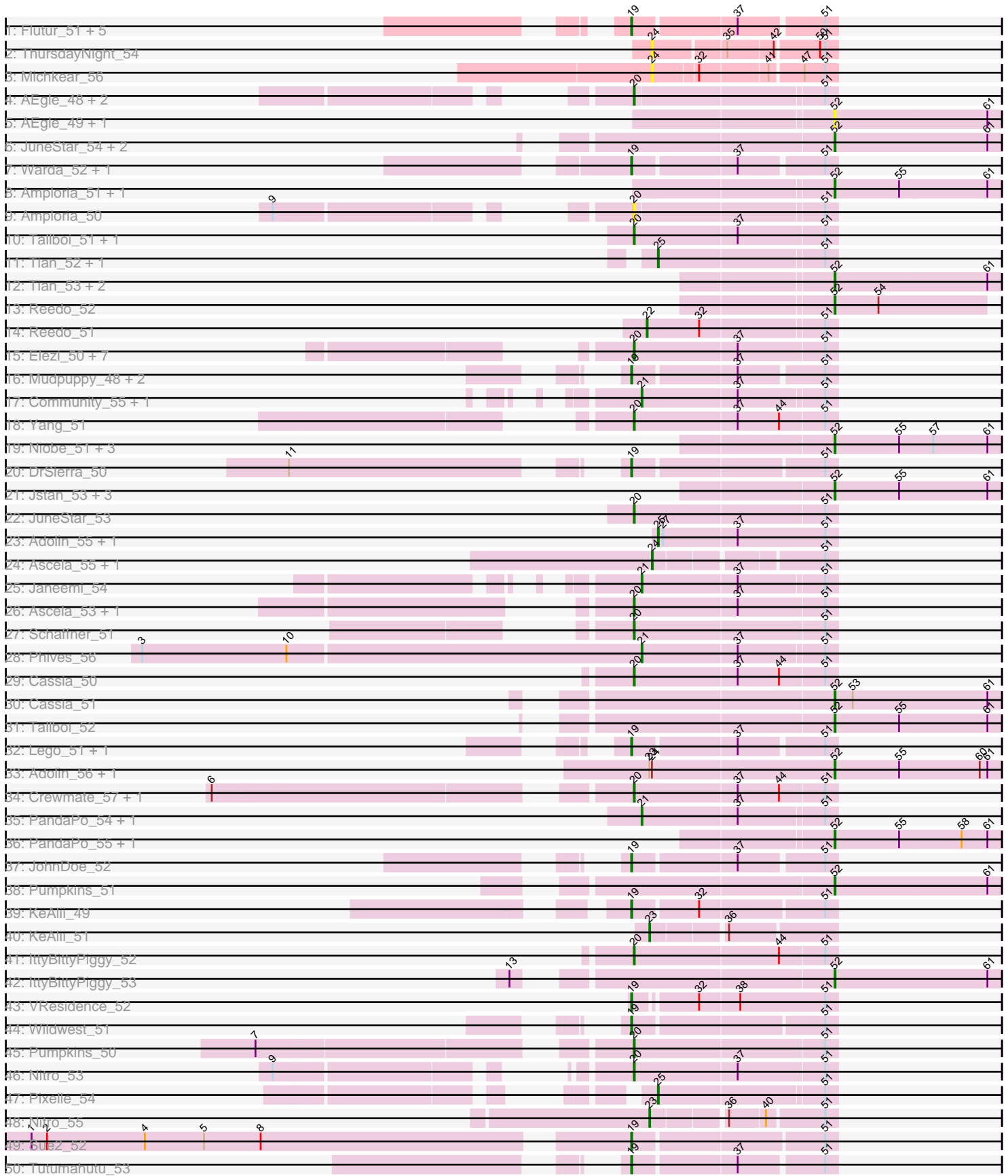


Pham 311375





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 311375 Report

This analysis was run 06/27/26 on database version 652.

Pham number 311375 has 124 members, 25 are drafts.

Phages represented in each track:

- Track 1 : Flutur\_51, Powerpuff\_54, AGrandiflora\_54, Joemato\_52, YesChef\_52, Simpson\_54
- Track 2 : ThursdayNight\_54
- Track 3 : Michkear\_56
- Track 4 : AEgle\_48, Turab\_49, Adumb2043\_49
- Track 5 : AEgle\_49, Turab\_50
- Track 6 : JuneStar\_54, Yang\_52, TforTroy\_53
- Track 7 : Warda\_52, Tbone\_52
- Track 8 : Amploria\_51, Adumb2043\_50
- Track 9 : Amploria\_50
- Track 10 : Tallboi\_51, TforTroy\_52
- Track 11 : Tian\_52, Amyev\_53
- Track 12 : Tian\_53, Amyev\_54, Pixelle\_55
- Track 13 : Reedo\_52
- Track 14 : Reedo\_51
- Track 15 : Elezi\_50, Niobe\_50, Skelbel\_51, Asa16\_50, Subaru\_51, Jstan\_52, Eraser\_50, London\_50
- Track 16 : Mudpuppy\_48, Cyan\_52, Lizalica\_51
- Track 17 : Community\_55, Tuck\_55
- Track 18 : Yang\_51
- Track 19 : Niobe\_51, Skelbel\_52, Asa16\_51, London\_51
- Track 20 : DrSierra\_50
- Track 21 : Jstan\_53, Subaru\_52, Elezi\_51, Eraser\_51
- Track 22 : JuneStar\_53
- Track 23 : Adolin\_55, DrManhattan\_54
- Track 24 : Ascela\_55, Iter\_55
- Track 25 : Janeemi\_54
- Track 26 : Ascela\_53, Iter\_53
- Track 27 : Schaffner\_51
- Track 28 : Phives\_56
- Track 29 : Cassia\_50
- Track 30 : Cassia\_51
- Track 31 : Tallboi\_52
- Track 32 : Lego\_51, Kaylissa\_53
- Track 33 : Adolin\_56, DrManhattan\_55
- Track 34 : Crewmate\_57, ObiToo\_56
- Track 35 : PandaPo\_54, MissSwiss\_54

- Track 36 : PandaPo\_55, MissSwiss\_55
- Track 37 : JohnDoe\_52
- Track 38 : Pumpkins\_51
- Track 39 : KeAlii\_49
- Track 40 : KeAlii\_51
- Track 41 : IttyBittyPiggy\_52
- Track 42 : IttyBittyPiggy\_53
- Track 43 : VResidence\_52
- Track 44 : Wildwest\_51
- Track 45 : Pumpkins\_50
- Track 46 : Nitro\_53
- Track 47 : Pixelle\_54
- Track 48 : Nitro\_55
- Track 49 : Sue2\_52
- Track 50 : Tutumahutu\_53
- Track 51 : Berrie\_53
- Track 52 : MaGuCo\_49
- Track 53 : IUFootball\_53, Liebe\_53, Maureen\_53
- Track 54 : Snek\_55, Tweety19\_56
- Track 55 : Snek\_54, Tweety19\_55
- Track 56 : Cappuccino\_45, Kalimba\_45, Giorgio\_44, Gambol\_46, Moss\_45, Gumpizza\_44, Sooty\_45, Ashes\_45, SpecialK\_45, Halsey\_45, Donkey\_45, RockScotty\_44, Mysterium\_44, Beaupre\_44, Stuu\_45
- Track 57 : Sabourin\_45
- Track 58 : Exile\_46, Soondubu\_48
- Track 59 : AinMach\_51
- Track 60 : LisoBros\_47
- Track 61 : Jankie\_49, GrimEater\_48
- Track 62 : CallinAllBarbz\_50
- Track 63 : Elfy\_52
- Track 64 : BaileyBlu\_49

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

The start number called the most often in the published annotations is 21, it was called in 26 of the 99 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Ashes\_45, BaileyBlu\_49, Beaupre\_44, Berrie\_53, CallinAllBarbz\_50, Cappuccino\_45, Community\_55, Donkey\_45, Elfy\_52, Gambol\_46, Giorgio\_44, GrimEater\_48, Gumpizza\_44, Halsey\_45, Janeemi\_54, Jankie\_49, Kalimba\_45, MissSwiss\_54, Moss\_45, Mysterium\_44, PandaPo\_54, Phives\_56, RockScotty\_44, Sabourin\_45, Sooty\_45, SpecialK\_45, Stuu\_45, Tuck\_55,

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

- 

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

- AEgle\_48, AEgle\_49, AGrandiflora\_54, Adolin\_55, Adolin\_56, Adumb2043\_49, Adumb2043\_50, AinMach\_51, Amploria\_50, Amploria\_51, Amyev\_53, Amyev\_54,

Asa16\_50, Asa16\_51, Ascela\_53, Ascela\_55, Cassia\_50, Cassia\_51, Crewmate\_57, Cyan\_52, DrManhattan\_54, DrManhattan\_55, DrSierra\_50, Elezi\_50, Elezi\_51, Eraser\_50, Eraser\_51, Exile\_46, Flutur\_51, IUFootball\_53, Iter\_53, Iter\_55, IttyBittyPiggy\_52, IttyBittyPiggy\_53, Joemato\_52, JohnDoe\_52, Jstan\_52, Jstan\_53, JuneStar\_53, JuneStar\_54, Kaylissa\_53, KeAlii\_49, KeAlii\_51, Lego\_51, Liebe\_53, LisoBros\_47, Lizalica\_51, London\_50, London\_51, MaGuCo\_49, Maureen\_53, Michkear\_56, MissSwiss\_55, Mudpuppy\_48, Niobe\_50, Niobe\_51, Nitro\_53, Nitro\_55, ObiToo\_56, PandaPo\_55, Pixelle\_54, Pixelle\_55, Powerpuff\_54, Pumpkins\_50, Pumpkins\_51, Reedo\_51, Reedo\_52, Schaffner\_51, Simpson\_54, Skelbel\_51, Skelbel\_52, Snek\_54, Snek\_55, Soondubu\_48, Subaru\_51, Subaru\_52, Sue2\_52, Tallboi\_51, Tallboi\_52, Tbone\_52, TforTroy\_52, TforTroy\_53, ThursdayNight\_54, Tian\_52, Tian\_53, Turab\_49, Turab\_50, Tutumahutu\_53, Tweety19\_55, Tweety19\_56, VResidence\_52, Warda\_52, Wildwest\_51, Yang\_51, Yang\_52, YesChef\_52,

### Summary by start number:

#### Start 18:

- Found in 2 of 124 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 1 of 99
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Exile\_46 (AZ6), Soondubu\_48 (AZ6),

#### Start 19:

- Found in 24 of 124 ( 19.4% ) of genes in pham
- Manual Annotations of this start: 20 of 99
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AGrandiflora\_54 (AZ1), Cyan\_52 (AZ1), DrSierra\_50 (AZ1), Flutur\_51 (AZ), IUFootball\_53 (AZ2), Joemato\_52 (AZ1), JohnDoe\_52 (AZ1), Kaylissa\_53 (AZ1), KeAlii\_49 (AZ1), Lego\_51 (AZ1), Liebe\_53 (AZ2), Lizalica\_51 (AZ1), MaGuCo\_49 (AZ2), Maureen\_53 (AZ2), Mudpuppy\_48 (AZ1), Powerpuff\_54 (AZ1), Simpson\_54 (AZ1), Sue2\_52 (AZ1), Tbone\_52 (AZ1), Tutumahutu\_53 (AZ1), VResidence\_52 (AZ1), Warda\_52 (AZ1), Wildwest\_51 (AZ1), YesChef\_52 (AZ1),

#### Start 20:

- Found in 25 of 124 ( 20.2% ) of genes in pham
- Manual Annotations of this start: 19 of 99
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AEgle\_48 (AZ1), Adumb2043\_49 (AZ1), Amploria\_50 (AZ1), Asa16\_50 (AZ1), Ascela\_53 (AZ1), Cassia\_50 (AZ1), Crewmate\_57 (AZ1), Elezi\_50 (AZ1), Eraser\_50 (AZ1), Iter\_53 (AZ1), IttyBittyPiggy\_52 (AZ1), Jstan\_52 (AZ1), JuneStar\_53 (AZ1), London\_50 (AZ1), Niobe\_50 (AZ1), Nitro\_53 (AZ1), ObiToo\_56 (AZ1), Pumpkins\_50 (AZ1), Schaffner\_51 (AZ1), Skelbel\_51 (AZ1), Subaru\_51 (AZ1), Tallboi\_51 (AZ1), TforTroy\_52 (AZ1), Turab\_49 (AZ1), Yang\_51 (AZ1),

#### Start 21:

- Found in 28 of 124 ( 22.6% ) of genes in pham
- Manual Annotations of this start: 26 of 99
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ashes\_45 (AZ5), BaileyBlu\_49 (FP), Beaupre\_44 (AZ5), Berrie\_53 (AZ1), CallinAllBarbz\_50 (FP), Cappuccino\_45 (AZ5),

Community\_55 (AZ1), Donkey\_45 (AZ5), Elfy\_52 (FP), Gambol\_46 (AZ5), Giorgio\_44 (AZ5), GrimEater\_48 (FP), Gumpizza\_44 (AZ5), Halsey\_45 (AZ5), Janeemi\_54 (AZ1), Jankie\_49 (FP), Kalimba\_45 (AZ5), MissSwiss\_54 (AZ1), Moss\_45 (AZ5), Mysterium\_44 (AZ5), PandaPo\_54 (AZ1), Phives\_56 (AZ1), RockScotty\_44 (AZ5), Sabourin\_45 (AZ5), Sooty\_45 (AZ5), SpecialK\_45 (AZ5), Stuu\_45 (AZ5), Tuck\_55 (AZ1),

Start 22:

- Found in 1 of 124 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 99
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Reedo\_51 (AZ1),

Start 23:

- Found in 4 of 124 ( 3.2% ) of genes in pham
- Manual Annotations of this start: 2 of 99
- Called 50.0% of time when present
- Phage (with cluster) where this start called: KeAlii\_51 (AZ1), Nitro\_55 (AZ1),

Start 24:

- Found in 9 of 124 ( 7.3% ) of genes in pham
- Manual Annotations of this start: 4 of 99
- Called 77.8% of time when present
- Phage (with cluster) where this start called: AinMach\_51 (AZ7), Ascela\_55 (AZ1), Iter\_55 (AZ1), Michkear\_56 (AZ), SneK\_54 (AZ3), ThursdayNight\_54 (AZ), Tweety19\_55 (AZ3),

Start 25:

- Found in 5 of 124 ( 4.0% ) of genes in pham
- Manual Annotations of this start: 4 of 99
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Adolin\_55 (AZ1), Amyev\_53 (AZ1), DrManhattan\_54 (AZ1), Pixelle\_54 (AZ1), Tian\_52 (AZ1),

Start 26:

- Found in 1 of 124 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 99
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LisoBros\_47 (FP),

Start 52:

- Found in 29 of 124 ( 23.4% ) of genes in pham
- Manual Annotations of this start: 21 of 99
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AEgle\_49 (AZ1), Adolin\_56 (AZ1), Adumb2043\_50 (AZ1), Amploria\_51 (AZ1), Amyev\_54 (AZ1), Asa16\_51 (AZ1), Cassia\_51 (AZ1), DrManhattan\_55 (AZ1), Elezi\_51 (AZ1), Eraser\_51 (AZ1), IttyBittyPiggy\_53 (AZ1), Jstan\_53 (AZ1), JuneStar\_54 (AZ1), London\_51 (AZ1), MissSwiss\_55 (AZ1), Niobe\_51 (AZ1), PandaPo\_55 (AZ1), Pixelle\_55 (AZ1), Pumpkins\_51 (AZ1), Reedo\_52 (AZ1), Skelbel\_52 (AZ1), SneK\_55 (AZ3), Subaru\_52 (AZ1), Tallboi\_52 (AZ1), TforTroy\_53 (AZ1), Tian\_53 (AZ1), Turab\_50 (AZ1), Tweety19\_56 (AZ3), Yang\_52 (AZ1),

## Summary by clusters:

There are 8 clusters represented in this pham: FP, AZ, AZ1, AZ2, AZ3, AZ5, AZ6, AZ7,

Info for manual annotations of cluster AZ1:

- Start number 19 was manually annotated 17 times for cluster AZ1.
- Start number 20 was manually annotated 19 times for cluster AZ1.
- Start number 21 was manually annotated 5 times for cluster AZ1.
- Start number 22 was manually annotated 1 time for cluster AZ1.
- Start number 23 was manually annotated 2 times for cluster AZ1.
- Start number 24 was manually annotated 2 times for cluster AZ1.
- Start number 25 was manually annotated 4 times for cluster AZ1.
- Start number 52 was manually annotated 19 times for cluster AZ1.

Info for manual annotations of cluster AZ2:

- Start number 19 was manually annotated 3 times for cluster AZ2.

Info for manual annotations of cluster AZ3:

- Start number 24 was manually annotated 2 times for cluster AZ3.
- Start number 52 was manually annotated 2 times for cluster AZ3.

Info for manual annotations of cluster AZ5:

- Start number 21 was manually annotated 16 times for cluster AZ5.

Info for manual annotations of cluster AZ6:

- Start number 18 was manually annotated 1 time for cluster AZ6.

Info for manual annotations of cluster FP:

- Start number 21 was manually annotated 5 times for cluster FP.
- Start number 26 was manually annotated 1 time for cluster FP.

## **Gene Information:**

Gene: AEgle\_48 Start: 36313, Stop: 36537, Start Num: 20

Candidate Starts for AEgle\_48:

(Start: 20 @36313 has 19 MA's), (51, 36523),

Gene: AEgle\_49 Start: 36534, Stop: 36725, Start Num: 52

Candidate Starts for AEgle\_49:

(Start: 52 @36534 has 21 MA's), (61, 36711),

Gene: AGrandiflora\_54 Start: 37650, Stop: 37871, Start Num: 19

Candidate Starts for AGrandiflora\_54:

(Start: 19 @37650 has 20 MA's), (37, 37764), (51, 37857),

Gene: Adolin\_55 Start: 36749, Stop: 36955, Start Num: 25

Candidate Starts for Adolin\_55:

(Start: 25 @36749 has 4 MA's), (27, 36755), (37, 36839), (51, 36941),

Gene: Adolin\_56 Start: 36952, Stop: 37143, Start Num: 52

Candidate Starts for Adolin\_56:

(Start: 23 @36739 has 2 MA's), (Start: 24 @36742 has 4 MA's), (Start: 52 @36952 has 21 MA's), (55, 37027), (60, 37120), (61, 37129),

Gene: Adumb2043\_50 Start: 36555, Stop: 36746, Start Num: 52

Candidate Starts for Adumb2043\_50:

(Start: 52 @36555 has 21 MA's), (55, 36630), (61, 36732),

Gene: Adumb2043\_49 Start: 36334, Stop: 36558, Start Num: 20

Candidate Starts for Adumb2043\_49:

(Start: 20 @36334 has 19 MA's), (51, 36544),

Gene: AinMach\_51 Start: 36840, Stop: 37037, Start Num: 24

Candidate Starts for AinMach\_51:

(Start: 24 @36840 has 4 MA's), (35, 36918), (46, 36996), (47, 36999), (49, 37008), (51, 37023),

Gene: Amploria\_51 Start: 36738, Stop: 36929, Start Num: 52

Candidate Starts for Amploria\_51:

(Start: 52 @36738 has 21 MA's), (55, 36813), (61, 36915),

Gene: Amploria\_50 Start: 36517, Stop: 36741, Start Num: 20

Candidate Starts for Amploria\_50:

(9, 36217), (Start: 20 @36517 has 19 MA's), (51, 36727),

Gene: Amyev\_54 Start: 39992, Stop: 40183, Start Num: 52

Candidate Starts for Amyev\_54:

(Start: 52 @39992 has 21 MA's), (61, 40169),

Gene: Amyev\_53 Start: 39795, Stop: 39995, Start Num: 25

Candidate Starts for Amyev\_53:

(Start: 25 @39795 has 4 MA's), (51, 39981),

Gene: Asa16\_51 Start: 38109, Stop: 38300, Start Num: 52

Candidate Starts for Asa16\_51:

(Start: 52 @38109 has 21 MA's), (55, 38184), (57, 38223), (61, 38286),

Gene: Asa16\_50 Start: 37882, Stop: 38112, Start Num: 20

Candidate Starts for Asa16\_50:

(Start: 20 @37882 has 19 MA's), (37, 37999), (51, 38098),

Gene: Ascela\_55 Start: 38387, Stop: 38578, Start Num: 24

Candidate Starts for Ascela\_55:

(Start: 24 @38387 has 4 MA's), (51, 38564),

Gene: Ascela\_53 Start: 37957, Stop: 38187, Start Num: 20

Candidate Starts for Ascela\_53:

(Start: 20 @37957 has 19 MA's), (37, 38074), (51, 38173),

Gene: Ashes\_45 Start: 33455, Stop: 33667, Start Num: 21

Candidate Starts for Ashes\_45:

(12, 33218), (Start: 21 @33455 has 26 MA's), (33, 33521),

Gene: BaileyBlu\_49 Start: 35978, Stop: 36187, Start Num: 21  
Candidate Starts for BaileyBlu\_49:  
(16, 35963), (Start: 21 @35978 has 26 MA's), (29, 36026), (48, 36152), (51, 36173),

Gene: Beaupre\_44 Start: 33265, Stop: 33477, Start Num: 21  
Candidate Starts for Beaupre\_44:  
(12, 33028), (Start: 21 @33265 has 26 MA's), (33, 33331),

Gene: Berrie\_53 Start: 38048, Stop: 38266, Start Num: 21  
Candidate Starts for Berrie\_53:  
(Start: 21 @38048 has 26 MA's), (32, 38114), (37, 38156), (51, 38252),

Gene: CallinAllBarbz\_50 Start: 36450, Stop: 36644, Start Num: 21  
Candidate Starts for CallinAllBarbz\_50:  
(Start: 21 @36450 has 26 MA's), (29, 36498), (48, 36609), (51, 36630),

Gene: Cappuccino\_45 Start: 33320, Stop: 33532, Start Num: 21  
Candidate Starts for Cappuccino\_45:  
(12, 33083), (Start: 21 @33320 has 26 MA's), (33, 33386),

Gene: Cassia\_50 Start: 37073, Stop: 37303, Start Num: 20  
Candidate Starts for Cassia\_50:  
(Start: 20 @37073 has 19 MA's), (37, 37190), (44, 37238), (51, 37289),

Gene: Cassia\_51 Start: 37300, Stop: 37491, Start Num: 52  
Candidate Starts for Cassia\_51:  
(Start: 52 @37300 has 21 MA's), (53, 37321), (61, 37477),

Gene: Community\_55 Start: 39440, Stop: 39658, Start Num: 21  
Candidate Starts for Community\_55:  
(Start: 21 @39440 has 26 MA's), (37, 39548), (51, 39644),

Gene: Crewmate\_57 Start: 38837, Stop: 39067, Start Num: 20  
Candidate Starts for Crewmate\_57:  
(6, 38405), (Start: 20 @38837 has 19 MA's), (37, 38954), (44, 39002), (51, 39053),

Gene: Cyan\_52 Start: 37207, Stop: 37428, Start Num: 19  
Candidate Starts for Cyan\_52:  
(Start: 19 @37207 has 20 MA's), (37, 37321), (51, 37414),

Gene: Donkey\_45 Start: 33310, Stop: 33522, Start Num: 21  
Candidate Starts for Donkey\_45:  
(12, 33073), (Start: 21 @33310 has 26 MA's), (33, 33376),

Gene: DrManhattan\_55 Start: 36520, Stop: 36711, Start Num: 52  
Candidate Starts for DrManhattan\_55:  
(Start: 23 @36307 has 2 MA's), (Start: 24 @36310 has 4 MA's), (Start: 52 @36520 has 21 MA's), (55, 36595), (60, 36688), (61, 36697),

Gene: DrManhattan\_54 Start: 36317, Stop: 36523, Start Num: 25  
Candidate Starts for DrManhattan\_54:  
(Start: 25 @36317 has 4 MA's), (27, 36323), (37, 36407), (51, 36509),

Gene: DrSierra\_50 Start: 36034, Stop: 36258, Start Num: 19  
Candidate Starts for DrSierra\_50:  
(11, 35728), (Start: 19 @36034 has 20 MA's), (51, 36244),

Gene: Elezi\_50 Start: 37880, Stop: 38110, Start Num: 20  
Candidate Starts for Elezi\_50:  
(Start: 20 @37880 has 19 MA's), (37, 37997), (51, 38096),

Gene: Elezi\_51 Start: 38107, Stop: 38298, Start Num: 52  
Candidate Starts for Elezi\_51:  
(Start: 52 @38107 has 21 MA's), (55, 38182), (61, 38284),

Gene: Elfy\_52 Start: 35591, Stop: 35809, Start Num: 21  
Candidate Starts for Elfy\_52:  
(Start: 21 @35591 has 26 MA's),

Gene: Eraser\_51 Start: 38116, Stop: 38307, Start Num: 52  
Candidate Starts for Eraser\_51:  
(Start: 52 @38116 has 21 MA's), (55, 38191), (61, 38293),

Gene: Eraser\_50 Start: 37889, Stop: 38119, Start Num: 20  
Candidate Starts for Eraser\_50:  
(Start: 20 @37889 has 19 MA's), (37, 38006), (51, 38105),

Gene: Exile\_46 Start: 39253, Stop: 39480, Start Num: 18  
Candidate Starts for Exile\_46:  
(Start: 18 @39253 has 1 MA's), (32, 39328), (51, 39466),

Gene: Flutur\_51 Start: 37516, Stop: 37737, Start Num: 19  
Candidate Starts for Flutur\_51:  
(Start: 19 @37516 has 20 MA's), (37, 37630), (51, 37723),

Gene: Gambol\_46 Start: 33329, Stop: 33541, Start Num: 21  
Candidate Starts for Gambol\_46:  
(12, 33092), (Start: 21 @33329 has 26 MA's), (33, 33395),

Gene: Giorgio\_44 Start: 33248, Stop: 33460, Start Num: 21  
Candidate Starts for Giorgio\_44:  
(12, 33011), (Start: 21 @33248 has 26 MA's), (33, 33314),

Gene: GrimEater\_48 Start: 34974, Stop: 35183, Start Num: 21  
Candidate Starts for GrimEater\_48:  
(Start: 21 @34974 has 26 MA's), (31, 35031), (51, 35169),

Gene: Gumpizza\_44 Start: 33204, Stop: 33416, Start Num: 21  
Candidate Starts for Gumpizza\_44:  
(12, 32967), (Start: 21 @33204 has 26 MA's), (33, 33270),

Gene: Halsey\_45 Start: 33457, Stop: 33669, Start Num: 21  
Candidate Starts for Halsey\_45:  
(12, 33220), (Start: 21 @33457 has 26 MA's), (33, 33523),

Gene: IUFootball\_53 Start: 39401, Stop: 39613, Start Num: 19  
Candidate Starts for IUFootball\_53:  
(Start: 19 @39401 has 20 MA's), (28, 39455), (51, 39599),

Gene: Iter\_53 Start: 37949, Stop: 38179, Start Num: 20  
Candidate Starts for Iter\_53:  
(Start: 20 @37949 has 19 MA's), (37, 38066), (51, 38165),

Gene: Iter\_55 Start: 38379, Stop: 38570, Start Num: 24  
Candidate Starts for Iter\_55:  
(Start: 24 @38379 has 4 MA's), (51, 38556),

Gene: IttyBittyPiggy\_52 Start: 36661, Stop: 36891, Start Num: 20  
Candidate Starts for IttyBittyPiggy\_52:  
(Start: 20 @36661 has 19 MA's), (44, 36826), (51, 36877),

Gene: IttyBittyPiggy\_53 Start: 36888, Stop: 37079, Start Num: 52  
Candidate Starts for IttyBittyPiggy\_53:  
(13, 36570), (Start: 52 @36888 has 21 MA's), (61, 37065),

Gene: Janeemi\_54 Start: 38904, Stop: 39122, Start Num: 21  
Candidate Starts for Janeemi\_54:  
(Start: 21 @38904 has 26 MA's), (37, 39012), (51, 39108),

Gene: Jankie\_49 Start: 35153, Stop: 35362, Start Num: 21  
Candidate Starts for Jankie\_49:  
(Start: 21 @35153 has 26 MA's), (31, 35210), (51, 35348),

Gene: Joemato\_52 Start: 37287, Stop: 37508, Start Num: 19  
Candidate Starts for Joemato\_52:  
(Start: 19 @37287 has 20 MA's), (37, 37401), (51, 37494),

Gene: JohnDoe\_52 Start: 37271, Stop: 37492, Start Num: 19  
Candidate Starts for JohnDoe\_52:  
(Start: 19 @37271 has 20 MA's), (37, 37385), (51, 37478),

Gene: Jstan\_53 Start: 38111, Stop: 38302, Start Num: 52  
Candidate Starts for Jstan\_53:  
(Start: 52 @38111 has 21 MA's), (55, 38186), (61, 38288),

Gene: Jstan\_52 Start: 37884, Stop: 38114, Start Num: 20  
Candidate Starts for Jstan\_52:  
(Start: 20 @37884 has 19 MA's), (37, 38001), (51, 38100),

Gene: JuneStar\_54 Start: 40230, Stop: 40421, Start Num: 52  
Candidate Starts for JuneStar\_54:  
(Start: 52 @40230 has 21 MA's), (61, 40407),

Gene: JuneStar\_53 Start: 40003, Stop: 40233, Start Num: 20  
Candidate Starts for JuneStar\_53:  
(Start: 20 @40003 has 19 MA's), (51, 40219),

Gene: Kalimba\_45 Start: 33307, Stop: 33519, Start Num: 21

Candidate Starts for Kalimba\_45:  
(12, 33070), (Start: 21 @33307 has 26 MA's), (33, 33373),

Gene: Kaylissa\_53 Start: 37666, Stop: 37887, Start Num: 19  
Candidate Starts for Kaylissa\_53:  
(Start: 19 @37666 has 20 MA's), (37, 37780), (51, 37873),

Gene: KeAlii\_49 Start: 36858, Stop: 37082, Start Num: 19  
Candidate Starts for KeAlii\_49:  
(Start: 19 @36858 has 20 MA's), (32, 36930), (51, 37068),

Gene: KeAlii\_51 Start: 37294, Stop: 37488, Start Num: 23  
Candidate Starts for KeAlii\_51:  
(Start: 23 @37294 has 2 MA's), (36, 37369),

Gene: Lego\_51 Start: 36986, Stop: 37207, Start Num: 19  
Candidate Starts for Lego\_51:  
(Start: 19 @36986 has 20 MA's), (37, 37100), (51, 37193),

Gene: Liebe\_53 Start: 39401, Stop: 39613, Start Num: 19  
Candidate Starts for Liebe\_53:  
(Start: 19 @39401 has 20 MA's), (28, 39455), (51, 39599),

Gene: LisoBros\_47 Start: 38381, Stop: 38578, Start Num: 26  
Candidate Starts for LisoBros\_47:  
(14, 38237), (15, 38264), (17, 38348), (Start: 26 @38381 has 1 MA's), (34, 38435), (43, 38510), (46, 38537), (49, 38549), (51, 38564),

Gene: Lizalica\_51 Start: 36731, Stop: 36952, Start Num: 19  
Candidate Starts for Lizalica\_51:  
(Start: 19 @36731 has 20 MA's), (37, 36845), (51, 36938),

Gene: London\_50 Start: 37880, Stop: 38110, Start Num: 20  
Candidate Starts for London\_50:  
(Start: 20 @37880 has 19 MA's), (37, 37997), (51, 38096),

Gene: London\_51 Start: 38107, Stop: 38298, Start Num: 52  
Candidate Starts for London\_51:  
(Start: 52 @38107 has 21 MA's), (55, 38182), (57, 38221), (61, 38284),

Gene: MaGuCo\_49 Start: 38092, Stop: 38304, Start Num: 19  
Candidate Starts for MaGuCo\_49:  
(Start: 19 @38092 has 20 MA's), (28, 38146), (39, 38215), (51, 38290),

Gene: Maureen\_53 Start: 39400, Stop: 39612, Start Num: 19  
Candidate Starts for Maureen\_53:  
(Start: 19 @39400 has 20 MA's), (28, 39454), (51, 39598),

Gene: Michkear\_56 Start: 41285, Stop: 41482, Start Num: 24  
Candidate Starts for Michkear\_56:  
(Start: 24 @41285 has 4 MA's), (32, 41333), (41, 41408), (47, 41444), (51, 41468),

Gene: MissSwiss\_54 Start: 36480, Stop: 36698, Start Num: 21

Candidate Starts for MissSwiss\_54:

(Start: 21 @36480 has 26 MA's), (37, 36588), (51, 36684),

Gene: MissSwiss\_55 Start: 36695, Stop: 36886, Start Num: 52

Candidate Starts for MissSwiss\_55:

(Start: 52 @36695 has 21 MA's), (55, 36770), (58, 36842), (61, 36872),

Gene: Moss\_45 Start: 33397, Stop: 33609, Start Num: 21

Candidate Starts for Moss\_45:

(12, 33160), (Start: 21 @33397 has 26 MA's), (33, 33463),

Gene: Mudpuppy\_48 Start: 36915, Stop: 37136, Start Num: 19

Candidate Starts for Mudpuppy\_48:

(Start: 19 @36915 has 20 MA's), (37, 37029), (51, 37122),

Gene: Mysterium\_44 Start: 33230, Stop: 33442, Start Num: 21

Candidate Starts for Mysterium\_44:

(12, 32993), (Start: 21 @33230 has 26 MA's), (33, 33296),

Gene: Niobe\_50 Start: 37883, Stop: 38113, Start Num: 20

Candidate Starts for Niobe\_50:

(Start: 20 @37883 has 19 MA's), (37, 38000), (51, 38099),

Gene: Niobe\_51 Start: 38110, Stop: 38301, Start Num: 52

Candidate Starts for Niobe\_51:

(Start: 52 @38110 has 21 MA's), (55, 38185), (57, 38224), (61, 38287),

Gene: Nitro\_53 Start: 38988, Stop: 39218, Start Num: 20

Candidate Starts for Nitro\_53:

(9, 38691), (Start: 20 @38988 has 19 MA's), (37, 39105), (51, 39204),

Gene: Nitro\_55 Start: 39409, Stop: 39600, Start Num: 23

Candidate Starts for Nitro\_55:

(Start: 23 @39409 has 2 MA's), (36, 39484), (40, 39523), (51, 39586),

Gene: ObiToo\_56 Start: 38231, Stop: 38461, Start Num: 20

Candidate Starts for ObiToo\_56:

(6, 37799), (Start: 20 @38231 has 19 MA's), (37, 38348), (44, 38396), (51, 38447),

Gene: PandaPo\_54 Start: 36488, Stop: 36706, Start Num: 21

Candidate Starts for PandaPo\_54:

(Start: 21 @36488 has 26 MA's), (37, 36596), (51, 36692),

Gene: PandaPo\_55 Start: 36703, Stop: 36894, Start Num: 52

Candidate Starts for PandaPo\_55:

(Start: 52 @36703 has 21 MA's), (55, 36778), (58, 36850), (61, 36880),

Gene: Phives\_56 Start: 39558, Stop: 39776, Start Num: 21

Candidate Starts for Phives\_56:

(3, 38994), (10, 39162), (Start: 21 @39558 has 26 MA's), (37, 39666), (51, 39762),

Gene: Pixelle\_54 Start: 40140, Stop: 40340, Start Num: 25

Candidate Starts for Pixelle\_54:

(Start: 25 @40140 has 4 MA's), (51, 40326),

Gene: Pixelle\_55 Start: 40337, Stop: 40528, Start Num: 52

Candidate Starts for Pixelle\_55:

(Start: 52 @40337 has 21 MA's), (61, 40514),

Gene: Powerpuff\_54 Start: 38373, Stop: 38594, Start Num: 19

Candidate Starts for Powerpuff\_54:

(Start: 19 @38373 has 20 MA's), (37, 38487), (51, 38580),

Gene: Pumpkins\_51 Start: 37973, Stop: 38164, Start Num: 52

Candidate Starts for Pumpkins\_51:

(Start: 52 @37973 has 21 MA's), (61, 38150),

Gene: Pumpkins\_50 Start: 37746, Stop: 37976, Start Num: 20

Candidate Starts for Pumpkins\_50:

(7, 37368), (Start: 20 @37746 has 19 MA's), (51, 37962),

Gene: Reedo\_52 Start: 35933, Stop: 36109, Start Num: 52

Candidate Starts for Reedo\_52:

(Start: 52 @35933 has 21 MA's), (54, 35984),

Gene: Reedo\_51 Start: 35724, Stop: 35936, Start Num: 22

Candidate Starts for Reedo\_51:

(Start: 22 @35724 has 1 MA's), (32, 35784), (51, 35922),

Gene: RockScotty\_44 Start: 33228, Stop: 33440, Start Num: 21

Candidate Starts for RockScotty\_44:

(12, 32991), (Start: 21 @33228 has 26 MA's), (33, 33294),

Gene: Sabourin\_45 Start: 33308, Stop: 33520, Start Num: 21

Candidate Starts for Sabourin\_45:

(Start: 21 @33308 has 26 MA's), (33, 33374),

Gene: Schaffner\_51 Start: 37680, Stop: 37910, Start Num: 20

Candidate Starts for Schaffner\_51:

(Start: 20 @37680 has 19 MA's), (51, 37896),

Gene: Simpson\_54 Start: 37291, Stop: 37512, Start Num: 19

Candidate Starts for Simpson\_54:

(Start: 19 @37291 has 20 MA's), (37, 37405), (51, 37498),

Gene: Skelbel\_52 Start: 38110, Stop: 38301, Start Num: 52

Candidate Starts for Skelbel\_52:

(Start: 52 @38110 has 21 MA's), (55, 38185), (57, 38224), (61, 38287),

Gene: Skelbel\_51 Start: 37883, Stop: 38113, Start Num: 20

Candidate Starts for Skelbel\_51:

(Start: 20 @37883 has 19 MA's), (37, 38000), (51, 38099),

Gene: Snek\_55 Start: 37054, Stop: 37248, Start Num: 52

Candidate Starts for Snek\_55:

(Start: 52 @37054 has 21 MA's), (56, 37156), (59, 37213),

Gene: Snek\_54 Start: 36857, Stop: 37057, Start Num: 24  
Candidate Starts for Snek\_54:  
(Start: 24 @36857 has 4 MA's), (30, 36902), (39, 36965), (41, 36983), (45, 36995), (51, 37043),

Gene: Soondubu\_48 Start: 39736, Stop: 39963, Start Num: 18  
Candidate Starts for Soondubu\_48:  
(Start: 18 @39736 has 1 MA's), (32, 39811), (51, 39949),

Gene: Sooty\_45 Start: 33322, Stop: 33534, Start Num: 21  
Candidate Starts for Sooty\_45:  
(12, 33085), (Start: 21 @33322 has 26 MA's), (33, 33388),

Gene: SpecialK\_45 Start: 33306, Stop: 33518, Start Num: 21  
Candidate Starts for SpecialK\_45:  
(12, 33069), (Start: 21 @33306 has 26 MA's), (33, 33372),

Gene: Stuu\_45 Start: 33420, Stop: 33632, Start Num: 21  
Candidate Starts for Stuu\_45:  
(12, 33183), (Start: 21 @33420 has 26 MA's), (33, 33486),

Gene: Subaru\_52 Start: 38107, Stop: 38298, Start Num: 52  
Candidate Starts for Subaru\_52:  
(Start: 52 @38107 has 21 MA's), (55, 38182), (61, 38284),

Gene: Subaru\_51 Start: 37880, Stop: 38110, Start Num: 20  
Candidate Starts for Subaru\_51:  
(Start: 20 @37880 has 19 MA's), (37, 37997), (51, 38096),

Gene: Sue2\_52 Start: 37060, Stop: 37284, Start Num: 19  
Candidate Starts for Sue2\_52:  
(1, 36403), (2, 36421), (4, 36535), (5, 36604), (8, 36670), (Start: 19 @37060 has 20 MA's), (51, 37270),

Gene: Tallboi\_51 Start: 38238, Stop: 38468, Start Num: 20  
Candidate Starts for Tallboi\_51:  
(Start: 20 @38238 has 19 MA's), (37, 38355), (51, 38454),

Gene: Tallboi\_52 Start: 38465, Stop: 38656, Start Num: 52  
Candidate Starts for Tallboi\_52:  
(Start: 52 @38465 has 21 MA's), (55, 38540), (61, 38642),

Gene: Tbone\_52 Start: 37857, Stop: 38078, Start Num: 19  
Candidate Starts for Tbone\_52:  
(Start: 19 @37857 has 20 MA's), (37, 37971), (51, 38064),

Gene: TforTroy\_52 Start: 37603, Stop: 37833, Start Num: 20  
Candidate Starts for TforTroy\_52:  
(Start: 20 @37603 has 19 MA's), (37, 37720), (51, 37819),

Gene: TforTroy\_53 Start: 37830, Stop: 38021, Start Num: 52  
Candidate Starts for TforTroy\_53:  
(Start: 52 @37830 has 21 MA's), (61, 38007),

Gene: ThursdayNight\_54 Start: 38504, Stop: 38701, Start Num: 24  
Candidate Starts for ThursdayNight\_54:  
(Start: 24 @38504 has 4 MA's), (35, 38582), (42, 38633), (50, 38681), (51, 38687),

Gene: Tian\_52 Start: 39795, Stop: 39995, Start Num: 25  
Candidate Starts for Tian\_52:  
(Start: 25 @39795 has 4 MA's), (51, 39981),

Gene: Tian\_53 Start: 39992, Stop: 40183, Start Num: 52  
Candidate Starts for Tian\_53:  
(Start: 52 @39992 has 21 MA's), (61, 40169),

Gene: Tuck\_55 Start: 39348, Stop: 39566, Start Num: 21  
Candidate Starts for Tuck\_55:  
(Start: 21 @39348 has 26 MA's), (37, 39456), (51, 39552),

Gene: Turab\_50 Start: 36578, Stop: 36769, Start Num: 52  
Candidate Starts for Turab\_50:  
(Start: 52 @36578 has 21 MA's), (61, 36755),

Gene: Turab\_49 Start: 36357, Stop: 36581, Start Num: 20  
Candidate Starts for Turab\_49:  
(Start: 20 @36357 has 19 MA's), (51, 36567),

Gene: Tutumahutu\_53 Start: 37244, Stop: 37465, Start Num: 19  
Candidate Starts for Tutumahutu\_53:  
(Start: 19 @37244 has 20 MA's), (37, 37358), (51, 37451),

Gene: Tweety19\_55 Start: 36857, Stop: 37057, Start Num: 24  
Candidate Starts for Tweety19\_55:  
(Start: 24 @36857 has 4 MA's), (30, 36902), (39, 36965), (41, 36983), (45, 36995), (51, 37043),

Gene: Tweety19\_56 Start: 37054, Stop: 37248, Start Num: 52  
Candidate Starts for Tweety19\_56:  
(Start: 52 @37054 has 21 MA's), (56, 37156), (59, 37213),

Gene: VResidence\_52 Start: 36790, Stop: 37014, Start Num: 19  
Candidate Starts for VResidence\_52:  
(Start: 19 @36790 has 20 MA's), (32, 36856), (38, 36901), (51, 37000),

Gene: Warda\_52 Start: 37355, Stop: 37576, Start Num: 19  
Candidate Starts for Warda\_52:  
(Start: 19 @37355 has 20 MA's), (37, 37469), (51, 37562),

Gene: Wildwest\_51 Start: 37289, Stop: 37513, Start Num: 19  
Candidate Starts for Wildwest\_51:  
(Start: 19 @37289 has 20 MA's), (51, 37499),

Gene: Yang\_51 Start: 37412, Stop: 37642, Start Num: 20  
Candidate Starts for Yang\_51:  
(Start: 20 @37412 has 19 MA's), (37, 37529), (44, 37577), (51, 37628),

Gene: Yang\_52 Start: 37639, Stop: 37830, Start Num: 52

Candidate Starts for Yang\_52:

(Start: 52 @37639 has 21 MA's), (61, 37816),

Gene: YesChef\_52 Start: 37232, Stop: 37453, Start Num: 19

Candidate Starts for YesChef\_52:

(Start: 19 @37232 has 20 MA's), (37, 37346), (51, 37439),