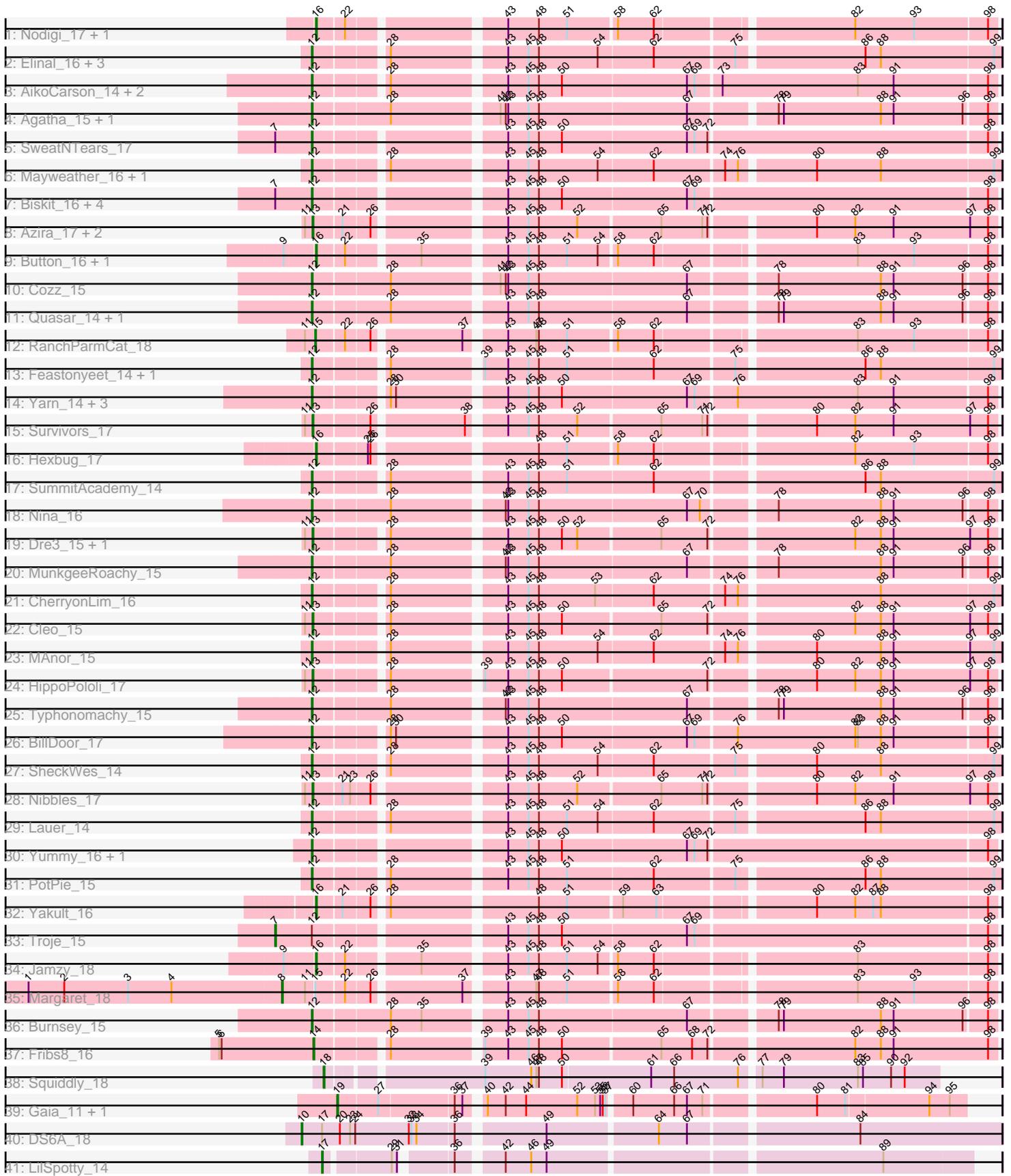# Pham 283800

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 283800 Report

This analysis was run 02/23/26 on database version 636.

Pham number 283800 has 64 members, 0 are drafts.

Phages represented in each track:
• Track 1 : Nodigi_17, Orla_17
• Track 2 : Elinal_16, Yucky_15, KayGee_15, Vine_16
• Track 3 : AikoCarson_14, Emalyn_14, Amok_14
• Track 4 : Agatha_15, Axym_15
• Track 5 : SweatNTears_17
• Track 6 : Mayweather_16, Pons_15
• Track 7 : Biskit_16, Buttrmlkdreams_15, SketchMex_14, MScarn_17, Blondies_16
• Track 8 : Azira_17, MaVan_17, Zareef_17
• Track 9 : Button_16, GiKK_18
• Track 10 : Cozz_15
• Track 11 : Quasar_14, Bubble_15
• Track 12 : RanchParmCat_18
• Track 13 : Feastonyeet_14, BigChungus_14
• Track 14 : Yarn_14, SteamedHams_17, Tolls_17, AndPeggy_14
• Track 15 : Survivors_17
• Track 16 : Hexbug_17
• Track 17 : SummitAcademy_14
• Track 18 : Nina_16
• Track 19 : Dre3_15, Gibbous_15
• Track 20 : MunkgeeRoachy_15
• Track 21 : CherryonLim_16
• Track 22 : Cleo_15
• Track 23 : MAnor_15
• Track 24 : HippoPololi_17
• Track 25 : Typhonomachy_15
• Track 26 : BillDoor_17
• Track 27 : SheckWes_14
• Track 28 : Nibbles_17
• Track 29 : Lauer_14
• Track 30 : Yummy_16, Horseradish_16
• Track 31 : PotPie_15
• Track 32 : Yakult_16
• Track 33 : Troje_15
• Track 34 : Jamzy_18
• Track 35 : Margaret_18
• Track 36 : Burnsey_15
• Track 37 : Fribs8_16

- Track 38 : Squiddly_18
- Track 39 : Gaia_11, Nebkiss_12
- Track 40 : DS6A_18
- Track 41 : LilSpotty_14

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

The start number called the most often in the published annotations is 12, it was called in 39 of the 64 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
- Agatha_15, AikoCarson_14, Amok_14, AndPeggy_14, Axym_15, BigChungus_14, BillDoor_17, Biskit_16, Blondies_16, Bubble_15, Burnsey_15, Buttrmlkdreams_15, CherryonLim_16, Cozz_15, Elinal_16, Emalyn_14, Feastonyeet_14, Horseradish_16, KayGee_15, Lauer_14, MAnor_15, MScarn_17, Mayweather_16, MunkgeeRoachy_15, Nina_16, Pons_15, PotPie_15, Quasar_14, SheckWes_14, SketchMex_14, SteamedHams_17, SummitAcademy_14, SweatNTears_17, Tolls_17, Typhonomachy_15, Vine_16, Yarn_14, Yucky_15, Yummy_16,

Genes that have the "Most Annotated" start but do not call it:
- Troje_15,

Genes that do not have the "Most Annotated" start:
- Azira_17, Button_16, Cleo_15, DS6A_18, Dre3_15, Fribs8_16, Gaia_11, GiKK_18, Gibbous_15, Hexbug_17, HippoPololi_17, Jamzy_18, LilSpotty_14, MaVan_17, Margaret_18, Nebkiss_12, Nibbles_17, Nodigi_17, Orla_17, RanchParmCat_18, Squiddly_18, Survivors_17, Yakult_16, Zareef_17,

Summary by start number:

Start 7:
- Found in 7 of 64 (10.9%) of genes in pham
- Manual Annotations of this start: 1 of 64
- Called 14.3% of time when present
- Phage (with cluster) where this start called: Troje_15 (CT),

Start 8:
- Found in 1 of 64 (1.6%) of genes in pham
- Manual Annotations of this start: 1 of 64
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Margaret_18 (CT),

Start 10:
- Found in 1 of 64 (1.6%) of genes in pham
- Manual Annotations of this start: 1 of 64
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DS6A_18 (singleton),

Start 12:
- Found in 40 of 64 (62.5%) of genes in pham

- Manual Annotations of this start: 39 of 64
- Called 97.5% of time when present
- Phage (with cluster) where this start called: Agatha_15 (CT), AikoCarson_14 (CT), Amok_14 (CT), AndPeggy_14 (CT), Axym_15 (CT), BigChungus_14 (CT), BillDoor_17 (CT), Biskit_16 (CT), Blondies_16 (CT), Bubble_15 (CT), Burnsey_15 (CT), Buttrmlkdreams_15 (CT), CherryonLim_16 (CT), Cozz_15 (CT), Elinal_16 (CT), Emalyn_14 (CT), Feastonyeet_14 (CT), Horseradish_16 (CT), KayGee_15 (CT), Lauer_14 (CT), MAnor_15 (CT), MScarn_17 (CT), Mayweather_16 (CT), MunkgeeRoachy_15 (CT), Nina_16 (CT), Pons_15 (CT), PotPie_15 (CT), Quasar_14 (CT), SheckWes_14 (CT), SketchMex_14 (CT), SteamedHams_17 (CT), SummitAcademy_14 (CT), SweatNTears_17 (CT), Tolls_17 (CT), Typhonomachy_15 (CT), Vine_16 (CT), Yarn_14 (CT), Yucky_15 (CT), Yummy_16 (CT),

Start 13:
- Found in 9 of 64 (14.1%) of genes in pham
- Manual Annotations of this start: 9 of 64
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Azira_17 (CT), Cleo_15 (CT), Dre3_15 (CT), Gibbous_15 (CT), HippoPololi_17 (CT), MaVan_17 (CT), Nibbles_17 (CT), Survivors_17 (CT), Zareef_17 (CT),

Start 14:
- Found in 1 of 64 (1.6%) of genes in pham
- Manual Annotations of this start: 1 of 64
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Fribs8_16 (CT),

Start 15:
- Found in 2 of 64 (3.1%) of genes in pham
- Manual Annotations of this start: 1 of 64
- Called 50.0% of time when present
- Phage (with cluster) where this start called: RanchParmCat_18 (CT),

Start 16:
- Found in 7 of 64 (10.9%) of genes in pham
- Manual Annotations of this start: 7 of 64
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Button_16 (CT), GiKK_18 (CT), Hexbug_17 (CT), Jamzy_18 (CT), Nodigi_17 (CT), Orla_17 (CT), Yakult_16 (CT),

Start 17:
- Found in 2 of 64 (3.1%) of genes in pham
- Manual Annotations of this start: 1 of 64
- Called 50.0% of time when present
- Phage (with cluster) where this start called: LilSpotty_14 (singleton),

Start 18:
- Found in 1 of 64 (1.6%) of genes in pham
- Manual Annotations of this start: 1 of 64
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Squiddly_18 (DN2),

Start 19:

• Found in 2 of 64 (3.1%) of genes in pham
• Manual Annotations of this start: 2 of 64
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Gaia_11 (X), Nebkiss_12 (X),

Summary by clusters:

There are 4 clusters represented in this pham: X, singleton, DN2, CT,

Info for manual annotations of cluster CT:
•Start number 7 was manually annotated 1 time for cluster CT.
•Start number 8 was manually annotated 1 time for cluster CT.
•Start number 12 was manually annotated 39 times for cluster CT.
•Start number 13 was manually annotated 9 times for cluster CT.
•Start number 14 was manually annotated 1 time for cluster CT.
•Start number 15 was manually annotated 1 time for cluster CT.
•Start number 16 was manually annotated 7 times for cluster CT.

Info for manual annotations of cluster DN2:
•Start number 18 was manually annotated 1 time for cluster DN2.

Info for manual annotations of cluster X:
•Start number 19 was manually annotated 2 times for cluster X.

Gene Information:

Gene: Agatha_15 Start: 8885, Stop: 9639, Start Num: 12
Candidate Starts for Agatha_15:
(Start: 12 @8885 has 39 MA's), (28, 8969), (41, 9083), (42, 9089), (43, 9092), (45, 9116), (48, 9128), (67, 9299), (78, 9389), (79, 9395), (88, 9509), (91, 9524), (96, 9605), (98, 9629),

Gene: AikoCarson_14 Start: 8613, Stop: 9367, Start Num: 12
Candidate Starts for AikoCarson_14:
(Start: 12 @8613 has 39 MA's), (28, 8685), (43, 8808), (45, 8832), (48, 8844), (50, 8871), (67, 9015), (69, 9024), (73, 9051), (83, 9210), (91, 9252), (98, 9357),

Gene: Amok_14 Start: 8613, Stop: 9367, Start Num: 12
Candidate Starts for Amok_14:
(Start: 12 @8613 has 39 MA's), (28, 8685), (43, 8808), (45, 8832), (48, 8844), (50, 8871), (67, 9015), (69, 9024), (73, 9051), (83, 9210), (91, 9252), (98, 9357),

Gene: AndPeggy_14 Start: 8901, Stop: 9655, Start Num: 12
Candidate Starts for AndPeggy_14:
(Start: 12 @8901 has 39 MA's), (28, 8973), (30, 8979), (43, 9096), (45, 9120), (48, 9132), (50, 9159), (67, 9303), (69, 9312), (76, 9357), (83, 9498), (91, 9540), (98, 9645),

Gene: Axym_15 Start: 8885, Stop: 9639, Start Num: 12
Candidate Starts for Axym_15:
(Start: 12 @8885 has 39 MA's), (28, 8969), (41, 9083), (42, 9089), (43, 9092), (45, 9116), (48, 9128), (67, 9299), (78, 9389), (79, 9395), (88, 9509), (91, 9524), (96, 9605), (98, 9629),

Gene: Azira_17 Start: 9884, Stop: 10629, Start Num: 13
Candidate Starts for Azira_17:
(11, 9875), (Start: 13 @9884 has 9 MA's), (21, 9914), (26, 9944), (43, 10079), (45, 10103), (48, 10115), (52, 10160), (65, 10253), (71, 10301), (72, 10307), (80, 10418), (82, 10463), (91, 10508), (97, 10598), (98, 10619),

Gene: BigChungus_14 Start: 8662, Stop: 9410, Start Num: 12
Candidate Starts for BigChungus_14:
(Start: 12 @8662 has 39 MA's), (28, 8734), (39, 8830), (43, 8857), (45, 8881), (48, 8893), (51, 8926), (62, 9025), (75, 9115), (86, 9256), (88, 9274), (99, 9403),

Gene: BillDoor_17 Start: 8866, Stop: 9620, Start Num: 12
Candidate Starts for BillDoor_17:
(Start: 12 @8866 has 39 MA's), (28, 8938), (30, 8944), (43, 9061), (45, 9085), (48, 9097), (50, 9124), (67, 9268), (69, 9277), (76, 9322), (82, 9460), (83, 9463), (88, 9490), (91, 9505), (98, 9610),

Gene: Biskit_16 Start: 8872, Stop: 9626, Start Num: 12
Candidate Starts for Biskit_16:
(Start: 7 @8830 has 1 MA's), (Start: 12 @8872 has 39 MA's), (43, 9067), (45, 9091), (48, 9103), (50, 9130), (67, 9274), (69, 9283), (98, 9616),

Gene: Blondies_16 Start: 8858, Stop: 9612, Start Num: 12
Candidate Starts for Blondies_16:
(Start: 7 @8816 has 1 MA's), (Start: 12 @8858 has 39 MA's), (43, 9053), (45, 9077), (48, 9089), (50, 9116), (67, 9260), (69, 9269), (98, 9602),

Gene: Bubble_15 Start: 8885, Stop: 9639, Start Num: 12
Candidate Starts for Bubble_15:
(Start: 12 @8885 has 39 MA's), (28, 8969), (43, 9092), (45, 9116), (48, 9128), (67, 9299), (78, 9389), (79, 9395), (88, 9509), (91, 9524), (96, 9605), (98, 9629),

Gene: Burnsey_15 Start: 8886, Stop: 9640, Start Num: 12
Candidate Starts for Burnsey_15:
(Start: 12 @8886 has 39 MA's), (28, 8970), (35, 9006), (43, 9093), (45, 9117), (48, 9129), (67, 9300), (78, 9390), (79, 9396), (88, 9510), (91, 9525), (96, 9606), (98, 9630),

Gene: Button_16 Start: 8897, Stop: 9627, Start Num: 16
Candidate Starts for Button_16:
(9, 8864), (Start: 16 @8897 has 7 MA's), (22, 8927), (35, 9002), (43, 9089), (45, 9113), (48, 9125), (51, 9158), (54, 9194), (58, 9212), (62, 9254), (83, 9470), (93, 9536), (98, 9617),

Gene: Buttrmlkdreams_15 Start: 8857, Stop: 9611, Start Num: 12
Candidate Starts for Buttrmlkdreams_15:
(Start: 7 @8815 has 1 MA's), (Start: 12 @8857 has 39 MA's), (43, 9052), (45, 9076), (48, 9088), (50, 9115), (67, 9259), (69, 9268), (98, 9601),

Gene: CherryonLim_16 Start: 9392, Stop: 10140, Start Num: 12
Candidate Starts for CherryonLim_16:
(Start: 12 @9392 has 39 MA's), (28, 9464), (43, 9587), (45, 9611), (48, 9623), (53, 9689), (62, 9755), (74, 9833), (76, 9848), (88, 10004), (99, 10133),

Gene: Cleo_15 Start: 9174, Stop: 9919, Start Num: 13
Candidate Starts for Cleo_15:

(11, 9165), (Start: 13 @9174 has 9 MA's), (28, 9246), (43, 9369), (45, 9393), (48, 9405), (50, 9432), (65, 9543), (72, 9597), (82, 9753), (88, 9783), (91, 9798), (97, 9888), (98, 9909),

Gene: Cozz_15 Start: 8886, Stop: 9640, Start Num: 12
Candidate Starts for Cozz_15:
(Start: 12 @8886 has 39 MA's), (28, 8970), (41, 9084), (42, 9090), (43, 9093), (45, 9117), (48, 9129), (67, 9300), (78, 9390), (88, 9510), (91, 9525), (96, 9606), (98, 9630),

Gene: DS6A_18 Start: 11578, Stop: 12356, Start Num: 10
Candidate Starts for DS6A_18:
(Start: 10 @11578 has 1 MA's), (Start: 17 @11602 has 1 MA's), (20, 11623), (23, 11635), (24, 11641), (32, 11704), (33, 11707), (34, 11713), (36, 11755), (49, 11848), (64, 11971), (67, 12004), (84, 12190),

Gene: Dre3_15 Start: 9121, Stop: 9866, Start Num: 13
Candidate Starts for Dre3_15:
(11, 9112), (Start: 13 @9121 has 9 MA's), (28, 9193), (43, 9316), (45, 9340), (48, 9352), (50, 9379), (52, 9397), (65, 9490), (72, 9544), (82, 9700), (88, 9730), (91, 9745), (97, 9835), (98, 9856),

Gene: Elinal_16 Start: 8643, Stop: 9391, Start Num: 12
Candidate Starts for Elinal_16:
(Start: 12 @8643 has 39 MA's), (28, 8715), (43, 8838), (45, 8862), (48, 8874), (54, 8943), (62, 9006), (75, 9096), (86, 9237), (88, 9255), (99, 9384),

Gene: Emalyn_14 Start: 8612, Stop: 9366, Start Num: 12
Candidate Starts for Emalyn_14:
(Start: 12 @8612 has 39 MA's), (28, 8684), (43, 8807), (45, 8831), (48, 8843), (50, 8870), (67, 9014), (69, 9023), (73, 9050), (83, 9209), (91, 9251), (98, 9356),

Gene: Feastonyeet_14 Start: 8662, Stop: 9410, Start Num: 12
Candidate Starts for Feastonyeet_14:
(Start: 12 @8662 has 39 MA's), (28, 8734), (39, 8830), (43, 8857), (45, 8881), (48, 8893), (51, 8926), (62, 9025), (75, 9115), (86, 9256), (88, 9274), (99, 9403),

Gene: Fribs8_16 Start: 9689, Stop: 10434, Start Num: 14
Candidate Starts for Fribs8_16:
(5, 9578), (6, 9581), (Start: 14 @9689 has 1 MA's), (28, 9761), (39, 9857), (43, 9884), (45, 9908), (48, 9920), (50, 9947), (65, 10058), (68, 10094), (72, 10112), (82, 10268), (88, 10298), (91, 10313), (98, 10424),

Gene: Gaia_11 Start: 8760, Stop: 9442, Start Num: 19
Candidate Starts for Gaia_11:
(Start: 19 @8760 has 2 MA's), (27, 8805), (36, 8889), (37, 8898), (40, 8913), (42, 8934), (44, 8958), (52, 9018), (53, 9039), (55, 9045), (56, 9048), (57, 9051), (60, 9075), (66, 9123), (67, 9138), (71, 9156), (80, 9273), (81, 9306), (94, 9399), (95, 9423),

Gene: GiKK_18 Start: 9200, Stop: 9930, Start Num: 16
Candidate Starts for GiKK_18:
(9, 9167), (Start: 16 @9200 has 7 MA's), (22, 9230), (35, 9305), (43, 9392), (45, 9416), (48, 9428), (51, 9461), (54, 9497), (58, 9515), (62, 9557), (83, 9773), (93, 9839), (98, 9920),

Gene: Gibbous_15 Start: 9121, Stop: 9866, Start Num: 13
Candidate Starts for Gibbous_15:

(11, 9112), (Start: 13 @9121 has 9 MA's), (28, 9193), (43, 9316), (45, 9340), (48, 9352), (50, 9379), (52, 9397), (65, 9490), (72, 9544), (82, 9700), (88, 9730), (91, 9745), (97, 9835), (98, 9856),

Gene: Hexbug_17 Start: 9883, Stop: 10613, Start Num: 16
Candidate Starts for Hexbug_17:
(Start: 16 @9883 has 7 MA's), (25, 9937), (26, 9940), (48, 10111), (51, 10144), (58, 10198), (62, 10240), (82, 10453), (93, 10522), (98, 10603),

Gene: HippoPololi_17 Start: 9778, Stop: 10523, Start Num: 13
Candidate Starts for HippoPololi_17:
(11, 9769), (Start: 13 @9778 has 9 MA's), (28, 9850), (39, 9946), (43, 9973), (45, 9997), (48, 10009), (50, 10036), (72, 10201), (80, 10312), (82, 10357), (88, 10387), (91, 10402), (97, 10492), (98, 10513),

Gene: Horseradish_16 Start: 8771, Stop: 9525, Start Num: 12
Candidate Starts for Horseradish_16:
(Start: 12 @8771 has 39 MA's), (43, 8966), (45, 8990), (48, 9002), (50, 9029), (67, 9173), (69, 9182), (72, 9197), (98, 9515),

Gene: Jamzy_18 Start: 9210, Stop: 9940, Start Num: 16
Candidate Starts for Jamzy_18:
(9, 9177), (Start: 16 @9210 has 7 MA's), (22, 9240), (35, 9315), (43, 9402), (45, 9426), (48, 9438), (51, 9471), (54, 9507), (58, 9525), (62, 9567), (83, 9783), (98, 9930),

Gene: KayGee_15 Start: 8643, Stop: 9391, Start Num: 12
Candidate Starts for KayGee_15:
(Start: 12 @8643 has 39 MA's), (28, 8715), (43, 8838), (45, 8862), (48, 8874), (54, 8943), (62, 9006), (75, 9096), (86, 9237), (88, 9255), (99, 9384),

Gene: Lauer_14 Start: 8692, Stop: 9440, Start Num: 12
Candidate Starts for Lauer_14:
(Start: 12 @8692 has 39 MA's), (28, 8764), (43, 8887), (45, 8911), (48, 8923), (51, 8956), (54, 8992), (62, 9055), (75, 9145), (86, 9286), (88, 9304), (99, 9433),

Gene: LilSpotty_14 Start: 8433, Stop: 9124, Start Num: 17
Candidate Starts for LilSpotty_14:
(Start: 17 @8433 has 1 MA's), (29, 8502), (31, 8508), (36, 8559), (42, 8604), (46, 8634), (49, 8652), (89, 9021),

Gene: MAnor_15 Start: 8635, Stop: 9383, Start Num: 12
Candidate Starts for MAnor_15:
(Start: 12 @8635 has 39 MA's), (28, 8707), (43, 8830), (45, 8854), (48, 8866), (54, 8935), (62, 8998), (74, 9076), (76, 9091), (80, 9172), (88, 9247), (91, 9262), (97, 9349), (99, 9376),

Gene: MScarn_17 Start: 8857, Stop: 9611, Start Num: 12
Candidate Starts for MScarn_17:
(Start: 7 @8815 has 1 MA's), (Start: 12 @8857 has 39 MA's), (43, 9052), (45, 9076), (48, 9088), (50, 9115), (67, 9259), (69, 9268), (98, 9601),

Gene: MaVan_17 Start: 9884, Stop: 10629, Start Num: 13
Candidate Starts for MaVan_17:
(11, 9875), (Start: 13 @9884 has 9 MA's), (21, 9914), (26, 9944), (43, 10079), (45, 10103), (48, 10115), (52, 10160), (65, 10253), (71, 10301), (72, 10307), (80, 10418), (82, 10463), (91, 10508), (97, 10598), (98, 10619),

Gene: Margaret_18 Start: 9558, Stop: 10321, Start Num: 8
Candidate Starts for Margaret_18:
(1, 9264), (2, 9306), (3, 9381), (4, 9432), (Start: 8 @9558 has 1 MA's), (11, 9582), (Start: 15 @9591 has 1 MA's), (22, 9621), (26, 9648), (37, 9744), (43, 9783), (47, 9816), (48, 9819), (51, 9852), (58, 9906), (62, 9948), (83, 10164), (93, 10230), (98, 10311),

Gene: Mayweather_16 Start: 9265, Stop: 10013, Start Num: 12
Candidate Starts for Mayweather_16:
(Start: 12 @9265 has 39 MA's), (28, 9337), (43, 9460), (45, 9484), (48, 9496), (54, 9565), (62, 9628), (74, 9706), (76, 9721), (80, 9802), (88, 9877), (99, 10006),

Gene: MunkgeeRoachy_15 Start: 8933, Stop: 9687, Start Num: 12
Candidate Starts for MunkgeeRoachy_15:
(Start: 12 @8933 has 39 MA's), (28, 9017), (42, 9137), (43, 9140), (45, 9164), (48, 9176), (67, 9347), (78, 9437), (88, 9557), (91, 9572), (96, 9653), (98, 9677),

Gene: Nebkiss_12 Start: 8761, Stop: 9443, Start Num: 19
Candidate Starts for Nebkiss_12:
(Start: 19 @8761 has 2 MA's), (27, 8806), (36, 8890), (37, 8899), (40, 8914), (42, 8935), (44, 8959), (52, 9019), (53, 9040), (55, 9046), (56, 9049), (57, 9052), (60, 9076), (66, 9124), (67, 9139), (71, 9157), (80, 9274), (81, 9307), (94, 9400), (95, 9424),

Gene: Nibbles_17 Start: 9884, Stop: 10629, Start Num: 13
Candidate Starts for Nibbles_17:
(11, 9875), (Start: 13 @9884 has 9 MA's), (21, 9914), (23, 9923), (26, 9944), (43, 10079), (45, 10103), (48, 10115), (52, 10160), (65, 10253), (71, 10301), (72, 10307), (80, 10418), (82, 10463), (91, 10508), (97, 10598), (98, 10619),

Gene: Nina_16 Start: 9918, Stop: 10672, Start Num: 12
Candidate Starts for Nina_16:
(Start: 12 @9918 has 39 MA's), (28, 10002), (42, 10122), (43, 10125), (45, 10149), (48, 10161), (67, 10332), (70, 10347), (78, 10422), (88, 10542), (91, 10557), (96, 10638), (98, 10662),

Gene: Nodigi_17 Start: 9874, Stop: 10604, Start Num: 16
Candidate Starts for Nodigi_17:
(Start: 16 @9874 has 7 MA's), (22, 9904), (43, 10066), (48, 10102), (51, 10135), (58, 10189), (62, 10231), (82, 10444), (93, 10513), (98, 10594),

Gene: Orla_17 Start: 9878, Stop: 10608, Start Num: 16
Candidate Starts for Orla_17:
(Start: 16 @9878 has 7 MA's), (22, 9908), (43, 10070), (48, 10106), (51, 10139), (58, 10193), (62, 10235), (82, 10448), (93, 10517), (98, 10598),

Gene: Pons_15 Start: 8643, Stop: 9391, Start Num: 12
Candidate Starts for Pons_15:
(Start: 12 @8643 has 39 MA's), (28, 8715), (43, 8838), (45, 8862), (48, 8874), (54, 8943), (62, 9006), (74, 9084), (76, 9099), (80, 9180), (88, 9255), (99, 9384),

Gene: PotPie_15 Start: 9496, Stop: 10244, Start Num: 12
Candidate Starts for PotPie_15:
(Start: 12 @9496 has 39 MA's), (28, 9568), (43, 9691), (45, 9715), (48, 9727), (51, 9760), (62, 9859), (75, 9949), (86, 10090), (88, 10108), (99, 10237),

Gene: Quasar_14 Start: 9494, Stop: 10248, Start Num: 12
Candidate Starts for Quasar_14:
(Start: 12 @9494 has 39 MA's), (28, 9578), (43, 9701), (45, 9725), (48, 9737), (67, 9908), (78, 9998), (79, 10004), (88, 10118), (91, 10133), (96, 10214), (98, 10238),

Gene: RanchParmCat_18 Start: 9591, Stop: 10321, Start Num: 15
Candidate Starts for RanchParmCat_18:
(11, 9582), (Start: 15 @9591 has 1 MA's), (22, 9621), (26, 9648), (37, 9744), (43, 9783), (47, 9816), (48, 9819), (51, 9852), (58, 9906), (62, 9948), (83, 10164), (93, 10230), (98, 10311),

Gene: SheckWes_14 Start: 8631, Stop: 9379, Start Num: 12
Candidate Starts for SheckWes_14:
(Start: 12 @8631 has 39 MA's), (28, 8703), (43, 8826), (45, 8850), (48, 8862), (54, 8931), (62, 8994), (75, 9084), (80, 9168), (88, 9243), (99, 9372),

Gene: SketchMex_14 Start: 8872, Stop: 9626, Start Num: 12
Candidate Starts for SketchMex_14:
(Start: 7 @8830 has 1 MA's), (Start: 12 @8872 has 39 MA's), (43, 9067), (45, 9091), (48, 9103), (50, 9130), (67, 9274), (69, 9283), (98, 9616),

Gene: Squiddly_18 Start: 9737, Stop: 10419, Start Num: 18
Candidate Starts for Squiddly_18:
(Start: 18 @9737 has 1 MA's), (39, 9902), (46, 9956), (47, 9962), (48, 9965), (50, 9992), (61, 10094), (66, 10121), (76, 10196), (77, 10214), (79, 10238), (83, 10325), (85, 10331), (90, 10364), (92, 10379),

Gene: SteamedHams_17 Start: 8902, Stop: 9656, Start Num: 12
Candidate Starts for SteamedHams_17:
(Start: 12 @8902 has 39 MA's), (28, 8974), (30, 8980), (43, 9097), (45, 9121), (48, 9133), (50, 9160), (67, 9304), (69, 9313), (76, 9358), (83, 9499), (91, 9541), (98, 9646),

Gene: SummitAcademy_14 Start: 8711, Stop: 9459, Start Num: 12
Candidate Starts for SummitAcademy_14:
(Start: 12 @8711 has 39 MA's), (28, 8783), (43, 8906), (45, 8930), (48, 8942), (51, 8975), (62, 9074), (86, 9305), (88, 9323), (99, 9452),

Gene: Survivors_17 Start: 9739, Stop: 10484, Start Num: 13
Candidate Starts for Survivors_17:
(11, 9730), (Start: 13 @9739 has 9 MA's), (26, 9799), (38, 9898), (43, 9934), (45, 9958), (48, 9970), (52, 10015), (65, 10108), (71, 10156), (72, 10162), (80, 10273), (82, 10318), (91, 10363), (97, 10453), (98, 10474),

Gene: SweatNTears_17 Start: 9383, Stop: 10137, Start Num: 12
Candidate Starts for SweatNTears_17:
(Start: 7 @9341 has 1 MA's), (Start: 12 @9383 has 39 MA's), (43, 9578), (45, 9602), (48, 9614), (50, 9641), (67, 9785), (69, 9794), (72, 9809), (98, 10127),

Gene: Tolls_17 Start: 8905, Stop: 9659, Start Num: 12
Candidate Starts for Tolls_17:
(Start: 12 @8905 has 39 MA's), (28, 8977), (30, 8983), (43, 9100), (45, 9124), (48, 9136), (50, 9163), (67, 9307), (69, 9316), (76, 9361), (83, 9502), (91, 9544), (98, 9649),

Gene: Troje_15 Start: 8815, Stop: 9611, Start Num: 7

Candidate Starts for Troje_15:
(Start: 7 @8815 has 1 MA's), (Start: 12 @8857 has 39 MA's), (43, 9052), (45, 9076), (48, 9088), (50, 9115), (67, 9259), (69, 9268), (98, 9601),

Gene: Typhonomachy_15 Start: 8885, Stop: 9639, Start Num: 12
Candidate Starts for Typhonomachy_15:
(Start: 12 @8885 has 39 MA's), (28, 8969), (42, 9089), (43, 9092), (45, 9116), (48, 9128), (67, 9299), (78, 9389), (79, 9395), (88, 9509), (91, 9524), (96, 9605), (98, 9629),

Gene: Vine_16 Start: 9640, Stop: 10388, Start Num: 12
Candidate Starts for Vine_16:
(Start: 12 @9640 has 39 MA's), (28, 9712), (43, 9835), (45, 9859), (48, 9871), (54, 9940), (62, 10003), (75, 10093), (86, 10234), (88, 10252), (99, 10381),

Gene: Yakult_16 Start: 8776, Stop: 9506, Start Num: 16
Candidate Starts for Yakult_16:
(Start: 16 @8776 has 7 MA's), (21, 8803), (26, 8833), (28, 8845), (48, 9004), (51, 9037), (59, 9097), (63, 9136), (80, 9301), (82, 9346), (87, 9367), (88, 9376), (98, 9496),

Gene: Yarn_14 Start: 8895, Stop: 9649, Start Num: 12
Candidate Starts for Yarn_14:
(Start: 12 @8895 has 39 MA's), (28, 8967), (30, 8973), (43, 9090), (45, 9114), (48, 9126), (50, 9153), (67, 9297), (69, 9306), (76, 9351), (83, 9492), (91, 9534), (98, 9639),

Gene: Yucky_15 Start: 9500, Stop: 10248, Start Num: 12
Candidate Starts for Yucky_15:
(Start: 12 @9500 has 39 MA's), (28, 9572), (43, 9695), (45, 9719), (48, 9731), (54, 9800), (62, 9863), (75, 9953), (86, 10094), (88, 10112), (99, 10241),

Gene: Yummy_16 Start: 8771, Stop: 9525, Start Num: 12
Candidate Starts for Yummy_16:
(Start: 12 @8771 has 39 MA's), (43, 8966), (45, 8990), (48, 9002), (50, 9029), (67, 9173), (69, 9182), (72, 9197), (98, 9515),

Gene: Zareef_17 Start: 9885, Stop: 10630, Start Num: 13
Candidate Starts for Zareef_17:
(11, 9876), (Start: 13 @9885 has 9 MA's), (21, 9915), (26, 9945), (43, 10080), (45, 10104), (48, 10116), (52, 10161), (65, 10254), (71, 10302), (72, 10308), (80, 10419), (82, 10464), (91, 10509), (97, 10599), (98, 10620),