Pham 291115

1: IUFootball_36 + 1
2: Schmidt_57
3: ShereKhan_39 + 3
4: Budgie_40
5: Gonephishing_53 + 3
6: Hidrated_52 + 1
7: LilPharaoh_56 + 10
8: OhShagHennessy_30 + 16
9: Poochiewood_30
10: DirkDirk_30 + 1
11: Zakai_32
12: Kahlid_32 + 8
13: DanBing_31 + 1
14: DHan_32 + 1
15: Rossetti_32
16: BourbonZero_30 + 1
17: Jobypre_31 + 1
18: FarmResident_30 + 1
19: PYPDinur_30 + 4
20: Aegeus_33 + 1
21: RoseMarie_41

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 291115 Report

This analysis was run 03/28/26 on database version 641.

Pham number 291115 has 74 members, 31 are drafts.

Phages represented in each track:
• Track 1 : IUFootball_36, Liebe_36
• Track 2 : Schmidt_57
• Track 3 : ShereKhan_39, Phaja_37, FairyPath_37, IHOP_37
• Track 4 : Budgie_40
• Track 5 : Gonephishing_53, Shaboozey_44, BronnyJames_44, Squint_50
• Track 6 : Hidrated_52, Marleymoo_53
• Track 7 : LilPharaoh_56, SgtBeansprout_56, Trice_55, Torres_58, Enkosi_57, Nutello_55, Mdavu_56, Amelie_55, Nikao_58, Teejan_57, Biglebops_55
• Track 8 : OhShagHennessy_30, AvadaKedavra_30, Enceladus_30, Calm_30, Acquire49_30, JoeDirt_30, Silverleaf_30, Appletree2_30, LeBron_30, Wamburgrxpress_30, Rose5_30, Halena_30, Zaria_30, CicholasNage_30, Wyatt2_30, UPIE_30, MAckerman_30
• Track 9 : Poochiewood_30
• Track 10 : DirkDirk_30, Tyson_30
• Track 11 : Zakai_32
• Track 12 : Kahlid_32, OverPar_33, Hafay_32, Lewan_32, Sarshaun_32, Lynnae_32, Soap141_32, Rumpelstiltskin_32, SoJulia_33
• Track 13 : DanBing_31, ZhongYanYuan_31
• Track 14 : DHan_32, Claus_32
• Track 15 : Rossetti_32
• Track 16 : BourbonZero_30, KirDoubleO7_29
• Track 17 : Jobypre_31, Moostard_31
• Track 18 : FarmResident_30, Quby_30
• Track 19 : PYPDinur_30, BrainDrainer_31, Sheng711_30, ChutneyChips_30, Douzhi_30
• Track 20 : Aegeus_33, Baudelaire_33
• Track 21 : RoseMarie_41

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

The start number called the most often in the published annotations is 5, it was called in 18 of the 43 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

• Acquire49_30, Appletree2_30, AvadaKedavra_30, Calm_30, CicholasNage_30, Enceladus_30, Halena_30, JoeDirt_30, LeBron_30, MAckerman_30, OhShagHennessy_30, Poochiewood_30, Rose5_30, Silverleaf_30, UPIE_30, Wamburgrxpress_30, Wyatt2_30, Zakai_32, Zaria_30,

Genes that have the "Most Annotated" start but do not call it:
• Aegeus_33, Baudelaire_33, BourbonZero_30, BrainDrainer_31, Budgie_40, ChutneyChips_30, Claus_32, DHan_32, DanBing_31, DirkDirk_30, Douzhi_30, FairyPath_37, FarmResident_30, Hafay_32, IHOP_37, IUFootball_36, Jobypre_31, Kahlid_32, KirDoubleO7_29, Lewan_32, Liebe_36, Lynnae_32, Moostard_31, OverPar_33, PYPDinur_30, Phaja_37, Quby_30, RoseMarie_41, Rossetti_32, Rumpelstiltskin_32, Sarshaun_32, Sheng711_30, ShereKhan_39, SoJulia_33, Soap141_32, Tyson_30, ZhongYanYuan_31,

Genes that do not have the "Most Annotated" start:
• Amelie_55, Biglebops_55, BronnyJames_44, Enkosi_57, Gonephishing_53, Hidrated_52, LilPharaoh_56, Marleymoo_53, Mdavu_56, Nikao_58, Nutello_55, Schmidt_57, SgtBeansprout_56, Shaboozey_44, Squint_50, Teejan_57, Torres_58, Trice_55,

Summary by start number:

Start 5:
• Found in 56 of 74 (75.7%) of genes in pham
• Manual Annotations of this start: 18 of 43
• Called 33.9% of time when present
• Phage (with cluster) where this start called: Acquire49_30 (L1), Appletree2_30 (L1), AvadaKedavra_30 (L1), Calm_30 (L1), CicholasNage_30 (L1), Enceladus_30 (L1), Halena_30 (L1), JoeDirt_30 (L1), LeBron_30 (L1), MAckerman_30 (L1), OhShagHennessy_30 (L1), Poochiewood_30 (L1), Rose5_30 (L1), Silverleaf_30 (L1), UPIE_30 (L1), Wamburgrxpress_30 (L1), Wyatt2_30 (L1), Zakai_32 (L2), Zaria_30 (L1),

Start 6:
• Found in 11 of 74 (14.9%) of genes in pham
• Manual Annotations of this start: 9 of 43
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Amelie_55 (K1), Biglebops_55 (K1), Enkosi_57 (K1), LilPharaoh_56 (K1), Mdavu_56 (K1), Nikao_58 (K1), Nutello_55 (K1), SgtBeansprout_56 (K1), Teejan_57 (K1), Torres_58 (K1), Trice_55 (K1),

Start 7:
• Found in 1 of 74 (1.4%) of genes in pham
• Manual Annotations of this start: 1 of 43
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Schmidt_57 (CU4),

Start 10:
• Found in 2 of 74 (2.7%) of genes in pham
• Manual Annotations of this start: 2 of 43
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Aegeus_33 (L5), Baudelaire_33 (L5),

Start 11:
• Found in 6 of 74 (8.1%) of genes in pham
• Manual Annotations of this start: 1 of 43
• Called 100.0% of time when present
• Phage (with cluster) where this start called: BronnyJames_44 (J), Gonephishing_53 (J), Hidrated_52 (J), Marleymoo_53 (J), Shaboozey_44 (J), Squint_50 (J),

Start 12:
• Found in 46 of 74 (62.2%) of genes in pham
• Manual Annotations of this start: 8 of 43
• Called 58.7% of time when present
• Phage (with cluster) where this start called: BourbonZero_30 (L3), BrainDrainer_31 (L4), ChutneyChips_30 (L4), Claus_32 (L2), DHan_32 (L2), DanBing_31 (L2), DirkDirk_30 (L1), Douzhi_30 (L4), FarmResident_30 (L4), Hafay_32 (L2), Jobypre_31 (L3), Kahlid_32 (L2), KirDoubleO7_29 (L3), Lewan_32 (L2), Lynnae_32 (L2), Moostard_31 (L3), OverPar_33 (L2), PYPDinur_30 (L4), Quby_30 (L4), Rossetti_32 (L2), Rumpelstiltskin_32 (L2), Sarshaun_32 (L2), Sheng711_30 (L4), SoJulia_33 (L2), Soap141_32 (L2), Tyson_30 (L1), ZhongYanYuan_31 (L2),

Start 14:
• Found in 2 of 74 (2.7%) of genes in pham
• Manual Annotations of this start: 1 of 43
• Called 100.0% of time when present
• Phage (with cluster) where this start called: IUFootball_36 (AZ2), Liebe_36 (AZ2),

Start 15:
• Found in 5 of 74 (6.8%) of genes in pham
• Manual Annotations of this start: 3 of 43
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Budgie_40 (E), FairyPath_37 (E), IHOP_37 (E), Phaja_37 (E), ShereKhan_39 (E),

Start 16:
• Found in 4 of 74 (5.4%) of genes in pham
• No Manual Annotations of this start.
• Called 25.0% of time when present
• Phage (with cluster) where this start called: RoseMarie_41 (M1),

Summary by clusters:

There are 11 clusters represented in this pham: CU4, E, J, K1, L4, L5, L2, L3, L1, M1, AZ2,

Info for manual annotations of cluster AZ2:
•Start number 14 was manually annotated 1 time for cluster AZ2.

Info for manual annotations of cluster CU4:
•Start number 7 was manually annotated 1 time for cluster CU4.

Info for manual annotations of cluster E:
•Start number 15 was manually annotated 3 times for cluster E.

Info for manual annotations of cluster J:

•Start number 11 was manually annotated 1 time for cluster J.

Info for manual annotations of cluster K1:
•Start number 6 was manually annotated 9 times for cluster K1.

Info for manual annotations of cluster L1:
•Start number 5 was manually annotated 17 times for cluster L1.
•Start number 12 was manually annotated 2 times for cluster L1.

Info for manual annotations of cluster L2:
•Start number 5 was manually annotated 1 time for cluster L2.
•Start number 12 was manually annotated 4 times for cluster L2.

Info for manual annotations of cluster L3:
•Start number 12 was manually annotated 2 times for cluster L3.

Info for manual annotations of cluster L5:
•Start number 10 was manually annotated 2 times for cluster L5.

Gene Information:
Gene: Acquire49_30 Start: 27690, Stop: 27959, Start Num: 5
Candidate Starts for Acquire49_30:
(Start: 5 @27690 has 18 MA's), (Start: 12 @27735 has 8 MA's), (25, 27843),

Gene: Aegeus_33 Start: 27825, Stop: 28055, Start Num: 10
Candidate Starts for Aegeus_33:
(Start: 5 @27789 has 18 MA's), (9, 27816), (Start: 10 @27825 has 2 MA's), (16, 27852), (18, 27882),
(22, 27903), (25, 27942), (26, 27945), (27, 27948), (33, 28005), (34, 28014),

Gene: Amelie_55 Start: 40941, Stop: 41186, Start Num: 6
Candidate Starts for Amelie_55:
(3, 40869), (Start: 6 @40941 has 9 MA's), (21, 41046), (23, 41088), (32, 41124),

Gene: Appletree2_30 Start: 27633, Stop: 27902, Start Num: 5
Candidate Starts for Appletree2_30:
(Start: 5 @27633 has 18 MA's), (Start: 12 @27678 has 8 MA's), (25, 27786),

Gene: AvadaKedavra_30 Start: 27700, Stop: 27969, Start Num: 5
Candidate Starts for AvadaKedavra_30:
(Start: 5 @27700 has 18 MA's), (Start: 12 @27745 has 8 MA's), (25, 27853),

Gene: Baudelaire_33 Start: 27825, Stop: 28055, Start Num: 10
Candidate Starts for Baudelaire_33:
(Start: 5 @27789 has 18 MA's), (9, 27816), (Start: 10 @27825 has 2 MA's), (16, 27852), (18, 27882),
(22, 27903), (25, 27942), (26, 27945), (27, 27948), (33, 28005), (34, 28014),

Gene: Biglebops_55 Start: 40941, Stop: 41186, Start Num: 6
Candidate Starts for Biglebops_55:

(3, 40869), (Start: 6 @40941 has 9 MA's), (21, 41046), (23, 41088), (32, 41124),

Gene: BourbonZero_30 Start: 28780, Stop: 29001, Start Num: 12
Candidate Starts for BourbonZero_30:
(Start: 5 @28735 has 18 MA's), (8, 28747), (Start: 12 @28780 has 8 MA's), (18, 28828),

Gene: BrainDrainer_31 Start: 27763, Stop: 27981, Start Num: 12
Candidate Starts for BrainDrainer_31:
(Start: 5 @27718 has 18 MA's), (Start: 12 @27763 has 8 MA's), (27, 27877),

Gene: BronnyJames_44 Start: 38020, Stop: 38232, Start Num: 11
Candidate Starts for BronnyJames_44:
(8, 37993), (Start: 11 @38020 has 1 MA's), (18, 38074), (19, 38077), (25, 38134), (32, 38170),

Gene: Budgie_40 Start: 32739, Stop: 32927, Start Num: 15
Candidate Starts for Budgie_40:
(Start: 5 @32682 has 18 MA's), (Start: 15 @32739 has 3 MA's), (20, 32778), (24, 32832), (25, 32838),
(30, 32853),

Gene: Calm_30 Start: 27704, Stop: 27973, Start Num: 5
Candidate Starts for Calm_30:
(Start: 5 @27704 has 18 MA's), (Start: 12 @27749 has 8 MA's), (25, 27857),

Gene: ChutneyChips_30 Start: 27761, Stop: 27979, Start Num: 12
Candidate Starts for ChutneyChips_30:
(Start: 5 @27716 has 18 MA's), (Start: 12 @27761 has 8 MA's), (27, 27875),

Gene: CicholasNage_30 Start: 27692, Stop: 27961, Start Num: 5
Candidate Starts for CicholasNage_30:
(Start: 5 @27692 has 18 MA's), (Start: 12 @27737 has 8 MA's), (25, 27845),

Gene: Claus_32 Start: 28444, Stop: 28665, Start Num: 12
Candidate Starts for Claus_32:
(Start: 5 @28399 has 18 MA's), (Start: 12 @28444 has 8 MA's), (19, 28495), (22, 28513), (36, 28633),
(37, 28654),

Gene: DHan_32 Start: 28380, Stop: 28601, Start Num: 12
Candidate Starts for DHan_32:
(Start: 5 @28335 has 18 MA's), (Start: 12 @28380 has 8 MA's), (19, 28431), (22, 28449), (36, 28569),
(37, 28590),

Gene: DanBing_31 Start: 28284, Stop: 28505, Start Num: 12
Candidate Starts for DanBing_31:
(Start: 5 @28239 has 18 MA's), (Start: 12 @28284 has 8 MA's), (19, 28335), (36, 28473), (37, 28494),

Gene: DirkDirk_30 Start: 27718, Stop: 27942, Start Num: 12
Candidate Starts for DirkDirk_30:
(Start: 5 @27673 has 18 MA's), (Start: 12 @27718 has 8 MA's), (25, 27826),

Gene: Douzhi_30 Start: 27624, Stop: 27842, Start Num: 12
Candidate Starts for Douzhi_30:
(Start: 5 @27579 has 18 MA's), (Start: 12 @27624 has 8 MA's), (27, 27738),

Gene: Enceladus_30 Start: 27674, Stop: 27943, Start Num: 5
Candidate Starts for Enceladus_30:
(Start: 5 @27674 has 18 MA's), (Start: 12 @27719 has 8 MA's), (25, 27827),

Gene: Enkosi_57 Start: 43554, Stop: 43799, Start Num: 6
Candidate Starts for Enkosi_57:
(3, 43482), (Start: 6 @43554 has 9 MA's), (21, 43659), (23, 43701), (32, 43737),

Gene: FairyPath_37 Start: 33387, Stop: 33575, Start Num: 15
Candidate Starts for FairyPath_37:
(Start: 5 @33330 has 18 MA's), (Start: 15 @33387 has 3 MA's), (18, 33420), (20, 33426), (24, 33480), (27, 33492),

Gene: FarmResident_30 Start: 27563, Stop: 27781, Start Num: 12
Candidate Starts for FarmResident_30:
(Start: 5 @27518 has 18 MA's), (Start: 12 @27563 has 8 MA's), (18, 27611), (27, 27677),

Gene: Gonephishing_53 Start: 42117, Stop: 42329, Start Num: 11
Candidate Starts for Gonephishing_53:
(8, 42090), (Start: 11 @42117 has 1 MA's), (18, 42171), (19, 42174), (25, 42231), (32, 42267),

Gene: Hafay_32 Start: 28500, Stop: 28721, Start Num: 12
Candidate Starts for Hafay_32:
(Start: 5 @28455 has 18 MA's), (Start: 12 @28500 has 8 MA's), (19, 28551), (29, 28617), (36, 28689), (37, 28710),

Gene: Halena_30 Start: 27701, Stop: 27970, Start Num: 5
Candidate Starts for Halena_30:
(Start: 5 @27701 has 18 MA's), (Start: 12 @27746 has 8 MA's), (25, 27854),

Gene: Hidrated_52 Start: 43955, Stop: 44164, Start Num: 11
Candidate Starts for Hidrated_52:
(8, 43928), (Start: 11 @43955 has 1 MA's), (18, 44009), (19, 44012), (25, 44069), (32, 44105), (36, 44153),

Gene: IHOP_37 Start: 33369, Stop: 33557, Start Num: 15
Candidate Starts for IHOP_37:
(Start: 5 @33312 has 18 MA's), (Start: 15 @33369 has 3 MA's), (18, 33402), (20, 33408), (24, 33462), (27, 33474),

Gene: IUFootball_36 Start: 26803, Stop: 26994, Start Num: 14
Candidate Starts for IUFootball_36:
(Start: 5 @26752 has 18 MA's), (Start: 14 @26803 has 1 MA's), (26, 26911),

Gene: Jobypre_31 Start: 28829, Stop: 29050, Start Num: 12
Candidate Starts for Jobypre_31:
(Start: 5 @28784 has 18 MA's), (8, 28796), (Start: 12 @28829 has 8 MA's),

Gene: JoeDirt_30 Start: 27672, Stop: 27941, Start Num: 5
Candidate Starts for JoeDirt_30:
(Start: 5 @27672 has 18 MA's), (Start: 12 @27717 has 8 MA's), (25, 27825),

Gene: Kahlid_32 Start: 28472, Stop: 28693, Start Num: 12

Candidate Starts for Kahlid_32:
(Start: 5 @28427 has 18 MA's), (Start: 12 @28472 has 8 MA's), (19, 28523), (29, 28589), (36, 28661), (37, 28682),

Gene: KirDoubleO7_29 Start: 28812, Stop: 29033, Start Num: 12
Candidate Starts for KirDoubleO7_29:
(Start: 5 @28767 has 18 MA's), (8, 28779), (Start: 12 @28812 has 8 MA's), (18, 28860),

Gene: LeBron_30 Start: 27716, Stop: 27985, Start Num: 5
Candidate Starts for LeBron_30:
(Start: 5 @27716 has 18 MA's), (Start: 12 @27761 has 8 MA's), (25, 27869),

Gene: Lewan_32 Start: 28467, Stop: 28688, Start Num: 12
Candidate Starts for Lewan_32:
(Start: 5 @28422 has 18 MA's), (Start: 12 @28467 has 8 MA's), (19, 28518), (29, 28584), (36, 28656), (37, 28677),

Gene: Liebe_36 Start: 26803, Stop: 26994, Start Num: 14
Candidate Starts for Liebe_36:
(Start: 5 @26752 has 18 MA's), (Start: 14 @26803 has 1 MA's), (26, 26911),

Gene: LilPharaoh_56 Start: 40669, Stop: 40914, Start Num: 6
Candidate Starts for LilPharaoh_56:
(3, 40597), (Start: 6 @40669 has 9 MA's), (21, 40774), (23, 40816), (32, 40852),

Gene: Lynnae_32 Start: 28455, Stop: 28676, Start Num: 12
Candidate Starts for Lynnae_32:
(Start: 5 @28410 has 18 MA's), (Start: 12 @28455 has 8 MA's), (19, 28506), (29, 28572), (36, 28644), (37, 28665),

Gene: MAckerman_30 Start: 27690, Stop: 27959, Start Num: 5
Candidate Starts for MAckerman_30:
(Start: 5 @27690 has 18 MA's), (Start: 12 @27735 has 8 MA's), (25, 27843),

Gene: Marleymoo_53 Start: 43853, Stop: 44062, Start Num: 11
Candidate Starts for Marleymoo_53:
(8, 43826), (Start: 11 @43853 has 1 MA's), (18, 43907), (19, 43910), (25, 43967), (32, 44003), (36, 44051),

Gene: Mdavu_56 Start: 40930, Stop: 41175, Start Num: 6
Candidate Starts for Mdavu_56:
(3, 40858), (Start: 6 @40930 has 9 MA's), (21, 41035), (23, 41077), (32, 41113),

Gene: Moostard_31 Start: 28832, Stop: 29053, Start Num: 12
Candidate Starts for Moostard_31:
(Start: 5 @28787 has 18 MA's), (8, 28799), (Start: 12 @28832 has 8 MA's),

Gene: Nikao_58 Start: 43554, Stop: 43799, Start Num: 6
Candidate Starts for Nikao_58:
(3, 43482), (Start: 6 @43554 has 9 MA's), (21, 43659), (23, 43701), (32, 43737),

Gene: Nutello_55 Start: 40941, Stop: 41186, Start Num: 6
Candidate Starts for Nutello_55:

(3, 40869), (Start: 6 @40941 has 9 MA's), (21, 41046), (23, 41088), (32, 41124),

Gene: OhShagHennessy_30 Start: 27655, Stop: 27924, Start Num: 5
Candidate Starts for OhShagHennessy_30:
(Start: 5 @27655 has 18 MA's), (Start: 12 @27700 has 8 MA's), (25, 27808),

Gene: OverPar_33 Start: 28499, Stop: 28720, Start Num: 12
Candidate Starts for OverPar_33:
(Start: 5 @28454 has 18 MA's), (Start: 12 @28499 has 8 MA's), (19, 28550), (29, 28616), (36, 28688), (37, 28709),

Gene: PYPDinur_30 Start: 27624, Stop: 27842, Start Num: 12
Candidate Starts for PYPDinur_30:
(Start: 5 @27579 has 18 MA's), (Start: 12 @27624 has 8 MA's), (27, 27738),

Gene: Phaja_37 Start: 33368, Stop: 33556, Start Num: 15
Candidate Starts for Phaja_37:
(Start: 5 @33311 has 18 MA's), (Start: 15 @33368 has 3 MA's), (18, 33401), (20, 33407), (24, 33461), (27, 33473),

Gene: Poochiewood_30 Start: 27690, Stop: 27959, Start Num: 5
Candidate Starts for Poochiewood_30:
(Start: 5 @27690 has 18 MA's), (Start: 12 @27735 has 8 MA's),

Gene: Quby_30 Start: 27518, Stop: 27736, Start Num: 12
Candidate Starts for Quby_30:
(Start: 5 @27473 has 18 MA's), (Start: 12 @27518 has 8 MA's), (18, 27566), (27, 27632),

Gene: Rose5_30 Start: 27690, Stop: 27959, Start Num: 5
Candidate Starts for Rose5_30:
(Start: 5 @27690 has 18 MA's), (Start: 12 @27735 has 8 MA's), (25, 27843),

Gene: RoseMarie_41 Start: 35246, Stop: 35443, Start Num: 16
Candidate Starts for RoseMarie_41:
(1, 35054), (4, 35165), (Start: 5 @35183 has 18 MA's), (13, 35231), (16, 35246), (18, 35276), (25, 35342), (29, 35351),

Gene: Rossetti_32 Start: 28739, Stop: 28960, Start Num: 12
Candidate Starts for Rossetti_32:
(Start: 5 @28694 has 18 MA's), (Start: 12 @28739 has 8 MA's), (29, 28856), (37, 28949),

Gene: Rumpelstiltskin_32 Start: 28735, Stop: 28956, Start Num: 12
Candidate Starts for Rumpelstiltskin_32:
(Start: 5 @28690 has 18 MA's), (Start: 12 @28735 has 8 MA's), (19, 28786), (29, 28852), (36, 28924), (37, 28945),

Gene: Sarshaun_32 Start: 28500, Stop: 28721, Start Num: 12
Candidate Starts for Sarshaun_32:
(Start: 5 @28455 has 18 MA's), (Start: 12 @28500 has 8 MA's), (19, 28551), (29, 28617), (36, 28689), (37, 28710),

Gene: Schmidt_57 Start: 36601, Stop: 36840, Start Num: 7
Candidate Starts for Schmidt_57:

(2, 36481), (Start: 7 @36601 has 1 MA's), (13, 36643), (16, 36658), (17, 36682), (20, 36694), (28, 36763), (31, 36772), (35, 36832),

Gene: SgtBeansprout_56 Start: 40941, Stop: 41186, Start Num: 6
Candidate Starts for SgtBeansprout_56:
(3, 40869), (Start: 6 @40941 has 9 MA's), (21, 41046), (23, 41088), (32, 41124),

Gene: Shaboozey_44 Start: 38020, Stop: 38232, Start Num: 11
Candidate Starts for Shaboozey_44:
(8, 37993), (Start: 11 @38020 has 1 MA's), (18, 38074), (19, 38077), (25, 38134), (32, 38170),

Gene: Sheng711_30 Start: 27624, Stop: 27842, Start Num: 12
Candidate Starts for Sheng711_30:
(Start: 5 @27579 has 18 MA's), (Start: 12 @27624 has 8 MA's), (27, 27738),

Gene: ShereKhan_39 Start: 34175, Stop: 34363, Start Num: 15
Candidate Starts for ShereKhan_39:
(Start: 5 @34118 has 18 MA's), (Start: 15 @34175 has 3 MA's), (18, 34208), (20, 34214), (24, 34268), (27, 34280),

Gene: Silverleaf_30 Start: 27690, Stop: 27959, Start Num: 5
Candidate Starts for Silverleaf_30:
(Start: 5 @27690 has 18 MA's), (Start: 12 @27735 has 8 MA's), (25, 27843),

Gene: SoJulia_33 Start: 28728, Stop: 28949, Start Num: 12
Candidate Starts for SoJulia_33:
(Start: 5 @28683 has 18 MA's), (Start: 12 @28728 has 8 MA's), (19, 28779), (29, 28845), (36, 28917), (37, 28938),

Gene: Soap141_32 Start: 28500, Stop: 28721, Start Num: 12
Candidate Starts for Soap141_32:
(Start: 5 @28455 has 18 MA's), (Start: 12 @28500 has 8 MA's), (19, 28551), (29, 28617), (36, 28689), (37, 28710),

Gene: Squint_50 Start: 40769, Stop: 40981, Start Num: 11
Candidate Starts for Squint_50:
(8, 40742), (Start: 11 @40769 has 1 MA's), (18, 40823), (19, 40826), (25, 40883), (32, 40919),

Gene: Teejan_57 Start: 43554, Stop: 43799, Start Num: 6
Candidate Starts for Teejan_57:
(3, 43482), (Start: 6 @43554 has 9 MA's), (21, 43659), (23, 43701), (32, 43737),

Gene: Torres_58 Start: 43555, Stop: 43800, Start Num: 6
Candidate Starts for Torres_58:
(3, 43483), (Start: 6 @43555 has 9 MA's), (21, 43660), (23, 43702), (32, 43738),

Gene: Trice_55 Start: 40942, Stop: 41187, Start Num: 6
Candidate Starts for Trice_55:
(3, 40870), (Start: 6 @40942 has 9 MA's), (21, 41047), (23, 41089), (32, 41125),

Gene: Tyson_30 Start: 27735, Stop: 27959, Start Num: 12
Candidate Starts for Tyson_30:
(Start: 5 @27690 has 18 MA's), (Start: 12 @27735 has 8 MA's), (25, 27843),

Gene: UPIE_30 Start: 27688, Stop: 27957, Start Num: 5
Candidate Starts for UPIE_30:
(Start: 5 @27688 has 18 MA's), (Start: 12 @27733 has 8 MA's), (25, 27841),

Gene: Wamburgrxpress_30 Start: 27703, Stop: 27972, Start Num: 5
Candidate Starts for Wamburgrxpress_30:
(Start: 5 @27703 has 18 MA's), (Start: 12 @27748 has 8 MA's), (25, 27856),

Gene: Wyatt2_30 Start: 27690, Stop: 27959, Start Num: 5
Candidate Starts for Wyatt2_30:
(Start: 5 @27690 has 18 MA's), (Start: 12 @27735 has 8 MA's), (25, 27843),

Gene: Zakai_32 Start: 28678, Stop: 28944, Start Num: 5
Candidate Starts for Zakai_32:
(Start: 5 @28678 has 18 MA's), (Start: 12 @28723 has 8 MA's), (29, 28840), (37, 28933),

Gene: Zaria_30 Start: 27704, Stop: 27973, Start Num: 5
Candidate Starts for Zaria_30:
(Start: 5 @27704 has 18 MA's), (Start: 12 @27749 has 8 MA's), (25, 27857),

Gene: ZhongYanYuan_31 Start: 28288, Stop: 28509, Start Num: 12
Candidate Starts for ZhongYanYuan_31:
(Start: 5 @28243 has 18 MA's), (Start: 12 @28288 has 8 MA's), (19, 28339), (36, 28477), (37, 28498),