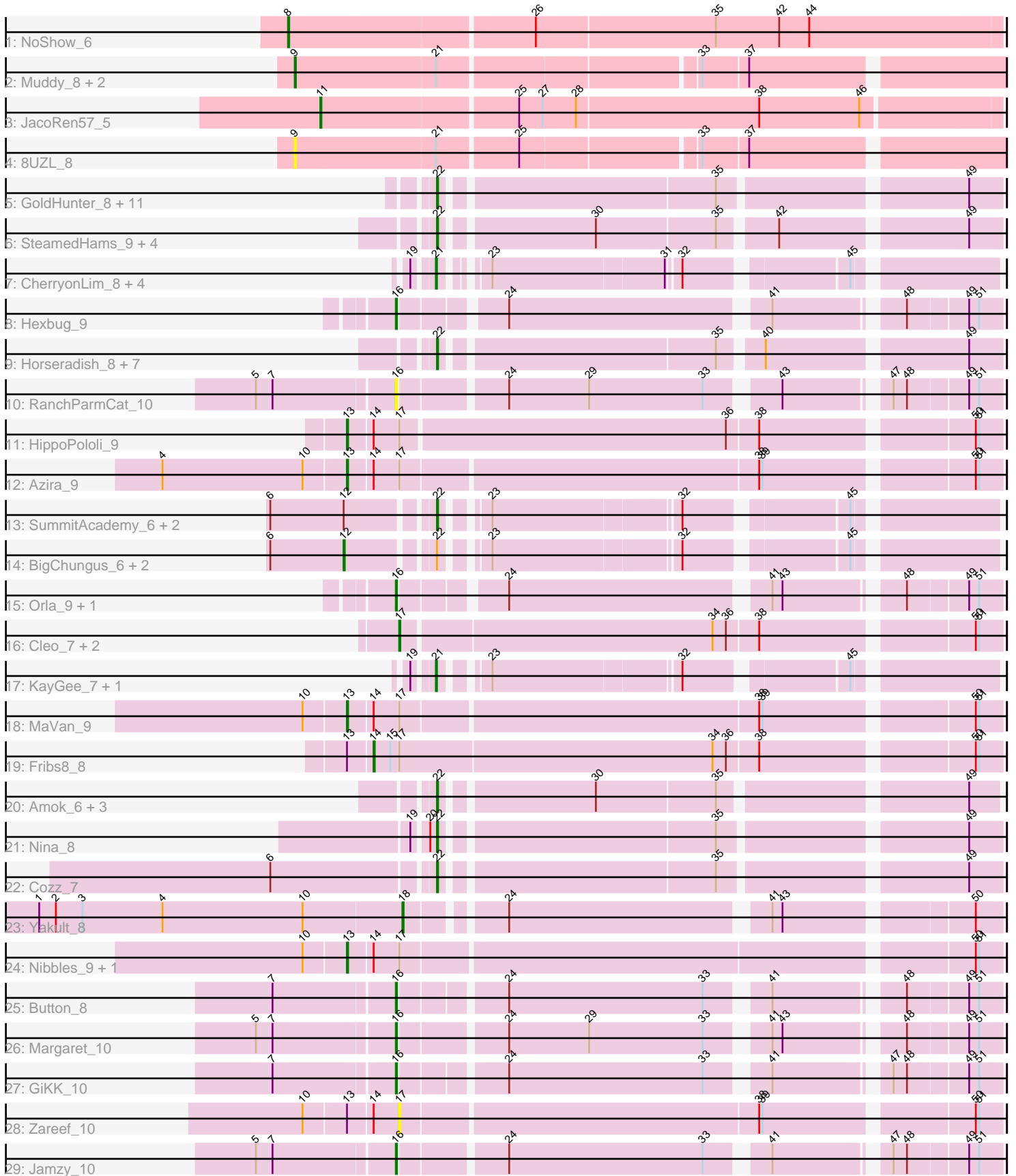


Pham 196517



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 196517 Report

This analysis was run 12/09/24 on database version 580.

Pham number 196517 has 69 members, 12 are drafts.

Phages represented in each track:

- Track 1 : NoShow_6
- Track 2 : Muddy_8, Maco6_6, FF47_08
- Track 3 : JacoRen57_5
- Track 4 : 8UZL_8
- Track 5 : GoldHunter_8, RedBaron_8, Quasar_7, Sopespian_7, Agatha_7, Elliott_7, PsychoKiller_7, Burnsey_7, Typhonmarchy_8, MunkgeeRoachy_7, Carsonalex_8, Axym_7
- Track 6 : SteamedHams_9, Tolls_9, AndPeggy_6, BillDoor_9, Yarn_6
- Track 7 : CherryonLim_8, SheckWes_6, MAnor_7, Mayweather_8, Pons_7
- Track 8 : Hexbug_9
- Track 9 : Horseradish_8, SweatNTears_9, Biskit_8, MScarn_9, Troje_7, Buttrmilkdreams_7, SketchMex_6, Yummy_8
- Track 10 : RanchParmCat_10
- Track 11 : HippoPololi_9
- Track 12 : Azira_9
- Track 13 : SummitAcademy_6, Vine_8, PotPie_7
- Track 14 : BigChungus_6, Lauer_6, Feastonyeet_6
- Track 15 : Orla_9, Nodigi_9
- Track 16 : Cleo_7, Gibbous_7, Dre3_7
- Track 17 : KayGee_7, Elinal_8
- Track 18 : MaVan_9
- Track 19 : Fribs8_8
- Track 20 : Amok_6, Emalyn_6, GTE2_05, AikoCarson_6
- Track 21 : Nina_8
- Track 22 : Cozz_7
- Track 23 : Yakult_8
- Track 24 : Nibbles_9, Survivors_9
- Track 25 : Button_8
- Track 26 : Margaret_10
- Track 27 : GiKK_10
- Track 28 : Zareef_10
- Track 29 : Jamzy_10

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

The start number called the most often in the published annotations is 22, it was called in 26 of the 57 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Agatha_7, AikoCarson_6, Amok_6, AndPeggy_6, Axym_7, BillDoor_9, Biskit_8, Burnsey_7, Buttrmlkdreams_7, Carsonalex_8, Cozz_7, Elliott_7, Emalyn_6, GTE2_05, GoldHunter_8, Horseradish_8, MScarn_9, MunkgeeRoachy_7, Nina_8, PotPie_7, PsychoKiller_7, Quasar_7, RedBaron_8, SketchMex_6, Sopespian_7, SteamedHams_9, SummitAcademy_6, SweatNTears_9, Tolls_9, Troje_7, Typhonomachy_8, Vine_8, Yarn_6, Yummy_8,

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

- BigChungus_6, Feastonyeet_6, Lauer_6,

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

- 8UZL_8, Azira_9, Button_8, CherryonLim_8, Cleo_7, Dre3_7, Elinal_8, FF47_08, Fribs8_8, GiKK_10, Gibbous_7, Hexbug_9, HippoPololi_9, JacoRen57_5, Jamzy_10, KayGee_7, MAnor_7, MaVan_9, Maco6_6, Margaret_10, Mayweather_8, Muddy_8, Nibbles_9, NoShow_6, Nodigi_9, Orla_9, Pons_7, RanchParmCat_10, SheckWes_6, Survivors_9, Yakult_8, Zareef_10,

Summary by start number:

Start 8:

- Found in 1 of 69 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 57
- Called 100.0% of time when present
- Phage (with cluster) where this start called: NoShow_6 (AB),

Start 9:

- Found in 4 of 69 (5.8%) of genes in pham
- Manual Annotations of this start: 2 of 57
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 8UZL_8 (AB), FF47_08 (AB), Maco6_6 (AB), Muddy_8 (AB),

Start 11:

- Found in 1 of 69 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 57
- Called 100.0% of time when present
- Phage (with cluster) where this start called: JacoRen57_5 (AB),

Start 12:

- Found in 6 of 69 (8.7%) of genes in pham
- Manual Annotations of this start: 3 of 57
- Called 50.0% of time when present
- Phage (with cluster) where this start called: BigChungus_6 (CT), Feastonyeet_6 (CT), Lauer_6 (CT),

Start 13:

- Found in 7 of 69 (10.1%) of genes in pham
- Manual Annotations of this start: 5 of 57

- Called 71.4% of time when present
- Phage (with cluster) where this start called: Azira_9 (CT), HippoPololi_9 (CT), MaVan_9 (CT), Nibbles_9 (CT), Survivors_9 (CT),

Start 14:

- Found in 7 of 69 (10.1%) of genes in pham
- Manual Annotations of this start: 1 of 57
- Called 14.3% of time when present
- Phage (with cluster) where this start called: Fribs8_8 (CT),

Start 16:

- Found in 8 of 69 (11.6%) of genes in pham
- Manual Annotations of this start: 7 of 57
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Button_8 (CT), GiKK_10 (CT), Hexbug_9 (CT), Jamzy_10 (CT), Margaret_10 (CT), Nodigi_9 (CT), Orla_9 (CT), RanchParmCat_10 (CT),

Start 17:

- Found in 10 of 69 (14.5%) of genes in pham
- Manual Annotations of this start: 3 of 57
- Called 40.0% of time when present
- Phage (with cluster) where this start called: Cleo_7 (CT), Dre3_7 (CT), Gibbous_7 (CT), Zareef_10 (CT),

Start 18:

- Found in 1 of 69 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 57
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Yakult_8 (CT),

Start 21:

- Found in 11 of 69 (15.9%) of genes in pham
- Manual Annotations of this start: 7 of 57
- Called 63.6% of time when present
- Phage (with cluster) where this start called: CherryonLim_8 (CT), Elinal_8 (CT), KayGee_7 (CT), MAnor_7 (CT), Mayweather_8 (CT), Pons_7 (CT), SheckWes_6 (CT),

Start 22:

- Found in 37 of 69 (53.6%) of genes in pham
- Manual Annotations of this start: 26 of 57
- Called 91.9% of time when present
- Phage (with cluster) where this start called: Agatha_7 (CT), AikoCarson_6 (CT), Amok_6 (CT), AndPeggy_6 (CT), Axym_7 (CT), BillDoor_9 (CT), Biskit_8 (CT), Burnsey_7 (CT), Buttrmikedreams_7 (CT), Carsonalex_8 (CT), Cozz_7 (CT), Elliott_7 (CT), Emalyn_6 (CT), GTE2_05 (CT), GoldHunter_8 (CT), Horseradish_8 (CT), MScarn_9 (CT), MunkgeeRoachy_7 (CT), Nina_8 (CT), PotPie_7 (CT), PsychoKiller_7 (CT), Quasar_7 (CT), RedBaron_8 (CT), SketchMex_6 (CT), Sopespian_7 (CT), SteamedHams_9 (CT), SummitAcademy_6 (CT), SweatNTears_9 (CT), Tolls_9 (CT), Troje_7 (CT), Typhonmarchy_8 (CT), Vine_8 (CT), Yarn_6 (CT), Yummy_8 (CT),

Summary by clusters:

There are 2 clusters represented in this pham: AB, CT,

Info for manual annotations of cluster AB:

- Start number 8 was manually annotated 1 time for cluster AB.
- Start number 9 was manually annotated 2 times for cluster AB.
- Start number 11 was manually annotated 1 time for cluster AB.

Info for manual annotations of cluster CT:

- Start number 12 was manually annotated 3 times for cluster CT.
- Start number 13 was manually annotated 5 times for cluster CT.
- Start number 14 was manually annotated 1 time for cluster CT.
- Start number 16 was manually annotated 7 times for cluster CT.
- Start number 17 was manually annotated 3 times for cluster CT.
- Start number 18 was manually annotated 1 time for cluster CT.
- Start number 21 was manually annotated 7 times for cluster CT.
- Start number 22 was manually annotated 26 times for cluster CT.

Gene Information:

Gene: 8UZL_8 Start: 5809, Stop: 6405, Start Num: 9

Candidate Starts for 8UZL_8:

(Start: 9 @5809 has 2 MA's), (Start: 21 @5932 has 7 MA's), (25, 6001), (33, 6151), (37, 6190),

Gene: Agatha_7 Start: 4894, Stop: 5358, Start Num: 22

Candidate Starts for Agatha_7:

(Start: 22 @4894 has 26 MA's), (35, 5125), (49, 5329),

Gene: AikoCarson_6 Start: 4622, Stop: 5080, Start Num: 22

Candidate Starts for AikoCarson_6:

(Start: 22 @4622 has 26 MA's), (30, 4748), (35, 4853), (49, 5054),

Gene: Amok_6 Start: 4623, Stop: 5081, Start Num: 22

Candidate Starts for Amok_6:

(Start: 22 @4623 has 26 MA's), (30, 4749), (35, 4854), (49, 5055),

Gene: AndPeggy_6 Start: 4931, Stop: 5392, Start Num: 22

Candidate Starts for AndPeggy_6:

(Start: 22 @4931 has 26 MA's), (30, 5057), (35, 5162), (42, 5207), (49, 5363),

Gene: Axym_7 Start: 4894, Stop: 5358, Start Num: 22

Candidate Starts for Axym_7:

(Start: 22 @4894 has 26 MA's), (35, 5125), (49, 5329),

Gene: Azira_9 Start: 5719, Stop: 6273, Start Num: 13

Candidate Starts for Azira_9:

(4, 5557), (10, 5683), (Start: 13 @5719 has 5 MA's), (Start: 14 @5740 has 1 MA's), (Start: 17 @5761 has 3 MA's), (38, 6073), (39, 6076), (50, 6250), (51, 6253),

Gene: BigChungus_6 Start: 4593, Stop: 5096, Start Num: 12

Candidate Starts for BigChungus_6:
(6, 4527), (Start: 12 @4593 has 3 MA's), (Start: 22 @4662 has 26 MA's), (23, 4692), (32, 4851), (45, 4980),

Gene: BillDoor_9 Start: 4896, Stop: 5357, Start Num: 22
Candidate Starts for BillDoor_9:
(Start: 22 @4896 has 26 MA's), (30, 5022), (35, 5127), (42, 5172), (49, 5328),

Gene: Biskit_8 Start: 4888, Stop: 5349, Start Num: 22
Candidate Starts for Biskit_8:
(Start: 22 @4888 has 26 MA's), (35, 5119), (40, 5152), (49, 5320),

Gene: Burnsey_7 Start: 4894, Stop: 5358, Start Num: 22
Candidate Starts for Burnsey_7:
(Start: 22 @4894 has 26 MA's), (35, 5125), (49, 5329),

Gene: Button_8 Start: 4950, Stop: 5435, Start Num: 16
Candidate Starts for Button_8:
(7, 4845), (Start: 16 @4950 has 7 MA's), (24, 5034), (33, 5208), (41, 5253), (48, 5355), (49, 5406), (51, 5415),

Gene: Buttrmlkdreams_7 Start: 4889, Stop: 5350, Start Num: 22
Candidate Starts for Buttrmlkdreams_7:
(Start: 22 @4889 has 26 MA's), (35, 5120), (40, 5153), (49, 5321),

Gene: Carsonalex_8 Start: 4951, Stop: 5415, Start Num: 22
Candidate Starts for Carsonalex_8:
(Start: 22 @4951 has 26 MA's), (35, 5182), (49, 5386),

Gene: CherryonLim_8 Start: 5387, Stop: 5818, Start Num: 21
Candidate Starts for CherryonLim_8:
(19, 5372), (Start: 21 @5387 has 7 MA's), (23, 5414), (31, 5564), (32, 5573), (45, 5702),

Gene: Cleo_7 Start: 5059, Stop: 5571, Start Num: 17
Candidate Starts for Cleo_7:
(Start: 17 @5059 has 3 MA's), (34, 5332), (36, 5344), (38, 5371), (50, 5548), (51, 5551),

Gene: Cozz_7 Start: 4895, Stop: 5359, Start Num: 22
Candidate Starts for Cozz_7:
(6, 4757), (Start: 22 @4895 has 26 MA's), (35, 5126), (49, 5330),

Gene: Dre3_7 Start: 5006, Stop: 5518, Start Num: 17
Candidate Starts for Dre3_7:
(Start: 17 @5006 has 3 MA's), (34, 5279), (36, 5291), (38, 5318), (50, 5495), (51, 5498),

Gene: Elinal_8 Start: 4639, Stop: 5073, Start Num: 21
Candidate Starts for Elinal_8:
(19, 4624), (Start: 21 @4639 has 7 MA's), (23, 4669), (32, 4828), (45, 4957),

Gene: Elliott_7 Start: 4894, Stop: 5358, Start Num: 22
Candidate Starts for Elliott_7:
(Start: 22 @4894 has 26 MA's), (35, 5125), (49, 5329),

Gene: Emalyn_6 Start: 4622, Stop: 5080, Start Num: 22
Candidate Starts for Emalyn_6:
(Start: 22 @4622 has 26 MA's), (30, 4748), (35, 4853), (49, 5054),

Gene: FF47_08 Start: 5790, Stop: 6386, Start Num: 9
Candidate Starts for FF47_08:
(Start: 9 @5790 has 2 MA's), (Start: 21 @5913 has 7 MA's), (33, 6132), (37, 6171),

Gene: Feastonyeet_6 Start: 4593, Stop: 5096, Start Num: 12
Candidate Starts for Feastonyeet_6:
(6, 4527), (Start: 12 @4593 has 3 MA's), (Start: 22 @4662 has 26 MA's), (23, 4692), (32, 4851), (45, 4980),

Gene: Fribs8_8 Start: 5534, Stop: 6073, Start Num: 14
Candidate Starts for Fribs8_8:
(Start: 13 @5513 has 5 MA's), (Start: 14 @5534 has 1 MA's), (15, 5549), (Start: 17 @5555 has 3 MA's), (34, 5834), (36, 5846), (38, 5873), (50, 6050), (51, 6053),

Gene: GTE2_05 Start: 4581, Stop: 5042, Start Num: 22
Candidate Starts for GTE2_05:
(Start: 22 @4581 has 26 MA's), (30, 4707), (35, 4812), (49, 5013),

Gene: GiKK_10 Start: 5253, Stop: 5738, Start Num: 16
Candidate Starts for GiKK_10:
(7, 5148), (Start: 16 @5253 has 7 MA's), (24, 5337), (33, 5511), (41, 5556), (47, 5646), (48, 5658), (49, 5709), (51, 5718),

Gene: Gibbous_7 Start: 5006, Stop: 5518, Start Num: 17
Candidate Starts for Gibbous_7:
(Start: 17 @5006 has 3 MA's), (34, 5279), (36, 5291), (38, 5318), (50, 5495), (51, 5498),

Gene: GoldHunter_8 Start: 4894, Stop: 5358, Start Num: 22
Candidate Starts for GoldHunter_8:
(Start: 22 @4894 has 26 MA's), (35, 5125), (49, 5329),

Gene: Hexbug_9 Start: 5939, Stop: 6421, Start Num: 16
Candidate Starts for Hexbug_9:
(Start: 16 @5939 has 7 MA's), (24, 6020), (41, 6239), (48, 6341), (49, 6392), (51, 6401),

Gene: HippoPololi_9 Start: 5605, Stop: 6162, Start Num: 13
Candidate Starts for HippoPololi_9:
(Start: 13 @5605 has 5 MA's), (Start: 14 @5626 has 1 MA's), (Start: 17 @5647 has 3 MA's), (36, 5935), (38, 5962), (50, 6139), (51, 6142),

Gene: Horseradish_8 Start: 4795, Stop: 5256, Start Num: 22
Candidate Starts for Horseradish_8:
(Start: 22 @4795 has 26 MA's), (35, 5026), (40, 5059), (49, 5227),

Gene: JacoRen57_5 Start: 4850, Stop: 5443, Start Num: 11
Candidate Starts for JacoRen57_5:
(Start: 11 @4850 has 1 MA's), (25, 5021), (27, 5042), (28, 5072), (38, 5234), (46, 5324),

Gene: Jamzy_10 Start: 5261, Stop: 5749, Start Num: 16

Candidate Starts for Jamzy_10:

(5, 5141), (7, 5156), (Start: 16 @5261 has 7 MA's), (24, 5348), (33, 5522), (41, 5567), (47, 5657), (48, 5669), (49, 5720), (51, 5729),

Gene: KayGee_7 Start: 4639, Stop: 5073, Start Num: 21

Candidate Starts for KayGee_7:

(19, 4624), (Start: 21 @4639 has 7 MA's), (23, 4669), (32, 4828), (45, 4957),

Gene: Lauer_6 Start: 4623, Stop: 5126, Start Num: 12

Candidate Starts for Lauer_6:

(6, 4557), (Start: 12 @4623 has 3 MA's), (Start: 22 @4692 has 26 MA's), (23, 4722), (32, 4881), (45, 5010),

Gene: MAnor_7 Start: 4636, Stop: 5067, Start Num: 21

Candidate Starts for MAnor_7:

(19, 4621), (Start: 21 @4636 has 7 MA's), (23, 4663), (31, 4813), (32, 4822), (45, 4951),

Gene: MScarn_9 Start: 4889, Stop: 5350, Start Num: 22

Candidate Starts for MScarn_9:

(Start: 22 @4889 has 26 MA's), (35, 5120), (40, 5153), (49, 5321),

Gene: MaVan_9 Start: 5719, Stop: 6273, Start Num: 13

Candidate Starts for MaVan_9:

(10, 5683), (Start: 13 @5719 has 5 MA's), (Start: 14 @5740 has 1 MA's), (Start: 17 @5761 has 3 MA's), (38, 6073), (39, 6076), (50, 6250), (51, 6253),

Gene: Maco6_6 Start: 5069, Stop: 5665, Start Num: 9

Candidate Starts for Maco6_6:

(Start: 9 @5069 has 2 MA's), (Start: 21 @5192 has 7 MA's), (33, 5411), (37, 5450),

Gene: Margaret_10 Start: 5637, Stop: 6125, Start Num: 16

Candidate Starts for Margaret_10:

(5, 5517), (7, 5532), (Start: 16 @5637 has 7 MA's), (24, 5724), (29, 5796), (33, 5898), (41, 5943), (43, 5952), (48, 6045), (49, 6096), (51, 6105),

Gene: Mayweather_8 Start: 5257, Stop: 5688, Start Num: 21

Candidate Starts for Mayweather_8:

(19, 5242), (Start: 21 @5257 has 7 MA's), (23, 5284), (31, 5434), (32, 5443), (45, 5572),

Gene: Muddy_8 Start: 6022, Stop: 6618, Start Num: 9

Candidate Starts for Muddy_8:

(Start: 9 @6022 has 2 MA's), (Start: 21 @6145 has 7 MA's), (33, 6364), (37, 6403),

Gene: MunkgeeRoachy_7 Start: 4942, Stop: 5406, Start Num: 22

Candidate Starts for MunkgeeRoachy_7:

(Start: 22 @4942 has 26 MA's), (35, 5173), (49, 5377),

Gene: Nibbles_9 Start: 5719, Stop: 6273, Start Num: 13

Candidate Starts for Nibbles_9:

(10, 5683), (Start: 13 @5719 has 5 MA's), (Start: 14 @5740 has 1 MA's), (Start: 17 @5761 has 3 MA's), (50, 6250), (51, 6253),

Gene: Nina_8 Start: 5928, Stop: 6392, Start Num: 22

Candidate Starts for Nina_8:

(19, 5910), (20, 5922), (Start: 22 @5928 has 26 MA's), (35, 6159), (49, 6363),

Gene: NoShow_6 Start: 5050, Stop: 5676, Start Num: 8

Candidate Starts for NoShow_6:

(Start: 8 @5050 has 1 MA's), (26, 5263), (35, 5422), (42, 5479), (44, 5506),

Gene: Nodigi_9 Start: 5940, Stop: 6416, Start Num: 16

Candidate Starts for Nodigi_9:

(Start: 16 @5940 has 7 MA's), (24, 6015), (41, 6234), (43, 6243), (48, 6336), (49, 6387), (51, 6396),

Gene: Orla_9 Start: 5939, Stop: 6421, Start Num: 16

Candidate Starts for Orla_9:

(Start: 16 @5939 has 7 MA's), (24, 6020), (41, 6239), (43, 6248), (48, 6341), (49, 6392), (51, 6401),

Gene: Pons_7 Start: 4636, Stop: 5067, Start Num: 21

Candidate Starts for Pons_7:

(19, 4621), (Start: 21 @4636 has 7 MA's), (23, 4663), (31, 4813), (32, 4822), (45, 4951),

Gene: PotPie_7 Start: 5496, Stop: 5930, Start Num: 22

Candidate Starts for PotPie_7:

(6, 5361), (Start: 12 @5427 has 3 MA's), (Start: 22 @5496 has 26 MA's), (23, 5526), (32, 5685), (45, 5814),

Gene: PsychoKiller_7 Start: 4894, Stop: 5358, Start Num: 22

Candidate Starts for PsychoKiller_7:

(Start: 22 @4894 has 26 MA's), (35, 5125), (49, 5329),

Gene: Quasar_7 Start: 5515, Stop: 5979, Start Num: 22

Candidate Starts for Quasar_7:

(Start: 22 @5515 has 26 MA's), (35, 5746), (49, 5950),

Gene: RanchParmCat_10 Start: 5637, Stop: 6125, Start Num: 16

Candidate Starts for RanchParmCat_10:

(5, 5517), (7, 5532), (Start: 16 @5637 has 7 MA's), (24, 5724), (29, 5796), (33, 5898), (43, 5952), (47, 6033), (48, 6045), (49, 6096), (51, 6105),

Gene: RedBaron_8 Start: 4939, Stop: 5403, Start Num: 22

Candidate Starts for RedBaron_8:

(Start: 22 @4939 has 26 MA's), (35, 5170), (49, 5374),

Gene: SheckWes_6 Start: 4636, Stop: 5067, Start Num: 21

Candidate Starts for SheckWes_6:

(19, 4621), (Start: 21 @4636 has 7 MA's), (23, 4663), (31, 4813), (32, 4822), (45, 4951),

Gene: SketchMex_6 Start: 4888, Stop: 5349, Start Num: 22

Candidate Starts for SketchMex_6:

(Start: 22 @4888 has 26 MA's), (35, 5119), (40, 5152), (49, 5320),

Gene: Sopespian_7 Start: 4894, Stop: 5358, Start Num: 22

Candidate Starts for Sopespian_7:

(Start: 22 @4894 has 26 MA's), (35, 5125), (49, 5329),

Gene: SteamedHams_9 Start: 4931, Stop: 5392, Start Num: 22
Candidate Starts for SteamedHams_9:
(Start: 22 @4931 has 26 MA's), (30, 5057), (35, 5162), (42, 5207), (49, 5363),

Gene: SummitAcademy_6 Start: 4711, Stop: 5145, Start Num: 22
Candidate Starts for SummitAcademy_6:
(6, 4576), (Start: 12 @4642 has 3 MA's), (Start: 22 @4711 has 26 MA's), (23, 4741), (32, 4900), (45, 5029),

Gene: Survivors_9 Start: 5573, Stop: 6127, Start Num: 13
Candidate Starts for Survivors_9:
(10, 5537), (Start: 13 @5573 has 5 MA's), (Start: 14 @5594 has 1 MA's), (Start: 17 @5615 has 3 MA's), (50, 6104), (51, 6107),

Gene: SweatNTears_9 Start: 5415, Stop: 5876, Start Num: 22
Candidate Starts for SweatNTears_9:
(Start: 22 @5415 has 26 MA's), (35, 5646), (40, 5679), (49, 5847),

Gene: Tolls_9 Start: 4935, Stop: 5396, Start Num: 22
Candidate Starts for Tolls_9:
(Start: 22 @4935 has 26 MA's), (30, 5061), (35, 5166), (42, 5211), (49, 5367),

Gene: Troje_7 Start: 4889, Stop: 5350, Start Num: 22
Candidate Starts for Troje_7:
(Start: 22 @4889 has 26 MA's), (35, 5120), (40, 5153), (49, 5321),

Gene: Typhonomachy_8 Start: 4894, Stop: 5358, Start Num: 22
Candidate Starts for Typhonomachy_8:
(Start: 22 @4894 has 26 MA's), (35, 5125), (49, 5329),

Gene: Vine_8 Start: 5635, Stop: 6069, Start Num: 22
Candidate Starts for Vine_8:
(6, 5500), (Start: 12 @5566 has 3 MA's), (Start: 22 @5635 has 26 MA's), (23, 5665), (32, 5824), (45, 5953),

Gene: Yakult_8 Start: 4830, Stop: 5309, Start Num: 18
Candidate Starts for Yakult_8:
(1, 4506), (2, 4521), (3, 4545), (4, 4617), (10, 4743), (Start: 18 @4830 has 1 MA's), (24, 4905), (41, 5124), (43, 5133), (50, 5286),

Gene: Yarn_6 Start: 4925, Stop: 5386, Start Num: 22
Candidate Starts for Yarn_6:
(Start: 22 @4925 has 26 MA's), (30, 5051), (35, 5156), (42, 5201), (49, 5357),

Gene: Yummy_8 Start: 4795, Stop: 5256, Start Num: 22
Candidate Starts for Yummy_8:
(Start: 22 @4795 has 26 MA's), (35, 5026), (40, 5059), (49, 5227),

Gene: Zareef_10 Start: 5762, Stop: 6274, Start Num: 17
Candidate Starts for Zareef_10:
(10, 5684), (Start: 13 @5720 has 5 MA's), (Start: 14 @5741 has 1 MA's), (Start: 17 @5762 has 3 MA's), (38, 6074), (39, 6077), (50, 6251), (51, 6254),