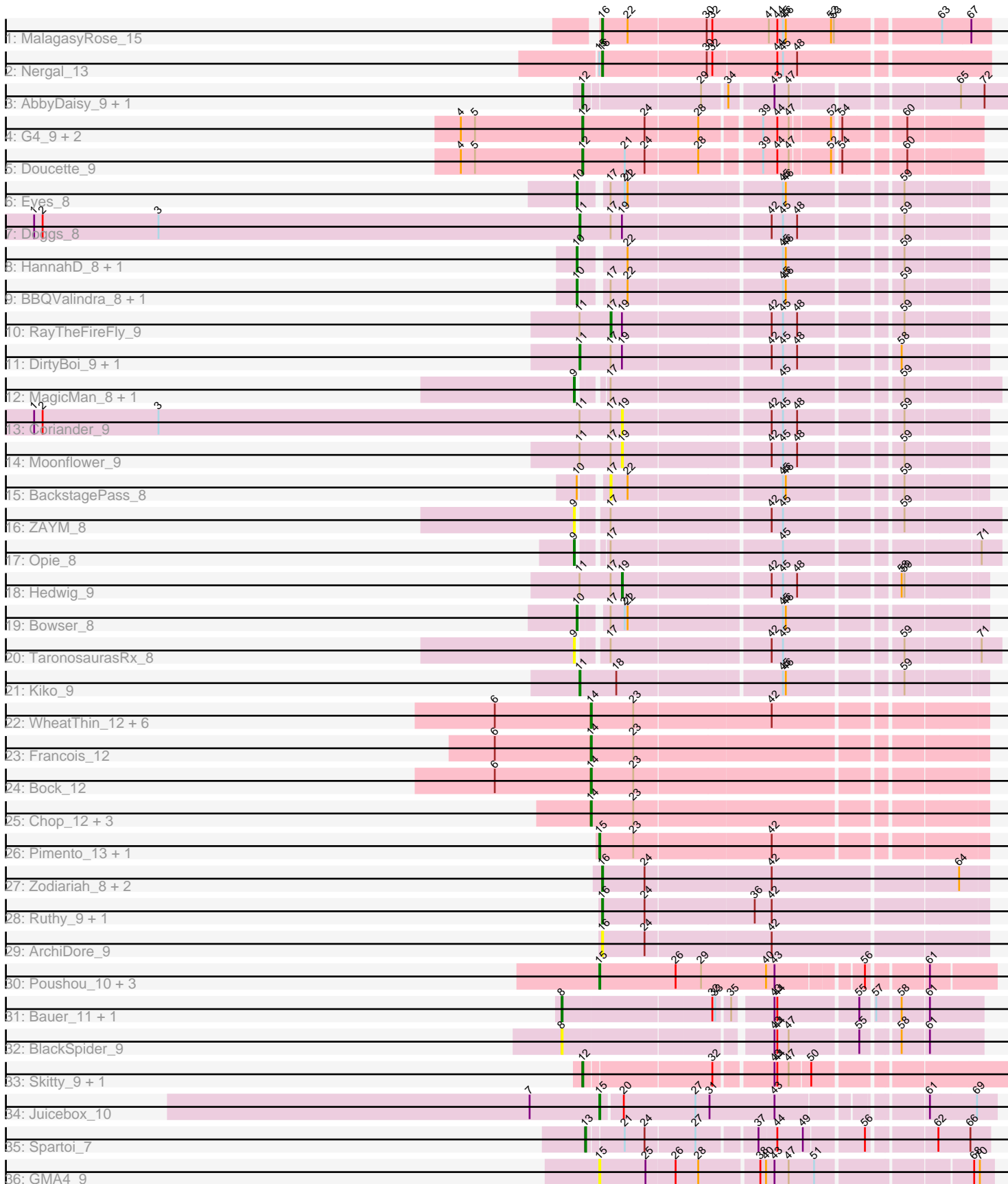


Pham 216176



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 216176 Report

This analysis was run 02/22/25 on database version 588.

Pham number 216176 has 61 members, 12 are drafts.

Phages represented in each track:

- Track 1 : MalagasyRose_15
- Track 2 : Nergal_13
- Track 3 : AbbyDaisy_9, Raqqa_9
- Track 4 : G4_9, B22_9, E6_10
- Track 5 : Doucette_9
- Track 6 : Eyes_8
- Track 7 : Doggs_8
- Track 8 : HannahD_8, GEazy_8
- Track 9 : BBQValindra_8, Bunker_8
- Track 10 : RayTheFireFly_9
- Track 11 : DirtyBoi_9, Dmitri_9
- Track 12 : MagicMan_8, Schnabeltier_8
- Track 13 : Coriander_9
- Track 14 : Moonflower_9
- Track 15 : BackstagePass_8
- Track 16 : ZAYM_8
- Track 17 : Opie_8
- Track 18 : Hedwig_9
- Track 19 : Bowser_8
- Track 20 : TaronosaurusRx_8
- Track 21 : Kiko_9
- Track 22 : WheatThin_12, Nadeem_12, BetterKatz_12, Brylie_12, Mulch_12, NancyRae_12, Parada_12
- Track 23 : Francois_12
- Track 24 : Bock_12
- Track 25 : Chop_12, Hamood_12, Ayotoya_12, GrandSlam_12
- Track 26 : Pimento_13, DelRio_13
- Track 27 : Zodiariah_8, Malibo_8, MakCheese_8
- Track 28 : Ruthy_9, DumpsterDude_9
- Track 29 : ArchiDore_9
- Track 30 : Poushou_10, Arianna_10, Colleen_10, TouchMeNot_10
- Track 31 : Bauer_11, Zucker_10
- Track 32 : BlackSpider_9
- Track 33 : Skitty_9, MrSmee_8
- Track 34 : Juicebox_10
- Track 35 : Spartoi_7
- Track 36 : GMA4_9

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

The start number called the most often in the published annotations is 14, it was called in 13 of the 49 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Ayotoya_12, BetterKatz_12, Bock_12, Brylie_12, Chop_12, Francois_12, GrandSlam_12, Hamood_12, Mulch_12, Nadeem_12, NancyRae_12, Parada_12, WheatThin_12,

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

-

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

- AbbyDaisy_9, ArchiDore_9, Arianna_10, B22_9, BBQValindra_8, BackstagePass_8, Bauer_11, BlackSpider_9, Bowser_8, Bunker_8, Colleen_10, Coriander_9, DelRio_13, DirtyBoi_9, Dmitri_9, Doggs_8, Doucette_9, DumpsterDude_9, E6_10, Eyes_8, G4_9, GEazy_8, GMA4_9, HannahD_8, Hedwig_9, Juicebox_10, Kiko_9, MagicMan_8, MakCheese_8, MalagasyRose_15, Malibo_8, Moonflower_9, MrSmee_8, Nergal_13, Opie_8, Pimento_13, Poushou_10, Raqqa_9, RayTheFireFly_9, Ruthy_9, Schnabeltier_8, Skitty_9, Spartoi_7, TaronosaurusRx_8, TouchMeNot_10, ZAYM_8, Zodiariah_8, Zucker_10,

Summary by start number:

Start 8:

- Found in 3 of 61 (4.9%) of genes in pham
- Manual Annotations of this start: 2 of 49
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bauer_11 (FN), BlackSpider_9 (FN), Zucker_10 (FN),

Start 9:

- Found in 5 of 61 (8.2%) of genes in pham
- Manual Annotations of this start: 3 of 49
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MagicMan_8 (DB), Opie_8 (DB), Schnabeltier_8 (DB), TaronosaurusRx_8 (DB), ZAYM_8 (DB),

Start 10:

- Found in 7 of 61 (11.5%) of genes in pham
- Manual Annotations of this start: 6 of 49
- Called 85.7% of time when present
- Phage (with cluster) where this start called: BBQValindra_8 (DB), Bowser_8 (DB), Bunker_8 (DB), Eyes_8 (DB), GEazy_8 (DB), HannahD_8 (DB),

Start 11:

- Found in 8 of 61 (13.1%) of genes in pham
- Manual Annotations of this start: 4 of 49

- Called 50.0% of time when present
- Phage (with cluster) where this start called: DirtyBoi_9 (DB), Dmitri_9 (DB), Doggs_8 (DB), Kiko_9 (DB),

Start 12:

- Found in 8 of 61 (13.1%) of genes in pham
- Manual Annotations of this start: 6 of 49
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AbbyDaisy_9 (AY), B22_9 (BW), Doucette_9 (BW), E6_10 (BW), G4_9 (BW), MrSmee_8 (FQ), Raqqa_9 (AY), Skitty_9 (FQ),

Start 13:

- Found in 1 of 61 (1.6%) of genes in pham
- Manual Annotations of this start: 1 of 49
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Spartoi_7 (singleton),

Start 14:

- Found in 13 of 61 (21.3%) of genes in pham
- Manual Annotations of this start: 13 of 49
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ayotoya_12 (DI), BetterKatz_12 (DI), Bock_12 (DI), Brylie_12 (DI), Chop_12 (DI), Francois_12 (DI), GrandSlam_12 (DI), Hamood_12 (DI), Mulch_12 (DI), Nadeem_12 (DI), NancyRae_12 (DI), Parada_12 (DI), WheatThin_12 (DI),

Start 15:

- Found in 9 of 61 (14.8%) of genes in pham
- Manual Annotations of this start: 7 of 49
- Called 88.9% of time when present
- Phage (with cluster) where this start called: Arianna_10 (EO), Colleen_10 (EO), DelRio_13 (DI), GMA4_9 (singleton), Juicebox_10 (singleton), Pimento_13 (DI), Poushou_10 (EO), TouchMeNot_10 (EO),

Start 16:

- Found in 8 of 61 (13.1%) of genes in pham
- Manual Annotations of this start: 5 of 49
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ArchiDore_9 (DW), DumpsterDude_9 (DW), MakCheese_8 (DW), MalagasyRose_15 (AG), Malibo_8 (DW), Nergal_13 (AG), Ruthy_9 (DW), Zodiariah_8 (DW),

Start 17:

- Found in 17 of 61 (27.9%) of genes in pham
- Manual Annotations of this start: 1 of 49
- Called 11.8% of time when present
- Phage (with cluster) where this start called: BackstagePass_8 (DB), RayTheFireFly_9 (DB),

Start 19:

- Found in 7 of 61 (11.5%) of genes in pham
- Manual Annotations of this start: 1 of 49

- Called 42.9% of time when present
- Phage (with cluster) where this start called: Coriander_9 (DB), Hedwig_9 (DB), Moonflower_9 (DB),

Summary by clusters:

There are 10 clusters represented in this pham: FQ, EO, AG, DI, DB, singleton, BW, AY, DW, FN,

Info for manual annotations of cluster AG:

- Start number 16 was manually annotated 2 times for cluster AG.

Info for manual annotations of cluster AY:

- Start number 12 was manually annotated 1 time for cluster AY.

Info for manual annotations of cluster BW:

- Start number 12 was manually annotated 4 times for cluster BW.

Info for manual annotations of cluster DB:

- Start number 9 was manually annotated 3 times for cluster DB.
- Start number 10 was manually annotated 6 times for cluster DB.
- Start number 11 was manually annotated 4 times for cluster DB.
- Start number 17 was manually annotated 1 time for cluster DB.
- Start number 19 was manually annotated 1 time for cluster DB.

Info for manual annotations of cluster DI:

- Start number 14 was manually annotated 13 times for cluster DI.
- Start number 15 was manually annotated 2 times for cluster DI.

Info for manual annotations of cluster DW:

- Start number 16 was manually annotated 3 times for cluster DW.

Info for manual annotations of cluster EO:

- Start number 15 was manually annotated 4 times for cluster EO.

Info for manual annotations of cluster FN:

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

Info for manual annotations of cluster FQ:

- Start number 12 was manually annotated 1 time for cluster FQ.

Gene Information:

Gene: AbbyDaisy_9 Start: 6279, Stop: 6755, Start Num: 12

Candidate Starts for AbbyDaisy_9:

(Start: 12 @6279 has 6 MA's), (29, 6396), (34, 6420), (43, 6462), (47, 6477), (65, 6636), (72, 6660),

Gene: ArchiDore_9 Start: 6962, Stop: 7354, Start Num: 16

Candidate Starts for ArchiDore_9:

(Start: 16 @6962 has 5 MA's), (24, 7007), (42, 7136),

Gene: Arianna_10 Start: 8239, Stop: 8625, Start Num: 15
Candidate Starts for Arianna_10:
(Start: 15 @8239 has 7 MA's), (26, 8320), (29, 8347), (40, 8416), (43, 8425), (56, 8506), (61, 8560),

Gene: Ayotoya_12 Start: 8519, Stop: 8911, Start Num: 14
Candidate Starts for Ayotoya_12:
(Start: 14 @8519 has 13 MA's), (23, 8564),

Gene: B22_9 Start: 6731, Stop: 7111, Start Num: 12
Candidate Starts for B22_9:
(4, 6602), (5, 6617), (Start: 12 @6731 has 6 MA's), (24, 6797), (28, 6851), (39, 6908), (44, 6923), (47, 6935), (52, 6974), (54, 6980), (60, 7037),

Gene: BBQValindra_8 Start: 6485, Stop: 6868, Start Num: 10
Candidate Starts for BBQValindra_8:
(Start: 10 @6485 has 6 MA's), (Start: 17 @6506 has 1 MA's), (22, 6524), (45, 6677), (46, 6680), (59, 6788),

Gene: BackstagePass_8 Start: 6483, Stop: 6845, Start Num: 17
Candidate Starts for BackstagePass_8:
(Start: 10 @6462 has 6 MA's), (Start: 17 @6483 has 1 MA's), (22, 6501), (45, 6654), (46, 6657), (59, 6765),

Gene: Bauer_11 Start: 7722, Stop: 8126, Start Num: 8
Candidate Starts for Bauer_11:
(Start: 8 @7722 has 2 MA's), (32, 7875), (33, 7878), (35, 7890), (43, 7926), (44, 7929), (55, 8010), (57, 8022), (58, 8043), (61, 8070),

Gene: BetterKatz_12 Start: 8487, Stop: 8879, Start Num: 14
Candidate Starts for BetterKatz_12:
(6, 8385), (Start: 14 @8487 has 13 MA's), (23, 8532), (42, 8673),

Gene: BlackSpider_9 Start: 6761, Stop: 7165, Start Num: 8
Candidate Starts for BlackSpider_9:
(Start: 8 @6761 has 2 MA's), (43, 6965), (44, 6968), (47, 6980), (55, 7049), (58, 7082), (61, 7109),

Gene: Bock_12 Start: 8237, Stop: 8629, Start Num: 14
Candidate Starts for Bock_12:
(6, 8135), (Start: 14 @8237 has 13 MA's), (23, 8282),

Gene: Bowser_8 Start: 6483, Stop: 6866, Start Num: 10
Candidate Starts for Bowser_8:
(Start: 10 @6483 has 6 MA's), (Start: 17 @6504 has 1 MA's), (21, 6519), (22, 6522), (45, 6675), (46, 6678),

Gene: Brylie_12 Start: 8234, Stop: 8626, Start Num: 14
Candidate Starts for Brylie_12:
(6, 8132), (Start: 14 @8234 has 13 MA's), (23, 8279), (42, 8420),

Gene: Bunker_8 Start: 6485, Stop: 6868, Start Num: 10
Candidate Starts for Bunker_8:
(Start: 10 @6485 has 6 MA's), (Start: 17 @6506 has 1 MA's), (22, 6524), (45, 6677), (46, 6680), (59, 6788),

Gene: Chop_12 Start: 8267, Stop: 8659, Start Num: 14

Candidate Starts for Chop_12:

(Start: 14 @8267 has 13 MA's), (23, 8312),

Gene: Colleen_10 Start: 8239, Stop: 8625, Start Num: 15

Candidate Starts for Colleen_10:

(Start: 15 @8239 has 7 MA's), (26, 8320), (29, 8347), (40, 8416), (43, 8425), (56, 8506), (61, 8560),

Gene: Coriander_9 Start: 6915, Stop: 7265, Start Num: 19

Candidate Starts for Coriander_9:

(1, 6291), (2, 6300), (3, 6423), (Start: 11 @6870 has 4 MA's), (Start: 17 @6903 has 1 MA's), (Start: 19 @6915 has 1 MA's), (42, 7062), (45, 7074), (48, 7089), (59, 7185),

Gene: DelRio_13 Start: 8753, Stop: 9136, Start Num: 15

Candidate Starts for DelRio_13:

(Start: 15 @8753 has 7 MA's), (23, 8789), (42, 8930),

Gene: DirtyBoi_9 Start: 6843, Stop: 7238, Start Num: 11

Candidate Starts for DirtyBoi_9:

(Start: 11 @6843 has 4 MA's), (Start: 17 @6876 has 1 MA's), (Start: 19 @6888 has 1 MA's), (42, 7035), (45, 7047), (48, 7062), (58, 7155),

Gene: Dmitri_9 Start: 6852, Stop: 7247, Start Num: 11

Candidate Starts for Dmitri_9:

(Start: 11 @6852 has 4 MA's), (Start: 17 @6885 has 1 MA's), (Start: 19 @6897 has 1 MA's), (42, 7044), (45, 7056), (48, 7071), (58, 7164),

Gene: Doggs_8 Start: 6567, Stop: 6962, Start Num: 11

Candidate Starts for Doggs_8:

(1, 5988), (2, 5997), (3, 6120), (Start: 11 @6567 has 4 MA's), (Start: 17 @6600 has 1 MA's), (Start: 19 @6612 has 1 MA's), (42, 6759), (45, 6771), (48, 6786), (59, 6882),

Gene: Doucette_9 Start: 6791, Stop: 7171, Start Num: 12

Candidate Starts for Doucette_9:

(4, 6662), (5, 6677), (Start: 12 @6791 has 6 MA's), (21, 6836), (24, 6857), (28, 6911), (39, 6968), (44, 6983), (47, 6995), (52, 7034), (54, 7040), (60, 7097),

Gene: DumpsterDude_9 Start: 6975, Stop: 7367, Start Num: 16

Candidate Starts for DumpsterDude_9:

(Start: 16 @6975 has 5 MA's), (24, 7020), (36, 7131), (42, 7149),

Gene: E6_10 Start: 6842, Stop: 7222, Start Num: 12

Candidate Starts for E6_10:

(4, 6713), (5, 6728), (Start: 12 @6842 has 6 MA's), (24, 6908), (28, 6962), (39, 7019), (44, 7034), (47, 7046), (52, 7085), (54, 7091), (60, 7148),

Gene: Eyes_8 Start: 6492, Stop: 6875, Start Num: 10

Candidate Starts for Eyes_8:

(Start: 10 @6492 has 6 MA's), (Start: 17 @6513 has 1 MA's), (21, 6528), (22, 6531), (45, 6684), (46, 6687), (59, 6795),

Gene: Francois_12 Start: 8248, Stop: 8640, Start Num: 14

Candidate Starts for Francois_12:
(6, 8146), (Start: 14 @8248 has 13 MA's), (23, 8293),

Gene: G4_9 Start: 6779, Stop: 7159, Start Num: 12
Candidate Starts for G4_9:
(4, 6650), (5, 6665), (Start: 12 @6779 has 6 MA's), (24, 6845), (28, 6899), (39, 6956), (44, 6971), (47, 6983), (52, 7022), (54, 7028), (60, 7085),

Gene: GEazy_8 Start: 6494, Stop: 6877, Start Num: 10
Candidate Starts for GEazy_8:
(Start: 10 @6494 has 6 MA's), (22, 6533), (45, 6686), (46, 6689), (59, 6797),

Gene: GMA4_9 Start: 7458, Stop: 7847, Start Num: 15
Candidate Starts for GMA4_9:
(Start: 15 @7458 has 7 MA's), (25, 7506), (26, 7536), (28, 7560), (38, 7620), (40, 7626), (43, 7635), (47, 7650), (51, 7677), (68, 7827), (70, 7833),

Gene: GrandSlam_12 Start: 8267, Stop: 8659, Start Num: 14
Candidate Starts for GrandSlam_12:
(Start: 14 @8267 has 13 MA's), (23, 8312),

Gene: Hamood_12 Start: 8267, Stop: 8659, Start Num: 14
Candidate Starts for Hamood_12:
(Start: 14 @8267 has 13 MA's), (23, 8312),

Gene: HannahD_8 Start: 6494, Stop: 6877, Start Num: 10
Candidate Starts for HannahD_8:
(Start: 10 @6494 has 6 MA's), (22, 6533), (45, 6686), (46, 6689), (59, 6797),

Gene: Hedwig_9 Start: 6888, Stop: 7238, Start Num: 19
Candidate Starts for Hedwig_9:
(Start: 11 @6843 has 4 MA's), (Start: 17 @6876 has 1 MA's), (Start: 19 @6888 has 1 MA's), (42, 7035), (45, 7047), (48, 7062), (58, 7155), (59, 7158),

Gene: Juicebox_10 Start: 7876, Stop: 8259, Start Num: 15
Candidate Starts for Juicebox_10:
(7, 7804), (Start: 15 @7876 has 7 MA's), (20, 7897), (27, 7972), (31, 7987), (43, 8056), (61, 8191), (69, 8239),

Gene: Kiko_9 Start: 6686, Stop: 7078, Start Num: 11
Candidate Starts for Kiko_9:
(Start: 11 @6686 has 4 MA's), (18, 6722), (45, 6887), (46, 6890), (59, 6998),

Gene: MagicMan_8 Start: 6823, Stop: 7218, Start Num: 9
Candidate Starts for MagicMan_8:
(Start: 9 @6823 has 3 MA's), (Start: 17 @6844 has 1 MA's), (45, 7015), (59, 7126),

Gene: MakCheese_8 Start: 6782, Stop: 7174, Start Num: 16
Candidate Starts for MakCheese_8:
(Start: 16 @6782 has 5 MA's), (24, 6827), (42, 6956), (64, 7145),

Gene: MalagasyRose_15 Start: 9283, Stop: 9678, Start Num: 16
Candidate Starts for MalagasyRose_15:

(Start: 16 @9283 has 5 MA's), (22, 9310), (30, 9391), (32, 9397), (41, 9457), (44, 9466), (45, 9472), (46, 9475), (52, 9523), (53, 9526), (63, 9628), (67, 9658),

Gene: Malibo_8 Start: 6765, Stop: 7157, Start Num: 16

Candidate Starts for Malibo_8:

(Start: 16 @6765 has 5 MA's), (24, 6810), (42, 6939), (64, 7128),

Gene: Moonflower_9 Start: 6920, Stop: 7270, Start Num: 19

Candidate Starts for Moonflower_9:

(Start: 11 @6875 has 4 MA's), (Start: 17 @6908 has 1 MA's), (Start: 19 @6920 has 1 MA's), (42, 7067), (45, 7079), (48, 7094), (59, 7190),

Gene: MrSmee_8 Start: 5444, Stop: 5920, Start Num: 12

Candidate Starts for MrSmee_8:

(Start: 12 @5444 has 6 MA's), (32, 5573), (43, 5627), (44, 5630), (47, 5642), (50, 5663),

Gene: Mulch_12 Start: 8234, Stop: 8626, Start Num: 14

Candidate Starts for Mulch_12:

(6, 8132), (Start: 14 @8234 has 13 MA's), (23, 8279), (42, 8420),

Gene: Nadeem_12 Start: 8234, Stop: 8626, Start Num: 14

Candidate Starts for Nadeem_12:

(6, 8132), (Start: 14 @8234 has 13 MA's), (23, 8279), (42, 8420),

Gene: NancyRae_12 Start: 8234, Stop: 8626, Start Num: 14

Candidate Starts for NancyRae_12:

(6, 8132), (Start: 14 @8234 has 13 MA's), (23, 8279), (42, 8420),

Gene: Nergal_13 Start: 9749, Stop: 10141, Start Num: 16

Candidate Starts for Nergal_13:

(Start: 15 @9746 has 7 MA's), (Start: 16 @9749 has 5 MA's), (30, 9857), (32, 9863), (44, 9929), (45, 9935), (48, 9950),

Gene: Opie_8 Start: 6838, Stop: 7233, Start Num: 9

Candidate Starts for Opie_8:

(Start: 9 @6838 has 3 MA's), (Start: 17 @6859 has 1 MA's), (45, 7030), (71, 7213),

Gene: Parada_12 Start: 8234, Stop: 8626, Start Num: 14

Candidate Starts for Parada_12:

(6, 8132), (Start: 14 @8234 has 13 MA's), (23, 8279), (42, 8420),

Gene: Pimento_13 Start: 8447, Stop: 8830, Start Num: 15

Candidate Starts for Pimento_13:

(Start: 15 @8447 has 7 MA's), (23, 8483), (42, 8624),

Gene: Poushou_10 Start: 8239, Stop: 8625, Start Num: 15

Candidate Starts for Poushou_10:

(Start: 15 @8239 has 7 MA's), (26, 8320), (29, 8347), (40, 8416), (43, 8425), (56, 8506), (61, 8560),

Gene: Raqqa_9 Start: 6587, Stop: 7063, Start Num: 12

Candidate Starts for Raqqa_9:

(Start: 12 @6587 has 6 MA's), (29, 6704), (34, 6728), (43, 6770), (47, 6785), (65, 6944), (72, 6968),

Gene: RayTheFireFly_9 Start: 6909, Stop: 7271, Start Num: 17

Candidate Starts for RayTheFireFly_9:

(Start: 11 @6876 has 4 MA's), (Start: 17 @6909 has 1 MA's), (Start: 19 @6921 has 1 MA's), (42, 7068), (45, 7080), (48, 7095), (59, 7191),

Gene: Ruthy_9 Start: 7046, Stop: 7438, Start Num: 16

Candidate Starts for Ruthy_9:

(Start: 16 @7046 has 5 MA's), (24, 7091), (36, 7202), (42, 7220),

Gene: Schnabeltier_8 Start: 6824, Stop: 7219, Start Num: 9

Candidate Starts for Schnabeltier_8:

(Start: 9 @6824 has 3 MA's), (Start: 17 @6845 has 1 MA's), (45, 7016), (59, 7127),

Gene: Skitty_9 Start: 5444, Stop: 5920, Start Num: 12

Candidate Starts for Skitty_9:

(Start: 12 @5444 has 6 MA's), (32, 5573), (43, 5627), (44, 5630), (47, 5642), (50, 5663),

Gene: Spartoi_7 Start: 5626, Stop: 6006, Start Num: 13

Candidate Starts for Spartoi_7:

(Start: 13 @5626 has 1 MA's), (21, 5662), (24, 5683), (27, 5734), (37, 5791), (44, 5809), (49, 5833), (56, 5890), (62, 5953), (66, 5986),

Gene: TaronosaurusRx_8 Start: 6834, Stop: 7232, Start Num: 9

Candidate Starts for TaronosaurusRx_8:

(Start: 9 @6834 has 3 MA's), (Start: 17 @6858 has 1 MA's), (42, 7017), (45, 7029), (59, 7140), (71, 7212),

Gene: TouchMeNot_10 Start: 8239, Stop: 8625, Start Num: 15

Candidate Starts for TouchMeNot_10:

(Start: 15 @8239 has 7 MA's), (26, 8320), (29, 8347), (40, 8416), (43, 8425), (56, 8506), (61, 8560),

Gene: WheatThin_12 Start: 8234, Stop: 8626, Start Num: 14

Candidate Starts for WheatThin_12:

(6, 8132), (Start: 14 @8234 has 13 MA's), (23, 8279), (42, 8420),

Gene: ZAYM_8 Start: 6827, Stop: 7225, Start Num: 9

Candidate Starts for ZAYM_8:

(Start: 9 @6827 has 3 MA's), (Start: 17 @6851 has 1 MA's), (42, 7010), (45, 7022), (59, 7133),

Gene: Zodiariah_8 Start: 6772, Stop: 7164, Start Num: 16

Candidate Starts for Zodiariah_8:

(Start: 16 @6772 has 5 MA's), (24, 6817), (42, 6946), (64, 7135),

Gene: Zucker_10 Start: 7035, Stop: 7439, Start Num: 8

Candidate Starts for Zucker_10:

(Start: 8 @7035 has 2 MA's), (32, 7188), (33, 7191), (35, 7203), (43, 7239), (44, 7242), (55, 7323), (57, 7335), (58, 7356), (61, 7383),