

Pham 286916



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 286916 Report

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

Pham number 286916 has 98 members, 23 are drafts.

Phages represented in each track:

- Track 1 : Wamburgxpress\_70
- Track 2 : Acquire49\_69, JoeDirt\_69, Silverleaf\_69, Rose5\_69, Tyson\_70, AvadaKedavra\_69, Poochiewood\_68, Halena\_67, MAckerman\_67, Wyatt2\_70
- Track 3 : Appletree2\_68, Enceladus\_66, UPIE\_68, DirkDirk\_66, LeBron\_68, Zaria\_70
- Track 4 : Calm\_71
- Track 5 : OhShagHennessy\_67
- Track 6 : CicholasNage\_67
- Track 7 : Miley16\_71, Underpass\_62, DrSeegs\_71, Winky\_71, Lewan\_72, BobsGarage\_71, Claus\_72, Gardann\_72, OverPar\_73, Zakai\_72, Crossroads\_71, Sarshaun\_72, Itos\_70, Breezona\_71, Netyap\_72, Wilder\_72, Kahlid\_71, Vetrix\_71, BigCheese\_71, Soap141\_71, Faith1\_71, Loadrie\_70
- Track 8 : ZhongYanYuan\_70, DanBing\_73, DHan\_74, Baoshan\_71, Rossetti\_73
- Track 9 : Lynnae\_73, GuuelaD\_69, MkaliMitinis3\_72, LilDestine\_71, Hafay\_73
- Track 10 : Finemlucis\_72
- Track 11 : Gabriela\_69, SoJulia\_72
- Track 12 : Bazzle\_71, Archie\_70
- Track 13 : Nicholasp3\_71, Wigglewiggles\_71
- Track 14 : Tourach\_71
- Track 15 : Rumpelstiltskin\_70
- Track 16 : Finnry\_70, Jubie\_69, Moostard\_68, Clautastrophe\_69, Lumos\_71, Kingsolomon\_68, Bellis\_70, Red305\_71, Jobypre\_70, TriFive\_71, MsGreen\_70, Samty\_70, Nicholas\_68, Snenia\_69
- Track 17 : Whirlwind\_71, DuncansLeg\_70, BourbonZero\_71, KirDoubleO7\_68, Ellson\_69, Lolly9\_70, MiniMac\_74, LiyuLake\_69, MiniLon\_74
- Track 18 : Krypton555\_71
- Track 19 : FarmResident\_72, Quby\_70, Chaser\_68, DyoEdafos\_74, PYPDinur\_68, Douzhi\_70
- Track 20 : BrainDrainer\_70, Sheng711\_70
- Track 21 : Douge\_70
- Track 22 : ChutneyChips\_68
- Track 23 : Bromden\_71
- Track 24 : Aegeus\_76, Baudelaire\_76

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

The start number called the most often in the published annotations is 13, it was called in 49 of the 75 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Baoshan\_71, Bellis\_70, BigCheese\_71, BobsGarage\_71, BourbonZero\_71, BrainDrainer\_70, Breezona\_71, Bromden\_71, Chaser\_68, ChutneyChips\_68, Claus\_72, Clautastrophe\_69, Crossroads\_71, DHan\_74, DanBing\_73, Douge\_70, Douzhi\_70, DrSeegs\_71, DuncansLeg\_70, DyoEdafos\_74, Ellson\_69, Faith1\_71, FarmResident\_72, Finnry\_70, Gabriela\_69, Gardann\_72, GuuelaD\_69, Hafay\_73, Itos\_70, Jobypre\_70, Jubie\_69, Kahlid\_71, Kingsolomon\_68, KirDoubleO7\_68, Krypton555\_71, Lewan\_72, LilDestine\_71, LiyuLake\_69, Loadrie\_70, Lolly9\_70, Lumos\_71, Lynnae\_73, Miley16\_71, MiniLon\_74, MiniMac\_74, MkaliMitinis3\_72, Moostard\_68, MsGreen\_70, Netyap\_72, Nicholas\_68, OverPar\_73, PYPDinur\_68, Quby\_70, Red305\_71, Rossetti\_73, Rumpelstiltskin\_70, Samty\_70, Sarshaun\_72, Sheng711\_70, Snenia\_69, SoJulia\_72, Soap141\_71, Tourach\_71, TriFive\_71, Underpass\_62, Vetrix\_71, Whirlwind\_71, Wilder\_72, Winky\_71, Zakai\_72, ZhongYanYuan\_70,

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

- Finemlucis\_72, Nicholasp3\_71, Wigglewiggle\_71,

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

- Acquire49\_69, Aegeus\_76, Appletree2\_68, Archie\_70, AvadaKedavra\_69, Baudelaire\_76, Bazzle\_71, Calm\_71, CicholasNage\_67, DirkDirk\_66, Enceladus\_66, Halena\_67, JoeDirt\_69, LeBron\_68, MAckerman\_67, OhShagHennessy\_67, Poochiewood\_68, Rose5\_69, Silverleaf\_69, Tyson\_70, UPIE\_68, Wamburgxpress\_70, Wyatt2\_70, Zaria\_70,

### Summary by start number:

Start 12:

- Found in 2 of 98 ( 2.0% ) of genes in pham
- Manual Annotations of this start: 1 of 75
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Calm\_71 (L1),

Start 13:

- Found in 74 of 98 ( 75.5% ) of genes in pham
- Manual Annotations of this start: 49 of 75
- Called 95.9% of time when present
- Phage (with cluster) where this start called: Baoshan\_71 (L2), Bellis\_70 (L3), BigCheese\_71 (L2), BobsGarage\_71 (L2), BourbonZero\_71 (L3), BrainDrainer\_70 (L4), Breezona\_71 (L2), Bromden\_71 (L4), Chaser\_68 (L4), ChutneyChips\_68 (L4), Claus\_72 (L2), Clautastrophe\_69 (L3), Crossroads\_71 (L2), DHan\_74 (L2), DanBing\_73 (L2), Douge\_70 (L4), Douzhi\_70 (L4), DrSeegs\_71 (L2), DuncansLeg\_70 (L3), DyoEdafos\_74 (L4), Ellson\_69 (L3), Faith1\_71 (L2), FarmResident\_72 (L4), Finnry\_70 (L3), Gabriela\_69 (L2), Gardann\_72 (L2), GuuelaD\_69 (L2), Hafay\_73 (L2), Itos\_70 (L2), Jobypre\_70 (L3), Jubie\_69 (L3), Kahlid\_71 (L2), Kingsolomon\_68 (L3), KirDoubleO7\_68 (L3), Krypton555\_71 (L3), Lewan\_72 (L2), LilDestine\_71 (L2), LiyuLake\_69 (L3), Loadrie\_70 (L2), Lolly9\_70 (L3), Lumos\_71 (L3), Lynnae\_73 (L2), Miley16\_71 (L2), MiniLon\_74 (L3), MiniMac\_74 (L3), MkaliMitinis3\_72 (L2), Moostard\_68 (L3), MsGreen\_70 (L3), Netyap\_72 (L2),

Nicholas\_68 (L3), OverPar\_73 (L2), PYPDinur\_68 (L4), Quby\_70 (L4), Red305\_71 (L3), Rossetti\_73 (L2), Rumpelstiltskin\_70 (L2), Samty\_70 (L3), Sarshaun\_72 (L2), Sheng711\_70 (L4), Snenia\_69 (L3), SoJulia\_72 (L2), Soap141\_71 (L2), Tourach\_71 (L2), TriFive\_71 (L3), Underpass\_62 (L2), Vetrix\_71 (L2), Whirlwind\_71 (L3), Wilder\_72 (L2), Winky\_71 (L2), Zakai\_72 (L2), ZhongYanYuan\_70 (L2),

Start 14:

- Found in 2 of 98 ( 2.0% ) of genes in pham
- Manual Annotations of this start: 2 of 75
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aegeus\_76 (L5), Baudelaire\_76 (L5),

Start 17:

- Found in 98 of 98 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 23 of 75
- Called 24.5% of time when present
- Phage (with cluster) where this start called: Acquire49\_69 (L1), Appletree2\_68 (L1), Archie\_70 (L2), AvadaKedavra\_69 (L1), Bazzle\_71 (L2), CicholasNage\_67 (L1), DirkDirk\_66 (L1), Enceladus\_66 (L1), Finemlucis\_72 (L2), Halena\_67 (L1), JoeDirt\_69 (L1), LeBron\_68 (L1), MAckerman\_67 (L1), Nicholasp3\_71 (L2), OhShagHennessy\_67 (L1), Poochiewood\_68 (L1), Rose5\_69 (L1), Silverleaf\_69 (L1), Tyson\_70 (L1), UPIE\_68 (L1), Wamburgxpress\_70 (L1), Wigglewiggles\_71 (L2), Wyatt2\_70 (L1), Zaria\_70 (L1),

### **Summary by clusters:**

There are 5 clusters represented in this pham: L4, L5, L2, L3, L1,

Info for manual annotations of cluster L1:

- Start number 12 was manually annotated 1 time for cluster L1.
- Start number 17 was manually annotated 18 times for cluster L1.

Info for manual annotations of cluster L2:

- Start number 13 was manually annotated 26 times for cluster L2.
- Start number 17 was manually annotated 5 times for cluster L2.

Info for manual annotations of cluster L3:

- Start number 13 was manually annotated 19 times for cluster L3.

Info for manual annotations of cluster L4:

- Start number 13 was manually annotated 4 times for cluster L4.

Info for manual annotations of cluster L5:

- Start number 14 was manually annotated 2 times for cluster L5.

### **Gene Information:**

Gene: Acquire49\_69 Start: 47331, Stop: 47555, Start Num: 17

Candidate Starts for Acquire49\_69:

(1, 47112), (2, 47151), (3, 47163), (4, 47178), (5, 47190), (6, 47193), (7, 47247), (8, 47250), (10, 47283), (16, 47328), (Start: 17 @47331 has 23 MA's), (21, 47400), (26, 47433), (28, 47460),

Gene: Aegeus\_76 Start: 49391, Stop: 49645, Start Num: 14

Candidate Starts for Aegeus\_76:

(Start: 14 @49391 has 2 MA's), (16, 49406), (Start: 17 @49409 has 23 MA's), (22, 49484), (26, 49511), (27, 49520), (29, 49574), (30, 49586),

Gene: Appletree2\_68 Start: 46946, Stop: 47170, Start Num: 17

Candidate Starts for Appletree2\_68:

(1, 46727), (2, 46766), (4, 46793), (5, 46805), (6, 46808), (7, 46862), (8, 46865), (10, 46898), (16, 46943), (Start: 17 @46946 has 23 MA's), (21, 47015), (26, 47048), (28, 47075),

Gene: Archie\_70 Start: 48823, Stop: 49083, Start Num: 17

Candidate Starts for Archie\_70:

(9, 48760), (10, 48766), (Start: 17 @48823 has 23 MA's), (19, 48841), (26, 48925), (27, 48934), (33, 49054),

Gene: AvadaKedavra\_69 Start: 47404, Stop: 47628, Start Num: 17

Candidate Starts for AvadaKedavra\_69:

(1, 47185), (2, 47224), (3, 47236), (4, 47251), (5, 47263), (6, 47266), (7, 47320), (8, 47323), (10, 47356), (16, 47401), (Start: 17 @47404 has 23 MA's), (21, 47473), (26, 47506), (28, 47533),

Gene: Baoshan\_71 Start: 49075, Stop: 49329, Start Num: 13

Candidate Starts for Baoshan\_71:

(Start: 13 @49075 has 49 MA's), (Start: 17 @49099 has 23 MA's), (26, 49201), (27, 49210), (28, 49228),

Gene: Baudelaire\_76 Start: 49391, Stop: 49645, Start Num: 14

Candidate Starts for Baudelaire\_76:

(Start: 14 @49391 has 2 MA's), (16, 49406), (Start: 17 @49409 has 23 MA's), (22, 49484), (26, 49511), (27, 49520), (29, 49574), (30, 49586),

Gene: Bazzle\_71 Start: 49203, Stop: 49463, Start Num: 17

Candidate Starts for Bazzle\_71:

(9, 49140), (10, 49146), (Start: 17 @49203 has 23 MA's), (19, 49221), (26, 49305), (27, 49314), (33, 49434),

Gene: Bellis\_70 Start: 49176, Stop: 49457, Start Num: 13

Candidate Starts for Bellis\_70:

(Start: 13 @49176 has 49 MA's), (Start: 17 @49200 has 23 MA's), (26, 49302), (31, 49377),

Gene: BigCheese\_71 Start: 48842, Stop: 49096, Start Num: 13

Candidate Starts for BigCheese\_71:

(Start: 13 @48842 has 49 MA's), (Start: 17 @48866 has 23 MA's), (25, 48962), (26, 48968), (27, 48977), (28, 48995),

Gene: BobsGarage\_71 Start: 48842, Stop: 49096, Start Num: 13

Candidate Starts for BobsGarage\_71:

(Start: 13 @48842 has 49 MA's), (Start: 17 @48866 has 23 MA's), (25, 48962), (26, 48968), (27, 48977), (28, 48995),

Gene: BourbonZero\_71 Start: 49221, Stop: 49502, Start Num: 13

Candidate Starts for BourbonZero\_71:

(Start: 13 @49221 has 49 MA's), (Start: 17 @49245 has 23 MA's), (26, 49347),

Gene: BrainDrainer\_70 Start: 48064, Stop: 48321, Start Num: 13  
Candidate Starts for BrainDrainer\_70:  
(Start: 13 @48064 has 49 MA's), (Start: 17 @48088 has 23 MA's), (18, 48103), (26, 48190), (30, 48256),

Gene: Breezona\_71 Start: 48842, Stop: 49096, Start Num: 13  
Candidate Starts for Breezona\_71:  
(Start: 13 @48842 has 49 MA's), (Start: 17 @48866 has 23 MA's), (25, 48962), (26, 48968), (27, 48977), (28, 48995),

Gene: Bromden\_71 Start: 48810, Stop: 49067, Start Num: 13  
Candidate Starts for Bromden\_71:  
(Start: 13 @48810 has 49 MA's), (Start: 17 @48834 has 23 MA's), (18, 48849), (24, 48918), (26, 48936),

Gene: Calm\_71 Start: 47633, Stop: 47881, Start Num: 12  
Candidate Starts for Calm\_71:  
(10, 47606), (Start: 12 @47633 has 1 MA's), (15, 47651), (Start: 17 @47657 has 23 MA's), (21, 47726), (26, 47759), (28, 47786),

Gene: Chaser\_68 Start: 47833, Stop: 48087, Start Num: 13  
Candidate Starts for Chaser\_68:  
(Start: 13 @47833 has 49 MA's), (Start: 17 @47857 has 23 MA's), (18, 47872), (20, 47893), (26, 47959),

Gene: ChutneyChips\_68 Start: 48095, Stop: 48352, Start Num: 13  
Candidate Starts for ChutneyChips\_68:  
(Start: 13 @48095 has 49 MA's), (Start: 17 @48119 has 23 MA's), (18, 48134), (24, 48203), (26, 48221), (31, 48296), (32, 48308),

Gene: CicholasNage\_67 Start: 47161, Stop: 47391, Start Num: 17  
Candidate Starts for CicholasNage\_67:  
(1, 46942), (2, 46981), (3, 46993), (4, 47008), (5, 47020), (6, 47023), (7, 47077), (8, 47080), (10, 47113), (16, 47158), (Start: 17 @47161 has 23 MA's), (26, 47263), (28, 47290),

Gene: Claus\_72 Start: 49213, Stop: 49452, Start Num: 13  
Candidate Starts for Claus\_72:  
(Start: 13 @49213 has 49 MA's), (Start: 17 @49237 has 23 MA's), (25, 49333), (26, 49339), (27, 49348), (28, 49366),

Gene: Clautastrophe\_69 Start: 49173, Stop: 49454, Start Num: 13  
Candidate Starts for Clautastrophe\_69:  
(Start: 13 @49173 has 49 MA's), (Start: 17 @49197 has 23 MA's), (26, 49299), (31, 49374),

Gene: Crossroads\_71 Start: 48917, Stop: 49171, Start Num: 13  
Candidate Starts for Crossroads\_71:  
(Start: 13 @48917 has 49 MA's), (Start: 17 @48941 has 23 MA's), (25, 49037), (26, 49043), (27, 49052), (28, 49070),

Gene: DHan\_74 Start: 49113, Stop: 49385, Start Num: 13  
Candidate Starts for DHan\_74:

(Start: 13 @49113 has 49 MA's), (Start: 17 @49137 has 23 MA's), (26, 49239), (27, 49248), (28, 49266),

Gene: DanBing\_73 Start: 49082, Stop: 49321, Start Num: 13

Candidate Starts for DanBing\_73:

(Start: 13 @49082 has 49 MA's), (Start: 17 @49106 has 23 MA's), (26, 49208), (27, 49217), (28, 49235),

Gene: DirkDirk\_66 Start: 46532, Stop: 46756, Start Num: 17

Candidate Starts for DirkDirk\_66:

(1, 46313), (2, 46352), (4, 46379), (5, 46391), (6, 46394), (7, 46448), (8, 46451), (10, 46484), (16, 46529), (Start: 17 @46532 has 23 MA's), (21, 46601), (26, 46634), (28, 46661),

Gene: Douge\_70 Start: 47833, Stop: 48090, Start Num: 13

Candidate Starts for Douge\_70:

(Start: 13 @47833 has 49 MA's), (Start: 17 @47857 has 23 MA's), (18, 47872), (26, 47959), (32, 48046),

Gene: Douzhi\_70 Start: 47883, Stop: 48137, Start Num: 13

Candidate Starts for Douzhi\_70:

(Start: 13 @47883 has 49 MA's), (Start: 17 @47907 has 23 MA's), (18, 47922), (20, 47943), (26, 48009),

Gene: DrSeegs\_71 Start: 48842, Stop: 49096, Start Num: 13

Candidate Starts for DrSeegs\_71:

(Start: 13 @48842 has 49 MA's), (Start: 17 @48866 has 23 MA's), (25, 48962), (26, 48968), (27, 48977), (28, 48995),

Gene: DuncansLeg\_70 Start: 49209, Stop: 49490, Start Num: 13

Candidate Starts for DuncansLeg\_70:

(Start: 13 @49209 has 49 MA's), (Start: 17 @49233 has 23 MA's), (26, 49335),

Gene: DyoEdafos\_74 Start: 48328, Stop: 48582, Start Num: 13

Candidate Starts for DyoEdafos\_74:

(Start: 13 @48328 has 49 MA's), (Start: 17 @48352 has 23 MA's), (18, 48367), (20, 48388), (26, 48454),

Gene: Ellson\_69 Start: 49524, Stop: 49805, Start Num: 13

Candidate Starts for Ellson\_69:

(Start: 13 @49524 has 49 MA's), (Start: 17 @49548 has 23 MA's), (26, 49650),

Gene: Enceladus\_66 Start: 47289, Stop: 47513, Start Num: 17

Candidate Starts for Enceladus\_66:

(1, 47070), (2, 47109), (4, 47136), (5, 47148), (6, 47151), (7, 47205), (8, 47208), (10, 47241), (16, 47286), (Start: 17 @47289 has 23 MA's), (21, 47358), (26, 47391), (28, 47418),

Gene: Faith1\_71 Start: 48842, Stop: 49096, Start Num: 13

Candidate Starts for Faith1\_71:

(Start: 13 @48842 has 49 MA's), (Start: 17 @48866 has 23 MA's), (25, 48962), (26, 48968), (27, 48977), (28, 48995),

Gene: FarmResident\_72 Start: 47828, Stop: 48082, Start Num: 13

Candidate Starts for FarmResident\_72:

(Start: 13 @47828 has 49 MA's), (Start: 17 @47852 has 23 MA's), (18, 47867), (20, 47888), (26, 47954),

Gene: Finemlucis\_72 Start: 49587, Stop: 49817, Start Num: 17

Candidate Starts for Finemlucis\_72:

(Start: 13 @49563 has 49 MA's), (Start: 17 @49587 has 23 MA's), (26, 49689), (27, 49698), (28, 49716),

Gene: Finnry\_70 Start: 49437, Stop: 49718, Start Num: 13

Candidate Starts for Finnry\_70:

(Start: 13 @49437 has 49 MA's), (Start: 17 @49461 has 23 MA's), (26, 49563), (31, 49638),

Gene: Gabriela\_69 Start: 47689, Stop: 47943, Start Num: 13

Candidate Starts for Gabriela\_69:

(Start: 13 @47689 has 49 MA's), (Start: 17 @47713 has 23 MA's), (26, 47815), (27, 47824), (28, 47842),

Gene: Gardann\_72 Start: 48875, Stop: 49129, Start Num: 13

Candidate Starts for Gardann\_72:

(Start: 13 @48875 has 49 MA's), (Start: 17 @48899 has 23 MA's), (25, 48995), (26, 49001), (27, 49010), (28, 49028),

Gene: GuuelaD\_69 Start: 48957, Stop: 49211, Start Num: 13

Candidate Starts for GuuelaD\_69:

(Start: 13 @48957 has 49 MA's), (Start: 17 @48981 has 23 MA's), (25, 49077), (26, 49083), (28, 49110),

Gene: Hafay\_73 Start: 48946, Stop: 49200, Start Num: 13

Candidate Starts for Hafay\_73:

(Start: 13 @48946 has 49 MA's), (Start: 17 @48970 has 23 MA's), (25, 49066), (26, 49072), (28, 49099),

Gene: Halena\_67 Start: 46569, Stop: 46793, Start Num: 17

Candidate Starts for Halena\_67:

(1, 46350), (2, 46389), (3, 46401), (4, 46416), (5, 46428), (6, 46431), (7, 46485), (8, 46488), (10, 46521), (16, 46566), (Start: 17 @46569 has 23 MA's), (21, 46638), (26, 46671), (28, 46698),

Gene: Itos\_70 Start: 47748, Stop: 48002, Start Num: 13

Candidate Starts for Itos\_70:

(Start: 13 @47748 has 49 MA's), (Start: 17 @47772 has 23 MA's), (25, 47868), (26, 47874), (27, 47883), (28, 47901),

Gene: Jobypre\_70 Start: 49173, Stop: 49454, Start Num: 13

Candidate Starts for Jobypre\_70:

(Start: 13 @49173 has 49 MA's), (Start: 17 @49197 has 23 MA's), (26, 49299), (31, 49374),

Gene: JoeDirt\_69 Start: 47722, Stop: 47946, Start Num: 17

Candidate Starts for JoeDirt\_69:

(1, 47503), (2, 47542), (3, 47554), (4, 47569), (5, 47581), (6, 47584), (7, 47638), (8, 47641), (10, 47674), (16, 47719), (Start: 17 @47722 has 23 MA's), (21, 47791), (26, 47824), (28, 47851),

Gene: Jubie\_69 Start: 49308, Stop: 49589, Start Num: 13

Candidate Starts for Jubie\_69:

(Start: 13 @49308 has 49 MA's), (Start: 17 @49332 has 23 MA's), (26, 49434), (31, 49509),

Gene: Kahlid\_71 Start: 48848, Stop: 49102, Start Num: 13

Candidate Starts for Kahlid\_71:

(Start: 13 @48848 has 49 MA's), (Start: 17 @48872 has 23 MA's), (25, 48968), (26, 48974), (27, 48983), (28, 49001),

Gene: Kingsolomon\_68 Start: 49180, Stop: 49461, Start Num: 13

Candidate Starts for Kingsolomon\_68:

(Start: 13 @49180 has 49 MA's), (Start: 17 @49204 has 23 MA's), (26, 49306), (31, 49381),

Gene: KirDoubleO7\_68 Start: 49211, Stop: 49492, Start Num: 13

Candidate Starts for KirDoubleO7\_68:

(Start: 13 @49211 has 49 MA's), (Start: 17 @49235 has 23 MA's), (26, 49337),

Gene: Krypton555\_71 Start: 49399, Stop: 49668, Start Num: 13

Candidate Starts for Krypton555\_71:

(Start: 13 @49399 has 49 MA's), (Start: 17 @49423 has 23 MA's), (23, 49501), (26, 49525), (28, 49552), (31, 49600),

Gene: LeBron\_68 Start: 46573, Stop: 46797, Start Num: 17

Candidate Starts for LeBron\_68:

(1, 46354), (2, 46393), (4, 46420), (5, 46432), (6, 46435), (7, 46489), (8, 46492), (10, 46525), (16, 46570), (Start: 17 @46573 has 23 MA's), (21, 46642), (26, 46675), (28, 46702),

Gene: Lewan\_72 Start: 48899, Stop: 49153, Start Num: 13

Candidate Starts for Lewan\_72:

(Start: 13 @48899 has 49 MA's), (Start: 17 @48923 has 23 MA's), (25, 49019), (26, 49025), (27, 49034), (28, 49052),

Gene: LilDestine\_71 Start: 48875, Stop: 49129, Start Num: 13

Candidate Starts for LilDestine\_71:

(Start: 13 @48875 has 49 MA's), (Start: 17 @48899 has 23 MA's), (25, 48995), (26, 49001), (28, 49028),

Gene: LiyuLake\_69 Start: 49227, Stop: 49508, Start Num: 13

Candidate Starts for LiyuLake\_69:

(Start: 13 @49227 has 49 MA's), (Start: 17 @49251 has 23 MA's), (26, 49353),

Gene: Loadrie\_70 Start: 48927, Stop: 49181, Start Num: 13

Candidate Starts for Loadrie\_70:

(Start: 13 @48927 has 49 MA's), (Start: 17 @48951 has 23 MA's), (25, 49047), (26, 49053), (27, 49062), (28, 49080),

Gene: Lolly9\_70 Start: 49299, Stop: 49580, Start Num: 13

Candidate Starts for Lolly9\_70:

(Start: 13 @49299 has 49 MA's), (Start: 17 @49323 has 23 MA's), (26, 49425),

Gene: Lumos\_71 Start: 49170, Stop: 49451, Start Num: 13

Candidate Starts for Lumos\_71:

(Start: 13 @49170 has 49 MA's), (Start: 17 @49194 has 23 MA's), (26, 49296), (31, 49371),

Gene: Lynnae\_73 Start: 48873, Stop: 49127, Start Num: 13

Candidate Starts for Lynnae\_73:

(Start: 13 @48873 has 49 MA's), (Start: 17 @48897 has 23 MA's), (25, 48993), (26, 48999), (28, 49026),

Gene: MAckerman\_67 Start: 46562, Stop: 46786, Start Num: 17

Candidate Starts for MAckerman\_67:

(1, 46343), (2, 46382), (3, 46394), (4, 46409), (5, 46421), (6, 46424), (7, 46478), (8, 46481), (10, 46514), (16, 46559), (Start: 17 @46562 has 23 MA's), (21, 46631), (26, 46664), (28, 46691),

Gene: Miley16\_71 Start: 48842, Stop: 49096, Start Num: 13

Candidate Starts for Miley16\_71:

(Start: 13 @48842 has 49 MA's), (Start: 17 @48866 has 23 MA's), (25, 48962), (26, 48968), (27, 48977), (28, 48995),

Gene: MiniLon\_74 Start: 49300, Stop: 49581, Start Num: 13

Candidate Starts for MiniLon\_74:

(Start: 13 @49300 has 49 MA's), (Start: 17 @49324 has 23 MA's), (26, 49426),

Gene: MiniMac\_74 Start: 49298, Stop: 49579, Start Num: 13

Candidate Starts for MiniMac\_74:

(Start: 13 @49298 has 49 MA's), (Start: 17 @49322 has 23 MA's), (26, 49424),

Gene: MkaliMitinis3\_72 Start: 48911, Stop: 49165, Start Num: 13

Candidate Starts for MkaliMitinis3\_72:

(Start: 13 @48911 has 49 MA's), (Start: 17 @48935 has 23 MA's), (25, 49031), (26, 49037), (28, 49064),

Gene: Moostard\_68 Start: 49176, Stop: 49457, Start Num: 13

Candidate Starts for Moostard\_68:

(Start: 13 @49176 has 49 MA's), (Start: 17 @49200 has 23 MA's), (26, 49302), (31, 49377),

Gene: MsGreen\_70 Start: 49173, Stop: 49454, Start Num: 13

Candidate Starts for MsGreen\_70:

(Start: 13 @49173 has 49 MA's), (Start: 17 @49197 has 23 MA's), (26, 49299), (31, 49374),

Gene: Netyap\_72 Start: 48843, Stop: 49097, Start Num: 13

Candidate Starts for Netyap\_72:

(Start: 13 @48843 has 49 MA's), (Start: 17 @48867 has 23 MA's), (25, 48963), (26, 48969), (27, 48978), (28, 48996),

Gene: Nicholas\_68 Start: 49180, Stop: 49461, Start Num: 13

Candidate Starts for Nicholas\_68:

(Start: 13 @49180 has 49 MA's), (Start: 17 @49204 has 23 MA's), (26, 49306), (31, 49381),

Gene: Nicholasp3\_71 Start: 48899, Stop: 49129, Start Num: 17

Candidate Starts for Nicholasp3\_71:

(Start: 13 @48875 has 49 MA's), (Start: 17 @48899 has 23 MA's), (25, 48995), (26, 49001), (27, 49010), (28, 49028),

Gene: OhShagHennessy\_67 Start: 46438, Stop: 46662, Start Num: 17

Candidate Starts for OhShagHennessy\_67:

(1, 46219), (2, 46258), (4, 46285), (5, 46297), (6, 46300), (7, 46354), (8, 46357), (10, 46390), (16, 46435), (Start: 17 @46438 has 23 MA's), (26, 46540), (28, 46567),

Gene: OverPar\_73 Start: 48927, Stop: 49181, Start Num: 13

Candidate Starts for OverPar\_73:

(Start: 13 @48927 has 49 MA's), (Start: 17 @48951 has 23 MA's), (25, 49047), (26, 49053), (27, 49062), (28, 49080),

Gene: PYPDinur\_68 Start: 47913, Stop: 48167, Start Num: 13

Candidate Starts for PYPDinur\_68:

(Start: 13 @47913 has 49 MA's), (Start: 17 @47937 has 23 MA's), (18, 47952), (20, 47973), (26, 48039),

Gene: Poochiewood\_68 Start: 47730, Stop: 47954, Start Num: 17

Candidate Starts for Poochiewood\_68:

(1, 47511), (2, 47550), (3, 47562), (4, 47577), (5, 47589), (6, 47592), (7, 47646), (8, 47649), (10, 47682), (16, 47727), (Start: 17 @47730 has 23 MA's), (21, 47799), (26, 47832), (28, 47859),

Gene: Quby\_70 Start: 47793, Stop: 48047, Start Num: 13

Candidate Starts for Quby\_70:

(Start: 13 @47793 has 49 MA's), (Start: 17 @47817 has 23 MA's), (18, 47832), (20, 47853), (26, 47919),

Gene: Red305\_71 Start: 49173, Stop: 49454, Start Num: 13

Candidate Starts for Red305\_71:

(Start: 13 @49173 has 49 MA's), (Start: 17 @49197 has 23 MA's), (26, 49299), (31, 49374),

Gene: Rose5\_69 Start: 47742, Stop: 47966, Start Num: 17

Candidate Starts for Rose5\_69:

(1, 47523), (2, 47562), (3, 47574), (4, 47589), (5, 47601), (6, 47604), (7, 47658), (8, 47661), (10, 47694), (16, 47739), (Start: 17 @47742 has 23 MA's), (21, 47811), (26, 47844), (28, 47871),

Gene: Rossetti\_73 Start: 49421, Stop: 49675, Start Num: 13

Candidate Starts for Rossetti\_73:

(Start: 13 @49421 has 49 MA's), (Start: 17 @49445 has 23 MA's), (26, 49547), (27, 49556), (28, 49574),

Gene: Rumpelstiltskin\_70 Start: 48668, Stop: 48922, Start Num: 13

Candidate Starts for Rumpelstiltskin\_70:

(Start: 13 @48668 has 49 MA's), (Start: 17 @48692 has 23 MA's), (25, 48788), (26, 48794), (28, 48821),

Gene: Samty\_70 Start: 49181, Stop: 49462, Start Num: 13

Candidate Starts for Samty\_70:

(Start: 13 @49181 has 49 MA's), (Start: 17 @49205 has 23 MA's), (26, 49307), (31, 49382),

Gene: Sarshaun\_72 Start: 48935, Stop: 49189, Start Num: 13

Candidate Starts for Sarshaun\_72:

(Start: 13 @48935 has 49 MA's), (Start: 17 @48959 has 23 MA's), (25, 49055), (26, 49061), (27, 49070), (28, 49088),

Gene: Sheng711\_70 Start: 47918, Stop: 48175, Start Num: 13

Candidate Starts for Sheng711\_70:

(Start: 13 @47918 has 49 MA's), (Start: 17 @47942 has 23 MA's), (18, 47957), (26, 48044), (30, 48110),

Gene: Silverleaf\_69 Start: 47192, Stop: 47416, Start Num: 17

Candidate Starts for Silverleaf\_69:

(1, 46973), (2, 47012), (3, 47024), (4, 47039), (5, 47051), (6, 47054), (7, 47108), (8, 47111), (10, 47144), (16, 47189), (Start: 17 @47192 has 23 MA's), (21, 47261), (26, 47294), (28, 47321),

Gene: Snenia\_69 Start: 49174, Stop: 49455, Start Num: 13

Candidate Starts for Snenia\_69:

(Start: 13 @49174 has 49 MA's), (Start: 17 @49198 has 23 MA's), (26, 49300), (31, 49375),

Gene: SoJulia\_72 Start: 49504, Stop: 49758, Start Num: 13

Candidate Starts for SoJulia\_72:

(Start: 13 @49504 has 49 MA's), (Start: 17 @49528 has 23 MA's), (26, 49630), (27, 49639), (28, 49657),

Gene: Soap141\_71 Start: 48935, Stop: 49189, Start Num: 13

Candidate Starts for Soap141\_71:

(Start: 13 @48935 has 49 MA's), (Start: 17 @48959 has 23 MA's), (25, 49055), (26, 49061), (27, 49070), (28, 49088),

Gene: Tourach\_71 Start: 49214, Stop: 49453, Start Num: 13

Candidate Starts for Tourach\_71:

(Start: 13 @49214 has 49 MA's), (Start: 17 @49238 has 23 MA's), (26, 49340), (27, 49349),

Gene: TriFive\_71 Start: 49173, Stop: 49454, Start Num: 13

Candidate Starts for TriFive\_71:

(Start: 13 @49173 has 49 MA's), (Start: 17 @49197 has 23 MA's), (26, 49299), (31, 49374),

Gene: Tyson\_70 Start: 47668, Stop: 47892, Start Num: 17

Candidate Starts for Tyson\_70:

(1, 47449), (2, 47488), (3, 47500), (4, 47515), (5, 47527), (6, 47530), (7, 47584), (8, 47587), (10, 47620), (16, 47665), (Start: 17 @47668 has 23 MA's), (21, 47737), (26, 47770), (28, 47797),

Gene: UPIE\_68 Start: 47268, Stop: 47492, Start Num: 17

Candidate Starts for UPIE\_68:

(1, 47049), (2, 47088), (4, 47115), (5, 47127), (6, 47130), (7, 47184), (8, 47187), (10, 47220), (16, 47265), (Start: 17 @47268 has 23 MA's), (21, 47337), (26, 47370), (28, 47397),

Gene: Underpass\_62 Start: 43911, Stop: 44165, Start Num: 13

Candidate Starts for Underpass\_62:

(Start: 13 @43911 has 49 MA's), (Start: 17 @43935 has 23 MA's), (25, 44031), (26, 44037), (27, 44046), (28, 44064),

Gene: Vetrrix\_71 Start: 48882, Stop: 49136, Start Num: 13

Candidate Starts for Vetrrix\_71:

(Start: 13 @48882 has 49 MA's), (Start: 17 @48906 has 23 MA's), (25, 49002), (26, 49008), (27, 49017), (28, 49035),

Gene: Wamburgexpress\_70 Start: 47833, Stop: 48048, Start Num: 17

Candidate Starts for Wamburgexpress\_70:

(10, 47782), (11, 47800), (Start: 12 @47809 has 1 MA's), (15, 47827), (Start: 17 @47833 has 23 MA's), (20, 47869), (26, 47935), (27, 47944), (28, 47962),

Gene: Whirlwind\_71 Start: 49276, Stop: 49557, Start Num: 13  
Candidate Starts for Whirlwind\_71:  
(Start: 13 @49276 has 49 MA's), (Start: 17 @49300 has 23 MA's), (26, 49402),

Gene: Wigglewigggle\_71 Start: 48923, Stop: 49153, Start Num: 17  
Candidate Starts for Wigglewigggle\_71:  
(Start: 13 @48899 has 49 MA's), (Start: 17 @48923 has 23 MA's), (25, 49019), (26, 49025), (27, 49034), (28, 49052),

Gene: Wilder\_72 Start: 48848, Stop: 49102, Start Num: 13  
Candidate Starts for Wilder\_72:  
(Start: 13 @48848 has 49 MA's), (Start: 17 @48872 has 23 MA's), (25, 48968), (26, 48974), (27, 48983), (28, 49001),

Gene: Winky\_71 Start: 48842, Stop: 49096, Start Num: 13  
Candidate Starts for Winky\_71:  
(Start: 13 @48842 has 49 MA's), (Start: 17 @48866 has 23 MA's), (25, 48962), (26, 48968), (27, 48977), (28, 48995),

Gene: Wyatt2\_70 Start: 47666, Stop: 47890, Start Num: 17  
Candidate Starts for Wyatt2\_70:  
(1, 47447), (2, 47486), (3, 47498), (4, 47513), (5, 47525), (6, 47528), (7, 47582), (8, 47585), (10, 47618), (16, 47663), (Start: 17 @47666 has 23 MA's), (21, 47735), (26, 47768), (28, 47795),

Gene: Zakai\_72 Start: 49168, Stop: 49422, Start Num: 13  
Candidate Starts for Zakai\_72:  
(Start: 13 @49168 has 49 MA's), (Start: 17 @49192 has 23 MA's), (25, 49288), (26, 49294), (27, 49303), (28, 49321),

Gene: Zaria\_70 Start: 47122, Stop: 47346, Start Num: 17  
Candidate Starts for Zaria\_70:  
(1, 46903), (2, 46942), (4, 46969), (5, 46981), (6, 46984), (7, 47038), (8, 47041), (10, 47074), (16, 47119), (Start: 17 @47122 has 23 MA's), (21, 47191), (26, 47224), (28, 47251),

Gene: ZhongYanYuan\_70 Start: 48737, Stop: 48976, Start Num: 13  
Candidate Starts for ZhongYanYuan\_70:  
(Start: 13 @48737 has 49 MA's), (Start: 17 @48761 has 23 MA's), (26, 48863), (27, 48872), (28, 48890),