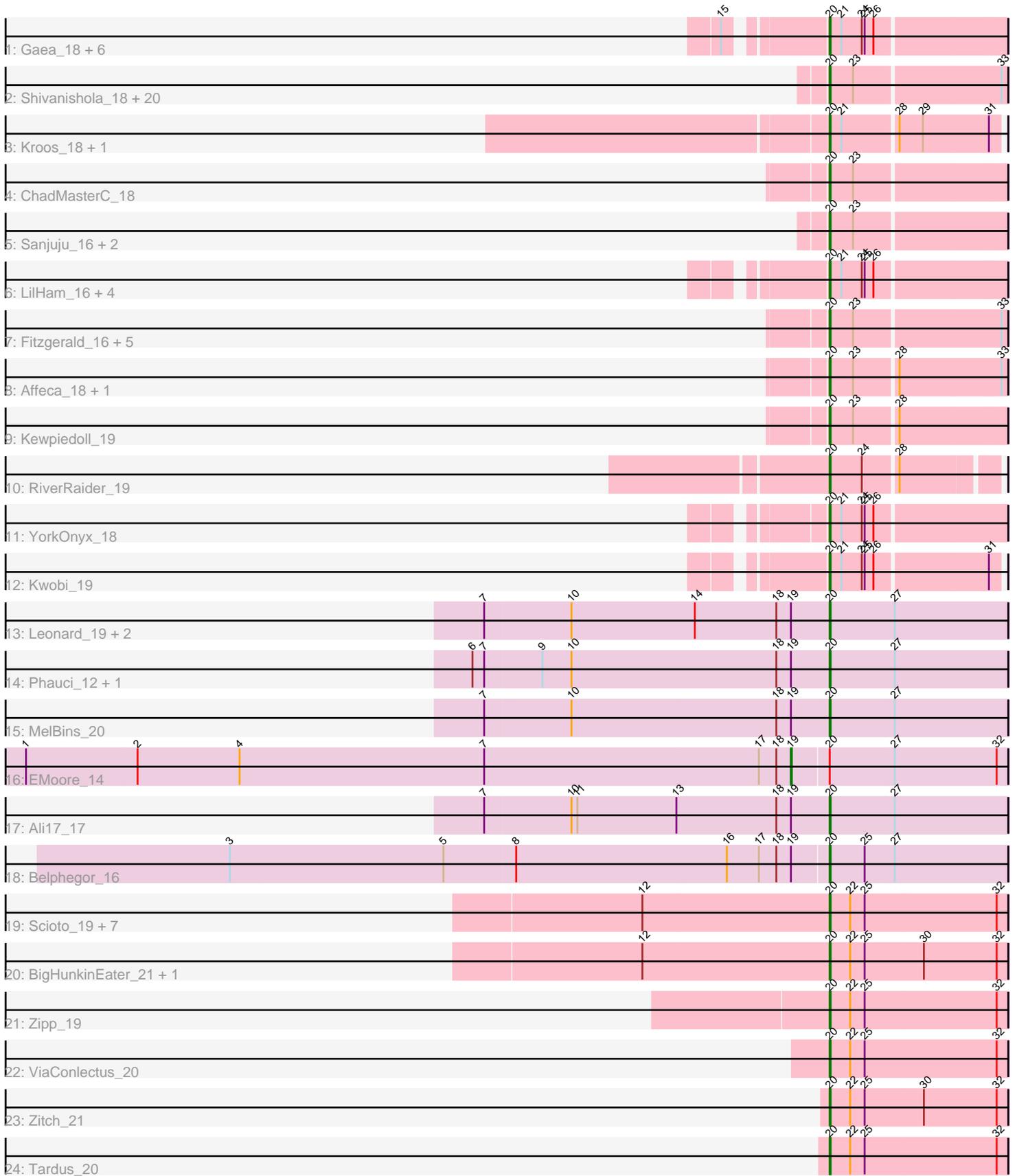


Pham 289356



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 289356 Report

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

Pham number 289356 has 74 members, 6 are drafts.

Phages represented in each track:

- Track 1 : Gaea\_18, Tangerine\_18, Saronaya\_18, Gustavo\_18, Ashertheman\_19, Baumdotcom\_18, StorminNorm\_18
- Track 2 : Shivanishola\_18, Barsten\_18, Nordenberg\_12, Fosterous\_15, Sitar\_19, Kamashten\_19, BobBob\_15, Bibwit\_18, Thing3\_19, Keitabear\_19, Lennon\_19, Vivi2\_17, Paries\_18, Love\_19, Ailee\_18, Tangent\_15, Sedona\_19, Charming\_15, FuegoCuervo\_21, McKinley\_19, Brandonk123\_20
- Track 3 : Kroos\_18, Ribeye\_19
- Track 4 : ChadMasterC\_18
- Track 5 : Sanjuju\_16, Stultus\_18, Jabberwocky\_16
- Track 6 : LilHam\_16, Flatwoods\_19, Bizzy\_19, Tycho\_18, SchottB\_17
- Track 7 : Fitzgerald\_16, Rofo\_17, McCrothy\_18, Geodirt\_17, MoontowerMania\_17, Galadriel\_19
- Track 8 : Affeca\_18, Angelicage\_18
- Track 9 : Kewpiedoll\_19
- Track 10 : RiverRaider\_19
- Track 11 : YorkOnyx\_18
- Track 12 : Kwobi\_19
- Track 13 : Leonard\_19, Inspectinfecti\_20, Phinally\_19
- Track 14 : Phauci\_12, Hans\_21
- Track 15 : MelBins\_20
- Track 16 : EMoore\_14
- Track 17 : Ali17\_17
- Track 18 : Belphegor\_16
- Track 19 : Scioto\_19, Sampson\_19, DoctorFroggo\_19, Abblin\_19, Natkenzie\_19, Delrey21\_19, Pumpkiney\_21, Verity\_19
- Track 20 : BigHunkinEater\_21, APunk\_21
- Track 21 : Zipp\_19
- Track 22 : ViaConlectus\_20
- Track 23 : Zitch\_21
- Track 24 : Tardus\_20

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

The start number called the most often in the published annotations is 20, it was called in 67 of the 68 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- APunk\_21, Abblin\_19, Affeca\_18, Ailee\_18, Ali17\_17, Angelicage\_18, Ashertheman\_19, Barsten\_18, Baumdotcom\_18, Belphegor\_16, Bibwit\_18, BigHunkinEater\_21, Bizzy\_19, BobBob\_15, Brandonk123\_20, ChadMasterC\_18, Charming\_15, Delrey21\_19, DoctorFroggo\_19, Fitzgerald\_16, Flatwoods\_19, Fosterous\_15, FuegoCuervo\_21, Gaea\_18, Galadriel\_19, Geodirt\_17, Gustavo\_18, Hans\_21, Inspectinfecti\_20, Jabberwocky\_16, Kamashten\_19, Keitabear\_19, Kewpiedoll\_19, Kroos\_18, Kwobi\_19, Lennon\_19, Leonard\_19, LilHam\_16, Love\_19, McCrothy\_18, McKinley\_19, MelBins\_20, MoontowerMania\_17, Natkenzie\_19, Nordenberg\_12, Paries\_18, Phauci\_12, Phinally\_19, Pumpkiney\_21, Ribeye\_19, RiverRaider\_19, Rofo\_17, Sampson\_19, Sanjuju\_16, Saronaya\_18, SchottB\_17, Scioto\_19, Sedona\_19, Shivanishola\_18, Sitar\_19, StorminNorm\_18, Stultus\_18, Tangent\_15, Tangerine\_18, Tardus\_20, Thing3\_19, Tycho\_18, Verity\_19, ViaConlectus\_20, Vivi2\_17, YorkOnyx\_18, Zipp\_19, Zitch\_21,

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

- EMoore\_14,

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

- 

### Summary by start number:

Start 19:

- Found in 9 of 74 ( 12.2% ) of genes in pham
- Manual Annotations of this start: 1 of 68
- Called 11.1% of time when present
- Phage (with cluster) where this start called: EMoore\_14 (DE2),

Start 20:

- Found in 74 of 74 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 67 of 68
- Called 98.6% of time when present
- Phage (with cluster) where this start called: APunk\_21 (DE4), Abblin\_19 (DE4), Affeca\_18 (DE1), Ailee\_18 (DE1), Ali17\_17 (DE2), Angelicage\_18 (DE1), Ashertheman\_19 (DE1), Barsten\_18 (DE1), Baumdotcom\_18 (DE1), Belphegor\_16 (DE2), Bibwit\_18 (DE1), BigHunkinEater\_21 (DE4), Bizzy\_19 (DE1), BobBob\_15 (DE1), Brandonk123\_20 (DE1), ChadMasterC\_18 (DE1), Charming\_15 (DE1), Delrey21\_19 (DE4), DoctorFroggo\_19 (DE4), Fitzgerald\_16 (DE1), Flatwoods\_19 (DE1), Fosterous\_15 (DE1), FuegoCuervo\_21 (DE1), Gaea\_18 (DE1), Galadriel\_19 (DE1), Geodirt\_17 (DE1), Gustavo\_18 (DE1), Hans\_21 (DE2), Inspectinfecti\_20 (DE2), Jabberwocky\_16 (DE1), Kamashten\_19 (DE1), Keitabear\_19 (DE1), Kewpiedoll\_19 (DE1), Kroos\_18 (DE1), Kwobi\_19 (DE1), Lennon\_19 (DE1), Leonard\_19 (DE2), LilHam\_16 (DE1), Love\_19 (DE1), McCrothy\_18 (DE1), McKinley\_19 (DE1), MelBins\_20 (DE2), MoontowerMania\_17 (DE1), Natkenzie\_19 (DE4), Nordenberg\_12 (DE1), Paries\_18 (DE1), Phauci\_12 (DE2), Phinally\_19 (DE2), Pumpkiney\_21 (DE4), Ribeye\_19 (DE1), RiverRaider\_19 (DE1), Rofo\_17 (DE1), Sampson\_19 (DE4), Sanjuju\_16 (DE1), Saronaya\_18 (DE1), SchottB\_17 (DE1), Scioto\_19 (DE4), Sedona\_19 (DE1), Shivanishola\_18 (DE1), Sitar\_19 (DE1), StorminNorm\_18 (DE1), Stultus\_18 (DE1), Tangent\_15 (DE1), Tangerine\_18 (DE1),

Tardus\_20 (DE4), Thing3\_19 (DE1), Tycho\_18 (DE1), Verity\_19 (DE4),  
ViaConlectus\_20 (DE4), Vivi2\_17 (DE1), YorkOnyx\_18 (DE1), Zipp\_19 (DE4),  
Zitch\_21 (DE4),

### **Summary by clusters:**

There are 3 clusters represented in this pham: DE1, DE2, DE4,

Info for manual annotations of cluster DE1:

- Start number 20 was manually annotated 50 times for cluster DE1.

Info for manual annotations of cluster DE2:

- Start number 19 was manually annotated 1 time for cluster DE2.
- Start number 20 was manually annotated 8 times for cluster DE2.

Info for manual annotations of cluster DE4:

- Start number 20 was manually annotated 9 times for cluster DE4.

### **Gene Information:**

Gene: APunk\_21 Start: 15881, Stop: 16063, Start Num: 20

Candidate Starts for APunk\_21:

(12, 15689), (Start: 20 @15881 has 67 MA's), (22, 15902), (25, 15917), (30, 15977), (32, 16052),

Gene: Abblin\_19 Start: 15094, Stop: 15276, Start Num: 20

Candidate Starts for Abblin\_19:

(12, 14902), (Start: 20 @15094 has 67 MA's), (22, 15115), (25, 15130), (32, 15265),

Gene: Affeca\_18 Start: 14929, Stop: 15102, Start Num: 20

Candidate Starts for Affeca\_18:

(Start: 20 @14929 has 67 MA's), (23, 14953), (28, 14995), (33, 15097),

Gene: Ailee\_18 Start: 14837, Stop: 15010, Start Num: 20

Candidate Starts for Ailee\_18:

(Start: 20 @14837 has 67 MA's), (23, 14861), (33, 15005),

Gene: Ali17\_17 Start: 14222, Stop: 14404, Start Num: 20

Candidate Starts for Ali17\_17:

(7, 13871), (10, 13958), (11, 13964), (13, 14066), (18, 14168), (Start: 19 @14183 has 1 MA's), (Start: 20 @14222 has 67 MA's), (27, 14288),

Gene: Angelicage\_18 Start: 15352, Stop: 15525, Start Num: 20

Candidate Starts for Angelicage\_18:

(Start: 20 @15352 has 67 MA's), (23, 15376), (28, 15418), (33, 15520),

Gene: Ashertheman\_19 Start: 14435, Stop: 14608, Start Num: 20

Candidate Starts for Ashertheman\_19:

(15, 14348), (Start: 20 @14435 has 67 MA's), (21, 14447), (24, 14468), (25, 14471), (26, 14480),

Gene: Barsten\_18 Start: 14428, Stop: 14601, Start Num: 20

Candidate Starts for Barsten\_18:

(Start: 20 @14428 has 67 MA's), (23, 14452), (33, 14596),

Gene: Baumdotcom\_18 Start: 14051, Stop: 14224, Start Num: 20

Candidate Starts for Baumdotcom\_18:

(15, 13964), (Start: 20 @14051 has 67 MA's), (21, 14063), (24, 14084), (25, 14087), (26, 14096),

Gene: Belphegor\_16 Start: 13327, Stop: 13509, Start Num: 20

Candidate Starts for Belphegor\_16:

(3, 12718), (5, 12937), (8, 13009), (16, 13225), (17, 13258), (18, 13276), (Start: 19 @13291 has 1 MA's), (Start: 20 @13327 has 67 MA's), (25, 13363), (27, 13393),

Gene: Bibwit\_18 Start: 14672, Stop: 14845, Start Num: 20

Candidate Starts for Bibwit\_18:

(Start: 20 @14672 has 67 MA's), (23, 14696), (33, 14840),

Gene: BigHunkinEater\_21 Start: 14206, Stop: 14388, Start Num: 20

Candidate Starts for BigHunkinEater\_21:

(12, 14014), (Start: 20 @14206 has 67 MA's), (22, 14227), (25, 14242), (30, 14302), (32, 14377),

Gene: Bizzy\_19 Start: 14330, Stop: 14503, Start Num: 20

Candidate Starts for Bizzy\_19:

(Start: 20 @14330 has 67 MA's), (21, 14342), (24, 14363), (25, 14366), (26, 14375),

Gene: BobBob\_15 Start: 13282, Stop: 13455, Start Num: 20

Candidate Starts for BobBob\_15:

(Start: 20 @13282 has 67 MA's), (23, 13306), (33, 13450),

Gene: Brandonk123\_20 Start: 14411, Stop: 14584, Start Num: 20

Candidate Starts for Brandonk123\_20:

(Start: 20 @14411 has 67 MA's), (23, 14435), (33, 14579),

Gene: ChadMasterC\_18 Start: 14829, Stop: 15002, Start Num: 20

Candidate Starts for ChadMasterC\_18:

(Start: 20 @14829 has 67 MA's), (23, 14853),

Gene: Charming\_15 Start: 13284, Stop: 13457, Start Num: 20

Candidate Starts for Charming\_15:

(Start: 20 @13284 has 67 MA's), (23, 13308), (33, 13452),

Gene: Delrey21\_19 Start: 14557, Stop: 14739, Start Num: 20

Candidate Starts for Delrey21\_19:

(12, 14365), (Start: 20 @14557 has 67 MA's), (22, 14578), (25, 14593), (32, 14728),

Gene: DoctorFroggo\_19 Start: 14557, Stop: 14739, Start Num: 20

Candidate Starts for DoctorFroggo\_19:

(12, 14365), (Start: 20 @14557 has 67 MA's), (22, 14578), (25, 14593), (32, 14728),

Gene: EMoore\_14 Start: 12548, Stop: 12766, Start Num: 19

Candidate Starts for EMoore\_14:

(1, 11762), (2, 11876), (4, 11981), (7, 12233), (17, 12515), (18, 12533), (Start: 19 @12548 has 1 MA's), (Start: 20 @12584 has 67 MA's), (27, 12650), (32, 12755),

Gene: Fitzgerald\_16 Start: 14147, Stop: 14320, Start Num: 20

Candidate Starts for Fitzgerald\_16:  
(Start: 20 @14147 has 67 MA's), (23, 14171), (33, 14315),

Gene: Flatwoods\_19 Start: 14337, Stop: 14510, Start Num: 20  
Candidate Starts for Flatwoods\_19:  
(Start: 20 @14337 has 67 MA's), (21, 14349), (24, 14370), (25, 14373), (26, 14382),

Gene: Fosterous\_15 Start: 14173, Stop: 14346, Start Num: 20  
Candidate Starts for Fosterous\_15:  
(Start: 20 @14173 has 67 MA's), (23, 14197), (33, 14341),

Gene: FuegoCuervo\_21 Start: 13899, Stop: 14072, Start Num: 20  
Candidate Starts for FuegoCuervo\_21:  
(Start: 20 @13899 has 67 MA's), (23, 13923), (33, 14067),

Gene: Gaea\_18 Start: 14031, Stop: 14204, Start Num: 20  
Candidate Starts for Gaea\_18:  
(15, 13944), (Start: 20 @14031 has 67 MA's), (21, 14043), (24, 14064), (25, 14067), (26, 14076),

Gene: Galadriel\_19 Start: 14032, Stop: 14205, Start Num: 20  
Candidate Starts for Galadriel\_19:  
(Start: 20 @14032 has 67 MA's), (23, 14056), (33, 14200),

Gene: Geodirt\_17 Start: 14674, Stop: 14847, Start Num: 20  
Candidate Starts for Geodirt\_17:  
(Start: 20 @14674 has 67 MA's), (23, 14698), (33, 14842),

Gene: Gustavo\_18 Start: 14142, Stop: 14315, Start Num: 20  
Candidate Starts for Gustavo\_18:  
(15, 14055), (Start: 20 @14142 has 67 MA's), (21, 14154), (24, 14175), (25, 14178), (26, 14187),

Gene: Hans\_21 Start: 14883, Stop: 15065, Start Num: 20  
Candidate Starts for Hans\_21:  
(6, 14520), (7, 14532), (9, 14589), (10, 14619), (18, 14829), (Start: 19 @14844 has 1 MA's), (Start: 20 @14883 has 67 MA's), (27, 14949),

Gene: Inspectinfecti\_20 Start: 15305, Stop: 15487, Start Num: 20  
Candidate Starts for Inspectinfecti\_20:  
(7, 14954), (10, 15041), (14, 15167), (18, 15251), (Start: 19 @15266 has 1 MA's), (Start: 20 @15305 has 67 MA's), (27, 15371),

Gene: Jabberwocky\_16 Start: 14581, Stop: 14754, Start Num: 20  
Candidate Starts for Jabberwocky\_16:  
(Start: 20 @14581 has 67 MA's), (23, 14605),

Gene: Kamashten\_19 Start: 15264, Stop: 15437, Start Num: 20  
Candidate Starts for Kamashten\_19:  
(Start: 20 @15264 has 67 MA's), (23, 15288), (33, 15432),

Gene: Keitabear\_19 Start: 16376, Stop: 16549, Start Num: 20  
Candidate Starts for Keitabear\_19:  
(Start: 20 @16376 has 67 MA's), (23, 16400), (33, 16544),

Gene: Kewpiedoll\_19 Start: 14627, Stop: 14800, Start Num: 20

Candidate Starts for Kewpiedoll\_19:

(Start: 20 @14627 has 67 MA's), (23, 14651), (28, 14693),

Gene: Kroos\_18 Start: 14451, Stop: 14618, Start Num: 20

Candidate Starts for Kroos\_18:

(Start: 20 @14451 has 67 MA's), (21, 14463), (28, 14517), (29, 14541), (31, 14607),

Gene: Kwobi\_19 Start: 14427, Stop: 14594, Start Num: 20

Candidate Starts for Kwobi\_19:

(Start: 20 @14427 has 67 MA's), (21, 14439), (24, 14460), (25, 14463), (26, 14472), (31, 14583),

Gene: Lennon\_19 Start: 15480, Stop: 15653, Start Num: 20

Candidate Starts for Lennon\_19:

(Start: 20 @15480 has 67 MA's), (23, 15504), (33, 15648),

Gene: Leonard\_19 Start: 14900, Stop: 15082, Start Num: 20

Candidate Starts for Leonard\_19:

(7, 14549), (10, 14636), (14, 14762), (18, 14846), (Start: 19 @14861 has 1 MA's), (Start: 20 @14900 has 67 MA's), (27, 14966),

Gene: LilHam\_16 Start: 13449, Stop: 13622, Start Num: 20

Candidate Starts for LilHam\_16:

(Start: 20 @13449 has 67 MA's), (21, 13461), (24, 13482), (25, 13485), (26, 13494),

Gene: Love\_19 Start: 14343, Stop: 14516, Start Num: 20

Candidate Starts for Love\_19:

(Start: 20 @14343 has 67 MA's), (23, 14367), (33, 14511),

Gene: McCrothy\_18 Start: 14209, Stop: 14382, Start Num: 20

Candidate Starts for McCrothy\_18:

(Start: 20 @14209 has 67 MA's), (23, 14233), (33, 14377),

Gene: McKinley\_19 Start: 14802, Stop: 14975, Start Num: 20

Candidate Starts for McKinley\_19:

(Start: 20 @14802 has 67 MA's), (23, 14826), (33, 14970),

Gene: MelBins\_20 Start: 15104, Stop: 15286, Start Num: 20

Candidate Starts for MelBins\_20:

(7, 14753), (10, 14840), (18, 15050), (Start: 19 @15065 has 1 MA's), (Start: 20 @15104 has 67 MA's), (27, 15170),

Gene: MoontowerMania\_17 Start: 13786, Stop: 13959, Start Num: 20

Candidate Starts for MoontowerMania\_17:

(Start: 20 @13786 has 67 MA's), (23, 13810), (33, 13954),

Gene: Natkenzie\_19 Start: 15094, Stop: 15276, Start Num: 20

Candidate Starts for Natkenzie\_19:

(12, 14902), (Start: 20 @15094 has 67 MA's), (22, 15115), (25, 15130), (32, 15265),

Gene: Nordenberg\_12 Start: 12663, Stop: 12836, Start Num: 20

Candidate Starts for Nordenberg\_12:

(Start: 20 @12663 has 67 MA's), (23, 12687), (33, 12831),

Gene: Paries\_18 Start: 14031, Stop: 14204, Start Num: 20

Candidate Starts for Paries\_18:

(Start: 20 @14031 has 67 MA's), (23, 14055), (33, 14199),

Gene: Phauci\_12 Start: 11467, Stop: 11649, Start Num: 20

Candidate Starts for Phauci\_12:

(6, 11104), (7, 11116), (9, 11173), (10, 11203), (18, 11413), (Start: 19 @11428 has 1 MA's), (Start: 20 @11467 has 67 MA's), (27, 11533),

Gene: Phinally\_19 Start: 14897, Stop: 15079, Start Num: 20

Candidate Starts for Phinally\_19:

(7, 14546), (10, 14633), (14, 14759), (18, 14843), (Start: 19 @14858 has 1 MA's), (Start: 20 @14897 has 67 MA's), (27, 14963),

Gene: Pumpkiney\_21 Start: 13807, Stop: 13989, Start Num: 20

Candidate Starts for Pumpkiney\_21:

(12, 13615), (Start: 20 @13807 has 67 MA's), (22, 13828), (25, 13843), (32, 13978),

Gene: Ribeye\_19 Start: 14905, Stop: 15072, Start Num: 20

Candidate Starts for Ribeye\_19:

(Start: 20 @14905 has 67 MA's), (21, 14917), (28, 14971), (29, 14995), (31, 15061),

Gene: RiverRaider\_19 Start: 13773, Stop: 13931, Start Num: 20

Candidate Starts for RiverRaider\_19:

(Start: 20 @13773 has 67 MA's), (24, 13806), (28, 13839),

Gene: Rofo\_17 Start: 14283, Stop: 14456, Start Num: 20

Candidate Starts for Rofo\_17:

(Start: 20 @14283 has 67 MA's), (23, 14307), (33, 14451),

Gene: Sampson\_19 Start: 15039, Stop: 15221, Start Num: 20

Candidate Starts for Sampson\_19:

(12, 14847), (Start: 20 @15039 has 67 MA's), (22, 15060), (25, 15075), (32, 15210),

Gene: Sanjuju\_16 Start: 14232, Stop: 14405, Start Num: 20

Candidate Starts for Sanjuju\_16:

(Start: 20 @14232 has 67 MA's), (23, 14256),

Gene: Saronaya\_18 Start: 14142, Stop: 14315, Start Num: 20

Candidate Starts for Saronaya\_18:

(15, 14055), (Start: 20 @14142 has 67 MA's), (21, 14154), (24, 14175), (25, 14178), (26, 14187),

Gene: SchottB\_17 Start: 15131, Stop: 15304, Start Num: 20

Candidate Starts for SchottB\_17:

(Start: 20 @15131 has 67 MA's), (21, 15143), (24, 15164), (25, 15167), (26, 15176),

Gene: Scioto\_19 Start: 15094, Stop: 15276, Start Num: 20

Candidate Starts for Scioto\_19:

(12, 14902), (Start: 20 @15094 has 67 MA's), (22, 15115), (25, 15130), (32, 15265),

Gene: Sedona\_19 Start: 16109, Stop: 16282, Start Num: 20

Candidate Starts for Sedona\_19:

(Start: 20 @16109 has 67 MA's), (23, 16133), (33, 16277),

Gene: Shivanishola\_18 Start: 14525, Stop: 14698, Start Num: 20

Candidate Starts for Shivanishola\_18:

(Start: 20 @14525 has 67 MA's), (23, 14549), (33, 14693),

Gene: Sitar\_19 Start: 15480, Stop: 15653, Start Num: 20

Candidate Starts for Sitar\_19:

(Start: 20 @15480 has 67 MA's), (23, 15504), (33, 15648),

Gene: StorminNorm\_18 Start: 14022, Stop: 14195, Start Num: 20

Candidate Starts for StorminNorm\_18:

(15, 13935), (Start: 20 @14022 has 67 MA's), (21, 14034), (24, 14055), (25, 14058), (26, 14067),

Gene: Stultus\_18 Start: 14527, Stop: 14700, Start Num: 20

Candidate Starts for Stultus\_18:

(Start: 20 @14527 has 67 MA's), (23, 14551),

Gene: Tangent\_15 Start: 13284, Stop: 13457, Start Num: 20

Candidate Starts for Tangent\_15:

(Start: 20 @13284 has 67 MA's), (23, 13308), (33, 13452),

Gene: Tangerine\_18 Start: 14028, Stop: 14201, Start Num: 20

Candidate Starts for Tangerine\_18:

(15, 13941), (Start: 20 @14028 has 67 MA's), (21, 14040), (24, 14061), (25, 14064), (26, 14073),

Gene: Tardus\_20 Start: 14374, Stop: 14556, Start Num: 20

Candidate Starts for Tardus\_20:

(Start: 20 @14374 has 67 MA's), (22, 14395), (25, 14410), (32, 14545),

Gene: Thing3\_19 Start: 15264, Stop: 15437, Start Num: 20

Candidate Starts for Thing3\_19:

(Start: 20 @15264 has 67 MA's), (23, 15288), (33, 15432),

Gene: Tycho\_18 Start: 14145, Stop: 14318, Start Num: 20

Candidate Starts for Tycho\_18:

(Start: 20 @14145 has 67 MA's), (21, 14157), (24, 14178), (25, 14181), (26, 14190),

Gene: Verity\_19 Start: 14557, Stop: 14739, Start Num: 20

Candidate Starts for Verity\_19:

(12, 14365), (Start: 20 @14557 has 67 MA's), (22, 14578), (25, 14593), (32, 14728),

Gene: ViaConlectus\_20 Start: 15109, Stop: 15291, Start Num: 20

Candidate Starts for ViaConlectus\_20:

(Start: 20 @15109 has 67 MA's), (22, 15130), (25, 15145), (32, 15280),

Gene: Vivi2\_17 Start: 14455, Stop: 14628, Start Num: 20

Candidate Starts for Vivi2\_17:

(Start: 20 @14455 has 67 MA's), (23, 14479), (33, 14623),

Gene: YorkOnyx\_18 Start: 13977, Stop: 14150, Start Num: 20

Candidate Starts for YorkOnyx\_18:

(Start: 20 @13977 has 67 MA's), (21, 13989), (24, 14010), (25, 14013), (26, 14022),

Gene: Zipp\_19 Start: 15206, Stop: 15388, Start Num: 20

Candidate Starts for Zipp\_19:

(Start: 20 @15206 has 67 MA's), (22, 15227), (25, 15242), (32, 15377),

Gene: Zitch\_21 Start: 14336, Stop: 14518, Start Num: 20

Candidate Starts for Zitch\_21:

(Start: 20 @14336 has 67 MA's), (22, 14357), (25, 14372), (30, 14432), (32, 14507),