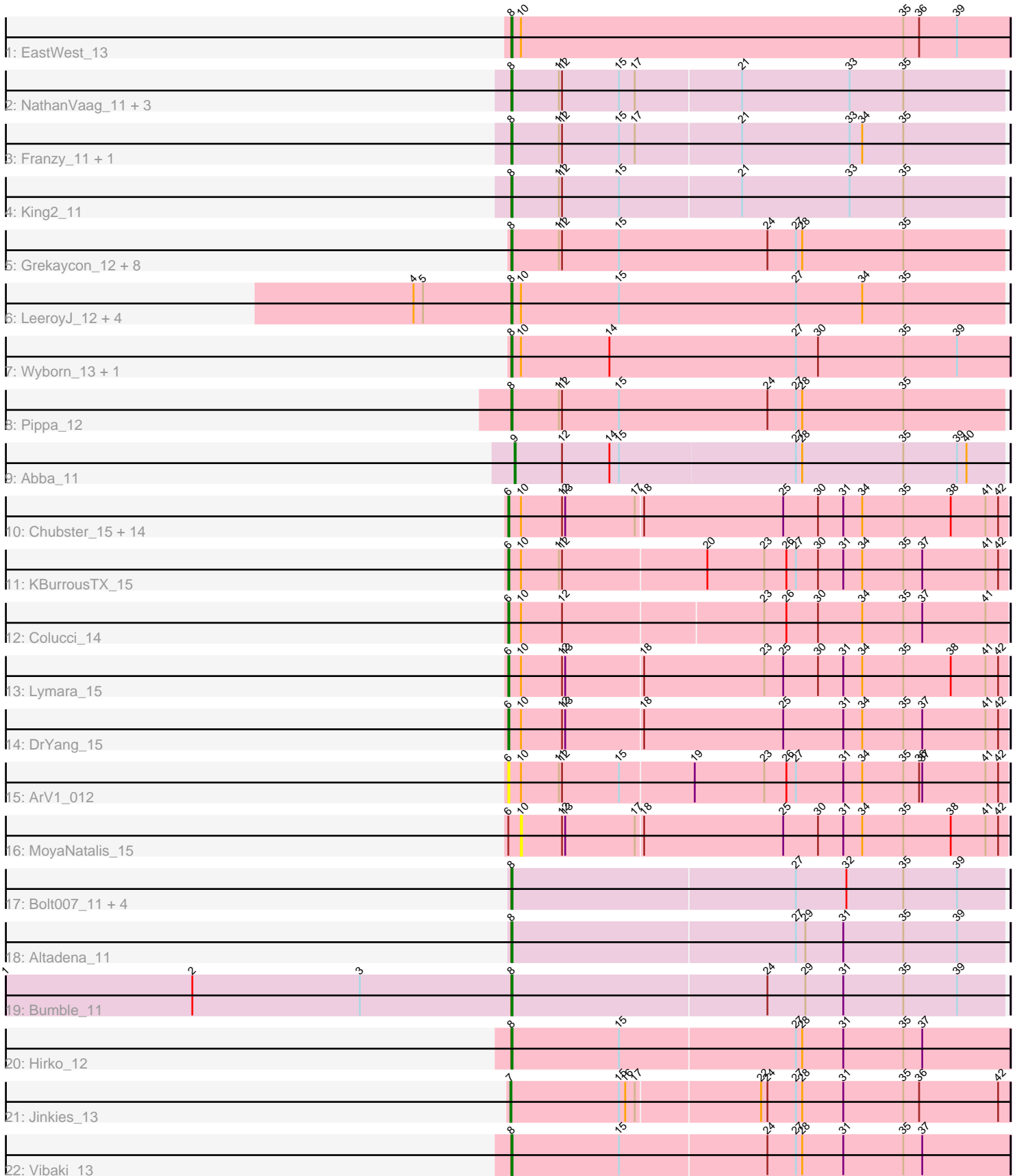


# Pham 192594



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 192594 Report

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

Pham number 192594 has 57 members, 4 are drafts.

Phages represented in each track:

- Track 1 : EastWest\_13
- Track 2 : NathanVaag\_11, Jawnski\_11, Piccoletto\_11, Beans\_11
- Track 3 : Franzy\_11, Brent\_11
- Track 4 : King2\_11
- Track 5 : Grekaycon\_12, Jordan\_12, Shade\_12, BossLady\_12, Zartrosa\_12, Martha\_12, Sonny\_12, TaeYoung\_12, JKerns\_12
- Track 6 : LeeroyJ\_12, GravityBall\_12, StevieBAY\_12, Timinator\_12, BarretLemon\_12
- Track 7 : Wyborn\_13, Sicarius2\_13
- Track 8 : Pippa\_12
- Track 9 : Abba\_11
- Track 10 : Chubster\_15, RosiePosie\_15, Chipper1996\_150, JaNo\_15, Mordred\_15, EdgarPoe\_15, Linus\_15, Tophat\_15, HumptyDumpty\_15, JayCookie\_15, Chocolat\_15, Scavito\_15, Kabreeze\_15, Conboy\_15, PrincessTrina\_15
- Track 11 : KBurrousTX\_15
- Track 12 : Colucci\_14
- Track 13 : Lymara\_15
- Track 14 : DrYang\_15
- Track 15 : ArV1\_012
- Track 16 : MoyaNatalis\_15
- Track 17 : Bolt007\_11, Lilmac1015\_11, Prairie\_11, Klevey\_11, CalWood4100\_11
- Track 18 : Altadena\_11
- Track 19 : Bumble\_11
- Track 20 : Hirko\_12
- Track 21 : Jinkies\_13
- Track 22 : Vibaki\_13

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

The start number called the most often in the published annotations is 8, it was called in 32 of the 53 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Altadena\_11, BarretLemon\_12, Beans\_11, Bolt007\_11, BossLady\_12, Brent\_11, Bumble\_11, CalWood4100\_11, EastWest\_13, Franzy\_11, GravityBall\_12, Grekaycon\_12, Hirko\_12, JKerns\_12, Jawnski\_11, Jordan\_12, King2\_11, Klevey\_11, LeeroyJ\_12, Lilmac1015\_11, Martha\_12, NathanVaag\_11, Piccoletto\_11, Pippa\_12, Prairie\_11, Shade\_12, Sicarius2\_13, Sonny\_12, StevieBAY\_12, TaeYoung\_12, Timinator\_12, Vibaki\_13, Wyborn\_13, Zartrosa\_12,

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

- 

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

- Abba\_11, ArV1\_012, Chipper1996\_150, Chocolat\_15, Chubster\_15, Colucci\_14, Conboy\_15, DrYang\_15, EdgarPoe\_15, HumptyDumpty\_15, JaNo\_15, JayCookie\_15, Jinkies\_13, KBurrousTX\_15, Kabreeze\_15, Linus\_15, Lymara\_15, Mordred\_15, MoyaNatalis\_15, PrincessTrina\_15, RosiePosie\_15, Scavito\_15, Tophat\_15,

### Summary by start number:

Start 6:

- Found in 21 of 57 ( 36.8% ) of genes in pham
- Manual Annotations of this start: 19 of 53
- Called 95.2% of time when present
- Phage (with cluster) where this start called: ArV1\_012 (AR), Chipper1996\_150 (AR), Chocolat\_15 (AR), Chubster\_15 (AR), Colucci\_14 (AR), Conboy\_15 (AR), DrYang\_15 (AR), EdgarPoe\_15 (AR), HumptyDumpty\_15 (AR), JaNo\_15 (AR), JayCookie\_15 (AR), KBurrousTX\_15 (AR), Kabreeze\_15 (AR), Linus\_15 (AR), Lymara\_15 (AR), Mordred\_15 (AR), PrincessTrina\_15 (AR), RosiePosie\_15 (AR), Scavito\_15 (AR), Tophat\_15 (AR),

Start 7:

- Found in 1 of 57 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 1 of 53
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Jinkies\_13 (FL),

Start 8:

- Found in 34 of 57 ( 59.6% ) of genes in pham
- Manual Annotations of this start: 32 of 53
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Altadena\_11 (FH), BarretLemon\_12 (AO2), Beans\_11 (AO1), Bolt007\_11 (FH), BossLady\_12 (AO2), Brent\_11 (AO1), Bumble\_11 (FH), CalWood4100\_11 (FH), EastWest\_13 (AO), Franzy\_11 (AO1), GravityBall\_12 (AO2), Grekaycon\_12 (AO2), Hirko\_12 (FL), JKerns\_12 (AO2), Jawnski\_11 (AO1), Jordan\_12 (AO2), King2\_11 (AO1), Klevey\_11 (FH), LeeroyJ\_12 (AO2), Lilmac1015\_11 (FH), Martha\_12 (AO2), NathanVaag\_11 (AO1), Piccoletto\_11 (AO1), Pippa\_12 (AO2), Prairie\_11 (FH), Shade\_12 (AO2), Sicarius2\_13 (AO2), Sonny\_12 (AO2), StevieBAY\_12 (AO2), TaeYoung\_12 (AO2), Timinator\_12 (AO2), Vibaki\_13 (FL), Wyborn\_13 (AO2), Zartrosa\_12 (AO2),

Start 9:

- Found in 1 of 57 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 1 of 53

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abba\_11 (AO3),

Start 10:

- Found in 29 of 57 ( 50.9% ) of genes in pham
- No Manual Annotations of this start.
- Called 3.4% of time when present
- Phage (with cluster) where this start called: MoyaNatalis\_15 (AR),

### **Summary by clusters:**

There are 7 clusters represented in this pham: AO, AR, AO3, AO2, AO1, FH, FL,

Info for manual annotations of cluster AO:

- Start number 8 was manually annotated 1 time for cluster AO.

Info for manual annotations of cluster AO1:

- Start number 8 was manually annotated 7 times for cluster AO1.

Info for manual annotations of cluster AO2:

- Start number 8 was manually annotated 16 times for cluster AO2.

Info for manual annotations of cluster AO3:

- Start number 9 was manually annotated 1 time for cluster AO3.

Info for manual annotations of cluster AR:

- Start number 6 was manually annotated 19 times for cluster AR.

Info for manual annotations of cluster FH:

- Start number 8 was manually annotated 6 times for cluster FH.

Info for manual annotations of cluster FL:

- Start number 7 was manually annotated 1 time for cluster FL.
- Start number 8 was manually annotated 2 times for cluster FL.

### **Gene Information:**

Gene: Abba\_11 Start: 9301, Stop: 9762, Start Num: 9

Candidate Starts for Abba\_11:

(Start: 9 @9301 has 1 MA's), (12, 9346), (14, 9391), (15, 9400), (27, 9565), (28, 9571), (35, 9667), (39, 9718), (40, 9727),

Gene: Altadena\_11 Start: 8980, Stop: 9444, Start Num: 8

Candidate Starts for Altadena\_11:

(Start: 8 @8980 has 32 MA's), (27, 9247), (29, 9256), (31, 9292), (35, 9349), (39, 9400),

Gene: ArV1\_012 Start: 9861, Stop: 10331, Start Num: 6

Candidate Starts for ArV1\_012:

(Start: 6 @9861 has 19 MA's), (10, 9873), (11, 9909), (12, 9912), (15, 9966), (19, 10035), (23, 10101), (26, 10122), (27, 10131), (31, 10176), (34, 10194), (35, 10233), (36, 10248), (37, 10251), (41, 10311), (42, 10323),

Gene: BarretLemon\_12 Start: 9514, Stop: 9981, Start Num: 8

Candidate Starts for BarretLemon\_12:

(4, 9421), (5, 9430), (Start: 8 @9514 has 32 MA's), (10, 9523), (15, 9616), (27, 9784), (34, 9847), (35, 9886),

Gene: Beans\_11 Start: 9204, Stop: 9668, Start Num: 8

Candidate Starts for Beans\_11:

(Start: 8 @9204 has 32 MA's), (11, 9249), (12, 9252), (15, 9306), (17, 9321), (21, 9420), (33, 9522), (35, 9573),

Gene: Bolt007\_11 Start: 8922, Stop: 9386, Start Num: 8

Candidate Starts for Bolt007\_11:

(Start: 8 @8922 has 32 MA's), (27, 9189), (32, 9237), (35, 9291), (39, 9342),

Gene: BossLady\_12 Start: 9517, Stop: 9984, Start Num: 8

Candidate Starts for BossLady\_12:

(Start: 8 @9517 has 32 MA's), (11, 9562), (12, 9565), (15, 9619), (24, 9760), (27, 9787), (28, 9793), (35, 9889),

Gene: Brent\_11 Start: 9186, Stop: 9650, Start Num: 8

Candidate Starts for Brent\_11:

(Start: 8 @9186 has 32 MA's), (11, 9231), (12, 9234), (15, 9288), (17, 9303), (21, 9402), (33, 9504), (34, 9516), (35, 9555),

Gene: Bumble\_11 Start: 8987, Stop: 9451, Start Num: 8

Candidate Starts for Bumble\_11:

(1, 8507), (2, 8684), (3, 8843), (Start: 8 @8987 has 32 MA's), (24, 9227), (29, 9263), (31, 9299), (35, 9356), (39, 9407),

Gene: CalWood4100\_11 Start: 8905, Stop: 9369, Start Num: 8

Candidate Starts for CalWood4100\_11:

(Start: 8 @8905 has 32 MA's), (27, 9172), (32, 9220), (35, 9274), (39, 9325),

Gene: Chipper1996\_150 Start: 11510, Stop: 11980, Start Num: 6

Candidate Starts for Chipper1996\_150:

(Start: 6 @11510 has 19 MA's), (10, 11522), (12, 11561), (13, 11564), (17, 11630), (18, 11636), (25, 11768), (30, 11801), (31, 11825), (34, 11843), (35, 11882), (38, 11927), (41, 11960), (42, 11972),

Gene: Chocolat\_15 Start: 11511, Stop: 11981, Start Num: 6

Candidate Starts for Chocolat\_15:

(Start: 6 @11511 has 19 MA's), (10, 11523), (12, 11562), (13, 11565), (17, 11631), (18, 11637), (25, 11769), (30, 11802), (31, 11826), (34, 11844), (35, 11883), (38, 11928), (41, 11961), (42, 11973),

Gene: Chubster\_15 Start: 11281, Stop: 11751, Start Num: 6

Candidate Starts for Chubster\_15:

(Start: 6 @11281 has 19 MA's), (10, 11293), (12, 11332), (13, 11335), (17, 11401), (18, 11407), (25, 11539), (30, 11572), (31, 11596), (34, 11614), (35, 11653), (38, 11698), (41, 11731), (42, 11743),

Gene: Colucci\_14 Start: 11015, Stop: 11482, Start Num: 6

Candidate Starts for Colucci\_14:

(Start: 6 @11015 has 19 MA's), (10, 11027), (12, 11066), (23, 11252), (26, 11273), (30, 11303), (34, 11345), (35, 11384), (37, 11402), (41, 11462),

Gene: Conboy\_15 Start: 11509, Stop: 11979, Start Num: 6

Candidate Starts for Conboy\_15:

(Start: 6 @11509 has 19 MA's), (10, 11521), (12, 11560), (13, 11563), (17, 11629), (18, 11635), (25, 11767), (30, 11800), (31, 11824), (34, 11842), (35, 11881), (38, 11926), (41, 11959), (42, 11971),

Gene: DrYang\_15 Start: 11464, Stop: 11934, Start Num: 6

Candidate Starts for DrYang\_15:

(Start: 6 @11464 has 19 MA's), (10, 11476), (12, 11515), (13, 11518), (18, 11590), (25, 11722), (31, 11779), (34, 11797), (35, 11836), (37, 11854), (41, 11914), (42, 11926),

Gene: EastWest\_13 Start: 9545, Stop: 10018, Start Num: 8

Candidate Starts for EastWest\_13:

(Start: 8 @9545 has 32 MA's), (10, 9554), (35, 9917), (36, 9932), (39, 9968),

Gene: EdgarPoe\_15 Start: 11509, Stop: 11979, Start Num: 6

Candidate Starts for EdgarPoe\_15:

(Start: 6 @11509 has 19 MA's), (10, 11521), (12, 11560), (13, 11563), (17, 11629), (18, 11635), (25, 11767), (30, 11800), (31, 11824), (34, 11842), (35, 11881), (38, 11926), (41, 11959), (42, 11971),

Gene: Franzy\_11 Start: 9186, Stop: 9650, Start Num: 8

Candidate Starts for Franzy\_11:

(Start: 8 @9186 has 32 MA's), (11, 9231), (12, 9234), (15, 9288), (17, 9303), (21, 9402), (33, 9504), (34, 9516), (35, 9555),

Gene: GravityBall\_12 Start: 9513, Stop: 9980, Start Num: 8

Candidate Starts for GravityBall\_12:

(4, 9420), (5, 9429), (Start: 8 @9513 has 32 MA's), (10, 9522), (15, 9615), (27, 9783), (34, 9846), (35, 9885),

Gene: Grekaycon\_12 Start: 9526, Stop: 9993, Start Num: 8

Candidate Starts for Grekaycon\_12:

(Start: 8 @9526 has 32 MA's), (11, 9571), (12, 9574), (15, 9628), (24, 9769), (27, 9796), (28, 9802), (35, 9898),

Gene: Hirko\_12 Start: 10525, Stop: 10995, Start Num: 8

Candidate Starts for Hirko\_12:

(Start: 8 @10525 has 32 MA's), (15, 10627), (27, 10792), (28, 10798), (31, 10837), (35, 10894), (37, 10912),

Gene: HumptyDumpty\_15 Start: 11508, Stop: 11978, Start Num: 6

Candidate Starts for HumptyDumpty\_15:

(Start: 6 @11508 has 19 MA's), (10, 11520), (12, 11559), (13, 11562), (17, 11628), (18, 11634), (25, 11766), (30, 11799), (31, 11823), (34, 11841), (35, 11880), (38, 11925), (41, 11958), (42, 11970),

Gene: JKerns\_12 Start: 9553, Stop: 10020, Start Num: 8

Candidate Starts for JKerns\_12:

(Start: 8 @9553 has 32 MA's), (11, 9598), (12, 9601), (15, 9655), (24, 9796), (27, 9823), (28, 9829), (35, 9925),

Gene: JaNo\_15 Start: 11508, Stop: 11978, Start Num: 6

Candidate Starts for JaNo\_15:

(Start: 6 @11508 has 19 MA's), (10, 11520), (12, 11559), (13, 11562), (17, 11628), (18, 11634), (25, 11766), (30, 11799), (31, 11823), (34, 11841), (35, 11880), (38, 11925), (41, 11958), (42, 11970),

Gene: Jawnski\_11 Start: 9199, Stop: 9663, Start Num: 8

Candidate Starts for Jawnski\_11:

(Start: 8 @9199 has 32 MA's), (11, 9244), (12, 9247), (15, 9301), (17, 9316), (21, 9415), (33, 9517), (35, 9568),

Gene: JayCookie\_15 Start: 11511, Stop: 11981, Start Num: 6

Candidate Starts for JayCookie\_15:

(Start: 6 @11511 has 19 MA's), (10, 11523), (12, 11562), (13, 11565), (17, 11631), (18, 11637), (25, 11769), (30, 11802), (31, 11826), (34, 11844), (35, 11883), (38, 11928), (41, 11961), (42, 11973),

Gene: Jinkies\_13 Start: 9830, Stop: 10297, Start Num: 7

Candidate Starts for Jinkies\_13:

(Start: 7 @9830 has 1 MA's), (15, 9932), (16, 9938), (17, 9947), (22, 10061), (24, 10067), (27, 10094), (28, 10100), (31, 10139), (35, 10196), (36, 10211), (42, 10286),

Gene: Jordan\_12 Start: 9523, Stop: 9990, Start Num: 8

Candidate Starts for Jordan\_12:

(Start: 8 @9523 has 32 MA's), (11, 9568), (12, 9571), (15, 9625), (24, 9766), (27, 9793), (28, 9799), (35, 9895),

Gene: KBurrousTX\_15 Start: 11282, Stop: 11752, Start Num: 6

Candidate Starts for KBurrousTX\_15:

(Start: 6 @11282 has 19 MA's), (10, 11294), (11, 11330), (12, 11333), (20, 11468), (23, 11522), (26, 11543), (27, 11552), (30, 11573), (31, 11597), (34, 11615), (35, 11654), (37, 11672), (41, 11732), (42, 11744),

Gene: Kabreeze\_15 Start: 11508, Stop: 11978, Start Num: 6

Candidate Starts for Kabreeze\_15:

(Start: 6 @11508 has 19 MA's), (10, 11520), (12, 11559), (13, 11562), (17, 11628), (18, 11634), (25, 11766), (30, 11799), (31, 11823), (34, 11841), (35, 11880), (38, 11925), (41, 11958), (42, 11970),

Gene: King2\_11 Start: 9188, Stop: 9652, Start Num: 8

Candidate Starts for King2\_11:

(Start: 8 @9188 has 32 MA's), (11, 9233), (12, 9236), (15, 9290), (21, 9404), (33, 9506), (35, 9557),

Gene: Klevey\_11 Start: 8915, Stop: 9379, Start Num: 8

Candidate Starts for Klevey\_11:

(Start: 8 @8915 has 32 MA's), (27, 9182), (32, 9230), (35, 9284), (39, 9335),

Gene: LeeroyJ\_12 Start: 9513, Stop: 9980, Start Num: 8

Candidate Starts for LeeroyJ\_12:

(4, 9420), (5, 9429), (Start: 8 @9513 has 32 MA's), (10, 9522), (15, 9615), (27, 9783), (34, 9846), (35, 9885),

Gene: Lilmac1015\_11 Start: 8905, Stop: 9369, Start Num: 8

Candidate Starts for Lilmac1015\_11:

(Start: 8 @8905 has 32 MA's), (27, 9172), (32, 9220), (35, 9274), (39, 9325),

Gene: Linus\_15 Start: 11508, Stop: 11978, Start Num: 6

Candidate Starts for Linus\_15:

(Start: 6 @11508 has 19 MA's), (10, 11520), (12, 11559), (13, 11562), (17, 11628), (18, 11634), (25, 11766), (30, 11799), (31, 11823), (34, 11841), (35, 11880), (38, 11925), (41, 11958), (42, 11970),

Gene: Lymara\_15 Start: 11510, Stop: 11980, Start Num: 6

Candidate Starts for Lymara\_15:

(Start: 6 @11510 has 19 MA's), (10, 11522), (12, 11561), (13, 11564), (18, 11636), (23, 11750), (25, 11768), (30, 11801), (31, 11825), (34, 11843), (35, 11882), (38, 11927), (41, 11960), (42, 11972),

Gene: Martha\_12 Start: 9464, Stop: 9931, Start Num: 8

Candidate Starts for Martha\_12:

(Start: 8 @9464 has 32 MA's), (11, 9509), (12, 9512), (15, 9566), (24, 9707), (27, 9734), (28, 9740), (35, 9836),

Gene: Mordred\_15 Start: 11508, Stop: 11978, Start Num: 6

Candidate Starts for Mordred\_15:

(Start: 6 @11508 has 19 MA's), (10, 11520), (12, 11559), (13, 11562), (17, 11628), (18, 11634), (25, 11766), (30, 11799), (31, 11823), (34, 11841), (35, 11880), (38, 11925), (41, 11958), (42, 11970),

Gene: MoyaNatalis\_15 Start: 11523, Stop: 11981, Start Num: 10

Candidate Starts for MoyaNatalis\_15:

(Start: 6 @11511 has 19 MA's), (10, 11523), (12, 11562), (13, 11565), (17, 11631), (18, 11637), (25, 11769), (30, 11802), (31, 11826), (34, 11844), (35, 11883), (38, 11928), (41, 11961), (42, 11973),

Gene: NathanVaag\_11 Start: 9192, Stop: 9656, Start Num: 8

Candidate Starts for NathanVaag\_11:

(Start: 8 @9192 has 32 MA's), (11, 9237), (12, 9240), (15, 9294), (17, 9309), (21, 9408), (33, 9510), (35, 9561),

Gene: Piccoletto\_11 Start: 9193, Stop: 9657, Start Num: 8

Candidate Starts for Piccoletto\_11:

(Start: 8 @9193 has 32 MA's), (11, 9238), (12, 9241), (15, 9295), (17, 9310), (21, 9409), (33, 9511), (35, 9562),

Gene: Pippa\_12 Start: 9563, Stop: 10030, Start Num: 8

Candidate Starts for Pippa\_12:

(Start: 8 @9563 has 32 MA's), (11, 9608), (12, 9611), (15, 9665), (24, 9806), (27, 9833), (28, 9839), (35, 9935),

Gene: Prairie\_11 Start: 8912, Stop: 9376, Start Num: 8

Candidate Starts for Prairie\_11:

(Start: 8 @8912 has 32 MA's), (27, 9179), (32, 9227), (35, 9281), (39, 9332),

Gene: PrincessTrina\_15 Start: 11511, Stop: 11981, Start Num: 6

Candidate Starts for PrincessTrina\_15:

(Start: 6 @11511 has 19 MA's), (10, 11523), (12, 11562), (13, 11565), (17, 11631), (18, 11637), (25, 11769), (30, 11802), (31, 11826), (34, 11844), (35, 11883), (38, 11928), (41, 11961), (42, 11973),

Gene: RosiePosie\_15 Start: 11511, Stop: 11981, Start Num: 6

Candidate Starts for RosiePosie\_15:

(Start: 6 @11511 has 19 MA's), (10, 11523), (12, 11562), (13, 11565), (17, 11631), (18, 11637), (25, 11769), (30, 11802), (31, 11826), (34, 11844), (35, 11883), (38, 11928), (41, 11961), (42, 11973),

Gene: Scavito\_15 Start: 11508, Stop: 11978, Start Num: 6



Candidate Starts for Scavito\_15:

(Start: 6 @11508 has 19 MA's), (10, 11520), (12, 11559), (13, 11562), (17, 11628), (18, 11634), (25, 11766), (30, 11799), (31, 11823), (34, 11841), (35, 11880), (38, 11925), (41, 11958), (42, 11970),

Gene: Shade\_12 Start: 9502, Stop: 9969, Start Num: 8

Candidate Starts for Shade\_12:

(Start: 8 @9502 has 32 MA's), (11, 9547), (12, 9550), (15, 9604), (24, 9745), (27, 9772), (28, 9778), (35, 9874),

Gene: Sicarius2\_13 Start: 10002, Stop: 10475, Start Num: 8

Candidate Starts for Sicarius2\_13:

(Start: 8 @10002 has 32 MA's), (10, 10011), (14, 10095), (27, 10272), (30, 10293), (35, 10374), (39, 10425),

Gene: Sonny\_12 Start: 9523, Stop: 9990, Start Num: 8

Candidate Starts for Sonny\_12:

(Start: 8 @9523 has 32 MA's), (11, 9568), (12, 9571), (15, 9625), (24, 9766), (27, 9793), (28, 9799), (35, 9895),

Gene: StevieBAY\_12 Start: 9513, Stop: 9980, Start Num: 8

Candidate Starts for StevieBAY\_12:

(4, 9420), (5, 9429), (Start: 8 @9513 has 32 MA's), (10, 9522), (15, 9615), (27, 9783), (34, 9846), (35, 9885),

Gene: TaeYoung\_12 Start: 9527, Stop: 9994, Start Num: 8

Candidate Starts for TaeYoung\_12:

(Start: 8 @9527 has 32 MA's), (11, 9572), (12, 9575), (15, 9629), (24, 9770), (27, 9797), (28, 9803), (35, 9899),

Gene: Timinator\_12 Start: 9513, Stop: 9980, Start Num: 8

Candidate Starts for Timinator\_12:

(4, 9420), (5, 9429), (Start: 8 @9513 has 32 MA's), (10, 9522), (15, 9615), (27, 9783), (34, 9846), (35, 9885),

Gene: Tophat\_15 Start: 11510, Stop: 11980, Start Num: 6

Candidate Starts for Tophat\_15:

(Start: 6 @11510 has 19 MA's), (10, 11522), (12, 11561), (13, 11564), (17, 11630), (18, 11636), (25, 11768), (30, 11801), (31, 11825), (34, 11843), (35, 11882), (38, 11927), (41, 11960), (42, 11972),

Gene: Vibaki\_13 Start: 10981, Stop: 11451, Start Num: 8

Candidate Starts for Vibaki\_13:

(Start: 8 @10981 has 32 MA's), (15, 11083), (24, 11221), (27, 11248), (28, 11254), (31, 11293), (35, 11350), (37, 11368),

Gene: Wyborn\_13 Start: 9863, Stop: 10336, Start Num: 8

Candidate Starts for Wyborn\_13:

(Start: 8 @9863 has 32 MA's), (10, 9872), (14, 9956), (27, 10133), (30, 10154), (35, 10235), (39, 10286),

Gene: Zartrosa\_12 Start: 9526, Stop: 9993, Start Num: 8

Candidate Starts for Zartrosa\_12:

(Start: 8 @9526 has 32 MA's), (11, 9571), (12, 9574), (15, 9628), (24, 9769), (27, 9796), (28, 9802), (35, 9898),

