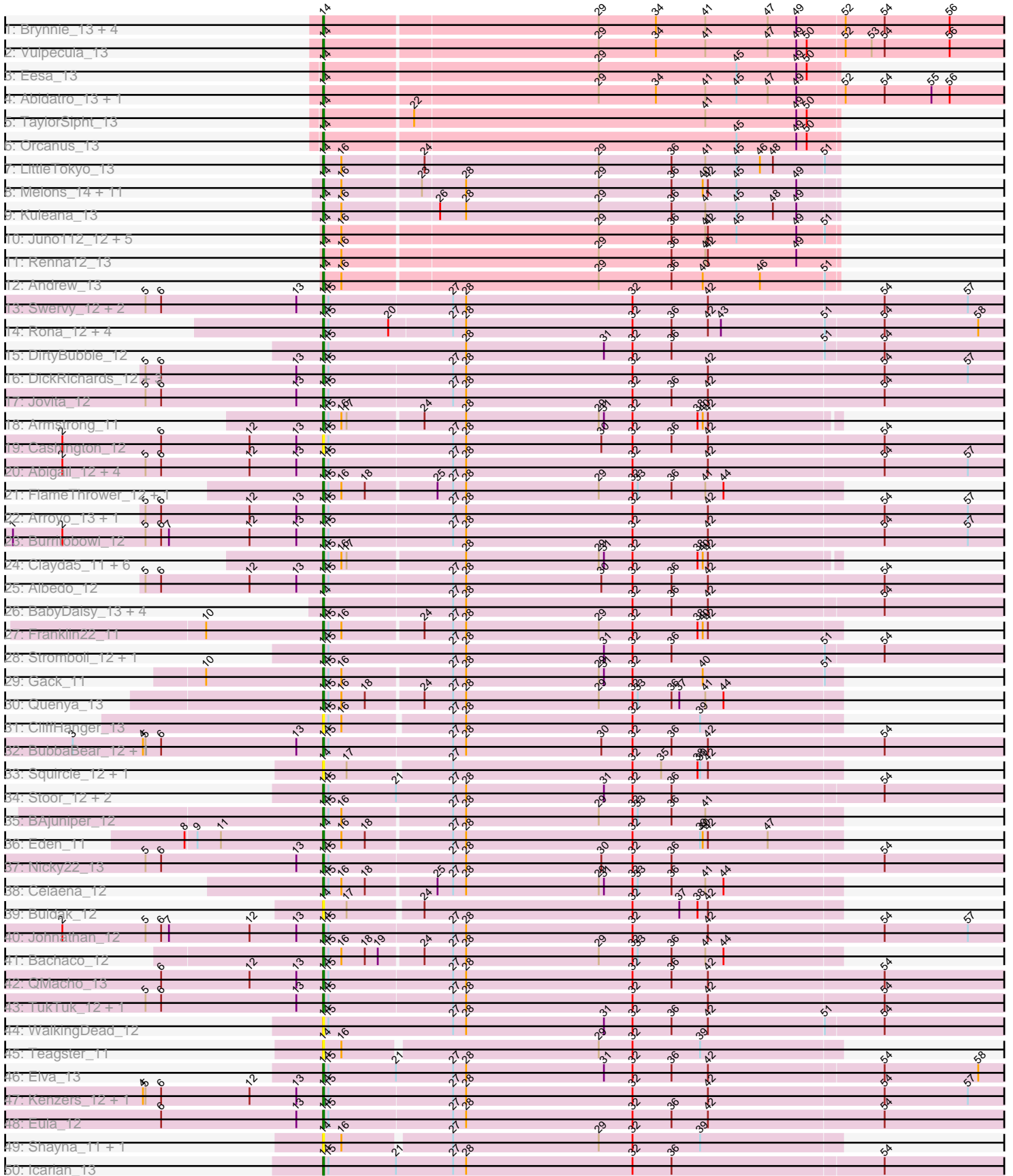


Pham 193877



Pham 193877



A series of horizontal lines for text entry, spanning the width of the page below the genomic map.

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 193877 Report

This analysis was run 11/02/24 on database version 579.

Pham number 193877 has 105 members, 16 are drafts.

Phages represented in each track:

- Track 1 : Brynnie\_13, Ruchi\_13, Jamun\_13, Basilisk\_13, Chickaboom\_12
- Track 2 : Vulpecula\_13
- Track 3 : Eesa\_13
- Track 4 : Abidatro\_13, Galaxy\_13
- Track 5 : TaylorSipht\_13
- Track 6 : Orcanus\_13
- Track 7 : LittleTokyo\_13
- Track 8 : Melons\_14, Polka\_13, Cote\_14, Amelia\_14, Bedetta\_14, Lunar\_14, Daob\_14, Coral\_13, Colusalem\_13, Kepler\_13, HannahPhantana\_14, Jerole\_14
- Track 9 : Kuleana\_13
- Track 10 : Juno112\_12, KHumphrey\_12, Leona\_12, PhluffyCoco\_12, RedFox\_12, Camara\_12
- Track 11 : Renna12\_13
- Track 12 : Andrew\_13
- Track 13 : Swervy\_12, Slay\_12, SarBear\_12
- Track 14 : Rona\_12, Kieran\_12, ChiliPepper\_12, Sharkboy\_12, Dismas\_12
- Track 15 : DirtyBubble\_12
- Track 16 : DickRichards\_12, CroZenni\_12, BelmontSKP\_13, AnnaLie\_13
- Track 17 : Jovita\_12
- Track 18 : Armstrong\_11
- Track 19 : Cashington\_12
- Track 20 : Abigail\_12, Doobus\_12, Albright\_12, LimaBean\_12, Avocadoman\_12
- Track 21 : FlameThrower\_12, Katzastrophic\_12
- Track 22 : Arroyo\_13, SansAfet\_12
- Track 23 : Burritobowl\_12
- Track 24 : Clayda5\_11, Coltrane\_11, Vitas\_11, Rollins\_11, Brahms\_11, Bernstein\_11, Skylord\_11
- Track 25 : Albedo\_12
- Track 26 : BabyDaisy\_13, Lahqtemish\_12, Kate33\_12, Didgeridoo\_13, IndyLu\_12
- Track 27 : Franklin22\_11
- Track 28 : Stromboli\_12, BabyYoda\_12
- Track 29 : Gack\_11
- Track 30 : Quenya\_13
- Track 31 : CliffHanger\_13
- Track 32 : BubbaBear\_12, Phisb\_12
- Track 33 : Squiracle\_12, Olliecat\_12
- Track 34 : Stoor\_12, SanaSana\_13, Loviatar\_20

- Track 35 : BAjuniper\_12
- Track 36 : Eden\_11
- Track 37 : Nicky22\_13
- Track 38 : Celaena\_12
- Track 39 : Buldak\_12
- Track 40 : Johnathan\_12
- Track 41 : Bachaco\_12
- Track 42 : QMacho\_13
- Track 43 : TukTuk\_12, Finalfrontier\_13
- Track 44 : WalkingDead\_12
- Track 45 : Teagster\_11
- Track 46 : Elva\_13
- Track 47 : Kenzers\_12, Lynlen\_12
- Track 48 : Eula\_12
- Track 49 : Shayna\_11, SunnyD\_11
- Track 50 : Icarian\_13
- Track 51 : AvGardian\_12

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

The start number called the most often in the published annotations is 14, it was called in 89 of the 89 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abidatro\_13, Abigail\_12, Albedo\_12, Albright\_12, Amelia\_14, Andrew\_13, AnnaLie\_13, Armstrong\_11, Arroyo\_13, AvGardian\_12, Avocadoman\_12, BAjuniper\_12, BabyDaisy\_13, BabyYoda\_12, Bachaco\_12, Basilisk\_13, Bedetta\_14, BelmontSKP\_13, Bernstein\_11, Brahms\_11, Brynnie\_13, BubbaBear\_12, Buldak\_12, Burritobowl\_12, Camara\_12, Cashington\_12, Celaena\_12, Chickaboom\_12, ChiliPepper\_12, Clayda5\_11, CliffHanger\_13, Coltrane\_11, Colusalem\_13, Coral\_13, Cote\_14, CroZenni\_12, Daob\_14, DickRichards\_12, Didgeridoo\_13, DirtyBubble\_12, Dismas\_12, Doobus\_12, Eden\_11, Eesa\_13, Elva\_13, Eula\_12, Finalfrontier\_13, FlameThrower\_12, Franklin22\_11, Gack\_11, Galaxy\_13, HannahPhantana\_14, Icarian\_13, IndyLu\_12, Jamun\_13, Jerole\_14, Johnathan\_12, Jovita\_12, Juno112\_12, KHumphrey\_12, Kate33\_12, Katzastrophic\_12, Kenzers\_12, Kepler\_13, Kieran\_12, Kuleana\_13, Lahqtemish\_12, Leona\_12, LimaBean\_12, LittleTokyo\_13, Loviatar\_20, Lunar\_14, Lynlen\_12, Melons\_14, Nicky22\_13, Olliecat\_12, Orcanus\_13, Phisb\_12, PhluffyCoco\_12, Polka\_13, QMacho\_13, Quenya\_13, RedFox\_12, Renna12\_13, Rollins\_11, Rona\_12, Ruchi\_13, SanaSana\_13, SansAfet\_12, SarBear\_12, Sharkboy\_12, Shayna\_11, Skylord\_11, Slay\_12, Squircle\_12, Stoor\_12, Stromboli\_12, SunnyD\_11, Swervy\_12, TaylorSipht\_13, Teagster\_11, TukTuk\_12, Vitas\_11, Vulpecula\_13, WalkingDead\_12,

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

- 

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

- 

**Summary by start number:**

Start 14:

- Found in 105 of 105 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 89 of 89
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abidatro\_13 (AS1), Abigail\_12 (EB), Albedo\_12 (EB), Albright\_12 (EB), Amelia\_14 (AS2), Andrew\_13 (AS3), AnnaLie\_13 (EB), Armstrong\_11 (EB), Arroyo\_13 (EB), AvGardian\_12 (EB), Avocadoman\_12 (EB), BAjuniper\_12 (EB), BabyDaisy\_13 (EB), BabyYoda\_12 (EB), Bachaco\_12 (EB), Basilisk\_13 (AS1), Bedetta\_14 (AS2), BelmontSKP\_13 (EB), Bernstein\_11 (EB), Brahms\_11 (EB), Brynnie\_13 (AS1), BubbaBear\_12 (EB), Buldak\_12 (EB), Burritobowl\_12 (EB), Camara\_12 (AS3), Cashington\_12 (EB), Celaena\_12 (EB), Chickaboom\_12 (AS1), ChiliPepper\_12 (EB), Clayda5\_11 (EB), CliffHanger\_13 (EB), Coltrane\_11 (EB), Colusalem\_13 (AS2), Coral\_13 (AS2), Cote\_14 (AS2), CroZenni\_12 (EB), Daob\_14 (AS2), DickRichards\_12 (EB), Didgeridoo\_13 (EB), DirtyBubble\_12 (EB), Dismas\_12 (EB), Doobus\_12 (EB), Eden\_11 (EB), Eesa\_13 (AS1), Elva\_13 (EB), Eula\_12 (EB), Finalfrontier\_13 (EB), FlameThrower\_12 (EB), Franklin22\_11 (EB), Gack\_11 (EB), Galaxy\_13 (AS1), HannahPhantana\_14 (AS2), Icarian\_13 (EB), IndyLu\_12 (EB), Jamun\_13 (AS1), Jerole\_14 (AS2), Johnathan\_12 (EB), Jovita\_12 (EB), Juno112\_12 (AS3), KHumphrey\_12 (AS3), Kate33\_12 (EB), Katzastrophic\_12 (EB), Kenzers\_12 (EB), Kepler\_13 (AS2), Kieran\_12 (EB), Kuleana\_13 (AS2), Lahqtemish\_12 (EB), Leona\_12 (AS3), LimaBean\_12 (EB), LittleTokyo\_13 (AS2), Loviatar\_20 (EB), Lunar\_14 (AS2), Lynlen\_12 (EB), Melons\_14 (AS2), Nicky22\_13 (EB), Olliecat\_12 (EB), Orcanus\_13 (AS1), Phisb\_12 (EB), PhluffyCoco\_12 (AS3), Polka\_13 (AS2), QMacho\_13 (EB), Quenya\_13 (EB), RedFox\_12 (AS3), Renna12\_13 (AS3), Rollins\_11 (EB), Rona\_12 (EB), Ruchi\_13 (AS1), SanaSana\_13 (EB), SansAfet\_12 (EB), SarBear\_12 (EB), Sharkboy\_12 (EB), Shayna\_11 (EB), Skylord\_11 (EB), Slay\_12 (EB), Squirrel\_12 (EB), Stoor\_12 (EB), Stromboli\_12 (EB), SunnyD\_11 (EB), Swervy\_12 (EB), TaylorSipht\_13 (AS1), Teagster\_11 (EB), TukTuk\_12 (EB), Vitas\_11 (EB), Vulpecula\_13 (AS1), WalkingDead\_12 (EB),

### Summary by clusters:

There are 4 clusters represented in this pham: AS3, AS2, AS1, EB,

Info for manual annotations of cluster AS1:

- Start number 14 was manually annotated 11 times for cluster AS1.

Info for manual annotations of cluster AS2:

- Start number 14 was manually annotated 11 times for cluster AS2.

Info for manual annotations of cluster AS3:

- Start number 14 was manually annotated 6 times for cluster AS3.

Info for manual annotations of cluster EB:

- Start number 14 was manually annotated 61 times for cluster EB.

### Gene Information:

Gene: Abidatro\_13 Start: 8801, Stop: 9631, Start Num: 14

Candidate Starts for Abidatro\_13:

(Start: 14 @8801 has 89 MA's), (29, 9110), (34, 9176), (41, 9233), (45, 9269), (47, 9305), (49, 9338), (52, 9392), (54, 9437), (55, 9491), (56, 9512),

Gene: Abigail\_12 Start: 8439, Stop: 9236, Start Num: 14

Candidate Starts for Abigail\_12:

(2, 8139), (5, 8235), (6, 8253), (12, 8355), (13, 8409), (Start: 14 @8439 has 89 MA's), (15, 8445), (27, 8586), (28, 8601), (32, 8793), (42, 8880), (54, 9081), (57, 9177),

Gene: Albedo\_12 Start: 8314, Stop: 9111, Start Num: 14

Candidate Starts for Albedo\_12:

(5, 8110), (6, 8128), (12, 8230), (13, 8284), (Start: 14 @8314 has 89 MA's), (15, 8320), (27, 8461), (28, 8476), (30, 8632), (32, 8668), (36, 8713), (42, 8755), (54, 8956),

Gene: Albright\_12 Start: 8320, Stop: 9117, Start Num: 14

Candidate Starts for Albright\_12:

(2, 8020), (5, 8116), (6, 8134), (12, 8236), (13, 8290), (Start: 14 @8320 has 89 MA's), (15, 8326), (27, 8467), (28, 8482), (32, 8674), (42, 8761), (54, 8962), (57, 9058),

Gene: Amelia\_14 Start: 8964, Stop: 9545, Start Num: 14

Candidate Starts for Amelia\_14:

(Start: 14 @8964 has 89 MA's), (16, 8985), (23, 9072), (28, 9120), (29, 9273), (36, 9357), (40, 9393), (42, 9399), (45, 9432), (49, 9501),

Gene: Andrew\_13 Start: 8753, Stop: 9334, Start Num: 14

Candidate Starts for Andrew\_13:

(Start: 14 @8753 has 89 MA's), (16, 8774), (29, 9062), (36, 9146), (40, 9182), (46, 9248), (51, 9320),

Gene: AnnaLie\_13 Start: 8729, Stop: 9526, Start Num: 14

Candidate Starts for AnnaLie\_13:

(5, 8525), (6, 8543), (13, 8699), (Start: 14 @8729 has 89 MA's), (15, 8735), (27, 8876), (28, 8891), (32, 9083), (42, 9170), (54, 9371), (57, 9467),

Gene: Armstrong\_11 Start: 8096, Stop: 8680, Start Num: 14

Candidate Starts for Armstrong\_11:

(Start: 14 @8096 has 89 MA's), (15, 8102), (16, 8117), (17, 8123), (24, 8207), (28, 8255), (29, 8408), (31, 8414), (32, 8447), (38, 8522), (40, 8528), (42, 8534),

Gene: Arroyo\_13 Start: 8790, Stop: 9587, Start Num: 14

Candidate Starts for Arroyo\_13:

(5, 8586), (6, 8604), (12, 8706), (13, 8760), (Start: 14 @8790 has 89 MA's), (15, 8796), (27, 8937), (28, 8952), (32, 9144), (42, 9231), (54, 9432), (57, 9528),

Gene: AvGardian\_12 Start: 8379, Stop: 9176, Start Num: 14

Candidate Starts for AvGardian\_12:

(Start: 14 @8379 has 89 MA's), (15, 8385), (27, 8529), (28, 8544), (31, 8703), (32, 8736), (42, 8823), (43, 8838), (51, 8955), (54, 9021),

Gene: Avocadoman\_12 Start: 8378, Stop: 9175, Start Num: 14

Candidate Starts for Avocadoman\_12:

(2, 8078), (5, 8174), (6, 8192), (12, 8294), (13, 8348), (Start: 14 @8378 has 89 MA's), (15, 8384), (27, 8525), (28, 8540), (32, 8732), (42, 8819), (54, 9020), (57, 9116),

Gene: BAjuniper\_12 Start: 8258, Stop: 8848, Start Num: 14  
Candidate Starts for BAjuniper\_12:  
(Start: 14 @8258 has 89 MA's), (15, 8264), (16, 8279), (27, 8402), (28, 8417), (29, 8570), (32, 8609),  
(33, 8615), (36, 8654), (41, 8693),

Gene: BabyDaisy\_13 Start: 8547, Stop: 9341, Start Num: 14  
Candidate Starts for BabyDaisy\_13:  
(Start: 14 @8547 has 89 MA's), (27, 8694), (28, 8709), (32, 8901), (36, 8946), (42, 8988), (54, 9186),

Gene: BabyYoda\_12 Start: 8571, Stop: 9368, Start Num: 14  
Candidate Starts for BabyYoda\_12:  
(Start: 14 @8571 has 89 MA's), (15, 8577), (27, 8721), (28, 8736), (31, 8895), (32, 8928), (36, 8973),  
(51, 9147), (54, 9213),

Gene: Bachaco\_12 Start: 8464, Stop: 9054, Start Num: 14  
Candidate Starts for Bachaco\_12:  
(Start: 14 @8464 has 89 MA's), (15, 8470), (16, 8485), (18, 8512), (19, 8527), (24, 8575), (27, 8608),  
(28, 8623), (29, 8776), (32, 8815), (33, 8821), (36, 8860), (41, 8899), (44, 8920),

Gene: Basilisk\_13 Start: 9125, Stop: 9955, Start Num: 14  
Candidate Starts for Basilisk\_13:  
(Start: 14 @9125 has 89 MA's), (29, 9434), (34, 9500), (41, 9557), (47, 9629), (49, 9662), (52, 9716),  
(54, 9761), (56, 9836),

Gene: Bedetta\_14 Start: 8964, Stop: 9545, Start Num: 14  
Candidate Starts for Bedetta\_14:  
(Start: 14 @8964 has 89 MA's), (16, 8985), (23, 9072), (28, 9120), (29, 9273), (36, 9357), (40, 9393),  
(42, 9399), (45, 9432), (49, 9501),

Gene: BelmontSKP\_13 Start: 8729, Stop: 9526, Start Num: 14  
Candidate Starts for BelmontSKP\_13:  
(5, 8525), (6, 8543), (13, 8699), (Start: 14 @8729 has 89 MA's), (15, 8735), (27, 8876), (28, 8891), (32,  
9083), (42, 9170), (54, 9371), (57, 9467),

Gene: Bernstein\_11 Start: 8156, Stop: 8740, Start Num: 14  
Candidate Starts for Bernstein\_11:  
(Start: 14 @8156 has 89 MA's), (15, 8162), (16, 8177), (17, 8183), (28, 8315), (29, 8468), (31, 8474),  
(32, 8507), (38, 8582), (40, 8588), (42, 8594),

Gene: Brahms\_11 Start: 8096, Stop: 8680, Start Num: 14  
Candidate Starts for Brahms\_11:  
(Start: 14 @8096 has 89 MA's), (15, 8102), (16, 8117), (17, 8123), (28, 8255), (29, 8408), (31, 8414),  
(32, 8447), (38, 8522), (40, 8528), (42, 8534),

Gene: Brynnie\_13 Start: 8937, Stop: 9767, Start Num: 14  
Candidate Starts for Brynnie\_13:  
(Start: 14 @8937 has 89 MA's), (29, 9246), (34, 9312), (41, 9369), (47, 9441), (49, 9474), (52, 9528),  
(54, 9573), (56, 9648),

Gene: BubbaBear\_12 Start: 8314, Stop: 9111, Start Num: 14  
Candidate Starts for BubbaBear\_12:  
(3, 8026), (4, 8107), (5, 8110), (6, 8128), (13, 8284), (Start: 14 @8314 has 89 MA's), (15, 8320), (27,  
8461), (28, 8476), (30, 8632), (32, 8668), (36, 8713), (42, 8755), (54, 8956),

Gene: Buldak\_12 Start: 8598, Stop: 9185, Start Num: 14

Candidate Starts for Buldak\_12:

(Start: 14 @8598 has 89 MA's), (17, 8625), (24, 8706), (32, 8946), (37, 9000), (38, 9021), (42, 9033),

Gene: Burritobowl\_12 Start: 8347, Stop: 9144, Start Num: 14

Candidate Starts for Burritobowl\_12:

(1, 7990), (2, 8047), (5, 8143), (6, 8161), (7, 8170), (12, 8263), (13, 8317), (Start: 14 @8347 has 89 MA's), (15, 8353), (27, 8494), (28, 8509), (32, 8701), (42, 8788), (54, 8989), (57, 9085),

Gene: Camara\_12 Start: 8379, Stop: 8960, Start Num: 14

Candidate Starts for Camara\_12:

(Start: 14 @8379 has 89 MA's), (16, 8400), (29, 8688), (36, 8772), (41, 8811), (42, 8814), (45, 8847), (49, 8916), (51, 8946),

Gene: Cashington\_12 Start: 8337, Stop: 9134, Start Num: 14

Candidate Starts for Cashington\_12:

(2, 8037), (6, 8151), (12, 8253), (13, 8307), (Start: 14 @8337 has 89 MA's), (15, 8343), (27, 8484), (28, 8499), (30, 8655), (32, 8691), (36, 8736), (42, 8778), (54, 8979),

Gene: Celaena\_12 Start: 8400, Stop: 8990, Start Num: 14

Candidate Starts for Celaena\_12:

(Start: 14 @8400 has 89 MA's), (15, 8406), (16, 8421), (18, 8448), (25, 8526), (27, 8544), (28, 8559), (29, 8712), (31, 8718), (32, 8751), (33, 8757), (36, 8796), (41, 8835), (44, 8856),

Gene: Chickaboom\_12 Start: 8482, Stop: 9312, Start Num: 14

Candidate Starts for Chickaboom\_12:

(Start: 14 @8482 has 89 MA's), (29, 8791), (34, 8857), (41, 8914), (47, 8986), (49, 9019), (52, 9073), (54, 9118), (56, 9193),

Gene: ChiliPepper\_12 Start: 8556, Stop: 9350, Start Num: 14

Candidate Starts for ChiliPepper\_12:

(Start: 14 @8556 has 89 MA's), (15, 8562), (20, 8631), (27, 8703), (28, 8718), (32, 8910), (36, 8955), (42, 8997), (43, 9012), (51, 9129), (54, 9195), (58, 9303),

Gene: Clayda5\_11 Start: 8096, Stop: 8680, Start Num: 14

Candidate Starts for Clayda5\_11:

(Start: 14 @8096 has 89 MA's), (15, 8102), (16, 8117), (17, 8123), (28, 8255), (29, 8408), (31, 8414), (32, 8447), (38, 8522), (40, 8528), (42, 8534),

Gene: CliffHanger\_13 Start: 8293, Stop: 8880, Start Num: 14

Candidate Starts for CliffHanger\_13:

(Start: 14 @8293 has 89 MA's), (15, 8299), (16, 8314), (27, 8434), (28, 8449), (32, 8641), (39, 8719),

Gene: Coltrane\_11 Start: 8096, Stop: 8680, Start Num: 14

Candidate Starts for Coltrane\_11:

(Start: 14 @8096 has 89 MA's), (15, 8102), (16, 8117), (17, 8123), (28, 8255), (29, 8408), (31, 8414), (32, 8447), (38, 8522), (40, 8528), (42, 8534),

Gene: Colusalem\_13 Start: 8803, Stop: 9384, Start Num: 14

Candidate Starts for Colusalem\_13:

(Start: 14 @8803 has 89 MA's), (16, 8824), (23, 8911), (28, 8959), (29, 9112), (36, 9196), (40, 9232), (42, 9238), (45, 9271), (49, 9340),



Gene: Coral\_13 Start: 8803, Stop: 9384, Start Num: 14

Candidate Starts for Coral\_13:

(Start: 14 @8803 has 89 MA's), (16, 8824), (23, 8911), (28, 8959), (29, 9112), (36, 9196), (40, 9232), (42, 9238), (45, 9271), (49, 9340),

Gene: Cote\_14 Start: 8964, Stop: 9545, Start Num: 14

Candidate Starts for Cote\_14:

(Start: 14 @8964 has 89 MA's), (16, 8985), (23, 9072), (28, 9120), (29, 9273), (36, 9357), (40, 9393), (42, 9399), (45, 9432), (49, 9501),

Gene: CroZenni\_12 Start: 8320, Stop: 9117, Start Num: 14

Candidate Starts for CroZenni\_12:

(5, 8116), (6, 8134), (13, 8290), (Start: 14 @8320 has 89 MA's), (15, 8326), (27, 8467), (28, 8482), (32, 8674), (42, 8761), (54, 8962), (57, 9058),

Gene: Daob\_14 Start: 8967, Stop: 9548, Start Num: 14

Candidate Starts for Daob\_14:

(Start: 14 @8967 has 89 MA's), (16, 8988), (23, 9075), (28, 9123), (29, 9276), (36, 9360), (40, 9396), (42, 9402), (45, 9435), (49, 9504),

Gene: DickRichards\_12 Start: 8814, Stop: 9611, Start Num: 14

Candidate Starts for DickRichards\_12:

(5, 8610), (6, 8628), (13, 8784), (Start: 14 @8814 has 89 MA's), (15, 8820), (27, 8961), (28, 8976), (32, 9168), (42, 9255), (54, 9456), (57, 9552),

Gene: Didgeridoo\_13 Start: 8549, Stop: 9343, Start Num: 14

Candidate Starts for Didgeridoo\_13:

(Start: 14 @8549 has 89 MA's), (27, 8696), (28, 8711), (32, 8903), (36, 8948), (42, 8990), (54, 9188),

Gene: DirtyBubble\_12 Start: 8579, Stop: 9376, Start Num: 14

Candidate Starts for DirtyBubble\_12:

(Start: 14 @8579 has 89 MA's), (15, 8585), (28, 8744), (31, 8903), (32, 8936), (36, 8981), (51, 9155), (54, 9221),

Gene: Dismas\_12 Start: 8556, Stop: 9350, Start Num: 14

Candidate Starts for Dismas\_12:

(Start: 14 @8556 has 89 MA's), (15, 8562), (20, 8631), (27, 8703), (28, 8718), (32, 8910), (36, 8955), (42, 8997), (43, 9012), (51, 9129), (54, 9195), (58, 9303),

Gene: Doobus\_12 Start: 8551, Stop: 9348, Start Num: 14

Candidate Starts for Doobus\_12:

(2, 8251), (5, 8347), (6, 8365), (12, 8467), (13, 8521), (Start: 14 @8551 has 89 MA's), (15, 8557), (27, 8698), (28, 8713), (32, 8905), (42, 8992), (54, 9193), (57, 9289),

Gene: Eden\_11 Start: 8192, Stop: 8782, Start Num: 14

Candidate Starts for Eden\_11:

(8, 8039), (9, 8051), (11, 8078), (Start: 14 @8192 has 89 MA's), (16, 8213), (18, 8240), (27, 8336), (28, 8351), (32, 8543), (39, 8621), (40, 8624), (42, 8630), (47, 8699),

Gene: Eesa\_13 Start: 8964, Stop: 9548, Start Num: 14

Candidate Starts for Eesa\_13:

(Start: 14 @8964 has 89 MA's), (29, 9273), (45, 9432), (49, 9501), (50, 9513),

Gene: Elva\_13 Start: 8634, Stop: 9431, Start Num: 14

Candidate Starts for Elva\_13:

(Start: 14 @8634 has 89 MA's), (15, 8640), (21, 8718), (27, 8784), (28, 8799), (31, 8958), (32, 8991), (36, 9036), (42, 9078), (54, 9276), (58, 9384),

Gene: Eula\_12 Start: 8321, Stop: 9118, Start Num: 14

Candidate Starts for Eula\_12:

(6, 8135), (13, 8291), (Start: 14 @8321 has 89 MA's), (15, 8327), (27, 8468), (28, 8483), (32, 8675), (36, 8720), (42, 8762), (54, 8963),

Gene: Finalfrontier\_13 Start: 8833, Stop: 9630, Start Num: 14

Candidate Starts for Finalfrontier\_13:

(5, 8629), (6, 8647), (13, 8803), (Start: 14 @8833 has 89 MA's), (15, 8839), (27, 8980), (28, 8995), (32, 9187), (42, 9274), (54, 9475),

Gene: FlameThrower\_12 Start: 8288, Stop: 8878, Start Num: 14

Candidate Starts for FlameThrower\_12:

(Start: 14 @8288 has 89 MA's), (15, 8294), (16, 8309), (18, 8336), (25, 8414), (27, 8432), (28, 8447), (29, 8600), (32, 8639), (33, 8645), (36, 8684), (41, 8723), (44, 8744),

Gene: Franklin22\_11 Start: 8165, Stop: 8755, Start Num: 14

Candidate Starts for Franklin22\_11:

(10, 8033), (Start: 14 @8165 has 89 MA's), (15, 8171), (16, 8186), (24, 8276), (27, 8309), (28, 8324), (29, 8477), (32, 8516), (38, 8591), (40, 8597), (42, 8603),

Gene: Gack\_11 Start: 8231, Stop: 8821, Start Num: 14

Candidate Starts for Gack\_11:

(10, 8099), (Start: 14 @8231 has 89 MA's), (15, 8237), (16, 8252), (27, 8375), (28, 8390), (29, 8543), (31, 8549), (32, 8582), (40, 8663), (51, 8801),

Gene: Galaxy\_13 Start: 8808, Stop: 9638, Start Num: 14

Candidate Starts for Galaxy\_13:

(Start: 14 @8808 has 89 MA's), (29, 9117), (34, 9183), (41, 9240), (45, 9276), (47, 9312), (49, 9345), (52, 9399), (54, 9444), (55, 9498), (56, 9519),

Gene: HannahPhantana\_14 Start: 8967, Stop: 9548, Start Num: 14

Candidate Starts for HannahPhantana\_14:

(Start: 14 @8967 has 89 MA's), (16, 8988), (23, 9075), (28, 9123), (29, 9276), (36, 9360), (40, 9396), (42, 9402), (45, 9435), (49, 9504),

Gene: Icarian\_13 Start: 8561, Stop: 9358, Start Num: 14

Candidate Starts for Icarian\_13:

(Start: 14 @8561 has 89 MA's), (15, 8567), (21, 8645), (27, 8711), (28, 8726), (32, 8918), (36, 8963), (54, 9203),

Gene: IndyLu\_12 Start: 8371, Stop: 9165, Start Num: 14

Candidate Starts for IndyLu\_12:

(Start: 14 @8371 has 89 MA's), (27, 8518), (28, 8533), (32, 8725), (36, 8770), (42, 8812), (54, 9010),

Gene: Jamun\_13 Start: 9149, Stop: 9979, Start Num: 14

Candidate Starts for Jamun\_13:

(Start: 14 @9149 has 89 MA's), (29, 9458), (34, 9524), (41, 9581), (47, 9653), (49, 9686), (52, 9740), (54, 9785), (56, 9860),

Gene: Jerole\_14 Start: 8964, Stop: 9545, Start Num: 14

Candidate Starts for Jerole\_14:

(Start: 14 @8964 has 89 MA's), (16, 8985), (23, 9072), (28, 9120), (29, 9273), (36, 9357), (40, 9393), (42, 9399), (45, 9432), (49, 9501),

Gene: Johnathan\_12 Start: 8320, Stop: 9117, Start Num: 14

Candidate Starts for Johnathan\_12:

(2, 8020), (5, 8116), (6, 8134), (7, 8143), (12, 8236), (13, 8290), (Start: 14 @8320 has 89 MA's), (15, 8326), (27, 8467), (28, 8482), (32, 8674), (42, 8761), (54, 8962), (57, 9058),

Gene: Jovita\_12 Start: 8422, Stop: 9219, Start Num: 14

Candidate Starts for Jovita\_12:

(5, 8218), (6, 8236), (13, 8392), (Start: 14 @8422 has 89 MA's), (15, 8428), (27, 8569), (28, 8584), (32, 8776), (36, 8821), (42, 8863), (54, 9064),

Gene: Juno112\_12 Start: 8379, Stop: 8960, Start Num: 14

Candidate Starts for Juno112\_12:

(Start: 14 @8379 has 89 MA's), (16, 8400), (29, 8688), (36, 8772), (41, 8811), (42, 8814), (45, 8847), (49, 8916), (51, 8946),

Gene: KHumphrey\_12 Start: 8378, Stop: 8959, Start Num: 14

Candidate Starts for KHumphrey\_12:

(Start: 14 @8378 has 89 MA's), (16, 8399), (29, 8687), (36, 8771), (41, 8810), (42, 8813), (45, 8846), (49, 8915), (51, 8945),

Gene: Kate33\_12 Start: 8370, Stop: 9164, Start Num: 14

Candidate Starts for Kate33\_12:

(Start: 14 @8370 has 89 MA's), (27, 8517), (28, 8532), (32, 8724), (36, 8769), (42, 8811), (54, 9009),

Gene: Katzastrophic\_12 Start: 8463, Stop: 9053, Start Num: 14

Candidate Starts for Katzastrophic\_12:

(Start: 14 @8463 has 89 MA's), (15, 8469), (16, 8484), (18, 8511), (25, 8589), (27, 8607), (28, 8622), (29, 8775), (32, 8814), (33, 8820), (36, 8859), (41, 8898), (44, 8919),

Gene: Kenzers\_12 Start: 8337, Stop: 9134, Start Num: 14

Candidate Starts for Kenzers\_12:

(4, 8130), (5, 8133), (6, 8151), (12, 8253), (13, 8307), (Start: 14 @8337 has 89 MA's), (15, 8343), (27, 8484), (28, 8499), (32, 8691), (42, 8778), (54, 8979), (57, 9075),

Gene: Kepler\_13 Start: 8802, Stop: 9383, Start Num: 14

Candidate Starts for Kepler\_13:

(Start: 14 @8802 has 89 MA's), (16, 8823), (23, 8910), (28, 8958), (29, 9111), (36, 9195), (40, 9231), (42, 9237), (45, 9270), (49, 9339),

Gene: Kieran\_12 Start: 8559, Stop: 9353, Start Num: 14

Candidate Starts for Kieran\_12:

(Start: 14 @8559 has 89 MA's), (15, 8565), (20, 8634), (27, 8706), (28, 8721), (32, 8913), (36, 8958), (42, 9000), (43, 9015), (51, 9132), (54, 9198), (58, 9306),

Gene: Kuleana\_13 Start: 8760, Stop: 9341, Start Num: 14

Candidate Starts for Kuleana\_13:

(Start: 14 @8760 has 89 MA's), (16, 8781), (26, 8886), (28, 8916), (29, 9069), (36, 9153), (41, 9192), (45, 9228), (48, 9270), (49, 9297),

Gene: Lahqtemish\_12 Start: 8417, Stop: 9211, Start Num: 14

Candidate Starts for Lahqtemish\_12:

(Start: 14 @8417 has 89 MA's), (27, 8564), (28, 8579), (32, 8771), (36, 8816), (42, 8858), (54, 9056),

Gene: Leona\_12 Start: 8429, Stop: 9010, Start Num: 14

Candidate Starts for Leona\_12:

(Start: 14 @8429 has 89 MA's), (16, 8450), (29, 8738), (36, 8822), (41, 8861), (42, 8864), (45, 8897), (49, 8966), (51, 8996),

Gene: LimaBean\_12 Start: 8320, Stop: 9117, Start Num: 14

Candidate Starts for LimaBean\_12:

(2, 8020), (5, 8116), (6, 8134), (12, 8236), (13, 8290), (Start: 14 @8320 has 89 MA's), (15, 8326), (27, 8467), (28, 8482), (32, 8674), (42, 8761), (54, 8962), (57, 9058),

Gene: LittleTokyo\_13 Start: 8714, Stop: 9298, Start Num: 14

Candidate Starts for LittleTokyo\_13:

(Start: 14 @8714 has 89 MA's), (16, 8735), (24, 8825), (29, 9023), (36, 9107), (41, 9146), (45, 9182), (46, 9209), (48, 9224), (51, 9281),

Gene: Loviatar\_20 Start: 8640, Stop: 9437, Start Num: 14

Candidate Starts for Loviatar\_20:

(Start: 14 @8640 has 89 MA's), (15, 8646), (21, 8724), (27, 8790), (28, 8805), (31, 8964), (32, 8997), (36, 9042), (54, 9282),

Gene: Lunar\_14 Start: 8964, Stop: 9545, Start Num: 14

Candidate Starts for Lunar\_14:

(Start: 14 @8964 has 89 MA's), (16, 8985), (23, 9072), (28, 9120), (29, 9273), (36, 9357), (40, 9393), (42, 9399), (45, 9432), (49, 9501),

Gene: Lynlen\_12 Start: 8337, Stop: 9134, Start Num: 14

Candidate Starts for Lynlen\_12:

(4, 8130), (5, 8133), (6, 8151), (12, 8253), (13, 8307), (Start: 14 @8337 has 89 MA's), (15, 8343), (27, 8484), (28, 8499), (32, 8691), (42, 8778), (54, 8979), (57, 9075),

Gene: Melons\_14 Start: 8964, Stop: 9545, Start Num: 14

Candidate Starts for Melons\_14:

(Start: 14 @8964 has 89 MA's), (16, 8985), (23, 9072), (28, 9120), (29, 9273), (36, 9357), (40, 9393), (42, 9399), (45, 9432), (49, 9501),

Gene: Nicky22\_13 Start: 8768, Stop: 9565, Start Num: 14

Candidate Starts for Nicky22\_13:

(5, 8564), (6, 8582), (13, 8738), (Start: 14 @8768 has 89 MA's), (15, 8774), (27, 8915), (28, 8930), (30, 9086), (32, 9122), (36, 9167), (54, 9410),

Gene: Olliecat\_12 Start: 8550, Stop: 9137, Start Num: 14

Candidate Starts for Olliecat\_12:

(Start: 14 @8550 has 89 MA's), (17, 8577), (27, 8691), (32, 8898), (35, 8931), (38, 8973), (39, 8976), (42, 8985),

Gene: Orcanus\_13 Start: 8754, Stop: 9338, Start Num: 14  
Candidate Starts for Orcanus\_13:  
(Start: 14 @8754 has 89 MA's), (45, 9222), (49, 9291), (50, 9303),

Gene: Phisb\_12 Start: 8314, Stop: 9111, Start Num: 14  
Candidate Starts for Phisb\_12:  
(3, 8026), (4, 8107), (5, 8110), (6, 8128), (13, 8284), (Start: 14 @8314 has 89 MA's), (15, 8320), (27, 8461), (28, 8476), (30, 8632), (32, 8668), (36, 8713), (42, 8755), (54, 8956),

Gene: PhluffyCoco\_12 Start: 8378, Stop: 8959, Start Num: 14  
Candidate Starts for PhluffyCoco\_12:  
(Start: 14 @8378 has 89 MA's), (16, 8399), (29, 8687), (36, 8771), (41, 8810), (42, 8813), (45, 8846), (49, 8915), (51, 8945),

Gene: Polka\_13 Start: 8803, Stop: 9384, Start Num: 14  
Candidate Starts for Polka\_13:  
(Start: 14 @8803 has 89 MA's), (16, 8824), (23, 8911), (28, 8959), (29, 9112), (36, 9196), (40, 9232), (42, 9238), (45, 9271), (49, 9340),

Gene: QMacho\_13 Start: 8804, Stop: 9601, Start Num: 14  
Candidate Starts for QMacho\_13:  
(6, 8618), (12, 8720), (13, 8774), (Start: 14 @8804 has 89 MA's), (15, 8810), (27, 8951), (28, 8966), (32, 9158), (36, 9203), (42, 9245), (54, 9446),

Gene: Quenya\_13 Start: 8462, Stop: 9052, Start Num: 14  
Candidate Starts for Quenya\_13:  
(Start: 14 @8462 has 89 MA's), (15, 8468), (16, 8483), (18, 8510), (24, 8573), (27, 8606), (28, 8621), (29, 8774), (32, 8813), (33, 8819), (36, 8858), (37, 8867), (41, 8897), (44, 8918),

Gene: RedFox\_12 Start: 8378, Stop: 8959, Start Num: 14  
Candidate Starts for RedFox\_12:  
(Start: 14 @8378 has 89 MA's), (16, 8399), (29, 8687), (36, 8771), (41, 8810), (42, 8813), (45, 8846), (49, 8915), (51, 8945),

Gene: Renna12\_13 Start: 8581, Stop: 9165, Start Num: 14  
Candidate Starts for Renna12\_13:  
(Start: 14 @8581 has 89 MA's), (16, 8602), (29, 8890), (36, 8974), (41, 9013), (42, 9016), (49, 9118),

Gene: Rollins\_11 Start: 8156, Stop: 8740, Start Num: 14  
Candidate Starts for Rollins\_11:  
(Start: 14 @8156 has 89 MA's), (15, 8162), (16, 8177), (17, 8183), (28, 8315), (29, 8468), (31, 8474), (32, 8507), (38, 8582), (40, 8588), (42, 8594),

Gene: Rona\_12 Start: 8556, Stop: 9350, Start Num: 14  
Candidate Starts for Rona\_12:  
(Start: 14 @8556 has 89 MA's), (15, 8562), (20, 8631), (27, 8703), (28, 8718), (32, 8910), (36, 8955), (42, 8997), (43, 9012), (51, 9129), (54, 9195), (58, 9303),

Gene: Ruchi\_13 Start: 9071, Stop: 9901, Start Num: 14  
Candidate Starts for Ruchi\_13:  
(Start: 14 @9071 has 89 MA's), (29, 9380), (34, 9446), (41, 9503), (47, 9575), (49, 9608), (52, 9662), (54, 9707), (56, 9782),

Gene: SanaSana\_13 Start: 8569, Stop: 9366, Start Num: 14

Candidate Starts for SanaSana\_13:

(Start: 14 @8569 has 89 MA's), (15, 8575), (21, 8653), (27, 8719), (28, 8734), (31, 8893), (32, 8926), (36, 8971), (54, 9211),

Gene: SansAfet\_12 Start: 8331, Stop: 9128, Start Num: 14

Candidate Starts for SansAfet\_12:

(5, 8127), (6, 8145), (12, 8247), (13, 8301), (Start: 14 @8331 has 89 MA's), (15, 8337), (27, 8478), (28, 8493), (32, 8685), (42, 8772), (54, 8973), (57, 9069),

Gene: SarBear\_12 Start: 8297, Stop: 9094, Start Num: 14

Candidate Starts for SarBear\_12:

(5, 8093), (6, 8111), (13, 8267), (Start: 14 @8297 has 89 MA's), (15, 8303), (27, 8444), (28, 8459), (32, 8651), (42, 8738), (54, 8939), (57, 9035),

Gene: Sharkboy\_12 Start: 8555, Stop: 9349, Start Num: 14

Candidate Starts for Sharkboy\_12:

(Start: 14 @8555 has 89 MA's), (15, 8561), (20, 8630), (27, 8702), (28, 8717), (32, 8909), (36, 8954), (42, 8996), (43, 9011), (51, 9128), (54, 9194), (58, 9302),

Gene: Shayna\_11 Start: 8161, Stop: 8745, Start Num: 14

Candidate Starts for Shayna\_11:

(Start: 14 @8161 has 89 MA's), (16, 8182), (27, 8299), (29, 8467), (32, 8506), (39, 8584),

Gene: Skylord\_11 Start: 8096, Stop: 8680, Start Num: 14

Candidate Starts for Skylord\_11:

(Start: 14 @8096 has 89 MA's), (15, 8102), (16, 8117), (17, 8123), (28, 8255), (29, 8408), (31, 8414), (32, 8447), (38, 8522), (40, 8528), (42, 8534),

Gene: Slay\_12 Start: 8773, Stop: 9570, Start Num: 14

Candidate Starts for Slay\_12:

(5, 8569), (6, 8587), (13, 8743), (Start: 14 @8773 has 89 MA's), (15, 8779), (27, 8920), (28, 8935), (32, 9127), (42, 9214), (54, 9415), (57, 9511),

Gene: Squircle\_12 Start: 8549, Stop: 9136, Start Num: 14

Candidate Starts for Squircle\_12:

(Start: 14 @8549 has 89 MA's), (17, 8576), (27, 8690), (32, 8897), (35, 8930), (38, 8972), (39, 8975), (42, 8984),

Gene: Stoor\_12 Start: 8566, Stop: 9363, Start Num: 14

Candidate Starts for Stoor\_12:

(Start: 14 @8566 has 89 MA's), (15, 8572), (21, 8650), (27, 8716), (28, 8731), (31, 8890), (32, 8923), (36, 8968), (54, 9208),

Gene: Stromboli\_12 Start: 8570, Stop: 9367, Start Num: 14

Candidate Starts for Stromboli\_12:

(Start: 14 @8570 has 89 MA's), (15, 8576), (27, 8720), (28, 8735), (31, 8894), (32, 8927), (36, 8972), (51, 9146), (54, 9212),

Gene: SunnyD\_11 Start: 8161, Stop: 8745, Start Num: 14

Candidate Starts for SunnyD\_11:

(Start: 14 @8161 has 89 MA's), (16, 8182), (27, 8299), (29, 8467), (32, 8506), (39, 8584),

Gene: Swervy\_12 Start: 8297, Stop: 9094, Start Num: 14

Candidate Starts for Swervy\_12:

(5, 8093), (6, 8111), (13, 8267), (Start: 14 @8297 has 89 MA's), (15, 8303), (27, 8444), (28, 8459), (32, 8651), (42, 8738), (54, 8939), (57, 9035),

Gene: TaylorSipht\_13 Start: 8839, Stop: 9423, Start Num: 14

Candidate Starts for TaylorSipht\_13:

(Start: 14 @8839 has 89 MA's), (22, 8938), (41, 9271), (49, 9376), (50, 9388),

Gene: Teagster\_11 Start: 8161, Stop: 8745, Start Num: 14

Candidate Starts for Teagster\_11:

(Start: 14 @8161 has 89 MA's), (16, 8182), (29, 8467), (32, 8506), (39, 8584),

Gene: TukTuk\_12 Start: 8357, Stop: 9154, Start Num: 14

Candidate Starts for TukTuk\_12:

(5, 8153), (6, 8171), (13, 8327), (Start: 14 @8357 has 89 MA's), (15, 8363), (27, 8504), (28, 8519), (32, 8711), (42, 8798), (54, 8999),

Gene: Vitas\_11 Start: 8096, Stop: 8680, Start Num: 14

Candidate Starts for Vitas\_11:

(Start: 14 @8096 has 89 MA's), (15, 8102), (16, 8117), (17, 8123), (28, 8255), (29, 8408), (31, 8414), (32, 8447), (38, 8522), (40, 8528), (42, 8534),

Gene: Vulpecula\_13 Start: 9147, Stop: 9977, Start Num: 14

Candidate Starts for Vulpecula\_13:

(Start: 14 @9147 has 89 MA's), (29, 9456), (34, 9522), (41, 9579), (47, 9651), (49, 9684), (50, 9696), (52, 9738), (53, 9768), (54, 9783), (56, 9858),

Gene: WalkingDead\_12 Start: 8557, Stop: 9354, Start Num: 14

Candidate Starts for WalkingDead\_12:

(Start: 14 @8557 has 89 MA's), (15, 8563), (27, 8707), (28, 8722), (31, 8881), (32, 8914), (36, 8959), (42, 9001), (51, 9133), (54, 9199),