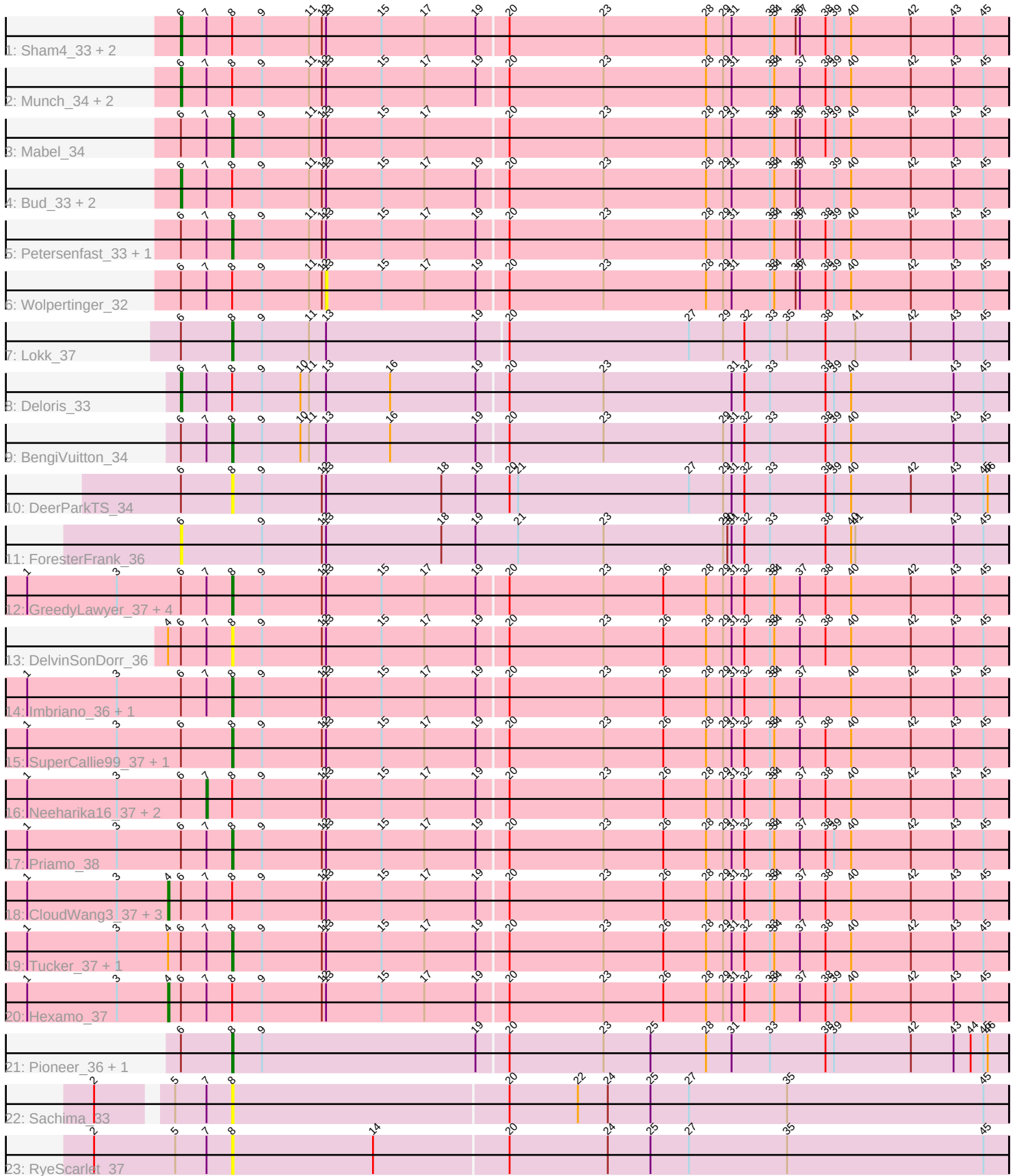


Pham 331001



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 331001 Report

This analysis was run 09/05/26 on database version 662.

Pham number 331001 has 43 members, 9 are drafts.

Phages represented in each track:

- Track 1 : Sham4_33, Flaverint_34, Saskia_34
- Track 2 : Munch_34, Aneem_34, Jabith_34
- Track 3 : Mabel_34
- Track 4 : Bud_33, Hutc2_33, Bowtie_34
- Track 5 : Petersenfast_33, Bachome_35
- Track 6 : Wolpertinger_32
- Track 7 : Lökk_37
- Track 8 : Deloris_33
- Track 9 : BengiVuitton_34
- Track 10 : DeerParkTS_34
- Track 11 : ForesterFrank_36
- Track 12 : GreedyLawyer_37, BlessJoy_37, Garak_38, ToneTone_34, Candra_37
- Track 13 : DelvinSonDorr_36
- Track 14 : Imbriano_36, Kipper29_37
- Track 15 : SuperCallie99_37, Gruunaga_37
- Track 16 : Neeharika16_37, DaVinci_37, SmellyB_37
- Track 17 : Priamo_38
- Track 18 : CloudWang3_37, Artemis2UCLA_37, Zaka_37, Yokurt_37
- Track 19 : Tucker_37, Wiks_36
- Track 20 : Hexamo_37
- Track 21 : Pioneer_36, ExplosioNervosa_36
- Track 22 : Sachima_33
- Track 23 : RyeScarlet_37

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 16 of the 34 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Bachome_35, BengiVuitton_34, BlessJoy_37, Candra_37, DeerParkTS_34, DelvinSonDorr_36, ExplosioNervosa_36, Garak_38, GreedyLawyer_37, Gruunaga_37, Imbriano_36, Kipper29_37, Lökk_37, Mabel_34, Petersenfast_33, Pioneer_36, Priamo_38, RyeScarlet_37, Sachima_33, SuperCallie99_37,

ToneTone_34, Tucker_37, Wiks_36,

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

- Aneem_34, Artemis2UCLA_37, Bowtie_34, Bud_33, CloudWang3_37, DaVinci_37, Deloris_33, Flaverint_34, Hexamo_37, Hutc2_33, Jabith_34, Munch_34, Neeharika16_37, Saskia_34, Sham4_33, SmellyB_37, Wolpertinger_32, Yokurt_37, Zaka_37,

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

- ForesterFrank_36,

Summary by start number:

Start 4:

- Found in 8 of 43 (18.6%) of genes in pham
- Manual Annotations of this start: 5 of 34
- Called 62.5% of time when present
- Phage (with cluster) where this start called: Artemis2UCLA_37 (A6), CloudWang3_37 (A6), Hexamo_37 (A6), Yokurt_37 (A6), Zaka_37 (A6),

Start 6:

- Found in 41 of 43 (95.3%) of genes in pham
- Manual Annotations of this start: 10 of 34
- Called 26.8% of time when present
- Phage (with cluster) where this start called: Aneem_34 (A11), Bowtie_34 (A11), Bud_33 (A11), Deloris_33 (A2), Flaverint_34 (A11), ForesterFrank_36 (A2), Hutc2_33 (A11), Jabith_34 (A11), Munch_34 (A11), Saskia_34 (A11), Sham4_33 (A11),

Start 7:

- Found in 36 of 43 (83.7%) of genes in pham
- Manual Annotations of this start: 3 of 34
- Called 8.3% of time when present
- Phage (with cluster) where this start called: DaVinci_37 (A6), Neeharika16_37 (A6), SmellyB_37 (A6),

Start 8:

- Found in 42 of 43 (97.7%) of genes in pham
- Manual Annotations of this start: 16 of 34
- Called 54.8% of time when present
- Phage (with cluster) where this start called: Bachome_35 (A11), BengiVuitton_34 (A2), BlessJoy_37 (A6), Candra_37 (A6), DeerParkTS_34 (A2), DelvinSonDorr_36 (A6), ExplosioNervosa_36 (A9), Garak_38 (A6), GreedyLawyer_37 (A6), Gruunaga_37 (A6), Imbriano_36 (A6), Kipper29_37 (A6), Lokk_37 (A2), Mabel_34 (A11), Petersenfast_33 (A11), Pioneer_36 (A9), Priamo_38 (A6), RyeScarlet_37 (A9), Sachima_33 (A9), SuperCallie99_37 (A6), ToneTone_34 (A6), Tucker_37 (A6), Wiks_36 (A6),

Start 13:

- Found in 39 of 43 (90.7%) of genes in pham
- No Manual Annotations of this start.
- Called 2.6% of time when present
- Phage (with cluster) where this start called: Wolpertinger_32 (A11),

Summary by clusters:

There are 4 clusters represented in this pham: A9, A2, A11, A6,

Info for manual annotations of cluster A11:

- Start number 6 was manually annotated 9 times for cluster A11.
- Start number 8 was manually annotated 3 times for cluster A11.

Info for manual annotations of cluster A2:

- Start number 6 was manually annotated 1 time for cluster A2.
- Start number 8 was manually annotated 2 times for cluster A2.

Info for manual annotations of cluster A6:

- Start number 4 was manually annotated 5 times for cluster A6.
- Start number 7 was manually annotated 3 times for cluster A6.
- Start number 8 was manually annotated 9 times for cluster A6.

Info for manual annotations of cluster A9:

- Start number 8 was manually annotated 2 times for cluster A9.

Gene Information:

Gene: Aneem_34 Start: 26120, Stop: 26698, Start Num: 6

Candidate Starts for Aneem_34:

(Start: 6 @26120 has 10 MA's), (Start: 7 @26138 has 3 MA's), (Start: 8 @26156 has 16 MA's), (9, 26177), (11, 26210), (12, 26219), (13, 26222), (15, 26261), (17, 26291), (19, 26327), (20, 26348), (23, 26414), (28, 26486), (29, 26498), (31, 26504), (33, 26531), (34, 26534), (37, 26552), (38, 26570), (39, 26576), (40, 26588), (42, 26630), (43, 26660), (45, 26681),

Gene: Artemis2UCLA_37 Start: 24740, Stop: 25327, Start Num: 4

Candidate Starts for Artemis2UCLA_37:

(1, 24641), (3, 24704), (Start: 4 @24740 has 5 MA's), (Start: 6 @24749 has 10 MA's), (Start: 7 @24767 has 3 MA's), (Start: 8 @24785 has 16 MA's), (9, 24806), (12, 24848), (13, 24851), (15, 24890), (17, 24920), (19, 24956), (20, 24977), (23, 25043), (26, 25085), (28, 25115), (29, 25127), (31, 25133), (32, 25142), (33, 25160), (34, 25163), (37, 25181), (38, 25199), (40, 25217), (42, 25259), (43, 25289), (45, 25310),

Gene: Bachome_35 Start: 26144, Stop: 26686, Start Num: 8

Candidate Starts for Bachome_35:

(Start: 6 @26108 has 10 MA's), (Start: 7 @26126 has 3 MA's), (Start: 8 @26144 has 16 MA's), (9, 26165), (11, 26198), (12, 26207), (13, 26210), (15, 26249), (17, 26279), (19, 26315), (20, 26336), (23, 26402), (28, 26474), (29, 26486), (31, 26492), (33, 26519), (34, 26522), (36, 26537), (37, 26540), (38, 26558), (39, 26564), (40, 26576), (42, 26618), (43, 26648), (45, 26669),

Gene: BengiVuitton_34 Start: 26453, Stop: 26995, Start Num: 8

Candidate Starts for BengiVuitton_34:

(Start: 6 @26417 has 10 MA's), (Start: 7 @26435 has 3 MA's), (Start: 8 @26453 has 16 MA's), (9, 26474), (10, 26501), (11, 26507), (13, 26519), (16, 26564), (19, 26624), (20, 26645), (23, 26711), (29, 26795), (31, 26801), (32, 26810), (33, 26828), (38, 26867), (39, 26873), (40, 26885), (43, 26957), (45, 26978),

Gene: BlessJoy_37 Start: 25105, Stop: 25647, Start Num: 8

Candidate Starts for BlessJoy_37:

(1, 24961), (3, 25024), (Start: 6 @25069 has 10 MA's), (Start: 7 @25087 has 3 MA's), (Start: 8 @25105 has 16 MA's), (9, 25126), (12, 25168), (13, 25171), (15, 25210), (17, 25240), (19, 25276), (20, 25297), (23, 25363), (26, 25405), (28, 25435), (29, 25447), (31, 25453), (32, 25462), (33, 25480), (34, 25483), (37, 25501), (38, 25519), (40, 25537), (42, 25579), (43, 25609), (45, 25630),

Gene: Bowtie_34 Start: 26120, Stop: 26698, Start Num: 6

Candidate Starts for Bowtie_34:

(Start: 6 @26120 has 10 MA's), (Start: 7 @26138 has 3 MA's), (Start: 8 @26156 has 16 MA's), (9, 26177), (11, 26210), (12, 26219), (13, 26222), (15, 26261), (17, 26291), (19, 26327), (20, 26348), (23, 26414), (28, 26486), (29, 26498), (31, 26504), (33, 26531), (34, 26534), (36, 26549), (37, 26552), (39, 26576), (40, 26588), (42, 26630), (43, 26660), (45, 26681),

Gene: Bud_33 Start: 25675, Stop: 26253, Start Num: 6

Candidate Starts for Bud_33:

(Start: 6 @25675 has 10 MA's), (Start: 7 @25693 has 3 MA's), (Start: 8 @25711 has 16 MA's), (9, 25732), (11, 25765), (12, 25774), (13, 25777), (15, 25816), (17, 25846), (19, 25882), (20, 25903), (23, 25969), (28, 26041), (29, 26053), (31, 26059), (33, 26086), (34, 26089), (36, 26104), (37, 26107), (39, 26131), (40, 26143), (42, 26185), (43, 26215), (45, 26236),

Gene: Candra_37 Start: 25146, Stop: 25688, Start Num: 8

Candidate Starts for Candra_37:

(1, 25002), (3, 25065), (Start: 6 @25110 has 10 MA's), (Start: 7 @25128 has 3 MA's), (Start: 8 @25146 has 16 MA's), (9, 25167), (12, 25209), (13, 25212), (15, 25251), (17, 25281), (19, 25317), (20, 25338), (23, 25404), (26, 25446), (28, 25476), (29, 25488), (31, 25494), (32, 25503), (33, 25521), (34, 25524), (37, 25542), (38, 25560), (40, 25578), (42, 25620), (43, 25650), (45, 25671),

Gene: CloudWang3_37 Start: 24840, Stop: 25427, Start Num: 4

Candidate Starts for CloudWang3_37:

(1, 24741), (3, 24804), (Start: 4 @24840 has 5 MA's), (Start: 6 @24849 has 10 MA's), (Start: 7 @24867 has 3 MA's), (Start: 8 @24885 has 16 MA's), (9, 24906), (12, 24948), (13, 24951), (15, 24990), (17, 25020), (19, 25056), (20, 25077), (23, 25143), (26, 25185), (28, 25215), (29, 25227), (31, 25233), (32, 25242), (33, 25260), (34, 25263), (37, 25281), (38, 25299), (40, 25317), (42, 25359), (43, 25389), (45, 25410),

Gene: DaVinci_37 Start: 25093, Stop: 25653, Start Num: 7

Candidate Starts for DaVinci_37:

(1, 24967), (3, 25030), (Start: 6 @25075 has 10 MA's), (Start: 7 @25093 has 3 MA's), (Start: 8 @25111 has 16 MA's), (9, 25132), (12, 25174), (13, 25177), (15, 25216), (17, 25246), (19, 25282), (20, 25303), (23, 25369), (26, 25411), (28, 25441), (29, 25453), (31, 25459), (32, 25468), (33, 25486), (34, 25489), (37, 25507), (38, 25525), (40, 25543), (42, 25585), (43, 25615), (45, 25636),

Gene: DeerParkTS_34 Start: 26427, Stop: 26972, Start Num: 8

Candidate Starts for DeerParkTS_34:

(Start: 6 @26391 has 10 MA's), (Start: 8 @26427 has 16 MA's), (9, 26448), (12, 26490), (13, 26493), (18, 26574), (19, 26598), (20, 26622), (21, 26628), (27, 26748), (29, 26772), (31, 26778), (32, 26787), (33, 26805), (38, 26844), (39, 26850), (40, 26862), (42, 26904), (43, 26934), (45, 26955), (46, 26958),

Gene: Deloris_33 Start: 26086, Stop: 26664, Start Num: 6

Candidate Starts for Deloris_33:

(Start: 6 @26086 has 10 MA's), (Start: 7 @26104 has 3 MA's), (Start: 8 @26122 has 16 MA's), (9, 26143), (10, 26170), (11, 26176), (13, 26188), (16, 26233), (19, 26293), (20, 26314), (23, 26380), (31,

26470), (32, 26479), (33, 26497), (38, 26536), (39, 26542), (40, 26554), (43, 26626), (45, 26647),

Gene: DelvinSonDorr_36 Start: 25104, Stop: 25646, Start Num: 8

Candidate Starts for DelvinSonDorr_36:

(Start: 4 @25059 has 5 MA's), (Start: 6 @25068 has 10 MA's), (Start: 7 @25086 has 3 MA's), (Start: 8 @25104 has 16 MA's), (9, 25125), (12, 25167), (13, 25170), (15, 25209), (17, 25239), (19, 25275), (20, 25296), (23, 25362), (26, 25404), (28, 25434), (29, 25446), (31, 25452), (32, 25461), (33, 25479), (34, 25482), (37, 25500), (38, 25518), (40, 25536), (42, 25578), (43, 25608), (45, 25629),

Gene: ExplosioNervosa_36 Start: 27111, Stop: 27653, Start Num: 8

Candidate Starts for ExplosioNervosa_36:

(Start: 6 @27075 has 10 MA's), (Start: 8 @27111 has 16 MA's), (9, 27132), (19, 27282), (20, 27303), (23, 27369), (25, 27402), (28, 27441), (31, 27459), (33, 27486), (38, 27525), (39, 27531), (42, 27585), (43, 27615), (44, 27627), (45, 27636), (46, 27639),

Gene: Flaverint_34 Start: 26114, Stop: 26692, Start Num: 6

Candidate Starts for Flaverint_34:

(Start: 6 @26114 has 10 MA's), (Start: 7 @26132 has 3 MA's), (Start: 8 @26150 has 16 MA's), (9, 26171), (11, 26204), (12, 26213), (13, 26216), (15, 26255), (17, 26285), (19, 26321), (20, 26342), (23, 26408), (28, 26480), (29, 26492), (31, 26498), (33, 26525), (34, 26528), (36, 26543), (37, 26546), (38, 26564), (39, 26570), (40, 26582), (42, 26624), (43, 26654), (45, 26675),

Gene: ForesterFrank_36 Start: 28004, Stop: 28585, Start Num: 6

Candidate Starts for ForesterFrank_36:

(Start: 6 @28004 has 10 MA's), (9, 28061), (12, 28103), (13, 28106), (18, 28187), (19, 28211), (21, 28241), (23, 28301), (29, 28385), (30, 28388), (31, 28391), (32, 28400), (33, 28418), (38, 28457), (40, 28475), (41, 28478), (43, 28547), (45, 28568),

Gene: Garak_38 Start: 25111, Stop: 25653, Start Num: 8

Candidate Starts for Garak_38:

(1, 24967), (3, 25030), (Start: 6 @25075 has 10 MA's), (Start: 7 @25093 has 3 MA's), (Start: 8 @25111 has 16 MA's), (9, 25132), (12, 25174), (13, 25177), (15, 25216), (17, 25246), (19, 25282), (20, 25303), (23, 25369), (26, 25411), (28, 25441), (29, 25453), (31, 25459), (32, 25468), (33, 25486), (34, 25489), (37, 25507), (38, 25525), (40, 25543), (42, 25585), (43, 25615), (45, 25636),

Gene: GreedyLawyer_37 Start: 25110, Stop: 25652, Start Num: 8

Candidate Starts for GreedyLawyer_37:

(1, 24966), (3, 25029), (Start: 6 @25074 has 10 MA's), (Start: 7 @25092 has 3 MA's), (Start: 8 @25110 has 16 MA's), (9, 25131), (12, 25173), (13, 25176), (15, 25215), (17, 25245), (19, 25281), (20, 25302), (23, 25368), (26, 25410), (28, 25440), (29, 25452), (31, 25458), (32, 25467), (33, 25485), (34, 25488), (37, 25506), (38, 25524), (40, 25542), (42, 25584), (43, 25614), (45, 25635),

Gene: Gruunaga_37 Start: 25099, Stop: 25641, Start Num: 8

Candidate Starts for Gruunaga_37:

(1, 24955), (3, 25018), (Start: 6 @25063 has 10 MA's), (Start: 8 @25099 has 16 MA's), (9, 25120), (12, 25162), (13, 25165), (15, 25204), (17, 25234), (19, 25270), (20, 25291), (23, 25357), (26, 25399), (28, 25429), (29, 25441), (31, 25447), (32, 25456), (33, 25474), (34, 25477), (37, 25495), (38, 25513), (40, 25531), (42, 25573), (43, 25603), (45, 25624),

Gene: Hexamo_37 Start: 24812, Stop: 25399, Start Num: 4

Candidate Starts for Hexamo_37:

(1, 24713), (3, 24776), (Start: 4 @24812 has 5 MA's), (Start: 6 @24821 has 10 MA's), (Start: 7 @24839 has 3 MA's), (Start: 8 @24857 has 16 MA's), (9, 24878), (12, 24920), (13, 24923), (15, 24962), (17,

24992), (19, 25028), (20, 25049), (23, 25115), (26, 25157), (28, 25187), (29, 25199), (31, 25205), (32, 25214), (33, 25232), (34, 25235), (37, 25253), (38, 25271), (39, 25277), (40, 25289), (42, 25331), (43, 25361), (45, 25382),

Gene: Hutc2_33 Start: 25667, Stop: 26245, Start Num: 6

Candidate Starts for Hutc2_33:

(Start: 6 @25667 has 10 MA's), (Start: 7 @25685 has 3 MA's), (Start: 8 @25703 has 16 MA's), (9, 25724), (11, 25757), (12, 25766), (13, 25769), (15, 25808), (17, 25838), (19, 25874), (20, 25895), (23, 25961), (28, 26033), (29, 26045), (31, 26051), (33, 26078), (34, 26081), (36, 26096), (37, 26099), (39, 26123), (40, 26135), (42, 26177), (43, 26207), (45, 26228),

Gene: Imbriano_36 Start: 25110, Stop: 25652, Start Num: 8

Candidate Starts for Imbriano_36:

(1, 24966), (3, 25029), (Start: 6 @25074 has 10 MA's), (Start: 7 @25092 has 3 MA's), (Start: 8 @25110 has 16 MA's), (9, 25131), (12, 25173), (13, 25176), (15, 25215), (17, 25245), (19, 25281), (20, 25302), (23, 25368), (26, 25410), (28, 25440), (29, 25452), (31, 25458), (32, 25467), (33, 25485), (34, 25488), (37, 25506), (40, 25542), (42, 25584), (43, 25614), (45, 25635),

Gene: Jabith_34 Start: 26172, Stop: 26750, Start Num: 6

Candidate Starts for Jabith_34:

(Start: 6 @26172 has 10 MA's), (Start: 7 @26190 has 3 MA's), (Start: 8 @26208 has 16 MA's), (9, 26229), (11, 26262), (12, 26271), (13, 26274), (15, 26313), (17, 26343), (19, 26379), (20, 26400), (23, 26466), (28, 26538), (29, 26550), (31, 26556), (33, 26583), (34, 26586), (37, 26604), (38, 26622), (39, 26628), (40, 26640), (42, 26682), (43, 26712), (45, 26733),

Gene: Kipper29_37 Start: 25110, Stop: 25652, Start Num: 8

Candidate Starts for Kipper29_37:

(1, 24966), (3, 25029), (Start: 6 @25074 has 10 MA's), (Start: 7 @25092 has 3 MA's), (Start: 8 @25110 has 16 MA's), (9, 25131), (12, 25173), (13, 25176), (15, 25215), (17, 25245), (19, 25281), (20, 25302), (23, 25368), (26, 25410), (28, 25440), (29, 25452), (31, 25458), (32, 25467), (33, 25485), (34, 25488), (37, 25506), (40, 25542), (42, 25584), (43, 25614), (45, 25635),

Gene: Lokk_37 Start: 27588, Stop: 28130, Start Num: 8

Candidate Starts for Lokk_37:

(Start: 6 @27552 has 10 MA's), (Start: 8 @27588 has 16 MA's), (9, 27609), (11, 27642), (13, 27654), (19, 27759), (20, 27780), (27, 27906), (29, 27930), (32, 27945), (33, 27963), (35, 27975), (38, 28002), (41, 28023), (42, 28062), (43, 28092), (45, 28113),

Gene: Mabel_34 Start: 26118, Stop: 26660, Start Num: 8

Candidate Starts for Mabel_34:

(Start: 6 @26082 has 10 MA's), (Start: 7 @26100 has 3 MA's), (Start: 8 @26118 has 16 MA's), (9, 26139), (11, 26172), (12, 26181), (13, 26184), (15, 26223), (17, 26253), (20, 26310), (23, 26376), (28, 26448), (29, 26460), (31, 26466), (33, 26493), (34, 26496), (36, 26511), (37, 26514), (38, 26532), (39, 26538), (40, 26550), (42, 26592), (43, 26622), (45, 26643),

Gene: Munch_34 Start: 26120, Stop: 26698, Start Num: 6

Candidate Starts for Munch_34:

(Start: 6 @26120 has 10 MA's), (Start: 7 @26138 has 3 MA's), (Start: 8 @26156 has 16 MA's), (9, 26177), (11, 26210), (12, 26219), (13, 26222), (15, 26261), (17, 26291), (19, 26327), (20, 26348), (23, 26414), (28, 26486), (29, 26498), (31, 26504), (33, 26531), (34, 26534), (37, 26552), (38, 26570), (39, 26576), (40, 26588), (42, 26630), (43, 26660), (45, 26681),

Gene: Neeharika16_37 Start: 25085, Stop: 25645, Start Num: 7

Candidate Starts for Neeharika16_37:

(1, 24959), (3, 25022), (Start: 6 @25067 has 10 MA's), (Start: 7 @25085 has 3 MA's), (Start: 8 @25103 has 16 MA's), (9, 25124), (12, 25166), (13, 25169), (15, 25208), (17, 25238), (19, 25274), (20, 25295), (23, 25361), (26, 25403), (28, 25433), (29, 25445), (31, 25451), (32, 25460), (33, 25478), (34, 25481), (37, 25499), (38, 25517), (40, 25535), (42, 25577), (43, 25607), (45, 25628),

Gene: Petersenfast_33 Start: 25704, Stop: 26246, Start Num: 8

Candidate Starts for Petersenfast_33:

(Start: 6 @25668 has 10 MA's), (Start: 7 @25686 has 3 MA's), (Start: 8 @25704 has 16 MA's), (9, 25725), (11, 25758), (12, 25767), (13, 25770), (15, 25809), (17, 25839), (19, 25875), (20, 25896), (23, 25962), (28, 26034), (29, 26046), (31, 26052), (33, 26079), (34, 26082), (36, 26097), (37, 26100), (38, 26118), (39, 26124), (40, 26136), (42, 26178), (43, 26208), (45, 26229),

Gene: Pioneer_36 Start: 27076, Stop: 27618, Start Num: 8

Candidate Starts for Pioneer_36:

(Start: 6 @27040 has 10 MA's), (Start: 8 @27076 has 16 MA's), (9, 27097), (19, 27247), (20, 27268), (23, 27334), (25, 27367), (28, 27406), (31, 27424), (33, 27451), (38, 27490), (39, 27496), (42, 27550), (43, 27580), (44, 27592), (45, 27601), (46, 27604),

Gene: Priamo_38 Start: 25149, Stop: 25691, Start Num: 8

Candidate Starts for Priamo_38:

(1, 25005), (3, 25068), (Start: 6 @25113 has 10 MA's), (Start: 7 @25131 has 3 MA's), (Start: 8 @25149 has 16 MA's), (9, 25170), (12, 25212), (13, 25215), (15, 25254), (17, 25284), (19, 25320), (20, 25341), (23, 25407), (26, 25449), (28, 25479), (29, 25491), (31, 25497), (32, 25506), (33, 25524), (34, 25527), (37, 25545), (38, 25563), (39, 25569), (40, 25581), (42, 25623), (43, 25653), (45, 25674),

Gene: RyeScarlet_37 Start: 27076, Stop: 27618, Start Num: 8

Candidate Starts for RyeScarlet_37:

(2, 26980), (5, 27037), (Start: 7 @27058 has 3 MA's), (Start: 8 @27076 has 16 MA's), (14, 27175), (20, 27268), (24, 27337), (25, 27367), (27, 27394), (35, 27463), (45, 27601),

Gene: Sachima_33 Start: 27052, Stop: 27594, Start Num: 8

Candidate Starts for Sachima_33:

(2, 26968), (5, 27013), (Start: 7 @27034 has 3 MA's), (Start: 8 @27052 has 16 MA's), (20, 27244), (22, 27292), (24, 27313), (25, 27343), (27, 27370), (35, 27439), (45, 27577),

Gene: Saskia_34 Start: 25865, Stop: 26443, Start Num: 6

Candidate Starts for Saskia_34:

(Start: 6 @25865 has 10 MA's), (Start: 7 @25883 has 3 MA's), (Start: 8 @25901 has 16 MA's), (9, 25922), (11, 25955), (12, 25964), (13, 25967), (15, 26006), (17, 26036), (19, 26072), (20, 26093), (23, 26159), (28, 26231), (29, 26243), (31, 26249), (33, 26276), (34, 26279), (36, 26294), (37, 26297), (38, 26315), (39, 26321), (40, 26333), (42, 26375), (43, 26405), (45, 26426),

Gene: Sham4_33 Start: 25667, Stop: 26245, Start Num: 6

Candidate Starts for Sham4_33:

(Start: 6 @25667 has 10 MA's), (Start: 7 @25685 has 3 MA's), (Start: 8 @25703 has 16 MA's), (9, 25724), (11, 25757), (12, 25766), (13, 25769), (15, 25808), (17, 25838), (19, 25874), (20, 25895), (23, 25961), (28, 26033), (29, 26045), (31, 26051), (33, 26078), (34, 26081), (36, 26096), (37, 26099), (38, 26117), (39, 26123), (40, 26135), (42, 26177), (43, 26207), (45, 26228),

Gene: SmellyB_37 Start: 25092, Stop: 25652, Start Num: 7

Candidate Starts for SmellyB_37:

(1, 24966), (3, 25029), (Start: 6 @25074 has 10 MA's), (Start: 7 @25092 has 3 MA's), (Start: 8 @25110 has 16 MA's), (9, 25131), (12, 25173), (13, 25176), (15, 25215), (17, 25245), (19, 25281), (20, 25302), (23, 25368), (26, 25410), (28, 25440), (29, 25452), (31, 25458), (32, 25467), (33, 25485), (34, 25488), (37, 25506), (38, 25524), (40, 25542), (42, 25584), (43, 25614), (45, 25635),

Gene: SuperCallie99_37 Start: 25102, Stop: 25644, Start Num: 8

Candidate Starts for SuperCallie99_37:

(1, 24958), (3, 25021), (Start: 6 @25066 has 10 MA's), (Start: 8 @25102 has 16 MA's), (9, 25123), (12, 25165), (13, 25168), (15, 25207), (17, 25237), (19, 25273), (20, 25294), (23, 25360), (26, 25402), (28, 25432), (29, 25444), (31, 25450), (32, 25459), (33, 25477), (34, 25480), (37, 25498), (38, 25516), (40, 25534), (42, 25576), (43, 25606), (45, 25627),

Gene: ToneTone_34 Start: 24815, Stop: 25357, Start Num: 8

Candidate Starts for ToneTone_34:

(1, 24671), (3, 24734), (Start: 6 @24779 has 10 MA's), (Start: 7 @24797 has 3 MA's), (Start: 8 @24815 has 16 MA's), (9, 24836), (12, 24878), (13, 24881), (15, 24920), (17, 24950), (19, 24986), (20, 25007), (23, 25073), (26, 25115), (28, 25145), (29, 25157), (31, 25163), (32, 25172), (33, 25190), (34, 25193), (37, 25211), (38, 25229), (40, 25247), (42, 25289), (43, 25319), (45, 25340),

Gene: Tucker_37 Start: 24901, Stop: 25443, Start Num: 8

Candidate Starts for Tucker_37:

(1, 24757), (3, 24820), (Start: 4 @24856 has 5 MA's), (Start: 6 @24865 has 10 MA's), (Start: 7 @24883 has 3 MA's), (Start: 8 @24901 has 16 MA's), (9, 24922), (12, 24964), (13, 24967), (15, 25006), (17, 25036), (19, 25072), (20, 25093), (23, 25159), (26, 25201), (28, 25231), (29, 25243), (31, 25249), (32, 25258), (33, 25276), (34, 25279), (37, 25297), (38, 25315), (40, 25333), (42, 25375), (43, 25405), (45, 25426),

Gene: Wiks_36 Start: 24883, Stop: 25425, Start Num: 8

Candidate Starts for Wiks_36:

(1, 24739), (3, 24802), (Start: 4 @24838 has 5 MA's), (Start: 6 @24847 has 10 MA's), (Start: 7 @24865 has 3 MA's), (Start: 8 @24883 has 16 MA's), (9, 24904), (12, 24946), (13, 24949), (15, 24988), (17, 25018), (19, 25054), (20, 25075), (23, 25141), (26, 25183), (28, 25213), (29, 25225), (31, 25231), (32, 25240), (33, 25258), (34, 25261), (37, 25279), (38, 25297), (40, 25315), (42, 25357), (43, 25387), (45, 25408),

Gene: Wolpertinger_32 Start: 25770, Stop: 26246, Start Num: 13

Candidate Starts for Wolpertinger_32:

(Start: 6 @25668 has 10 MA's), (Start: 7 @25686 has 3 MA's), (Start: 8 @25704 has 16 MA's), (9, 25725), (11, 25758), (12, 25767), (13, 25770), (15, 25809), (17, 25839), (19, 25875), (20, 25896), (23, 25962), (28, 26034), (29, 26046), (31, 26052), (33, 26079), (34, 26082), (36, 26097), (37, 26100), (38, 26118), (39, 26124), (40, 26136), (42, 26178), (43, 26208), (45, 26229),

Gene: Yokurt_37 Start: 24838, Stop: 25425, Start Num: 4

Candidate Starts for Yokurt_37:

(1, 24739), (3, 24802), (Start: 4 @24838 has 5 MA's), (Start: 6 @24847 has 10 MA's), (Start: 7 @24865 has 3 MA's), (Start: 8 @24883 has 16 MA's), (9, 24904), (12, 24946), (13, 24949), (15, 24988), (17, 25018), (19, 25054), (20, 25075), (23, 25141), (26, 25183), (28, 25213), (29, 25225), (31, 25231), (32, 25240), (33, 25258), (34, 25261), (37, 25279), (38, 25297), (40, 25315), (42, 25357), (43, 25387), (45, 25408),

Gene: Zaka_37 Start: 24838, Stop: 25425, Start Num: 4

Candidate Starts for Zaka_37:

(1, 24739), (3, 24802), (Start: 4 @24838 has 5 MA's), (Start: 6 @24847 has 10 MA's), (Start: 7 @24865 has 3 MA's), (Start: 8 @24883 has 16 MA's), (9, 24904), (12, 24946), (13, 24949), (15, 24988), (17, 25018), (19, 25054), (20, 25075), (23, 25141), (26, 25183), (28, 25213), (29, 25225), (31, 25231), (32, 25240), (33, 25258), (34, 25261), (37, 25279), (38, 25297), (40, 25315), (42, 25357), (43, 25387), (45, 25408),