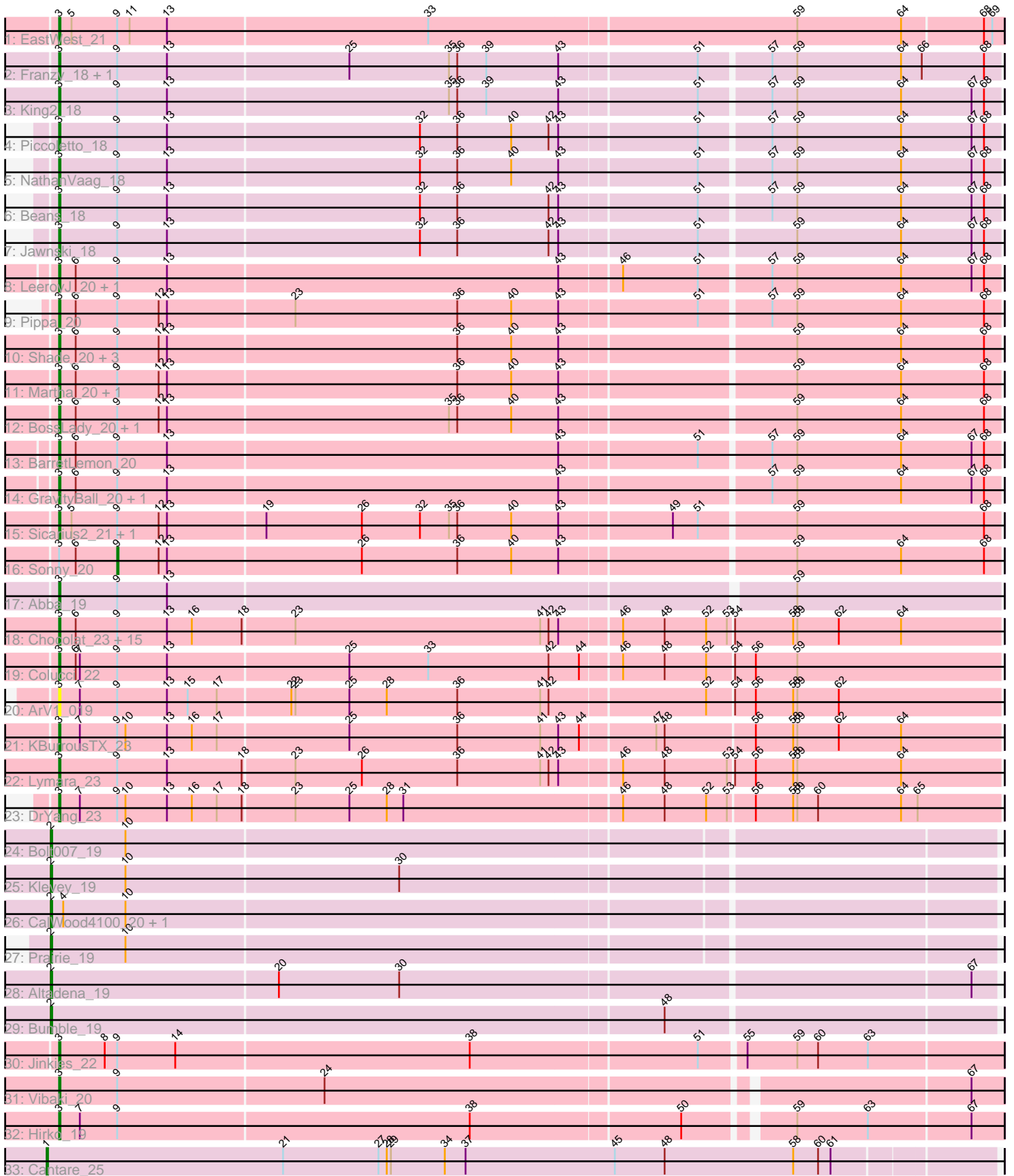


Pham 171490



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 171490 Report

This analysis was run 07/10/24 on database version 566.

Pham number 171490 has 58 members, 5 are drafts.

Phages represented in each track:

- Track 1 : EastWest_21
- Track 2 : Franzy_18, Brent_18
- Track 3 : King2_18
- Track 4 : Piccoletto_18
- Track 5 : NathanVaag_18
- Track 6 : Beans_18
- Track 7 : Jawnski_18
- Track 8 : LeeroyJ_20, Timinator_20
- Track 9 : Pippa_20
- Track 10 : Shade_20, Zartrosa_20, JKerns_20, Jordan_20
- Track 11 : Martha_20, TaeYoung_20
- Track 12 : BossLady_20, Grekaycon_20
- Track 13 : BarretLemon_20
- Track 14 : GravityBall_20, StevieBAY_20
- Track 15 : Sicarius2_21, Wyborn_21
- Track 16 : Sonny_20
- Track 17 : Abba_19
- Track 18 : Chocolat_23, MoyaNatalis_23, Kabreeze_23, Scavito_23, Conboy_23, PrincessTrina_23, Chipper1996_230, JaNo_23, Chubster_23, RosiePosie_23, EdgarPoe_23, Linus_23, Mordred_23, Tophat_23, JayCookie_23, HumptyDumpty_23
- Track 19 : Colucci_22
- Track 20 : ArV1_019
- Track 21 : KBurrousTX_23
- Track 22 : Lymara_23
- Track 23 : DrYang_23
- Track 24 : Bolt007_19
- Track 25 : Klevey_19
- Track 26 : CalWood4100_20, Lilmac1015_20
- Track 27 : Prairie_19
- Track 28 : Altadena_19
- Track 29 : Bumble_19
- Track 30 : Jinkies_22
- Track 31 : Vibaki_20
- Track 32 : Hirko_19
- Track 33 : Cantare_25

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

The start number called the most often in the published annotations is 3, it was called in 45 of the 53 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abba_19, ArV1_019, BarretLemon_20, Beans_18, BossLady_20, Brent_18, Chipper1996_230, Chocolat_23, Chubster_23, Colucci_22, Conboy_23, DrYang_23, EastWest_21, EdgarPoe_23, Franzy_18, GravityBall_20, Grekaycon_20, Hirko_19, HumptyDumpty_23, JKerns_20, JaNo_23, Jawnski_18, JayCookie_23, Jinkies_22, Jordan_20, KBurrousTX_23, Kabreeze_23, King2_18, LeeroyJ_20, Linus_23, Lymara_23, Martha_20, Mordred_23, MoyaNatalis_23, NathanVaag_18, Piccoletto_18, Pippa_20, PrincessTrina_23, RosiePosie_23, Scavito_23, Shade_20, Sicarius2_21, StevieBAY_20, TaeYoung_20, Timinator_20, Tophat_23, Vibaki_20, Wyborn_21, Zartrosa_20,

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

- Sonny_20,

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

- Altadena_19, Bolt007_19, Bumble_19, CalWood4100_20, Cantare_25, Klevey_19, Lilmac1015_20, Prairie_19,

Summary by start number:

Start 1:

- Found in 1 of 58 (1.7%) 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: Cantare_25 (singleton),

Start 2:

- Found in 7 of 58 (12.1%) of genes in pham
- Manual Annotations of this start: 6 of 53
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Altadena_19 (FH), Bolt007_19 (FH), Bumble_19 (FH), CalWood4100_20 (FH), Klevey_19 (FH), Lilmac1015_20 (FH), Prairie_19 (FH),

Start 3:

- Found in 50 of 58 (86.2%) of genes in pham
- Manual Annotations of this start: 45 of 53
- Called 98.0% of time when present
- Phage (with cluster) where this start called: Abba_19 (AO3), ArV1_019 (AR), BarretLemon_20 (AO2), Beans_18 (AO1), BossLady_20 (AO2), Brent_18 (AO1), Chipper1996_230 (AR), Chocolat_23 (AR), Chubster_23 (AR), Colucci_22 (AR), Conboy_23 (AR), DrYang_23 (AR), EastWest_21 (AO), EdgarPoe_23 (AR), Franzy_18 (AO1), GravityBall_20 (AO2), Grekaycon_20 (AO2), Hirko_19 (FL), HumptyDumpty_23 (AR), JKerns_20 (AO2), JaNo_23 (AR), Jawnski_18 (AO1), JayCookie_23 (AR), Jinkies_22 (FL), Jordan_20 (AO2), KBurrousTX_23 (AR),

Kabreeze_23 (AR), King2_18 (AO1), LeeroyJ_20 (AO2), Linus_23 (AR), Lymara_23 (AR), Martha_20 (AO2), Mordred_23 (AR), MoyaNatalis_23 (AR), NathanVaag_18 (AO1), Piccoletto_18 (AO1), Pippa_20 (AO2), PrincessTrina_23 (AR), RosiePosie_23 (AR), Scavito_23 (AR), Shade_20 (AO2), Sicarius2_21 (AO2), StevieBAY_20 (AO2), TaeYoung_20 (AO2), Timinator_20 (AO2), Tophat_23 (AR), Vibaki_20 (FL), Wyborn_21 (AO2), Zartrosa_20 (AO2),

Start 9:

- Found in 50 of 58 (86.2%) of genes in pham
- Manual Annotations of this start: 1 of 53
- Called 2.0% of time when present
- Phage (with cluster) where this start called: Sonny_20 (AO2),

Summary by clusters:

There are 8 clusters represented in this pham: singleton, AO, AR, AO3, AO2, AO1, FH, FL,

Info for manual annotations of cluster AO:

- Start number 3 was manually annotated 1 time for cluster AO.

Info for manual annotations of cluster AO1:

- Start number 3 was manually annotated 7 times for cluster AO1.

Info for manual annotations of cluster AO2:

- Start number 3 was manually annotated 15 times for cluster AO2.
- Start number 9 was manually annotated 1 time for cluster AO2.

Info for manual annotations of cluster AO3:

- Start number 3 was manually annotated 1 time for cluster AO3.

Info for manual annotations of cluster AR:

- Start number 3 was manually annotated 18 times for cluster AR.

Info for manual annotations of cluster FH:

- Start number 2 was manually annotated 6 times for cluster FH.

Info for manual annotations of cluster FL:

- Start number 3 was manually annotated 3 times for cluster FL.

Gene Information:

Gene: Abba_19 Start: 16706, Stop: 17368, Start Num: 3

Candidate Starts for Abba_19:

(Start: 3 @16706 has 45 MA's), (Start: 9 @16748 has 1 MA's), (13, 16784), (59, 17222),

Gene: Altadena_19 Start: 15733, Stop: 16398, Start Num: 2

Candidate Starts for Altadena_19:

(Start: 2 @15733 has 6 MA's), (20, 15895), (30, 15982), (67, 16381),

Gene: ArV1_019 Start: 17587, Stop: 18255, Start Num: 3

Candidate Starts for ArV1_019:

(Start: 3 @17587 has 45 MA's), (7, 17602), (Start: 9 @17629 has 1 MA's), (13, 17665), (15, 17680), (17, 17701), (22, 17752), (23, 17755), (25, 17794), (28, 17821), (36, 17872), (41, 17932), (42, 17938), (52, 18046), (54, 18064), (56, 18079), (58, 18106), (59, 18109), (62, 18139),

Gene: BarretLemon_20 Start: 16382, Stop: 17047, Start Num: 3

Candidate Starts for BarretLemon_20:

(Start: 3 @16382 has 45 MA's), (6, 16394), (Start: 9 @16424 has 1 MA's), (13, 16460), (43, 16739), (51, 16835), (57, 16883), (59, 16901), (64, 16976), (67, 17027), (68, 17036),

Gene: Beans_18 Start: 16085, Stop: 16750, Start Num: 3

Candidate Starts for Beans_18:

(Start: 3 @16085 has 45 MA's), (Start: 9 @16127 has 1 MA's), (13, 16163), (32, 16343), (36, 16370), (42, 16436), (43, 16442), (51, 16538), (57, 16586), (59, 16604), (64, 16679), (67, 16730), (68, 16739),

Gene: Bolt007_19 Start: 15564, Stop: 16226, Start Num: 2

Candidate Starts for Bolt007_19:

(Start: 2 @15564 has 6 MA's), (10, 15618),

Gene: BossLady_20 Start: 16396, Stop: 17061, Start Num: 3

Candidate Starts for BossLady_20:

(Start: 3 @16396 has 45 MA's), (6, 16408), (Start: 9 @16438 has 1 MA's), (12, 16468), (13, 16474), (35, 16675), (36, 16681), (40, 16720), (43, 16753), (59, 16915), (64, 16990), (68, 17050),

Gene: Brent_18 Start: 16067, Stop: 16732, Start Num: 3

Candidate Starts for Brent_18:

(Start: 3 @16067 has 45 MA's), (Start: 9 @16109 has 1 MA's), (13, 16145), (25, 16274), (35, 16346), (36, 16352), (39, 16373), (43, 16424), (51, 16520), (57, 16568), (59, 16586), (64, 16661), (66, 16676), (68, 16721),

Gene: Bumble_19 Start: 15738, Stop: 16403, Start Num: 2

Candidate Starts for Bumble_19:

(Start: 2 @15738 has 6 MA's), (48, 16173),

Gene: CalWood4100_20 Start: 15544, Stop: 16206, Start Num: 2

Candidate Starts for CalWood4100_20:

(Start: 2 @15544 has 6 MA's), (4, 15553), (10, 15598),

Gene: Cantare_25 Start: 24469, Stop: 25146, Start Num: 1

Candidate Starts for Cantare_25:

(Start: 1 @24469 has 1 MA's), (21, 24640), (27, 24709), (28, 24715), (29, 24718), (34, 24757), (37, 24772), (45, 24880), (48, 24916), (58, 25009), (60, 25027), (61, 25036),

Gene: Chipper1996_230 Start: 19266, Stop: 19934, Start Num: 3

Candidate Starts for Chipper1996_230:

(Start: 3 @19266 has 45 MA's), (6, 19278), (Start: 9 @19308 has 1 MA's), (13, 19344), (16, 19362), (18, 19398), (23, 19434), (41, 19611), (42, 19617), (43, 19623), (46, 19665), (48, 19695), (52, 19725), (53, 19740), (54, 19743), (58, 19785), (59, 19788), (62, 19818), (64, 19863),

Gene: Chocolat_23 Start: 19267, Stop: 19935, Start Num: 3

Candidate Starts for Chocolat_23:

(Start: 3 @19267 has 45 MA's), (6, 19279), (Start: 9 @19309 has 1 MA's), (13, 19345), (16, 19363), (18, 19399), (23, 19435), (41, 19612), (42, 19618), (43, 19624), (46, 19666), (48, 19696), (52, 19726),

(53, 19741), (54, 19744), (58, 19786), (59, 19789), (62, 19819), (64, 19864),

Gene: Chubster_23 Start: 19037, Stop: 19705, Start Num: 3

Candidate Starts for Chubster_23:

(Start: 3 @19037 has 45 MA's), (6, 19049), (Start: 9 @19079 has 1 MA's), (13, 19115), (16, 19133), (18, 19169), (23, 19205), (41, 19382), (42, 19388), (43, 19394), (46, 19436), (48, 19466), (52, 19496), (53, 19511), (54, 19514), (58, 19556), (59, 19559), (62, 19589), (64, 19634),

Gene: Colucci_22 Start: 18736, Stop: 19404, Start Num: 3

Candidate Starts for Colucci_22:

(Start: 3 @18736 has 45 MA's), (6, 18748), (7, 18751), (Start: 9 @18778 has 1 MA's), (13, 18814), (25, 18943), (33, 19000), (42, 19087), (44, 19108), (46, 19135), (48, 19165), (52, 19195), (54, 19213), (56, 19228), (59, 19258),

Gene: Conboy_23 Start: 19265, Stop: 19933, Start Num: 3

Candidate Starts for Conboy_23:

(Start: 3 @19265 has 45 MA's), (6, 19277), (Start: 9 @19307 has 1 MA's), (13, 19343), (16, 19361), (18, 19397), (23, 19433), (41, 19610), (42, 19616), (43, 19622), (46, 19664), (48, 19694), (52, 19724), (53, 19739), (54, 19742), (58, 19784), (59, 19787), (62, 19817), (64, 19862),

Gene: DrYang_23 Start: 19463, Stop: 20131, Start Num: 3

Candidate Starts for DrYang_23:

(Start: 3 @19463 has 45 MA's), (7, 19478), (Start: 9 @19505 has 1 MA's), (10, 19511), (13, 19541), (16, 19559), (17, 19577), (18, 19595), (23, 19631), (25, 19670), (28, 19697), (31, 19709), (46, 19862), (48, 19892), (52, 19922), (53, 19937), (56, 19955), (58, 19982), (59, 19985), (60, 20000), (64, 20060), (65, 20072),

Gene: EastWest_21 Start: 16369, Stop: 17040, Start Num: 3

Candidate Starts for EastWest_21:

(Start: 3 @16369 has 45 MA's), (5, 16378), (Start: 9 @16411 has 1 MA's), (11, 16420), (13, 16447), (33, 16633), (59, 16894), (64, 16969), (68, 17026), (69, 17032),

Gene: EdgarPoe_23 Start: 19265, Stop: 19933, Start Num: 3

Candidate Starts for EdgarPoe_23:

(Start: 3 @19265 has 45 MA's), (6, 19277), (Start: 9 @19307 has 1 MA's), (13, 19343), (16, 19361), (18, 19397), (23, 19433), (41, 19610), (42, 19616), (43, 19622), (46, 19664), (48, 19694), (52, 19724), (53, 19739), (54, 19742), (58, 19784), (59, 19787), (62, 19817), (64, 19862),

Gene: Franzy_18 Start: 16067, Stop: 16732, Start Num: 3

Candidate Starts for Franzy_18:

(Start: 3 @16067 has 45 MA's), (Start: 9 @16109 has 1 MA's), (13, 16145), (25, 16274), (35, 16346), (36, 16352), (39, 16373), (43, 16424), (51, 16520), (57, 16568), (59, 16586), (64, 16661), (66, 16676), (68, 16721),

Gene: GravityBall_20 Start: 16381, Stop: 17046, Start Num: 3

Candidate Starts for GravityBall_20:

(Start: 3 @16381 has 45 MA's), (6, 16393), (Start: 9 @16423 has 1 MA's), (13, 16459), (43, 16738), (57, 16882), (59, 16900), (64, 16975), (67, 17026), (68, 17035),

Gene: Grekaycon_20 Start: 16405, Stop: 17070, Start Num: 3

Candidate Starts for Grekaycon_20:

(Start: 3 @16405 has 45 MA's), (6, 16417), (Start: 9 @16447 has 1 MA's), (12, 16477), (13, 16483), (35, 16684), (36, 16690), (40, 16729), (43, 16762), (59, 16924), (64, 16999), (68, 17059),

Gene: Hirko_19 Start: 17966, Stop: 18622, Start Num: 3

Candidate Starts for Hirko_19:

(Start: 3 @17966 has 45 MA's), (7, 17981), (Start: 9 @18008 has 1 MA's), (38, 18260), (50, 18407), (59, 18476), (63, 18527), (67, 18599),

Gene: HumptyDumpty_23 Start: 19264, Stop: 19932, Start Num: 3

Candidate Starts for HumptyDumpty_23:

(Start: 3 @19264 has 45 MA's), (6, 19276), (Start: 9 @19306 has 1 MA's), (13, 19342), (16, 19360), (18, 19396), (23, 19432), (41, 19609), (42, 19615), (43, 19621), (46, 19663), (48, 19693), (52, 19723), (53, 19738), (54, 19741), (58, 19783), (59, 19786), (62, 19816), (64, 19861),

Gene: JKerns_20 Start: 16432, Stop: 17097, Start Num: 3

Candidate Starts for JKerns_20:

(Start: 3 @16432 has 45 MA's), (6, 16444), (Start: 9 @16474 has 1 MA's), (12, 16504), (13, 16510), (36, 16717), (40, 16756), (43, 16789), (59, 16951), (64, 17026), (68, 17086),

Gene: JaNo_23 Start: 19264, Stop: 19932, Start Num: 3

Candidate Starts for JaNo_23:

(Start: 3 @19264 has 45 MA's), (6, 19276), (Start: 9 @19306 has 1 MA's), (13, 19342), (16, 19360), (18, 19396), (23, 19432), (41, 19609), (42, 19615), (43, 19621), (46, 19663), (48, 19693), (52, 19723), (53, 19738), (54, 19741), (58, 19783), (59, 19786), (62, 19816), (64, 19861),

Gene: Jawnski_18 Start: 16080, Stop: 16745, Start Num: 3

Candidate Starts for Jawnski_18:

(Start: 3 @16080 has 45 MA's), (Start: 9 @16122 has 1 MA's), (13, 16158), (32, 16338), (36, 16365), (42, 16431), (43, 16437), (51, 16533), (59, 16599), (64, 16674), (67, 16725), (68, 16734),

Gene: JayCookie_23 Start: 19267, Stop: 19935, Start Num: 3

Candidate Starts for JayCookie_23:

(Start: 3 @19267 has 45 MA's), (6, 19279), (Start: 9 @19309 has 1 MA's), (13, 19345), (16, 19363), (18, 19399), (23, 19435), (41, 19612), (42, 19618), (43, 19624), (46, 19666), (48, 19696), (52, 19726), (53, 19741), (54, 19744), (58, 19786), (59, 19789), (62, 19819), (64, 19864),

Gene: Jinkies_22 Start: 18541, Stop: 19206, Start Num: 3

Candidate Starts for Jinkies_22:

(Start: 3 @18541 has 45 MA's), (8, 18574), (Start: 9 @18583 has 1 MA's), (14, 18625), (38, 18835), (51, 18994), (55, 19024), (59, 19060), (60, 19075), (63, 19111),

Gene: Jordan_20 Start: 16402, Stop: 17067, Start Num: 3

Candidate Starts for Jordan_20:

(Start: 3 @16402 has 45 MA's), (6, 16414), (Start: 9 @16444 has 1 MA's), (12, 16474), (13, 16480), (36, 16687), (40, 16726), (43, 16759), (59, 16921), (64, 16996), (68, 17056),

Gene: KBurrousTX_23 Start: 19298, Stop: 19966, Start Num: 3

Candidate Starts for KBurrousTX_23:

(Start: 3 @19298 has 45 MA's), (7, 19313), (Start: 9 @19340 has 1 MA's), (10, 19346), (13, 19376), (16, 19394), (17, 19412), (25, 19505), (36, 19583), (41, 19643), (43, 19655), (44, 19670), (47, 19721), (48, 19727), (56, 19790), (58, 19817), (59, 19820), (62, 19850), (64, 19895),

Gene: Kabreeze_23 Start: 19264, Stop: 19932, Start Num: 3

Candidate Starts for Kabreeze_23:

(Start: 3 @19264 has 45 MA's), (6, 19276), (Start: 9 @19306 has 1 MA's), (13, 19342), (16, 19360), (18, 19396), (23, 19432), (41, 19609), (42, 19615), (43, 19621), (46, 19663), (48, 19693), (52, 19723), (53, 19738), (54, 19741), (58, 19783), (59, 19786), (62, 19816), (64, 19861),

Gene: King2_18 Start: 16067, Stop: 16732, Start Num: 3

Candidate Starts for King2_18:

(Start: 3 @16067 has 45 MA's), (Start: 9 @16109 has 1 MA's), (13, 16145), (35, 16346), (36, 16352), (39, 16373), (43, 16424), (51, 16520), (57, 16568), (59, 16586), (64, 16661), (67, 16712), (68, 16721),

Gene: Klevey_19 Start: 15554, Stop: 16216, Start Num: 2

Candidate Starts for Klevey_19:

(Start: 2 @15554 has 6 MA's), (10, 15608), (30, 15803),

Gene: LeeroyJ_20 Start: 16381, Stop: 17046, Start Num: 3

Candidate Starts for LeeroyJ_20:

(Start: 3 @16381 has 45 MA's), (6, 16393), (Start: 9 @16423 has 1 MA's), (13, 16459), (43, 16738), (46, 16780), (51, 16834), (57, 16882), (59, 16900), (64, 16975), (67, 17026), (68, 17035),

Gene: Lilmac1015_20 Start: 15544, Stop: 16206, Start Num: 2

Candidate Starts for Lilmac1015_20:

(Start: 2 @15544 has 6 MA's), (4, 15553), (10, 15598),

Gene: Linus_23 Start: 19264, Stop: 19932, Start Num: 3

Candidate Starts for Linus_23:

(Start: 3 @19264 has 45 MA's), (6, 19276), (Start: 9 @19306 has 1 MA's), (13, 19342), (16, 19360), (18, 19396), (23, 19432), (41, 19609), (42, 19615), (43, 19621), (46, 19663), (48, 19693), (52, 19723), (53, 19738), (54, 19741), (58, 19783), (59, 19786), (62, 19816), (64, 19861),

Gene: Lymara_23 Start: 19262, Stop: 19930, Start Num: 3

Candidate Starts for Lymara_23:

(Start: 3 @19262 has 45 MA's), (Start: 9 @19304 has 1 MA's), (13, 19340), (18, 19394), (23, 19430), (26, 19478), (36, 19547), (41, 19607), (42, 19613), (43, 19619), (46, 19661), (48, 19691), (53, 19736), (54, 19739), (56, 19754), (58, 19781), (59, 19784), (64, 19859),

Gene: Martha_20 Start: 16343, Stop: 17008, Start Num: 3

Candidate Starts for Martha_20:

(Start: 3 @16343 has 45 MA's), (6, 16355), (Start: 9 @16385 has 1 MA's), (12, 16415), (13, 16421), (36, 16628), (40, 16667), (43, 16700), (59, 16862), (64, 16937), (68, 16997),

Gene: Mordred_23 Start: 19264, Stop: 19932, Start Num: 3

Candidate Starts for Mordred_23:

(Start: 3 @19264 has 45 MA's), (6, 19276), (Start: 9 @19306 has 1 MA's), (13, 19342), (16, 19360), (18, 19396), (23, 19432), (41, 19609), (42, 19615), (43, 19621), (46, 19663), (48, 19693), (52, 19723), (53, 19738), (54, 19741), (58, 19783), (59, 19786), (62, 19816), (64, 19861),

Gene: MoyaNatalis_23 Start: 19267, Stop: 19935, Start Num: 3

Candidate Starts for MoyaNatalis_23:

(Start: 3 @19267 has 45 MA's), (6, 19279), (Start: 9 @19309 has 1 MA's), (13, 19345), (16, 19363), (18, 19399), (23, 19435), (41, 19612), (42, 19618), (43, 19624), (46, 19666), (48, 19696), (52, 19726), (53, 19741), (54, 19744), (58, 19786), (59, 19789), (62, 19819), (64, 19864),

Gene: NathanVaag_18 Start: 16073, Stop: 16738, Start Num: 3

Candidate Starts for NathanVaag_18:

(Start: 3 @16073 has 45 MA's), (Start: 9 @16115 has 1 MA's), (13, 16151), (32, 16331), (36, 16358), (40, 16397), (43, 16430), (51, 16526), (57, 16574), (59, 16592), (64, 16667), (67, 16718), (68, 16727),

Gene: Piccoletto_18 Start: 16073, Stop: 16738, Start Num: 3

Candidate Starts for Piccoletto_18:

(Start: 3 @16073 has 45 MA's), (Start: 9 @16115 has 1 MA's), (13, 16151), (32, 16331), (36, 16358), (40, 16397), (42, 16424), (43, 16430), (51, 16526), (57, 16574), (59, 16592), (64, 16667), (67, 16718), (68, 16727),

Gene: Pippa_20 Start: 16434, Stop: 17099, Start Num: 3

Candidate Starts for Pippa_20:

(Start: 3 @16434 has 45 MA's), (6, 16446), (Start: 9 @16476 has 1 MA's), (12, 16506), (13, 16512), (23, 16602), (36, 16719), (40, 16758), (43, 16791), (51, 16887), (57, 16935), (59, 16953), (64, 17028), (68, 17088),

Gene: Prairie_19 Start: 15551, Stop: 16213, Start Num: 2

Candidate Starts for Prairie_19:

(Start: 2 @15551 has 6 MA's), (10, 15605),

Gene: PrincessTrina_23 Start: 19267, Stop: 19935, Start Num: 3

Candidate Starts for PrincessTrina_23:

(Start: 3 @19267 has 45 MA's), (6, 19279), (Start: 9 @19309 has 1 MA's), (13, 19345), (16, 19363), (18, 19399), (23, 19435), (41, 19612), (42, 19618), (43, 19624), (46, 19666), (48, 19696), (52, 19726), (53, 19741), (54, 19744), (58, 19786), (59, 19789), (62, 19819), (64, 19864),

Gene: RosiePosie_23 Start: 19267, Stop: 19935, Start Num: 3

Candidate Starts for RosiePosie_23:

(Start: 3 @19267 has 45 MA's), (6, 19279), (Start: 9 @19309 has 1 MA's), (13, 19345), (16, 19363), (18, 19399), (23, 19435), (41, 19612), (42, 19618), (43, 19624), (46, 19666), (48, 19696), (52, 19726), (53, 19741), (54, 19744), (58, 19786), (59, 19789), (62, 19819), (64, 19864),

Gene: Scavito_23 Start: 19264, Stop: 19932, Start Num: 3

Candidate Starts for Scavito_23:

(Start: 3 @19264 has 45 MA's), (6, 19276), (Start: 9 @19306 has 1 MA's), (13, 19342), (16, 19360), (18, 19396), (23, 19432), (41, 19609), (42, 19615), (43, 19621), (46, 19663), (48, 19693), (52, 19723), (53, 19738), (54, 19741), (58, 19783), (59, 19786), (62, 19816), (64, 19861),

Gene: Shade_20 Start: 16381, Stop: 17046, Start Num: 3

Candidate Starts for Shade_20:

(Start: 3 @16381 has 45 MA's), (6, 16393), (Start: 9 @16423 has 1 MA's), (12, 16453), (13, 16459), (36, 16666), (40, 16705), (43, 16738), (59, 16900), (64, 16975), (68, 17035),

Gene: Sicarius2_21 Start: 16888, Stop: 17553, Start Num: 3

Candidate Starts for Sicarius2_21:

(Start: 3 @16888 has 45 MA's), (5, 16897), (Start: 9 @16930 has 1 MA's), (12, 16960), (13, 16966), (19, 17035), (26, 17104), (32, 17146), (35, 17167), (36, 17173), (40, 17212), (43, 17245), (49, 17323), (51, 17341), (59, 17407), (68, 17542),

Gene: Sonny_20 Start: 16444, Stop: 17067, Start Num: 9

Candidate Starts for Sonny_20:

(Start: 3 @16402 has 45 MA's), (6, 16414), (Start: 9 @16444 has 1 MA's), (12, 16474), (13, 16480), (26, 16618), (36, 16687), (40, 16726), (43, 16759), (59, 16921), (64, 16996), (68, 17056),

Gene: StevieBAY_20 Start: 16381, Stop: 17046, Start Num: 3

Candidate Starts for StevieBAY_20:

(Start: 3 @16381 has 45 MA's), (6, 16393), (Start: 9 @16423 has 1 MA's), (13, 16459), (43, 16738), (57, 16882), (59, 16900), (64, 16975), (67, 17026), (68, 17035),

Gene: TaeYoung_20 Start: 16406, Stop: 17071, Start Num: 3

Candidate Starts for TaeYoung_20:

(Start: 3 @16406 has 45 MA's), (6, 16418), (Start: 9 @16448 has 1 MA's), (12, 16478), (13, 16484), (36, 16691), (40, 16730), (43, 16763), (59, 16925), (64, 17000), (68, 17060),

Gene: Timinator_20 Start: 16381, Stop: 17046, Start Num: 3

Candidate Starts for Timinator_20:

(Start: 3 @16381 has 45 MA's), (6, 16393), (Start: 9 @16423 has 1 MA's), (13, 16459), (43, 16738), (46, 16780), (51, 16834), (57, 16882), (59, 16900), (64, 16975), (67, 17026), (68, 17035),

Gene: Tophat_23 Start: 19266, Stop: 19934, Start Num: 3

Candidate Starts for Tophat_23:

(Start: 3 @19266 has 45 MA's), (6, 19278), (Start: 9 @19308 has 1 MA's), (13, 19344), (16, 19362), (18, 19398), (23, 19434), (41, 19611), (42, 19617), (43, 19623), (46, 19665), (48, 19695), (52, 19725), (53, 19740), (54, 19743), (58, 19785), (59, 19788), (62, 19818), (64, 19863),

Gene: Vibaki_20 Start: 18352, Stop: 19008, Start Num: 3

Candidate Starts for Vibaki_20:

(Start: 3 @18352 has 45 MA's), (Start: 9 @18394 has 1 MA's), (24, 18541), (67, 18985),

Gene: Wyborn_21 Start: 16749, Stop: 17414, Start Num: 3

Candidate Starts for Wyborn_21:

(Start: 3 @16749 has 45 MA's), (5, 16758), (Start: 9 @16791 has 1 MA's), (12, 16821), (13, 16827), (19, 16896), (26, 16965), (32, 17007), (35, 17028), (36, 17034), (40, 17073), (43, 17106), (49, 17184), (51, 17202), (59, 17268), (68, 17403),

Gene: Zartrosa_20 Start: 16405, Stop: 17070, Start Num: 3

Candidate Starts for Zartrosa_20:

(Start: 3 @16405 has 45 MA's), (6, 16417), (Start: 9 @16447 has 1 MA's), (12, 16477), (13, 16483), (36, 16690), (40, 16729), (43, 16762), (59, 16924), (64, 16999), (68, 17059),