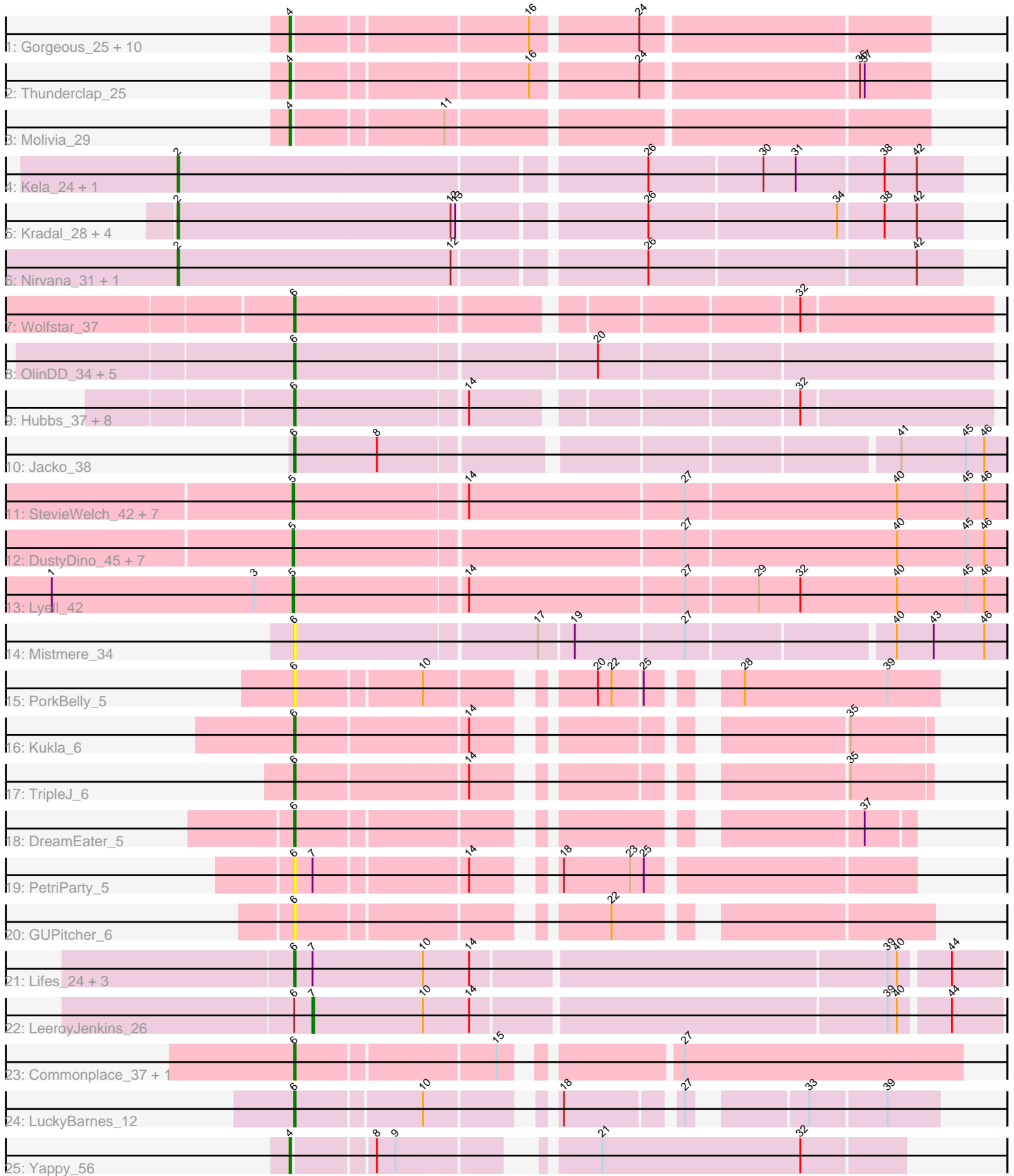


Pham 304978



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 304978 Report

This analysis was run 06/08/26 on database version 649.

WARNING: Pham size does not match number of genes in report. Either unphamerated genes have been added (by you) or starterator has removed genes due to invalid start codon.

Pham number 304978 has 72 members, 12 are drafts.

Phages represented in each track:

- Track 1 : Gorgeous\_25, Jaek\_24, Ichor\_24, Anansi\_25, Heylee\_27, Amigo\_25, SorJuana\_25, Yeezus\_24, Boersma\_26, Amavida\_27, Rings\_24
- Track 2 : Thunderclap\_25
- Track 3 : Molivia\_29
- Track 4 : Kela\_24, JustBecause\_24
- Track 5 : Kradal\_28, Quantum\_27, EhyElimayoE\_28, Sarkar\_29, Satis\_28
- Track 6 : Nirvana\_31, Frankenweenie\_33
- Track 7 : Wolfstar\_37
- Track 8 : OlinDD\_34, Hortus1\_34, Pioneer3\_34, Tandem\_34, Platte\_34, Alleb\_35
- Track 9 : Hubbs\_37, Roman\_37, Solimine\_37, Lupine\_35, Uterion\_39, Pavlo\_35, Saradis\_37, PhillyPhilly\_36, DejaVu\_38
- Track 10 : Jacko\_38
- Track 11 : StevieWelch\_42, Musetta\_42, ASegato\_41, Necrophoxinus\_44, Fork\_38, Issa7\_41, Deschain\_43, Welcome\_43
- Track 12 : DustyDino\_45, Erenyeager\_42, SteakFry\_41, RunningBrook\_43, HollowPurple\_43, Yuma\_41, Shroomer\_45, Casablanacas\_43
- Track 13 : Lyell\_42
- Track 14 : Mistmere\_34
- Track 15 : PorkBelly\_5
- Track 16 : Kukla\_6
- Track 17 : TripleJ\_6
- Track 18 : DreamEater\_5
- Track 19 : PetriParty\_5
- Track 20 : GUPitcher\_6
- Track 21 : Lifes\_24, Cassita\_26, WaterT\_25, BarnCat\_22
- Track 22 : LeeroyJenkins\_26
- Track 23 : Commonplace\_37, Nonagon\_36
- Track 24 : LuckyBarnes\_12
- Track 25 : Yappy\_56

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

The start number called the most often in the published annotations is 6, it was called in 24 of the 60 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alleb\_35, BarnCat\_22, Cassita\_26, Commonplace\_37, DejaVu\_38, DreamEater\_5, GUPitcher\_6, Hortus1\_34, Hubbs\_37, Jacko\_38, Kukla\_6, Lifes\_24, LuckyBarnes\_12, Lupine\_35, Mistmere\_34, Nonagon\_36, OlinDD\_34, Pavlo\_35, PetriParty\_5, PhillyPhilly\_36, Pioneer3\_34, Platte\_34, PorkBelly\_5, Roman\_37, Saradis\_37, Solimine\_37, Tandem\_34, TripleJ\_6, Uterion\_39, WaterT\_25, Wolfstar\_37,

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

- LeeroyJenkins\_26,

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

- ASegato\_41, Amavida\_27, Amigo\_25, Anansi\_25, Boersma\_26, Casablanacas\_43, Deschain\_43, DustyDino\_45, EhyElimayoE\_28, Erenyeager\_42, Fork\_38, Frankenweenie\_33, Gorgeous\_25, Heylee\_27, HollowPurple\_43, Ichor\_24, Issa7\_41, Jaek\_24, JustBecause\_24, Kela\_24, Kradal\_28, Lyell\_42, Molivia\_29, Musetta\_42, Necrophoxinus\_44, Nirvana\_31, Quantum\_27, Rings\_24, RunningBrook\_43, Sarkar\_29, Satis\_28, Shroomer\_45, SorJuana\_25, SteakFry\_41, StevieWelch\_42, Thunderclap\_25, Welcome\_43, Yappy\_56, Yeezus\_24, Yuma\_41,

### Summary by start number:

Start 2:

- Found in 9 of 72 ( 12.5% ) of genes in pham
- Manual Annotations of this start: 8 of 60
- Called 100.0% of time when present
- Phage (with cluster) where this start called: EhyElimayoE\_28 (BM), Frankenweenie\_33 (BM), JustBecause\_24 (BM), Kela\_24 (BM), Kradal\_28 (BM), Nirvana\_31 (BM), Quantum\_27 (BM), Sarkar\_29 (BM), Satis\_28 (BM),

Start 4:

- Found in 14 of 72 ( 19.4% ) of genes in pham
- Manual Annotations of this start: 14 of 60
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Amavida\_27 (AQ), Amigo\_25 (AQ), Anansi\_25 (AQ), Boersma\_26 (AQ), Gorgeous\_25 (AQ), Heylee\_27 (AQ), Ichor\_24 (AQ), Jaek\_24 (AQ), Molivia\_29 (AQ), Rings\_24 (AQ), SorJuana\_25 (AQ), Thunderclap\_25 (AQ), Yappy\_56 (singleton), Yeezus\_24 (AQ),

Start 5:

- Found in 17 of 72 ( 23.6% ) of genes in pham
- Manual Annotations of this start: 13 of 60
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ASegato\_41 (ED2), Casablanacas\_43 (ED2), Deschain\_43 (ED2), DustyDino\_45 (ED2), Erenyeager\_42 (ED2), Fork\_38 (ED2), HollowPurple\_43 (ED2), Issa7\_41 (ED2), Lyell\_42 (ED2), Musetta\_42 (ED2), Necrophoxinus\_44 (ED2), RunningBrook\_43 (ED2), Shroomer\_45 (ED2), SteakFry\_41 (ED2), StevieWelch\_42 (ED2), Welcome\_43 (ED2), Yuma\_41 (ED2),

#### Start 6:

- Found in 32 of 72 ( 44.4% ) of genes in pham
- Manual Annotations of this start: 24 of 60
- Called 96.9% of time when present
- Phage (with cluster) where this start called: Alleb\_35 (ED1), BarnCat\_22 (GB), Cassita\_26 (GB), Commonplace\_37 (JD), DejaVu\_38 (ED1), DreamEater\_5 (FJ), GUPitcher\_6 (FJ), Hortus1\_34 (ED1), Hubbs\_37 (ED1), Jacko\_38 (ED1), Kukla\_6 (FJ), Lifes\_24 (GB), LuckyBarnes\_12 (singleton), Lupine\_35 (ED1), Mistmere\_34 (ED3), Nonagon\_36 (JD), OlinDD\_34 (ED1), Pavlo\_35 (ED1), PetriParty\_5 (FJ), PhillyPhilly\_36 (ED1), Pioneer3\_34 (ED1), Platte\_34 (ED1), PorkBelly\_5 (FJ), Roman\_37 (ED1), Saradis\_37 (ED1), Solimine\_37 (ED1), Tandem\_34 (ED1), TripleJ\_6 (FJ), Uterion\_39 (ED1), WaterT\_25 (GB), Wolfstar\_37 (ED),

#### Start 7:

- Found in 6 of 72 ( 8.3% ) of genes in pham
- Manual Annotations of this start: 1 of 60
- Called 16.7% of time when present
- Phage (with cluster) where this start called: LeeroyJenkins\_26 (GB),

### **Summary by clusters:**

There are 10 clusters represented in this pham: AQ, singleton, BM, ED2, ED3, ED1, GB, ED, JD, FJ,

Info for manual annotations of cluster AQ:

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

Info for manual annotations of cluster BM:

- Start number 2 was manually annotated 8 times for cluster BM.

Info for manual annotations of cluster ED:

- Start number 6 was manually annotated 1 time for cluster ED.

Info for manual annotations of cluster ED1:

- Start number 6 was manually annotated 13 times for cluster ED1.

Info for manual annotations of cluster ED2:

- Start number 5 was manually annotated 13 times for cluster ED2.

Info for manual annotations of cluster FJ:

- Start number 6 was manually annotated 3 times for cluster FJ.

Info for manual annotations of cluster GB:

- Start number 6 was manually annotated 4 times for cluster GB.
- Start number 7 was manually annotated 1 time for cluster GB.

Info for manual annotations of cluster JD:

- Start number 6 was manually annotated 2 times for cluster JD.

### **Gene Information:**

Gene: ASegato\_41 Start: 17204, Stop: 17656, Start Num: 5  
Candidate Starts for ASegato\_41:  
(Start: 5 @17204 has 13 MA's), (14, 17312), (27, 17450), (40, 17585), (45, 17630), (46, 17642),

Gene: Alleb\_35 Start: 15737, Stop: 16174, Start Num: 6  
Candidate Starts for Alleb\_35:  
(Start: 6 @15737 has 24 MA's), (20, 15926),

Gene: Amavida\_27 Start: 13028, Stop: 13411, Start Num: 4  
Candidate Starts for Amavida\_27:  
(Start: 4 @13028 has 14 MA's), (16, 13169), (24, 13232),

Gene: Amigo\_25 Start: 12902, Stop: 13285, Start Num: 4  
Candidate Starts for Amigo\_25:  
(Start: 4 @12902 has 14 MA's), (16, 13043), (24, 13106),

Gene: Anansi\_25 Start: 12911, Stop: 13294, Start Num: 4  
Candidate Starts for Anansi\_25:  
(Start: 4 @12911 has 14 MA's), (16, 13052), (24, 13115),

Gene: BarnCat\_22 Start: 10562, Stop: 11005, Start Num: 6  
Candidate Starts for BarnCat\_22:  
(Start: 6 @10562 has 24 MA's), (Start: 7 @10574 has 1 MA's), (10, 10646), (14, 10676), (39, 10937),  
(40, 10943), (44, 10973),

Gene: Boersma\_26 Start: 12902, Stop: 13285, Start Num: 4  
Candidate Starts for Boersma\_26:  
(Start: 4 @12902 has 14 MA's), (16, 13043), (24, 13106),

Gene: Casablanacas\_43 Start: 17288, Stop: 17740, Start Num: 5  
Candidate Starts for Casablanacas\_43:  
(Start: 5 @17288 has 13 MA's), (27, 17534), (40, 17669), (45, 17714), (46, 17726),

Gene: Cassita\_26 Start: 11123, Stop: 11566, Start Num: 6  
Candidate Starts for Cassita\_26:  
(Start: 6 @11123 has 24 MA's), (Start: 7 @11135 has 1 MA's), (10, 11207), (14, 11237), (39, 11498),  
(40, 11504), (44, 11534),

Gene: Commonplace\_37 Start: 17961, Stop: 18353, Start Num: 6  
Candidate Starts for Commonplace\_37:  
(Start: 6 @17961 has 24 MA's), (15, 18081), (27, 18174),

Gene: DejaVu\_38 Start: 16531, Stop: 16953, Start Num: 6  
Candidate Starts for DejaVu\_38:  
(Start: 6 @16531 has 24 MA's), (14, 16639), (32, 16831),

Gene: Deschain\_43 Start: 17952, Stop: 18404, Start Num: 5  
Candidate Starts for Deschain\_43:  
(Start: 5 @17952 has 13 MA's), (14, 18060), (27, 18198), (40, 18333), (45, 18378), (46, 18390),

Gene: DreamEater\_5 Start: 5566, Stop: 5901, Start Num: 6  
Candidate Starts for DreamEater\_5:  
(Start: 6 @5566 has 24 MA's), (37, 5872),

Gene: DustyDino\_45 Start: 18143, Stop: 18595, Start Num: 5

Candidate Starts for DustyDino\_45:

(Start: 5 @18143 has 13 MA's), (27, 18389), (40, 18524), (45, 18569), (46, 18581),

Gene: EhyElimayoE\_28 Start: 16404, Stop: 16892, Start Num: 2

Candidate Starts for EhyElimayoE\_28:

(Start: 2 @16404 has 8 MA's), (12, 16581), (13, 16584), (26, 16695), (34, 16815), (38, 16842), (42, 16863),

Gene: Erenyeager\_42 Start: 17538, Stop: 17990, Start Num: 5

Candidate Starts for Erenyeager\_42:

(Start: 5 @17538 has 13 MA's), (27, 17784), (40, 17919), (45, 17964), (46, 17976),

Gene: Fork\_38 Start: 16853, Stop: 17305, Start Num: 5

Candidate Starts for Fork\_38:

(Start: 5 @16853 has 13 MA's), (14, 16961), (27, 17099), (40, 17234), (45, 17279), (46, 17291),

Gene: Frankenweenie\_33 Start: 18291, Stop: 18779, Start Num: 2

Candidate Starts for Frankenweenie\_33:

(Start: 2 @18291 has 8 MA's), (12, 18468), (26, 18582), (42, 18750),

Gene: GUPitcher\_6 Start: 5216, Stop: 5566, Start Num: 6

Candidate Starts for GUPitcher\_6:

(Start: 6 @5216 has 24 MA's), (22, 5387),

Gene: Gorgeous\_25 Start: 12911, Stop: 13294, Start Num: 4

Candidate Starts for Gorgeous\_25:

(Start: 4 @12911 has 14 MA's), (16, 13052), (24, 13115),

Gene: Heylee\_27 Start: 13028, Stop: 13411, Start Num: 4

Candidate Starts for Heylee\_27:

(Start: 4 @13028 has 14 MA's), (16, 13169), (24, 13232),

Gene: HollowPurple\_43 Start: 17403, Stop: 17855, Start Num: 5

Candidate Starts for HollowPurple\_43:

(Start: 5 @17403 has 13 MA's), (27, 17649), (40, 17784), (45, 17829), (46, 17841),

Gene: Hortus1\_34 Start: 15751, Stop: 16188, Start Num: 6

Candidate Starts for Hortus1\_34:

(Start: 6 @15751 has 24 MA's), (20, 15940),

Gene: Hubbs\_37 Start: 16743, Stop: 17165, Start Num: 6

Candidate Starts for Hubbs\_37:

(Start: 6 @16743 has 24 MA's), (14, 16851), (32, 17043),

Gene: Ichor\_24 Start: 12902, Stop: 13285, Start Num: 4

Candidate Starts for Ichor\_24:

(Start: 4 @12902 has 14 MA's), (16, 13043), (24, 13106),

Gene: Issa7\_41 Start: 16856, Stop: 17308, Start Num: 5

Candidate Starts for Issa7\_41:

(Start: 5 @16856 has 13 MA's), (14, 16964), (27, 17102), (40, 17237), (45, 17282), (46, 17294),

Gene: Jacko\_38 Start: 16235, Stop: 16666, Start Num: 6

Candidate Starts for Jacko\_38:

(Start: 6 @16235 has 24 MA's), (8, 16289), (41, 16598), (45, 16640), (46, 16652),

Gene: Jaek\_24 Start: 12902, Stop: 13285, Start Num: 4

Candidate Starts for Jaek\_24:

(Start: 4 @12902 has 14 MA's), (16, 13043), (24, 13106),

Gene: JustBecause\_24 Start: 15143, Stop: 15631, Start Num: 2

Candidate Starts for JustBecause\_24:

(Start: 2 @15143 has 8 MA's), (26, 15434), (30, 15506), (31, 15527), (38, 15581), (42, 15602),

Gene: Kela\_24 Start: 15134, Stop: 15622, Start Num: 2

Candidate Starts for Kela\_24:

(Start: 2 @15134 has 8 MA's), (26, 15425), (30, 15497), (31, 15518), (38, 15572), (42, 15593),

Gene: Kradal\_28 Start: 16404, Stop: 16892, Start Num: 2

Candidate Starts for Kradal\_28:

(Start: 2 @16404 has 8 MA's), (12, 16581), (13, 16584), (26, 16695), (34, 16815), (38, 16842), (42, 16863),

Gene: Kukla\_6 Start: 5268, Stop: 5615, Start Num: 6

Candidate Starts for Kukla\_6:

(Start: 6 @5268 has 24 MA's), (14, 5373), (35, 5565),

Gene: LeeroyJenkins\_26 Start: 11053, Stop: 11484, Start Num: 7

Candidate Starts for LeeroyJenkins\_26:

(Start: 6 @11041 has 24 MA's), (Start: 7 @11053 has 1 MA's), (10, 11125), (14, 11155), (39, 11416), (40, 11422), (44, 11452),

Gene: Lifes\_24 Start: 10593, Stop: 11036, Start Num: 6

Candidate Starts for Lifes\_24:

(Start: 6 @10593 has 24 MA's), (Start: 7 @10605 has 1 MA's), (10, 10677), (14, 10707), (39, 10968), (40, 10974), (44, 11004),

Gene: LuckyBarnes\_12 Start: 8066, Stop: 8413, Start Num: 6

Candidate Starts for LuckyBarnes\_12:

(Start: 6 @8066 has 24 MA's), (10, 8144), (18, 8207), (27, 8273), (33, 8333), (39, 8381),

Gene: Lupine\_35 Start: 15944, Stop: 16366, Start Num: 6

Candidate Starts for Lupine\_35:

(Start: 6 @15944 has 24 MA's), (14, 16052), (32, 16244),

Gene: Lyell\_42 Start: 17461, Stop: 17913, Start Num: 5

Candidate Starts for Lyell\_42:

(1, 17305), (3, 17437), (Start: 5 @17461 has 13 MA's), (14, 17569), (27, 17707), (29, 17752), (32, 17779), (40, 17842), (45, 17887), (46, 17899),

Gene: Mistmere\_34 Start: 14789, Stop: 15229, Start Num: 6

Candidate Starts for Mistmere\_34:

(Start: 6 @14789 has 24 MA's), (17, 14942), (19, 14963), (27, 15032), (40, 15158), (43, 15182), (46, 15215),

Gene: Molivia\_29 Start: 13194, Stop: 13577, Start Num: 4

Candidate Starts for Molivia\_29:

(Start: 4 @13194 has 14 MA's), (11, 13284),

Gene: Musetta\_42 Start: 17572, Stop: 18024, Start Num: 5

Candidate Starts for Musetta\_42:

(Start: 5 @17572 has 13 MA's), (14, 17680), (27, 17818), (40, 17953), (45, 17998), (46, 18010),

Gene: Necrophoxinus\_44 Start: 18151, Stop: 18603, Start Num: 5

Candidate Starts for Necrophoxinus\_44:

(Start: 5 @18151 has 13 MA's), (14, 18259), (27, 18397), (40, 18532), (45, 18577), (46, 18589),

Gene: Nirvana\_31 Start: 18488, Stop: 18976, Start Num: 2

Candidate Starts for Nirvana\_31:

(Start: 2 @18488 has 8 MA's), (12, 18665), (26, 18779), (42, 18947),

Gene: Nonagon\_36 Start: 17661, Stop: 18053, Start Num: 6

Candidate Starts for Nonagon\_36:

(Start: 6 @17661 has 24 MA's), (15, 17781), (27, 17874),

Gene: OlinDD\_34 Start: 15750, Stop: 16187, Start Num: 6

Candidate Starts for OlinDD\_34:

(Start: 6 @15750 has 24 MA's), (20, 15939),

Gene: Pavlo\_35 Start: 16219, Stop: 16641, Start Num: 6

Candidate Starts for Pavlo\_35:

(Start: 6 @16219 has 24 MA's), (14, 16327), (32, 16519),

Gene: PetriParty\_5 Start: 5500, Stop: 5856, Start Num: 6

Candidate Starts for PetriParty\_5:

(Start: 6 @5500 has 24 MA's), (Start: 7 @5512 has 1 MA's), (14, 5602), (18, 5641), (23, 5683), (25, 5692),

Gene: PhillyPhilly\_36 Start: 16124, Stop: 16546, Start Num: 6

Candidate Starts for PhillyPhilly\_36:

(Start: 6 @16124 has 24 MA's), (14, 16232), (32, 16424),

Gene: Pioneer3\_34 Start: 15734, Stop: 16171, Start Num: 6

Candidate Starts for Pioneer3\_34:

(Start: 6 @15734 has 24 MA's), (20, 15923),

Gene: Platte\_34 Start: 15519, Stop: 15956, Start Num: 6

Candidate Starts for Platte\_34:

(Start: 6 @15519 has 24 MA's), (20, 15708),

Gene: PorkBelly\_5 Start: 5318, Stop: 5671, Start Num: 6

Candidate Starts for PorkBelly\_5:

(Start: 6 @5318 has 24 MA's), (10, 5396), (20, 5480), (22, 5489), (25, 5507), (28, 5546), (39, 5639),

Gene: Quantum\_27 Start: 16404, Stop: 16892, Start Num: 2

Candidate Starts for Quantum\_27:

(Start: 2 @16404 has 8 MA's), (12, 16581), (13, 16584), (26, 16695), (34, 16815), (38, 16842), (42, 16863),

Gene: Rings\_24 Start: 13033, Stop: 13416, Start Num: 4

Candidate Starts for Rings\_24:

(Start: 4 @13033 has 14 MA's), (16, 13174), (24, 13237),

Gene: Roman\_37 Start: 16590, Stop: 17012, Start Num: 6

Candidate Starts for Roman\_37:

(Start: 6 @16590 has 24 MA's), (14, 16698), (32, 16890),

Gene: RunningBrook\_43 Start: 18143, Stop: 18595, Start Num: 5

Candidate Starts for RunningBrook\_43:

(Start: 5 @18143 has 13 MA's), (27, 18389), (40, 18524), (45, 18569), (46, 18581),

Gene: Saradis\_37 Start: 16182, Stop: 16604, Start Num: 6

Candidate Starts for Saradis\_37:

(Start: 6 @16182 has 24 MA's), (14, 16290), (32, 16482),

Gene: Sarkar\_29 Start: 16404, Stop: 16892, Start Num: 2

Candidate Starts for Sarkar\_29:

(Start: 2 @16404 has 8 MA's), (12, 16581), (13, 16584), (26, 16695), (34, 16815), (38, 16842), (42, 16863),

Gene: Satis\_28 Start: 16400, Stop: 16888, Start Num: 2

Candidate Starts for Satis\_28:

(Start: 2 @16400 has 8 MA's), (12, 16577), (13, 16580), (26, 16691), (34, 16811), (38, 16838), (42, 16859),

Gene: Shroomer\_45 Start: 17683, Stop: 18135, Start Num: 5

Candidate Starts for Shroomer\_45:

(Start: 5 @17683 has 13 MA's), (27, 17929), (40, 18064), (45, 18109), (46, 18121),

Gene: Solimine\_37 Start: 16597, Stop: 17019, Start Num: 6

Candidate Starts for Solimine\_37:

(Start: 6 @16597 has 24 MA's), (14, 16705), (32, 16897),

Gene: SorJuana\_25 Start: 12911, Stop: 13294, Start Num: 4

Candidate Starts for SorJuana\_25:

(Start: 4 @12911 has 14 MA's), (16, 13052), (24, 13115),

Gene: SteakFry\_41 Start: 17403, Stop: 17855, Start Num: 5

Candidate Starts for SteakFry\_41:

(Start: 5 @17403 has 13 MA's), (27, 17649), (40, 17784), (45, 17829), (46, 17841),

Gene: StevieWelch\_42 Start: 17543, Stop: 17995, Start Num: 5

Candidate Starts for StevieWelch\_42:

(Start: 5 @17543 has 13 MA's), (14, 17651), (27, 17789), (40, 17924), (45, 17969), (46, 17981),

Gene: Tandem\_34 Start: 15673, Stop: 16110, Start Num: 6

Candidate Starts for Tandem\_34:

(Start: 6 @15673 has 24 MA's), (20, 15862),

Gene: Thunderclap\_25 Start: 12931, Stop: 13314, Start Num: 4  
Candidate Starts for Thunderclap\_25:  
(Start: 4 @12931 has 14 MA's), (16, 13072), (24, 13135), (36, 13270), (37, 13273),

Gene: TripleJ\_6 Start: 5557, Stop: 5904, Start Num: 6  
Candidate Starts for TripleJ\_6:  
(Start: 6 @5557 has 24 MA's), (14, 5662), (35, 5854),

Gene: Uterion\_39 Start: 16689, Stop: 17111, Start Num: 6  
Candidate Starts for Uterion\_39:  
(Start: 6 @16689 has 24 MA's), (14, 16797), (32, 16989),

Gene: WaterT\_25 Start: 10867, Stop: 11310, Start Num: 6  
Candidate Starts for WaterT\_25:  
(Start: 6 @10867 has 24 MA's), (Start: 7 @10879 has 1 MA's), (10, 10951), (14, 10981), (39, 11242),  
(40, 11248), (44, 11278),

Gene: Welcome\_43 Start: 17560, Stop: 18012, Start Num: 5  
Candidate Starts for Welcome\_43:  
(Start: 5 @17560 has 13 MA's), (14, 17668), (27, 17806), (40, 17941), (45, 17986), (46, 17998),

Gene: Wolfstar\_37 Start: 16526, Stop: 16948, Start Num: 6  
Candidate Starts for Wolfstar\_37:  
(Start: 6 @16526 has 24 MA's), (32, 16826),

Gene: Yappy\_56 Start: 18789, Stop: 19139, Start Num: 4  
Candidate Starts for Yappy\_56:  
(Start: 4 @18789 has 14 MA's), (8, 18837), (9, 18849), (21, 18945), (32, 19074),

Gene: Yeezus\_24 Start: 12901, Stop: 13284, Start Num: 4  
Candidate Starts for Yeezus\_24:  
(Start: 4 @12901 has 14 MA's), (16, 13042), (24, 13105),

Gene: Yuma\_41 Start: 17471, Stop: 17923, Start Num: 5  
Candidate Starts for Yuma\_41:  
(Start: 5 @17471 has 13 MA's), (27, 17717), (40, 17852), (45, 17897), (46, 17909),