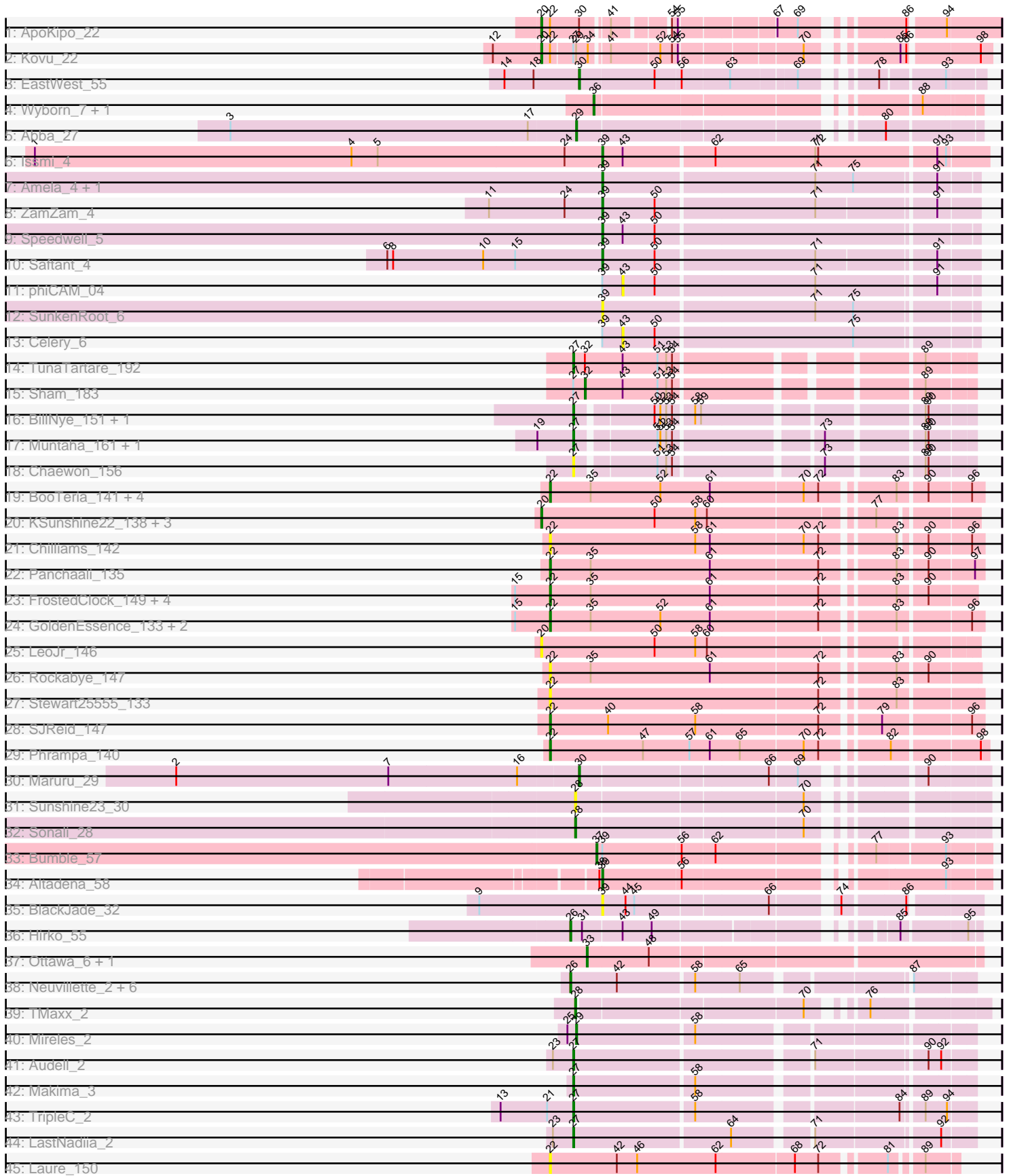


Pham 306431



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 306431 Report

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

Pham number 306431 has 69 members, 22 are drafts.

Phages represented in each track:

- Track 1 : ApoKipo\_22
- Track 2 : Kovu\_22
- Track 3 : EastWest\_55
- Track 4 : Wyborn\_7, Sicarius2\_7
- Track 5 : Abba\_27
- Track 6 : Issmi\_4
- Track 7 : Amela\_4, Verse\_4
- Track 8 : ZamZam\_4
- Track 9 : Speedwell\_5
- Track 10 : Saftant\_4
- Track 11 : phiCAM\_04
- Track 12 : SunkenRoot\_6
- Track 13 : Celery\_6
- Track 14 : TunaTartare\_192
- Track 15 : Sham\_183
- Track 16 : BillNye\_151, Circinus\_152
- Track 17 : Muntaha\_161, Wakanda\_159
- Track 18 : Chaewon\_156
- Track 19 : BooTeria\_141, WaddleDee\_130, DunneganBoMo\_133, Emmetator\_136, Artu\_136
- Track 20 : KSunshine22\_138, Ellewin\_132, Atuin\_136, ReginaGlobina\_145
- Track 21 : Chilliams\_142
- Track 22 : Panchaali\_135
- Track 23 : FrostedClock\_149, Mimi\_146, Racecar\_147, Talia1610\_148, Bloom\_150
- Track 24 : GoldenEssence\_133, FloraSnap32\_145, Patbob\_143
- Track 25 : LeoJr\_146
- Track 26 : Rockabye\_147
- Track 27 : Stewart25555\_133
- Track 28 : SJReid\_147
- Track 29 : Phrampa\_140
- Track 30 : Maruru\_29
- Track 31 : Sunshine23\_30
- Track 32 : Sonali\_28
- Track 33 : Bumble\_57
- Track 34 : Altadena\_58
- Track 35 : BlackJade\_32
- Track 36 : Hirko\_55

- Track 37 : Ottawa\_6, Kharcho\_6
- Track 38 : Neuville\_2, CardboardBox\_2, Annabelle\_2, ChamoyPickle\_2, Roberts\_2, Gerri43\_2, ChipsNGuac\_2
- Track 39 : TMaxx\_2
- Track 40 : Mireles\_2
- Track 41 : Audell\_2
- Track 42 : Makima\_3
- Track 43 : TripleC\_2
- Track 44 : LastNadiia\_2
- Track 45 : Laure\_150

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

The start number called the most often in the published annotations is 22, it was called in 10 of the 47 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Artu\_136, Bloom\_150, BooTeria\_141, Chilliams\_142, DunneganBoMo\_133, Emmetator\_136, FloraSnap32\_145, FrostedClock\_149, GoldenEssence\_133, Laure\_150, Mimi\_146, Panchaali\_135, Patbob\_143, Phrampa\_140, Racecar\_147, Rockabye\_147, SJReid\_147, Stewart2555\_133, Talia1610\_148, WaddleDee\_130,

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

- ApoKipo\_22, Kovu\_22,

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

- Abba\_27, Altadena\_58, Amela\_4, Annabelle\_2, Atuin\_136, Audell\_2, BillNye\_151, BlackJade\_32, Bumble\_57, CardboardBox\_2, Celery\_6, Chaewon\_156, ChamoyPickle\_2, ChipsNGuac\_2, Circinus\_152, EastWest\_55, Ellewin\_132, Gerri43\_2, Hirko\_55, Issmi\_4, KSunshine22\_138, Kharcho\_6, LastNadiia\_2, LeoJr\_146, Makima\_3, Maruru\_29, Mireles\_2, Muntaha\_161, Neuville\_2, Ottawa\_6, ReginaGlobina\_145, Roberts\_2, Saftant\_4, Sham\_183, Sicarius2\_7, Sonali\_28, Speedwell\_5, SunkenRoot\_6, Sunshine23\_30, TMaxx\_2, TripleC\_2, TunaTartare\_192, Verse\_4, Wakanda\_159, Wyborn\_7, ZamZam\_4, phiCAM\_04,

**Summary by start number:**

Start 20:

- Found in 7 of 69 ( 10.1% ) of genes in pham
- Manual Annotations of this start: 4 of 47
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ApoKipo\_22 (AL), Atuin\_136 (FC), Ellewin\_132 (FC), KSunshine22\_138 (FC), Kovu\_22 (AL), LeoJr\_146 (FC), ReginaGlobina\_145 (FC),

Start 22:

- Found in 22 of 69 ( 31.9% ) of genes in pham
- Manual Annotations of this start: 10 of 47
- Called 90.9% of time when present

- Phage (with cluster) where this start called: Artu\_136 (FC), Bloom\_150 (FC), BooTeria\_141 (FC), Chilliams\_142 (FC), DunneganBoMo\_133 (FC), Emmetator\_136 (FC), FloraSnap32\_145 (FC), FrostedClock\_149 (FC), GoldenEssence\_133 (FC), Laure\_150 (UNK), Mimi\_146 (FC), Panchaali\_135 (FC), Patbob\_143 (FC), Phrampa\_140 (FC), Racecar\_147 (FC), Rockabye\_147 (FC), SJReid\_147 (FC), Stewart25555\_133 (FC), Talia1610\_148 (FC), WaddleDee\_130 (FC),

#### Start 26:

- Found in 8 of 69 ( 11.6% ) 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: AnnabelLee\_2 (FR), CardboardBox\_2 (FR), ChamoyPickle\_2 (FR), ChipsNGuac\_2 (FR), Gerri43\_2 (FR), Hirko\_55 (FL), Neuville\_2 (FR), Roberts\_2 (FR),

#### Start 27:

- Found in 12 of 69 ( 17.4% ) of genes in pham
- Manual Annotations of this start: 9 of 47
- Called 83.3% of time when present
- Phage (with cluster) where this start called: Audell\_2 (FR), BillNye\_151 (BK2), Chaewon\_156 (BK2), Circinus\_152 (BK2), LastNadiia\_2 (FR), Makima\_3 (FR), Muntaha\_161 (BK2), TripleC\_2 (FR), TunaTartare\_192 (BK1), Wakanda\_159 (BK2),

#### Start 28:

- Found in 3 of 69 ( 4.3% ) 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: Sonali\_28 (FG), Sunshine23\_30 (FG), TMaxx\_2 (FR),

#### Start 29:

- Found in 3 of 69 ( 4.3% ) of genes in pham
- Manual Annotations of this start: 2 of 47
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Abba\_27 (AO3), Mireles\_2 (FR),

#### Start 30:

- Found in 3 of 69 ( 4.3% ) of genes in pham
- Manual Annotations of this start: 2 of 47
- Called 66.7% of time when present
- Phage (with cluster) where this start called: EastWest\_55 (AO), Maruru\_29 (FG),

#### Start 32:

- Found in 2 of 69 ( 2.9% ) of genes in pham
- Manual Annotations of this start: 1 of 47
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Sham\_183 (BK1),

#### Start 33:

- Found in 2 of 69 ( 2.9% ) 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: Kharcho\_6 (FM), Ottawa\_6 (FM),

Start 36:

- Found in 2 of 69 ( 2.9% ) 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: Sicarius2\_7 (AO2), Wyborn\_7 (AO2),

Start 37:

- Found in 1 of 69 ( 1.4% ) 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: Bumble\_57 (FH),

Start 39:

- Found in 12 of 69 ( 17.4% ) of genes in pham
- Manual Annotations of this start: 7 of 47
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Altadena\_58 (FH), Amela\_4 (BD3), BlackJade\_32 (FL), Issmi\_4 (BD2), Saftant\_4 (BD3), Speedwell\_5 (BD3), SunkenRoot\_6 (BD3), Verse\_4 (BD3), ZamZam\_4 (BD3),

Start 43:

- Found in 7 of 69 ( 10.1% ) of genes in pham
- No Manual Annotations of this start.
- Called 28.6% of time when present
- Phage (with cluster) where this start called: Celery\_6 (BD3), phiCAM\_04 (BD3),

**Summary by clusters:**

There are 15 clusters represented in this pham: FR, BD3, BD2, AL, AO, FC, AO3, BK1, BK2, FG, FH, UNK, FL, FM, AO2,

Info for manual annotations of cluster AL:

- Start number 20 was manually annotated 2 times for cluster AL.

Info for manual annotations of cluster AO:

- Start number 30 was manually annotated 1 time for cluster AO.

Info for manual annotations of cluster AO2:

- Start number 36 was manually annotated 2 times for cluster AO2.

Info for manual annotations of cluster AO3:

- Start number 29 was manually annotated 1 time for cluster AO3.

Info for manual annotations of cluster BD2:

- Start number 39 was manually annotated 1 time for cluster BD2.

Info for manual annotations of cluster BD3:

- Start number 39 was manually annotated 5 times for cluster BD3.

Info for manual annotations of cluster BK1:

- Start number 27 was manually annotated 1 time for cluster BK1.
- Start number 32 was manually annotated 1 time for cluster BK1.

Info for manual annotations of cluster BK2:

- Start number 27 was manually annotated 4 times for cluster BK2.

Info for manual annotations of cluster FC:

- Start number 20 was manually annotated 2 times for cluster FC.
- Start number 22 was manually annotated 10 times for cluster FC.

Info for manual annotations of cluster FG:

- Start number 28 was manually annotated 1 time for cluster FG.
- Start number 30 was manually annotated 1 time for cluster FG.

Info for manual annotations of cluster FH:

- Start number 37 was manually annotated 1 time for cluster FH.
- Start number 39 was manually annotated 1 time for cluster FH.

Info for manual annotations of cluster FL:

- Start number 26 was manually annotated 1 time for cluster FL.

Info for manual annotations of cluster FM:

- Start number 33 was manually annotated 2 times for cluster FM.

Info for manual annotations of cluster FR:

- Start number 26 was manually annotated 4 times for cluster FR.
- Start number 27 was manually annotated 4 times for cluster FR.
- Start number 28 was manually annotated 1 time for cluster FR.
- Start number 29 was manually annotated 1 time for cluster FR.

### ***Gene Information:***

Gene: Abba\_27 Start: 23462, Stop: 23824, Start Num: 29

Candidate Starts for Abba\_27:

(3, 23108), (17, 23414), (Start: 29 @23462 has 2 MA's), (80, 23735),

Gene: Altadena\_58 Start: 37595, Stop: 37945, Start Num: 39

Candidate Starts for Altadena\_58:

(38, 37592), (Start: 39 @37595 has 7 MA's), (56, 37673), (93, 37904),

Gene: Amela\_4 Start: 1747, Stop: 2115, Start Num: 39

Candidate Starts for Amela\_4:

(Start: 39 @1747 has 7 MA's), (71, 1960), (75, 1999), (91, 2077),

Gene: AnnabelLee\_2 Start: 591, Stop: 968, Start Num: 26

Candidate Starts for AnnabelLee\_2:

(Start: 26 @591 has 5 MA's), (42, 639), (58, 714), (65, 759), (87, 909),

Gene: ApoKipo\_22 Start: 15394, Stop: 15786, Start Num: 20

Candidate Starts for ApoKipo\_22:

(Start: 20 @15394 has 4 MA's), (Start: 22 @15403 has 10 MA's), (Start: 30 @15433 has 2 MA's), (41, 15457), (54, 15505), (55, 15511), (67, 15598), (69, 15619), (86, 15700), (94, 15733),

Gene: Artu\_136 Start: 95115, Stop: 95534, Start Num: 22

Candidate Starts for Artu\_136:

(Start: 22 @95115 has 10 MA's), (35, 95157), (52, 95229), (61, 95280), (70, 95373), (72, 95388), (83, 95454), (90, 95481), (96, 95523),

Gene: Atuin\_136 Start: 97930, Stop: 98343, Start Num: 20

Candidate Starts for Atuin\_136:

(Start: 20 @97930 has 4 MA's), (50, 98047), (58, 98089), (60, 98101), (77, 98254),

Gene: Audell\_2 Start: 519, Stop: 890, Start Num: 27

Candidate Starts for Audell\_2:

(23, 498), (Start: 27 @519 has 9 MA's), (71, 744), (90, 849), (92, 861),

Gene: BillNye\_151 Start: 88009, Stop: 88371, Start Num: 27

Candidate Starts for BillNye\_151:

(Start: 27 @88009 has 9 MA's), (50, 88081), (52, 88087), (53, 88093), (54, 88099), (58, 88117), (59, 88123), (89, 88324), (90, 88327),

Gene: BlackJade\_32 Start: 23720, Stop: 24070, Start Num: 39

Candidate Starts for BlackJade\_32:

(9, 23594), (Start: 39 @23720 has 7 MA's), (44, 23744), (45, 23753), (66, 23885), (74, 23942), (86, 24002),

Gene: Bloom\_150 Start: 99871, Stop: 100284, Start Num: 22

Candidate Starts for Bloom\_150:

(15, 99835), (Start: 22 @99871 has 10 MA's), (35, 99913), (61, 100036), (72, 100144), (83, 100210), (90, 100237),

Gene: BooTeria\_141 Start: 95256, Stop: 95675, Start Num: 22

Candidate Starts for BooTeria\_141:

(Start: 22 @95256 has 10 MA's), (35, 95298), (52, 95370), (61, 95421), (70, 95514), (72, 95529), (83, 95595), (90, 95622), (96, 95664),

Gene: Bumble\_57 Start: 38445, Stop: 38798, Start Num: 37

Candidate Starts for Bumble\_57:

(Start: 37 @38445 has 1 MA's), (Start: 39 @38451 has 7 MA's), (56, 38529), (62, 38562), (77, 38691), (93, 38757),

Gene: CardboardBox\_2 Start: 591, Stop: 968, Start Num: 26

Candidate Starts for CardboardBox\_2:

(Start: 26 @591 has 5 MA's), (42, 639), (58, 714), (65, 759), (87, 909),

Gene: Celery\_6 Start: 1681, Stop: 2028, Start Num: 43

Candidate Starts for Celery\_6:

(Start: 39 @1660 has 7 MA's), (43, 1681), (50, 1714), (75, 1912),

Gene: Chaewon\_156 Start: 88172, Stop: 88534, Start Num: 27

Candidate Starts for Chaewon\_156:

(Start: 27 @88172 has 9 MA's), (51, 88247), (53, 88256), (54, 88262), (73, 88397), (89, 88487), (90, 88490),

Gene: ChamoyPickle\_2 Start: 591, Stop: 968, Start Num: 26

Candidate Starts for ChamoyPickle\_2:  
(Start: 26 @591 has 5 MA's), (42, 639), (58, 714), (65, 759), (87, 909),

Gene: Chilliams\_142 Start: 89265, Stop: 89678, Start Num: 22  
Candidate Starts for Chilliams\_142:  
(Start: 22 @89265 has 10 MA's), (58, 89415), (61, 89430), (70, 89523), (72, 89538), (83, 89604), (90, 89625), (96, 89667),

Gene: ChipsNGuac\_2 Start: 591, Stop: 968, Start Num: 26  
Candidate Starts for ChipsNGuac\_2:  
(Start: 26 @591 has 5 MA's), (42, 639), (58, 714), (65, 759), (87, 909),

Gene: Circinus\_152 Start: 87975, Stop: 88337, Start Num: 27  
Candidate Starts for Circinus\_152:  
(Start: 27 @87975 has 9 MA's), (50, 88047), (52, 88053), (53, 88059), (54, 88065), (58, 88083), (59, 88089), (89, 88290), (90, 88293),

Gene: DunneganBoMo\_133 Start: 94525, Stop: 94944, Start Num: 22  
Candidate Starts for DunneganBoMo\_133:  
(Start: 22 @94525 has 10 MA's), (35, 94567), (52, 94639), (61, 94690), (70, 94783), (72, 94798), (83, 94864), (90, 94891), (96, 94933),

Gene: EastWest\_55 Start: 37310, Stop: 37666, Start Num: 30  
Candidate Starts for EastWest\_55:  
(14, 37235), (18, 37265), (Start: 30 @37310 has 2 MA's), (50, 37385), (56, 37409), (63, 37457), (69, 37520), (78, 37571), (93, 37631),

Gene: Ellewin\_132 Start: 94115, Stop: 94531, Start Num: 20  
Candidate Starts for Ellewin\_132:  
(Start: 20 @94115 has 4 MA's), (50, 94232), (58, 94274), (60, 94286), (77, 94439),

Gene: Emmetator\_136 Start: 94442, Stop: 94861, Start Num: 22  
Candidate Starts for Emmetator\_136:  
(Start: 22 @94442 has 10 MA's), (35, 94484), (52, 94556), (61, 94607), (70, 94700), (72, 94715), (83, 94781), (90, 94808), (96, 94850),

Gene: FloraSnap32\_145 Start: 98637, Stop: 99056, Start Num: 22  
Candidate Starts for FloraSnap32\_145:  
(15, 98601), (Start: 22 @98637 has 10 MA's), (35, 98679), (52, 98751), (61, 98802), (72, 98910), (83, 98976), (96, 99045),

Gene: FrostedClock\_149 Start: 99868, Stop: 100281, Start Num: 22  
Candidate Starts for FrostedClock\_149:  
(15, 99832), (Start: 22 @99868 has 10 MA's), (35, 99910), (61, 100033), (72, 100141), (83, 100207), (90, 100234),

Gene: Gerri43\_2 Start: 591, Stop: 968, Start Num: 26  
Candidate Starts for Gerri43\_2:  
(Start: 26 @591 has 5 MA's), (42, 639), (58, 714), (65, 759), (87, 909),

Gene: GoldenEssence\_133 Start: 93520, Stop: 93939, Start Num: 22  
Candidate Starts for GoldenEssence\_133:

(15, 93484), (Start: 22 @93520 has 10 MA's), (35, 93562), (52, 93634), (61, 93685), (72, 93793), (83, 93859), (96, 93928),

Gene: Hirko\_55 Start: 40206, Stop: 40562, Start Num: 26

Candidate Starts for Hirko\_55:

(Start: 26 @40206 has 5 MA's), (31, 40218), (43, 40257), (49, 40287), (85, 40488), (95, 40551),

Gene: Issmi\_4 Start: 1351, Stop: 1734, Start Num: 39

Candidate Starts for Issmi\_4:

(1, 766), (4, 1093), (5, 1120), (24, 1312), (Start: 39 @1351 has 7 MA's), (43, 1372), (62, 1462), (71, 1564), (72, 1567), (91, 1684), (93, 1693),

Gene: KSunshine22\_138 Start: 95675, Stop: 96091, Start Num: 20

Candidate Starts for KSunshine22\_138:

(Start: 20 @95675 has 4 MA's), (50, 95792), (58, 95834), (60, 95846), (77, 95999),

Gene: Kharcho\_6 Start: 1919, Stop: 2308, Start Num: 33

Candidate Starts for Kharcho\_6:

(Start: 33 @1919 has 2 MA's), (48, 1982),

Gene: Kovu\_22 Start: 15481, Stop: 15873, Start Num: 20

Candidate Starts for Kovu\_22:

(12, 15433), (Start: 20 @15481 has 4 MA's), (Start: 22 @15490 has 10 MA's), (Start: 27 @15511 has 9 MA's), (Start: 29 @15514 has 2 MA's), (34, 15526), (41, 15541), (52, 15589), (54, 15601), (55, 15607), (70, 15721), (85, 15790), (86, 15796), (98, 15862),

Gene: LastNadiia\_2 Start: 520, Stop: 891, Start Num: 27

Candidate Starts for LastNadiia\_2:

(23, 499), (Start: 27 @520 has 9 MA's), (64, 676), (71, 745), (92, 862),

Gene: Laure\_150 Start: 92008, Stop: 92397, Start Num: 22

Candidate Starts for Laure\_150:

(Start: 22 @92008 has 10 MA's), (42, 92077), (46, 92098), (62, 92179), (68, 92257), (72, 92281), (81, 92338), (89, 92365),

Gene: LeoJr\_146 Start: 98531, Stop: 98944, Start Num: 20

Candidate Starts for LeoJr\_146:

(Start: 20 @98531 has 4 MA's), (50, 98648), (58, 98690), (60, 98702),

Gene: Makima\_3 Start: 2079, Stop: 2453, Start Num: 27

Candidate Starts for Makima\_3:

(Start: 27 @2079 has 9 MA's), (58, 2199),

Gene: Maruru\_29 Start: 27682, Stop: 28050, Start Num: 30

Candidate Starts for Maruru\_29:

(2, 27271), (7, 27490), (16, 27622), (Start: 30 @27682 has 2 MA's), (66, 27868), (69, 27895), (90, 27991),

Gene: Mimi\_146 Start: 98936, Stop: 99349, Start Num: 22

Candidate Starts for Mimi\_146:

(15, 98900), (Start: 22 @98936 has 10 MA's), (35, 98978), (61, 99101), (72, 99209), (83, 99275), (90, 99302),

Gene: Mireles\_2 Start: 515, Stop: 886, Start Num: 29

Candidate Starts for Mireles\_2:

(25, 506), (Start: 29 @515 has 2 MA's), (58, 632),

Gene: Muntaha\_161 Start: 87293, Stop: 87655, Start Num: 27

Candidate Starts for Muntaha\_161:

(19, 87257), (Start: 27 @87293 has 9 MA's), (51, 87368), (52, 87371), (53, 87377), (54, 87383), (73, 87518), (89, 87608), (90, 87611),

Gene: Neuville\_2 Start: 591, Stop: 968, Start Num: 26

Candidate Starts for Neuville\_2:

(Start: 26 @591 has 5 MA's), (42, 639), (58, 714), (65, 759), (87, 909),

Gene: Ottawa\_6 Start: 1919, Stop: 2308, Start Num: 33

Candidate Starts for Ottawa\_6:

(Start: 33 @1919 has 2 MA's), (48, 1982),

Gene: Panchaali\_135 Start: 94861, Stop: 95280, Start Num: 22

Candidate Starts for Panchaali\_135:

(Start: 22 @94861 has 10 MA's), (35, 94903), (61, 95026), (72, 95134), (83, 95200), (90, 95227), (97, 95272),

Gene: Patbob\_143 Start: 99649, Stop: 100068, Start Num: 22

Candidate Starts for Patbob\_143:

(15, 99613), (Start: 22 @99649 has 10 MA's), (35, 99691), (52, 99763), (61, 99814), (72, 99922), (83, 99988), (96, 100057),

Gene: Phrampa\_140 Start: 101294, Stop: 101719, Start Num: 22

Candidate Starts for Phrampa\_140:

(Start: 22 @101294 has 10 MA's), (47, 101390), (57, 101438), (61, 101459), (65, 101489), (70, 101552), (72, 101567), (82, 101627), (98, 101711),

Gene: Racecar\_147 Start: 99924, Stop: 100337, Start Num: 22

Candidate Starts for Racecar\_147:

(15, 99888), (Start: 22 @99924 has 10 MA's), (35, 99966), (61, 100089), (72, 100197), (83, 100263), (90, 100290),

Gene: ReginaGlobina\_145 Start: 98753, Stop: 99169, Start Num: 20

Candidate Starts for ReginaGlobina\_145:

(Start: 20 @98753 has 4 MA's), (50, 98870), (58, 98912), (60, 98924), (77, 99077),

Gene: Roberts\_2 Start: 591, Stop: 968, Start Num: 26

Candidate Starts for Roberts\_2:

(Start: 26 @591 has 5 MA's), (42, 639), (58, 714), (65, 759), (87, 909),

Gene: Rockabye\_147 Start: 90427, Stop: 90843, Start Num: 22

Candidate Starts for Rockabye\_147:

(Start: 22 @90427 has 10 MA's), (35, 90469), (61, 90592), (72, 90700), (83, 90766), (90, 90793),

Gene: SJReid\_147 Start: 89398, Stop: 89817, Start Num: 22

Candidate Starts for SJReid\_147:

(Start: 22 @89398 has 10 MA's), (40, 89458), (58, 89548), (72, 89671), (79, 89722), (96, 89806),

Gene: Saftant\_4 Start: 1704, Stop: 2072, Start Num: 39

Candidate Starts for Saftant\_4:

(6, 1482), (8, 1488), (10, 1581), (15, 1614), (Start: 39 @1704 has 7 MA's), (50, 1758), (71, 1917), (91, 2031),

Gene: Sham\_183 Start: 99378, Stop: 99734, Start Num: 32

Candidate Starts for Sham\_183:

(Start: 27 @99366 has 9 MA's), (Start: 32 @99378 has 1 MA's), (43, 99417), (51, 99453), (53, 99462), (54, 99468), (89, 99687),

Gene: Sicarius2\_7 Start: 6118, Stop: 6459, Start Num: 36

Candidate Starts for Sicarius2\_7:

(Start: 36 @6118 has 2 MA's), (88, 6406),

Gene: Sonali\_28 Start: 27905, Stop: 28276, Start Num: 28

Candidate Starts for Sonali\_28:

(Start: 28 @27905 has 2 MA's), (70, 28127),

Gene: Speedwell\_5 Start: 1643, Stop: 2011, Start Num: 39

Candidate Starts for Speedwell\_5:

(Start: 39 @1643 has 7 MA's), (43, 1664), (50, 1697),

Gene: Stewart25555\_133 Start: 95534, Stop: 95953, Start Num: 22

Candidate Starts for Stewart25555\_133:

(Start: 22 @95534 has 10 MA's), (72, 95807), (83, 95873),

Gene: SunkenRoot\_6 Start: 1740, Stop: 2108, Start Num: 39

Candidate Starts for SunkenRoot\_6:

(Start: 39 @1740 has 7 MA's), (71, 1953), (75, 1992),

Gene: Sunshine23\_30 Start: 27923, Stop: 28294, Start Num: 28

Candidate Starts for Sunshine23\_30:

(Start: 28 @27923 has 2 MA's), (70, 28145),

Gene: TMaxx\_2 Start: 552, Stop: 920, Start Num: 28

Candidate Starts for TMaxx\_2:

(Start: 28 @552 has 2 MA's), (70, 771), (76, 810),

Gene: Talia1610\_148 Start: 99939, Stop: 100352, Start Num: 22

Candidate Starts for Talia1610\_148:

(15, 99903), (Start: 22 @99939 has 10 MA's), (35, 99981), (61, 100104), (72, 100212), (83, 100278), (90, 100305),

Gene: TripleC\_2 Start: 535, Stop: 909, Start Num: 27

Candidate Starts for TripleC\_2:

(13, 460), (21, 508), (Start: 27 @535 has 9 MA's), (58, 655), (84, 844), (89, 862), (94, 883),

Gene: TunaTartare\_192 Start: 101415, Stop: 101783, Start Num: 27

Candidate Starts for TunaTartare\_192:

(Start: 27 @101415 has 9 MA's), (Start: 32 @101427 has 1 MA's), (43, 101466), (51, 101502), (53, 101511), (54, 101517), (89, 101736),

Gene: Verse\_4 Start: 1741, Stop: 2109, Start Num: 39

Candidate Starts for Verse\_4:

(Start: 39 @1741 has 7 MA's), (71, 1954), (75, 1993), (91, 2071),

Gene: WaddleDee\_130 Start: 93711, Stop: 94130, Start Num: 22

Candidate Starts for WaddleDee\_130:

(Start: 22 @93711 has 10 MA's), (35, 93753), (52, 93825), (61, 93876), (70, 93969), (72, 93984), (83, 94050), (90, 94077), (96, 94119),

Gene: Wakanda\_159 Start: 86971, Stop: 87333, Start Num: 27

Candidate Starts for Wakanda\_159:

(19, 86935), (Start: 27 @86971 has 9 MA's), (51, 87046), (52, 87049), (53, 87055), (54, 87061), (73, 87196), (89, 87286), (90, 87289),

Gene: Wyborn\_7 Start: 5979, Stop: 6320, Start Num: 36

Candidate Starts for Wyborn\_7:

(Start: 36 @5979 has 2 MA's), (88, 6267),

Gene: ZamZam\_4 Start: 1673, Stop: 2041, Start Num: 39

Candidate Starts for ZamZam\_4:

(11, 1556), (24, 1634), (Start: 39 @1673 has 7 MA's), (50, 1727), (71, 1886), (91, 2000),

Gene: phiCAM\_04 Start: 1710, Stop: 2057, Start Num: 43

Candidate Starts for phiCAM\_04:

(Start: 39 @1689 has 7 MA's), (43, 1710), (50, 1743), (71, 1902), (91, 2019),