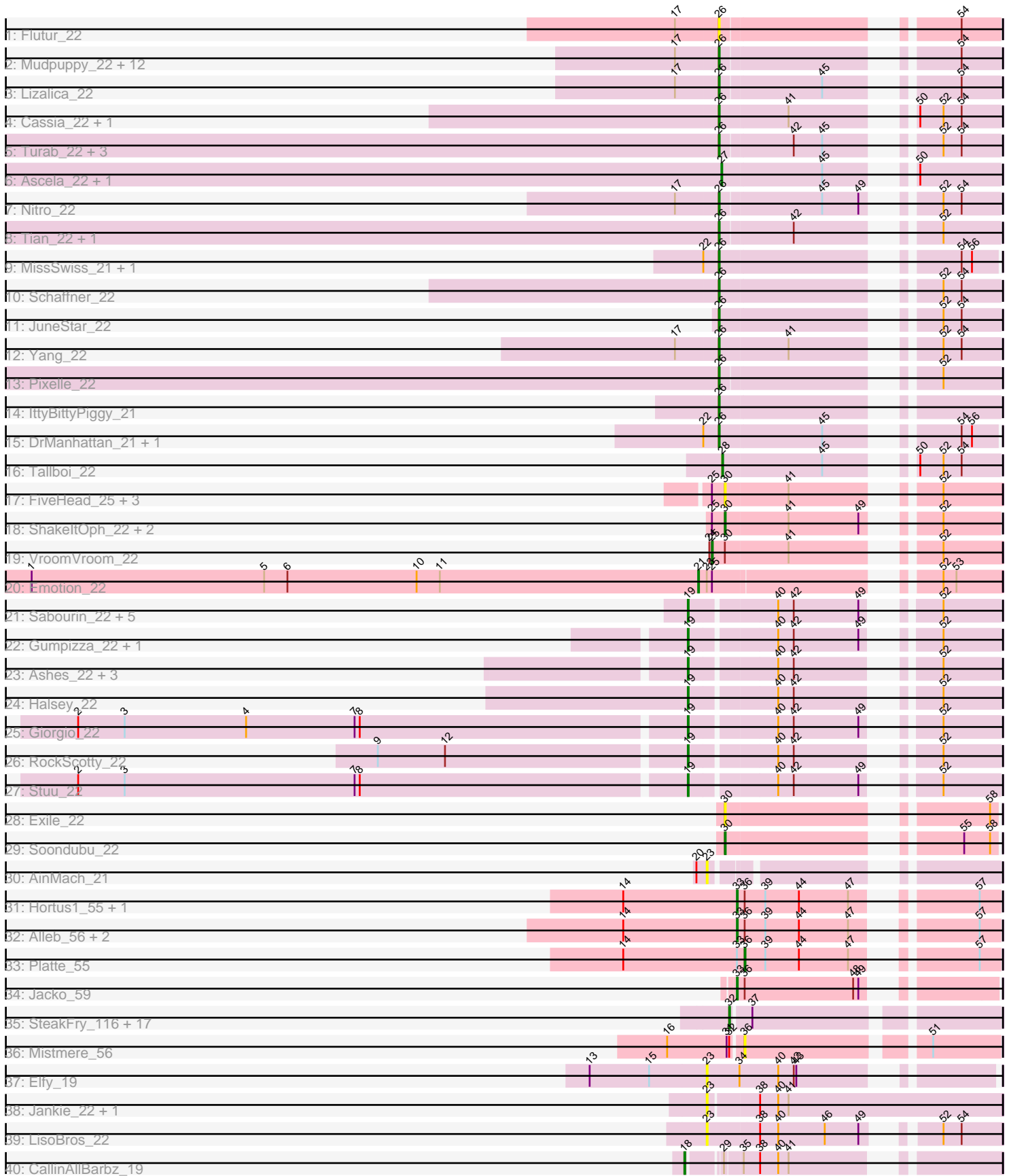


Pham 303264



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 303264 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 303264 has 95 members, 24 are drafts.

Phages represented in each track:

- Track 1 : Flutur\_22
- Track 2 : Mudpuppy\_22, Powerpuff\_22, Cyan\_22, Kaylissa\_22, Tutumahutu\_22, AGrandiflora\_23, Tbone\_22, Warda\_22, JohnDoe\_22, YesChef\_22, Lego\_22, Joemato\_22, Simpson\_24
- Track 3 : Lizalica\_22
- Track 4 : Cassia\_22, Pumpkins\_22
- Track 5 : Turab\_22, Amploria\_22, Adumb2043\_22, AEgle\_22
- Track 6 : Ascela\_22, Iter\_22
- Track 7 : Nitro\_22
- Track 8 : Tian\_22, Amyev\_22
- Track 9 : MissSwiss\_21, PandaPo\_21
- Track 10 : Schaffner\_22
- Track 11 : JuneStar\_22
- Track 12 : Yang\_22
- Track 13 : Pixelle\_22
- Track 14 : IttyBittyPiggy\_21
- Track 15 : DrManhattan\_21, Adolin\_21
- Track 16 : Tallboi\_22
- Track 17 : FiveHead\_25, Origami\_23, LadyAstra\_23, JohnThicc\_24
- Track 18 : ShakeltOph\_22, JasmineDragon\_22, MiniMommy\_22
- Track 19 : VroomVroom\_22
- Track 20 : Emotion\_22
- Track 21 : Sabourin\_22, Sooty\_22, Donkey\_22, Kalimba\_22, Cappuccino\_22, Gambol\_22
- Track 22 : Gumpizza\_22, Mysterium\_22
- Track 23 : Ashes\_22, SpecialK\_22, Moss\_22, Beaupre\_22
- Track 24 : Halsey\_22
- Track 25 : Giorgio\_22
- Track 26 : RockScotty\_22
- Track 27 : Stuu\_22
- Track 28 : Exile\_22
- Track 29 : Soondubu\_22
- Track 30 : AinMach\_21

- Track 31 : Hortus1\_55, OlinDD\_55
- Track 32 : Alleb\_56, Pioneer3\_55, Tandem\_55
- Track 33 : Platte\_55
- Track 34 : Jacko\_59
- Track 35 : SteakFry\_116, Casablanacas\_64, DustyDino\_66, HollowPurple\_64, Yuma\_62, ASegato\_62, Erenyeager\_63, Necrophoxinus\_65, RunningBrook\_64, SteakFry\_62, Issa7\_62, Fork\_59, Welcome\_64, Deschain\_64, Shroomer\_66, Lyell\_63, StevieWelch\_63, Musetta\_63
- Track 36 : Mistmere\_56
- Track 37 : Elfy\_19
- Track 38 : Jankie\_22, GrimEater\_21
- Track 39 : LisoBros\_22
- Track 40 : CallinAllBarbz\_19

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

The start number called the most often in the published annotations is 26, it was called in 25 of the 71 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AEgle\_22, AGrandiflora\_23, Adolin\_21, Adumb2043\_22, Amploria\_22, Amyev\_22, Cassia\_22, Cyan\_22, DrManhattan\_21, Flutur\_22, IttyBittyPiggy\_21, Joemato\_22, JohnDoe\_22, JuneStar\_22, Kaylissa\_22, Lego\_22, Lizalica\_22, MissSwiss\_21, Mudpuppy\_22, Nitro\_22, PandaPo\_21, Pixelle\_22, Powerpuff\_22, Pumpkins\_22, Schaffner\_22, Simpson\_24, Tbone\_22, Tian\_22, Turab\_22, Tutumahutu\_22, Warda\_22, Yang\_22, YesChef\_22,

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

- 

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

- ASegato\_62, AinMach\_21, Alleb\_56, Ascela\_22, Ashes\_22, Beaupre\_22, CallinAllBarbz\_19, Cappuccino\_22, Casablanacas\_64, Deschain\_64, Donkey\_22, DustyDino\_66, Elfy\_19, Emotion\_22, Erenyeager\_63, Exile\_22, FiveHead\_25, Fork\_59, Gambol\_22, Giorgio\_22, GrimEater\_21, Gumpizza\_22, Halsey\_22, HollowPurple\_64, Hortus1\_55, Issa7\_62, Iter\_22, Jacko\_59, Jankie\_22, JasmineDragon\_22, JohnThicc\_24, Kalimba\_22, LadyAstra\_23, LisoBros\_22, Lyell\_63, MiniMommy\_22, Mistmere\_56, Moss\_22, Musetta\_63, Mysterium\_22, Necrophoxinus\_65, OlinDD\_55, Origami\_23, Pioneer3\_55, Platte\_55, RockScotty\_22, RunningBrook\_64, Sabourin\_22, ShakeltOph\_22, Shroomer\_66, Soondubu\_22, Sooty\_22, SpecialK\_22, SteakFry\_116, SteakFry\_62, StevieWelch\_63, Stuu\_22, Tallboi\_22, Tandem\_55, VroomVroom\_22, Welcome\_64, Yuma\_62,

**Summary by start number:**

Start 18:

- Found in 1 of 95 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 1 of 71
- Called 100.0% of time when present

- Phage (with cluster) where this start called: CallinAllBarbz\_19 (FP),

#### Start 19:

- Found in 16 of 95 ( 16.8% ) of genes in pham
- Manual Annotations of this start: 16 of 71
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ashes\_22 (AZ5), Beaupre\_22 (AZ5), Cappuccino\_22 (AZ5), Donkey\_22 (AZ5), Gambol\_22 (AZ5), Giorgio\_22 (AZ5), Gumpizza\_22 (AZ5), Halsey\_22 (AZ5), Kalimba\_22 (AZ5), Moss\_22 (AZ5), Mysterium\_22 (AZ5), RockScotty\_22 (AZ5), Sabourin\_22 (AZ5), Sooty\_22 (AZ5), SpecialK\_22 (AZ5), Stuu\_22 (AZ5),

#### Start 21:

- Found in 1 of 95 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 1 of 71
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Emotion\_22 (AZ4),

#### Start 23:

- Found in 6 of 95 ( 6.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 83.3% of time when present
- Phage (with cluster) where this start called: AinMach\_21 (AZ7), Elfy\_19 (FP), GrimEater\_21 (FP), Jankie\_22 (FP), LisoBros\_22 (FP),

#### Start 25:

- Found in 9 of 95 ( 9.5% ) of genes in pham
- Manual Annotations of this start: 1 of 71
- Called 11.1% of time when present
- Phage (with cluster) where this start called: VroomVroom\_22 (AZ4),

#### Start 26:

- Found in 33 of 95 ( 34.7% ) of genes in pham
- Manual Annotations of this start: 25 of 71
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AEgle\_22 (AZ1), AGrandiflora\_23 (AZ1), Adolin\_21 (AZ1), Adumb2043\_22 (AZ1), Amploria\_22 (AZ1), Amyev\_22 (AZ1), Cassia\_22 (AZ1), Cyan\_22 (AZ1), DrManhattan\_21 (AZ1), Flutur\_22 (AZ), IttyBittyPiggy\_21 (AZ1), Joemato\_22 (AZ1), JohnDoe\_22 (AZ1), JuneStar\_22 (AZ1), Kaylissa\_22 (AZ1), Lego\_22 (AZ1), Lizalica\_22 (AZ1), MissSwiss\_21 (AZ1), Mudpuppy\_22 (AZ1), Nitro\_22 (AZ1), PandaPo\_21 (AZ1), Pixelle\_22 (AZ1), Powerpuff\_22 (AZ1), Pumpkins\_22 (AZ1), Schaffner\_22 (AZ1), Simpson\_24 (AZ1), Tbone\_22 (AZ1), Tian\_22 (AZ1), Turab\_22 (AZ1), Tutumahutu\_22 (AZ1), Warda\_22 (AZ1), Yang\_22 (AZ1), YesChef\_22 (AZ1),

#### Start 27:

- Found in 2 of 95 ( 2.1% ) of genes in pham
- Manual Annotations of this start: 2 of 71
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ascela\_22 (AZ1), Iter\_22 (AZ1),

#### Start 28:

- Found in 1 of 95 ( 1.1% ) of genes in pham

- Manual Annotations of this start: 1 of 71
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Tallboi\_22 (AZ1),

Start 30:

- Found in 10 of 95 ( 10.5% ) of genes in pham
- Manual Annotations of this start: 4 of 71
- Called 90.0% of time when present
- Phage (with cluster) where this start called: Exile\_22 (AZ6), FiveHead\_25 (AZ4), JasmineDragon\_22 (AZ4), JohnThicc\_24 (AZ4), LadyAstra\_23 (AZ4), MiniMommy\_22 (AZ4), Origami\_23 (AZ4), ShakeltOph\_22 (AZ4), Soondubu\_22 (AZ6),

Start 32:

- Found in 19 of 95 ( 20.0% ) of genes in pham
- Manual Annotations of this start: 13 of 71
- Called 94.7% of time when present
- Phage (with cluster) where this start called: ASegato\_62 (ED2), Casablanacas\_64 (ED2), Deschain\_64 (ED2), DustyDino\_66 (ED2), Erenyeager\_63 (ED2), Fork\_59 (ED2), HollowPurple\_64 (ED2), Issa7\_62 (ED2), Lyell\_63 (ED2), Musetta\_63 (ED2), Necrophoxinus\_65 (ED2), RunningBrook\_64 (ED2), Shroomer\_66 (ED2), SteakFry\_116 (ED2), SteakFry\_62 (ED2), StevieWelch\_63 (ED2), Welcome\_64 (ED2), Yuma\_62 (ED2),

Start 33:

- Found in 7 of 95 ( 7.4% ) of genes in pham
- Manual Annotations of this start: 6 of 71
- Called 85.7% of time when present
- Phage (with cluster) where this start called: Alleb\_56 (ED1), Hortus1\_55 (ED1), Jacko\_59 (ED1), OlinDD\_55 (ED1), Pioneer3\_55 (ED1), Tandem\_55 (ED1),

Start 36:

- Found in 8 of 95 ( 8.4% ) of genes in pham
- Manual Annotations of this start: 1 of 71
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Mistmere\_56 (ED3), Platte\_55 (ED1),

### **Summary by clusters:**

There are 10 clusters represented in this pham: FP, ED2, ED3, ED1, AZ1, AZ, AZ4, AZ5, AZ6, AZ7,

Info for manual annotations of cluster AZ1:

- Start number 26 was manually annotated 25 times for cluster AZ1.
- Start number 27 was manually annotated 2 times for cluster AZ1.
- Start number 28 was manually annotated 1 time for cluster AZ1.

Info for manual annotations of cluster AZ4:

- Start number 21 was manually annotated 1 time for cluster AZ4.
- Start number 25 was manually annotated 1 time for cluster AZ4.
- Start number 30 was manually annotated 3 times for cluster AZ4.

Info for manual annotations of cluster AZ5:

- Start number 19 was manually annotated 16 times for cluster AZ5.

Info for manual annotations of cluster AZ6:

- Start number 30 was manually annotated 1 time for cluster AZ6.

Info for manual annotations of cluster ED1:

- Start number 33 was manually annotated 6 times for cluster ED1.
- Start number 36 was manually annotated 1 time for cluster ED1.

Info for manual annotations of cluster ED2:

- Start number 32 was manually annotated 13 times for cluster ED2.

Info for manual annotations of cluster FP:

- Start number 18 was manually annotated 1 time for cluster FP.

### ***Gene Information:***

Gene: AEgle\_22 Start: 19269, Stop: 19538, Start Num: 26

Candidate Starts for AEgle\_22:

(Start: 26 @19269 has 25 MA's), (42, 19350), (45, 19383), (52, 19473), (54, 19494),

Gene: AGrandiflora\_23 Start: 19367, Stop: 19636, Start Num: 26

Candidate Starts for AGrandiflora\_23:

(17, 19325), (Start: 26 @19367 has 25 MA's), (54, 19592),

Gene: ASegato\_62 Start: 35643, Stop: 35921, Start Num: 32

Candidate Starts for ASegato\_62:

(Start: 32 @35643 has 13 MA's), (37, 35664),

Gene: Adolin\_21 Start: 17721, Stop: 17990, Start Num: 26

Candidate Starts for Adolin\_21:

(22, 17703), (Start: 26 @17721 has 25 MA's), (45, 17838), (54, 17949), (56, 17961),

Gene: Adumb2043\_22 Start: 19268, Stop: 19537, Start Num: 26

Candidate Starts for Adumb2043\_22:

(Start: 26 @19268 has 25 MA's), (42, 19349), (45, 19382), (52, 19472), (54, 19493),

Gene: AinMach\_21 Start: 18975, Stop: 19241, Start Num: 23

Candidate Starts for AinMach\_21:

(20, 18963), (23, 18975),

Gene: Alleb\_56 Start: 35613, Stop: 35867, Start Num: 33

Candidate Starts for Alleb\_56:

(14, 35481), (Start: 33 @35613 has 6 MA's), (Start: 36 @35622 has 1 MA's), (39, 35646), (44, 35685), (47, 35742), (57, 35844),

Gene: Amploria\_22 Start: 19268, Stop: 19537, Start Num: 26

Candidate Starts for Amploria\_22:

(Start: 26 @19268 has 25 MA's), (42, 19349), (45, 19382), (52, 19472), (54, 19493),

Gene: Amyev\_22 Start: 19659, Stop: 19928, Start Num: 26

Candidate Starts for Amyev\_22:

(Start: 26 @19659 has 25 MA's), (42, 19740), (52, 19863),

Gene: Ascela\_22 Start: 19279, Stop: 19548, Start Num: 27

Candidate Starts for Ascela\_22:

(Start: 27 @19279 has 2 MA's), (45, 19393), (50, 19456),

Gene: Ashes\_22 Start: 17953, Stop: 18252, Start Num: 19

Candidate Starts for Ashes\_22:

(Start: 19 @17953 has 16 MA's), (40, 18046), (42, 18064), (52, 18187),

Gene: Beaupre\_22 Start: 17954, Stop: 18253, Start Num: 19

Candidate Starts for Beaupre\_22:

(Start: 19 @17954 has 16 MA's), (40, 18047), (42, 18065), (52, 18188),

Gene: CallinAllBarbz\_19 Start: 17627, Stop: 17926, Start Num: 18

Candidate Starts for CallinAllBarbz\_19:

(Start: 18 @17627 has 1 MA's), (29, 17660), (35, 17678), (38, 17696), (40, 17717), (41, 17729),

Gene: Cappuccino\_22 Start: 17864, Stop: 18163, Start Num: 19

Candidate Starts for Cappuccino\_22:

(Start: 19 @17864 has 16 MA's), (40, 17957), (42, 17975), (49, 18050), (52, 18098),

Gene: Casablanacas\_64 Start: 35383, Stop: 35661, Start Num: 32

Candidate Starts for Casablanacas\_64:

(Start: 32 @35383 has 13 MA's), (37, 35404),

Gene: Cassia\_22 Start: 19707, Stop: 19979, Start Num: 26

Candidate Starts for Cassia\_22:

(Start: 26 @19707 has 25 MA's), (41, 19785), (50, 19887), (52, 19914), (54, 19935),

Gene: Cyan\_22 Start: 19415, Stop: 19684, Start Num: 26

Candidate Starts for Cyan\_22:

(17, 19373), (Start: 26 @19415 has 25 MA's), (54, 19640),

Gene: Deschain\_64 Start: 36047, Stop: 36325, Start Num: 32

Candidate Starts for Deschain\_64:

(Start: 32 @36047 has 13 MA's), (37, 36068),

Gene: Donkey\_22 Start: 17864, Stop: 18163, Start Num: 19

Candidate Starts for Donkey\_22:

(Start: 19 @17864 has 16 MA's), (40, 17957), (42, 17975), (49, 18050), (52, 18098),

Gene: DrManhattan\_21 Start: 17711, Stop: 17980, Start Num: 26

Candidate Starts for DrManhattan\_21:

(22, 17693), (Start: 26 @17711 has 25 MA's), (45, 17828), (54, 17939), (56, 17951),

Gene: DustyDino\_66 Start: 36241, Stop: 36519, Start Num: 32

Candidate Starts for DustyDino\_66:

(Start: 32 @36241 has 13 MA's), (37, 36262),

Gene: Elfy\_19 Start: 17633, Stop: 17914, Start Num: 23

Candidate Starts for Elfy\_19:

(13, 17498), (15, 17567), (23, 17633), (34, 17669), (40, 17714), (42, 17732), (43, 17735),

Gene: Emotion\_22 Start: 19071, Stop: 19367, Start Num: 21

Candidate Starts for Emotion\_22:

(1, 18297), (5, 18567), (6, 18594), (10, 18744), (11, 18771), (Start: 21 @19071 has 1 MA's), (23, 19080), (Start: 25 @19086 has 1 MA's), (52, 19299), (53, 19314),

Gene: Erenyeager\_63 Start: 35633, Stop: 35911, Start Num: 32

Candidate Starts for Erenyeager\_63:

(Start: 32 @35633 has 13 MA's), (37, 35654),

Gene: Exile\_22 Start: 21578, Stop: 21841, Start Num: 30

Candidate Starts for Exile\_22:

(Start: 30 @21578 has 4 MA's), (58, 21833),

Gene: FiveHead\_25 Start: 18510, Stop: 18779, Start Num: 30

Candidate Starts for FiveHead\_25:

(Start: 25 @18495 has 1 MA's), (Start: 30 @18510 has 4 MA's), (41, 18582), (52, 18711),

Gene: Flutur\_22 Start: 19647, Stop: 19916, Start Num: 26

Candidate Starts for Flutur\_22:

(17, 19605), (Start: 26 @19647 has 25 MA's), (54, 19872),

Gene: Fork\_59 Start: 35293, Stop: 35571, Start Num: 32

Candidate Starts for Fork\_59:

(Start: 32 @35293 has 13 MA's), (37, 35314),

Gene: Gambol\_22 Start: 17864, Stop: 18163, Start Num: 19

Candidate Starts for Gambol\_22:

(Start: 19 @17864 has 16 MA's), (40, 17957), (42, 17975), (49, 18050), (52, 18098),

Gene: Giorgio\_22 Start: 17961, Stop: 18260, Start Num: 19

Candidate Starts for Giorgio\_22:

(2, 17265), (3, 17319), (4, 17460), (7, 17586), (8, 17592), (Start: 19 @17961 has 16 MA's), (40, 18054), (42, 18072), (49, 18147), (52, 18195),

Gene: GrimEater\_21 Start: 17871, Stop: 18206, Start Num: 23

Candidate Starts for GrimEater\_21:

(23, 17871), (38, 17925), (40, 17946), (41, 17958),

Gene: Gumpizza\_22 Start: 17954, Stop: 18253, Start Num: 19

Candidate Starts for Gumpizza\_22:

(Start: 19 @17954 has 16 MA's), (40, 18047), (42, 18065), (49, 18140), (52, 18188),

Gene: Halsey\_22 Start: 17958, Stop: 18257, Start Num: 19

Candidate Starts for Halsey\_22:

(Start: 19 @17958 has 16 MA's), (40, 18051), (42, 18069), (52, 18192),

Gene: HollowPurple\_64 Start: 35849, Stop: 36127, Start Num: 32

Candidate Starts for HollowPurple\_64:

(Start: 32 @35849 has 13 MA's), (37, 35870),

Gene: Hortus1\_55 Start: 35603, Stop: 35857, Start Num: 33

Candidate Starts for Hortus1\_55:

(14, 35471), (Start: 33 @35603 has 6 MA's), (Start: 36 @35612 has 1 MA's), (39, 35636), (44, 35675), (47, 35732), (57, 35834),

Gene: Issa7\_62 Start: 35297, Stop: 35575, Start Num: 32

Candidate Starts for Issa7\_62:

(Start: 32 @35297 has 13 MA's), (37, 35318),

Gene: Iter\_22 Start: 19279, Stop: 19548, Start Num: 27

Candidate Starts for Iter\_22:

(Start: 27 @19279 has 2 MA's), (45, 19393), (50, 19456),

Gene: IttyBittyPiggy\_21 Start: 17803, Stop: 18075, Start Num: 26

Candidate Starts for IttyBittyPiggy\_21:

(Start: 26 @17803 has 25 MA's),

Gene: Jacko\_59 Start: 34558, Stop: 34809, Start Num: 33

Candidate Starts for Jacko\_59:

(Start: 33 @34558 has 6 MA's), (Start: 36 @34567 has 1 MA's), (48, 34693), (49, 34699),

Gene: Jankie\_22 Start: 17870, Stop: 18205, Start Num: 23

Candidate Starts for Jankie\_22:

(23, 17870), (38, 17924), (40, 17945), (41, 17957),

Gene: JasmineDragon\_22 Start: 18506, Stop: 18772, Start Num: 30

Candidate Starts for JasmineDragon\_22:

(Start: 25 @18491 has 1 MA's), (Start: 30 @18506 has 4 MA's), (41, 18578), (49, 18659), (52, 18707),

Gene: Joemato\_22 Start: 19415, Stop: 19684, Start Num: 26

Candidate Starts for Joemato\_22:

(17, 19373), (Start: 26 @19415 has 25 MA's), (54, 19640),

Gene: JohnDoe\_22 Start: 19410, Stop: 19679, Start Num: 26

Candidate Starts for JohnDoe\_22:

(17, 19368), (Start: 26 @19410 has 25 MA's), (54, 19635),

Gene: JohnThicc\_24 Start: 18510, Stop: 18779, Start Num: 30

Candidate Starts for JohnThicc\_24:

(Start: 25 @18495 has 1 MA's), (Start: 30 @18510 has 4 MA's), (41, 18582), (52, 18711),

Gene: JuneStar\_22 Start: 20113, Stop: 20385, Start Num: 26

Candidate Starts for JuneStar\_22:

(Start: 26 @20113 has 25 MA's), (52, 20320), (54, 20341),

Gene: Kalimba\_22 Start: 17865, Stop: 18164, Start Num: 19

Candidate Starts for Kalimba\_22:

(Start: 19 @17865 has 16 MA's), (40, 17958), (42, 17976), (49, 18051), (52, 18099),

Gene: Kaylissa\_22 Start: 19416, Stop: 19685, Start Num: 26

Candidate Starts for Kaylissa\_22:

(17, 19374), (Start: 26 @19416 has 25 MA's), (54, 19641),

Gene: LadyAstra\_23 Start: 18510, Stop: 18779, Start Num: 30

Candidate Starts for LadyAstra\_23:

(Start: 25 @18495 has 1 MA's), (Start: 30 @18510 has 4 MA's), (41, 18582), (52, 18711),

Gene: Lego\_22 Start: 19370, Stop: 19639, Start Num: 26

Candidate Starts for Lego\_22:

(17, 19328), (Start: 26 @19370 has 25 MA's), (54, 19595),

Gene: LisoBros\_22 Start: 19925, Stop: 20212, Start Num: 23

Candidate Starts for LisoBros\_22:

(23, 19925), (38, 19982), (40, 20003), (46, 20057), (49, 20096), (52, 20144), (54, 20165),

Gene: Lizalica\_22 Start: 19400, Stop: 19669, Start Num: 26

Candidate Starts for Lizalica\_22:

(17, 19358), (Start: 26 @19400 has 25 MA's), (45, 19514), (54, 19625),

Gene: Lyell\_63 Start: 35552, Stop: 35830, Start Num: 32

Candidate Starts for Lyell\_63:

(Start: 32 @35552 has 13 MA's), (37, 35573),

Gene: MiniMommy\_22 Start: 18507, Stop: 18773, Start Num: 30

Candidate Starts for MiniMommy\_22:

(Start: 25 @18492 has 1 MA's), (Start: 30 @18507 has 4 MA's), (41, 18579), (49, 18660), (52, 18708),

Gene: MissSwiss\_21 Start: 17769, Stop: 18038, Start Num: 26

Candidate Starts for MissSwiss\_21:

(22, 17751), (Start: 26 @17769 has 25 MA's), (54, 17997), (56, 18009),

Gene: Mistmere\_56 Start: 34447, Stop: 34713, Start Num: 36

Candidate Starts for Mistmere\_56:

(16, 34363), (31, 34432), (Start: 32 @34435 has 13 MA's), (Start: 36 @34447 has 1 MA's), (51, 34636),

Gene: Moss\_22 Start: 17953, Stop: 18252, Start Num: 19

Candidate Starts for Moss\_22:

(Start: 19 @17953 has 16 MA's), (40, 18046), (42, 18064), (52, 18187),

Gene: Mudpuppy\_22 Start: 19413, Stop: 19682, Start Num: 26

Candidate Starts for Mudpuppy\_22:

(17, 19371), (Start: 26 @19413 has 25 MA's), (54, 19638),

Gene: Musetta\_63 Start: 36013, Stop: 36291, Start Num: 32

Candidate Starts for Musetta\_63:

(Start: 32 @36013 has 13 MA's), (37, 36034),

Gene: Mysterium\_22 Start: 17954, Stop: 18253, Start Num: 19

Candidate Starts for Mysterium\_22:

(Start: 19 @17954 has 16 MA's), (40, 18047), (42, 18065), (49, 18140), (52, 18188),

Gene: Necrophoxinus\_65 Start: 36247, Stop: 36525, Start Num: 32

Candidate Starts for Necrophoxinus\_65:

(Start: 32 @36247 has 13 MA's), (37, 36268),

Gene: Nitro\_22 Start: 19269, Stop: 19538, Start Num: 26

Candidate Starts for Nitro\_22:

(17, 19227), (Start: 26 @19269 has 25 MA's), (45, 19383), (49, 19425), (52, 19473), (54, 19494),

Gene: OlinDD\_55 Start: 35602, Stop: 35856, Start Num: 33

Candidate Starts for OlinDD\_55:

(14, 35470), (Start: 33 @35602 has 6 MA's), (Start: 36 @35611 has 1 MA's), (39, 35635), (44, 35674), (47, 35731), (57, 35833),

Gene: Origami\_23 Start: 18510, Stop: 18779, Start Num: 30

Candidate Starts for Origami\_23:

(Start: 25 @18495 has 1 MA's), (Start: 30 @18510 has 4 MA's), (41, 18582), (52, 18711),

Gene: PandaPo\_21 Start: 17769, Stop: 18038, Start Num: 26

Candidate Starts for PandaPo\_21:

(22, 17751), (Start: 26 @17769 has 25 MA's), (54, 17997), (56, 18009),

Gene: Pioneer3\_55 Start: 35610, Stop: 35864, Start Num: 33

Candidate Starts for Pioneer3\_55:

(14, 35478), (Start: 33 @35610 has 6 MA's), (Start: 36 @35619 has 1 MA's), (39, 35643), (44, 35682), (47, 35739), (57, 35841),

Gene: Pixelle\_22 Start: 19662, Stop: 19931, Start Num: 26

Candidate Starts for Pixelle\_22:

(Start: 26 @19662 has 25 MA's), (52, 19866),

Gene: Platte\_55 Start: 35404, Stop: 35649, Start Num: 36

Candidate Starts for Platte\_55:

(14, 35263), (Start: 33 @35395 has 6 MA's), (Start: 36 @35404 has 1 MA's), (39, 35428), (44, 35467), (47, 35524), (57, 35626),

Gene: Powerpuff\_22 Start: 19421, Stop: 19690, Start Num: 26

Candidate Starts for Powerpuff\_22:

(17, 19379), (Start: 26 @19421 has 25 MA's), (54, 19646),

Gene: Pumpkins\_22 Start: 20140, Stop: 20412, Start Num: 26

Candidate Starts for Pumpkins\_22:

(Start: 26 @20140 has 25 MA's), (41, 20218), (50, 20320), (52, 20347), (54, 20368),

Gene: RockScotty\_22 Start: 17930, Stop: 18229, Start Num: 19

Candidate Starts for RockScotty\_22:

(9, 17582), (12, 17660), (Start: 19 @17930 has 16 MA's), (40, 18023), (42, 18041), (52, 18164),

Gene: RunningBrook\_64 Start: 36241, Stop: 36519, Start Num: 32

Candidate Starts for RunningBrook\_64:

(Start: 32 @36241 has 13 MA's), (37, 36262),

Gene: Sabourin\_22 Start: 17863, Stop: 18162, Start Num: 19

Candidate Starts for Sabourin\_22:

(Start: 19 @17863 has 16 MA's), (40, 17956), (42, 17974), (49, 18049), (52, 18097),

Gene: Schaffner\_22 Start: 20112, Stop: 20384, Start Num: 26

Candidate Starts for Schaffner\_22:  
(Start: 26 @20112 has 25 MA's), (52, 20319), (54, 20340),

Gene: ShakeltOph\_22 Start: 18506, Stop: 18772, Start Num: 30  
Candidate Starts for ShakeltOph\_22:  
(Start: 25 @18491 has 1 MA's), (Start: 30 @18506 has 4 MA's), (41, 18578), (49, 18659), (52, 18707),

Gene: Shroomer\_66 Start: 35783, Stop: 36061, Start Num: 32  
Candidate Starts for Shroomer\_66:  
(Start: 32 @35783 has 13 MA's), (37, 35804),

Gene: Simpson\_24 Start: 19415, Stop: 19684, Start Num: 26  
Candidate Starts for Simpson\_24:  
(17, 19373), (Start: 26 @19415 has 25 MA's), (54, 19640),

Gene: Soondubu\_22 Start: 21582, Stop: 21845, Start Num: 30  
Candidate Starts for Soondubu\_22:  
(Start: 30 @21582 has 4 MA's), (55, 21807), (58, 21837),

Gene: Sooty\_22 Start: 17866, Stop: 18165, Start Num: 19  
Candidate Starts for Sooty\_22:  
(Start: 19 @17866 has 16 MA's), (40, 17959), (42, 17977), (49, 18052), (52, 18100),

Gene: SpecialK\_22 Start: 17860, Stop: 18159, Start Num: 19  
Candidate Starts for SpecialK\_22:  
(Start: 19 @17860 has 16 MA's), (40, 17953), (42, 17971), (52, 18094),

Gene: SteakFry\_116 Start: 61045, Stop: 61323, Start Num: 32  
Candidate Starts for SteakFry\_116:  
(Start: 32 @61045 has 13 MA's), (37, 61066),

Gene: SteakFry\_62 Start: 35849, Stop: 36127, Start Num: 32  
Candidate Starts for SteakFry\_62:  
(Start: 32 @35849 has 13 MA's), (37, 35870),

Gene: StevieWelch\_63 Start: 35633, Stop: 35911, Start Num: 32  
Candidate Starts for StevieWelch\_63:  
(Start: 32 @35633 has 13 MA's), (37, 35654),

Gene: Stuu\_22 Start: 17953, Stop: 18252, Start Num: 19  
Candidate Starts for Stuu\_22:  
(2, 17257), (3, 17311), (7, 17578), (8, 17584), (Start: 19 @17953 has 16 MA's), (40, 18046), (42, 18064), (49, 18139), (52, 18187),

Gene: Tallboi\_22 Start: 19248, Stop: 19517, Start Num: 28  
Candidate Starts for Tallboi\_22:  
(Start: 28 @19248 has 1 MA's), (45, 19362), (50, 19425), (52, 19452), (54, 19473),

Gene: Tandem\_55 Start: 35549, Stop: 35803, Start Num: 33  
Candidate Starts for Tandem\_55:  
(14, 35417), (Start: 33 @35549 has 6 MA's), (Start: 36 @35558 has 1 MA's), (39, 35582), (44, 35621), (47, 35678), (57, 35780),

Gene: Tbone\_22 Start: 19420, Stop: 19689, Start Num: 26  
Candidate Starts for Tbone\_22:  
(17, 19378), (Start: 26 @19420 has 25 MA's), (54, 19645),

Gene: Tian\_22 Start: 19659, Stop: 19928, Start Num: 26  
Candidate Starts for Tian\_22:  
(Start: 26 @19659 has 25 MA's), (42, 19740), (52, 19863),

Gene: Turab\_22 Start: 19268, Stop: 19537, Start Num: 26  
Candidate Starts for Turab\_22:  
(Start: 26 @19268 has 25 MA's), (42, 19349), (45, 19382), (52, 19472), (54, 19493),

Gene: Tutumahutu\_22 Start: 19421, Stop: 19690, Start Num: 26  
Candidate Starts for Tutumahutu\_22:  
(17, 19379), (Start: 26 @19421 has 25 MA's), (54, 19646),

Gene: VroomVroom\_22 Start: 18499, Stop: 18783, Start Num: 25  
Candidate Starts for VroomVroom\_22:  
(24, 18496), (Start: 25 @18499 has 1 MA's), (Start: 30 @18514 has 4 MA's), (41, 18586), (52, 18715),

Gene: Warda\_22 Start: 19412, Stop: 19681, Start Num: 26  
Candidate Starts for Warda\_22:  
(17, 19370), (Start: 26 @19412 has 25 MA's), (54, 19637),

Gene: Welcome\_64 Start: 35998, Stop: 36276, Start Num: 32  
Candidate Starts for Welcome\_64:  
(Start: 32 @35998 has 13 MA's), (37, 36019),

Gene: Yang\_22 Start: 19406, Stop: 19678, Start Num: 26  
Candidate Starts for Yang\_22:  
(17, 19364), (Start: 26 @19406 has 25 MA's), (41, 19484), (52, 19613), (54, 19634),

Gene: YesChef\_22 Start: 19421, Stop: 19690, Start Num: 26  
Candidate Starts for YesChef\_22:  
(17, 19379), (Start: 26 @19421 has 25 MA's), (54, 19646),

Gene: Yuma\_62 Start: 35567, Stop: 35845, Start Num: 32  
Candidate Starts for Yuma\_62:  
(Start: 32 @35567 has 13 MA's), (37, 35588),