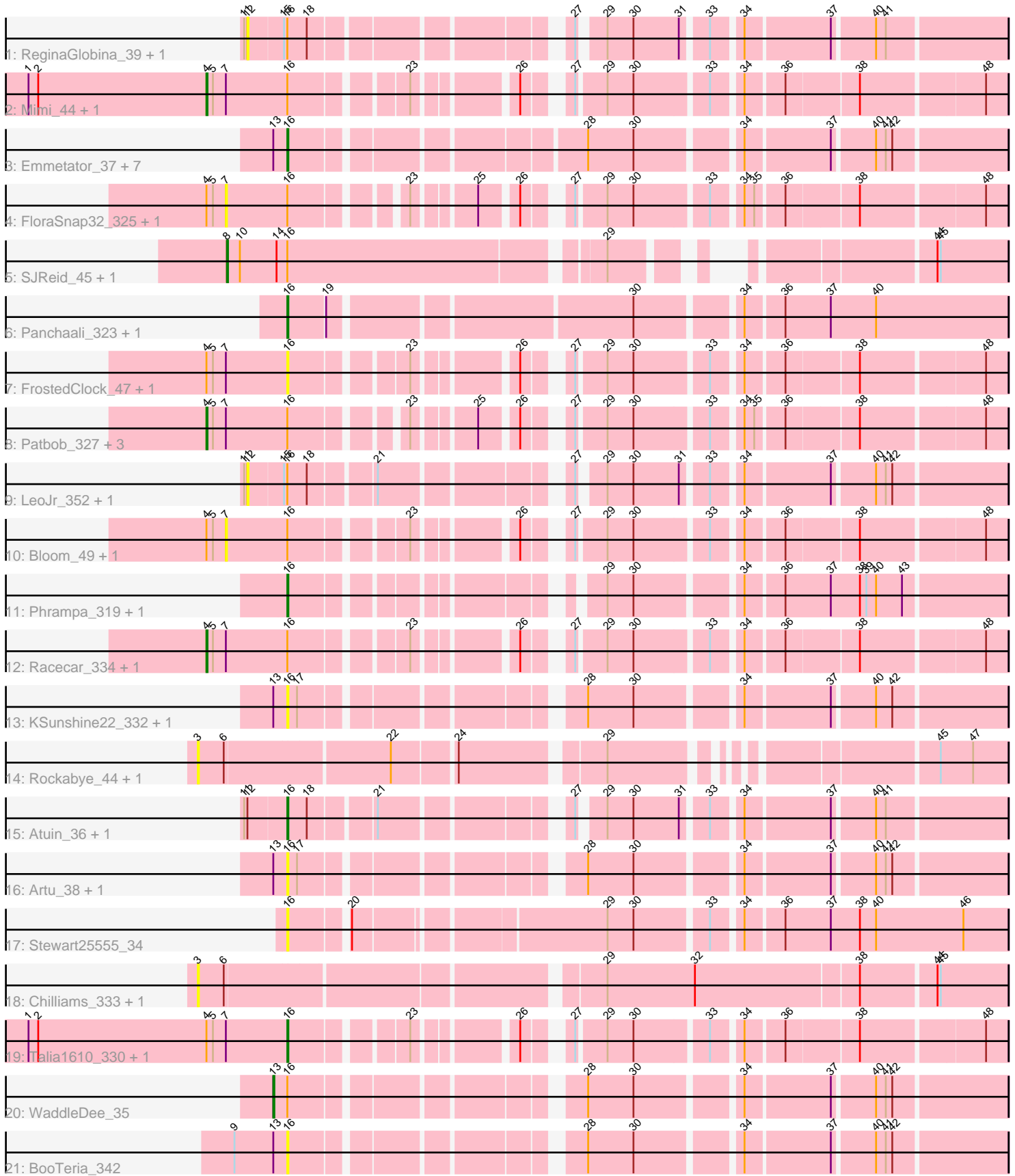


Pham 296682



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 296682 Report

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

Pham number 296682 has 47 members, 23 are drafts.

Phages represented in each track:

- Track 1 : ReginaGlobina\_39, ReginaGlobina\_350
- Track 2 : Mimi\_44, Mimi\_329
- Track 3 : Emmetator\_37, BooTeria\_43, Ellewin\_34, DunneganBoMo\_36, Ellewin\_327, WaddleDee\_326, Emmetator\_331, DunneganBoMo\_331
- Track 4 : FloraSnap32\_325, FloraSnap32\_40
- Track 5 : SJReid\_45, SJReid\_354
- Track 6 : Panchaali\_323, Panchaali\_36
- Track 7 : FrostedClock\_47, FrostedClock\_332
- Track 8 : Patbob\_327, GoldenEssence\_309, Patbob\_41, GoldenEssence\_28
- Track 9 : LeoJr\_352, LeoJr\_39
- Track 10 : Bloom\_49, Bloom\_336
- Track 11 : Phrampa\_319, Phrampa\_35
- Track 12 : Racecar\_334, Racecar\_45
- Track 13 : KSunshine22\_332, KSunshine22\_40
- Track 14 : Rockabye\_44, Rockabye\_343
- Track 15 : Atuin\_36, Atuin\_336
- Track 16 : Artu\_38, Artu\_325
- Track 17 : Stewart25555\_34
- Track 18 : Chilliams\_333, Chilliams\_42
- Track 19 : Talia1610\_330, Talia1610\_44
- Track 20 : WaddleDee\_35
- Track 21 : BooTeria\_342

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

The start number called the most often in the published annotations is 16, it was called in 13 of the 24 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Artu\_325, Artu\_38, Atuin\_336, Atuin\_36, BooTeria\_342, BooTeria\_43, DunneganBoMo\_331, DunneganBoMo\_36, Ellewin\_327, Ellewin\_34, Emmetator\_331, Emmetator\_37, FrostedClock\_332, FrostedClock\_47, KSunshine22\_332, KSunshine22\_40, Panchaali\_323, Panchaali\_36, Phrampa\_319, Phrampa\_35, Stewart25555\_34, Talia1610\_330, Talia1610\_44, WaddleDee\_326,

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

- Bloom\_336, Bloom\_49, FloraSnap32\_325, FloraSnap32\_40, GoldenEssence\_28, GoldenEssence\_309, LeoJr\_352, LeoJr\_39, Mimi\_329, Mimi\_44, Patbob\_327, Patbob\_41, Racecar\_334, Racecar\_45, ReginaGlobina\_350, ReginaGlobina\_39, SJReid\_354, SJReid\_45, WaddleDee\_35,

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

- Chilliamps\_333, Chilliamps\_42, Rockabye\_343, Rockabye\_44,

### Summary by start number:

Start 3:

- Found in 4 of 47 ( 8.5% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Chilliamps\_333 (FC), Chilliamps\_42 (FC), Rockabye\_343 (FC), Rockabye\_44 (FC),

Start 4:

- Found in 16 of 47 ( 34.0% ) of genes in pham
- Manual Annotations of this start: 8 of 24
- Called 50.0% of time when present
- Phage (with cluster) where this start called: GoldenEssence\_28 (FC), GoldenEssence\_309 (FC), Mimi\_329 (FC), Mimi\_44 (FC), Patbob\_327 (FC), Patbob\_41 (FC), Racecar\_334 (FC), Racecar\_45 (FC),

Start 7:

- Found in 16 of 47 ( 34.0% ) of genes in pham
- No Manual Annotations of this start.
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Bloom\_336 (FC), Bloom\_49 (FC), FloraSnap32\_325 (FC), FloraSnap32\_40 (FC),

Start 8:

- Found in 2 of 47 ( 4.3% ) of genes in pham
- Manual Annotations of this start: 2 of 24
- Called 100.0% of time when present
- Phage (with cluster) where this start called: SJReid\_354 (FC), SJReid\_45 (FC),

Start 12:

- Found in 6 of 47 ( 12.8% ) of genes in pham
- No Manual Annotations of this start.
- Called 66.7% of time when present
- Phage (with cluster) where this start called: LeoJr\_352 (FC), LeoJr\_39 (FC), ReginaGlobina\_350 (FC), ReginaGlobina\_39 (FC),

Start 13:

- Found in 14 of 47 ( 29.8% ) of genes in pham
- Manual Annotations of this start: 1 of 24
- Called 7.1% of time when present
- Phage (with cluster) where this start called: WaddleDee\_35 (FC),

Start 16:

- Found in 43 of 47 ( 91.5% ) of genes in pham
- Manual Annotations of this start: 13 of 24
- Called 55.8% of time when present
- Phage (with cluster) where this start called: Artu\_325 (FC), Artu\_38 (FC), Atuin\_336 (FC), Atuin\_36 (FC), BooTeria\_342 (FC), BooTeria\_43 (FC), DunneganBoMo\_331 (FC), DunneganBoMo\_36 (FC), Ellewin\_327 (FC), Ellewin\_34 (FC), Emmetator\_331 (FC), Emmetator\_37 (FC), FrostedClock\_332 (FC), FrostedClock\_47 (FC), KSunshine22\_332 (FC), KSunshine22\_40 (FC), Panchaali\_323 (FC), Panchaali\_36 (FC), Phrampa\_319 (FC), Phrampa\_35 (FC), Stewart25555\_34 (FC), Talia1610\_330 (FC), Talia1610\_44 (FC), WaddleDee\_326 (FC),

### Summary by clusters:

There is one cluster represented in this pham: FC

Info for manual annotations of cluster FC:

- Start number 4 was manually annotated 8 times for cluster FC.
- Start number 8 was manually annotated 2 times for cluster FC.
- Start number 13 was manually annotated 1 time for cluster FC.
- Start number 16 was manually annotated 13 times for cluster FC.

### Gene Information:

Gene: Artu\_38 Start: 15507, Stop: 14923, Start Num: 16

Candidate Starts for Artu\_38:

(Start: 13 @15519 has 1 MA's), (Start: 16 @15507 has 13 MA's), (17, 15498), (28, 15279), (30, 15237), (34, 15150), (37, 15075), (40, 15039), (41, 15030), (42, 15024),

Gene: Artu\_325 Start: 194661, Stop: 194077, Start Num: 16

Candidate Starts for Artu\_325:

(Start: 13 @194673 has 1 MA's), (Start: 16 @194661 has 13 MA's), (17, 194652), (28, 194433), (30, 194391), (34, 194304), (37, 194229), (40, 194193), (41, 194184), (42, 194178),

Gene: Atuin\_36 Start: 16951, Stop: 16376, Start Num: 16

Candidate Starts for Atuin\_36:

(11, 16987), (12, 16984), (Start: 16 @16951 has 13 MA's), (18, 16933), (21, 16879), (27, 16732), (29, 16714), (30, 16690), (31, 16648), (33, 16627), (34, 16603), (37, 16528), (40, 16492), (41, 16483),

Gene: Atuin\_336 Start: 193839, Stop: 193264, Start Num: 16

Candidate Starts for Atuin\_336:

(11, 193875), (12, 193872), (Start: 16 @193839 has 13 MA's), (18, 193821), (21, 193767), (27, 193620), (29, 193602), (30, 193578), (31, 193536), (33, 193515), (34, 193491), (37, 193416), (40, 193380), (41, 193371),

Gene: Bloom\_49 Start: 20379, Stop: 19762, Start Num: 7

Candidate Starts for Bloom\_49:

(Start: 4 @20397 has 8 MA's), (5, 20391), (7, 20379), (Start: 16 @20322 has 13 MA's), (23, 20229), (26, 20151), (27, 20121), (29, 20097), (30, 20073), (33, 20010), (34, 19986), (36, 19953), (38, 19890), (48, 19782),

Gene: Bloom\_336 Start: 193854, Stop: 193237, Start Num: 7

Candidate Starts for Bloom\_336:

(Start: 4 @193872 has 8 MA's), (5, 193866), (7, 193854), (Start: 16 @193797 has 13 MA's), (23, 193704), (26, 193626), (27, 193596), (29, 193572), (30, 193548), (33, 193485), (34, 193461), (36, 193428), (38, 193365), (48, 193257),

Gene: BooTeria\_43 Start: 16101, Stop: 15517, Start Num: 16

Candidate Starts for BooTeria\_43:

(Start: 13 @16113 has 1 MA's), (Start: 16 @16101 has 13 MA's), (28, 15873), (30, 15831), (34, 15744), (37, 15669), (40, 15633), (41, 15624), (42, 15618),

Gene: BooTeria\_342 Start: 195010, Stop: 194426, Start Num: 16

Candidate Starts for BooTeria\_342:

(9, 195058), (Start: 13 @195022 has 1 MA's), (Start: 16 @195010 has 13 MA's), (28, 194782), (30, 194740), (34, 194653), (37, 194578), (40, 194542), (41, 194533), (42, 194527),

Gene: Chilliams\_333 Start: 191655, Stop: 190954, Start Num: 3

Candidate Starts for Chilliams\_333:

(3, 191655), (6, 191631), (29, 191313), (32, 191232), (38, 191085), (44, 191019), (45, 191016),

Gene: Chilliams\_42 Start: 18921, Stop: 18220, Start Num: 3

Candidate Starts for Chilliams\_42:

(3, 18921), (6, 18897), (29, 18579), (32, 18498), (38, 18351), (44, 18285), (45, 18282),

Gene: DunneganBoMo\_36 Start: 16090, Stop: 15506, Start Num: 16

Candidate Starts for DunneganBoMo\_36:

(Start: 13 @16102 has 1 MA's), (Start: 16 @16090 has 13 MA's), (28, 15862), (30, 15820), (34, 15733), (37, 15658), (40, 15622), (41, 15613), (42, 15607),

Gene: DunneganBoMo\_331 Start: 195502, Stop: 194918, Start Num: 16

Candidate Starts for DunneganBoMo\_331:

(Start: 13 @195514 has 1 MA's), (Start: 16 @195502 has 13 MA's), (28, 195274), (30, 195232), (34, 195145), (37, 195070), (40, 195034), (41, 195025), (42, 195019),

Gene: Ellewin\_34 Start: 15366, Stop: 14782, Start Num: 16

Candidate Starts for Ellewin\_34:

(Start: 13 @15378 has 1 MA's), (Start: 16 @15366 has 13 MA's), (28, 15138), (30, 15096), (34, 15009), (37, 14934), (40, 14898), (41, 14889), (42, 14883),

Gene: Ellewin\_327 Start: 194480, Stop: 193896, Start Num: 16

Candidate Starts for Ellewin\_327:

(Start: 13 @194492 has 1 MA's), (Start: 16 @194480 has 13 MA's), (28, 194252), (30, 194210), (34, 194123), (37, 194048), (40, 194012), (41, 194003), (42, 193997),

Gene: Emmetator\_37 Start: 15949, Stop: 15353, Start Num: 16

Candidate Starts for Emmetator\_37:

(Start: 13 @15961 has 1 MA's), (Start: 16 @15949 has 13 MA's), (28, 15709), (30, 15667), (34, 15580), (37, 15505), (40, 15469), (41, 15460), (42, 15454),

Gene: Emmetator\_331 Start: 194249, Stop: 193653, Start Num: 16

Candidate Starts for Emmetator\_331:

(Start: 13 @194261 has 1 MA's), (Start: 16 @194249 has 13 MA's), (28, 194009), (30, 193967), (34, 193880), (37, 193805), (40, 193769), (41, 193760), (42, 193754),

Gene: FloraSnap32\_325 Start: 192058, Stop: 191447, Start Num: 7

Candidate Starts for FloraSnap32\_325:

(Start: 4 @192076 has 8 MA's), (5, 192070), (7, 192058), (Start: 16 @192001 has 13 MA's), (23, 191914), (25, 191866), (26, 191836), (27, 191806), (29, 191782), (30, 191758), (33, 191695), (34, 191671), (35, 191662), (36, 191638), (38, 191575), (48, 191467),

Gene: FloraSnap32\_40 Start: 17920, Stop: 17309, Start Num: 7

Candidate Starts for FloraSnap32\_40:

(Start: 4 @17938 has 8 MA's), (5, 17932), (7, 17920), (Start: 16 @17863 has 13 MA's), (23, 17776), (25, 17728), (26, 17698), (27, 17668), (29, 17644), (30, 17620), (33, 17557), (34, 17533), (35, 17524), (36, 17500), (38, 17437), (48, 17329),

Gene: FrostedClock\_47 Start: 19595, Stop: 19035, Start Num: 16

Candidate Starts for FrostedClock\_47:

(Start: 4 @19670 has 8 MA's), (5, 19664), (7, 19652), (Start: 16 @19595 has 13 MA's), (23, 19502), (26, 19424), (27, 19394), (29, 19370), (30, 19346), (33, 19283), (34, 19259), (36, 19226), (38, 19163), (48, 19055),

Gene: FrostedClock\_332 Start: 193395, Stop: 192835, Start Num: 16

Candidate Starts for FrostedClock\_332:

(Start: 4 @193470 has 8 MA's), (5, 193464), (7, 193452), (Start: 16 @193395 has 13 MA's), (23, 193302), (26, 193224), (27, 193194), (29, 193170), (30, 193146), (33, 193083), (34, 193059), (36, 193026), (38, 192963), (48, 192855),

Gene: GoldenEssence\_309 Start: 183862, Stop: 183233, Start Num: 4

Candidate Starts for GoldenEssence\_309:

(Start: 4 @183862 has 8 MA's), (5, 183856), (7, 183844), (Start: 16 @183787 has 13 MA's), (23, 183700), (25, 183652), (26, 183622), (27, 183592), (29, 183568), (30, 183544), (33, 183481), (34, 183457), (35, 183448), (36, 183424), (38, 183361), (48, 183253),

Gene: GoldenEssence\_28 Start: 13309, Stop: 12680, Start Num: 4

Candidate Starts for GoldenEssence\_28:

(Start: 4 @13309 has 8 MA's), (5, 13303), (7, 13291), (Start: 16 @13234 has 13 MA's), (23, 13147), (25, 13099), (26, 13069), (27, 13039), (29, 13015), (30, 12991), (33, 12928), (34, 12904), (35, 12895), (36, 12871), (38, 12808), (48, 12700),

Gene: KSunshine22\_332 Start: 193551, Stop: 192967, Start Num: 16

Candidate Starts for KSunshine22\_332:

(Start: 13 @193563 has 1 MA's), (Start: 16 @193551 has 13 MA's), (17, 193542), (28, 193323), (30, 193281), (34, 193194), (37, 193119), (40, 193083), (42, 193068),

Gene: KSunshine22\_40 Start: 16650, Stop: 16066, Start Num: 16

Candidate Starts for KSunshine22\_40:

(Start: 13 @16662 has 1 MA's), (Start: 16 @16650 has 13 MA's), (17, 16641), (28, 16422), (30, 16380), (34, 16293), (37, 16218), (40, 16182), (42, 16167),

Gene: LeoJr\_352 Start: 194465, Stop: 193857, Start Num: 12

Candidate Starts for LeoJr\_352:

(11, 194468), (12, 194465), (15, 194435), (Start: 16 @194432 has 13 MA's), (18, 194414), (21, 194360), (27, 194213), (29, 194195), (30, 194171), (31, 194129), (33, 194108), (34, 194084), (37, 194009), (40, 193973), (41, 193964), (42, 193958),

Gene: LeoJr\_39 Start: 17162, Stop: 16554, Start Num: 12

Candidate Starts for LeoJr\_39:

(11, 17165), (12, 17162), (15, 17132), (Start: 16 @17129 has 13 MA's), (18, 17111), (21, 17057), (27, 16910), (29, 16892), (30, 16868), (31, 16826), (33, 16805), (34, 16781), (37, 16706), (40, 16670), (41, 16661), (42, 16655),

Gene: Mimi\_44 Start: 19565, Stop: 18930, Start Num: 4

Candidate Starts for Mimi\_44:

(1, 19730), (2, 19721), (Start: 4 @19565 has 8 MA's), (5, 19559), (7, 19547), (Start: 16 @19490 has 13 MA's), (23, 19397), (26, 19319), (27, 19289), (29, 19265), (30, 19241), (33, 19178), (34, 19154), (36, 19121), (38, 19058), (48, 18950),

Gene: Mimi\_329 Start: 192225, Stop: 191590, Start Num: 4

Candidate Starts for Mimi\_329:

(1, 192390), (2, 192381), (Start: 4 @192225 has 8 MA's), (5, 192219), (7, 192207), (Start: 16 @192150 has 13 MA's), (23, 192057), (26, 191979), (27, 191949), (29, 191925), (30, 191901), (33, 191838), (34, 191814), (36, 191781), (38, 191718), (48, 191610),

Gene: Panchaali\_323 Start: 194342, Stop: 193725, Start Num: 16

Candidate Starts for Panchaali\_323:

(Start: 16 @194342 has 13 MA's), (19, 194309), (30, 194051), (34, 193964), (36, 193931), (37, 193889), (40, 193847),

Gene: Panchaali\_36 Start: 15284, Stop: 14667, Start Num: 16

Candidate Starts for Panchaali\_36:

(Start: 16 @15284 has 13 MA's), (19, 15251), (30, 14993), (34, 14906), (36, 14873), (37, 14831), (40, 14789),

Gene: Patbob\_327 Start: 194582, Stop: 193953, Start Num: 4

Candidate Starts for Patbob\_327:

(Start: 4 @194582 has 8 MA's), (5, 194576), (7, 194564), (Start: 16 @194507 has 13 MA's), (23, 194420), (25, 194372), (26, 194342), (27, 194312), (29, 194288), (30, 194264), (33, 194201), (34, 194177), (35, 194168), (36, 194144), (38, 194081), (48, 193973),

Gene: Patbob\_41 Start: 19123, Stop: 18494, Start Num: 4

Candidate Starts for Patbob\_41:

(Start: 4 @19123 has 8 MA's), (5, 19117), (7, 19105), (Start: 16 @19048 has 13 MA's), (23, 18961), (25, 18913), (26, 18883), (27, 18853), (29, 18829), (30, 18805), (33, 18742), (34, 18718), (35, 18709), (36, 18685), (38, 18622), (48, 18514),

Gene: Phrampa\_319 Start: 192708, Stop: 192139, Start Num: 16

Candidate Starts for Phrampa\_319:

(Start: 16 @192708 has 13 MA's), (29, 192483), (30, 192459), (34, 192372), (36, 192339), (37, 192297), (38, 192270), (39, 192264), (40, 192255), (43, 192231),

Gene: Phrampa\_35 Start: 16337, Stop: 15768, Start Num: 16

Candidate Starts for Phrampa\_35:

(Start: 16 @16337 has 13 MA's), (29, 16112), (30, 16088), (34, 16001), (36, 15968), (37, 15926), (38, 15899), (39, 15893), (40, 15884), (43, 15860),

Gene: Racecar\_334 Start: 193874, Stop: 193239, Start Num: 4

Candidate Starts for Racecar\_334:

(Start: 4 @193874 has 8 MA's), (5, 193868), (7, 193856), (Start: 16 @193799 has 13 MA's), (23, 193706), (26, 193628), (27, 193598), (29, 193574), (30, 193550), (33, 193487), (34, 193463), (36, 193430), (38, 193367), (48, 193259),

Gene: Racecar\_45 Start: 20165, Stop: 19530, Start Num: 4

Candidate Starts for Racecar\_45:

(Start: 4 @20165 has 8 MA's), (5, 20159), (7, 20147), (Start: 16 @20090 has 13 MA's), (23, 19997), (26, 19919), (27, 19889), (29, 19865), (30, 19841), (33, 19778), (34, 19754), (36, 19721), (38, 19658), (48, 19550),

Gene: ReginaGlobina\_39 Start: 17390, Stop: 16782, Start Num: 12

Candidate Starts for ReginaGlobina\_39:

(11, 17393), (12, 17390), (15, 17360), (Start: 16 @17357 has 13 MA's), (18, 17339), (27, 17138), (29, 17120), (30, 17096), (31, 17054), (33, 17033), (34, 17009), (37, 16934), (40, 16898), (41, 16889),

Gene: ReginaGlobina\_350 Start: 194837, Stop: 194229, Start Num: 12

Candidate Starts for ReginaGlobina\_350:

(11, 194840), (12, 194837), (15, 194807), (Start: 16 @194804 has 13 MA's), (18, 194786), (27, 194585), (29, 194567), (30, 194543), (31, 194501), (33, 194480), (34, 194456), (37, 194381), (40, 194345), (41, 194336),

Gene: Rockabye\_44 Start: 19174, Stop: 18518, Start Num: 3

Candidate Starts for Rockabye\_44:

(3, 19174), (6, 19150), (22, 19006), (24, 18952), (29, 18832), (45, 18580), (47, 18550),

Gene: Rockabye\_343 Start: 191787, Stop: 191131, Start Num: 3

Candidate Starts for Rockabye\_343:

(3, 191787), (6, 191763), (22, 191619), (24, 191565), (29, 191445), (45, 191193), (47, 191163),

Gene: SJReid\_45 Start: 19758, Stop: 19144, Start Num: 8

Candidate Starts for SJReid\_45:

(Start: 8 @19758 has 2 MA's), (10, 19746), (14, 19713), (Start: 16 @19704 has 13 MA's), (29, 19431), (44, 19209), (45, 19206),

Gene: SJReid\_354 Start: 192597, Stop: 191983, Start Num: 8

Candidate Starts for SJReid\_354:

(Start: 8 @192597 has 2 MA's), (10, 192585), (14, 192552), (Start: 16 @192543 has 13 MA's), (29, 192270), (44, 192048), (45, 192045),

Gene: Stewart25555\_34 Start: 15496, Stop: 14885, Start Num: 16

Candidate Starts for Stewart25555\_34:

(Start: 16 @15496 has 13 MA's), (20, 15448), (29, 15235), (30, 15211), (33, 15148), (34, 15124), (36, 15091), (37, 15049), (38, 15022), (40, 15007), (46, 14926),

Gene: Talia1610\_330 Start: 193980, Stop: 193420, Start Num: 16

Candidate Starts for Talia1610\_330:

(1, 194220), (2, 194211), (Start: 4 @194055 has 8 MA's), (5, 194049), (7, 194037), (Start: 16 @193980 has 13 MA's), (23, 193887), (26, 193809), (27, 193779), (29, 193755), (30, 193731), (33, 193668), (34, 193644), (36, 193611), (38, 193548), (48, 193440),

Gene: Talia1610\_44 Start: 19508, Stop: 18948, Start Num: 16

Candidate Starts for Talia1610\_44:

(1, 19748), (2, 19739), (Start: 4 @19583 has 8 MA's), (5, 19577), (7, 19565), (Start: 16 @19508 has 13 MA's), (23, 19415), (26, 19337), (27, 19307), (29, 19283), (30, 19259), (33, 19196), (34, 19172), (36, 19139), (38, 19076), (48, 18968),

Gene: WaddleDee\_326 Start: 194026, Stop: 193442, Start Num: 16

Candidate Starts for WaddleDee\_326:

(Start: 13 @194038 has 1 MA's), (Start: 16 @194026 has 13 MA's), (28, 193798), (30, 193756), (34, 193669), (37, 193594), (40, 193558), (41, 193549), (42, 193543),

Gene: WaddleDee\_35 Start: 15843, Stop: 15247, Start Num: 13

Candidate Starts for WaddleDee\_35:

(Start: 13 @15843 has 1 MA's), (Start: 16 @15831 has 13 MA's), (28, 15603), (30, 15561), (34, 15474), (37, 15399), (40, 15363), (41, 15354), (42, 15348),