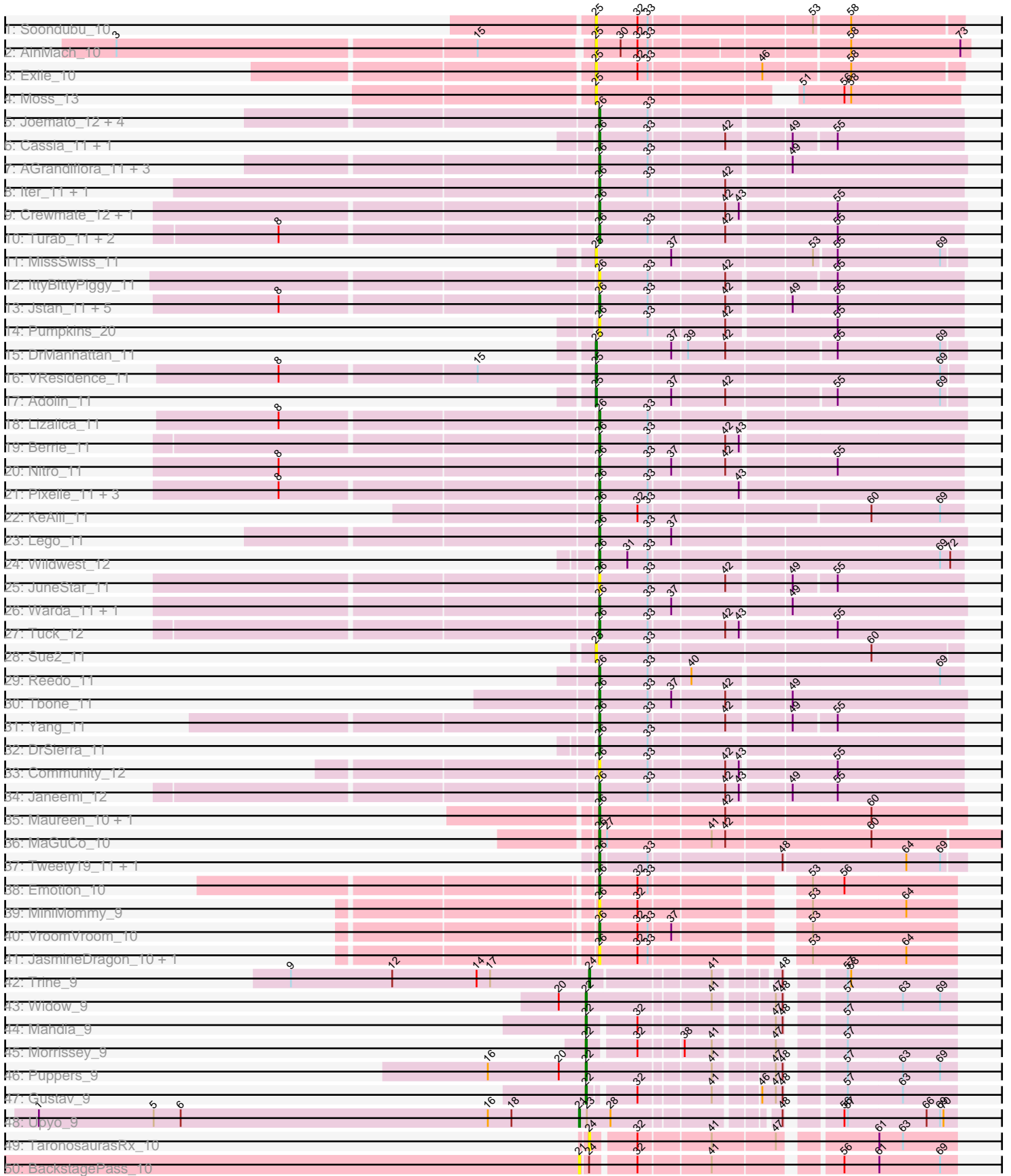
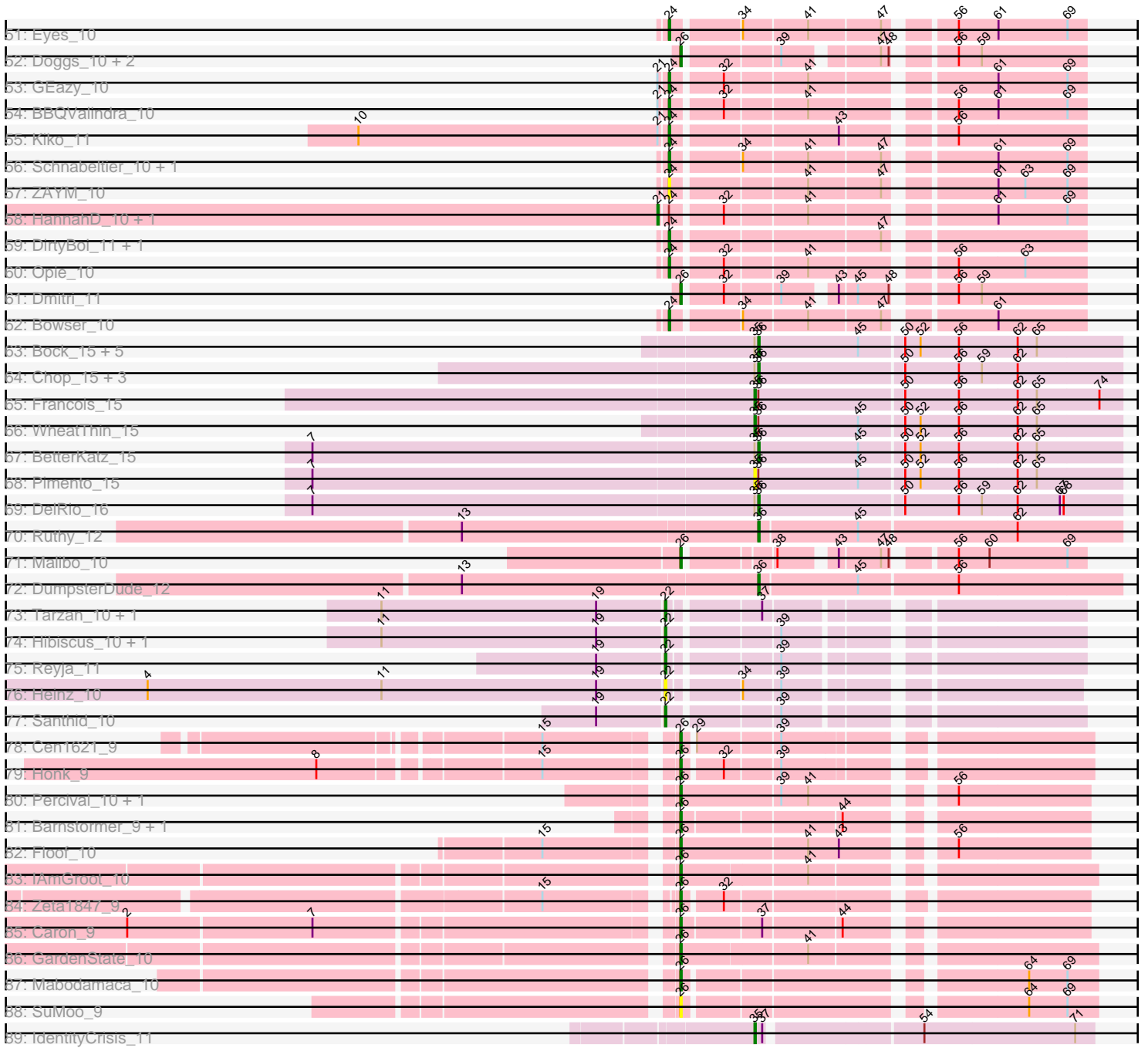


Pham 154555



Pham 154555



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 154555 Report

This analysis was run 04/12/24 on database version 558.

Pham number 154555 has 130 members, 33 are drafts.

Phages represented in each track:

- Track 1 : Soondubu_10
- Track 2 : AinMach_10
- Track 3 : Exile_10
- Track 4 : Moss_13
- Track 5 : Joemato_12, JohnDoe_11, Cyan_11, Simpson_12, Kaylissa_11
- Track 6 : Cassia_11, TforTroy_11
- Track 7 : AGrandiflora_11, YesChef_11, Tutumahutu_11, Powerpuff_11
- Track 8 : lter_11, Ascela_11
- Track 9 : Crewmate_12, ObiToo_11
- Track 10 : Turab_11, Adumb2043_11, AEgle_11
- Track 11 : MissSwiss_11
- Track 12 : IttyBittyPiggy_11
- Track 13 : Jstan_11, Elezi_11, London_11, Eraser_11, Niobe_11, Asa16_11
- Track 14 : Pumpkins_20
- Track 15 : DrManhattan_11
- Track 16 : VResidence_11
- Track 17 : Adolin_11
- Track 18 : Lizalica_11
- Track 19 : Berrie_11
- Track 20 : Nitro_11
- Track 21 : Pixelle_11, Tian_11, Amyev_11, Phives_12
- Track 22 : KeAlii_11
- Track 23 : Lego_11
- Track 24 : Wildwest_12
- Track 25 : JuneStar_11
- Track 26 : Warda_11, Mudpuppy_11
- Track 27 : Tuck_12
- Track 28 : Sue2_11
- Track 29 : Reedo_11
- Track 30 : Tbone_11
- Track 31 : Yang_11
- Track 32 : DrSierra_11
- Track 33 : Community_12
- Track 34 : Janeemi_12
- Track 35 : Maureen_10, Liebe_10
- Track 36 : MaGuCo_10
- Track 37 : Tweety19_11, Snek_11

- Track 38 : Emotion_10
- Track 39 : MiniMommy_9
- Track 40 : VroomVroom_10
- Track 41 : JasmineDragon_10, ShakeltOph_10
- Track 42 : Trine_9
- Track 43 : Widow_9
- Track 44 : Mahdia_9
- Track 45 : Morrissey_9
- Track 46 : Puppies_9
- Track 47 : Gustav_9
- Track 48 : Upyo_9
- Track 49 : TaronosaurusRx_10
- Track 50 : BackstagePass_10
- Track 51 : Eyes_10
- Track 52 : Doggs_10, RayTheFireFly_11, Coriander_11
- Track 53 : GEazy_10
- Track 54 : BBQValindra_10
- Track 55 : Kiko_11
- Track 56 : Schnabeltier_10, MagicMan_10
- Track 57 : ZAYM_10
- Track 58 : HannahD_10, Bunker_10
- Track 59 : DirtyBoi_11, Hedwig_11
- Track 60 : Opie_10
- Track 61 : Dmitri_11
- Track 62 : Bowser_10
- Track 63 : Bock_15, Mulch_15, Nadeem_15, Brylie_15, Parada_15, NancyRae_15
- Track 64 : Chop_15, Ayotoya_15, GrandSlam_15, Hamood_15
- Track 65 : Francois_15
- Track 66 : WheatThin_15
- Track 67 : BetterKatz_15
- Track 68 : Pimento_15
- Track 69 : DelRio_16
- Track 70 : Ruthy_12
- Track 71 : Malibo_10
- Track 72 : DumpsterDude_12
- Track 73 : Tarzan_10, DonkeyMan_10
- Track 74 : Hibiscus_10, Jojo24_10
- Track 75 : Reyja_11
- Track 76 : Heinz_10
- Track 77 : Santhid_10
- Track 78 : Cen1621_9
- Track 79 : Honk_9
- Track 80 : Percival_10, Gretchen_10
- Track 81 : Barnstormer_9, UtzChips_9
- Track 82 : Floof_10
- Track 83 : IAmGroot_10
- Track 84 : Zeta1847_9
- Track 85 : Caron_9
- Track 86 : GardenState_10
- Track 87 : Mabodamaca_10
- Track 88 : SuMoo_9
- Track 89 : IdentityCrisis_11

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

The start number called the most often in the published annotations is 26, it was called in 54 of the 97 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AEgle_11, AGrandiflora_11, Adumb2043_11, Amyev_11, Asa16_11, Ascela_11, Barnstormer_9, Berrie_11, Caron_9, Cassia_11, Cen1621_9, Community_12, Coriander_11, Crewmate_12, Cyan_11, Dmitri_11, Doggs_10, DrSierra_11, Elezi_11, Emotion_10, Eraser_11, Floof_10, GardenState_10, Gretchen_10, Honk_9, IAmGroot_10, Iter_11, IttyBittyPiggy_11, Janeemi_12, JasmineDragon_10, Joemato_12, JohnDoe_11, Jstan_11, JuneStar_11, Kaylissa_11, KeAlii_11, Lego_11, Liebe_10, Lizalica_11, London_11, MaGuCo_10, Mabodamaca_10, Malibo_10, Maureen_10, MiniMommy_9, Mudpuppy_11, Niobe_11, Nitro_11, ObiToo_11, Percival_10, Phives_12, Pixelle_11, Powerpuff_11, Pumpkins_20, RayTheFireFly_11, Reedo_11, ShakeltOph_10, Simpson_12, Snek_11, SuMoo_9, Tbone_11, TforTroy_11, Tian_11, Tuck_12, Turab_11, Tutumahutu_11, Tweety19_11, UtzChips_9, VroomVroom_10, Warda_11, Wildwest_12, Yang_11, YesChef_11, Zeta1847_9,

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

-

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

- Adolin_11, AinMach_10, Ayotoya_15, BBQValindra_10, BackstagePass_10, BetterKatz_15, Bock_15, Bowser_10, Brylie_15, Bunker_10, Chop_15, DelRio_16, DirtyBoi_11, DonkeyMan_10, DrManhattan_11, DumpsterDude_12, Exile_10, Eyes_10, Francois_15, GEazy_10, GrandSlam_15, Gustav_9, Hamood_15, HannahD_10, Hedwig_11, Heinz_10, Hibiscus_10, IdentityCrisis_11, Jojo24_10, Kiko_11, MagicMan_10, Mahdia_9, MissSwiss_11, Morrissey_9, Moss_13, Mulch_15, Nadeem_15, NancyRae_15, Opie_10, Parada_15, Pimento_15, Puppies_9, Reyja_11, Ruthy_12, Santhid_10, Schnabeltier_10, Soondubu_10, Sue2_11, TaronosaurusRx_10, Tarzan_10, Trine_9, Upyo_9, VResidence_11, WheatThin_15, Widow_9, ZAYM_10,

Summary by start number:

Start 21:

- Found in 7 of 130 (5.4%) of genes in pham
- Manual Annotations of this start: 3 of 97
- Called 57.1% of time when present
- Phage (with cluster) where this start called: BackstagePass_10 (DB), Bunker_10 (DB), HannahD_10 (DB), Upyo_9 (CD),

Start 22:

- Found in 12 of 130 (9.2%) of genes in pham
- Manual Annotations of this start: 10 of 97
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DonkeyMan_10 (DY), Gustav_9 (CD), Heinz_10 (DY), Hibiscus_10 (DY), Jojo24_10 (DY), Mahdia_9 (CD), Morrissey_9

(CD), Puppies_9 (CD), Reyja_11 (DY), Santhid_10 (DY), Tarzan_10 (DY), Widow_9 (CD),

Start 24:

- Found in 16 of 130 (12.3%) of genes in pham
- Manual Annotations of this start: 11 of 97
- Called 81.2% of time when present
- Phage (with cluster) where this start called: BBQValindra_10 (DB), Bowser_10 (DB), DirtyBoi_11 (DB), Eyes_10 (DB), GEazy_10 (DB), Hedwig_11 (DB), Kiko_11 (DB), MagicMan_10 (DB), Opie_10 (DB), Schnabeltier_10 (DB), TaronosaurusRx_10 (DB), Trine_9 (CD), ZAYM_10 (DB),

Start 25:

- Found in 9 of 130 (6.9%) of genes in pham
- Manual Annotations of this start: 3 of 97
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Adolin_11 (AZ1), AinMach_10 (AZ), DrManhattan_11 (AZ1), Exile_10 (AZ), MissSwiss_11 (AZ1), Moss_13 (AZ), Soondubu_10 (AZ), Sue2_11 (AZ1), VResidence_11 (AZ1),

Start 26:

- Found in 74 of 130 (56.9%) of genes in pham
- Manual Annotations of this start: 54 of 97
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AEgle_11 (AZ1), AGrandiflora_11 (AZ1), Adumb2043_11 (AZ1), Amyev_11 (AZ1), Asa16_11 (AZ1), Ascela_11 (AZ1), Barnstormer_9 (EH), Berrie_11 (AZ1), Caron_9 (EH), Cassia_11 (AZ1), Cen1621_9 (EH), Community_12 (AZ1), Coriander_11 (DB), Crewmate_12 (AZ1), Cyan_11 (AZ1), Dmitri_11 (DB), Doggs_10 (DB), DrSierra_11 (AZ1), Elezi_11 (AZ1), Emotion_10 (AZ4), Eraser_11 (AZ1), Floof_10 (EH), GardenState_10 (EH), Gretchen_10 (EH), Honk_9 (EH), IAmGroot_10 (EH), Iter_11 (AZ1), IttyBittyPiggy_11 (AZ1), Janeemi_12 (AZ1), JasmineDragon_10 (AZ4), Joemato_12 (AZ1), JohnDoe_11 (AZ1), Jstan_11 (AZ1), JuneStar_11 (AZ1), Kaylissa_11 (AZ1), KeAlii_11 (AZ1), Lego_11 (AZ1), Liebe_10 (AZ2), Lizalica_11 (AZ1), London_11 (AZ1), MaGuCo_10 (AZ2), Mabodamaca_10 (EH), Malibo_10 (DW), Maureen_10 (AZ2), MiniMommy_9 (AZ4), Mudpuppy_11 (AZ1), Niobe_11 (AZ1), Nitro_11 (AZ1), ObiToo_11 (AZ1), Percival_10 (EH), Phives_12 (AZ1), Pixelle_11 (AZ1), Powerpuff_11 (AZ1), Pumpkins_20 (AZ1), RayTheFireFly_11 (DB), Reedo_11 (AZ1), ShakeltOph_10 (AZ4), Simpson_12 (AZ1), Snek_11 (AZ3), SuMoo_9 (EH), Tbone_11 (AZ1), TforTroy_11 (AZ1), Tian_11 (AZ1), Tuck_12 (AZ1), Turab_11 (AZ1), Tutumahutu_11 (AZ1), Tweety19_11 (AZ3), UtzChips_9 (EH), VroomVroom_10 (AZ4), Warda_11 (AZ1), Wildwest_12 (AZ1), Yang_11 (AZ1), YesChef_11 (AZ1), Zeta1847_9 (EH),

Start 35:

- Found in 16 of 130 (12.3%) of genes in pham
- Manual Annotations of this start: 3 of 97
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Francois_15 (DI), IdentityCrisis_11 (singleton), Pimento_15 (DI), WheatThin_15 (DI),

Start 36:

- Found in 17 of 130 (13.1%) of genes in pham

- Manual Annotations of this start: 13 of 97
- Called 82.4% of time when present
- Phage (with cluster) where this start called: Ayotoya_15 (DI), BetterKatz_15 (DI), Bock_15 (DI), Brylie_15 (DI), Chop_15 (DI), DelRio_16 (DI), DumpsterDude_12 (DW), GrandSlam_15 (DI), Hamood_15 (DI), Mulch_15 (DI), Nadeem_15 (DI), NancyRae_15 (DI), Parada_15 (DI), Ruthy_12 (DW),

Summary by clusters:

There are 12 clusters represented in this pham: singleton, AZ, EH, DI, DB, CD, DW, DY, AZ1, AZ2, AZ3, AZ4,

Info for manual annotations of cluster AZ1:

- Start number 25 was manually annotated 3 times for cluster AZ1.
- Start number 26 was manually annotated 31 times for cluster AZ1.

Info for manual annotations of cluster AZ2:

- Start number 26 was manually annotated 3 times for cluster AZ2.

Info for manual annotations of cluster AZ3:

- Start number 26 was manually annotated 2 times for cluster AZ3.

Info for manual annotations of cluster AZ4:

- Start number 26 was manually annotated 2 times for cluster AZ4.

Info for manual annotations of cluster CD:

- Start number 21 was manually annotated 1 time for cluster CD.
- Start number 22 was manually annotated 5 times for cluster CD.
- Start number 24 was manually annotated 1 time for cluster CD.

Info for manual annotations of cluster DB:

- Start number 21 was manually annotated 2 times for cluster DB.
- Start number 24 was manually annotated 10 times for cluster DB.
- Start number 26 was manually annotated 3 times for cluster DB.

Info for manual annotations of cluster DI:

- Start number 35 was manually annotated 2 times for cluster DI.
- Start number 36 was manually annotated 11 times for cluster DI.

Info for manual annotations of cluster DW:

- Start number 26 was manually annotated 1 time for cluster DW.
- Start number 36 was manually annotated 2 times for cluster DW.

Info for manual annotations of cluster DY:

- Start number 22 was manually annotated 5 times for cluster DY.

Info for manual annotations of cluster EH:

- Start number 26 was manually annotated 12 times for cluster EH.

Gene Information:

Gene: AEgle_11 Start: 8744, Stop: 9049, Start Num: 26
Candidate Starts for AEgle_11:
(8, 8474), (Start: 26 @8744 has 54 MA's), (33, 8786), (42, 8849), (55, 8939),

Gene: AGrandiflora_11 Start: 8731, Stop: 9039, Start Num: 26
Candidate Starts for AGrandiflora_11:
(Start: 26 @8731 has 54 MA's), (33, 8773), (49, 8887),

Gene: Adolin_11 Start: 8716, Stop: 9024, Start Num: 25
Candidate Starts for Adolin_11:
(Start: 25 @8716 has 3 MA's), (37, 8779), (42, 8824), (55, 8914), (69, 9004),

Gene: Adumb2043_11 Start: 8743, Stop: 9048, Start Num: 26
Candidate Starts for Adumb2043_11:
(8, 8473), (Start: 26 @8743 has 54 MA's), (33, 8785), (42, 8848), (55, 8938),

Gene: AinMach_10 Start: 7842, Stop: 8153, Start Num: 25
Candidate Starts for AinMach_10:
(3, 7434), (15, 7746), (Start: 25 @7842 has 3 MA's), (30, 7863), (32, 7878), (33, 7887), (58, 8049), (73, 8145),

Gene: Amyev_11 Start: 8759, Stop: 9064, Start Num: 26
Candidate Starts for Amyev_11:
(8, 8489), (Start: 26 @8759 has 54 MA's), (33, 8801), (43, 8876),

Gene: Asa16_11 Start: 8713, Stop: 9018, Start Num: 26
Candidate Starts for Asa16_11:
(8, 8443), (Start: 26 @8713 has 54 MA's), (33, 8755), (42, 8818), (49, 8869), (55, 8908),

Gene: Ascela_11 Start: 8748, Stop: 9053, Start Num: 26
Candidate Starts for Ascela_11:
(Start: 26 @8748 has 54 MA's), (33, 8790), (42, 8853),

Gene: Ayotoya_15 Start: 9620, Stop: 9898, Start Num: 36
Candidate Starts for Ayotoya_15:
(Start: 35 @9617 has 3 MA's), (Start: 36 @9620 has 13 MA's), (50, 9731), (56, 9773), (59, 9791), (62, 9818),

Gene: BBQValindra_10 Start: 7210, Stop: 7500, Start Num: 24
Candidate Starts for BBQValindra_10:
(Start: 21 @7204 has 3 MA's), (Start: 24 @7210 has 11 MA's), (32, 7246), (41, 7306), (56, 7402), (61, 7432), (69, 7486),

Gene: BackstagePass_10 Start: 7181, Stop: 7477, Start Num: 21
Candidate Starts for BackstagePass_10:
(Start: 21 @7181 has 3 MA's), (Start: 24 @7187 has 11 MA's), (32, 7223), (41, 7283), (56, 7379), (61, 7409), (69, 7463),

Gene: Barnstormer_9 Start: 7938, Stop: 8219, Start Num: 26
Candidate Starts for Barnstormer_9:
(Start: 26 @7938 has 54 MA's), (44, 8052),

Gene: Berrie_11 Start: 8715, Stop: 9020, Start Num: 26

Candidate Starts for Berrie_11:

(Start: 26 @8715 has 54 MA's), (33, 8757), (42, 8820), (43, 8832),

Gene: BetterKatz_15 Start: 9588, Stop: 9866, Start Num: 36

Candidate Starts for BetterKatz_15:

(7, 9243), (Start: 35 @9585 has 3 MA's), (Start: 36 @9588 has 13 MA's), (45, 9666), (50, 9699), (52, 9711), (56, 9741), (62, 9786), (65, 9801),

Gene: Bock_15 Start: 9338, Stop: 9616, Start Num: 36

Candidate Starts for Bock_15:

(Start: 35 @9335 has 3 MA's), (Start: 36 @9338 has 13 MA's), (45, 9416), (50, 9449), (52, 9461), (56, 9491), (62, 9536), (65, 9551),

Gene: Bowser_10 Start: 7208, Stop: 7498, Start Num: 24

Candidate Starts for Bowser_10:

(Start: 24 @7208 has 11 MA's), (34, 7256), (41, 7304), (47, 7358), (61, 7430),

Gene: Brylie_15 Start: 9335, Stop: 9613, Start Num: 36

Candidate Starts for Brylie_15:

(Start: 35 @9332 has 3 MA's), (Start: 36 @9335 has 13 MA's), (45, 9413), (50, 9446), (52, 9458), (56, 9488), (62, 9533), (65, 9548),

Gene: Bunker_10 Start: 7204, Stop: 7500, Start Num: 21

Candidate Starts for Bunker_10:

(Start: 21 @7204 has 3 MA's), (Start: 24 @7210 has 11 MA's), (32, 7246), (41, 7306), (61, 7432), (69, 7486),

Gene: Caron_9 Start: 7966, Stop: 8247, Start Num: 26

Candidate Starts for Caron_9:

(2, 7567), (7, 7708), (Start: 26 @7966 has 54 MA's), (37, 8023), (44, 8080),

Gene: Cassia_11 Start: 8837, Stop: 9139, Start Num: 26

Candidate Starts for Cassia_11:

(Start: 26 @8837 has 54 MA's), (33, 8879), (42, 8942), (49, 8993), (55, 9029),

Gene: Cen1621_9 Start: 7077, Stop: 7358, Start Num: 26

Candidate Starts for Cen1621_9:

(15, 6987), (Start: 26 @7077 has 54 MA's), (29, 7083), (39, 7143),

Gene: Chop_15 Start: 9368, Stop: 9646, Start Num: 36

Candidate Starts for Chop_15:

(Start: 35 @9365 has 3 MA's), (Start: 36 @9368 has 13 MA's), (50, 9479), (56, 9521), (59, 9539), (62, 9566),

Gene: Community_12 Start: 9794, Stop: 10099, Start Num: 26

Candidate Starts for Community_12:

(Start: 26 @9794 has 54 MA's), (33, 9836), (42, 9899), (43, 9911), (55, 9989),

Gene: Coriander_11 Start: 7607, Stop: 7876, Start Num: 26

Candidate Starts for Coriander_11:

(Start: 26 @7607 has 54 MA's), (39, 7673), (47, 7736), (48, 7742), (56, 7778), (59, 7796),

Gene: Crewmate_12 Start: 9180, Stop: 9488, Start Num: 26

Candidate Starts for Crewmate_12:
(Start: 26 @9180 has 54 MA's), (42, 9285), (43, 9297), (55, 9375),

Gene: Cyan_11 Start: 8735, Stop: 9040, Start Num: 26
Candidate Starts for Cyan_11:
(Start: 26 @8735 has 54 MA's), (33, 8777),

Gene: DelRio_16 Start: 9845, Stop: 10123, Start Num: 36
Candidate Starts for DelRio_16:
(7, 9500), (Start: 35 @9842 has 3 MA's), (Start: 36 @9845 has 13 MA's), (50, 9956), (56, 9998), (59, 10016), (62, 10043), (67, 10076), (68, 10079),

Gene: DirtyBoi_11 Start: 7580, Stop: 7870, Start Num: 24
Candidate Starts for DirtyBoi_11:
(Start: 24 @7580 has 11 MA's), (47, 7730),

Gene: Dmitri_11 Start: 7589, Stop: 7858, Start Num: 26
Candidate Starts for Dmitri_11:
(Start: 26 @7589 has 54 MA's), (32, 7616), (39, 7655), (43, 7688), (45, 7700), (48, 7724), (56, 7760), (59, 7778),

Gene: Doggs_10 Start: 7304, Stop: 7573, Start Num: 26
Candidate Starts for Doggs_10:
(Start: 26 @7304 has 54 MA's), (39, 7370), (47, 7433), (48, 7439), (56, 7475), (59, 7493),

Gene: DonkeyMan_10 Start: 7146, Stop: 7430, Start Num: 22
Candidate Starts for DonkeyMan_10:
(11, 6927), (19, 7095), (Start: 22 @7146 has 10 MA's), (37, 7209),

Gene: DrManhattan_11 Start: 8706, Stop: 9014, Start Num: 25
Candidate Starts for DrManhattan_11:
(Start: 25 @8706 has 3 MA's), (37, 8769), (39, 8781), (42, 8814), (55, 8904), (69, 8994),

Gene: DrSierra_11 Start: 8737, Stop: 9042, Start Num: 26
Candidate Starts for DrSierra_11:
(Start: 26 @8737 has 54 MA's), (33, 8779),

Gene: DumpsterDude_12 Start: 8073, Stop: 8348, Start Num: 36
Candidate Starts for DumpsterDude_12:
(13, 7845), (Start: 36 @8073 has 13 MA's), (45, 8148), (56, 8223),

Gene: Elezi_11 Start: 8714, Stop: 9019, Start Num: 26
Candidate Starts for Elezi_11:
(8, 8444), (Start: 26 @8714 has 54 MA's), (33, 8756), (42, 8819), (49, 8870), (55, 8909),

Gene: Emotion_10 Start: 7073, Stop: 7354, Start Num: 26
Candidate Starts for Emotion_10:
(Start: 26 @7073 has 54 MA's), (32, 7106), (33, 7115), (53, 7229), (56, 7256),

Gene: Eraser_11 Start: 8714, Stop: 9019, Start Num: 26
Candidate Starts for Eraser_11:
(8, 8444), (Start: 26 @8714 has 54 MA's), (33, 8756), (42, 8819), (49, 8870), (55, 8909),

Gene: Exile_10 Start: 8625, Stop: 8930, Start Num: 25
Candidate Starts for Exile_10:
(Start: 25 @8625 has 3 MA's), (32, 8661), (33, 8670), (46, 8763), (58, 8835),

Gene: Eyes_10 Start: 7217, Stop: 7507, Start Num: 24
Candidate Starts for Eyes_10:
(Start: 24 @7217 has 11 MA's), (34, 7265), (41, 7313), (47, 7367), (56, 7409), (61, 7439), (69, 7493),

Gene: Floof_10 Start: 7504, Stop: 7794, Start Num: 26
Candidate Starts for Floof_10:
(15, 7414), (Start: 26 @7504 has 54 MA's), (41, 7600), (43, 7624), (56, 7693),

Gene: Francois_15 Start: 9346, Stop: 9627, Start Num: 35
Candidate Starts for Francois_15:
(Start: 35 @9346 has 3 MA's), (Start: 36 @9349 has 13 MA's), (50, 9460), (56, 9502), (62, 9547), (65, 9562), (74, 9610),

Gene: GEazy_10 Start: 7219, Stop: 7509, Start Num: 24
Candidate Starts for GEazy_10:
(Start: 21 @7213 has 3 MA's), (Start: 24 @7219 has 11 MA's), (32, 7255), (41, 7315), (61, 7441), (69, 7495),

Gene: GardenState_10 Start: 8171, Stop: 8461, Start Num: 26
Candidate Starts for GardenState_10:
(Start: 26 @8171 has 54 MA's), (41, 8264),

Gene: GrandSlam_15 Start: 9368, Stop: 9646, Start Num: 36
Candidate Starts for GrandSlam_15:
(Start: 35 @9365 has 3 MA's), (Start: 36 @9368 has 13 MA's), (50, 9479), (56, 9521), (59, 9539), (62, 9566),

Gene: Gretchen_10 Start: 9050, Stop: 9340, Start Num: 26
Candidate Starts for Gretchen_10:
(Start: 26 @9050 has 54 MA's), (39, 9125), (41, 9146), (56, 9239),

Gene: Gustav_9 Start: 6894, Stop: 7172, Start Num: 22
Candidate Starts for Gustav_9:
(Start: 22 @6894 has 10 MA's), (32, 6930), (41, 6987), (46, 7020), (47, 7032), (48, 7038), (57, 7077), (63, 7125),

Gene: Hamood_15 Start: 9368, Stop: 9646, Start Num: 36
Candidate Starts for Hamood_15:
(Start: 35 @9365 has 3 MA's), (Start: 36 @9368 has 13 MA's), (50, 9479), (56, 9521), (59, 9539), (62, 9566),

Gene: HannahD_10 Start: 7213, Stop: 7509, Start Num: 21
Candidate Starts for HannahD_10:
(Start: 21 @7213 has 3 MA's), (Start: 24 @7219 has 11 MA's), (32, 7255), (41, 7315), (61, 7441), (69, 7495),

Gene: Hedwig_11 Start: 7580, Stop: 7870, Start Num: 24
Candidate Starts for Hedwig_11:
(Start: 24 @7580 has 11 MA's), (47, 7730),

Gene: Heinz_10 Start: 7185, Stop: 7466, Start Num: 22

Candidate Starts for Heinz_10:

(4, 6783), (11, 6966), (19, 7134), (Start: 22 @7185 has 10 MA's), (34, 7233), (39, 7260),

Gene: Hibiscus_10 Start: 7156, Stop: 7443, Start Num: 22

Candidate Starts for Hibiscus_10:

(11, 6937), (19, 7105), (Start: 22 @7156 has 10 MA's), (39, 7234),

Gene: Honk_9 Start: 7045, Stop: 7326, Start Num: 26

Candidate Starts for Honk_9:

(8, 6799), (15, 6955), (Start: 26 @7045 has 54 MA's), (32, 7072), (39, 7111),

Gene: IAmGroot_10 Start: 8815, Stop: 9105, Start Num: 26

Candidate Starts for IAmGroot_10:

(Start: 26 @8815 has 54 MA's), (41, 8908),

Gene: IdentityCrisis_11 Start: 8164, Stop: 8412, Start Num: 35

Candidate Starts for IdentityCrisis_11:

(Start: 35 @8164 has 3 MA's), (37, 8170), (54, 8281), (71, 8398),

Gene: Iter_11 Start: 8748, Stop: 9053, Start Num: 26

Candidate Starts for Iter_11:

(Start: 26 @8748 has 54 MA's), (33, 8790), (42, 8853),

Gene: IttyBittyPiggy_11 Start: 8739, Stop: 9041, Start Num: 26

Candidate Starts for IttyBittyPiggy_11:

(Start: 26 @8739 has 54 MA's), (33, 8781), (42, 8844), (55, 8931),

Gene: Janeemi_12 Start: 9825, Stop: 10130, Start Num: 26

Candidate Starts for Janeemi_12:

(Start: 26 @9825 has 54 MA's), (33, 9867), (42, 9930), (43, 9942), (49, 9981), (55, 10020),

Gene: JasmineDragon_10 Start: 7008, Stop: 7289, Start Num: 26

Candidate Starts for JasmineDragon_10:

(Start: 26 @7008 has 54 MA's), (32, 7041), (33, 7050), (53, 7164), (64, 7245),

Gene: Joemato_12 Start: 8735, Stop: 9040, Start Num: 26

Candidate Starts for Joemato_12:

(Start: 26 @8735 has 54 MA's), (33, 8777),

Gene: JohnDoe_11 Start: 8733, Stop: 9038, Start Num: 26

Candidate Starts for JohnDoe_11:

(Start: 26 @8733 has 54 MA's), (33, 8775),

Gene: Jojo24_10 Start: 7151, Stop: 7438, Start Num: 22

Candidate Starts for Jojo24_10:

(11, 6932), (19, 7100), (Start: 22 @7151 has 10 MA's), (39, 7229),

Gene: Jstan_11 Start: 8714, Stop: 9019, Start Num: 26

Candidate Starts for Jstan_11:

(8, 8444), (Start: 26 @8714 has 54 MA's), (33, 8756), (42, 8819), (49, 8870), (55, 8909),

Gene: JuneStar_11 Start: 8833, Stop: 9135, Start Num: 26
Candidate Starts for JuneStar_11:
(Start: 26 @8833 has 54 MA's), (33, 8875), (42, 8938), (49, 8989), (55, 9025),

Gene: Kaylissa_11 Start: 8736, Stop: 9041, Start Num: 26
Candidate Starts for Kaylissa_11:
(Start: 26 @8736 has 54 MA's), (33, 8778),

Gene: KeAlii_11 Start: 8765, Stop: 9073, Start Num: 26
Candidate Starts for KeAlii_11:
(Start: 26 @8765 has 54 MA's), (32, 8798), (33, 8807), (60, 8993), (69, 9053),

Gene: Kiko_11 Start: 7416, Stop: 7706, Start Num: 24
Candidate Starts for Kiko_11:
(10, 7176), (Start: 21 @7410 has 3 MA's), (Start: 24 @7416 has 11 MA's), (43, 7536), (56, 7608),

Gene: Lego_11 Start: 8734, Stop: 9042, Start Num: 26
Candidate Starts for Lego_11:
(Start: 26 @8734 has 54 MA's), (33, 8776), (37, 8794),

Gene: Liebe_10 Start: 7184, Stop: 7495, Start Num: 26
Candidate Starts for Liebe_10:
(Start: 26 @7184 has 54 MA's), (42, 7289), (60, 7412),

Gene: Lizalica_11 Start: 8720, Stop: 9028, Start Num: 26
Candidate Starts for Lizalica_11:
(8, 8450), (Start: 26 @8720 has 54 MA's), (33, 8762),

Gene: London_11 Start: 8714, Stop: 9019, Start Num: 26
Candidate Starts for London_11:
(8, 8444), (Start: 26 @8714 has 54 MA's), (33, 8756), (42, 8819), (49, 8870), (55, 8909),

Gene: MaGuCo_10 Start: 7043, Stop: 7435, Start Num: 26
Candidate Starts for MaGuCo_10:
(Start: 26 @7043 has 54 MA's), (27, 7049), (41, 7136), (42, 7148), (60, 7271),

Gene: Mabodamaca_10 Start: 8271, Stop: 8558, Start Num: 26
Candidate Starts for Mabodamaca_10:
(Start: 26 @8271 has 54 MA's), (64, 8505), (69, 8535),

Gene: MagicMan_10 Start: 7547, Stop: 7837, Start Num: 24
Candidate Starts for MagicMan_10:
(Start: 24 @7547 has 11 MA's), (34, 7595), (41, 7643), (47, 7697), (61, 7769), (69, 7823),

Gene: Mahdia_9 Start: 6893, Stop: 7174, Start Num: 22
Candidate Starts for Mahdia_9:
(Start: 22 @6893 has 10 MA's), (32, 6932), (47, 7034), (48, 7040), (57, 7079),

Gene: Malibo_10 Start: 7477, Stop: 7743, Start Num: 26
Candidate Starts for Malibo_10:
(Start: 26 @7477 has 54 MA's), (38, 7537), (43, 7573), (47, 7603), (48, 7609), (56, 7645), (60, 7669),
(69, 7729),

Gene: Maureen_10 Start: 7184, Stop: 7495, Start Num: 26

Candidate Starts for Maureen_10:

(Start: 26 @7184 has 54 MA's), (42, 7289), (60, 7412),

Gene: MiniMommy_9 Start: 7008, Stop: 7289, Start Num: 26

Candidate Starts for MiniMommy_9:

(Start: 26 @7008 has 54 MA's), (32, 7041), (53, 7164), (64, 7245),

Gene: MissSwiss_11 Start: 8710, Stop: 9018, Start Num: 25

Candidate Starts for MissSwiss_11:

(Start: 25 @8710 has 3 MA's), (37, 8773), (53, 8890), (55, 8908), (69, 8998),

Gene: Morrissey_9 Start: 6870, Stop: 7154, Start Num: 22

Candidate Starts for Morrissey_9:

(Start: 22 @6870 has 10 MA's), (32, 6909), (38, 6942), (41, 6966), (47, 7014), (57, 7059),

Gene: Moss_13 Start: 8267, Stop: 8554, Start Num: 25

Candidate Starts for Moss_13:

(Start: 25 @8267 has 3 MA's), (51, 8417), (56, 8453), (58, 8459),

Gene: Mudpuppy_11 Start: 8734, Stop: 9042, Start Num: 26

Candidate Starts for Mudpuppy_11:

(Start: 26 @8734 has 54 MA's), (33, 8776), (37, 8794), (49, 8890),

Gene: Mulch_15 Start: 9335, Stop: 9613, Start Num: 36

Candidate Starts for Mulch_15:

(Start: 35 @9332 has 3 MA's), (Start: 36 @9335 has 13 MA's), (45, 9413), (50, 9446), (52, 9458), (56, 9488), (62, 9533), (65, 9548),

Gene: Nadeem_15 Start: 9335, Stop: 9613, Start Num: 36

Candidate Starts for Nadeem_15:

(Start: 35 @9332 has 3 MA's), (Start: 36 @9335 has 13 MA's), (45, 9413), (50, 9446), (52, 9458), (56, 9488), (62, 9533), (65, 9548),

Gene: NancyRae_15 Start: 9335, Stop: 9613, Start Num: 36

Candidate Starts for NancyRae_15:

(Start: 35 @9332 has 3 MA's), (Start: 36 @9335 has 13 MA's), (45, 9413), (50, 9446), (52, 9458), (56, 9488), (62, 9533), (65, 9548),

Gene: Niobe_11 Start: 8714, Stop: 9019, Start Num: 26

Candidate Starts for Niobe_11:

(8, 8444), (Start: 26 @8714 has 54 MA's), (33, 8756), (42, 8819), (49, 8870), (55, 8909),

Gene: Nitro_11 Start: 8737, Stop: 9042, Start Num: 26

Candidate Starts for Nitro_11:

(8, 8461), (Start: 26 @8737 has 54 MA's), (33, 8779), (37, 8797), (42, 8842), (55, 8932),

Gene: ObiToo_11 Start: 8917, Stop: 9225, Start Num: 26

Candidate Starts for ObiToo_11:

(Start: 26 @8917 has 54 MA's), (42, 9022), (43, 9034), (55, 9112),

Gene: Opie_10 Start: 7562, Stop: 7852, Start Num: 24

Candidate Starts for Opie_10:

(Start: 24 @7562 has 11 MA's), (32, 7598), (41, 7658), (56, 7754), (63, 7805),

Gene: Parada_15 Start: 9335, Stop: 9613, Start Num: 36

Candidate Starts for Parada_15:

(Start: 35 @9332 has 3 MA's), (Start: 36 @9335 has 13 MA's), (45, 9413), (50, 9446), (52, 9458), (56, 9488), (62, 9533), (65, 9548),

Gene: Percival_10 Start: 8884, Stop: 9174, Start Num: 26

Candidate Starts for Percival_10:

(Start: 26 @8884 has 54 MA's), (39, 8959), (41, 8980), (56, 9073),

Gene: Phives_12 Start: 9819, Stop: 10124, Start Num: 26

Candidate Starts for Phives_12:

(8, 9549), (Start: 26 @9819 has 54 MA's), (33, 9861), (43, 9936),

Gene: Pimento_15 Start: 9536, Stop: 9817, Start Num: 35

Candidate Starts for Pimento_15:

(7, 9194), (Start: 35 @9536 has 3 MA's), (Start: 36 @9539 has 13 MA's), (45, 9617), (50, 9650), (52, 9662), (56, 9692), (62, 9737), (65, 9752),

Gene: Pixelle_11 Start: 8762, Stop: 9067, Start Num: 26

Candidate Starts for Pixelle_11:

(8, 8492), (Start: 26 @8762 has 54 MA's), (33, 8804), (43, 8879),

Gene: Powerpuff_11 Start: 8785, Stop: 9093, Start Num: 26

Candidate Starts for Powerpuff_11:

(Start: 26 @8785 has 54 MA's), (33, 8827), (49, 8941),

Gene: Pumpkins_20 Start: 8839, Stop: 9144, Start Num: 26

Candidate Starts for Pumpkins_20:

(Start: 26 @8839 has 54 MA's), (33, 8881), (42, 8944), (55, 9034),

Gene: Puppies_9 Start: 6807, Stop: 7094, Start Num: 22

Candidate Starts for Puppies_9:

(16, 6720), (20, 6783), (Start: 22 @6807 has 10 MA's), (41, 6909), (47, 6954), (48, 6960), (57, 6999), (63, 7047), (69, 7080),

Gene: RayTheFireFly_11 Start: 7613, Stop: 7882, Start Num: 26

Candidate Starts for RayTheFireFly_11:

(Start: 26 @7613 has 54 MA's), (39, 7679), (47, 7742), (48, 7748), (56, 7784), (59, 7802),

Gene: Reedo_11 Start: 8786, Stop: 9091, Start Num: 26

Candidate Starts for Reedo_11:

(Start: 26 @8786 has 54 MA's), (33, 8828), (40, 8861), (69, 9071),

Gene: Reyja_11 Start: 7295, Stop: 7579, Start Num: 22

Candidate Starts for Reyja_11:

(19, 7244), (Start: 22 @7295 has 10 MA's), (39, 7370),

Gene: Ruthy_12 Start: 8144, Stop: 8419, Start Num: 36

Candidate Starts for Ruthy_12:

(13, 7916), (Start: 36 @8144 has 13 MA's), (45, 8219), (62, 8339),

Gene: Santhid_10 Start: 7160, Stop: 7447, Start Num: 22

Candidate Starts for Santhid_10:

(19, 7109), (Start: 22 @7160 has 10 MA's), (39, 7238),

Gene: Schnabeltier_10 Start: 7548, Stop: 7838, Start Num: 24

Candidate Starts for Schnabeltier_10:

(Start: 24 @7548 has 11 MA's), (34, 7596), (41, 7644), (47, 7698), (61, 7770), (69, 7824),

Gene: ShakeltOph_10 Start: 7008, Stop: 7289, Start Num: 26

Candidate Starts for ShakeltOph_10:

(Start: 26 @7008 has 54 MA's), (32, 7041), (33, 7050), (53, 7164), (64, 7245),

Gene: Simpson_12 Start: 8735, Stop: 9040, Start Num: 26

Candidate Starts for Simpson_12:

(Start: 26 @8735 has 54 MA's), (33, 8777),

Gene: Snek_11 Start: 7822, Stop: 8127, Start Num: 26

Candidate Starts for Snek_11:

(Start: 26 @7822 has 54 MA's), (33, 7861), (48, 7972), (64, 8077), (69, 8107),

Gene: Soondubu_10 Start: 8626, Stop: 8931, Start Num: 25

Candidate Starts for Soondubu_10:

(Start: 25 @8626 has 3 MA's), (32, 8662), (33, 8671), (53, 8806), (58, 8836),

Gene: SuMoo_9 Start: 7231, Stop: 7518, Start Num: 26

Candidate Starts for SuMoo_9:

(Start: 26 @7231 has 54 MA's), (64, 7465), (69, 7495),

Gene: Sue2_11 Start: 8727, Stop: 9035, Start Num: 25

Candidate Starts for Sue2_11:

(Start: 25 @8727 has 3 MA's), (33, 8772), (60, 8958),

Gene: TaronosaurusRx_10 Start: 7561, Stop: 7851, Start Num: 24

Candidate Starts for TaronosaurusRx_10:

(Start: 24 @7561 has 11 MA's), (32, 7597), (41, 7657), (47, 7711), (61, 7783), (63, 7804),

Gene: Tarzan_10 Start: 7151, Stop: 7435, Start Num: 22

Candidate Starts for Tarzan_10:

(11, 6932), (19, 7100), (Start: 22 @7151 has 10 MA's), (37, 7214),

Gene: Tbone_11 Start: 8728, Stop: 9036, Start Num: 26

Candidate Starts for Tbone_11:

(Start: 26 @8728 has 54 MA's), (33, 8770), (37, 8788), (42, 8833), (49, 8884),

Gene: TforTroy_11 Start: 8862, Stop: 9164, Start Num: 26

Candidate Starts for TforTroy_11:

(Start: 26 @8862 has 54 MA's), (33, 8904), (42, 8967), (49, 9018), (55, 9054),

Gene: Tian_11 Start: 8759, Stop: 9064, Start Num: 26

Candidate Starts for Tian_11:

(8, 8489), (Start: 26 @8759 has 54 MA's), (33, 8801), (43, 8876),

Gene: Trine_9 Start: 6815, Stop: 7090, Start Num: 24

Candidate Starts for Trine_9:

(9, 6551), (12, 6641), (14, 6716), (17, 6728), (Start: 24 @6815 has 11 MA's), (41, 6911), (48, 6956), (57, 6995), (58, 6998),

Gene: Tuck_12 Start: 9774, Stop: 10079, Start Num: 26

Candidate Starts for Tuck_12:

(Start: 26 @9774 has 54 MA's), (33, 9816), (42, 9879), (43, 9891), (55, 9969),

Gene: Turab_11 Start: 8743, Stop: 9048, Start Num: 26

Candidate Starts for Turab_11:

(8, 8473), (Start: 26 @8743 has 54 MA's), (33, 8785), (42, 8848), (55, 8938),

Gene: Tutumahutu_11 Start: 8785, Stop: 9093, Start Num: 26

Candidate Starts for Tutumahutu_11:

(Start: 26 @8785 has 54 MA's), (33, 8827), (49, 8941),

Gene: Tweety19_11 Start: 7821, Stop: 8126, Start Num: 26

Candidate Starts for Tweety19_11:

(Start: 26 @7821 has 54 MA's), (33, 7860), (48, 7971), (64, 8076), (69, 8106),

Gene: Upyo_9 Start: 6827, Stop: 7114, Start Num: 21

Candidate Starts for Upyo_9:

(1, 6347), (5, 6449), (6, 6473), (16, 6746), (18, 6767), (Start: 21 @6827 has 3 MA's), (23, 6833), (28, 6854), (48, 6980), (56, 7016), (57, 7019), (66, 7088), (69, 7100), (70, 7103),

Gene: UtzChips_9 Start: 7926, Stop: 8207, Start Num: 26

Candidate Starts for UtzChips_9:

(Start: 26 @7926 has 54 MA's), (44, 8040),

Gene: VResidence_11 Start: 8797, Stop: 9105, Start Num: 25

Candidate Starts for VResidence_11:

(8, 8530), (15, 8698), (Start: 25 @8797 has 3 MA's), (69, 9088),

Gene: VroomVroom_10 Start: 7020, Stop: 7301, Start Num: 26

Candidate Starts for VroomVroom_10:

(Start: 26 @7020 has 54 MA's), (32, 7053), (33, 7062), (37, 7080), (53, 7176),

Gene: Warda_11 Start: 8731, Stop: 9039, Start Num: 26

Candidate Starts for Warda_11:

(Start: 26 @8731 has 54 MA's), (33, 8773), (37, 8791), (49, 8887),

Gene: WheatThin_15 Start: 9332, Stop: 9613, Start Num: 35

Candidate Starts for WheatThin_15:

(Start: 35 @9332 has 3 MA's), (Start: 36 @9335 has 13 MA's), (45, 9413), (50, 9446), (52, 9458), (56, 9488), (62, 9533), (65, 9548),

Gene: Widow_9 Start: 6798, Stop: 7085, Start Num: 22

Candidate Starts for Widow_9:

(20, 6774), (Start: 22 @6798 has 10 MA's), (41, 6900), (47, 6945), (48, 6951), (57, 6990), (63, 7038), (69, 7071),

Gene: Wildwest_12 Start: 9644, Stop: 9949, Start Num: 26

Candidate Starts for Wildwest_12:

(Start: 26 @9644 has 54 MA's), (31, 9668), (33, 9686), (69, 9929), (72, 9938),

Gene: Yang_11 Start: 8832, Stop: 9134, Start Num: 26

Candidate Starts for Yang_11:

(Start: 26 @8832 has 54 MA's), (33, 8874), (42, 8937), (49, 8988), (55, 9024),

Gene: YesChef_11 Start: 8785, Stop: 9093, Start Num: 26

Candidate Starts for YesChef_11:

(Start: 26 @8785 has 54 MA's), (33, 8827), (49, 8941),

Gene: ZAYM_10 Start: 7554, Stop: 7844, Start Num: 24

Candidate Starts for ZAYM_10:

(Start: 24 @7554 has 11 MA's), (41, 7650), (47, 7704), (61, 7776), (63, 7797), (69, 7830),

Gene: Zeta1847_9 Start: 7022, Stop: 7303, Start Num: 26

Candidate Starts for Zeta1847_9:

(15, 6935), (Start: 26 @7022 has 54 MA's), (32, 7049),