

Gene: Dismas\_2 Start: 615, Stop: 941, Start Num: 27  
Candidate Starts for Dismas\_2:  
(Start: 27 @615 has 80 MA's), (32, 699), (36, 741), (40, 852), (45, 900),

Gene: Doobus\_2 Start: 584, Stop: 907, Start Num: 27  
Candidate Starts for Doobus\_2:  
(10, 401), (Start: 27 @584 has 80 MA's), (40, 821), (45, 869),

Gene: Eden\_1 Start: 342, Stop: 656, Start Num: 27  
Candidate Starts for Eden\_1:  
(Start: 27 @342 has 80 MA's), (30, 402), (40, 570),

Gene: Elva\_3 Start: 688, Stop: 1011, Start Num: 27  
Candidate Starts for Elva\_3:  
(Start: 27 @688 has 80 MA's), (40, 925), (45, 973),

Gene: Eula\_2 Start: 349, Stop: 672, Start Num: 27  
Candidate Starts for Eula\_2:  
(10, 166), (19, 271), (Start: 27 @349 has 80 MA's), (40, 586), (45, 634),

Gene: Finalfrontier\_3 Start: 855, Stop: 1178, Start Num: 27  
Candidate Starts for Finalfrontier\_3:  
(19, 777), (Start: 27 @855 has 80 MA's), (40, 1092), (45, 1140),

Gene: FlameThrower\_2 Start: 545, Stop: 868, Start Num: 27  
Candidate Starts for FlameThrower\_2:  
(Start: 27 @545 has 80 MA's), (40, 782),

Gene: Franklin22\_1 Start: 350, Stop: 664, Start Num: 27  
Candidate Starts for Franklin22\_1:  
(Start: 27 @350 has 80 MA's), (30, 410), (40, 578),

Gene: Gack\_1 Start: 383, Stop: 700, Start Num: 27  
Candidate Starts for Gack\_1:  
(22, 341), (Start: 27 @383 has 80 MA's), (30, 443), (32, 458), (35, 476), (40, 611),

Gene: Goib\_7 Start: 3067, Stop: 3432, Start Num: 20  
Candidate Starts for Goib\_7:  
(Start: 20 @3067 has 8 MA's), (Start: 23 @3091 has 2 MA's), (25, 3112), (28, 3133), (33, 3205),

Gene: Gspu1\_4 Start: 1649, Stop: 1978, Start Num: 23  
Candidate Starts for Gspu1\_4:  
(17, 1589), (Start: 23 @1649 has 2 MA's), (28, 1691), (41, 1913), (43, 1925),

Gene: Huff\_8 Start: 3297, Stop: 3662, Start Num: 20  
Candidate Starts for Huff\_8:  
(18, 3273), (Start: 20 @3297 has 8 MA's), (Start: 23 @3321 has 2 MA's), (25, 3342), (28, 3363), (43, 3603),

Gene: Icarian\_3 Start: 622, Stop: 945, Start Num: 27  
Candidate Starts for Icarian\_3:  
(Start: 27 @622 has 80 MA's), (40, 859), (45, 907),

Gene: IndyLu\_2 Start: 442, Stop: 765, Start Num: 27

Candidate Starts for IndyLu\_2:

(Start: 27 @442 has 80 MA's), (40, 679), (45, 727),

Gene: Jabb\_2 Start: 349, Stop: 672, Start Num: 27

Candidate Starts for Jabb\_2:

(19, 271), (Start: 27 @349 has 80 MA's), (40, 586), (45, 634),

Gene: Johnathan\_2 Start: 362, Stop: 685, Start Num: 27

Candidate Starts for Johnathan\_2:

(10, 179), (Start: 27 @362 has 80 MA's), (40, 599), (45, 647),

Gene: Jovita\_2 Start: 475, Stop: 798, Start Num: 27

Candidate Starts for Jovita\_2:

(8, 268), (Start: 27 @475 has 80 MA's), (40, 712), (45, 760),

Gene: Kamdara\_2 Start: 614, Stop: 940, Start Num: 27

Candidate Starts for Kamdara\_2:

(Start: 27 @614 has 80 MA's), (32, 698), (36, 740), (40, 851), (45, 899),

Gene: Kate33\_2 Start: 442, Stop: 765, Start Num: 27

Candidate Starts for Kate33\_2:

(Start: 27 @442 has 80 MA's), (40, 679), (45, 727),

Gene: Katzastrophic\_2 Start: 612, Stop: 935, Start Num: 27

Candidate Starts for Katzastrophic\_2:

(10, 429), (Start: 27 @612 has 80 MA's), (40, 849),

Gene: Kenzers\_2 Start: 350, Stop: 673, Start Num: 27

Candidate Starts for Kenzers\_2:

(10, 167), (Start: 27 @350 has 80 MA's), (40, 587), (45, 635),

Gene: Kieran\_2 Start: 615, Stop: 941, Start Num: 27

Candidate Starts for Kieran\_2:

(Start: 27 @615 has 80 MA's), (32, 699), (36, 741), (40, 852), (45, 900),

Gene: Lahqtemish\_2 Start: 442, Stop: 765, Start Num: 27

Candidate Starts for Lahqtemish\_2:

(8, 235), (19, 364), (Start: 27 @442 has 80 MA's), (37, 610), (40, 679),

Gene: Lilo27\_2 Start: 353, Stop: 676, Start Num: 27

Candidate Starts for Lilo27\_2:

(10, 170), (Start: 27 @353 has 80 MA's), (40, 590), (45, 638),

Gene: LimaBean\_2 Start: 362, Stop: 685, Start Num: 27

Candidate Starts for LimaBean\_2:

(10, 179), (Start: 27 @362 has 80 MA's), (40, 599), (45, 647),

Gene: Loviatar\_2 Start: 633, Stop: 956, Start Num: 27

Candidate Starts for Loviatar\_2:

(Start: 27 @633 has 80 MA's), (40, 870), (45, 918),

Gene: Lynlen\_2 Start: 350, Stop: 673, Start Num: 27  
Candidate Starts for Lynlen\_2:  
(10, 167), (Start: 27 @350 has 80 MA's), (40, 587), (45, 635),

Gene: Milomuff\_2 Start: 350, Stop: 673, Start Num: 27  
Candidate Starts for Milomuff\_2:  
(10, 167), (Start: 27 @350 has 80 MA's), (40, 587), (45, 635),

Gene: MsUbiquitous\_2 Start: 349, Stop: 672, Start Num: 27  
Candidate Starts for MsUbiquitous\_2:  
(19, 271), (Start: 27 @349 has 80 MA's), (40, 586), (45, 634),

Gene: Nicky22\_3 Start: 824, Stop: 1147, Start Num: 27  
Candidate Starts for Nicky22\_3:  
(10, 641), (Start: 27 @824 has 80 MA's), (40, 1061), (45, 1109),

Gene: Olliecat\_2 Start: 648, Stop: 953, Start Num: 27  
Candidate Starts for Olliecat\_2:  
(1, 39), (2, 48), (3, 66), (4, 252), (5, 255), (6, 339), (11, 480), (15, 540), (Start: 27 @648 has 80 MA's),  
(29, 681), (39, 831), (42, 891), (44, 924),

Gene: PastaFagioli\_2 Start: 442, Stop: 765, Start Num: 27  
Candidate Starts for PastaFagioli\_2:  
(8, 235), (19, 364), (Start: 27 @442 has 80 MA's), (37, 610), (40, 679),

Gene: Pecas\_2 Start: 349, Stop: 672, Start Num: 27  
Candidate Starts for Pecas\_2:  
(10, 166), (19, 271), (Start: 27 @349 has 80 MA's), (40, 586), (45, 634),

Gene: PhigPhack\_2 Start: 362, Stop: 685, Start Num: 27  
Candidate Starts for PhigPhack\_2:  
(19, 284), (Start: 27 @362 has 80 MA's), (40, 599), (45, 647),

Gene: Phisb\_2 Start: 350, Stop: 673, Start Num: 27  
Candidate Starts for Phisb\_2:  
(10, 167), (Start: 27 @350 has 80 MA's), (40, 587), (45, 635),

Gene: PondAmelia\_4 Start: 633, Stop: 956, Start Num: 27  
Candidate Starts for PondAmelia\_4:  
(Start: 27 @633 has 80 MA's), (40, 870), (45, 918),

Gene: QMacho\_3 Start: 832, Stop: 1155, Start Num: 27  
Candidate Starts for QMacho\_3:  
(10, 649), (Start: 27 @832 has 80 MA's), (40, 1069), (45, 1117),

Gene: Quenya\_3 Start: 613, Stop: 927, Start Num: 27  
Candidate Starts for Quenya\_3:  
(Start: 27 @613 has 80 MA's), (30, 673), (45, 889),

Gene: Rollins\_1 Start: 342, Stop: 650, Start Num: 27  
Candidate Starts for Rollins\_1:  
(Start: 27 @342 has 80 MA's), (31, 402), (35, 435),

Gene: Rona\_2 Start: 615, Stop: 941, Start Num: 27  
Candidate Starts for Rona\_2:  
(Start: 27 @615 has 80 MA's), (32, 699), (36, 741), (40, 852), (45, 900),

Gene: SanaSana\_3 Start: 633, Stop: 956, Start Num: 27  
Candidate Starts for SanaSana\_3:  
(Start: 27 @633 has 80 MA's), (40, 870), (45, 918),

Gene: SansAfet\_2 Start: 350, Stop: 673, Start Num: 27  
Candidate Starts for SansAfet\_2:  
(10, 167), (Start: 27 @350 has 80 MA's), (40, 587), (45, 635),

Gene: SarBear\_2 Start: 349, Stop: 672, Start Num: 27  
Candidate Starts for SarBear\_2:  
(19, 271), (Start: 27 @349 has 80 MA's), (40, 586), (45, 634),

Gene: Schmidt\_4 Start: 1599, Stop: 1931, Start Num: 23  
Candidate Starts for Schmidt\_4:  
(7, 1377), (9, 1428), (17, 1539), (Start: 23 @1599 has 2 MA's), (25, 1620), (28, 1641), (33, 1713), (38, 1812), (41, 1869), (43, 1881),

Gene: Sharkboy\_2 Start: 614, Stop: 940, Start Num: 27  
Candidate Starts for Sharkboy\_2:  
(Start: 27 @614 has 80 MA's), (32, 698), (36, 740), (40, 851), (45, 899),

Gene: Shayna\_1 Start: 339, Stop: 644, Start Num: 27  
Candidate Starts for Shayna\_1:  
(Start: 27 @339 has 80 MA's), (31, 402), (39, 522),

Gene: SirBeanington\_2 Start: 350, Stop: 673, Start Num: 27  
Candidate Starts for SirBeanington\_2:  
(10, 167), (Start: 27 @350 has 80 MA's), (40, 587), (45, 635),

Gene: Skylord\_1 Start: 282, Stop: 590, Start Num: 27  
Candidate Starts for Skylord\_1:  
(Start: 27 @282 has 80 MA's), (31, 342), (35, 375),

Gene: Slay\_2 Start: 832, Stop: 1155, Start Num: 27  
Candidate Starts for Slay\_2:  
(8, 625), (Start: 27 @832 has 80 MA's), (37, 1000), (40, 1069), (45, 1117),

Gene: Softsoap\_2 Start: 362, Stop: 685, Start Num: 27  
Candidate Starts for Softsoap\_2:  
(10, 179), (Start: 27 @362 has 80 MA's), (40, 599), (45, 647),

Gene: Solea\_2 Start: 350, Stop: 673, Start Num: 27  
Candidate Starts for Solea\_2:  
(10, 167), (Start: 27 @350 has 80 MA's), (40, 587), (45, 635),

Gene: Splinter\_6 Start: 3067, Stop: 3432, Start Num: 20  
Candidate Starts for Splinter\_6:  
(18, 3043), (Start: 20 @3067 has 8 MA's), (Start: 23 @3091 has 2 MA's), (25, 3112), (28, 3133), (33, 3205),

Gene: Squiracle\_2 Start: 648, Stop: 953, Start Num: 27

Candidate Starts for Squiracle\_2:

(1, 39), (2, 48), (3, 66), (4, 252), (5, 255), (6, 339), (11, 480), (15, 540), (Start: 27 @648 has 80 MA's), (29, 681), (39, 831), (42, 891), (44, 924),

Gene: Stoor\_2 Start: 630, Stop: 953, Start Num: 27

Candidate Starts for Stoor\_2:

(Start: 27 @630 has 80 MA's), (40, 867), (45, 915),

Gene: Stromboli\_2 Start: 630, Stop: 953, Start Num: 27

Candidate Starts for Stromboli\_2:

(Start: 27 @630 has 80 MA's), (40, 867), (45, 915),

Gene: SunnyD\_1 Start: 339, Stop: 644, Start Num: 27

Candidate Starts for SunnyD\_1:

(Start: 27 @339 has 80 MA's), (31, 402), (39, 522),

Gene: Swervy\_2 Start: 349, Stop: 672, Start Num: 27

Candidate Starts for Swervy\_2:

(19, 271), (Start: 27 @349 has 80 MA's), (40, 586), (45, 634),

Gene: TZGordon\_8 Start: 3212, Stop: 3577, Start Num: 20

Candidate Starts for TZGordon\_8:

(18, 3188), (Start: 20 @3212 has 8 MA's), (Start: 23 @3236 has 2 MA's), (25, 3257), (28, 3278),

Gene: Teagster\_1 Start: 342, Stop: 647, Start Num: 27

Candidate Starts for Teagster\_1:

(Start: 27 @342 has 80 MA's), (31, 405), (39, 525),

Gene: TinaLin\_9 Start: 3831, Stop: 4196, Start Num: 20

Candidate Starts for TinaLin\_9:

(18, 3807), (Start: 20 @3831 has 8 MA's), (Start: 23 @3855 has 2 MA's), (25, 3876), (28, 3897), (43, 4137),

Gene: TukTuk\_2 Start: 349, Stop: 672, Start Num: 27

Candidate Starts for TukTuk\_2:

(19, 271), (Start: 27 @349 has 80 MA's), (40, 586), (45, 634),

Gene: Vendetta\_6 Start: 3067, Stop: 3432, Start Num: 20

Candidate Starts for Vendetta\_6:

(18, 3043), (Start: 20 @3067 has 8 MA's), (Start: 23 @3091 has 2 MA's), (25, 3112), (28, 3133), (33, 3205),

Gene: Vitas\_1 Start: 282, Stop: 590, Start Num: 27

Candidate Starts for Vitas\_1:

(Start: 27 @282 has 80 MA's), (31, 342), (35, 375),

Gene: WalkingDead\_2 Start: 621, Stop: 944, Start Num: 27

Candidate Starts for WalkingDead\_2:

(Start: 27 @621 has 80 MA's), (40, 858), (45, 906),