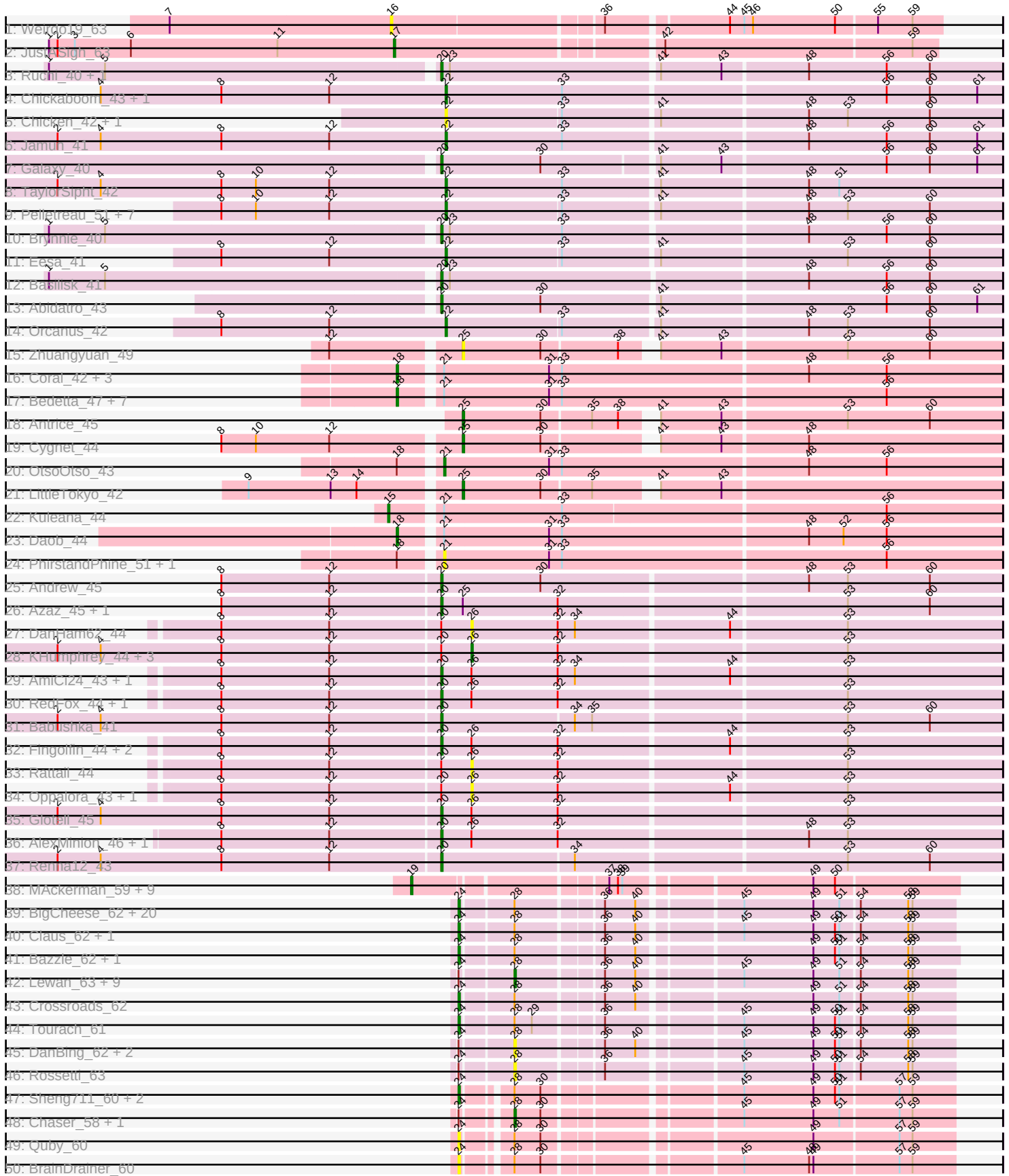
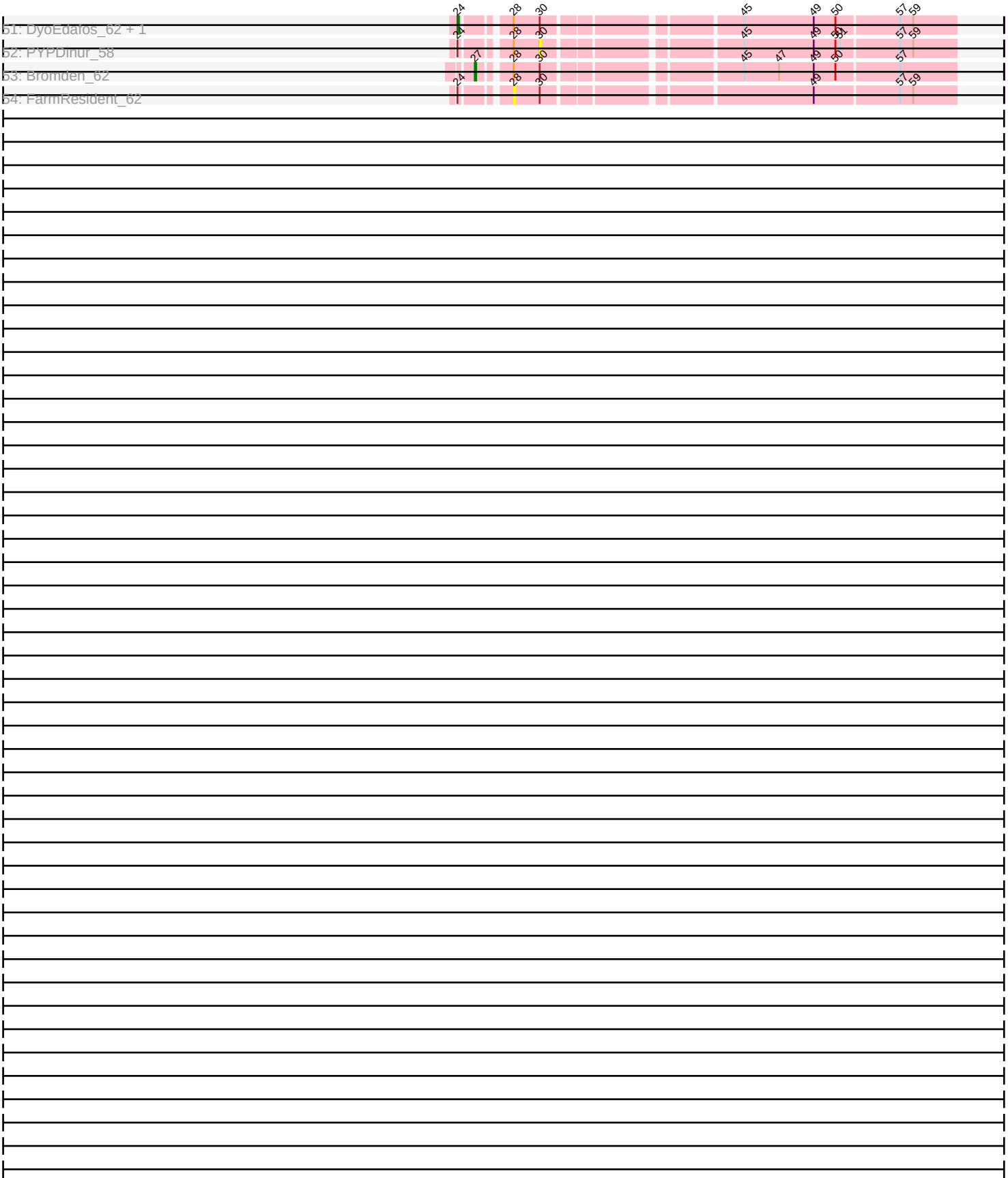




Pham 243088



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 243088 Report

This analysis was run 02/07/26 on database version 634.

Pham number 243088 has 131 members, 45 are drafts.

Phages represented in each track:

- Track 1 : Weirido19_63
- Track 2 : JustASigh_63
- Track 3 : Ruchi_40, Vulpecula_40
- Track 4 : Chickaboom_43, WileyE_47
- Track 5 : Chicken_42, Niblet_45
- Track 6 : Jamun_41
- Track 7 : Galaxy_40
- Track 8 : TaylorSipht_42
- Track 9 : Pelletreau_51, KendraB23_52, Amanises_51, Toad24_44, Gravel_51, Zixiang_45, Westrich_50, Shen_41
- Track 10 : Brynnie_40
- Track 11 : Eesa_41
- Track 12 : Basilisk_41
- Track 13 : Abidatro_43
- Track 14 : Orcanus_42
- Track 15 : Zhuangyuan_49
- Track 16 : Coral_42, Kepler_44, Melons_44, Polka_42
- Track 17 : Bedetta_47, Colusalem_43, HannahPhantana_43, Lunar_44, Pineda_45, Amelia_42, Jerole_43, Cote_44
- Track 18 : Antrice_45
- Track 19 : Cygnet_44
- Track 20 : OtsoOtso_43
- Track 21 : LittleTokyo_42
- Track 22 : Kuleana_44
- Track 23 : Daob_44
- Track 24 : PhirstandPhine_51, Bibble12_46
- Track 25 : Andrew_45
- Track 26 : Azaz_45, Leona_43
- Track 27 : DanHam62_44
- Track 28 : KHumphrey_44, AdoptaAdorbs_43, Camara_44, Amphitrite_44
- Track 29 : AmiCi24_43, Atlantica_44
- Track 30 : RedFox_44, PhluffyCoco_44
- Track 31 : Babushka_41
- Track 32 : Fingolfin_44, Juno112_43, HamCheese_44
- Track 33 : Rattail_44
- Track 34 : Oppalora_43, Laphuphu24k_43
- Track 35 : Glotell_45

- Track 36 : AlexMinion_46, StuartMinion_36
- Track 37 : Renna12_43
- Track 38 : MAckerman_59, Zaria_61, Appletree2_60, LeBron_59, UPIE_60, DirkDirk_57, OhShagHennessy_58, Calm_61, Wamburggrxpress_60, Halena_58
- Track 39 : BigCheese_62, Miley16_62, Wigglewiggles_62, Zakai_63, DrSeegs_62, Finemlucis_62, GuuelaD_61, Nicholasp3_62, Gardann_63, Faith1_62, Breezona_62, Underpass_53, Gabriela_59, Itos_61, Rumpelstiltskin_61, Vetrix_62, Netyap_63, Wilder_63, Loadrie_61, Kahlid_62, Winky_62
- Track 40 : Claus_62, ZhongYanYuan_60
- Track 41 : Bazzle_62, Archie_62
- Track 42 : Lewan_63, Lynnae_63, BobsGarage_62, Soap141_62, MkaliMitinis3_63, OverPar_63, Sarshaun_62, LilDestine_62, SoJulia_64, Hafay_63
- Track 43 : Crossroads_62
- Track 44 : Tourach_61
- Track 45 : DanBing_62, Baoshan_60, DHan_63
- Track 46 : Rossetti_63
- Track 47 : Sheng711_60, Douge_60, Douzhi_60
- Track 48 : Chaser_58, ChutneyChips_58
- Track 49 : Quby_60
- Track 50 : BrainDrainer_60
- Track 51 : DyoEdafos_62, Kropertea_58
- Track 52 : PYPDinur_58
- Track 53 : Bromden_62
- Track 54 : FarmResident_62

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

The start number called the most often in the published annotations is 24, it was called in 28 of the 86 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Archie_62, Bazzle_62, BigCheese_62, BrainDrainer_60, Breezona_62, Claus_62, Crossroads_62, Douge_60, Douzhi_60, DrSeegs_62, DyoEdafos_62, Faith1_62, Finemlucis_62, Gabriela_59, Gardann_63, GuuelaD_61, Itos_61, Kahlid_62, Kropertea_58, Loadrie_61, Miley16_62, Netyap_63, Nicholasp3_62, Quby_60, Rumpelstiltskin_61, Sheng711_60, Tourach_61, Underpass_53, Vetrix_62, Wigglewiggles_62, Wilder_63, Winky_62, Zakai_63, ZhongYanYuan_60,

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

- Baoshan_60, BobsGarage_62, Chaser_58, ChutneyChips_58, DHan_63, DanBing_62, FarmResident_62, Hafay_63, Lewan_63, LilDestine_62, Lynnae_63, MkaliMitinis3_63, OverPar_63, PYPDinur_58, Rossetti_63, Sarshaun_62, SoJulia_64, Soap141_62,

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

- Abidatro_43, AdoptaAdorbs_43, AlexMinion_46, Amanises_51, Amelia_42, AmiCi24_43, Amphitrite_44, Andrew_45, Antrice_45, Appletree2_60, Atlantica_44, Azaz_45, Babushka_41, Basilisk_41, Bedetta_47, Bibble12_46, Bromden_62, Brynnie_40, Calm_61, Camara_44, Chickaboom_43, Chicken_42, Colusalem_43, Coral_42, Cote_44, Cygnet_44, DanHam62_44, Daob_44, DirkDirk_57, Eesa_41,

Fingolfin_44, Galaxy_40, Glotell_45, Gravel_51, Halena_58, HamCheese_44, HannahPhantana_43, Jamun_41, Jerole_43, Juno112_43, JustASigh_63, KHumphrey_44, KendraB23_52, Kepler_44, Kuleana_44, Laphuphu24k_43, LeBron_59, Leona_43, LittleTokyo_42, Lunar_44, MAckerman_59, Melons_44, Niblet_45, OhShagHennessy_58, Oppalora_43, Orcanus_42, OtsoOtso_43, Pelletreau_51, PhirstandPhine_51, PhluffyCoco_44, Pineda_45, Polka_42, Rattail_44, RedFox_44, Renna12_43, Ruchi_40, Shen_41, StuartMinion_36, TaylorSipht_42, Toad24_44, UPIE_60, Vulpecula_40, Wamburggrxpress_60, Weirido19_63, Westrich_50, WileyE_47, Zaria_61, Zhuangyuan_49, Zixiang_45,

Summary by start number:

Start 15:

- Found in 1 of 131 (0.8%) of genes in pham
- Manual Annotations of this start: 1 of 86
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kuleana_44 (AS2),

Start 16:

- Found in 1 of 131 (0.8%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Weirido19_63 (AH),

Start 17:

- Found in 1 of 131 (0.8%) of genes in pham
- Manual Annotations of this start: 1 of 86
- Called 100.0% of time when present
- Phage (with cluster) where this start called: JustASigh_63 (AH),

Start 18:

- Found in 16 of 131 (12.2%) of genes in pham
- Manual Annotations of this start: 11 of 86
- Called 81.2% of time when present
- Phage (with cluster) where this start called: Amelia_42 (AS2), Bedetta_47 (AS2), Colusalem_43 (AS2), Coral_42 (AS2), Cote_44 (AS2), Daob_44 (AS2), HannahPhantana_43 (AS2), Jerole_43 (AS2), Kepler_44 (AS2), Lunar_44 (AS2), Melons_44 (AS2), Pineda_45 (AS2), Polka_42 (AS2),

Start 19:

- Found in 10 of 131 (7.6%) of genes in pham
- Manual Annotations of this start: 10 of 86
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Appletree2_60 (L1), Calm_61 (L1), DirkDirk_57 (L1), Halena_58 (L1), LeBron_59 (L1), MAckerman_59 (L1), OhShagHennessy_58 (L1), UPIE_60 (L1), Wamburggrxpress_60 (L1), Zaria_61 (L1),

Start 20:

- Found in 29 of 131 (22.1%) of genes in pham
- Manual Annotations of this start: 18 of 86
- Called 72.4% of time when present
- Phage (with cluster) where this start called: Abidatro_43 (AS1), AlexMinion_46 (AS3), AmiCi24_43 (AS3), Andrew_45 (AS3), Atlantica_44 (AS3), Azaz_45 (AS3),

Babushka_41 (AS3), Basilisk_41 (AS1), Brynnie_40 (AS1), Fingolfin_44 (AS3), Galaxy_40 (AS1), Glotell_45 (AS3), HamCheese_44 (AS3), Juno112_43 (AS3), Leona_43 (AS3), PhluffyCoco_44 (AS3), RedFox_44 (AS3), Renna12_43 (AS3), Ruchi_40 (AS1), StuartMinion_36 (AS3), Vulpecula_40 (AS1),

Start 21:

- Found in 17 of 131 (13.0%) of genes in pham
- Manual Annotations of this start: 1 of 86
- Called 17.6% of time when present
- Phage (with cluster) where this start called: Bibble12_46 (AS2), OtsoOtso_43 (AS2), PhirstandPhine_51 (AS2),

Start 22:

- Found in 16 of 131 (12.2%) of genes in pham
- Manual Annotations of this start: 6 of 86
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Amanises_51 (AS1), Chickaboom_43 (AS1), Chicken_42 (AS1), Eesa_41 (AS1), Gravel_51 (AS1), Jamun_41 (AS1), KendraB23_52 (AS1), Niblet_45 (AS1), Orcanus_42 (AS1), Pelletreau_51 (AS1), Shen_41 (AS1), TaylorSipht_42 (AS1), Toad24_44 (AS1), Westrich_50 (AS1), WileyE_47 (AS1), Zixiang_45 (AS1),

Start 24:

- Found in 52 of 131 (39.7%) of genes in pham
- Manual Annotations of this start: 28 of 86
- Called 65.4% of time when present
- Phage (with cluster) where this start called: Archie_62 (L2), Bazzle_62 (L2), BigCheese_62 (L2), BrainDrainer_60 (L4), Breezona_62 (L2), Claus_62 (L2), Crossroads_62 (L2), Douge_60 (L4), Douzhi_60 (L4), DrSeegs_62 (L2), DyoEdafos_62 (L4), Faith1_62 (L2), Finemlucis_62 (L2), Gabriela_59 (L2), Gardann_63 (L2), GuuelaD_61 (L2), Itos_61 (L2), Kahlid_62 (L2), Kropertea_58 (L4), Loadrie_61 (L2), Miley16_62 (L2), Netyap_63 (L2), Nicholasp3_62 (L2), Quby_60 (L4), Rumpelstiltskin_61 (L2), Sheng711_60 (L4), Tourach_61 (L2), Underpass_53 (L2), Vetrix_62 (L2), Wigglewiggle_62 (L2), Wilder_63 (L2), Winky_62 (L2), Zakai_63 (L2), ZhongYanYuan_60 (L2),

Start 25:

- Found in 6 of 131 (4.6%) of genes in pham
- Manual Annotations of this start: 3 of 86
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Antrice_45 (AS2), Cygnet_44 (AS2), LittleTokyo_42 (AS2), Zhuangyuan_49 (AS2),

Start 26:

- Found in 18 of 131 (13.7%) of genes in pham
- Manual Annotations of this start: 1 of 86
- Called 44.4% of time when present
- Phage (with cluster) where this start called: AdoptaAdorbs_43 (AS3), Amphitrite_44 (AS3), Camara_44 (AS3), DanHam62_44 (AS3), KHumphrey_44 (AS3), Laphuphu24k_43 (AS3), Oppalora_43 (AS3), Rattail_44 (AS3),

Start 27:

- Found in 1 of 131 (0.8%) of genes in pham

- Manual Annotations of this start: 1 of 86
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bromden_62 (L4),

Start 28:

- Found in 53 of 131 (40.5%) of genes in pham
- Manual Annotations of this start: 5 of 86
- Called 32.1% of time when present
- Phage (with cluster) where this start called: Baoshan_60 (L2), BobsGarage_62 (L2), Chaser_58 (L4), ChutneyChips_58 (L4), DHan_63 (L2), DanBing_62 (L2), FarmResident_62 (L4), Hafay_63 (L2), Lewan_63 (L2), LilDestine_62 (L2), Lynnae_63 (L2), MkaliMitinis3_63 (L2), OverPar_63 (L2), Rossetti_63 (L2), Sarshaun_62 (L2), SoJulia_64 (L2), Soap141_62 (L2),

Start 30:

- Found in 19 of 131 (14.5%) of genes in pham
- No Manual Annotations of this start.
- Called 5.3% of time when present
- Phage (with cluster) where this start called: PYPDinur_58 (L4),

Summary by clusters:

There are 7 clusters represented in this pham: AS3, AS2, AS1, AH, L4, L2, L1,

Info for manual annotations of cluster AH:

- Start number 17 was manually annotated 1 time for cluster AH.

Info for manual annotations of cluster AS1:

- Start number 20 was manually annotated 6 times for cluster AS1.
- Start number 22 was manually annotated 6 times for cluster AS1.

Info for manual annotations of cluster AS2:

- Start number 15 was manually annotated 1 time for cluster AS2.
- Start number 18 was manually annotated 11 times for cluster AS2.
- Start number 21 was manually annotated 1 time for cluster AS2.
- Start number 25 was manually annotated 3 times for cluster AS2.

Info for manual annotations of cluster AS3:

- Start number 20 was manually annotated 12 times for cluster AS3.
- Start number 26 was manually annotated 1 time for cluster AS3.

Info for manual annotations of cluster L1:

- Start number 19 was manually annotated 10 times for cluster L1.

Info for manual annotations of cluster L2:

- Start number 24 was manually annotated 26 times for cluster L2.
- Start number 28 was manually annotated 4 times for cluster L2.

Info for manual annotations of cluster L4:

- Start number 24 was manually annotated 2 times for cluster L4.
- Start number 27 was manually annotated 1 time for cluster L4.
- Start number 28 was manually annotated 1 time for cluster L4.

Gene Information:

Gene: Abidatro_43 Start: 28625, Stop: 29005, Start Num: 20

Candidate Starts for Abidatro_43:

(Start: 20 @28625 has 18 MA's), (30, 28694), (41, 28772), (56, 28925), (60, 28955), (61, 28988),

Gene: AdoptaAdorbs_43 Start: 27883, Stop: 28242, Start Num: 26

Candidate Starts for AdoptaAdorbs_43:

(2, 27598), (4, 27628), (8, 27712), (12, 27787), (Start: 20 @27862 has 18 MA's), (Start: 26 @27883 has 1 MA's), (32, 27943), (53, 28135),

Gene: AlexMinion_46 Start: 28118, Stop: 28498, Start Num: 20

Candidate Starts for AlexMinion_46:

(8, 27968), (12, 28043), (Start: 20 @28118 has 18 MA's), (Start: 26 @28139 has 1 MA's), (32, 28199), (48, 28364), (53, 28391),

Gene: Amanises_51 Start: 29559, Stop: 29933, Start Num: 22

Candidate Starts for Amanises_51:

(8, 29403), (10, 29427), (12, 29478), (Start: 22 @29559 has 6 MA's), (33, 29637), (41, 29700), (48, 29799), (53, 29826), (60, 29883),

Gene: Amelia_42 Start: 26881, Stop: 27288, Start Num: 18

Candidate Starts for Amelia_42:

(Start: 18 @26881 has 11 MA's), (Start: 21 @26905 has 1 MA's), (31, 26977), (33, 26986), (56, 27208),

Gene: AmiCi24_43 Start: 27962, Stop: 28342, Start Num: 20

Candidate Starts for AmiCi24_43:

(8, 27812), (12, 27887), (Start: 20 @27962 has 18 MA's), (Start: 26 @27983 has 1 MA's), (32, 28043), (34, 28055), (44, 28157), (53, 28235),

Gene: Amphitrite_44 Start: 27882, Stop: 28241, Start Num: 26

Candidate Starts for Amphitrite_44:

(2, 27597), (4, 27627), (8, 27711), (12, 27786), (Start: 20 @27861 has 18 MA's), (Start: 26 @27882 has 1 MA's), (32, 27942), (53, 28134),

Gene: Andrew_45 Start: 27847, Stop: 28227, Start Num: 20

Candidate Starts for Andrew_45:

(8, 27697), (12, 27772), (Start: 20 @27847 has 18 MA's), (30, 27916), (48, 28093), (53, 28120), (60, 28177),

Gene: Antrice_45 Start: 28108, Stop: 28461, Start Num: 25

Candidate Starts for Antrice_45:

(Start: 25 @28108 has 3 MA's), (30, 28162), (35, 28195), (38, 28213), (41, 28228), (43, 28270), (53, 28354), (60, 28411),

Gene: Appletree2_60 Start: 42652, Stop: 42999, Start Num: 19

Candidate Starts for Appletree2_60:

(Start: 19 @42652 has 10 MA's), (37, 42772), (38, 42778), (39, 42781), (49, 42901), (50, 42916),

Gene: Archie_62 Start: 44654, Stop: 44971, Start Num: 24

Candidate Starts for Archie_62:

(Start: 24 @44654 has 28 MA's), (Start: 28 @44687 has 5 MA's), (36, 44741), (40, 44762), (49, 44873), (50, 44888), (51, 44891), (54, 44903), (58, 44936), (59, 44939),

Gene: Atlantica_44 Start: 27964, Stop: 28344, Start Num: 20

Candidate Starts for Atlantica_44:

(8, 27814), (12, 27889), (Start: 20 @27964 has 18 MA's), (Start: 26 @27985 has 1 MA's), (32, 28045), (34, 28057), (44, 28159), (53, 28237),

Gene: Azaz_45 Start: 28042, Stop: 28422, Start Num: 20

Candidate Starts for Azaz_45:

(8, 27892), (12, 27967), (Start: 20 @28042 has 18 MA's), (Start: 25 @28057 has 3 MA's), (32, 28123), (53, 28315), (60, 28372),

Gene: Babushka_41 Start: 27795, Stop: 28172, Start Num: 20

Candidate Starts for Babushka_41:

(2, 27531), (4, 27561), (8, 27645), (12, 27720), (Start: 20 @27795 has 18 MA's), (34, 27885), (35, 27897), (53, 28065), (60, 28122),

Gene: Baoshan_60 Start: 44385, Stop: 44666, Start Num: 28

Candidate Starts for Baoshan_60:

(Start: 24 @44352 has 28 MA's), (Start: 28 @44385 has 5 MA's), (36, 44439), (40, 44460), (45, 44523), (49, 44571), (50, 44586), (51, 44589), (54, 44601), (58, 44634), (59, 44637),

Gene: Basilisk_41 Start: 27795, Stop: 28175, Start Num: 20

Candidate Starts for Basilisk_41:

(1, 27534), (5, 27573), (Start: 20 @27795 has 18 MA's), (23, 27801), (48, 28041), (56, 28095), (60, 28125),

Gene: Bazzle_62 Start: 44724, Stop: 45041, Start Num: 24

Candidate Starts for Bazzle_62:

(Start: 24 @44724 has 28 MA's), (Start: 28 @44757 has 5 MA's), (36, 44811), (40, 44832), (49, 44943), (50, 44958), (51, 44961), (54, 44973), (58, 45006), (59, 45009),

Gene: Bedetta_47 Start: 27028, Stop: 27435, Start Num: 18

Candidate Starts for Bedetta_47:

(Start: 18 @27028 has 11 MA's), (Start: 21 @27052 has 1 MA's), (31, 27124), (33, 27133), (56, 27355),

Gene: Bibble12_46 Start: 26900, Stop: 27283, Start Num: 21

Candidate Starts for Bibble12_46:

(Start: 18 @26876 has 11 MA's), (Start: 21 @26900 has 1 MA's), (31, 26972), (33, 26981), (56, 27203),

Gene: BigCheese_62 Start: 44409, Stop: 44723, Start Num: 24

Candidate Starts for BigCheese_62:

(Start: 24 @44409 has 28 MA's), (Start: 28 @44442 has 5 MA's), (36, 44496), (40, 44517), (45, 44580), (49, 44628), (51, 44646), (54, 44658), (58, 44691), (59, 44694),

Gene: BobsGarage_62 Start: 44442, Stop: 44723, Start Num: 28

Candidate Starts for BobsGarage_62:

(Start: 24 @44409 has 28 MA's), (Start: 28 @44442 has 5 MA's), (36, 44496), (40, 44517), (45, 44580), (49, 44628), (51, 44646), (54, 44658), (58, 44691), (59, 44694),

Gene: BrainDrainer_60 Start: 43275, Stop: 43583, Start Num: 24

Candidate Starts for BrainDrainer_60:

(Start: 24 @43275 has 28 MA's), (Start: 28 @43302 has 5 MA's), (30, 43320), (45, 43440), (48, 43485), (49, 43488), (57, 43545), (59, 43554),

Gene: Breezona_62 Start: 44409, Stop: 44723, Start Num: 24

Candidate Starts for Breezona_62:

(Start: 24 @44409 has 28 MA's), (Start: 28 @44442 has 5 MA's), (36, 44496), (40, 44517), (45, 44580), (49, 44628), (51, 44646), (54, 44658), (58, 44691), (59, 44694),

Gene: Bromden_62 Start: 44397, Stop: 44696, Start Num: 27

Candidate Starts for Bromden_62:

(Start: 27 @44397 has 1 MA's), (Start: 28 @44415 has 5 MA's), (30, 44433), (45, 44553), (47, 44577), (49, 44601), (50, 44616), (57, 44658),

Gene: Brynnie_40 Start: 27673, Stop: 28053, Start Num: 20

Candidate Starts for Brynnie_40:

(1, 27412), (5, 27451), (Start: 20 @27673 has 18 MA's), (23, 27679), (33, 27757), (48, 27919), (56, 27973), (60, 28003),

Gene: Calm_61 Start: 42831, Stop: 43178, Start Num: 19

Candidate Starts for Calm_61:

(Start: 19 @42831 has 10 MA's), (37, 42951), (38, 42957), (39, 42960), (49, 43080), (50, 43095),

Gene: Camara_44 Start: 27885, Stop: 28244, Start Num: 26

Candidate Starts for Camara_44:

(2, 27600), (4, 27630), (8, 27714), (12, 27789), (Start: 20 @27864 has 18 MA's), (Start: 26 @27885 has 1 MA's), (32, 27945), (53, 28137),

Gene: Chaser_58 Start: 43074, Stop: 43355, Start Num: 28

Candidate Starts for Chaser_58:

(Start: 24 @43047 has 28 MA's), (Start: 28 @43074 has 5 MA's), (30, 43092), (45, 43212), (49, 43260), (51, 43278), (57, 43317), (59, 43326),

Gene: Chickaboom_43 Start: 28397, Stop: 28774, Start Num: 22

Candidate Starts for Chickaboom_43:

(4, 28157), (8, 28241), (12, 28316), (Start: 22 @28397 has 6 MA's), (33, 28478), (56, 28694), (60, 28724), (61, 28757),

Gene: Chicken_42 Start: 28860, Stop: 29234, Start Num: 22

Candidate Starts for Chicken_42:

(Start: 22 @28860 has 6 MA's), (33, 28938), (41, 29001), (48, 29100), (53, 29127), (60, 29184),

Gene: ChutneyChips_58 Start: 43338, Stop: 43619, Start Num: 28

Candidate Starts for ChutneyChips_58:

(Start: 24 @43311 has 28 MA's), (Start: 28 @43338 has 5 MA's), (30, 43356), (45, 43476), (49, 43524), (51, 43542), (57, 43581), (59, 43590),

Gene: Claus_62 Start: 44490, Stop: 44804, Start Num: 24

Candidate Starts for Claus_62:

(Start: 24 @44490 has 28 MA's), (Start: 28 @44523 has 5 MA's), (36, 44577), (40, 44598), (45, 44661), (49, 44709), (50, 44724), (51, 44727), (54, 44739), (58, 44772), (59, 44775),

Gene: Colusalem_43 Start: 26858, Stop: 27265, Start Num: 18

Candidate Starts for Colusalem_43:

(Start: 18 @26858 has 11 MA's), (Start: 21 @26882 has 1 MA's), (31, 26954), (33, 26963), (56, 27185),

Gene: Coral_42 Start: 26729, Stop: 27136, Start Num: 18

Candidate Starts for Coral_42:

(Start: 18 @26729 has 11 MA's), (Start: 21 @26753 has 1 MA's), (31, 26825), (33, 26834), (48, 27002), (56, 27056),

Gene: Cote_44 Start: 27206, Stop: 27613, Start Num: 18

Candidate Starts for Cote_44:

(Start: 18 @27206 has 11 MA's), (Start: 21 @27230 has 1 MA's), (31, 27302), (33, 27311), (56, 27533),

Gene: Crossroads_62 Start: 44487, Stop: 44801, Start Num: 24

Candidate Starts for Crossroads_62:

(Start: 24 @44487 has 28 MA's), (Start: 28 @44520 has 5 MA's), (36, 44574), (40, 44595), (49, 44706), (51, 44724), (54, 44736), (58, 44769), (59, 44772),

Gene: Cygnet_44 Start: 28718, Stop: 29071, Start Num: 25

Candidate Starts for Cygnet_44:

(8, 28559), (10, 28583), (12, 28634), (Start: 25 @28718 has 3 MA's), (30, 28772), (41, 28838), (43, 28880), (48, 28937),

Gene: DHan_63 Start: 44423, Stop: 44704, Start Num: 28

Candidate Starts for DHan_63:

(Start: 24 @44390 has 28 MA's), (Start: 28 @44423 has 5 MA's), (36, 44477), (40, 44498), (45, 44561), (49, 44609), (50, 44624), (51, 44627), (54, 44639), (58, 44672), (59, 44675),

Gene: DanBing_62 Start: 44392, Stop: 44673, Start Num: 28

Candidate Starts for DanBing_62:

(Start: 24 @44359 has 28 MA's), (Start: 28 @44392 has 5 MA's), (36, 44446), (40, 44467), (45, 44530), (49, 44578), (50, 44593), (51, 44596), (54, 44608), (58, 44641), (59, 44644),

Gene: DanHam62_44 Start: 27984, Stop: 28343, Start Num: 26

Candidate Starts for DanHam62_44:

(8, 27813), (12, 27888), (Start: 20 @27963 has 18 MA's), (Start: 26 @27984 has 1 MA's), (32, 28044), (34, 28056), (44, 28158), (53, 28236),

Gene: Daob_44 Start: 27214, Stop: 27621, Start Num: 18

Candidate Starts for Daob_44:

(Start: 18 @27214 has 11 MA's), (Start: 21 @27238 has 1 MA's), (31, 27310), (33, 27319), (48, 27487), (52, 27511), (56, 27541),

Gene: DirkDirk_57 Start: 42238, Stop: 42585, Start Num: 19

Candidate Starts for DirkDirk_57:

(Start: 19 @42238 has 10 MA's), (37, 42358), (38, 42364), (39, 42367), (49, 42487), (50, 42502),

Gene: Douge_60 Start: 43053, Stop: 43361, Start Num: 24

Candidate Starts for Douge_60:

(Start: 24 @43053 has 28 MA's), (Start: 28 @43080 has 5 MA's), (30, 43098), (45, 43218), (49, 43266), (50, 43281), (51, 43284), (57, 43323), (59, 43332),

Gene: Douzhi_60 Start: 43103, Stop: 43411, Start Num: 24

Candidate Starts for Douzhi_60:

(Start: 24 @43103 has 28 MA's), (Start: 28 @43130 has 5 MA's), (30, 43148), (45, 43268), (49, 43316), (50, 43331), (51, 43334), (57, 43373), (59, 43382),

Gene: DrSeegs_62 Start: 44409, Stop: 44723, Start Num: 24

Candidate Starts for DrSeegs_62:

(Start: 24 @44409 has 28 MA's), (Start: 28 @44442 has 5 MA's), (36, 44496), (40, 44517), (45, 44580), (49, 44628), (51, 44646), (54, 44658), (58, 44691), (59, 44694),

Gene: DyoEdafos_62 Start: 43332, Stop: 43640, Start Num: 24

Candidate Starts for DyoEdafos_62:

(Start: 24 @43332 has 28 MA's), (Start: 28 @43359 has 5 MA's), (30, 43377), (45, 43497), (49, 43545), (50, 43560), (57, 43602), (59, 43611),

Gene: Eesa_41 Start: 29282, Stop: 29656, Start Num: 22

Candidate Starts for Eesa_41:

(8, 29126), (12, 29201), (Start: 22 @29282 has 6 MA's), (33, 29360), (41, 29423), (53, 29549), (60, 29606),

Gene: Faith1_62 Start: 44409, Stop: 44723, Start Num: 24

Candidate Starts for Faith1_62:

(Start: 24 @44409 has 28 MA's), (Start: 28 @44442 has 5 MA's), (36, 44496), (40, 44517), (45, 44580), (49, 44628), (51, 44646), (54, 44658), (58, 44691), (59, 44694),

Gene: FarmResident_62 Start: 43096, Stop: 43377, Start Num: 28

Candidate Starts for FarmResident_62:

(Start: 24 @43069 has 28 MA's), (Start: 28 @43096 has 5 MA's), (30, 43114), (49, 43282), (57, 43339), (59, 43348),

Gene: Finemlucis_62 Start: 44730, Stop: 45044, Start Num: 24

Candidate Starts for Finemlucis_62:

(Start: 24 @44730 has 28 MA's), (Start: 28 @44763 has 5 MA's), (36, 44817), (40, 44838), (45, 44901), (49, 44949), (51, 44967), (54, 44979), (58, 45012), (59, 45015),

Gene: Fingolfin_44 Start: 27966, Stop: 28346, Start Num: 20

Candidate Starts for Fingolfin_44:

(8, 27816), (12, 27891), (Start: 20 @27966 has 18 MA's), (Start: 26 @27987 has 1 MA's), (32, 28047), (44, 28161), (53, 28239),

Gene: Gabriela_59 Start: 42859, Stop: 43173, Start Num: 24

Candidate Starts for Gabriela_59:

(Start: 24 @42859 has 28 MA's), (Start: 28 @42892 has 5 MA's), (36, 42946), (40, 42967), (45, 43030), (49, 43078), (51, 43096), (54, 43108), (58, 43141), (59, 43144),

Gene: Galaxy_40 Start: 27048, Stop: 27425, Start Num: 20

Candidate Starts for Galaxy_40:

(Start: 20 @27048 has 18 MA's), (30, 27117), (41, 27192), (43, 27234), (56, 27345), (60, 27375), (61, 27408),

Gene: Gardann_63 Start: 44445, Stop: 44759, Start Num: 24

Candidate Starts for Gardann_63:

(Start: 24 @44445 has 28 MA's), (Start: 28 @44478 has 5 MA's), (36, 44532), (40, 44553), (45, 44616), (49, 44664), (51, 44682), (54, 44694), (58, 44727), (59, 44730),

Gene: Glotell_45 Start: 28020, Stop: 28400, Start Num: 20

Candidate Starts for Glotell_45:

(2, 27756), (4, 27786), (8, 27870), (12, 27945), (Start: 20 @28020 has 18 MA's), (Start: 26 @28041 has 1 MA's), (32, 28101), (53, 28293),

Gene: Gravel_51 Start: 29372, Stop: 29746, Start Num: 22

Candidate Starts for Gravel_51:

(8, 29216), (10, 29240), (12, 29291), (Start: 22 @29372 has 6 MA's), (33, 29450), (41, 29513), (48, 29612), (53, 29639), (60, 29696),

Gene: GuuelaD_61 Start: 44524, Stop: 44838, Start Num: 24

Candidate Starts for GuuelaD_61:

(Start: 24 @44524 has 28 MA's), (Start: 28 @44557 has 5 MA's), (36, 44611), (40, 44632), (45, 44695), (49, 44743), (51, 44761), (54, 44773), (58, 44806), (59, 44809),

Gene: Hafay_63 Start: 44546, Stop: 44827, Start Num: 28

Candidate Starts for Hafay_63:

(Start: 24 @44513 has 28 MA's), (Start: 28 @44546 has 5 MA's), (36, 44600), (40, 44621), (45, 44684), (49, 44732), (51, 44750), (54, 44762), (58, 44795), (59, 44798),

Gene: Halena_58 Start: 42275, Stop: 42622, Start Num: 19

Candidate Starts for Halena_58:

(Start: 19 @42275 has 10 MA's), (37, 42395), (38, 42401), (39, 42404), (49, 42524), (50, 42539),

Gene: HamCheese_44 Start: 27950, Stop: 28330, Start Num: 20

Candidate Starts for HamCheese_44:

(8, 27800), (12, 27875), (Start: 20 @27950 has 18 MA's), (Start: 26 @27971 has 1 MA's), (32, 28031), (44, 28145), (53, 28223),

Gene: HannahPhantana_43 Start: 26876, Stop: 27283, Start Num: 18

Candidate Starts for HannahPhantana_43:

(Start: 18 @26876 has 11 MA's), (Start: 21 @26900 has 1 MA's), (31, 26972), (33, 26981), (56, 27203),

Gene: Itos_61 Start: 43315, Stop: 43629, Start Num: 24

Candidate Starts for Itos_61:

(Start: 24 @43315 has 28 MA's), (Start: 28 @43348 has 5 MA's), (36, 43402), (40, 43423), (45, 43486), (49, 43534), (51, 43552), (54, 43564), (58, 43597), (59, 43600),

Gene: Jamun_41 Start: 28557, Stop: 28934, Start Num: 22

Candidate Starts for Jamun_41:

(2, 28287), (4, 28317), (8, 28401), (12, 28476), (Start: 22 @28557 has 6 MA's), (33, 28638), (48, 28800), (56, 28854), (60, 28884), (61, 28917),

Gene: Jerole_43 Start: 27000, Stop: 27407, Start Num: 18

Candidate Starts for Jerole_43:

(Start: 18 @27000 has 11 MA's), (Start: 21 @27024 has 1 MA's), (31, 27096), (33, 27105), (56, 27327),

Gene: Juno112_43 Start: 27966, Stop: 28346, Start Num: 20

Candidate Starts for Juno112_43:

(8, 27816), (12, 27891), (Start: 20 @27966 has 18 MA's), (Start: 26 @27987 has 1 MA's), (32, 28047), (44, 28161), (53, 28239),

Gene: JustASigh_63 Start: 42337, Stop: 42696, Start Num: 17

Candidate Starts for JustASigh_63:

(1, 42097), (2, 42103), (3, 42115), (6, 42154), (11, 42256), (Start: 17 @42337 has 1 MA's), (42, 42511), (59, 42679),

Gene: KHumphrey_44 Start: 27884, Stop: 28243, Start Num: 26

Candidate Starts for KHumphrey_44:

(2, 27599), (4, 27629), (8, 27713), (12, 27788), (Start: 20 @27863 has 18 MA's), (Start: 26 @27884 has 1 MA's), (32, 27944), (53, 28136),

Gene: Kahlid_62 Start: 44415, Stop: 44729, Start Num: 24

Candidate Starts for Kahlid_62:

(Start: 24 @44415 has 28 MA's), (Start: 28 @44448 has 5 MA's), (36, 44502), (40, 44523), (45, 44586), (49, 44634), (51, 44652), (54, 44664), (58, 44697), (59, 44700),

Gene: KendraB23_52 Start: 29559, Stop: 29933, Start Num: 22

Candidate Starts for KendraB23_52:

(8, 29403), (10, 29427), (12, 29478), (Start: 22 @29559 has 6 MA's), (33, 29637), (41, 29700), (48, 29799), (53, 29826), (60, 29883),

Gene: Kepler_44 Start: 27624, Stop: 28031, Start Num: 18

Candidate Starts for Kepler_44:

(Start: 18 @27624 has 11 MA's), (Start: 21 @27648 has 1 MA's), (31, 27720), (33, 27729), (48, 27897), (56, 27951),

Gene: Kropertea_58 Start: 43219, Stop: 43527, Start Num: 24

Candidate Starts for Kropertea_58:

(Start: 24 @43219 has 28 MA's), (Start: 28 @43246 has 5 MA's), (30, 43264), (45, 43384), (49, 43432), (50, 43447), (57, 43489), (59, 43498),

Gene: Kuleana_44 Start: 27205, Stop: 27615, Start Num: 15

Candidate Starts for Kuleana_44:

(Start: 15 @27205 has 1 MA's), (Start: 21 @27235 has 1 MA's), (33, 27316), (56, 27535),

Gene: Laphuphu24k_43 Start: 27971, Stop: 28330, Start Num: 26

Candidate Starts for Laphuphu24k_43:

(8, 27800), (12, 27875), (Start: 20 @27950 has 18 MA's), (Start: 26 @27971 has 1 MA's), (32, 28031), (44, 28145), (53, 28223),

Gene: LeBron_59 Start: 42278, Stop: 42625, Start Num: 19

Candidate Starts for LeBron_59:

(Start: 19 @42278 has 10 MA's), (37, 42398), (38, 42404), (39, 42407), (49, 42527), (50, 42542),

Gene: Leona_43 Start: 28043, Stop: 28423, Start Num: 20

Candidate Starts for Leona_43:

(8, 27893), (12, 27968), (Start: 20 @28043 has 18 MA's), (Start: 25 @28058 has 3 MA's), (32, 28124), (53, 28316), (60, 28373),

Gene: Lewan_63 Start: 44502, Stop: 44783, Start Num: 28

Candidate Starts for Lewan_63:

(Start: 24 @44469 has 28 MA's), (Start: 28 @44502 has 5 MA's), (36, 44556), (40, 44577), (45, 44640), (49, 44688), (51, 44706), (54, 44718), (58, 44751), (59, 44754),

Gene: LilDestine_62 Start: 44475, Stop: 44756, Start Num: 28

Candidate Starts for LilDestine_62:

(Start: 24 @44442 has 28 MA's), (Start: 28 @44475 has 5 MA's), (36, 44529), (40, 44550), (45, 44613), (49, 44661), (51, 44679), (54, 44691), (58, 44724), (59, 44727),

Gene: LittleTokyo_42 Start: 26769, Stop: 27122, Start Num: 25

Candidate Starts for LittleTokyo_42:

(9, 26631), (13, 26688), (14, 26706), (Start: 25 @26769 has 3 MA's), (30, 26823), (35, 26856), (41, 26889), (43, 26931),

Gene: Loadrie_61 Start: 44497, Stop: 44811, Start Num: 24

Candidate Starts for Loadrie_61:

(Start: 24 @44497 has 28 MA's), (Start: 28 @44530 has 5 MA's), (36, 44584), (40, 44605), (45, 44668), (49, 44716), (51, 44734), (54, 44746), (58, 44779), (59, 44782),

Gene: Lunar_44 Start: 27540, Stop: 27947, Start Num: 18

Candidate Starts for Lunar_44:

(Start: 18 @27540 has 11 MA's), (Start: 21 @27564 has 1 MA's), (31, 27636), (33, 27645), (56, 27867),

Gene: Lynnae_63 Start: 44473, Stop: 44754, Start Num: 28

Candidate Starts for Lynnae_63:

(Start: 24 @44440 has 28 MA's), (Start: 28 @44473 has 5 MA's), (36, 44527), (40, 44548), (45, 44611), (49, 44659), (51, 44677), (54, 44689), (58, 44722), (59, 44725),

Gene: MAckerman_59 Start: 42268, Stop: 42615, Start Num: 19

Candidate Starts for MAckerman_59:

(Start: 19 @42268 has 10 MA's), (37, 42388), (38, 42394), (39, 42397), (49, 42517), (50, 42532),

Gene: Melons_44 Start: 27354, Stop: 27761, Start Num: 18

Candidate Starts for Melons_44:

(Start: 18 @27354 has 11 MA's), (Start: 21 @27378 has 1 MA's), (31, 27450), (33, 27459), (48, 27627), (56, 27681),

Gene: Miley16_62 Start: 44409, Stop: 44723, Start Num: 24

Candidate Starts for Miley16_62:

(Start: 24 @44409 has 28 MA's), (Start: 28 @44442 has 5 MA's), (36, 44496), (40, 44517), (45, 44580), (49, 44628), (51, 44646), (54, 44658), (58, 44691), (59, 44694),

Gene: MkaliMitinis3_63 Start: 44514, Stop: 44795, Start Num: 28

Candidate Starts for MkaliMitinis3_63:

(Start: 24 @44481 has 28 MA's), (Start: 28 @44514 has 5 MA's), (36, 44568), (40, 44589), (45, 44652), (49, 44700), (51, 44718), (54, 44730), (58, 44763), (59, 44766),

Gene: Netyap_63 Start: 44410, Stop: 44724, Start Num: 24

Candidate Starts for Netyap_63:

(Start: 24 @44410 has 28 MA's), (Start: 28 @44443 has 5 MA's), (36, 44497), (40, 44518), (45, 44581), (49, 44629), (51, 44647), (54, 44659), (58, 44692), (59, 44695),

Gene: Niblet_45 Start: 28947, Stop: 29321, Start Num: 22

Candidate Starts for Niblet_45:

(Start: 22 @28947 has 6 MA's), (33, 29025), (41, 29088), (48, 29187), (53, 29214), (60, 29271),

Gene: Nicholasp3_62 Start: 44445, Stop: 44759, Start Num: 24

Candidate Starts for Nicholasp3_62:

(Start: 24 @44445 has 28 MA's), (Start: 28 @44478 has 5 MA's), (36, 44532), (40, 44553), (45, 44616), (49, 44664), (51, 44682), (54, 44694), (58, 44727), (59, 44730),

Gene: OhShagHennessy_58 Start: 41719, Stop: 42066, Start Num: 19

Candidate Starts for OhShagHennessy_58:

(Start: 19 @41719 has 10 MA's), (37, 41839), (38, 41845), (39, 41848), (49, 41968), (50, 41983),

Gene: Oppalora_43 Start: 27985, Stop: 28344, Start Num: 26

Candidate Starts for Oppalora_43:

(8, 27814), (12, 27889), (Start: 20 @27964 has 18 MA's), (Start: 26 @27985 has 1 MA's), (32, 28045), (44, 28159), (53, 28237),

Gene: Orcanus_42 Start: 28916, Stop: 29290, Start Num: 22

Candidate Starts for Orcanus_42:

(8, 28760), (12, 28835), (Start: 22 @28916 has 6 MA's), (33, 28994), (41, 29057), (48, 29156), (53, 29183), (60, 29240),

Gene: OtsoOtso_43 Start: 26754, Stop: 27137, Start Num: 21

Candidate Starts for OtsoOtso_43:

(Start: 18 @26730 has 11 MA's), (Start: 21 @26754 has 1 MA's), (31, 26826), (33, 26835), (48, 27003), (56, 27057),

Gene: OverPar_63 Start: 44530, Stop: 44811, Start Num: 28

Candidate Starts for OverPar_63:

(Start: 24 @44497 has 28 MA's), (Start: 28 @44530 has 5 MA's), (36, 44584), (40, 44605), (45, 44668), (49, 44716), (51, 44734), (54, 44746), (58, 44779), (59, 44782),

Gene: PYPDinur_58 Start: 43181, Stop: 43444, Start Num: 30

Candidate Starts for PYPDinur_58:

(Start: 24 @43136 has 28 MA's), (Start: 28 @43163 has 5 MA's), (30, 43181), (45, 43301), (49, 43349), (50, 43364), (51, 43367), (57, 43406), (59, 43415),

Gene: Pelletreau_51 Start: 29372, Stop: 29746, Start Num: 22

Candidate Starts for Pelletreau_51:

(8, 29216), (10, 29240), (12, 29291), (Start: 22 @29372 has 6 MA's), (33, 29450), (41, 29513), (48, 29612), (53, 29639), (60, 29696),

Gene: PhirstandPhine_51 Start: 27524, Stop: 27907, Start Num: 21

Candidate Starts for PhirstandPhine_51:

(Start: 18 @27500 has 11 MA's), (Start: 21 @27524 has 1 MA's), (31, 27596), (33, 27605), (56, 27827),

Gene: PhluffyCoco_44 Start: 28061, Stop: 28441, Start Num: 20

Candidate Starts for PhluffyCoco_44:

(8, 27911), (12, 27986), (Start: 20 @28061 has 18 MA's), (Start: 26 @28082 has 1 MA's), (32, 28142), (53, 28334),

Gene: Pineda_45 Start: 27026, Stop: 27433, Start Num: 18

Candidate Starts for Pineda_45:

(Start: 18 @27026 has 11 MA's), (Start: 21 @27050 has 1 MA's), (31, 27122), (33, 27131), (56, 27353),

Gene: Polka_42 Start: 26730, Stop: 27137, Start Num: 18

Candidate Starts for Polka_42:

(Start: 18 @26730 has 11 MA's), (Start: 21 @26754 has 1 MA's), (31, 26826), (33, 26835), (48, 27003), (56, 27057),

Gene: Quby_60 Start: 43034, Stop: 43342, Start Num: 24

Candidate Starts for Quby_60:

(Start: 24 @43034 has 28 MA's), (Start: 28 @43061 has 5 MA's), (30, 43079), (49, 43247), (57, 43304), (59, 43313),

Gene: Rattail_44 Start: 28168, Stop: 28527, Start Num: 26

Candidate Starts for Rattail_44:

(8, 27997), (12, 28072), (Start: 20 @28147 has 18 MA's), (Start: 26 @28168 has 1 MA's), (32, 28228), (53, 28420),

Gene: RedFox_44 Start: 28060, Stop: 28440, Start Num: 20

Candidate Starts for RedFox_44:

(8, 27910), (12, 27985), (Start: 20 @28060 has 18 MA's), (Start: 26 @28081 has 1 MA's), (32, 28141), (53, 28333),

Gene: Renna12_43 Start: 27920, Stop: 28297, Start Num: 20

Candidate Starts for Renna12_43:

(2, 27656), (4, 27686), (8, 27770), (12, 27845), (Start: 20 @27920 has 18 MA's), (34, 28010), (53, 28190), (60, 28247),

Gene: Rossetti_63 Start: 45024, Stop: 45305, Start Num: 28

Candidate Starts for Rossetti_63:

(Start: 24 @44991 has 28 MA's), (Start: 28 @45024 has 5 MA's), (36, 45078), (45, 45162), (49, 45210), (50, 45225), (51, 45228), (54, 45240), (58, 45273), (59, 45276),

Gene: Ruchi_40 Start: 27741, Stop: 28121, Start Num: 20

Candidate Starts for Ruchi_40:

(1, 27480), (5, 27519), (Start: 20 @27741 has 18 MA's), (23, 27747), (41, 27888), (43, 27930), (48, 27987), (56, 28041), (60, 28071),

Gene: Rumpelstiltskin_61 Start: 43838, Stop: 44152, Start Num: 24

Candidate Starts for Rumpelstiltskin_61:

(Start: 24 @43838 has 28 MA's), (Start: 28 @43871 has 5 MA's), (36, 43925), (40, 43946), (45, 44009), (49, 44057), (51, 44075), (54, 44087), (58, 44120), (59, 44123),

Gene: Sarshaun_62 Start: 44538, Stop: 44819, Start Num: 28

Candidate Starts for Sarshaun_62:

(Start: 24 @44505 has 28 MA's), (Start: 28 @44538 has 5 MA's), (36, 44592), (40, 44613), (45, 44676), (49, 44724), (51, 44742), (54, 44754), (58, 44787), (59, 44790),

Gene: Shen_41 Start: 27473, Stop: 27847, Start Num: 22

Candidate Starts for Shen_41:

(8, 27317), (10, 27341), (12, 27392), (Start: 22 @27473 has 6 MA's), (33, 27551), (41, 27614), (48, 27713), (53, 27740), (60, 27797),

Gene: Sheng711_60 Start: 43113, Stop: 43421, Start Num: 24

Candidate Starts for Sheng711_60:

(Start: 24 @43113 has 28 MA's), (Start: 28 @43140 has 5 MA's), (30, 43158), (45, 43278), (49, 43326), (50, 43341), (51, 43344), (57, 43383), (59, 43392),

Gene: SoJulia_64 Start: 44707, Stop: 44988, Start Num: 28

Candidate Starts for SoJulia_64:

(Start: 24 @44674 has 28 MA's), (Start: 28 @44707 has 5 MA's), (36, 44761), (40, 44782), (45, 44845), (49, 44893), (51, 44911), (54, 44923), (58, 44956), (59, 44959),

Gene: Soap141_62 Start: 44538, Stop: 44819, Start Num: 28

Candidate Starts for Soap141_62:

(Start: 24 @44505 has 28 MA's), (Start: 28 @44538 has 5 MA's), (36, 44592), (40, 44613), (45, 44676), (49, 44724), (51, 44742), (54, 44754), (58, 44787), (59, 44790),

Gene: StuartMinion_36 Start: 25017, Stop: 25397, Start Num: 20

Candidate Starts for StuartMinion_36:

(8, 24867), (12, 24942), (Start: 20 @25017 has 18 MA's), (Start: 26 @25038 has 1 MA's), (32, 25098), (48, 25263), (53, 25290),

Gene: TaylorSipht_42 Start: 28318, Stop: 28695, Start Num: 22

Candidate Starts for TaylorSipht_42:

(2, 28048), (4, 28078), (8, 28162), (10, 28186), (12, 28237), (Start: 22 @28318 has 6 MA's), (33, 28399), (41, 28462), (48, 28561), (51, 28582),

Gene: Toad24_44 Start: 29612, Stop: 29986, Start Num: 22

Candidate Starts for Toad24_44:

(8, 29456), (10, 29480), (12, 29531), (Start: 22 @29612 has 6 MA's), (33, 29690), (41, 29753), (48, 29852), (53, 29879), (60, 29936),

Gene: Tourach_61 Start: 44494, Stop: 44808, Start Num: 24

Candidate Starts for Tourach_61:

(Start: 24 @44494 has 28 MA's), (Start: 28 @44527 has 5 MA's), (29, 44539), (36, 44581), (45, 44665), (49, 44713), (50, 44728), (51, 44731), (54, 44743), (58, 44776), (59, 44779),

Gene: UPIE_60 Start: 42689, Stop: 43036, Start Num: 19

Candidate Starts for UPIE_60:

(Start: 19 @42689 has 10 MA's), (37, 42809), (38, 42815), (39, 42818), (49, 42938), (50, 42953),

Gene: Underpass_53 Start: 39481, Stop: 39795, Start Num: 24

Candidate Starts for Underpass_53:

(Start: 24 @39481 has 28 MA's), (Start: 28 @39514 has 5 MA's), (36, 39568), (40, 39589), (45, 39652), (49, 39700), (51, 39718), (54, 39730), (58, 39763), (59, 39766),

Gene: Vetrix_62 Start: 44449, Stop: 44763, Start Num: 24

Candidate Starts for Vetrix_62:

(Start: 24 @44449 has 28 MA's), (Start: 28 @44482 has 5 MA's), (36, 44536), (40, 44557), (45, 44620), (49, 44668), (51, 44686), (54, 44698), (58, 44731), (59, 44734),

Gene: Vulpecula_40 Start: 27418, Stop: 27798, Start Num: 20

Candidate Starts for Vulpecula_40:

(1, 27157), (5, 27196), (Start: 20 @27418 has 18 MA's), (23, 27424), (41, 27565), (43, 27607), (48, 27664), (56, 27718), (60, 27748),

Gene: Wamburgrxpress_60 Start: 42719, Stop: 43066, Start Num: 19

Candidate Starts for Wamburgrxpress_60:

(Start: 19 @42719 has 10 MA's), (37, 42839), (38, 42845), (39, 42848), (49, 42968), (50, 42983),

Gene: Weirido19_63 Start: 42154, Stop: 42513, Start Num: 16

Candidate Starts for Weirido19_63:

(7, 42001), (16, 42154), (36, 42292), (44, 42370), (45, 42379), (46, 42385), (50, 42442), (55, 42469), (59, 42493),

Gene: Westrich_50 Start: 29296, Stop: 29670, Start Num: 22

Candidate Starts for Westrich_50:

(8, 29140), (10, 29164), (12, 29215), (Start: 22 @29296 has 6 MA's), (33, 29374), (41, 29437), (48, 29536), (53, 29563), (60, 29620),

Gene: Wigglewigggle_62 Start: 44469, Stop: 44783, Start Num: 24

Candidate Starts for Wigglewigggle_62:

(Start: 24 @44469 has 28 MA's), (Start: 28 @44502 has 5 MA's), (36, 44556), (40, 44577), (45, 44640), (49, 44688), (51, 44706), (54, 44718), (58, 44751), (59, 44754),

Gene: Wilder_63 Start: 44415, Stop: 44729, Start Num: 24

Candidate Starts for Wilder_63:

(Start: 24 @44415 has 28 MA's), (Start: 28 @44448 has 5 MA's), (36, 44502), (40, 44523), (45, 44586), (49, 44634), (51, 44652), (54, 44664), (58, 44697), (59, 44700),

Gene: WileyE_47 Start: 28397, Stop: 28774, Start Num: 22

Candidate Starts for WileyE_47:

(4, 28157), (8, 28241), (12, 28316), (Start: 22 @28397 has 6 MA's), (33, 28478), (56, 28694), (60, 28724), (61, 28757),

Gene: Winky_62 Start: 44409, Stop: 44723, Start Num: 24

Candidate Starts for Winky_62:

(Start: 24 @44409 has 28 MA's), (Start: 28 @44442 has 5 MA's), (36, 44496), (40, 44517), (45, 44580), (49, 44628), (51, 44646), (54, 44658), (58, 44691), (59, 44694),

Gene: Zakai_63 Start: 44735, Stop: 45049, Start Num: 24

Candidate Starts for Zakai_63:

(Start: 24 @44735 has 28 MA's), (Start: 28 @44768 has 5 MA's), (36, 44822), (40, 44843), (45, 44906), (49, 44954), (51, 44972), (54, 44984), (58, 45017), (59, 45020),

Gene: Zaria_61 Start: 42831, Stop: 43178, Start Num: 19

Candidate Starts for Zaria_61:

(Start: 19 @42831 has 10 MA's), (37, 42951), (38, 42957), (39, 42960), (49, 43080), (50, 43095),

Gene: ZhongYanYuan_60 Start: 44304, Stop: 44618, Start Num: 24

Candidate Starts for ZhongYanYuan_60:

(Start: 24 @44304 has 28 MA's), (Start: 28 @44337 has 5 MA's), (36, 44391), (40, 44412), (45, 44475), (49, 44523), (50, 44538), (51, 44541), (54, 44553), (58, 44586), (59, 44589),

Gene: Zhuangyuan_49 Start: 28550, Stop: 28903, Start Num: 25

Candidate Starts for Zhuangyuan_49:

(12, 28466), (Start: 25 @28550 has 3 MA's), (30, 28604), (38, 28655), (41, 28670), (43, 28712), (53, 28796), (60, 28853),

Gene: Zixiang_45 Start: 28977, Stop: 29351, Start Num: 22

Candidate Starts for Zixiang_45:

(8, 28821), (10, 28845), (12, 28896), (Start: 22 @28977 has 6 MA's), (33, 29055), (41, 29118), (48, 29217), (53, 29244), (60, 29301),

