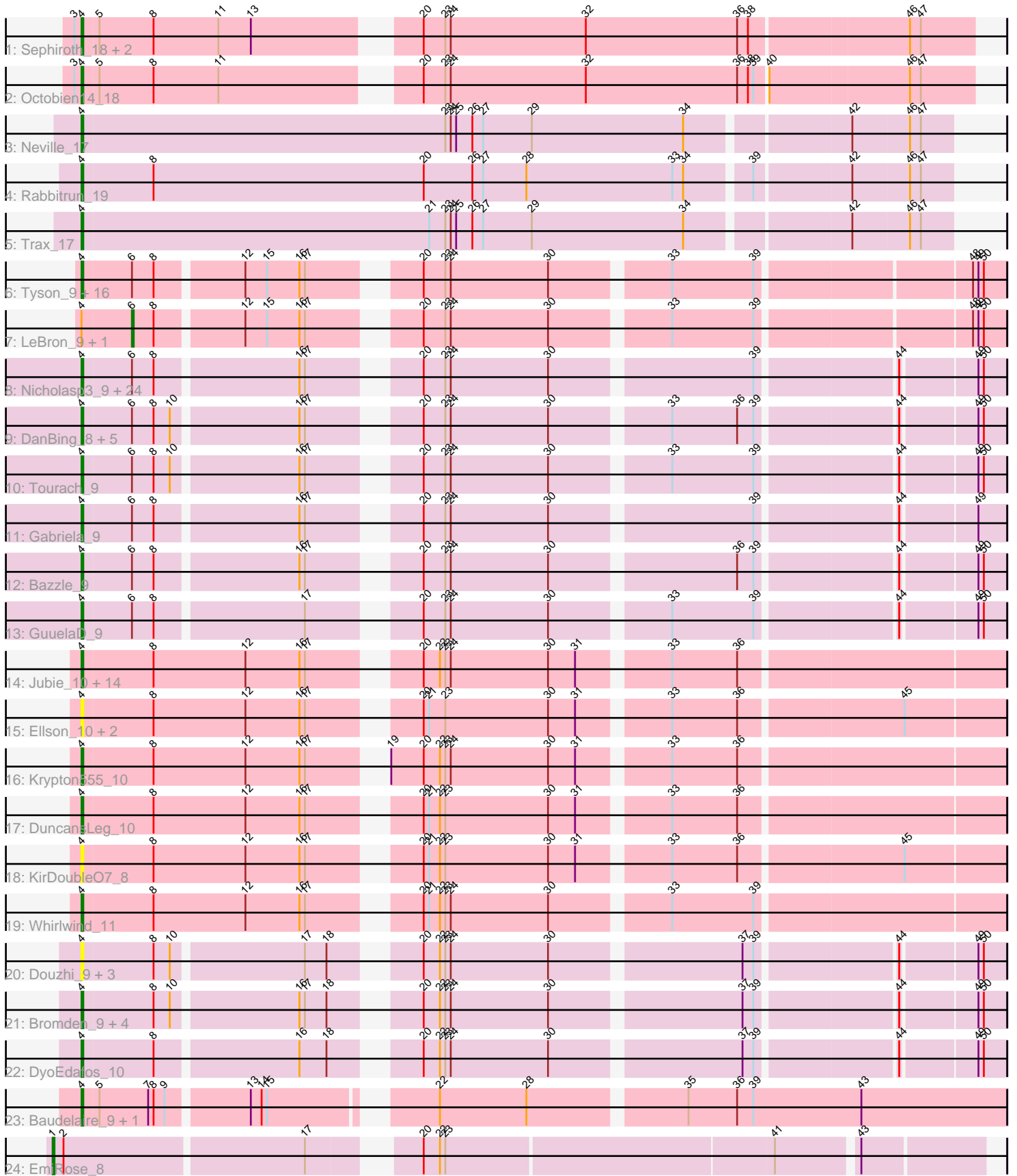


# Pham 196438



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 196438 Report

This analysis was run 12/09/24 on database version 580.

Pham number 196438 has 96 members, 20 are drafts.

Phages represented in each track:

- Track 1 : Sephiroth\_18, Kudefre\_17, Syleon\_18
- Track 2 : Octobien14\_18
- Track 3 : Neville\_17
- Track 4 : Rabbitrun\_19
- Track 5 : Trax\_17
- Track 6 : Tyson\_9, Wyatt2\_9, CicholasNage\_9, AvadaKedavra\_9, JoeDirt\_9, Wamburgxpress\_9, Appletree2\_9, Zaria\_9, Rose5\_9, Enceladus\_9, Silverleaf\_9, MAckerman\_9, DirkDirk\_9, Calm\_9, Halena\_9, Acquire49\_9, OhShagHennessy\_9
- Track 7 : LeBron\_9, UPIE\_9
- Track 8 : Nicholasp3\_9, Vetrrix\_9, Soap141\_9, BobsGarage\_9, Kahlid\_9, Miley16\_9, Netyap\_9, LilDestine\_9, Faith1\_9, Winky\_9, Sarshaun\_9, Finemlucis\_9, Zakai\_9, Loadrie\_9, Gardann\_9, DrSeegs\_9, Breezona\_9, Wilder\_9, MkaliMitinis3\_9, Crossroads\_9, BigCheese\_9, Itos\_9, Hafay\_9, Wigglewiggle\_9, Rumpelstiltskin\_9
- Track 9 : DanBing\_8, Archie\_9, ZhongYanYuan\_8, DHan\_9, Claus\_9, Baoshan\_8
- Track 10 : Tourach\_9
- Track 11 : Gabriela\_9
- Track 12 : Bazzle\_9
- Track 13 : GuuelaD\_9
- Track 14 : Jubie\_10, Kingsolomon\_10, Snenia\_10, Finnry\_10, Nicholas\_10, Moostard\_10, MiniMac\_10, MsGreen\_10, Jobypre\_10, Lolly9\_10, Bellis\_10, Clautastrophe\_10, MiniLon\_10, Samty\_10, Lumos\_10
- Track 15 : Ellson\_10, LiyuLake\_10, BourbonZero\_9
- Track 16 : Krypton555\_10
- Track 17 : DuncansLeg\_10
- Track 18 : KirDoubleO7\_8
- Track 19 : Whirlwind\_11
- Track 20 : Douzhi\_9, BrainDrainer\_10, PYPDinur\_9, Sheng711\_9
- Track 21 : Bromden\_9, Douge\_9, Quby\_9, FarmResident\_9, Chaser\_9
- Track 22 : DyoEdafos\_10
- Track 23 : Baudelaire\_9, Aegeus\_9
- Track 24 : EmiRose\_8

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

The start number called the most often in the published annotations is 4, it was called in 73 of the 76 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Acquire49\_9, Aegeus\_9, Appletree2\_9, Archie\_9, AvadaKedavra\_9, Baoshan\_8, Baudelaire\_9, Bazzle\_9, Bellis\_10, BigCheese\_9, BobsGarage\_9, BourbonZero\_9, BrainDrainer\_10, Breezona\_9, Bromden\_9, Calm\_9, Chaser\_9, CicholasNage\_9, Claus\_9, Clautastrophe\_10, Crossroads\_9, DHan\_9, DanBing\_8, DirkDirk\_9, Douge\_9, Douzhi\_9, DrSeegs\_9, DuncansLeg\_10, DyoEdafos\_10, Ellson\_10, Enceladus\_9, Faith1\_9, FarmResident\_9, Finemlucis\_9, Finnry\_10, Gabriela\_9, Gardann\_9, GuuelaD\_9, Hafay\_9, Halena\_9, Itos\_9, Jobypre\_10, JoeDirt\_9, Jubie\_10, Kahlid\_9, Kingsolomon\_10, KirDoubleO7\_8, Krypton555\_10, Kudrefre\_17, LilDestine\_9, LiyuLake\_10, Loadrie\_9, Lolly9\_10, Lumos\_10, MAckerman\_9, Miley16\_9, MiniLon\_10, MiniMac\_10, MkaliMitinis3\_9, Moostard\_10, MsGreen\_10, Netyap\_9, Neville\_17, Nicholas\_10, Nicholasp3\_9, Octobien14\_18, OhShagHennessy\_9, PYPDinur\_9, Quby\_9, Rabbitrun\_19, Rose5\_9, Rumpelstiltskin\_9, Samty\_10, Sarshaun\_9, Sephiroth\_18, Sheng711\_9, Silverleaf\_9, Snenia\_10, Soap141\_9, Syleon\_18, Tourach\_9, Trax\_17, Tyson\_9, Vetrix\_9, Wamburgxpress\_9, Whirlwind\_11, Wigglewiggles\_9, Wilder\_9, Winky\_9, Wyatt2\_9, Zakai\_9, Zaria\_9, ZhongYanYuan\_8,

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

- LeBron\_9, UPIE\_9,

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

- EmiRose\_8,

### Summary by start number:

Start 1:

- Found in 1 of 96 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 1 of 76
- Called 100.0% of time when present
- Phage (with cluster) where this start called: EmiRose\_8 (singleton),

Start 4:

- Found in 95 of 96 ( 99.0% ) of genes in pham
- Manual Annotations of this start: 73 of 76
- Called 97.9% of time when present
- Phage (with cluster) where this start called: Acquire49\_9 (L1), Aegeus\_9 (L5), Appletree2\_9 (L1), Archie\_9 (L2), AvadaKedavra\_9 (L1), Baoshan\_8 (L2), Baudelaire\_9 (L5), Bazzle\_9 (L2), Bellis\_10 (L3), BigCheese\_9 (L2), BobsGarage\_9 (L2), BourbonZero\_9 (L3), BrainDrainer\_10 (L4), Breezona\_9 (L2), Bromden\_9 (L4), Calm\_9 (L1), Chaser\_9 (L4), CicholasNage\_9 (L1), Claus\_9 (L2), Clautastrophe\_10 (L3), Crossroads\_9 (L2), DHan\_9 (L2), DanBing\_8 (L2), DirkDirk\_9 (L1), Douge\_9 (L4), Douzhi\_9 (L4), DrSeegs\_9 (L2), DuncansLeg\_10 (L3), DyoEdafos\_10 (L4), Ellson\_10 (L3), Enceladus\_9 (L1), Faith1\_9 (L2), FarmResident\_9 (L4), Finemlucis\_9 (L2), Finnry\_10 (L3), Gabriela\_9 (L2), Gardann\_9 (L2), GuuelaD\_9 (L2), Hafay\_9 (L2), Halena\_9 (L1), Itos\_9 (L2), Jobypre\_10 (L3), JoeDirt\_9 (L1), Jubie\_10 (L3), Kahlid\_9 (L2), Kingsolomon\_10 (L3), KirDoubleO7\_8 (L3), Krypton555\_10 (L3), Kudrefre\_17 (DU1), LilDestine\_9 (L2), LiyuLake\_10 (L3), Loadrie\_9 (L2), Lolly9\_10 (L3), Lumos\_10 (L3), MAckerman\_9 (L1), Miley16\_9 (L2), MiniLon\_10 (L3), MiniMac\_10 (L3), MkaliMitinis3\_9 (L2), Moostard\_10 (L3), MsGreen\_10 (L3),

Netyap\_9 (L2), Neville\_17 (DU2), Nicholas\_10 (L3), Nicholasp3\_9 (L2), Octobien14\_18 (DU1), OhShagHennessy\_9 (L1), PYPDinur\_9 (L4), Quby\_9 (L4), Rabbitrun\_19 (DU2), Rose5\_9 (L1), Rumpelstiltskin\_9 (L2), Samty\_10 (L3), Sarshaun\_9 (L2), Sephiroth\_18 (DU1), Sheng711\_9 (L4), Silverleaf\_9 (L1), Snenia\_10 (L3), Soap141\_9 (L2), Syleon\_18 (DU1), Tourach\_9 (L2), Trax\_17 (DU2), Tyson\_9 (L1), Vetrix\_9 (L2), Wamburgexpress\_9 (L1), Whirlwind\_11 (L3), Wigglewobble\_9 (L2), Wilder\_9 (L2), Winky\_9 (L2), Wyatt2\_9 (L1), Zakai\_9 (L2), Zaria\_9 (L1), ZhongYanYuan\_8 (L2),

Start 6:

- Found in 54 of 96 ( 56.2% ) of genes in pham
- Manual Annotations of this start: 2 of 76
- Called 3.7% of time when present
- Phage (with cluster) where this start called: LeBron\_9 (L1), UPIE\_9 (L1),

### **Summary by clusters:**

There are 8 clusters represented in this pham: singleton, L4, L5, L2, L3, L1, DU1, DU2,

Info for manual annotations of cluster DU1:

- Start number 4 was manually annotated 4 times for cluster DU1.

Info for manual annotations of cluster DU2:

- Start number 4 was manually annotated 3 times for cluster DU2.

Info for manual annotations of cluster L1:

- Start number 4 was manually annotated 17 times for cluster L1.
- Start number 6 was manually annotated 2 times for cluster L1.

Info for manual annotations of cluster L2:

- Start number 4 was manually annotated 27 times for cluster L2.

Info for manual annotations of cluster L3:

- Start number 4 was manually annotated 16 times for cluster L3.

Info for manual annotations of cluster L4:

- Start number 4 was manually annotated 4 times for cluster L4.

Info for manual annotations of cluster L5:

- Start number 4 was manually annotated 2 times for cluster L5.

### **Gene Information:**

Gene: Acquire49\_9 Start: 7246, Stop: 7713, Start Num: 4

Candidate Starts for Acquire49\_9:

(Start: 4 @7246 has 73 MA's), (Start: 6 @7273 has 2 MA's), (8, 7285), (12, 7330), (15, 7342), (16, 7360), (17, 7363), (20, 7411), (23, 7423), (24, 7426), (30, 7480), (33, 7540), (39, 7585), (48, 7696), (49, 7699), (50, 7702),

Gene: Aegeus\_9 Start: 6856, Stop: 7332, Start Num: 4

Candidate Starts for Aegeus\_9:

(Start: 4 @6856 has 73 MA's), (5, 6865), (7, 6892), (8, 6895), (9, 6901), (13, 6943), (14, 6949), (15, 6952), (22, 7027), (28, 7075), (35, 7156), (36, 7183), (39, 7192), (43, 7252),

Gene: Appletree2\_9 Start: 7220, Stop: 7687, Start Num: 4

Candidate Starts for Appletree2\_9:

(Start: 4 @7220 has 73 MA's), (Start: 6 @7247 has 2 MA's), (8, 7259), (12, 7304), (15, 7316), (16, 7334), (17, 7337), (20, 7385), (23, 7397), (24, 7400), (30, 7454), (33, 7514), (39, 7559), (48, 7670), (49, 7673), (50, 7676),

Gene: Archie\_9 Start: 7204, Stop: 7668, Start Num: 4

Candidate Starts for Archie\_9:

(Start: 4 @7204 has 73 MA's), (Start: 6 @7231 has 2 MA's), (8, 7243), (10, 7252), (16, 7318), (17, 7321), (20, 7369), (23, 7381), (24, 7384), (30, 7438), (33, 7498), (36, 7534), (39, 7543), (44, 7615), (49, 7654), (50, 7657),

Gene: AvadaKedavra\_9 Start: 7246, Stop: 7713, Start Num: 4

Candidate Starts for AvadaKedavra\_9:

(Start: 4 @7246 has 73 MA's), (Start: 6 @7273 has 2 MA's), (8, 7285), (12, 7330), (15, 7342), (16, 7360), (17, 7363), (20, 7411), (23, 7423), (24, 7426), (30, 7480), (33, 7540), (39, 7585), (48, 7696), (49, 7699), (50, 7702),

Gene: Baoshan\_8 Start: 7059, Stop: 7523, Start Num: 4

Candidate Starts for Baoshan\_8:

(Start: 4 @7059 has 73 MA's), (Start: 6 @7086 has 2 MA's), (8, 7098), (10, 7107), (16, 7173), (17, 7176), (20, 7224), (23, 7236), (24, 7239), (30, 7293), (33, 7353), (36, 7389), (39, 7398), (44, 7470), (49, 7509), (50, 7512),

Gene: Baudelaire\_9 Start: 6856, Stop: 7332, Start Num: 4

Candidate Starts for Baudelaire\_9:

(Start: 4 @6856 has 73 MA's), (5, 6865), (7, 6892), (8, 6895), (9, 6901), (13, 6943), (14, 6949), (15, 6952), (22, 7027), (28, 7075), (35, 7156), (36, 7183), (39, 7192), (43, 7252),

Gene: Bazzle\_9 Start: 7180, Stop: 7644, Start Num: 4

Candidate Starts for Bazzle\_9:

(Start: 4 @7180 has 73 MA's), (Start: 6 @7207 has 2 MA's), (8, 7219), (16, 7294), (17, 7297), (20, 7345), (23, 7357), (24, 7360), (30, 7414), (36, 7510), (39, 7519), (44, 7591), (49, 7630), (50, 7633),

Gene: Bellis\_10 Start: 7367, Stop: 7843, Start Num: 4

Candidate Starts for Bellis\_10:

(Start: 4 @7367 has 73 MA's), (8, 7406), (12, 7457), (16, 7487), (17, 7490), (20, 7538), (22, 7547), (23, 7550), (24, 7553), (30, 7607), (31, 7622), (33, 7667), (36, 7703),

Gene: BigCheese\_9 Start: 7231, Stop: 7695, Start Num: 4

Candidate Starts for BigCheese\_9:

(Start: 4 @7231 has 73 MA's), (Start: 6 @7258 has 2 MA's), (8, 7270), (16, 7345), (17, 7348), (20, 7396), (23, 7408), (24, 7411), (30, 7465), (39, 7570), (44, 7642), (49, 7681), (50, 7684),

Gene: BobsGarage\_9 Start: 7231, Stop: 7695, Start Num: 4

Candidate Starts for BobsGarage\_9:

(Start: 4 @7231 has 73 MA's), (Start: 6 @7258 has 2 MA's), (8, 7270), (16, 7345), (17, 7348), (20, 7396), (23, 7408), (24, 7411), (30, 7465), (39, 7570), (44, 7642), (49, 7681), (50, 7684),

Gene: BourbonZero\_9 Start: 7373, Stop: 7849, Start Num: 4

Candidate Starts for BourbonZero\_9:

(Start: 4 @7373 has 73 MA's), (8, 7412), (12, 7463), (16, 7493), (17, 7496), (20, 7544), (21, 7547), (23, 7556), (30, 7613), (31, 7628), (33, 7673), (36, 7709), (45, 7796),

Gene: BrainDrainer\_10 Start: 7050, Stop: 7514, Start Num: 4

Candidate Starts for BrainDrainer\_10:

(Start: 4 @7050 has 73 MA's), (8, 7089), (10, 7098), (17, 7167), (18, 7179), (20, 7215), (22, 7224), (23, 7227), (24, 7230), (30, 7284), (37, 7383), (39, 7389), (44, 7461), (49, 7500), (50, 7503),

Gene: Breezona\_9 Start: 7231, Stop: 7695, Start Num: 4

Candidate Starts for Breezona\_9:

(Start: 4 @7231 has 73 MA's), (Start: 6 @7258 has 2 MA's), (8, 7270), (16, 7345), (17, 7348), (20, 7396), (23, 7408), (24, 7411), (30, 7465), (39, 7570), (44, 7642), (49, 7681), (50, 7684),

Gene: Bromden\_9 Start: 6960, Stop: 7424, Start Num: 4

Candidate Starts for Bromden\_9:

(Start: 4 @6960 has 73 MA's), (8, 6999), (10, 7008), (16, 7074), (17, 7077), (18, 7089), (20, 7125), (22, 7134), (23, 7137), (24, 7140), (30, 7194), (37, 7293), (39, 7299), (44, 7371), (49, 7410), (50, 7413),

Gene: Calm\_9 Start: 7247, Stop: 7714, Start Num: 4

Candidate Starts for Calm\_9:

(Start: 4 @7247 has 73 MA's), (Start: 6 @7274 has 2 MA's), (8, 7286), (12, 7331), (15, 7343), (16, 7361), (17, 7364), (20, 7412), (23, 7424), (24, 7427), (30, 7481), (33, 7541), (39, 7586), (48, 7697), (49, 7700), (50, 7703),

Gene: Chaser\_9 Start: 6965, Stop: 7429, Start Num: 4

Candidate Starts for Chaser\_9:

(Start: 4 @6965 has 73 MA's), (8, 7004), (10, 7013), (16, 7079), (17, 7082), (18, 7094), (20, 7130), (22, 7139), (23, 7142), (24, 7145), (30, 7199), (37, 7298), (39, 7304), (44, 7376), (49, 7415), (50, 7418),

Gene: CicholasNage\_9 Start: 7247, Stop: 7714, Start Num: 4

Candidate Starts for CicholasNage\_9:

(Start: 4 @7247 has 73 MA's), (Start: 6 @7274 has 2 MA's), (8, 7286), (12, 7331), (15, 7343), (16, 7361), (17, 7364), (20, 7412), (23, 7424), (24, 7427), (30, 7481), (33, 7541), (39, 7586), (48, 7697), (49, 7700), (50, 7703),

Gene: Claus\_9 Start: 7239, Stop: 7703, Start Num: 4

Candidate Starts for Claus\_9:

(Start: 4 @7239 has 73 MA's), (Start: 6 @7266 has 2 MA's), (8, 7278), (10, 7287), (16, 7353), (17, 7356), (20, 7404), (23, 7416), (24, 7419), (30, 7473), (33, 7533), (36, 7569), (39, 7578), (44, 7650), (49, 7689), (50, 7692),

Gene: Clautastrophe\_10 Start: 7371, Stop: 7847, Start Num: 4

Candidate Starts for Clautastrophe\_10:

(Start: 4 @7371 has 73 MA's), (8, 7410), (12, 7461), (16, 7491), (17, 7494), (20, 7542), (22, 7551), (23, 7554), (24, 7557), (30, 7611), (31, 7626), (33, 7671), (36, 7707),

Gene: Crossroads\_9 Start: 7231, Stop: 7695, Start Num: 4

Candidate Starts for Crossroads\_9:

(Start: 4 @7231 has 73 MA's), (Start: 6 @7258 has 2 MA's), (8, 7270), (16, 7345), (17, 7348), (20, 7396), (23, 7408), (24, 7411), (30, 7465), (39, 7570), (44, 7642), (49, 7681), (50, 7684),

Gene: DHan\_9 Start: 7175, Stop: 7639, Start Num: 4

Candidate Starts for DHan\_9:

(Start: 4 @7175 has 73 MA's), (Start: 6 @7202 has 2 MA's), (8, 7214), (10, 7223), (16, 7289), (17, 7292), (20, 7340), (23, 7352), (24, 7355), (30, 7409), (33, 7469), (36, 7505), (39, 7514), (44, 7586), (49, 7625), (50, 7628),

Gene: DanBing\_8 Start: 7058, Stop: 7522, Start Num: 4

Candidate Starts for DanBing\_8:

(Start: 4 @7058 has 73 MA's), (Start: 6 @7085 has 2 MA's), (8, 7097), (10, 7106), (16, 7172), (17, 7175), (20, 7223), (23, 7235), (24, 7238), (30, 7292), (33, 7352), (36, 7388), (39, 7397), (44, 7469), (49, 7508), (50, 7511),

Gene: DirkDirk\_9 Start: 7248, Stop: 7715, Start Num: 4

Candidate Starts for DirkDirk\_9:

(Start: 4 @7248 has 73 MA's), (Start: 6 @7275 has 2 MA's), (8, 7287), (12, 7332), (15, 7344), (16, 7362), (17, 7365), (20, 7413), (23, 7425), (24, 7428), (30, 7482), (33, 7542), (39, 7587), (48, 7698), (49, 7701), (50, 7704),

Gene: Douge\_9 Start: 6911, Stop: 7375, Start Num: 4

Candidate Starts for Douge\_9:

(Start: 4 @6911 has 73 MA's), (8, 6950), (10, 6959), (16, 7025), (17, 7028), (18, 7040), (20, 7076), (22, 7085), (23, 7088), (24, 7091), (30, 7145), (37, 7244), (39, 7250), (44, 7322), (49, 7361), (50, 7364),

Gene: Douzhi\_9 Start: 6911, Stop: 7375, Start Num: 4

Candidate Starts for Douzhi\_9:

(Start: 4 @6911 has 73 MA's), (8, 6950), (10, 6959), (17, 7028), (18, 7040), (20, 7076), (22, 7085), (23, 7088), (24, 7091), (30, 7145), (37, 7244), (39, 7250), (44, 7322), (49, 7361), (50, 7364),

Gene: DrSeegs\_9 Start: 7231, Stop: 7695, Start Num: 4

Candidate Starts for DrSeegs\_9:

(Start: 4 @7231 has 73 MA's), (Start: 6 @7258 has 2 MA's), (8, 7270), (16, 7345), (17, 7348), (20, 7396), (23, 7408), (24, 7411), (30, 7465), (39, 7570), (44, 7642), (49, 7681), (50, 7684),

Gene: DuncansLeg\_10 Start: 7375, Stop: 7851, Start Num: 4

Candidate Starts for DuncansLeg\_10:

(Start: 4 @7375 has 73 MA's), (8, 7414), (12, 7465), (16, 7495), (17, 7498), (20, 7546), (21, 7549), (22, 7555), (23, 7558), (30, 7615), (31, 7630), (33, 7675), (36, 7711),

Gene: DyoEdafos\_10 Start: 7121, Stop: 7585, Start Num: 4

Candidate Starts for DyoEdafos\_10:

(Start: 4 @7121 has 73 MA's), (8, 7160), (16, 7235), (18, 7250), (20, 7286), (22, 7295), (23, 7298), (24, 7301), (30, 7355), (37, 7454), (39, 7460), (44, 7532), (49, 7571), (50, 7574),

Gene: Ellson\_10 Start: 7383, Stop: 7859, Start Num: 4

Candidate Starts for Ellson\_10:

(Start: 4 @7383 has 73 MA's), (8, 7422), (12, 7473), (16, 7503), (17, 7506), (20, 7554), (21, 7557), (23, 7566), (30, 7623), (31, 7638), (33, 7683), (36, 7719), (45, 7806),

Gene: EmiRose\_8 Start: 7240, Stop: 7716, Start Num: 1

Candidate Starts for EmiRose\_8:

(Start: 1 @7240 has 1 MA's), (2, 7246), (17, 7375), (20, 7420), (22, 7429), (23, 7432), (41, 7609), (43, 7651),

Gene: Enceladus\_9 Start: 7248, Stop: 7715, Start Num: 4

Candidate Starts for Enceladus\_9:

(Start: 4 @7248 has 73 MA's), (Start: 6 @7275 has 2 MA's), (8, 7287), (12, 7332), (15, 7344), (16, 7362), (17, 7365), (20, 7413), (23, 7425), (24, 7428), (30, 7482), (33, 7542), (39, 7587), (48, 7698), (49, 7701), (50, 7704),

Gene: Faith1\_9 Start: 7231, Stop: 7695, Start Num: 4

Candidate Starts for Faith1\_9:

(Start: 4 @7231 has 73 MA's), (Start: 6 @7258 has 2 MA's), (8, 7270), (16, 7345), (17, 7348), (20, 7396), (23, 7408), (24, 7411), (30, 7465), (39, 7570), (44, 7642), (49, 7681), (50, 7684),

Gene: FarmResident\_9 Start: 6956, Stop: 7420, Start Num: 4

Candidate Starts for FarmResident\_9:

(Start: 4 @6956 has 73 MA's), (8, 6995), (10, 7004), (16, 7070), (17, 7073), (18, 7085), (20, 7121), (22, 7130), (23, 7133), (24, 7136), (30, 7190), (37, 7289), (39, 7295), (44, 7367), (49, 7406), (50, 7409),

Gene: Finemlucis\_9 Start: 7231, Stop: 7695, Start Num: 4

Candidate Starts for Finemlucis\_9:

(Start: 4 @7231 has 73 MA's), (Start: 6 @7258 has 2 MA's), (8, 7270), (16, 7345), (17, 7348), (20, 7396), (23, 7408), (24, 7411), (30, 7465), (39, 7570), (44, 7642), (49, 7681), (50, 7684),

Gene: Finnry\_10 Start: 7368, Stop: 7844, Start Num: 4

Candidate Starts for Finnry\_10:

(Start: 4 @7368 has 73 MA's), (8, 7407), (12, 7458), (16, 7488), (17, 7491), (20, 7539), (22, 7548), (23, 7551), (24, 7554), (30, 7608), (31, 7623), (33, 7668), (36, 7704),

Gene: Gabriela\_9 Start: 7231, Stop: 7695, Start Num: 4

Candidate Starts for Gabriela\_9:

(Start: 4 @7231 has 73 MA's), (Start: 6 @7258 has 2 MA's), (8, 7270), (16, 7345), (17, 7348), (20, 7396), (23, 7408), (24, 7411), (30, 7465), (39, 7570), (44, 7642), (49, 7681),

Gene: Gardann\_9 Start: 7231, Stop: 7695, Start Num: 4

Candidate Starts for Gardann\_9:

(Start: 4 @7231 has 73 MA's), (Start: 6 @7258 has 2 MA's), (8, 7270), (16, 7345), (17, 7348), (20, 7396), (23, 7408), (24, 7411), (30, 7465), (39, 7570), (44, 7642), (49, 7681), (50, 7684),

Gene: GuuelaD\_9 Start: 7264, Stop: 7728, Start Num: 4

Candidate Starts for GuuelaD\_9:

(Start: 4 @7264 has 73 MA's), (Start: 6 @7291 has 2 MA's), (8, 7303), (17, 7381), (20, 7429), (23, 7441), (24, 7444), (30, 7498), (33, 7558), (39, 7603), (44, 7675), (49, 7714), (50, 7717),

Gene: Hafay\_9 Start: 7264, Stop: 7728, Start Num: 4

Candidate Starts for Hafay\_9:

(Start: 4 @7264 has 73 MA's), (Start: 6 @7291 has 2 MA's), (8, 7303), (16, 7378), (17, 7381), (20, 7429), (23, 7441), (24, 7444), (30, 7498), (39, 7603), (44, 7675), (49, 7714), (50, 7717),

Gene: Halena\_9 Start: 7247, Stop: 7714, Start Num: 4

Candidate Starts for Halena\_9:

(Start: 4 @7247 has 73 MA's), (Start: 6 @7274 has 2 MA's), (8, 7286), (12, 7331), (15, 7343), (16, 7361), (17, 7364), (20, 7412), (23, 7424), (24, 7427), (30, 7481), (33, 7541), (39, 7586), (48, 7697), (49, 7700), (50, 7703),

Gene: Itos\_9 Start: 7231, Stop: 7695, Start Num: 4



Candidate Starts for Itos\_9:

(Start: 4 @7231 has 73 MA's), (Start: 6 @7258 has 2 MA's), (8, 7270), (16, 7345), (17, 7348), (20, 7396), (23, 7408), (24, 7411), (30, 7465), (39, 7570), (44, 7642), (49, 7681), (50, 7684),

Gene: Jobypre\_10 Start: 7371, Stop: 7847, Start Num: 4

Candidate Starts for Jobypre\_10:

(Start: 4 @7371 has 73 MA's), (8, 7410), (12, 7461), (16, 7491), (17, 7494), (20, 7542), (22, 7551), (23, 7554), (24, 7557), (30, 7611), (31, 7626), (33, 7671), (36, 7707),

Gene: JoeDirt\_9 Start: 7247, Stop: 7714, Start Num: 4

Candidate Starts for JoeDirt\_9:

(Start: 4 @7247 has 73 MA's), (Start: 6 @7274 has 2 MA's), (8, 7286), (12, 7331), (15, 7343), (16, 7361), (17, 7364), (20, 7412), (23, 7424), (24, 7427), (30, 7481), (33, 7541), (39, 7586), (48, 7697), (49, 7700), (50, 7703),

Gene: Jubie\_10 Start: 7371, Stop: 7847, Start Num: 4

Candidate Starts for Jubie\_10:

(Start: 4 @7371 has 73 MA's), (8, 7410), (12, 7461), (16, 7491), (17, 7494), (20, 7542), (22, 7551), (23, 7554), (24, 7557), (30, 7611), (31, 7626), (33, 7671), (36, 7707),

Gene: Kahlid\_9 Start: 7231, Stop: 7695, Start Num: 4

Candidate Starts for Kahlid\_9:

(Start: 4 @7231 has 73 MA's), (Start: 6 @7258 has 2 MA's), (8, 7270), (16, 7345), (17, 7348), (20, 7396), (23, 7408), (24, 7411), (30, 7465), (39, 7570), (44, 7642), (49, 7681), (50, 7684),

Gene: Kingsolomon\_10 Start: 7371, Stop: 7847, Start Num: 4

Candidate Starts for Kingsolomon\_10:

(Start: 4 @7371 has 73 MA's), (8, 7410), (12, 7461), (16, 7491), (17, 7494), (20, 7542), (22, 7551), (23, 7554), (24, 7557), (30, 7611), (31, 7626), (33, 7671), (36, 7707),

Gene: KirDoubleO7\_8 Start: 7384, Stop: 7860, Start Num: 4

Candidate Starts for KirDoubleO7\_8:

(Start: 4 @7384 has 73 MA's), (8, 7423), (12, 7474), (16, 7504), (17, 7507), (20, 7555), (21, 7558), (22, 7564), (23, 7567), (30, 7624), (31, 7639), (33, 7684), (36, 7720), (45, 7807),

Gene: Krypton555\_10 Start: 7360, Stop: 7836, Start Num: 4

Candidate Starts for Krypton555\_10:

(Start: 4 @7360 has 73 MA's), (8, 7399), (12, 7450), (16, 7480), (17, 7483), (19, 7513), (20, 7531), (22, 7540), (23, 7543), (24, 7546), (30, 7600), (31, 7615), (33, 7660), (36, 7696),

Gene: Kudfre\_17 Start: 10644, Stop: 11111, Start Num: 4

Candidate Starts for Kudfre\_17:

(3, 10641), (Start: 4 @10644 has 73 MA's), (5, 10653), (8, 10683), (11, 10719), (13, 10737), (20, 10812), (23, 10824), (24, 10827), (32, 10902), (36, 10986), (38, 10992), (46, 11076), (47, 11082),

Gene: LeBron\_9 Start: 7274, Stop: 7714, Start Num: 6

Candidate Starts for LeBron\_9:

(Start: 4 @7247 has 73 MA's), (Start: 6 @7274 has 2 MA's), (8, 7286), (12, 7331), (15, 7343), (16, 7361), (17, 7364), (20, 7412), (23, 7424), (24, 7427), (30, 7481), (33, 7541), (39, 7586), (48, 7697), (49, 7700), (50, 7703),

Gene: LilDestine\_9 Start: 7231, Stop: 7695, Start Num: 4

Candidate Starts for LilDestine\_9:

(Start: 4 @7231 has 73 MA's), (Start: 6 @7258 has 2 MA's), (8, 7270), (16, 7345), (17, 7348), (20, 7396), (23, 7408), (24, 7411), (30, 7465), (39, 7570), (44, 7642), (49, 7681), (50, 7684),

Gene: LiyuLake\_10 Start: 7375, Stop: 7851, Start Num: 4

Candidate Starts for LiyuLake\_10:

(Start: 4 @7375 has 73 MA's), (8, 7414), (12, 7465), (16, 7495), (17, 7498), (20, 7546), (21, 7549), (23, 7558), (30, 7615), (31, 7630), (33, 7675), (36, 7711), (45, 7798),

Gene: Loadrie\_9 Start: 7264, Stop: 7728, Start Num: 4

Candidate Starts for Loadrie\_9:

(Start: 4 @7264 has 73 MA's), (Start: 6 @7291 has 2 MA's), (8, 7303), (16, 7378), (17, 7381), (20, 7429), (23, 7441), (24, 7444), (30, 7498), (39, 7603), (44, 7675), (49, 7714), (50, 7717),

Gene: Lolly9\_10 Start: 7378, Stop: 7854, Start Num: 4

Candidate Starts for Lolly9\_10:

(Start: 4 @7378 has 73 MA's), (8, 7417), (12, 7468), (16, 7498), (17, 7501), (20, 7549), (22, 7558), (23, 7561), (24, 7564), (30, 7618), (31, 7633), (33, 7678), (36, 7714),

Gene: Lumos\_10 Start: 7371, Stop: 7847, Start Num: 4

Candidate Starts for Lumos\_10:

(Start: 4 @7371 has 73 MA's), (8, 7410), (12, 7461), (16, 7491), (17, 7494), (20, 7542), (22, 7551), (23, 7554), (24, 7557), (30, 7611), (31, 7626), (33, 7671), (36, 7707),

Gene: MAckerman\_9 Start: 7246, Stop: 7713, Start Num: 4

Candidate Starts for MAckerman\_9:

(Start: 4 @7246 has 73 MA's), (Start: 6 @7273 has 2 MA's), (8, 7285), (12, 7330), (15, 7342), (16, 7360), (17, 7363), (20, 7411), (23, 7423), (24, 7426), (30, 7480), (33, 7540), (39, 7585), (48, 7696), (49, 7699), (50, 7702),

Gene: Miley16\_9 Start: 7231, Stop: 7695, Start Num: 4

Candidate Starts for Miley16\_9:

(Start: 4 @7231 has 73 MA's), (Start: 6 @7258 has 2 MA's), (8, 7270), (16, 7345), (17, 7348), (20, 7396), (23, 7408), (24, 7411), (30, 7465), (39, 7570), (44, 7642), (49, 7681), (50, 7684),

Gene: MiniLon\_10 Start: 7378, Stop: 7854, Start Num: 4

Candidate Starts for MiniLon\_10:

(Start: 4 @7378 has 73 MA's), (8, 7417), (12, 7468), (16, 7498), (17, 7501), (20, 7549), (22, 7558), (23, 7561), (24, 7564), (30, 7618), (31, 7633), (33, 7678), (36, 7714),

Gene: MiniMac\_10 Start: 7379, Stop: 7855, Start Num: 4

Candidate Starts for MiniMac\_10:

(Start: 4 @7379 has 73 MA's), (8, 7418), (12, 7469), (16, 7499), (17, 7502), (20, 7550), (22, 7559), (23, 7562), (24, 7565), (30, 7619), (31, 7634), (33, 7679), (36, 7715),

Gene: MkaliMitinis3\_9 Start: 7231, Stop: 7695, Start Num: 4

Candidate Starts for MkaliMitinis3\_9:

(Start: 4 @7231 has 73 MA's), (Start: 6 @7258 has 2 MA's), (8, 7270), (16, 7345), (17, 7348), (20, 7396), (23, 7408), (24, 7411), (30, 7465), (39, 7570), (44, 7642), (49, 7681), (50, 7684),

Gene: Moostard\_10 Start: 7367, Stop: 7843, Start Num: 4

Candidate Starts for Moostard\_10:

(Start: 4 @7367 has 73 MA's), (8, 7406), (12, 7457), (16, 7487), (17, 7490), (20, 7538), (22, 7547), (23, 7550), (24, 7553), (30, 7607), (31, 7622), (33, 7667), (36, 7703),

Gene: MsGreen\_10 Start: 7371, Stop: 7847, Start Num: 4

Candidate Starts for MsGreen\_10:

(Start: 4 @7371 has 73 MA's), (8, 7410), (12, 7461), (16, 7491), (17, 7494), (20, 7542), (22, 7551), (23, 7554), (24, 7557), (30, 7611), (31, 7626), (33, 7671), (36, 7707),

Gene: Netyap\_9 Start: 7231, Stop: 7695, Start Num: 4

Candidate Starts for Netyap\_9:

(Start: 4 @7231 has 73 MA's), (Start: 6 @7258 has 2 MA's), (8, 7270), (16, 7345), (17, 7348), (20, 7396), (23, 7408), (24, 7411), (30, 7465), (39, 7570), (44, 7642), (49, 7681), (50, 7684),

Gene: Neville\_17 Start: 10452, Stop: 10922, Start Num: 4

Candidate Starts for Neville\_17:

(Start: 4 @10452 has 73 MA's), (23, 10653), (24, 10656), (25, 10659), (26, 10668), (27, 10674), (29, 10701), (34, 10785), (42, 10869), (46, 10899), (47, 10905),

Gene: Nicholas\_10 Start: 7371, Stop: 7847, Start Num: 4

Candidate Starts for Nicholas\_10:

(Start: 4 @7371 has 73 MA's), (8, 7410), (12, 7461), (16, 7491), (17, 7494), (20, 7542), (22, 7551), (23, 7554), (24, 7557), (30, 7611), (31, 7626), (33, 7671), (36, 7707),

Gene: Nicholasp3\_9 Start: 7231, Stop: 7695, Start Num: 4

Candidate Starts for Nicholasp3\_9:

(Start: 4 @7231 has 73 MA's), (Start: 6 @7258 has 2 MA's), (8, 7270), (16, 7345), (17, 7348), (20, 7396), (23, 7408), (24, 7411), (30, 7465), (39, 7570), (44, 7642), (49, 7681), (50, 7684),

Gene: Octobien14\_18 Start: 11707, Stop: 12174, Start Num: 4

Candidate Starts for Octobien14\_18:

(3, 11704), (Start: 4 @11707 has 73 MA's), (5, 11716), (8, 11746), (11, 11782), (20, 11875), (23, 11887), (24, 11890), (32, 11965), (36, 12049), (38, 12055), (39, 12058), (40, 12064), (46, 12139), (47, 12145),

Gene: OhShagHennessy\_9 Start: 7220, Stop: 7687, Start Num: 4

Candidate Starts for OhShagHennessy\_9:

(Start: 4 @7220 has 73 MA's), (Start: 6 @7247 has 2 MA's), (8, 7259), (12, 7304), (15, 7316), (16, 7334), (17, 7337), (20, 7385), (23, 7397), (24, 7400), (30, 7454), (33, 7514), (39, 7559), (48, 7670), (49, 7673), (50, 7676),

Gene: PYPDinur\_9 Start: 6911, Stop: 7375, Start Num: 4

Candidate Starts for PYPDinur\_9:

(Start: 4 @6911 has 73 MA's), (8, 6950), (10, 6959), (17, 7028), (18, 7040), (20, 7076), (22, 7085), (23, 7088), (24, 7091), (30, 7145), (37, 7244), (39, 7250), (44, 7322), (49, 7361), (50, 7364),

Gene: Quby\_9 Start: 6910, Stop: 7374, Start Num: 4

Candidate Starts for Quby\_9:

(Start: 4 @6910 has 73 MA's), (8, 6949), (10, 6958), (16, 7024), (17, 7027), (18, 7039), (20, 7075), (22, 7084), (23, 7087), (24, 7090), (30, 7144), (37, 7243), (39, 7249), (44, 7321), (49, 7360), (50, 7363),

Gene: Rabbitrun\_19 Start: 10976, Stop: 11446, Start Num: 4

Candidate Starts for Rabbitrun\_19:

(Start: 4 @10976 has 73 MA's), (8, 11015), (20, 11165), (26, 11192), (27, 11198), (28, 11222), (33, 11303), (34, 11309), (39, 11342), (42, 11393), (46, 11423), (47, 11429),

Gene: Rose5\_9 Start: 7246, Stop: 7713, Start Num: 4

Candidate Starts for Rose5\_9:

(Start: 4 @7246 has 73 MA's), (Start: 6 @7273 has 2 MA's), (8, 7285), (12, 7330), (15, 7342), (16, 7360), (17, 7363), (20, 7411), (23, 7423), (24, 7426), (30, 7480), (33, 7540), (39, 7585), (48, 7696), (49, 7699), (50, 7702),

Gene: Rumpelstiltskin\_9 Start: 7231, Stop: 7695, Start Num: 4

Candidate Starts for Rumpelstiltskin\_9:

(Start: 4 @7231 has 73 MA's), (Start: 6 @7258 has 2 MA's), (8, 7270), (16, 7345), (17, 7348), (20, 7396), (23, 7408), (24, 7411), (30, 7465), (39, 7570), (44, 7642), (49, 7681), (50, 7684),

Gene: Samty\_10 Start: 7367, Stop: 7843, Start Num: 4

Candidate Starts for Samty\_10:

(Start: 4 @7367 has 73 MA's), (8, 7406), (12, 7457), (16, 7487), (17, 7490), (20, 7538), (22, 7547), (23, 7550), (24, 7553), (30, 7607), (31, 7622), (33, 7667), (36, 7703),

Gene: Sarshaun\_9 Start: 7264, Stop: 7728, Start Num: 4

Candidate Starts for Sarshaun\_9:

(Start: 4 @7264 has 73 MA's), (Start: 6 @7291 has 2 MA's), (8, 7303), (16, 7378), (17, 7381), (20, 7429), (23, 7441), (24, 7444), (30, 7498), (39, 7603), (44, 7675), (49, 7714), (50, 7717),

Gene: Sephiroth\_18 Start: 10815, Stop: 11282, Start Num: 4

Candidate Starts for Sephiroth\_18:

(3, 10812), (Start: 4 @10815 has 73 MA's), (5, 10824), (8, 10854), (11, 10890), (13, 10908), (20, 10983), (23, 10995), (24, 10998), (32, 11073), (36, 11157), (38, 11163), (46, 11247), (47, 11253),

Gene: Sheng711\_9 Start: 6911, Stop: 7375, Start Num: 4

Candidate Starts for Sheng711\_9:

(Start: 4 @6911 has 73 MA's), (8, 6950), (10, 6959), (17, 7028), (18, 7040), (20, 7076), (22, 7085), (23, 7088), (24, 7091), (30, 7145), (37, 7244), (39, 7250), (44, 7322), (49, 7361), (50, 7364),

Gene: Silverleaf\_9 Start: 7246, Stop: 7713, Start Num: 4

Candidate Starts for Silverleaf\_9:

(Start: 4 @7246 has 73 MA's), (Start: 6 @7273 has 2 MA's), (8, 7285), (12, 7330), (15, 7342), (16, 7360), (17, 7363), (20, 7411), (23, 7423), (24, 7426), (30, 7480), (33, 7540), (39, 7585), (48, 7696), (49, 7699), (50, 7702),

Gene: Snenia\_10 Start: 7372, Stop: 7848, Start Num: 4

Candidate Starts for Snenia\_10:

(Start: 4 @7372 has 73 MA's), (8, 7411), (12, 7462), (16, 7492), (17, 7495), (20, 7543), (22, 7552), (23, 7555), (24, 7558), (30, 7612), (31, 7627), (33, 7672), (36, 7708),

Gene: Soap141\_9 Start: 7264, Stop: 7728, Start Num: 4

Candidate Starts for Soap141\_9:

(Start: 4 @7264 has 73 MA's), (Start: 6 @7291 has 2 MA's), (8, 7303), (16, 7378), (17, 7381), (20, 7429), (23, 7441), (24, 7444), (30, 7498), (39, 7603), (44, 7675), (49, 7714), (50, 7717),

Gene: Syleon\_18 Start: 10737, Stop: 11204, Start Num: 4

Candidate Starts for Syleon\_18:

(3, 10734), (Start: 4 @10737 has 73 MA's), (5, 10746), (8, 10776), (11, 10812), (13, 10830), (20, 10905), (23, 10917), (24, 10920), (32, 10995), (36, 11079), (38, 11085), (46, 11169), (47, 11175),

Gene: Tourach\_9 Start: 7244, Stop: 7708, Start Num: 4

Candidate Starts for Tourach\_9:

(Start: 4 @7244 has 73 MA's), (Start: 6 @7271 has 2 MA's), (8, 7283), (10, 7292), (16, 7358), (17, 7361), (20, 7409), (23, 7421), (24, 7424), (30, 7478), (33, 7538), (39, 7583), (44, 7655), (49, 7694), (50, 7697),

Gene: Trax\_17 Start: 10452, Stop: 10922, Start Num: 4

Candidate Starts for Trax\_17:

(Start: 4 @10452 has 73 MA's), (21, 10644), (23, 10653), (24, 10656), (25, 10659), (26, 10668), (27, 10674), (29, 10701), (34, 10785), (42, 10869), (46, 10899), (47, 10905),

Gene: Tyson\_9 Start: 7246, Stop: 7713, Start Num: 4

Candidate Starts for Tyson\_9:

(Start: 4 @7246 has 73 MA's), (Start: 6 @7273 has 2 MA's), (8, 7285), (12, 7330), (15, 7342), (16, 7360), (17, 7363), (20, 7411), (23, 7423), (24, 7426), (30, 7480), (33, 7540), (39, 7585), (48, 7696), (49, 7699), (50, 7702),

Gene: UPIE\_9 Start: 7271, Stop: 7711, Start Num: 6

Candidate Starts for UPIE\_9:

(Start: 4 @7244 has 73 MA's), (Start: 6 @7271 has 2 MA's), (8, 7283), (12, 7328), (15, 7340), (16, 7358), (17, 7361), (20, 7409), (23, 7421), (24, 7424), (30, 7478), (33, 7538), (39, 7583), (48, 7694), (49, 7697), (50, 7700),

Gene: Vetrix\_9 Start: 7231, Stop: 7695, Start Num: 4

Candidate Starts for Vetrix\_9:

(Start: 4 @7231 has 73 MA's), (Start: 6 @7258 has 2 MA's), (8, 7270), (16, 7345), (17, 7348), (20, 7396), (23, 7408), (24, 7411), (30, 7465), (39, 7570), (44, 7642), (49, 7681), (50, 7684),

Gene: Wamburgexpress\_9 Start: 7246, Stop: 7713, Start Num: 4

Candidate Starts for Wamburgexpress\_9:

(Start: 4 @7246 has 73 MA's), (Start: 6 @7273 has 2 MA's), (8, 7285), (12, 7330), (15, 7342), (16, 7360), (17, 7363), (20, 7411), (23, 7423), (24, 7426), (30, 7480), (33, 7540), (39, 7585), (48, 7696), (49, 7699), (50, 7702),

Gene: Whirlwind\_11 Start: 7365, Stop: 7841, Start Num: 4

Candidate Starts for Whirlwind\_11:

(Start: 4 @7365 has 73 MA's), (8, 7404), (12, 7455), (16, 7485), (17, 7488), (20, 7536), (21, 7539), (22, 7545), (23, 7548), (24, 7551), (30, 7605), (33, 7665), (39, 7710),

Gene: Wigglewigggle\_9 Start: 7264, Stop: 7728, Start Num: 4

Candidate Starts for Wigglewigggle\_9:

(Start: 4 @7264 has 73 MA's), (Start: 6 @7291 has 2 MA's), (8, 7303), (16, 7378), (17, 7381), (20, 7429), (23, 7441), (24, 7444), (30, 7498), (39, 7603), (44, 7675), (49, 7714), (50, 7717),

Gene: Wilder\_9 Start: 7231, Stop: 7695, Start Num: 4

Candidate Starts for Wilder\_9:

(Start: 4 @7231 has 73 MA's), (Start: 6 @7258 has 2 MA's), (8, 7270), (16, 7345), (17, 7348), (20, 7396), (23, 7408), (24, 7411), (30, 7465), (39, 7570), (44, 7642), (49, 7681), (50, 7684),

Gene: Winky\_9 Start: 7231, Stop: 7695, Start Num: 4

Candidate Starts for Winky\_9:

(Start: 4 @7231 has 73 MA's), (Start: 6 @7258 has 2 MA's), (8, 7270), (16, 7345), (17, 7348), (20, 7396), (23, 7408), (24, 7411), (30, 7465), (39, 7570), (44, 7642), (49, 7681), (50, 7684),

Gene: Wyatt2\_9 Start: 7246, Stop: 7713, Start Num: 4

Candidate Starts for Wyatt2\_9:

(Start: 4 @7246 has 73 MA's), (Start: 6 @7273 has 2 MA's), (8, 7285), (12, 7330), (15, 7342), (16, 7360), (17, 7363), (20, 7411), (23, 7423), (24, 7426), (30, 7480), (33, 7540), (39, 7585), (48, 7696), (49, 7699), (50, 7702),

Gene: Zakai\_9 Start: 7219, Stop: 7683, Start Num: 4

Candidate Starts for Zakai\_9:

(Start: 4 @7219 has 73 MA's), (Start: 6 @7246 has 2 MA's), (8, 7258), (16, 7333), (17, 7336), (20, 7384), (23, 7396), (24, 7399), (30, 7453), (39, 7558), (44, 7630), (49, 7669), (50, 7672),

Gene: Zaria\_9 Start: 7247, Stop: 7714, Start Num: 4

Candidate Starts for Zaria\_9:

(Start: 4 @7247 has 73 MA's), (Start: 6 @7274 has 2 MA's), (8, 7286), (12, 7331), (15, 7343), (16, 7361), (17, 7364), (20, 7412), (23, 7424), (24, 7427), (30, 7481), (33, 7541), (39, 7586), (48, 7697), (49, 7700), (50, 7703),

Gene: ZhongYanYuan\_8 Start: 7059, Stop: 7523, Start Num: 4

Candidate Starts for ZhongYanYuan\_8:

(Start: 4 @7059 has 73 MA's), (Start: 6 @7086 has 2 MA's), (8, 7098), (10, 7107), (16, 7173), (17, 7176), (20, 7224), (23, 7236), (24, 7239), (30, 7293), (33, 7353), (36, 7389), (39, 7398), (44, 7470), (49, 7509), (50, 7512),