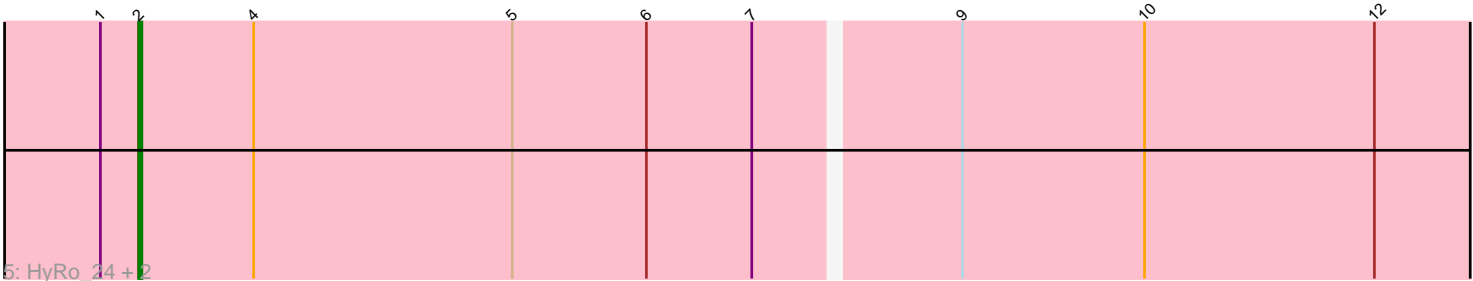
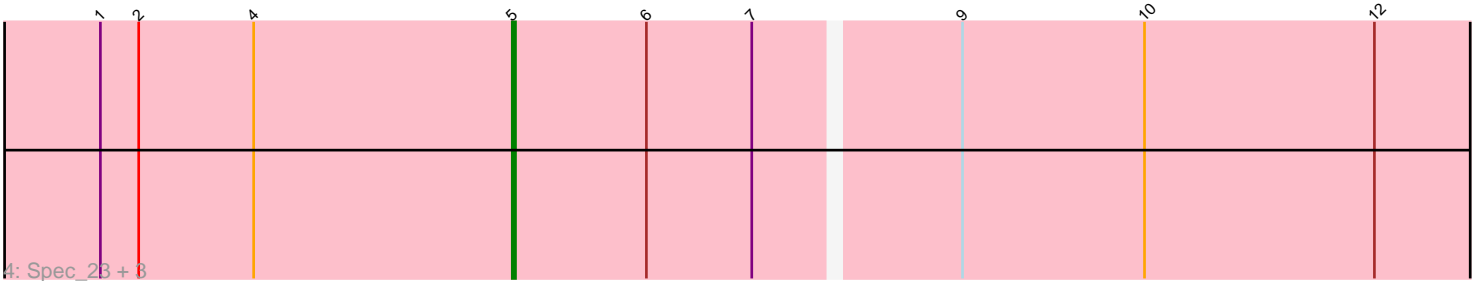
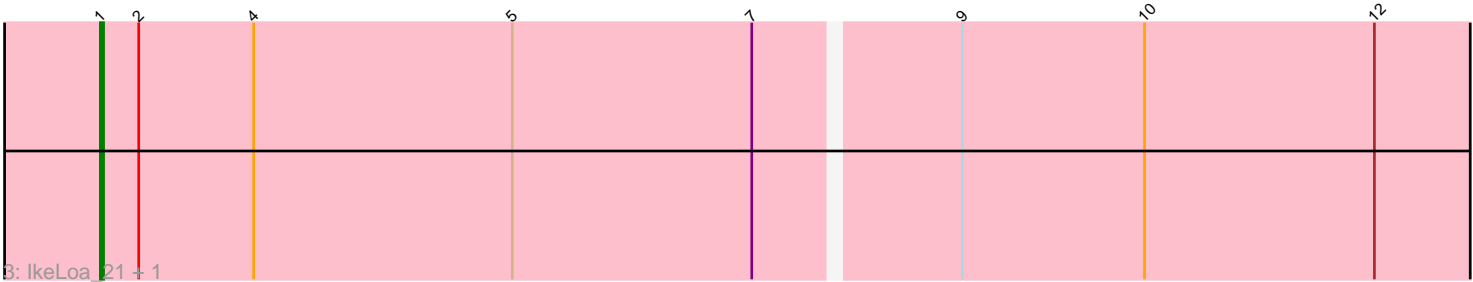
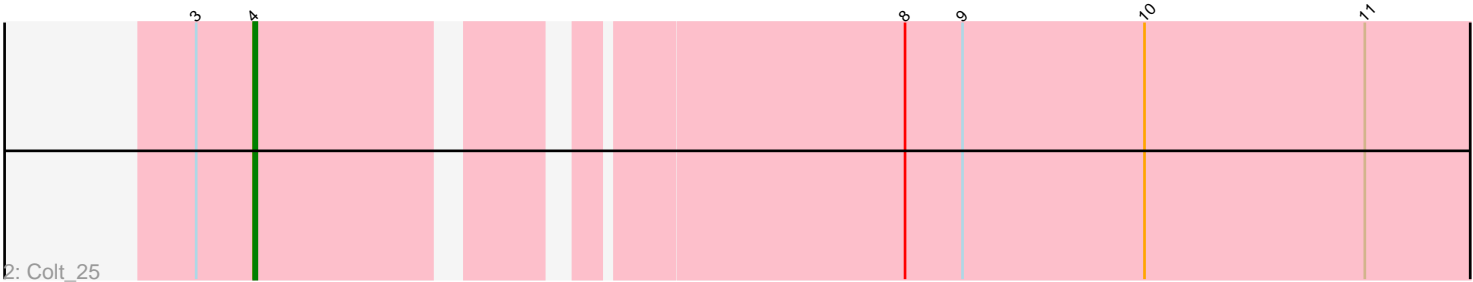
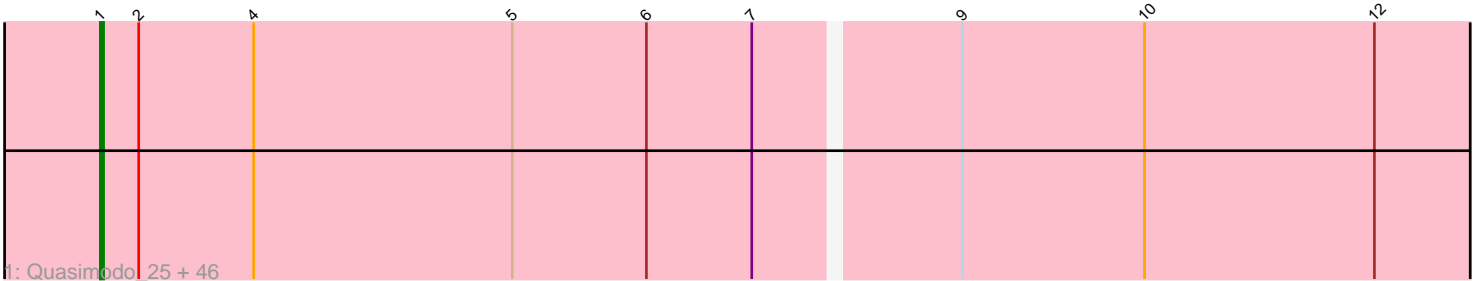


Pham 1654



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 1654 Report

This analysis was run 04/28/24 on database version 559.

Pham number 1654 has 57 members, 3 are drafts.

Phages represented in each track:

- Track 1 : Quasimodo\_25, InterFolia\_32, Mikro\_23, NoodleTree\_24, YoungMoneyMata\_25, Bangla1971\_24, SmallFry\_25, Ghost\_25, Phusco\_25, InigoMontoya\_26, SilverDipper\_26, StephanieG\_25, Adlitam\_25, Ading\_25, Kamryn\_25, Atlantean\_25, Amataga\_25, Guwapp\_25, Janiyra\_25, Jemmno\_25, ArcherS7\_24, CindyLou\_25, Jaygup\_25, Audrick\_27, Shnickers\_25, Littleton\_25, Specks\_30, Derek\_26, Latch\_25, Tortoise16\_24, Patter\_25, Rahel\_25, Tyke\_27, Phlegm\_27, LifeSavor\_26, ShiaLabeouf\_25, ValleyTerrace\_25, Dandelion\_29, Gangam\_25, Momo\_24, Capablanca\_27, DTDevon\_26, Naija\_25, Shifa\_22, RoMag\_20, Pier\_27, Pivoine\_25
- Track 2 : Colt\_25
- Track 3 : IkeLoa\_21, BeanWater\_21
- Track 4 : Spec\_23, Matsumoto\_24, Chomp\_23, Essence\_24
- Track 5 : HyRo\_24, LolaVinca\_28, DirtMonster\_24

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

The start number called the most often in the published annotations is 1, it was called in 49 of the 54 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Ading\_25, Adlitam\_25, Amataga\_25, ArcherS7\_24, Atlantean\_25, Audrick\_27, Bangla1971\_24, BeanWater\_21, Capablanca\_27, CindyLou\_25, DTDevon\_26, Dandelion\_29, Derek\_26, Gangam\_25, Ghost\_25, Guwapp\_25, IkeLoa\_21, InigoMontoya\_26, InterFolia\_32, Janiyra\_25, Jaygup\_25, Jemmno\_25, Kamryn\_25, Latch\_25, LifeSavor\_26, Littleton\_25, Mikro\_23, Momo\_24, Naija\_25, NoodleTree\_24, Patter\_25, Phlegm\_27, Phusco\_25, Pier\_27, Pivoine\_25, Quasimodo\_25, Rahel\_25, RoMag\_20, ShiaLabeouf\_25, Shifa\_22, Shnickers\_25, SilverDipper\_26, SmallFry\_25, Specks\_30, StephanieG\_25, Tortoise16\_24, Tyke\_27, ValleyTerrace\_25, YoungMoneyMata\_25,

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

- Chomp\_23, DirtMonster\_24, Essence\_24, HyRo\_24, LolaVinca\_28, Matsumoto\_24, Spec\_23,

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

- Colt\_25,

### Summary by start number:

Start 1:

- Found in 56 of 57 ( 98.2% ) of genes in pham
- Manual Annotations of this start: 49 of 54
- Called 87.5% of time when present
- Phage (with cluster) where this start called: Ading\_25 (C1), Adlitam\_25 (C1), Amataga\_25 (C1), ArcherS7\_24 (C1), Atlantean\_25 (C1), Audrick\_27 (C1), Bangla1971\_24 (C1), BeanWater\_21 (C1), Capablanca\_27 (C1), CindyLou\_25 (C1), DTDevon\_26 (C1), Dandelion\_29 (C1), Derek\_26 (C1), Gamgam\_25 (C1), Ghost\_25 (C1), Guwapp\_25 (C1), IkeLoa\_21 (C1), InigoMontoya\_26 (C1), InterFolia\_32 (C1), Janiyr\_25 (C1), Jaygup\_25 (C1), Jemmno\_25 (C1), Kamryn\_25 (C1), Latch\_25 (C1), LifeSavor\_26 (C1), Littleton\_25 (C1), Mikro\_23 (C1), Momo\_24 (C1), Naija\_25 (C1), NoodleTree\_24 (C1), Patter\_25 (C1), Phlegm\_27 (C1), Phusco\_25 (C1), Pier\_27 (C1), Pivoine\_25 (C1), Quasimodo\_25 (C1), Rahel\_25 (C1), RoMag\_20 (C1), ShiaLabeouf\_25 (C1), Shifa\_22 (C1), Shnickers\_25 (C1), SilverDipper\_26 (C1), SmallFry\_25 (C1), Specks\_30 (C1), StephanieG\_25 (C1), Tortoise16\_24 (C1), Tyke\_27 (C1), ValleyTerrace\_25 (C1), YoungMoneyMata\_25 (C1),

Start 2:

- Found in 56 of 57 ( 98.2% ) of genes in pham
- Manual Annotations of this start: 3 of 54
- Called 5.4% of time when present
- Phage (with cluster) where this start called: DirtMonster\_24 (C1), HyRo\_24 (C1), LolaVince\_28 (C1),

Start 4:

- Found in 57 of 57 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 1 of 54
- Called 1.8% of time when present
- Phage (with cluster) where this start called: Colt\_25 (C1),

Start 5:

- Found in 56 of 57 ( 98.2% ) of genes in pham
- Manual Annotations of this start: 1 of 54
- Called 7.1% of time when present
- Phage (with cluster) where this start called: Chomp\_23 (C1), Essence\_24 (C1), Matsumoto\_24 (C1), Spec\_23 (C1),

### Summary by clusters:

There is one cluster represented in this pham: C1

Info for manual annotations of cluster C1:

- Start number 1 was manually annotated 49 times for cluster C1.
- Start number 2 was manually annotated 3 times for cluster C1.
- Start number 4 was manually annotated 1 time for cluster C1.
- Start number 5 was manually annotated 1 time for cluster C1.

### **Gene Information:**

Gene: Ading\_25 Start: 7585, Stop: 8097, Start Num: 1

Candidate Starts for Ading\_25:

(Start: 1 @7585 has 49 MA's), (Start: 2 @7597 has 3 MA's), (Start: 4 @7633 has 1 MA's), (Start: 5 @7714 has 1 MA's), (6, 7756), (7, 7789), (9, 7849), (10, 7906), (12, 7978),

Gene: Adlitam\_25 Start: 7602, Stop: 8114, Start Num: 1

Candidate Starts for Adlitam\_25:

(Start: 1 @7602 has 49 MA's), (Start: 2 @7614 has 3 MA's), (Start: 4 @7650 has 1 MA's), (Start: 5 @7731 has 1 MA's), (6, 7773), (7, 7806), (9, 7866), (10, 7923), (12, 7995),

Gene: Amataga\_25 Start: 7606, Stop: 8118, Start Num: 1

Candidate Starts for Amataga\_25:

(Start: 1 @7606 has 49 MA's), (Start: 2 @7618 has 3 MA's), (Start: 4 @7654 has 1 MA's), (Start: 5 @7735 has 1 MA's), (6, 7777), (7, 7810), (9, 7870), (10, 7927), (12, 7999),

Gene: ArcherS7\_24 Start: 7602, Stop: 8114, Start Num: 1

Candidate Starts for ArcherS7\_24:

(Start: 1 @7602 has 49 MA's), (Start: 2 @7614 has 3 MA's), (Start: 4 @7650 has 1 MA's), (Start: 5 @7731 has 1 MA's), (6, 7773), (7, 7806), (9, 7866), (10, 7923), (12, 7995),

Gene: Atlantean\_25 Start: 7606, Stop: 8118, Start Num: 1

Candidate Starts for Atlantean\_25:

(Start: 1 @7606 has 49 MA's), (Start: 2 @7618 has 3 MA's), (Start: 4 @7654 has 1 MA's), (Start: 5 @7735 has 1 MA's), (6, 7777), (7, 7810), (9, 7870), (10, 7927), (12, 7999),

Gene: Audrick\_27 Start: 7585, Stop: 8097, Start Num: 1

Candidate Starts for Audrick\_27:

(Start: 1 @7585 has 49 MA's), (Start: 2 @7597 has 3 MA's), (Start: 4 @7633 has 1 MA's), (Start: 5 @7714 has 1 MA's), (6, 7756), (7, 7789), (9, 7849), (10, 7906), (12, 7978),

Gene: Bangla1971\_24 Start: 7602, Stop: 8114, Start Num: 1

Candidate Starts for Bangla1971\_24:

(Start: 1 @7602 has 49 MA's), (Start: 2 @7614 has 3 MA's), (Start: 4 @7650 has 1 MA's), (Start: 5 @7731 has 1 MA's), (6, 7773), (7, 7806), (9, 7866), (10, 7923), (12, 7995),

Gene: BeanWater\_21 Start: 7716, Stop: 8228, Start Num: 1

Candidate Starts for BeanWater\_21:

(Start: 1 @7716 has 49 MA's), (Start: 2 @7728 has 3 MA's), (Start: 4 @7764 has 1 MA's), (Start: 5 @7845 has 1 MA's), (7, 7920), (9, 7980), (10, 8037), (12, 8109),

Gene: Capablanca\_27 Start: 8731, Stop: 9243, Start Num: 1

Candidate Starts for Capablanca\_27:

(Start: 1 @8731 has 49 MA's), (Start: 2 @8743 has 3 MA's), (Start: 4 @8779 has 1 MA's), (Start: 5 @8860 has 1 MA's), (6, 8902), (7, 8935), (9, 8995), (10, 9052), (12, 9124),

Gene: Chomp\_23 Start: 7735, Stop: 8118, Start Num: 5

Candidate Starts for Chomp\_23:

(Start: 1 @7606 has 49 MA's), (Start: 2 @7618 has 3 MA's), (Start: 4 @7654 has 1 MA's), (Start: 5 @7735 has 1 MA's), (6, 7777), (7, 7810), (9, 7870), (10, 7927), (12, 7999),

Gene: CindyLou\_25 Start: 7606, Stop: 8118, Start Num: 1

Candidate Starts for CindyLou\_25:

(Start: 1 @7606 has 49 MA's), (Start: 2 @7618 has 3 MA's), (Start: 4 @7654 has 1 MA's), (Start: 5 @7735 has 1 MA's), (6, 7777), (7, 7810), (9, 7870), (10, 7927), (12, 7999),

Gene: Colt\_25 Start: 9003, Stop: 9452, Start Num: 4

Candidate Starts for Colt\_25:

(3, 8985), (Start: 4 @9003 has 1 MA's), (8, 9183), (9, 9201), (10, 9258), (11, 9327),

Gene: DTDevon\_26 Start: 8770, Stop: 9282, Start Num: 1

Candidate Starts for DTDevon\_26:

(Start: 1 @8770 has 49 MA's), (Start: 2 @8782 has 3 MA's), (Start: 4 @8818 has 1 MA's), (Start: 5 @8899 has 1 MA's), (6, 8941), (7, 8974), (9, 9034), (10, 9091), (12, 9163),

Gene: Dandelion\_29 Start: 9465, Stop: 9977, Start Num: 1

Candidate Starts for Dandelion\_29:

(Start: 1 @9465 has 49 MA's), (Start: 2 @9477 has 3 MA's), (Start: 4 @9513 has 1 MA's), (Start: 5 @9594 has 1 MA's), (6, 9636), (7, 9669), (9, 9729), (10, 9786), (12, 9858),

Gene: Derek\_26 Start: 7563, Stop: 8075, Start Num: 1

Candidate Starts for Derek\_26:

(Start: 1 @7563 has 49 MA's), (Start: 2 @7575 has 3 MA's), (Start: 4 @7611 has 1 MA's), (Start: 5 @7692 has 1 MA's), (6, 7734), (7, 7767), (9, 7827), (10, 7884), (12, 7956),

Gene: DirtMonster\_24 Start: 8707, Stop: 9207, Start Num: 2

Candidate Starts for DirtMonster\_24:

(Start: 1 @8695 has 49 MA's), (Start: 2 @8707 has 3 MA's), (Start: 4 @8743 has 1 MA's), (Start: 5 @8824 has 1 MA's), (6, 8866), (7, 8899), (9, 8959), (10, 9016), (12, 9088),

Gene: Essence\_24 Start: 7457, Stop: 7840, Start Num: 5

Candidate Starts for Essence\_24:

(Start: 1 @7328 has 49 MA's), (Start: 2 @7340 has 3 MA's), (Start: 4 @7376 has 1 MA's), (Start: 5 @7457 has 1 MA's), (6, 7499), (7, 7532), (9, 7592), (10, 7649), (12, 7721),

Gene: Gamgam\_25 Start: 7606, Stop: 8118, Start Num: 1

Candidate Starts for Gamgam\_25:

(Start: 1 @7606 has 49 MA's), (Start: 2 @7618 has 3 MA's), (Start: 4 @7654 has 1 MA's), (Start: 5 @7735 has 1 MA's), (6, 7777), (7, 7810), (9, 7870), (10, 7927), (12, 7999),

Gene: Ghost\_25 Start: 7606, Stop: 8118, Start Num: 1

Candidate Starts for Ghost\_25:

(Start: 1 @7606 has 49 MA's), (Start: 2 @7618 has 3 MA's), (Start: 4 @7654 has 1 MA's), (Start: 5 @7735 has 1 MA's), (6, 7777), (7, 7810), (9, 7870), (10, 7927), (12, 7999),

Gene: Guwapp\_25 Start: 7563, Stop: 8075, Start Num: 1

Candidate Starts for Guwapp\_25:

(Start: 1 @7563 has 49 MA's), (Start: 2 @7575 has 3 MA's), (Start: 4 @7611 has 1 MA's), (Start: 5 @7692 has 1 MA's), (6, 7734), (7, 7767), (9, 7827), (10, 7884), (12, 7956),

Gene: HyRo\_24 Start: 8353, Stop: 8853, Start Num: 2

Candidate Starts for HyRo\_24:

(Start: 1 @8341 has 49 MA's), (Start: 2 @8353 has 3 MA's), (Start: 4 @8389 has 1 MA's), (Start: 5 @8470 has 1 MA's), (6, 8512), (7, 8545), (9, 8605), (10, 8662), (12, 8734),

Gene: IkeLoa\_21 Start: 7452, Stop: 7964, Start Num: 1

Candidate Starts for IkeLoa\_21:

(Start: 1 @7452 has 49 MA's), (Start: 2 @7464 has 3 MA's), (Start: 4 @7500 has 1 MA's), (Start: 5 @7581 has 1 MA's), (7, 7656), (9, 7716), (10, 7773), (12, 7845),

Gene: InigoMontoya\_26 Start: 7567, Stop: 8079, Start Num: 1

Candidate Starts for InigoMontoya\_26:

(Start: 1 @7567 has 49 MA's), (Start: 2 @7579 has 3 MA's), (Start: 4 @7615 has 1 MA's), (Start: 5 @7696 has 1 MA's), (6, 7738), (7, 7771), (9, 7831), (10, 7888), (12, 7960),

Gene: InterFolia\_32 Start: 10257, Stop: 10769, Start Num: 1

Candidate Starts for InterFolia\_32:

(Start: 1 @10257 has 49 MA's), (Start: 2 @10269 has 3 MA's), (Start: 4 @10305 has 1 MA's), (Start: 5 @10386 has 1 MA's), (6, 10428), (7, 10461), (9, 10521), (10, 10578), (12, 10650),

Gene: Janiyr\_25 Start: 7585, Stop: 8097, Start Num: 1

Candidate Starts for Janiyr\_25:

(Start: 1 @7585 has 49 MA's), (Start: 2 @7597 has 3 MA's), (Start: 4 @7633 has 1 MA's), (Start: 5 @7714 has 1 MA's), (6, 7756), (7, 7789), (9, 7849), (10, 7906), (12, 7978),

Gene: Jaygup\_25 Start: 7602, Stop: 8114, Start Num: 1

Candidate Starts for Jaygup\_25:

(Start: 1 @7602 has 49 MA's), (Start: 2 @7614 has 3 MA's), (Start: 4 @7650 has 1 MA's), (Start: 5 @7731 has 1 MA's), (6, 7773), (7, 7806), (9, 7866), (10, 7923), (12, 7995),

Gene: Jemmno\_25 Start: 7606, Stop: 8118, Start Num: 1

Candidate Starts for Jemmno\_25:

(Start: 1 @7606 has 49 MA's), (Start: 2 @7618 has 3 MA's), (Start: 4 @7654 has 1 MA's), (Start: 5 @7735 has 1 MA's), (6, 7777), (7, 7810), (9, 7870), (10, 7927), (12, 7999),

Gene: Kamryn\_25 Start: 7930, Stop: 8442, Start Num: 1

Candidate Starts for Kamryn\_25:

(Start: 1 @7930 has 49 MA's), (Start: 2 @7942 has 3 MA's), (Start: 4 @7978 has 1 MA's), (Start: 5 @8059 has 1 MA's), (6, 8101), (7, 8134), (9, 8194), (10, 8251), (12, 8323),

Gene: Latch\_25 Start: 7606, Stop: 8118, Start Num: 1

Candidate Starts for Latch\_25:

(Start: 1 @7606 has 49 MA's), (Start: 2 @7618 has 3 MA's), (Start: 4 @7654 has 1 MA's), (Start: 5 @7735 has 1 MA's), (6, 7777), (7, 7810), (9, 7870), (10, 7927), (12, 7999),

Gene: LifeSavor\_26 Start: 7602, Stop: 8114, Start Num: 1

Candidate Starts for LifeSavor\_26:

(Start: 1 @7602 has 49 MA's), (Start: 2 @7614 has 3 MA's), (Start: 4 @7650 has 1 MA's), (Start: 5 @7731 has 1 MA's), (6, 7773), (7, 7806), (9, 7866), (10, 7923), (12, 7995),

Gene: Littleton\_25 Start: 7606, Stop: 8118, Start Num: 1

Candidate Starts for Littleton\_25:

(Start: 1 @7606 has 49 MA's), (Start: 2 @7618 has 3 MA's), (Start: 4 @7654 has 1 MA's), (Start: 5 @7735 has 1 MA's), (6, 7777), (7, 7810), (9, 7870), (10, 7927), (12, 7999),

Gene: LolaVinca\_28 Start: 9375, Stop: 9875, Start Num: 2

Candidate Starts for LolaVinca\_28:

(Start: 1 @9363 has 49 MA's), (Start: 2 @9375 has 3 MA's), (Start: 4 @9411 has 1 MA's), (Start: 5 @9492 has 1 MA's), (6, 9534), (7, 9567), (9, 9627), (10, 9684), (12, 9756),

Gene: Matsumoto\_24 Start: 7696, Stop: 8079, Start Num: 5

Candidate Starts for Matsumoto\_24:

(Start: 1 @7567 has 49 MA's), (Start: 2 @7579 has 3 MA's), (Start: 4 @7615 has 1 MA's), (Start: 5 @7696 has 1 MA's), (6, 7738), (7, 7771), (9, 7831), (10, 7888), (12, 7960),

Gene: Mikro\_23 Start: 8637, Stop: 9149, Start Num: 1

Candidate Starts for Mikro\_23:

(Start: 1 @8637 has 49 MA's), (Start: 2 @8649 has 3 MA's), (Start: 4 @8685 has 1 MA's), (Start: 5 @8766 has 1 MA's), (6, 8808), (7, 8841), (9, 8901), (10, 8958), (12, 9030),

Gene: Momo\_24 Start: 7606, Stop: 8118, Start Num: 1

Candidate Starts for Momo\_24:

(Start: 1 @7606 has 49 MA's), (Start: 2 @7618 has 3 MA's), (Start: 4 @7654 has 1 MA's), (Start: 5 @7735 has 1 MA's), (6, 7777), (7, 7810), (9, 7870), (10, 7927), (12, 7999),

Gene: Naija\_25 Start: 7606, Stop: 8118, Start Num: 1

Candidate Starts for Naija\_25:

(Start: 1 @7606 has 49 MA's), (Start: 2 @7618 has 3 MA's), (Start: 4 @7654 has 1 MA's), (Start: 5 @7735 has 1 MA's), (6, 7777), (7, 7810), (9, 7870), (10, 7927), (12, 7999),

Gene: NoodleTree\_24 Start: 7638, Stop: 8150, Start Num: 1

Candidate Starts for NoodleTree\_24:

(Start: 1 @7638 has 49 MA's), (Start: 2 @7650 has 3 MA's), (Start: 4 @7686 has 1 MA's), (Start: 5 @7767 has 1 MA's), (6, 7809), (7, 7842), (9, 7902), (10, 7959), (12, 8031),

Gene: Patter\_25 Start: 7623, Stop: 8135, Start Num: 1

Candidate Starts for Patter\_25:

(Start: 1 @7623 has 49 MA's), (Start: 2 @7635 has 3 MA's), (Start: 4 @7671 has 1 MA's), (Start: 5 @7752 has 1 MA's), (6, 7794), (7, 7827), (9, 7887), (10, 7944), (12, 8016),

Gene: Phlegm\_27 Start: 7606, Stop: 8118, Start Num: 1

Candidate Starts for Phlegm\_27:

(Start: 1 @7606 has 49 MA's), (Start: 2 @7618 has 3 MA's), (Start: 4 @7654 has 1 MA's), (Start: 5 @7735 has 1 MA's), (6, 7777), (7, 7810), (9, 7870), (10, 7927), (12, 7999),

Gene: Phusco\_25 Start: 7602, Stop: 8114, Start Num: 1

Candidate Starts for Phusco\_25:

(Start: 1 @7602 has 49 MA's), (Start: 2 @7614 has 3 MA's), (Start: 4 @7650 has 1 MA's), (Start: 5 @7731 has 1 MA's), (6, 7773), (7, 7806), (9, 7866), (10, 7923), (12, 7995),

Gene: Pier\_27 Start: 8309, Stop: 8821, Start Num: 1

Candidate Starts for Pier\_27:

(Start: 1 @8309 has 49 MA's), (Start: 2 @8321 has 3 MA's), (Start: 4 @8357 has 1 MA's), (Start: 5 @8438 has 1 MA's), (6, 8480), (7, 8513), (9, 8573), (10, 8630), (12, 8702),

Gene: Pivoine\_25 Start: 7606, Stop: 8118, Start Num: 1

Candidate Starts for Pivoine\_25:

(Start: 1 @7606 has 49 MA's), (Start: 2 @7618 has 3 MA's), (Start: 4 @7654 has 1 MA's), (Start: 5 @7735 has 1 MA's), (6, 7777), (7, 7810), (9, 7870), (10, 7927), (12, 7999),

Gene: Quasimodo\_25 Start: 8566, Stop: 9078, Start Num: 1

Candidate Starts for Quasimodo\_25:

(Start: 1 @8566 has 49 MA's), (Start: 2 @8578 has 3 MA's), (Start: 4 @8614 has 1 MA's), (Start: 5 @8695 has 1 MA's), (6, 8737), (7, 8770), (9, 8830), (10, 8887), (12, 8959),

Gene: Rahel\_25 Start: 7602, Stop: 8114, Start Num: 1

Candidate Starts for Rahel\_25:

(Start: 1 @7602 has 49 MA's), (Start: 2 @7614 has 3 MA's), (Start: 4 @7650 has 1 MA's), (Start: 5 @7731 has 1 MA's), (6, 7773), (7, 7806), (9, 7866), (10, 7923), (12, 7995),

Gene: RoMag\_20 Start: 7403, Stop: 7915, Start Num: 1

Candidate Starts for RoMag\_20:

(Start: 1 @7403 has 49 MA's), (Start: 2 @7415 has 3 MA's), (Start: 4 @7451 has 1 MA's), (Start: 5 @7532 has 1 MA's), (6, 7574), (7, 7607), (9, 7667), (10, 7724), (12, 7796),

Gene: ShiaLabeouf\_25 Start: 7602, Stop: 8114, Start Num: 1

Candidate Starts for ShiaLabeouf\_25:

(Start: 1 @7602 has 49 MA's), (Start: 2 @7614 has 3 MA's), (Start: 4 @7650 has 1 MA's), (Start: 5 @7731 has 1 MA's), (6, 7773), (7, 7806), (9, 7866), (10, 7923), (12, 7995),

Gene: Shifa\_22 Start: 7787, Stop: 8299, Start Num: 1

Candidate Starts for Shifa\_22:

(Start: 1 @7787 has 49 MA's), (Start: 2 @7799 has 3 MA's), (Start: 4 @7835 has 1 MA's), (Start: 5 @7916 has 1 MA's), (6, 7958), (7, 7991), (9, 8051), (10, 8108), (12, 8180),

Gene: Shnickers\_25 Start: 7602, Stop: 8114, Start Num: 1

Candidate Starts for Shnickers\_25:

(Start: 1 @7602 has 49 MA's), (Start: 2 @7614 has 3 MA's), (Start: 4 @7650 has 1 MA's), (Start: 5 @7731 has 1 MA's), (6, 7773), (7, 7806), (9, 7866), (10, 7923), (12, 7995),

Gene: SilverDipper\_26 Start: 7606, Stop: 8118, Start Num: 1

Candidate Starts for SilverDipper\_26:

(Start: 1 @7606 has 49 MA's), (Start: 2 @7618 has 3 MA's), (Start: 4 @7654 has 1 MA's), (Start: 5 @7735 has 1 MA's), (6, 7777), (7, 7810), (9, 7870), (10, 7927), (12, 7999),

Gene: SmallFry\_25 Start: 7602, Stop: 8114, Start Num: 1

Candidate Starts for SmallFry\_25:

(Start: 1 @7602 has 49 MA's), (Start: 2 @7614 has 3 MA's), (Start: 4 @7650 has 1 MA's), (Start: 5 @7731 has 1 MA's), (6, 7773), (7, 7806), (9, 7866), (10, 7923), (12, 7995),

Gene: Spec\_23 Start: 7737, Stop: 8120, Start Num: 5

Candidate Starts for Spec\_23:

(Start: 1 @7608 has 49 MA's), (Start: 2 @7620 has 3 MA's), (Start: 4 @7656 has 1 MA's), (Start: 5 @7737 has 1 MA's), (6, 7779), (7, 7812), (9, 7872), (10, 7929), (12, 8001),

Gene: Specks\_30 Start: 9440, Stop: 9952, Start Num: 1

Candidate Starts for Specks\_30:

(Start: 1 @9440 has 49 MA's), (Start: 2 @9452 has 3 MA's), (Start: 4 @9488 has 1 MA's), (Start: 5 @9569 has 1 MA's), (6, 9611), (7, 9644), (9, 9704), (10, 9761), (12, 9833),

Gene: StephanieG\_25 Start: 8334, Stop: 8846, Start Num: 1

Candidate Starts for StephanieG\_25:



(Start: 1 @8334 has 49 MA's), (Start: 2 @8346 has 3 MA's), (Start: 4 @8382 has 1 MA's), (Start: 5 @8463 has 1 MA's), (6, 8505), (7, 8538), (9, 8598), (10, 8655), (12, 8727),

Gene: Tortoise16\_24 Start: 7602, Stop: 8114, Start Num: 1

Candidate Starts for Tortoise16\_24:

(Start: 1 @7602 has 49 MA's), (Start: 2 @7614 has 3 MA's), (Start: 4 @7650 has 1 MA's), (Start: 5 @7731 has 1 MA's), (6, 7773), (7, 7806), (9, 7866), (10, 7923), (12, 7995),

Gene: Tyke\_27 Start: 9014, Stop: 9526, Start Num: 1

Candidate Starts for Tyke\_27:

(Start: 1 @9014 has 49 MA's), (Start: 2 @9026 has 3 MA's), (Start: 4 @9062 has 1 MA's), (Start: 5 @9143 has 1 MA's), (6, 9185), (7, 9218), (9, 9278), (10, 9335), (12, 9407),

Gene: ValleyTerrace\_25 Start: 7606, Stop: 8118, Start Num: 1

Candidate Starts for ValleyTerrace\_25:

(Start: 1 @7606 has 49 MA's), (Start: 2 @7618 has 3 MA's), (Start: 4 @7654 has 1 MA's), (Start: 5 @7735 has 1 MA's), (6, 7777), (7, 7810), (9, 7870), (10, 7927), (12, 7999),

Gene: YoungMoneyMata\_25 Start: 7357, Stop: 7869, Start Num: 1

Candidate Starts for YoungMoneyMata\_25:

(Start: 1 @7357 has 49 MA's), (Start: 2 @7369 has 3 MA's), (Start: 4 @7405 has 1 MA's), (Start: 5 @7486 has 1 MA's), (6, 7528), (7, 7561), (9, 7621), (10, 7678), (12, 7750),