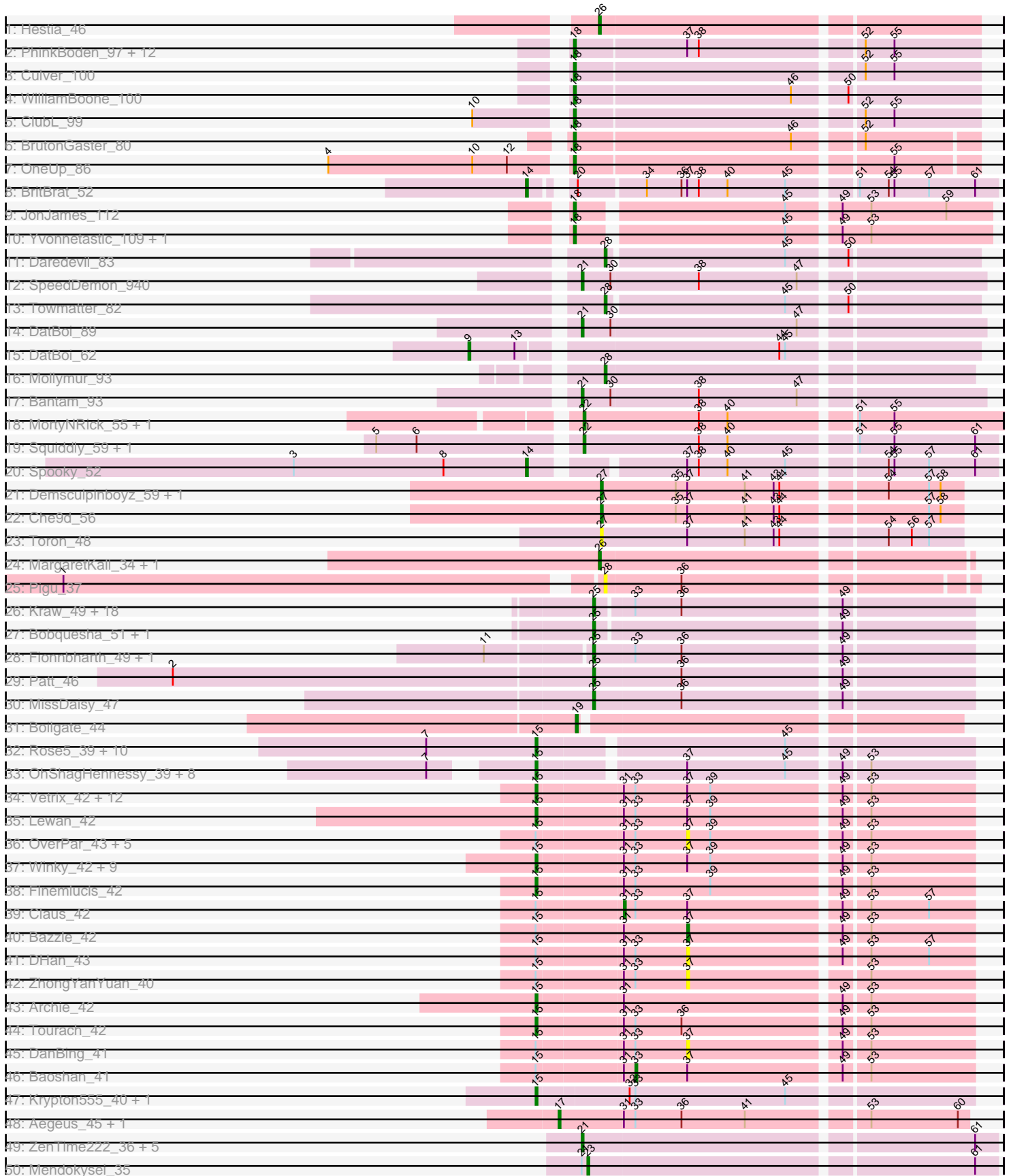
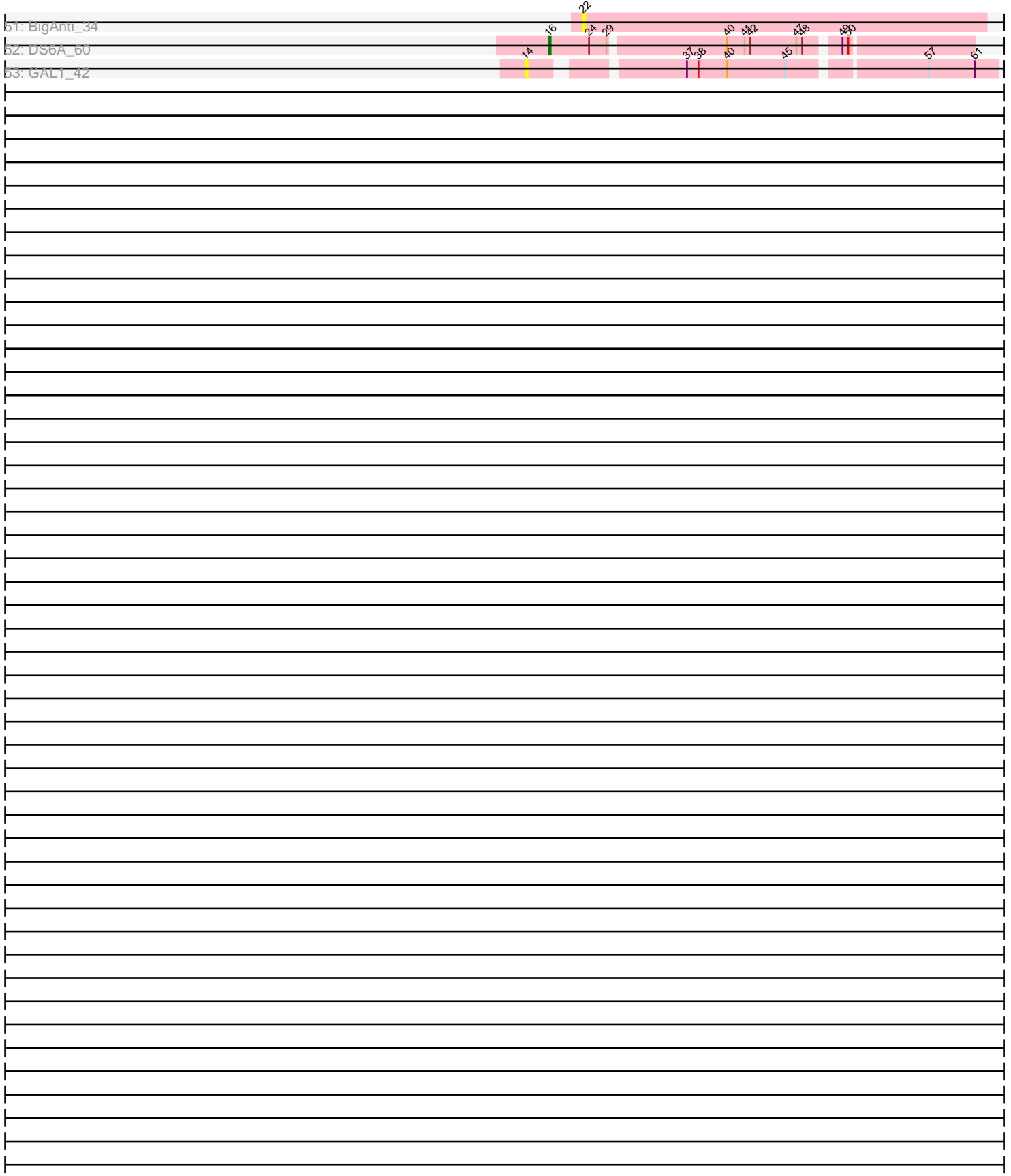


Pham 294516



Pham 294516



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 294516 Report

This analysis was run 04/18/26 on database version 643.

Pham number 294516 has 141 members, 19 are drafts.

Phages represented in each track:

- Track 1 : Hestia\_46
- Track 2 : PhinkBoden\_97, Cucurbita\_99, Toniann\_100, Abscondus\_97, Smoothie\_99, Aphelion\_99, Dusty\_96, Geeche\_97, Engineer\_99, Lozinak\_98, Miskis\_92, Bachita\_100, Norvs\_100
- Track 3 : Culver\_100
- Track 4 : WilliamBoone\_100
- Track 5 : ClubL\_99
- Track 6 : BrutonGaster\_80
- Track 7 : OneUp\_86
- Track 8 : BritBrat\_52
- Track 9 : JonJames\_112
- Track 10 : Yvonnetastic\_109, Cardigan\_113
- Track 11 : Daredevil\_83
- Track 12 : SpeedDemon\_940
- Track 13 : Towmatter\_82
- Track 14 : DatBoi\_89
- Track 15 : DatBoi\_62
- Track 16 : Mollymur\_93
- Track 17 : Bantam\_93
- Track 18 : MortyNRick\_55, BearBQ\_57
- Track 19 : Squiddly\_59, Malisha\_63
- Track 20 : Spooky\_52
- Track 21 : Demsculpinboyz\_59, Yoshi\_61
- Track 22 : Che9d\_56
- Track 23 : Toron\_48
- Track 24 : MargaretKali\_34, Kumotta\_34
- Track 25 : Pigu\_37
- Track 26 : Kraw\_49, Chancellor\_49, Lebo14\_48, Qhanda\_51, YasnayaPolyana\_49, Juliette\_51, Cheetobro\_49, DanSyl44\_52, Slarp\_49, SamScheppers\_47, OmniCritical\_48, Malthus\_50, Taquito\_49, JF1\_49, Y10\_48, Ruthiejr\_50, Wintermute\_49, Y2\_48, Mitti\_49
- Track 27 : Bobquesha\_51, Reptar3000\_47
- Track 28 : Fionnbharth\_49, Eponine\_51
- Track 29 : Patt\_46
- Track 30 : MissDaisy\_47
- Track 31 : Boilgate\_44

- Track 32 : Rose5\_39, Tyson\_39, Halena\_39, MAckerman\_40, CicholasNage\_40, Calm\_40, Wyatt2\_40, Zaria\_40, Silverleaf\_39, AvadaKedavra\_40, Acquire49\_40
- Track 33 : OhShagHennessy\_39, Wamburgrxpress\_40, LeBron\_40, Enceladus\_39, JoeDirt\_39, Appletree2\_39, Poochiewood\_39, DirkDirk\_39, UPIE\_40
- Track 34 : Vetrix\_42, Nicholasp3\_42, GuuelaD\_42, Kahlid\_42, Crossroads\_42, Loadrie\_42, Gabriela\_42, Gardann\_42, Wilder\_42, MkaliMitinis3\_42, Underpass\_42, Wigglewiggles\_42, Zakai\_42
- Track 35 : Lewan\_42
- Track 36 : OverPar\_43, Sarshaun\_42, Hafay\_42, Soap141\_42, SoJulia\_43, Lynnae\_42
- Track 37 : Winky\_42, Itos\_41, BobsGarage\_42, Netyap\_42, Breezona\_42, BigCheese\_42, Faith1\_42, DrSeegs\_42, Miley16\_42, LilDestine\_42
- Track 38 : Finemlucis\_42
- Track 39 : Claus\_42
- Track 40 : Bazzle\_42
- Track 41 : DHan\_43
- Track 42 : ZhongYanYuan\_40
- Track 43 : Archie\_42
- Track 44 : Tourach\_42
- Track 45 : DanBing\_41
- Track 46 : Baoshan\_41
- Track 47 : Krypton555\_40, Whirlwind\_41
- Track 48 : Aegeus\_45, Baudelaire\_45
- Track 49 : ZenTime222\_36, Whitty\_37, Nairb\_36, Bernal13\_37, Ibrahim\_37, RonRayGun\_37
- Track 50 : Mendokysei\_35
- Track 51 : BigAnti\_34
- Track 52 : DS6A\_60
- Track 53 : GAL1\_42

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

The start number called the most often in the published annotations is 15, it was called in 48 of the 122 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Acquire49\_40, Appletree2\_39, Archie\_42, AvadaKedavra\_40, BigCheese\_42, BobsGarage\_42, Breezona\_42, Calm\_40, CicholasNage\_40, Crossroads\_42, DirkDirk\_39, DrSeegs\_42, Enceladus\_39, Faith1\_42, Finemlucis\_42, Gabriela\_42, Gardann\_42, GuuelaD\_42, Halena\_39, Itos\_41, JoeDirt\_39, Kahlid\_42, Krypton555\_40, LeBron\_40, Lewan\_42, LilDestine\_42, Loadrie\_42, MAckerman\_40, Miley16\_42, MkaliMitinis3\_42, Netyap\_42, Nicholasp3\_42, OhShagHennessy\_39, Poochiewood\_39, Rose5\_39, Silverleaf\_39, Tourach\_42, Tyson\_39, UPIE\_40, Underpass\_42, Vetrix\_42, Wamburgrxpress\_40, Whirlwind\_41, Wigglewiggles\_42, Wilder\_42, Winky\_42, Wyatt2\_40, Zakai\_42, Zaria\_40,

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

- Baoshan\_41, Bazzle\_42, Claus\_42, DHan\_43, DanBing\_41, Hafay\_42, Lynnae\_42, OverPar\_43, Sarshaun\_42, SoJulia\_43, Soap141\_42, ZhongYanYuan\_40,

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

- Abscondus\_97, Aegeus\_45, Aphelion\_99, Bachita\_100, Bantam\_93, Baudelaire\_45, BearBQ\_57, Bernal13\_37, BigAnti\_34, Bobquesha\_51, Boilgate\_44, BritBrat\_52, BrutonGaster\_80, Cardigan\_113, Chancellor\_49, Che9d\_56, Cheetobro\_49, ClubL\_99, Cucurbita\_99, Culver\_100, DS6A\_60, DanSyl44\_52, Daredevil\_83, DatBoi\_62, DatBoi\_89, Demsculpinboyz\_59, Dusty\_96, Engineer\_99, Eponine\_51, Fionnbharth\_49, GAL1\_42, Geeche\_97, Hestia\_46, Ibrahim\_37, JF1\_49, JonJames\_112, Juliette\_51, Kraw\_49, Kumotta\_34, Lebo14\_48, Lozinak\_98, Malisha\_63, Malthus\_50, MargaretKali\_34, Mendokysei\_35, Miskis\_92, MissDaisy\_47, Mitti\_49, Mollymur\_93, MortyNRick\_55, Nairb\_36, Norvs\_100, OmniCritical\_48, OneUp\_86, Patt\_46, PhinkBoden\_97, Pigu\_37, Qhanda\_51, Reptar3000\_47, RonRayGun\_37, Ruthiejr\_50, SamScheppers\_47, Slarp\_49, Smoothie\_99, SpeedDemon\_940, Spooky\_52, Squiddly\_59, Taquito\_49, Toniann\_100, Toron\_48, Towmatter\_82, Whitty\_37, WilliamBoone\_100, Wintermute\_49, Y10\_48, Y2\_48, YasnayaPolyana\_49, Yoshi\_61, Yvonnetastic\_109, ZenTime222\_36,

### Summary by start number:

Start 9:

- Found in 1 of 141 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 1 of 122
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DatBoi\_62 (DL),

Start 14:

- Found in 3 of 141 ( 2.1% ) of genes in pham
- Manual Annotations of this start: 2 of 122
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BritBrat\_52 (CY2), GAL1\_42 (singleton), Spooky\_52 (DN2),

Start 15:

- Found in 61 of 141 ( 43.3% ) of genes in pham
- Manual Annotations of this start: 48 of 122
- Called 80.3% of time when present
- Phage (with cluster) where this start called: Acquire49\_40 (L1), Appletree2\_39 (L1), Archie\_42 (L2), AvadaKedavra\_40 (L1), BigCheese\_42 (L2), BobsGarage\_42 (L2), Breezona\_42 (L2), Calm\_40 (L1), CicholasNage\_40 (L1), Crossroads\_42 (L2), DirkDirk\_39 (L1), DrSeegs\_42 (L2), Enceladus\_39 (L1), Faith1\_42 (L2), Finemlucis\_42 (L2), Gabriela\_42 (L2), Gardann\_42 (L2), GuuelaD\_42 (L2), Halena\_39 (L1), Itos\_41 (L2), JoeDirt\_39 (L1), Kahlid\_42 (L2), Krypton555\_40 (L3), LeBron\_40 (L1), Lewan\_42 (L2), LilDestine\_42 (L2), Loadrie\_42 (L2), MAckerman\_40 (L1), Miley16\_42 (L2), MkaliMitinis3\_42 (L2), Netyap\_42 (L2), Nicholasp3\_42 (L2), OhShagHennessy\_39 (L1), Poochiewood\_39 (L1), Rose5\_39 (L1), Silverleaf\_39 (L1), Tourach\_42 (L2), Tyson\_39 (L1), UPIE\_40 (L1), Underpass\_42 (L2), Vetrix\_42 (L2), Wamburgrxpress\_40 (L1), Whirlwind\_41 (L3), Wigglewiggle\_42 (L2), Wilder\_42 (L2), Winky\_42 (L2), Wyatt2\_40 (L1), Zakai\_42 (L2), Zaria\_40 (L1),

Start 16:

- Found in 1 of 141 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 1 of 122
- Called 100.0% of time when present

- Phage (with cluster) where this start called: DS6A\_60 (singleton),

#### Start 17:

- Found in 2 of 141 ( 1.4% ) of genes in pham
- Manual Annotations of this start: 2 of 122
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aegeus\_45 (L5), Baudelaire\_45 (L5),

#### Start 18:

- Found in 21 of 141 ( 14.9% ) of genes in pham
- Manual Annotations of this start: 19 of 122
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abscondus\_97 (CQ1), Aphelion\_99 (CQ1), Bachita\_100 (CQ1), BrutonGaster\_80 (CQ2), Cardigan\_113 (DD), ClubL\_99 (CQ1), Cucurbita\_99 (CQ1), Culver\_100 (CQ1), Dusty\_96 (CQ1), Engineer\_99 (CQ1), Geeche\_97 (CQ1), JonJames\_112 (DD), Lozinak\_98 (CQ1), Miskis\_92 (CQ1), Norvs\_100 (CQ1), OneUp\_86 (CQ2), PhinkBoden\_97 (CQ1), Smoothie\_99 (CQ1), Toniann\_100 (CQ1), WilliamBoone\_100 (CQ1), Yvonnestic\_109 (DD),

#### Start 19:

- Found in 1 of 141 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 1 of 122
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Boilgate\_44 (K8),

#### Start 21:

- Found in 10 of 141 ( 7.1% ) of genes in pham
- Manual Annotations of this start: 9 of 122
- Called 90.0% of time when present
- Phage (with cluster) where this start called: Bantam\_93 (DL), Bernal13\_37 (T), DatBoi\_89 (DL), Ibrahim\_37 (T), Nairb\_36 (T), RonRayGun\_37 (T), SpeedDemon\_940 (DL), Whitty\_37 (T), ZenTime222\_36 (T),

#### Start 22:

- Found in 5 of 141 ( 3.5% ) of genes in pham
- Manual Annotations of this start: 4 of 122
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BearBQ\_57 (DN), BigAnti\_34 (singleton), Malisha\_63 (DN), MortyNRick\_55 (DN), Squiddly\_59 (DN2),

#### Start 23:

- Found in 1 of 141 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 1 of 122
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Mendokysei\_35 (T),

#### Start 25:

- Found in 25 of 141 ( 17.7% ) of genes in pham
- Manual Annotations of this start: 22 of 122
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bobquesha\_51 (K4), Chancellor\_49 (K4), Cheetobro\_49 (K4), DanSyl44\_52 (K4), Eponine\_51 (K4), Fionnbharth\_49 (K4), JF1\_49 (K4), Juliette\_51 (K4), Kraw\_49 (K4), Lebo14\_48 (K4), Malthus\_50 (K4),

MissDaisy\_47 (K4), Mitti\_49 (K4), OmniCritical\_48 (K4), Patt\_46 (K4), Qhanda\_51 (K4), Reptar3000\_47 (K4), Ruthiejr\_50 (K4), SamScheppers\_47 (K4), Slarp\_49 (K4), Taquito\_49 (K4), Wintermute\_49 (K4), Y10\_48 (K4), Y2\_48 (K4), YasnayaPolyana\_49 (K4),

Start 26:

- Found in 3 of 141 ( 2.1% ) of genes in pham
- Manual Annotations of this start: 3 of 122
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Hestia\_46 (AY), Kumotta\_34 (FB), MargaretKali\_34 (FB),

Start 27:

- Found in 4 of 141 ( 2.8% ) of genes in pham
- Manual Annotations of this start: 3 of 122
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Che9d\_56 (F2), Demsculpinboyz\_59 (F2), Toron\_48 (F6), Yoshi\_61 (F2),

Start 28:

- Found in 4 of 141 ( 2.8% ) of genes in pham
- Manual Annotations of this start: 3 of 122
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Daredevil\_83 (DL), Mollymur\_93 (DL), Pigu\_37 (FB), Towmatter\_82 (DL),

Start 31:

- Found in 41 of 141 ( 29.1% ) of genes in pham
- Manual Annotations of this start: 1 of 122
- Called 2.4% of time when present
- Phage (with cluster) where this start called: Claus\_42 (L2),

Start 33:

- Found in 62 of 141 ( 44.0% ) of genes in pham
- Manual Annotations of this start: 1 of 122
- Called 1.6% of time when present
- Phage (with cluster) where this start called: Baoshan\_41 (L2),

Start 37:

- Found in 65 of 141 ( 46.1% ) of genes in pham
- Manual Annotations of this start: 1 of 122
- Called 15.4% of time when present
- Phage (with cluster) where this start called: Bazzle\_42 (L2), DHan\_43 (L2), DanBing\_41 (L2), Hafay\_42 (L2), Lynnae\_42 (L2), OverPar\_43 (L2), Sarshaun\_42 (L2), SoJulia\_43 (L2), Soap141\_42 (L2), ZhongYanYuan\_40 (L2),

### Summary by clusters:

There are 19 clusters represented in this pham: DN, CY2, singleton, F6, L1, DD, DN2, DL, AY, FB, L5, L2, T, K4, F2, CQ2, CQ1, K8, L3,

Info for manual annotations of cluster AY:

- Start number 26 was manually annotated 1 time for cluster AY.

Info for manual annotations of cluster CQ1:

- Start number 18 was manually annotated 15 times for cluster CQ1.

Info for manual annotations of cluster CQ2:

- Start number 18 was manually annotated 2 times for cluster CQ2.

Info for manual annotations of cluster CY2:

- Start number 14 was manually annotated 1 time for cluster CY2.

Info for manual annotations of cluster DD:

- Start number 18 was manually annotated 2 times for cluster DD.

Info for manual annotations of cluster DL:

- Start number 9 was manually annotated 1 time for cluster DL.
- Start number 21 was manually annotated 3 times for cluster DL.
- Start number 28 was manually annotated 3 times for cluster DL.

Info for manual annotations of cluster DN:

- Start number 22 was manually annotated 3 times for cluster DN.

Info for manual annotations of cluster DN2:

- Start number 14 was manually annotated 1 time for cluster DN2.
- Start number 22 was manually annotated 1 time for cluster DN2.

Info for manual annotations of cluster F2:

- Start number 27 was manually annotated 3 times for cluster F2.

Info for manual annotations of cluster FB:

- Start number 26 was manually annotated 2 times for cluster FB.

Info for manual annotations of cluster K4:

- Start number 25 was manually annotated 22 times for cluster K4.

Info for manual annotations of cluster K8:

- Start number 19 was manually annotated 1 time for cluster K8.

Info for manual annotations of cluster L1:

- Start number 15 was manually annotated 19 times for cluster L1.

Info for manual annotations of cluster L2:

- Start number 15 was manually annotated 27 times for cluster L2.
- Start number 31 was manually annotated 1 time for cluster L2.
- Start number 33 was manually annotated 1 time for cluster L2.
- Start number 37 was manually annotated 1 time for cluster L2.

Info for manual annotations of cluster L3:

- Start number 15 was manually annotated 2 times for cluster L3.

Info for manual annotations of cluster L5:

- Start number 17 was manually annotated 2 times for cluster L5.

Info for manual annotations of cluster T:

- Start number 21 was manually annotated 6 times for cluster T.
- Start number 23 was manually annotated 1 time for cluster T.

**Gene Information:**

Gene: Abscondus\_97 Start: 58989, Stop: 59189, Start Num: 18

Candidate Starts for Abscondus\_97:

(Start: 18 @58989 has 19 MA's), (Start: 37 @59046 has 1 MA's), (38, 59052), (52, 59130), (55, 59145),

Gene: Acquire49\_40 Start: 33342, Stop: 33551, Start Num: 15

Candidate Starts for Acquire49\_40:

(7, 33285), (Start: 15 @33342 has 48 MA's), (45, 33462),

Gene: Aegeus\_45 Start: 37056, Stop: 37259, Start Num: 17

Candidate Starts for Aegeus\_45:

(Start: 17 @37056 has 2 MA's), (Start: 31 @37089 has 1 MA's), (Start: 33 @37095 has 1 MA's), (36, 37119), (41, 37152), (53, 37209), (60, 37254),

Gene: Aphelion\_99 Start: 60542, Stop: 60742, Start Num: 18

Candidate Starts for Aphelion\_99:

(Start: 18 @60542 has 19 MA's), (Start: 37 @60599 has 1 MA's), (38, 60605), (52, 60683), (55, 60698),

Gene: Appletree2\_39 Start: 33269, Stop: 33478, Start Num: 15

Candidate Starts for Appletree2\_39:

(7, 33227), (Start: 15 @33269 has 48 MA's), (Start: 37 @33338 has 1 MA's), (45, 33389), (49, 33413), (53, 33425),

Gene: Archie\_42 Start: 34898, Stop: 35113, Start Num: 15

Candidate Starts for Archie\_42:

(Start: 15 @34898 has 48 MA's), (Start: 31 @34940 has 1 MA's), (49, 35048), (53, 35060),

Gene: AvadaKedavra\_40 Start: 33351, Stop: 33560, Start Num: 15

Candidate Starts for AvadaKedavra\_40:

(7, 33294), (Start: 15 @33351 has 48 MA's), (45, 33471),

Gene: Bachita\_100 Start: 60200, Stop: 60400, Start Num: 18

Candidate Starts for Bachita\_100:

(Start: 18 @60200 has 19 MA's), (Start: 37 @60257 has 1 MA's), (38, 60263), (52, 60341), (55, 60356),

Gene: Bantam\_93 Start: 62206, Stop: 62006, Start Num: 21

Candidate Starts for Bantam\_93:

(Start: 21 @62206 has 9 MA's), (30, 62191), (38, 62146), (47, 62095),

Gene: Baoshan\_41 Start: 34603, Stop: 34770, Start Num: 33

Candidate Starts for Baoshan\_41:

(Start: 15 @34555 has 48 MA's), (Start: 31 @34597 has 1 MA's), (Start: 33 @34603 has 1 MA's), (Start: 37 @34630 has 1 MA's), (49, 34705), (53, 34717),

Gene: Baudelaire\_45 Start: 37056, Stop: 37259, Start Num: 17

Candidate Starts for Baudelaire\_45:

(Start: 17 @37056 has 2 MA's), (Start: 31 @37089 has 1 MA's), (Start: 33 @37095 has 1 MA's), (36, 37119), (41, 37152), (53, 37209), (60, 37254),

Gene: Bazzle\_42 Start: 35005, Stop: 35145, Start Num: 37

Candidate Starts for Bazzle\_42:

(Start: 15 @34930 has 48 MA's), (Start: 31 @34972 has 1 MA's), (Start: 37 @35005 has 1 MA's), (49, 35080), (53, 35092),

Gene: BearBQ\_57 Start: 39707, Stop: 39916, Start Num: 22

Candidate Starts for BearBQ\_57:

(Start: 22 @39707 has 4 MA's), (38, 39767), (40, 39782), (51, 39842), (55, 39860),

Gene: Bernal13\_37 Start: 30311, Stop: 30517, Start Num: 21

Candidate Starts for Bernal13\_37:

(Start: 21 @30311 has 9 MA's), (61, 30506),

Gene: BigAnti\_34 Start: 36676, Stop: 36885, Start Num: 22

Candidate Starts for BigAnti\_34:

(Start: 22 @36676 has 4 MA's),

Gene: BigCheese\_42 Start: 34694, Stop: 34909, Start Num: 15

Candidate Starts for BigCheese\_42:

(Start: 15 @34694 has 48 MA's), (Start: 31 @34736 has 1 MA's), (Start: 33 @34742 has 1 MA's), (Start: 37 @34769 has 1 MA's), (39, 34781), (49, 34844), (53, 34856),

Gene: Bobquesha\_51 Start: 35789, Stop: 35974, Start Num: 25

Candidate Starts for Bobquesha\_51:

(Start: 25 @35789 has 22 MA's), (49, 35909),

Gene: BobsGarage\_42 Start: 34694, Stop: 34909, Start Num: 15

Candidate Starts for BobsGarage\_42:

(Start: 15 @34694 has 48 MA's), (Start: 31 @34736 has 1 MA's), (Start: 33 @34742 has 1 MA's), (Start: 37 @34769 has 1 MA's), (39, 34781), (49, 34844), (53, 34856),

Gene: Boilgate\_44 Start: 36561, Stop: 36746, Start Num: 19

Candidate Starts for Boilgate\_44:

(Start: 19 @36561 has 1 MA's),

Gene: Breezona\_42 Start: 34694, Stop: 34909, Start Num: 15

Candidate Starts for Breezona\_42:

(Start: 15 @34694 has 48 MA's), (Start: 31 @34736 has 1 MA's), (Start: 33 @34742 has 1 MA's), (Start: 37 @34769 has 1 MA's), (39, 34781), (49, 34844), (53, 34856),

Gene: BritBrat\_52 Start: 37915, Stop: 38136, Start Num: 14

Candidate Starts for BritBrat\_52:

(Start: 14 @37915 has 2 MA's), (20, 37930), (34, 37963), (36, 37981), (Start: 37 @37984 has 1 MA's), (38, 37990), (40, 38005), (45, 38035), (51, 38065), (54, 38080), (55, 38083), (57, 38101), (61, 38125),

Gene: BrutonGaster\_80 Start: 54552, Stop: 54749, Start Num: 18

Candidate Starts for BrutonGaster\_80:

(Start: 18 @54552 has 19 MA's), (46, 54663), (52, 54693),

Gene: Calm\_40 Start: 33357, Stop: 33566, Start Num: 15

Candidate Starts for Calm\_40:

(7, 33300), (Start: 15 @33357 has 48 MA's), (45, 33477),

Gene: Cardigan\_113 Start: 64662, Stop: 64865, Start Num: 18

Candidate Starts for Cardigan\_113:

(Start: 18 @64662 has 19 MA's), (45, 64764), (49, 64788), (53, 64803),

Gene: Chancellor\_49 Start: 36414, Stop: 36599, Start Num: 25

Candidate Starts for Chancellor\_49:

(Start: 25 @36414 has 22 MA's), (Start: 33 @36432 has 1 MA's), (36, 36456), (49, 36534),

Gene: Che9d\_56 Start: 35970, Stop: 36149, Start Num: 27

Candidate Starts for Che9d\_56:

(Start: 27 @35970 has 3 MA's), (35, 36009), (Start: 37 @36015 has 1 MA's), (41, 36045), (43, 36060), (44, 36063), (57, 36132), (58, 36138),

Gene: Cheetobro\_49 Start: 36411, Stop: 36596, Start Num: 25

Candidate Starts for Cheetobro\_49:

(Start: 25 @36411 has 22 MA's), (Start: 33 @36429 has 1 MA's), (36, 36453), (49, 36531),

Gene: CicholasNage\_40 Start: 33378, Stop: 33587, Start Num: 15

Candidate Starts for CicholasNage\_40:

(7, 33321), (Start: 15 @33378 has 48 MA's), (45, 33498),

Gene: Claus\_42 Start: 34755, Stop: 34928, Start Num: 31

Candidate Starts for Claus\_42:

(Start: 15 @34713 has 48 MA's), (Start: 31 @34755 has 1 MA's), (Start: 33 @34761 has 1 MA's), (Start: 37 @34788 has 1 MA's), (49, 34863), (53, 34875), (57, 34905),

Gene: ClubL\_99 Start: 59132, Stop: 59332, Start Num: 18

Candidate Starts for ClubL\_99:

(10, 59090), (Start: 18 @59132 has 19 MA's), (52, 59273), (55, 59288),

Gene: Crossroads\_42 Start: 34696, Stop: 34911, Start Num: 15

Candidate Starts for Crossroads\_42:

(Start: 15 @34696 has 48 MA's), (Start: 31 @34738 has 1 MA's), (Start: 33 @34744 has 1 MA's), (Start: 37 @34771 has 1 MA's), (39, 34783), (49, 34846), (53, 34858),

Gene: Cucurbita\_99 Start: 60707, Stop: 60907, Start Num: 18

Candidate Starts for Cucurbita\_99:

(Start: 18 @60707 has 19 MA's), (Start: 37 @60764 has 1 MA's), (38, 60770), (52, 60848), (55, 60863),

Gene: Culver\_100 Start: 59032, Stop: 59232, Start Num: 18

Candidate Starts for Culver\_100:

(Start: 18 @59032 has 19 MA's), (52, 59173), (55, 59188),

Gene: DHan\_43 Start: 34729, Stop: 34869, Start Num: 37

Candidate Starts for DHan\_43:

(Start: 15 @34654 has 48 MA's), (Start: 31 @34696 has 1 MA's), (Start: 33 @34702 has 1 MA's), (Start: 37 @34729 has 1 MA's), (49, 34804), (53, 34816), (57, 34846),

Gene: DS6A\_60 Start: 41278, Stop: 41484, Start Num: 16

Candidate Starts for DS6A\_60:

(Start: 16 @41278 has 1 MA's), (24, 41299), (29, 41308), (40, 41365), (41, 41374), (42, 41377), (47, 41401), (48, 41404), (49, 41419), (50, 41422),

Gene: DanBing\_41 Start: 34621, Stop: 34761, Start Num: 37

Candidate Starts for DanBing\_41:

(Start: 15 @34546 has 48 MA's), (Start: 31 @34588 has 1 MA's), (Start: 33 @34594 has 1 MA's), (Start: 37 @34621 has 1 MA's), (49, 34696), (53, 34708),

Gene: DanSyl44\_52 Start: 37457, Stop: 37642, Start Num: 25

Candidate Starts for DanSyl44\_52:

(Start: 25 @37457 has 22 MA's), (Start: 33 @37475 has 1 MA's), (36, 37499), (49, 37577),

Gene: Daredevil\_83 Start: 57872, Stop: 57690, Start Num: 28

Candidate Starts for Daredevil\_83:

(Start: 28 @57872 has 3 MA's), (45, 57782), (50, 57755),

Gene: DatBoi\_89 Start: 61354, Stop: 61154, Start Num: 21

Candidate Starts for DatBoi\_89:

(Start: 21 @61354 has 9 MA's), (30, 61339), (47, 61243),

Gene: DatBoi\_62 Start: 46946, Stop: 47191, Start Num: 9

Candidate Starts for DatBoi\_62:

(Start: 9 @46946 has 1 MA's), (13, 46970), (44, 47096), (45, 47099),

Gene: Demsculpinboyz\_59 Start: 36079, Stop: 36258, Start Num: 27

Candidate Starts for Demsculpinboyz\_59:

(Start: 27 @36079 has 3 MA's), (35, 36118), (Start: 37 @36124 has 1 MA's), (41, 36154), (43, 36169), (44, 36172), (54, 36220), (57, 36241), (58, 36247),

Gene: DirkDirk\_39 Start: 33329, Stop: 33538, Start Num: 15

Candidate Starts for DirkDirk\_39:

(7, 33287), (Start: 15 @33329 has 48 MA's), (Start: 37 @33398 has 1 MA's), (45, 33449), (49, 33473), (53, 33485),

Gene: DrSeegs\_42 Start: 34694, Stop: 34909, Start Num: 15

Candidate Starts for DrSeegs\_42:

(Start: 15 @34694 has 48 MA's), (Start: 31 @34736 has 1 MA's), (Start: 33 @34742 has 1 MA's), (Start: 37 @34769 has 1 MA's), (39, 34781), (49, 34844), (53, 34856),

Gene: Dusty\_96 Start: 59048, Stop: 59248, Start Num: 18

Candidate Starts for Dusty\_96:

(Start: 18 @59048 has 19 MA's), (Start: 37 @59105 has 1 MA's), (38, 59111), (52, 59189), (55, 59204),

Gene: Enceladus\_39 Start: 33312, Stop: 33521, Start Num: 15

Candidate Starts for Enceladus\_39:

(7, 33270), (Start: 15 @33312 has 48 MA's), (Start: 37 @33381 has 1 MA's), (45, 33432), (49, 33456), (53, 33468),

Gene: Engineer\_99 Start: 60173, Stop: 60373, Start Num: 18

Candidate Starts for Engineer\_99:

(Start: 18 @60173 has 19 MA's), (Start: 37 @60230 has 1 MA's), (38, 60236), (52, 60314), (55, 60329),

Gene: Eponine\_51 Start: 37164, Stop: 37352, Start Num: 25

Candidate Starts for Eponine\_51:

(11, 37113), (Start: 25 @37164 has 22 MA's), (Start: 33 @37185 has 1 MA's), (36, 37209), (49, 37287),

Gene: Faith1\_42 Start: 34694, Stop: 34909, Start Num: 15

Candidate Starts for Faith1\_42:

(Start: 15 @34694 has 48 MA's), (Start: 31 @34736 has 1 MA's), (Start: 33 @34742 has 1 MA's),  
(Start: 37 @34769 has 1 MA's), (39, 34781), (49, 34844), (53, 34856),

Gene: Finemlucis\_42 Start: 34970, Stop: 35185, Start Num: 15

Candidate Starts for Finemlucis\_42:

(Start: 15 @34970 has 48 MA's), (Start: 31 @35012 has 1 MA's), (Start: 33 @35018 has 1 MA's), (39,  
35057), (49, 35120), (53, 35132),

Gene: Fionnbharth\_49 Start: 36562, Stop: 36750, Start Num: 25

Candidate Starts for Fionnbharth\_49:

(11, 36511), (Start: 25 @36562 has 22 MA's), (Start: 33 @36583 has 1 MA's), (36, 36607), (49, 36685),

Gene: GAL1\_42 Start: 33753, Stop: 33974, Start Num: 14

Candidate Starts for GAL1\_42:

(Start: 14 @33753 has 2 MA's), (Start: 37 @33822 has 1 MA's), (38, 33828), (40, 33843), (45, 33873),  
(57, 33939), (61, 33963),

Gene: Gabriela\_42 Start: 34956, Stop: 35171, Start Num: 15

Candidate Starts for Gabriela\_42:

(Start: 15 @34956 has 48 MA's), (Start: 31 @34998 has 1 MA's), (Start: 33 @35004 has 1 MA's),  
(Start: 37 @35031 has 1 MA's), (39, 35043), (49, 35106), (53, 35118),

Gene: Gardann\_42 Start: 34695, Stop: 34910, Start Num: 15

Candidate Starts for Gardann\_42:

(Start: 15 @34695 has 48 MA's), (Start: 31 @34737 has 1 MA's), (Start: 33 @34743 has 1 MA's),  
(Start: 37 @34770 has 1 MA's), (39, 34782), (49, 34845), (53, 34857),

Gene: Geeche\_97 Start: 59271, Stop: 59471, Start Num: 18

Candidate Starts for Geeche\_97:

(Start: 18 @59271 has 19 MA's), (Start: 37 @59328 has 1 MA's), (38, 59334), (52, 59412), (55, 59427),

Gene: GuuelaD\_42 Start: 34733, Stop: 34948, Start Num: 15

Candidate Starts for GuuelaD\_42:

(Start: 15 @34733 has 48 MA's), (Start: 31 @34775 has 1 MA's), (Start: 33 @34781 has 1 MA's),  
(Start: 37 @34808 has 1 MA's), (39, 34820), (49, 34883), (53, 34895),

Gene: Hafay\_42 Start: 34803, Stop: 34943, Start Num: 37

Candidate Starts for Hafay\_42:

(Start: 15 @34728 has 48 MA's), (Start: 31 @34770 has 1 MA's), (Start: 33 @34776 has 1 MA's),  
(Start: 37 @34803 has 1 MA's), (39, 34815), (49, 34878), (53, 34890),

Gene: Halena\_39 Start: 33353, Stop: 33562, Start Num: 15

Candidate Starts for Halena\_39:

(7, 33296), (Start: 15 @33353 has 48 MA's), (45, 33473),

Gene: Hestia\_46 Start: 29789, Stop: 29977, Start Num: 26

Candidate Starts for Hestia\_46:

(Start: 26 @29789 has 3 MA's),

Gene: Ibrahim\_37 Start: 30757, Stop: 30963, Start Num: 21

Candidate Starts for Ibrahim\_37:

(Start: 21 @30757 has 9 MA's), (61, 30952),

Gene: Itos\_41 Start: 33600, Stop: 33815, Start Num: 15

Candidate Starts for Itos\_41:

(Start: 15 @33600 has 48 MA's), (Start: 31 @33642 has 1 MA's), (Start: 33 @33648 has 1 MA's),  
(Start: 37 @33675 has 1 MA's), (39, 33687), (49, 33750), (53, 33762),

Gene: JF1\_49 Start: 36482, Stop: 36667, Start Num: 25

Candidate Starts for JF1\_49:

(Start: 25 @36482 has 22 MA's), (Start: 33 @36500 has 1 MA's), (36, 36524), (49, 36602),

Gene: JoeDirt\_39 Start: 33310, Stop: 33519, Start Num: 15

Candidate Starts for JoeDirt\_39:

(7, 33268), (Start: 15 @33310 has 48 MA's), (Start: 37 @33379 has 1 MA's), (45, 33430), (49, 33454),  
(53, 33466),

Gene: JonJames\_112 Start: 65173, Stop: 65376, Start Num: 18

Candidate Starts for JonJames\_112:

(Start: 18 @65173 has 19 MA's), (45, 65275), (49, 65299), (53, 65314), (59, 65353),

Gene: Juliette\_51 Start: 36638, Stop: 36823, Start Num: 25

Candidate Starts for Juliette\_51:

(Start: 25 @36638 has 22 MA's), (Start: 33 @36656 has 1 MA's), (36, 36680), (49, 36758),

Gene: Kahlid\_42 Start: 34700, Stop: 34915, Start Num: 15

Candidate Starts for Kahlid\_42:

(Start: 15 @34700 has 48 MA's), (Start: 31 @34742 has 1 MA's), (Start: 33 @34748 has 1 MA's),  
(Start: 37 @34775 has 1 MA's), (39, 34787), (49, 34850), (53, 34862),

Gene: Kraw\_49 Start: 36326, Stop: 36511, Start Num: 25

Candidate Starts for Kraw\_49:

(Start: 25 @36326 has 22 MA's), (Start: 33 @36344 has 1 MA's), (36, 36368), (49, 36446),

Gene: Krypton555\_40 Start: 34868, Stop: 35083, Start Num: 15

Candidate Starts for Krypton555\_40:

(Start: 15 @34868 has 48 MA's), (32, 34913), (Start: 33 @34916 has 1 MA's), (45, 34994),

Gene: Kumotta\_34 Start: 26417, Stop: 26599, Start Num: 26

Candidate Starts for Kumotta\_34:

(Start: 26 @26417 has 3 MA's),

Gene: LeBron\_40 Start: 33354, Stop: 33563, Start Num: 15

Candidate Starts for LeBron\_40:

(7, 33312), (Start: 15 @33354 has 48 MA's), (Start: 37 @33423 has 1 MA's), (45, 33474), (49, 33498),  
(53, 33510),

Gene: Lebo14\_48 Start: 36592, Stop: 36777, Start Num: 25

Candidate Starts for Lebo14\_48:

(Start: 25 @36592 has 22 MA's), (Start: 33 @36610 has 1 MA's), (36, 36634), (49, 36712),

Gene: Lewan\_42 Start: 34687, Stop: 34902, Start Num: 15

Candidate Starts for Lewan\_42:

(Start: 15 @34687 has 48 MA's), (Start: 31 @34729 has 1 MA's), (Start: 33 @34735 has 1 MA's),  
(Start: 37 @34762 has 1 MA's), (39, 34774), (49, 34837), (53, 34849),

Gene: LilDestine\_42 Start: 34692, Stop: 34907, Start Num: 15

Candidate Starts for LilDestine\_42:

(Start: 15 @34692 has 48 MA's), (Start: 31 @34734 has 1 MA's), (Start: 33 @34740 has 1 MA's),  
(Start: 37 @34767 has 1 MA's), (39, 34779), (49, 34842), (53, 34854),

Gene: Loadrie\_42 Start: 34726, Stop: 34941, Start Num: 15

Candidate Starts for Loadrie\_42:

(Start: 15 @34726 has 48 MA's), (Start: 31 @34768 has 1 MA's), (Start: 33 @34774 has 1 MA's),  
(Start: 37 @34801 has 1 MA's), (39, 34813), (49, 34876), (53, 34888),

Gene: Lozinak\_98 Start: 60011, Stop: 60211, Start Num: 18

Candidate Starts for Lozinak\_98:

(Start: 18 @60011 has 19 MA's), (Start: 37 @60068 has 1 MA's), (38, 60074), (52, 60152), (55, 60167),

Gene: Lynnae\_42 Start: 34758, Stop: 34898, Start Num: 37

Candidate Starts for Lynnae\_42:

(Start: 15 @34683 has 48 MA's), (Start: 31 @34725 has 1 MA's), (Start: 33 @34731 has 1 MA's),  
(Start: 37 @34758 has 1 MA's), (39, 34770), (49, 34833), (53, 34845),

Gene: MAckerman\_40 Start: 33347, Stop: 33556, Start Num: 15

Candidate Starts for MAckerman\_40:

(7, 33290), (Start: 15 @33347 has 48 MA's), (45, 33467),

Gene: Malisha\_63 Start: 40533, Stop: 40739, Start Num: 22

Candidate Starts for Malisha\_63:

(5, 40434), (6, 40455), (Start: 22 @40533 has 4 MA's), (38, 40593), (40, 40608), (51, 40668), (55,  
40686), (61, 40728),

Gene: Malthus\_50 Start: 36326, Stop: 36511, Start Num: 25

Candidate Starts for Malthus\_50:

(Start: 25 @36326 has 22 MA's), (Start: 33 @36344 has 1 MA's), (36, 36368), (49, 36446),

Gene: MargaretKali\_34 Start: 26052, Stop: 26234, Start Num: 26

Candidate Starts for MargaretKali\_34:

(Start: 26 @26052 has 3 MA's),

Gene: Mendokysei\_35 Start: 29852, Stop: 30055, Start Num: 23

Candidate Starts for Mendokysei\_35:

(Start: 21 @29849 has 9 MA's), (Start: 23 @29852 has 1 MA's), (61, 30044),

Gene: Miley16\_42 Start: 34694, Stop: 34909, Start Num: 15

Candidate Starts for Miley16\_42:

(Start: 15 @34694 has 48 MA's), (Start: 31 @34736 has 1 MA's), (Start: 33 @34742 has 1 MA's),  
(Start: 37 @34769 has 1 MA's), (39, 34781), (49, 34844), (53, 34856),

Gene: Miskis\_92 Start: 58711, Stop: 58911, Start Num: 18

Candidate Starts for Miskis\_92:

(Start: 18 @58711 has 19 MA's), (Start: 37 @58768 has 1 MA's), (38, 58774), (52, 58852), (55, 58867),

Gene: MissDaisy\_47 Start: 35801, Stop: 35989, Start Num: 25

Candidate Starts for MissDaisy\_47:

(Start: 25 @35801 has 22 MA's), (36, 35846), (49, 35924),

Gene: Mitti\_49 Start: 36502, Stop: 36687, Start Num: 25

Candidate Starts for Mitti\_49:

(Start: 25 @36502 has 22 MA's), (Start: 33 @36520 has 1 MA's), (36, 36544), (49, 36622),

Gene: MkaliMitinis3\_42 Start: 34696, Stop: 34911, Start Num: 15

Candidate Starts for MkaliMitinis3\_42:

(Start: 15 @34696 has 48 MA's), (Start: 31 @34738 has 1 MA's), (Start: 33 @34744 has 1 MA's),  
(Start: 37 @34771 has 1 MA's), (39, 34783), (49, 34846), (53, 34858),

Gene: Mollymur\_93 Start: 63027, Stop: 62845, Start Num: 28

Candidate Starts for Mollymur\_93:

(Start: 28 @63027 has 3 MA's),

Gene: MortyNRick\_55 Start: 39746, Stop: 39955, Start Num: 22

Candidate Starts for MortyNRick\_55:

(Start: 22 @39746 has 4 MA's), (38, 39806), (40, 39821), (51, 39881), (55, 39899),

Gene: Nairb\_36 Start: 30311, Stop: 30517, Start Num: 21

Candidate Starts for Nairb\_36:

(Start: 21 @30311 has 9 MA's), (61, 30506),

Gene: Netyap\_42 Start: 34694, Stop: 34909, Start Num: 15

Candidate Starts for Netyap\_42:

(Start: 15 @34694 has 48 MA's), (Start: 31 @34736 has 1 MA's), (Start: 33 @34742 has 1 MA's),  
(Start: 37 @34769 has 1 MA's), (39, 34781), (49, 34844), (53, 34856),

Gene: Nicholasp3\_42 Start: 34695, Stop: 34910, Start Num: 15

Candidate Starts for Nicholasp3\_42:

(Start: 15 @34695 has 48 MA's), (Start: 31 @34737 has 1 MA's), (Start: 33 @34743 has 1 MA's),  
(Start: 37 @34770 has 1 MA's), (39, 34782), (49, 34845), (53, 34857),

Gene: Norvs\_100 Start: 60040, Stop: 60240, Start Num: 18

Candidate Starts for Norvs\_100:

(Start: 18 @60040 has 19 MA's), (Start: 37 @60097 has 1 MA's), (38, 60103), (52, 60181), (55, 60196),

Gene: OhShagHennessy\_39 Start: 33300, Stop: 33509, Start Num: 15

Candidate Starts for OhShagHennessy\_39:

(7, 33258), (Start: 15 @33300 has 48 MA's), (Start: 37 @33369 has 1 MA's), (45, 33420), (49, 33444),  
(53, 33456),

Gene: OmniCritical\_48 Start: 36311, Stop: 36496, Start Num: 25

Candidate Starts for OmniCritical\_48:

(Start: 25 @36311 has 22 MA's), (Start: 33 @36329 has 1 MA's), (36, 36353), (49, 36431),

Gene: OneUp\_86 Start: 56418, Stop: 56615, Start Num: 18

Candidate Starts for OneUp\_86:

(4, 56301), (10, 56376), (12, 56394), (Start: 18 @56418 has 19 MA's), (55, 56574),

Gene: OverPar\_43 Start: 34801, Stop: 34941, Start Num: 37  
Candidate Starts for OverPar\_43:  
(Start: 15 @34726 has 48 MA's), (Start: 31 @34768 has 1 MA's), (Start: 33 @34774 has 1 MA's),  
(Start: 37 @34801 has 1 MA's), (39, 34813), (49, 34876), (53, 34888),

Gene: Patt\_46 Start: 35525, Stop: 35713, Start Num: 25  
Candidate Starts for Patt\_46:  
(2, 35309), (Start: 25 @35525 has 22 MA's), (36, 35570), (49, 35648),

Gene: PhinkBoden\_97 Start: 59801, Stop: 60001, Start Num: 18  
Candidate Starts for PhinkBoden\_97:  
(Start: 18 @59801 has 19 MA's), (Start: 37 @59858 has 1 MA's), (38, 59864), (52, 59942), (55, 59957),

Gene: Pigu\_37 Start: 25613, Stop: 25792, Start Num: 28  
Candidate Starts for Pigu\_37:  
(1, 25346), (Start: 28 @25613 has 3 MA's), (36, 25652),

Gene: Poochiewood\_39 Start: 33328, Stop: 33537, Start Num: 15  
Candidate Starts for Poochiewood\_39:  
(7, 33286), (Start: 15 @33328 has 48 MA's), (Start: 37 @33397 has 1 MA's), (45, 33448), (49, 33472),  
(53, 33484),

Gene: Qhanda\_51 Start: 36423, Stop: 36608, Start Num: 25  
Candidate Starts for Qhanda\_51:  
(Start: 25 @36423 has 22 MA's), (Start: 33 @36441 has 1 MA's), (36, 36465), (49, 36543),

Gene: Reptar3000\_47 Start: 35516, Stop: 35701, Start Num: 25  
Candidate Starts for Reptar3000\_47:  
(Start: 25 @35516 has 22 MA's), (49, 35636),

Gene: RonRayGun\_37 Start: 30757, Stop: 30963, Start Num: 21  
Candidate Starts for RonRayGun\_37:  
(Start: 21 @30757 has 9 MA's), (61, 30952),

Gene: Rose5\_39 Start: 33342, Stop: 33551, Start Num: 15  
Candidate Starts for Rose5\_39:  
(7, 33285), (Start: 15 @33342 has 48 MA's), (45, 33462),

Gene: Ruthiejr\_50 Start: 36376, Stop: 36561, Start Num: 25  
Candidate Starts for Ruthiejr\_50:  
(Start: 25 @36376 has 22 MA's), (Start: 33 @36394 has 1 MA's), (36, 36418), (49, 36496),

Gene: SamScheppers\_47 Start: 36805, Stop: 36990, Start Num: 25  
Candidate Starts for SamScheppers\_47:  
(Start: 25 @36805 has 22 MA's), (Start: 33 @36823 has 1 MA's), (36, 36847), (49, 36925),

Gene: Sarshaun\_42 Start: 34803, Stop: 34943, Start Num: 37  
Candidate Starts for Sarshaun\_42:  
(Start: 15 @34728 has 48 MA's), (Start: 31 @34770 has 1 MA's), (Start: 33 @34776 has 1 MA's),  
(Start: 37 @34803 has 1 MA's), (39, 34815), (49, 34878), (53, 34890),

Gene: Silverleaf\_39 Start: 33342, Stop: 33551, Start Num: 15  
Candidate Starts for Silverleaf\_39:

(7, 33285), (Start: 15 @33342 has 48 MA's), (45, 33462),

Gene: Slarp\_49 Start: 36414, Stop: 36599, Start Num: 25

Candidate Starts for Slarp\_49:

(Start: 25 @36414 has 22 MA's), (Start: 33 @36432 has 1 MA's), (36, 36456), (49, 36534),

Gene: Smoothie\_99 Start: 60011, Stop: 60211, Start Num: 18

Candidate Starts for Smoothie\_99:

(Start: 18 @60011 has 19 MA's), (Start: 37 @60068 has 1 MA's), (38, 60074), (52, 60152), (55, 60167),

Gene: SoJulia\_43 Start: 35029, Stop: 35169, Start Num: 37

Candidate Starts for SoJulia\_43:

(Start: 15 @34954 has 48 MA's), (Start: 31 @34996 has 1 MA's), (Start: 33 @35002 has 1 MA's),  
(Start: 37 @35029 has 1 MA's), (39, 35041), (49, 35104), (53, 35116),

Gene: Soap141\_42 Start: 34803, Stop: 34943, Start Num: 37

Candidate Starts for Soap141\_42:

(Start: 15 @34728 has 48 MA's), (Start: 31 @34770 has 1 MA's), (Start: 33 @34776 has 1 MA's),  
(Start: 37 @34803 has 1 MA's), (39, 34815), (49, 34878), (53, 34890),

Gene: SpeedDemon\_940 Start: 64127, Stop: 63927, Start Num: 21

Candidate Starts for SpeedDemon\_940:

(Start: 21 @64127 has 9 MA's), (30, 64112), (38, 64067), (47, 64016),

Gene: Spooky\_52 Start: 37230, Stop: 37451, Start Num: 14

Candidate Starts for Spooky\_52:

(3, 37110), (8, 37188), (Start: 14 @37230 has 2 MA's), (Start: 37 @37299 has 1 MA's), (38, 37305),  
(40, 37320), (45, 37350), (54, 37395), (55, 37398), (57, 37416), (61, 37440),

Gene: Squiddly\_59 Start: 40046, Stop: 40252, Start Num: 22

Candidate Starts for Squiddly\_59:

(5, 39947), (6, 39968), (Start: 22 @40046 has 4 MA's), (38, 40106), (40, 40121), (51, 40181), (55,  
40199), (61, 40241),

Gene: Taquito\_49 Start: 36661, Stop: 36846, Start Num: 25

Candidate Starts for Taquito\_49:

(Start: 25 @36661 has 22 MA's), (Start: 33 @36679 has 1 MA's), (36, 36703), (49, 36781),

Gene: Toniann\_100 Start: 59980, Stop: 60180, Start Num: 18

Candidate Starts for Toniann\_100:

(Start: 18 @59980 has 19 MA's), (Start: 37 @60037 has 1 MA's), (38, 60043), (52, 60121), (55, 60136),

Gene: Toron\_48 Start: 36637, Stop: 36816, Start Num: 27

Candidate Starts for Toron\_48:

(Start: 27 @36637 has 3 MA's), (Start: 37 @36682 has 1 MA's), (41, 36712), (43, 36727), (44, 36730),  
(54, 36778), (56, 36790), (57, 36799),

Gene: Tourach\_42 Start: 34709, Stop: 34924, Start Num: 15

Candidate Starts for Tourach\_42:

(Start: 15 @34709 has 48 MA's), (Start: 31 @34751 has 1 MA's), (Start: 33 @34757 has 1 MA's), (36,  
34781), (49, 34859), (53, 34871),

Gene: Towmatter\_82 Start: 57951, Stop: 57769, Start Num: 28

Candidate Starts for Towmatter\_82:

(Start: 28 @57951 has 3 MA's), (45, 57861), (50, 57834),

Gene: Tyson\_39 Start: 33343, Stop: 33552, Start Num: 15

Candidate Starts for Tyson\_39:

(7, 33286), (Start: 15 @33343 has 48 MA's), (45, 33463),

Gene: UPIE\_40 Start: 33326, Stop: 33535, Start Num: 15

Candidate Starts for UPIE\_40:

(7, 33284), (Start: 15 @33326 has 48 MA's), (Start: 37 @33395 has 1 MA's), (45, 33446), (49, 33470), (53, 33482),

Gene: Underpass\_42 Start: 34695, Stop: 34910, Start Num: 15

Candidate Starts for Underpass\_42:

(Start: 15 @34695 has 48 MA's), (Start: 31 @34737 has 1 MA's), (Start: 33 @34743 has 1 MA's), (Start: 37 @34770 has 1 MA's), (39, 34782), (49, 34845), (53, 34857),

Gene: Vetric\_42 Start: 34701, Stop: 34916, Start Num: 15

Candidate Starts for Vetric\_42:

(Start: 15 @34701 has 48 MA's), (Start: 31 @34743 has 1 MA's), (Start: 33 @34749 has 1 MA's), (Start: 37 @34776 has 1 MA's), (39, 34788), (49, 34851), (53, 34863),

Gene: Wamburgexpress\_40 Start: 33341, Stop: 33550, Start Num: 15

Candidate Starts for Wamburgexpress\_40:

(7, 33299), (Start: 15 @33341 has 48 MA's), (Start: 37 @33410 has 1 MA's), (45, 33461), (49, 33485), (53, 33497),

Gene: Whirlwind\_41 Start: 34710, Stop: 34925, Start Num: 15

Candidate Starts for Whirlwind\_41:

(Start: 15 @34710 has 48 MA's), (32, 34755), (Start: 33 @34758 has 1 MA's), (45, 34836),

Gene: Whitty\_37 Start: 30311, Stop: 30517, Start Num: 21

Candidate Starts for Whitty\_37:

(Start: 21 @30311 has 9 MA's), (61, 30506),

Gene: Wigglewigggle\_42 Start: 34727, Stop: 34942, Start Num: 15

Candidate Starts for Wigglewigggle\_42:

(Start: 15 @34727 has 48 MA's), (Start: 31 @34769 has 1 MA's), (Start: 33 @34775 has 1 MA's), (Start: 37 @34802 has 1 MA's), (39, 34814), (49, 34877), (53, 34889),

Gene: Wilder\_42 Start: 34700, Stop: 34915, Start Num: 15

Candidate Starts for Wilder\_42:

(Start: 15 @34700 has 48 MA's), (Start: 31 @34742 has 1 MA's), (Start: 33 @34748 has 1 MA's), (Start: 37 @34775 has 1 MA's), (39, 34787), (49, 34850), (53, 34862),

Gene: WilliamBoone\_100 Start: 58743, Stop: 58943, Start Num: 18

Candidate Starts for WilliamBoone\_100:

(Start: 18 @58743 has 19 MA's), (46, 58854), (50, 58878),

Gene: Winky\_42 Start: 34694, Stop: 34909, Start Num: 15

Candidate Starts for Winky\_42:

(Start: 15 @34694 has 48 MA's), (Start: 31 @34736 has 1 MA's), (Start: 33 @34742 has 1 MA's), (Start: 37 @34769 has 1 MA's), (39, 34781), (49, 34844), (53, 34856),

Gene: Wintermute\_49 Start: 36563, Stop: 36748, Start Num: 25

Candidate Starts for Wintermute\_49:

(Start: 25 @36563 has 22 MA's), (Start: 33 @36581 has 1 MA's), (36, 36605), (49, 36683),

Gene: Wyatt2\_40 Start: 33342, Stop: 33551, Start Num: 15

Candidate Starts for Wyatt2\_40:

(7, 33285), (Start: 15 @33342 has 48 MA's), (45, 33462),

Gene: Y10\_48 Start: 36482, Stop: 36667, Start Num: 25

Candidate Starts for Y10\_48:

(Start: 25 @36482 has 22 MA's), (Start: 33 @36500 has 1 MA's), (36, 36524), (49, 36602),

Gene: Y2\_48 Start: 36482, Stop: 36667, Start Num: 25

Candidate Starts for Y2\_48:

(Start: 25 @36482 has 22 MA's), (Start: 33 @36500 has 1 MA's), (36, 36524), (49, 36602),

Gene: YasnayaPolyana\_49 Start: 36413, Stop: 36598, Start Num: 25

Candidate Starts for YasnayaPolyana\_49:

(Start: 25 @36413 has 22 MA's), (Start: 33 @36431 has 1 MA's), (36, 36455), (49, 36533),

Gene: Yoshi\_61 Start: 38120, Stop: 38299, Start Num: 27

Candidate Starts for Yoshi\_61:

(Start: 27 @38120 has 3 MA's), (35, 38159), (Start: 37 @38165 has 1 MA's), (41, 38195), (43, 38210), (44, 38213), (54, 38261), (57, 38282), (58, 38288),

Gene: Yvonnetastic\_109 Start: 62358, Stop: 62561, Start Num: 18

Candidate Starts for Yvonnetastic\_109:

(Start: 18 @62358 has 19 MA's), (45, 62460), (49, 62484), (53, 62499),

Gene: Zakai\_42 Start: 34952, Stop: 35167, Start Num: 15

Candidate Starts for Zakai\_42:

(Start: 15 @34952 has 48 MA's), (Start: 31 @34994 has 1 MA's), (Start: 33 @35000 has 1 MA's), (Start: 37 @35027 has 1 MA's), (39, 35039), (49, 35102), (53, 35114),

Gene: Zaria\_40 Start: 33357, Stop: 33566, Start Num: 15

Candidate Starts for Zaria\_40:

(7, 33300), (Start: 15 @33357 has 48 MA's), (45, 33477),

Gene: ZenTime222\_36 Start: 30311, Stop: 30517, Start Num: 21

Candidate Starts for ZenTime222\_36:

(Start: 21 @30311 has 9 MA's), (61, 30506),

Gene: ZhongYanYuan\_40 Start: 34630, Stop: 34770, Start Num: 37

Candidate Starts for ZhongYanYuan\_40:

(Start: 15 @34555 has 48 MA's), (Start: 31 @34597 has 1 MA's), (Start: 33 @34603 has 1 MA's), (Start: 37 @34630 has 1 MA's), (53, 34717),