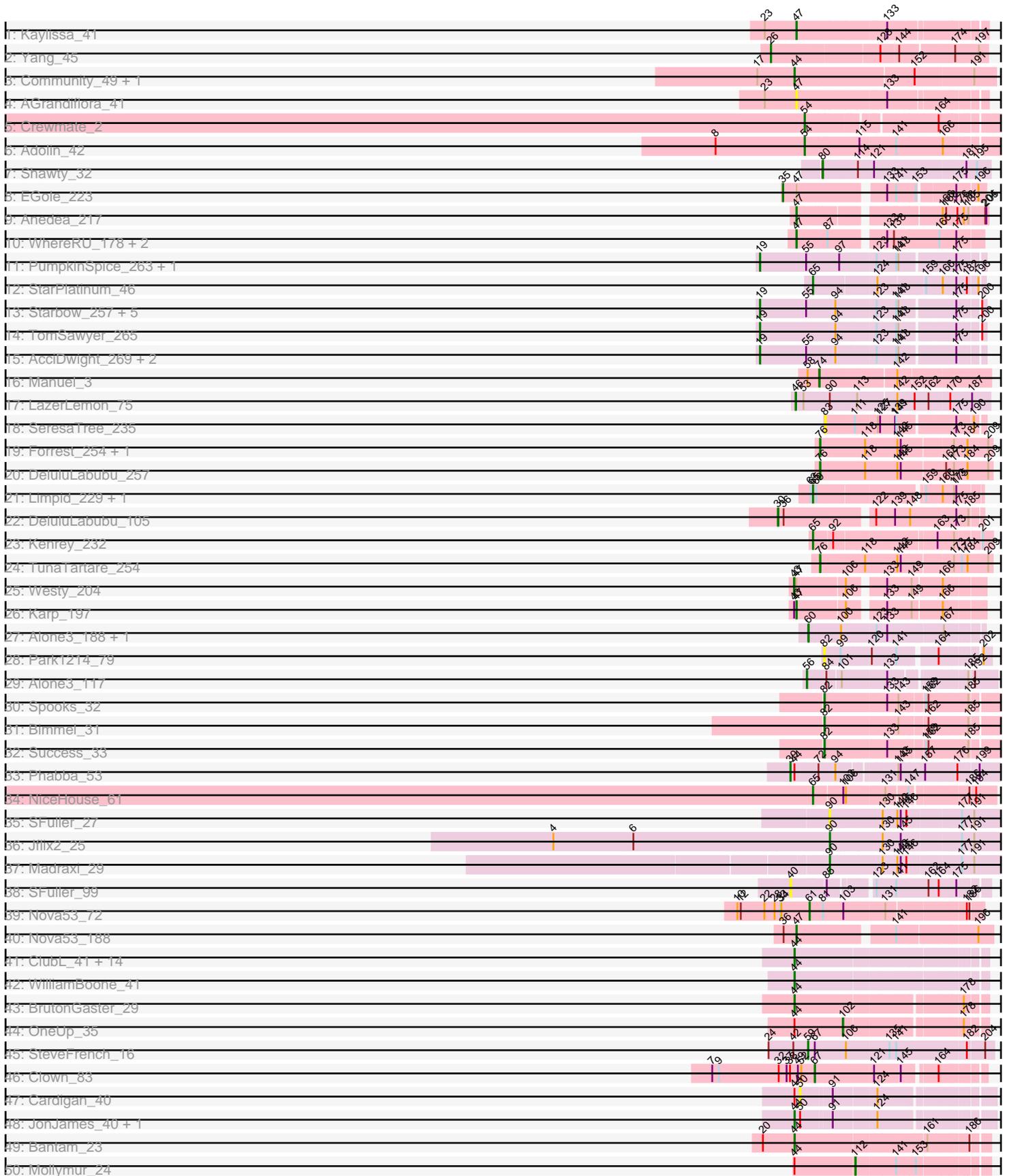
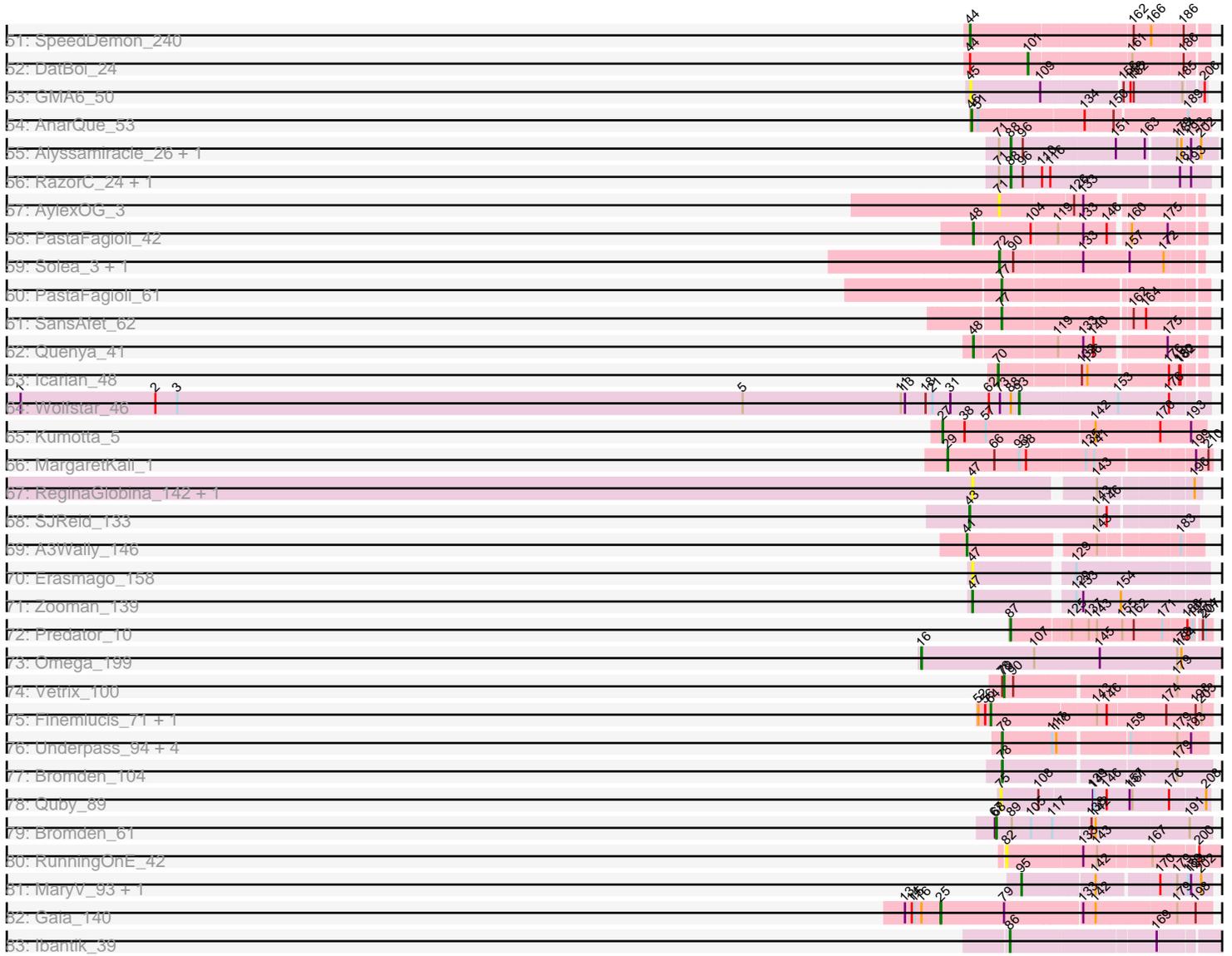


Pham 290973



Pham 290973



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 290973 Report

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

Pham number 290973 has 122 members, 18 are drafts.

Phages represented in each track:

- Track 1 : Kaylissa\_41
- Track 2 : Yang\_45
- Track 3 : Community\_49, Nitro\_45
- Track 4 : AGrandiflora\_41
- Track 5 : Crewmate\_2
- Track 6 : Adolin\_42
- Track 7 : Shawty\_32
- Track 8 : EGole\_223
- Track 9 : Anedea\_217
- Track 10 : WhereRU\_178, Davielle\_179, Persimmon\_179
- Track 11 : PumpkinSpice\_263, Wipeout\_252
- Track 12 : StarPlatinum\_46
- Track 13 : Starbow\_257, JimJam\_268, CeilingFan\_266, KentuckyRacer\_267, Spelly\_265, Spilled\_268
- Track 14 : TomSawyer\_265
- Track 15 : AcciDwight\_269, Gibbi\_270, Rikishi\_261
- Track 16 : Manuel\_3
- Track 17 : LazerLemon\_75
- Track 18 : SeresaTree\_235
- Track 19 : Forrest\_254, Jada\_255
- Track 20 : DeluluLabubu\_257
- Track 21 : Limpid\_229, Annadreamy\_222
- Track 22 : DeluluLabubu\_105
- Track 23 : Kenrey\_232
- Track 24 : TunaTartare\_254
- Track 25 : Westy\_204
- Track 26 : Karp\_197
- Track 27 : Alone3\_188, Talos\_188
- Track 28 : Park1214\_79
- Track 29 : Alone3\_117
- Track 30 : Spooks\_32
- Track 31 : Bimmel\_31
- Track 32 : Success\_33
- Track 33 : Phabba\_53
- Track 34 : NiceHouse\_61
- Track 35 : SFuller\_27
- Track 36 : Jflix2\_25

- Track 37 : Madraxi\_29
- Track 38 : SFuller\_99
- Track 39 : Nova53\_72
- Track 40 : Nova53\_188
- Track 41 : ClubL\_41, Geeche\_40, PhinkBoden\_41, Dusty\_40, Miskis\_39, Lozinak\_41, Engineer\_42, Abscondus\_40, Toniann\_41, Norvs\_42, Cucurbita\_43, Aphelion\_41, Smoothie\_42, Culver\_41, Bachita\_43
- Track 42 : WilliamBoone\_41
- Track 43 : BrutonGaster\_29
- Track 44 : OneUp\_35
- Track 45 : SteveFrench\_16
- Track 46 : Clown\_83
- Track 47 : Cardigan\_40
- Track 48 : JonJames\_40, Yvonnetastic\_38
- Track 49 : Bantam\_23
- Track 50 : Mollymur\_24
- Track 51 : SpeedDemon\_240
- Track 52 : DatBoi\_24
- Track 53 : GMA6\_50
- Track 54 : AnarQue\_53
- Track 55 : Alyssamiracle\_26, Genamy16\_26
- Track 56 : RazorC\_24, Zany\_25
- Track 57 : AylexOG\_3
- Track 58 : PastaFagioli\_42
- Track 59 : Solea\_3, Milomuff\_3
- Track 60 : PastaFagioli\_61
- Track 61 : SansAfet\_62
- Track 62 : Quenya\_41
- Track 63 : Icarian\_48
- Track 64 : Wolfstar\_46
- Track 65 : Kumotta\_5
- Track 66 : MargaretKali\_1
- Track 67 : ReginaGlobina\_142, LeoJr\_143
- Track 68 : SJReid\_133
- Track 69 : A3Wally\_146
- Track 70 : Erasmago\_158
- Track 71 : Zooman\_139
- Track 72 : Predator\_10
- Track 73 : Omega\_199
- Track 74 : Vetrix\_100
- Track 75 : Finemlucis\_71, Gabriela\_68
- Track 76 : Underpass\_94, Nicholasp3\_102, Gardann\_101, Rumpelstiltskin\_98, Kahlid\_101
- Track 77 : Bromden\_104
- Track 78 : Quby\_89
- Track 79 : Bromden\_61
- Track 80 : RunningOnE\_42
- Track 81 : MaryV\_93, Wildcat\_93
- Track 82 : Gaia\_140
- Track 83 : Ibantik\_39

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

The start number called the most often in the published annotations is 44, it was called in 21 of the 104 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abscondus\_40, Aphelion\_41, Bachita\_43, Bantam\_23, BrutonGaster\_29, ClubL\_41, Community\_49, Cucurbita\_43, Culver\_41, Dusty\_40, Engineer\_42, Geeche\_40, JonJames\_40, Lozinak\_41, Miskis\_39, Nitro\_45, Norvs\_42, PhinkBoden\_41, Smoothie\_42, SpeedDemon\_240, Toniann\_41, WilliamBoone\_41, Yvonnestic\_38,

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

- Cardigan\_40, DatBoi\_24, Mollymur\_24, OneUp\_35, Phabba\_53,

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

- A3Wally\_146, AGrandiflora\_41, AcciDwight\_269, Adolin\_42, Alone3\_117, Alone3\_188, Alyssamiracle\_26, AnarQue\_53, Anedea\_217, Annadreamy\_222, AylexOG\_3, Bimmel\_31, Bromden\_104, Bromden\_61, CeilingFan\_266, Clown\_83, Crewmate\_2, Davielle\_179, DeluluLabubu\_105, DeluluLabubu\_257, EGole\_223, Erasmago\_158, Finemlucis\_71, Forrest\_254, GMA6\_50, Gabriela\_68, Gaia\_140, Gardann\_101, Genamy16\_26, Gibbi\_270, Ibantik\_39, Icarian\_48, Jada\_255, Jflix2\_25, JimJam\_268, Kahlid\_101, Karp\_197, Kaylissa\_41, Kenrey\_232, KentuckyRacer\_267, Kumotta\_5, LazerLemon\_75, LeoJr\_143, Limpid\_229, Madraxi\_29, Manuel\_3, MargaretKali\_1, MaryV\_93, Milomuff\_3, NiceHouse\_61, Nicholasp3\_102, Nova53\_188, Nova53\_72, Omega\_199, Park1214\_79, PastaFagioli\_42, PastaFagioli\_61, Persimmon\_179, Predator\_10, PumpkinSpice\_263, Quby\_89, Quenya\_41, RazorC\_24, ReginaGlobina\_142, Rikishi\_261, Rumpelstiltskin\_98, RunningOnE\_42, SFuller\_27, SFuller\_99, SJReid\_133, SansAfet\_62, SeresaTree\_235, Shawty\_32, Solea\_3, Spelly\_265, Spilled\_268, Spooks\_32, StarPlatinum\_46, Starbow\_257, SteveFrench\_16, Success\_33, Talos\_188, TomSawyer\_265, TunaTartare\_254, Underpass\_94, Vetrix\_100, Westy\_204, WhereRU\_178, Wildcat\_93, Wipeout\_252, Wolfstar\_46, Yang\_45, Zany\_25, Zooman\_139,

## **Summary by start number:**

Start 16:

- Found in 2 of 122 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 1 of 104
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Omega\_199 (J),

Start 19:

- Found in 12 of 122 ( 9.8% ) of genes in pham
- Manual Annotations of this start: 10 of 104
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AcciDwight\_269 (BE2), CeilingFan\_266 (BE2), Gibbi\_270 (BE2), JimJam\_268 (BE2), KentuckyRacer\_267 (BE2), PumpkinSpice\_263 (BE2), Rikishi\_261 (BE2), Spelly\_265 (BE2), Spilled\_268 (BE2), Starbow\_257 (BE2), TomSawyer\_265 (BE2), Wipeout\_252 (BE2),

Start 25:

- Found in 1 of 122 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 104
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gaia\_140 (X),

Start 26:

- Found in 1 of 122 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 104
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Yang\_45 (AZ1),

Start 27:

- Found in 1 of 122 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 104
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kumotta\_5 (FB),

Start 29:

- Found in 1 of 122 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 104
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MargaretKali\_1 (FB),

Start 30:

- Found in 1 of 122 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 104
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DeluluLabubu\_105 (BK1),

Start 35:

- Found in 1 of 122 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 104
- Called 100.0% of time when present
- Phage (with cluster) where this start called: EGole\_223 (BE1),

Start 39:

- Found in 1 of 122 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 104
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Phabba\_53 (C2),

Start 40:

- Found in 1 of 122 ( 0.8% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: SFuller\_99 (CF),

Start 41:

- Found in 1 of 122 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 104
- Called 100.0% of time when present
- Phage (with cluster) where this start called: A3Wally\_146 (GD1),

Start 43:

- Found in 3 of 122 ( 2.5% ) of genes in pham
- Manual Annotations of this start: 2 of 104
- Called 66.7% of time when present
- Phage (with cluster) where this start called: SJReid\_133 (FC), Westy\_204 (BK1),

Start 44:

- Found in 28 of 122 ( 23.0% ) of genes in pham
- Manual Annotations of this start: 21 of 104
- Called 82.1% of time when present
- Phage (with cluster) where this start called: Abscondus\_40 (CQ1), Aphelion\_41 (CQ1), Bachita\_43 (CQ1), Bantam\_23 (DL), BrutonGaster\_29 (CQ2), ClubL\_41 (CQ1), Community\_49 (AZ1), Cucurbita\_43 (CQ1), Culver\_41 (CQ1), Dusty\_40 (CQ1), Engineer\_42 (CQ1), Geeche\_40 (CQ1), JonJames\_40 (DD), Lozinak\_41 (CQ1), Miskis\_39 (CQ1), Nitro\_45 (AZ1), Norvs\_42 (CQ1), PhinkBoden\_41 (CQ1), Smoothie\_42 (CQ1), SpeedDemon\_240 (DL), Toniann\_41 (CQ1), WilliamBoone\_41 (CQ1), Yvonnetastic\_38 (DD),

Start 45:

- Found in 1 of 122 ( 0.8% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GMA6\_50 (DQ),

Start 46:

- Found in 2 of 122 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 2 of 104
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AnarQue\_53 (DR), LazerLemon\_75 (BH),

Start 47:

- Found in 14 of 122 ( 11.5% ) of genes in pham
- Manual Annotations of this start: 8 of 104
- Called 85.7% of time when present
- Phage (with cluster) where this start called: AGrandiflora\_41 (AZ1), Anedea\_217 (BE1), Davielle\_179 (BE1), Erasmago\_158 (GD2), Karp\_197 (BK1), Kaylissa\_41 (AZ1), LeoJr\_143 (FC), Nova53\_188 (CG), Persimmon\_179 (BE1), ReginaGlobina\_142 (FC), WhereRU\_178 (BE1), Zooman\_139 (GD2),

Start 48:

- Found in 2 of 122 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 2 of 104
- Called 100.0% of time when present
- Phage (with cluster) where this start called: PastaFagioli\_42 (EB), Quenya\_41 (EB),

Start 50:

- Found in 3 of 122 ( 2.5% ) of genes in pham
- No Manual Annotations of this start.
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Cardigan\_40 (DD),

Start 54:

- Found in 2 of 122 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 2 of 104
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Adolin\_42 (AZ1), Crewmate\_2 (AZ1),

Start 56:

- Found in 3 of 122 ( 2.5% ) of genes in pham
- Manual Annotations of this start: 1 of 104
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Alone3\_117 (BS),

Start 59:

- Found in 1 of 122 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 104
- Called 100.0% of time when present
- Phage (with cluster) where this start called: SteveFrench\_16 (CS2),

Start 60:

- Found in 2 of 122 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 2 of 104
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Alone3\_188 (BS), Talos\_188 (BS),

Start 61:

- Found in 1 of 122 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 104
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Nova53\_72 (CG),

Start 64:

- Found in 2 of 122 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 2 of 104
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Finemlucis\_71 (L2), Gabriela\_68 (L2),

Start 65:

- Found in 5 of 122 ( 4.1% ) of genes in pham
- Manual Annotations of this start: 5 of 104
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Annadreamy\_222 (BK1), Kenrey\_232 (BK1), Limpid\_229 (BK1), NiceHouse\_61 (CE), StarPlatinum\_46 (BE2),

Start 67:

- Found in 3 of 122 ( 2.5% ) of genes in pham
- Manual Annotations of this start: 1 of 104
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Clown\_83 (DC2),

Start 68:

- Found in 1 of 122 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 104
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bromden\_61 (L4),

Start 70:

- Found in 1 of 122 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 104
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Icarian\_48 (EB),

Start 71:

- Found in 5 of 122 ( 4.1% ) of genes in pham
- No Manual Annotations of this start.
- Called 20.0% of time when present
- Phage (with cluster) where this start called: AylexOG\_3 (EB),

Start 72:

- Found in 3 of 122 ( 2.5% ) of genes in pham
- Manual Annotations of this start: 1 of 104
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Milomuff\_3 (EB), Solea\_3 (EB),

Start 74:

- Found in 1 of 122 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 104
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Manuel\_3 (BF),

Start 75:

- Found in 1 of 122 ( 0.8% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Quby\_89 (L4),

Start 76:

- Found in 4 of 122 ( 3.3% ) of genes in pham
- Manual Annotations of this start: 4 of 104
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DeluluLabubu\_257 (BK1), Forrest\_254 (BK1), Jada\_255 (BK1), TunaTartare\_254 (BK1),

Start 77:

- Found in 2 of 122 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 2 of 104
- Called 100.0% of time when present
- Phage (with cluster) where this start called: PastaFagioli\_61 (EB), SansAfet\_62 (EB),

Start 78:

- Found in 7 of 122 ( 5.7% ) of genes in pham
- Manual Annotations of this start: 6 of 104
- Called 85.7% of time when present
- Phage (with cluster) where this start called: Bromden\_104 (L4), Gardann\_101 (L2), Kahlid\_101 (L2), Nicholasp3\_102 (L2), Rumpelstiltskin\_98 (L2), Underpass\_94 (L2),

Start 79:

- Found in 2 of 122 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 1 of 104
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Vetrix\_100 (L2),

Start 80:

- Found in 1 of 122 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 104
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Shawty\_32 (BB1),

Start 82:

- Found in 5 of 122 ( 4.1% ) of genes in pham
- Manual Annotations of this start: 3 of 104
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bimmel\_31 (BT), Park1214\_79 (BS), RunningOnE\_42 (UNK), Spooks\_32 (BT), Success\_33 (BT),

Start 83:

- Found in 1 of 122 ( 0.8% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: SeresaTree\_235 (BK1),

Start 86:

- Found in 1 of 122 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 104
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ibantik\_39 (singleton),

Start 87:

- Found in 4 of 122 ( 3.3% ) of genes in pham
- Manual Annotations of this start: 1 of 104
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Predator\_10 (H1),

Start 88:

- Found in 5 of 122 ( 4.1% ) of genes in pham
- Manual Annotations of this start: 4 of 104
- Called 80.0% of time when present
- Phage (with cluster) where this start called: Alyssamiracle\_26 (DV), Genamy16\_26 (DV), RazorC\_24 (DV), Zany\_25 (DV),

Start 90:

- Found in 7 of 122 ( 5.7% ) of genes in pham
- Manual Annotations of this start: 2 of 104
- Called 42.9% of time when present
- Phage (with cluster) where this start called: Jflix2\_25 (CF), Madraxi\_29 (CF), SFuller\_27 (CF),

Start 93:

- Found in 2 of 122 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 1 of 104

- Called 50.0% of time when present
- Phage (with cluster) where this start called: Wolfstar\_46 (ED),

Start 95:

- Found in 2 of 122 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 2 of 104
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MaryV\_93 (V), Wildcat\_93 (V),

Start 101:

- Found in 2 of 122 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 1 of 104
- Called 50.0% of time when present
- Phage (with cluster) where this start called: DatBoi\_24 (DL),

Start 102:

- Found in 1 of 122 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 104
- Called 100.0% of time when present
- Phage (with cluster) where this start called: OneUp\_35 (CQ2),

Start 112:

- Found in 1 of 122 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 104
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Mollymur\_24 (DL),

### **Summary by clusters:**

There are 36 clusters represented in this pham: GD1, BF, DD, BH, GD2, BT, FB, FC, BS, DV, DR, DL, DQ, CQ2, CQ1, BB1, CS2, ED, J, CG, CF, CE, EB, L4, L2, BK1, V, X, singleton, UNK, DC2, C2, H1, BE2, AZ1, BE1,

Info for manual annotations of cluster AZ1:

- Start number 26 was manually annotated 1 time for cluster AZ1.
- Start number 44 was manually annotated 1 time for cluster AZ1.
- Start number 47 was manually annotated 1 time for cluster AZ1.
- Start number 54 was manually annotated 2 times for cluster AZ1.

Info for manual annotations of cluster BB1:

- Start number 80 was manually annotated 1 time for cluster BB1.

Info for manual annotations of cluster BE1:

- Start number 35 was manually annotated 1 time for cluster BE1.
- Start number 47 was manually annotated 4 times for cluster BE1.

Info for manual annotations of cluster BE2:

- Start number 19 was manually annotated 10 times for cluster BE2.
- Start number 65 was manually annotated 1 time for cluster BE2.

Info for manual annotations of cluster BF:

- Start number 74 was manually annotated 1 time for cluster BF.

Info for manual annotations of cluster BH:

- Start number 46 was manually annotated 1 time for cluster BH.

Info for manual annotations of cluster BK1:

- Start number 30 was manually annotated 1 time for cluster BK1.
- Start number 43 was manually annotated 1 time for cluster BK1.
- Start number 47 was manually annotated 1 time for cluster BK1.
- Start number 65 was manually annotated 3 times for cluster BK1.
- Start number 76 was manually annotated 4 times for cluster BK1.

Info for manual annotations of cluster BS:

- Start number 56 was manually annotated 1 time for cluster BS.
- Start number 60 was manually annotated 2 times for cluster BS.

Info for manual annotations of cluster BT:

- Start number 82 was manually annotated 3 times for cluster BT.

Info for manual annotations of cluster C2:

- Start number 39 was manually annotated 1 time for cluster C2.

Info for manual annotations of cluster CE:

- Start number 65 was manually annotated 1 time for cluster CE.

Info for manual annotations of cluster CF:

- Start number 90 was manually annotated 2 times for cluster CF.

Info for manual annotations of cluster CG:

- Start number 47 was manually annotated 1 time for cluster CG.
- Start number 61 was manually annotated 1 time for cluster CG.

Info for manual annotations of cluster CQ1:

- Start number 44 was manually annotated 15 times for cluster CQ1.

Info for manual annotations of cluster CQ2:

- Start number 44 was manually annotated 1 time for cluster CQ2.
- Start number 102 was manually annotated 1 time for cluster CQ2.

Info for manual annotations of cluster CS2:

- Start number 59 was manually annotated 1 time for cluster CS2.

Info for manual annotations of cluster DC2:

- Start number 67 was manually annotated 1 time for cluster DC2.

Info for manual annotations of cluster DD:

- Start number 44 was manually annotated 2 times for cluster DD.

Info for manual annotations of cluster DL:

- Start number 44 was manually annotated 2 times for cluster DL.
- Start number 101 was manually annotated 1 time for cluster DL.
- Start number 112 was manually annotated 1 time for cluster DL.

Info for manual annotations of cluster DR:

- Start number 46 was manually annotated 1 time for cluster DR.

Info for manual annotations of cluster DV:

- Start number 88 was manually annotated 4 times for cluster DV.

Info for manual annotations of cluster EB:

- Start number 48 was manually annotated 2 times for cluster EB.
- Start number 70 was manually annotated 1 time for cluster EB.
- Start number 72 was manually annotated 1 time for cluster EB.
- Start number 77 was manually annotated 2 times for cluster EB.

Info for manual annotations of cluster ED:

- Start number 93 was manually annotated 1 time for cluster ED.

Info for manual annotations of cluster FB:

- Start number 27 was manually annotated 1 time for cluster FB.
- Start number 29 was manually annotated 1 time for cluster FB.

Info for manual annotations of cluster FC:

- Start number 43 was manually annotated 1 time for cluster FC.

Info for manual annotations of cluster GD1:

- Start number 41 was manually annotated 1 time for cluster GD1.

Info for manual annotations of cluster GD2:

- Start number 47 was manually annotated 1 time for cluster GD2.

Info for manual annotations of cluster H1:

- Start number 87 was manually annotated 1 time for cluster H1.

Info for manual annotations of cluster J:

- Start number 16 was manually annotated 1 time for cluster J.

Info for manual annotations of cluster L2:

- Start number 64 was manually annotated 2 times for cluster L2.
- Start number 78 was manually annotated 5 times for cluster L2.
- Start number 79 was manually annotated 1 time for cluster L2.

Info for manual annotations of cluster L4:

- Start number 68 was manually annotated 1 time for cluster L4.
- Start number 78 was manually annotated 1 time for cluster L4.

Info for manual annotations of cluster V:

- Start number 95 was manually annotated 2 times for cluster V.

Info for manual annotations of cluster X:

- Start number 25 was manually annotated 1 time for cluster X.

***Gene Information:***

Gene: A3Wally\_146 Start: 90094, Stop: 90525, Start Num: 41  
Candidate Starts for A3Wally\_146:  
(Start: 41 @90094 has 1 MA's), (143, 90337), (183, 90481),

Gene: AGrandiflora\_41 Start: 29625, Stop: 30068, Start Num: 47  
Candidate Starts for AGrandiflora\_41:  
(23, 29544), (Start: 47 @29625 has 8 MA's), (133, 29847),

Gene: Abscondus\_40 Start: 17135, Stop: 17593, Start Num: 44  
Candidate Starts for Abscondus\_40:  
(Start: 44 @17135 has 21 MA's),

Gene: AcciDwight\_269 Start: 119645, Stop: 119103, Start Num: 19  
Candidate Starts for AcciDwight\_269:  
(Start: 19 @119645 has 10 MA's), (55, 119522), (94, 119444), (123, 119342), (141, 119291), (143, 119288), (175, 119159),

Gene: Adolin\_42 Start: 29874, Stop: 30347, Start Num: 54  
Candidate Starts for Adolin\_42:  
(8, 29637), (Start: 54 @29874 has 2 MA's), (115, 30018), (141, 30111), (166, 30219),

Gene: Alone3\_188 Start: 97401, Stop: 96985, Start Num: 60  
Candidate Starts for Alone3\_188:  
(Start: 60 @97401 has 2 MA's), (100, 97320), (123, 97230), (133, 97206), (167, 97071),

Gene: Alone3\_117 Start: 62982, Stop: 63413, Start Num: 56  
Candidate Starts for Alone3\_117:  
(Start: 56 @62982 has 1 MA's), (84, 63033), (Start: 101 @63066 has 1 MA's), (133, 63177), (185, 63345), (192, 63357),

Gene: Alyssamiracle\_26 Start: 15136, Stop: 15546, Start Num: 88  
Candidate Starts for Alyssamiracle\_26:  
(71, 15115), (Start: 88 @15136 has 4 MA's), (96, 15160), (151, 15343), (163, 15403), (179, 15460), (184, 15469), (193, 15490), (202, 15511),

Gene: AnarQue\_53 Start: 46202, Stop: 45753, Start Num: 46  
Candidate Starts for AnarQue\_53:  
(Start: 46 @46202 has 2 MA's), (51, 46190), (134, 45992), (150, 45938), (189, 45800),

Gene: Anedea\_217 Start: 106294, Stop: 106719, Start Num: 47  
Candidate Starts for Anedea\_217:  
(Start: 47 @106294 has 8 MA's), (166, 106618), (168, 106627), (176, 106654), (178, 106666), (185, 106675), (204, 106711), (205, 106714),

Gene: Annadreamy\_222 Start: 109759, Stop: 110133, Start Num: 65  
Candidate Starts for Annadreamy\_222:  
(63, 109753), (Start: 65 @109759 has 5 MA's), (69, 109768), (159, 110005), (166, 110047), (173, 110074), (175, 110080),

Gene: Aphelion\_41 Start: 17404, Stop: 17862, Start Num: 44  
Candidate Starts for Aphelion\_41:  
(Start: 44 @17404 has 21 MA's),

Gene: AylexOG\_3 Start: 681, Stop: 1040, Start Num: 71

Candidate Starts for AylexOG\_3:  
(71, 681), (126, 819), (133, 837),

Gene: Bachita\_43 Start: 17837, Stop: 18295, Start Num: 44

Candidate Starts for Bachita\_43:  
(Start: 44 @17837 has 21 MA's),

Gene: Bantam\_23 Start: 14778, Stop: 15239, Start Num: 44

Candidate Starts for Bantam\_23:  
(20, 14694), (Start: 44 @14778 has 21 MA's), (161, 15099), (186, 15198),

Gene: Bimmel\_31 Start: 19820, Stop: 19383, Start Num: 82

Candidate Starts for Bimmel\_31:  
(Start: 82 @19820 has 3 MA's), (143, 19634), (162, 19574), (185, 19475),

Gene: Bromden\_104 Start: 63270, Stop: 63686, Start Num: 78

Candidate Starts for Bromden\_104:  
(Start: 78 @63270 has 6 MA's), (179, 63612),

Gene: Bromden\_61 Start: 43963, Stop: 44400, Start Num: 68

Candidate Starts for Bromden\_61:  
(Start: 67 @43960 has 1 MA's), (Start: 68 @43963 has 1 MA's), (89, 43996), (105, 44038), (117, 44083), (138, 44158), (142, 44164), (191, 44353),

Gene: BrutonGaster\_29 Start: 14029, Stop: 14475, Start Num: 44

Candidate Starts for BrutonGaster\_29:  
(Start: 44 @14029 has 21 MA's), (178, 14428),

Gene: Cardigan\_40 Start: 19035, Stop: 19475, Start Num: 50

Candidate Starts for Cardigan\_40:  
(Start: 44 @19023 has 21 MA's), (50, 19035), (91, 19110), (124, 19218),

Gene: CeilingFan\_266 Start: 120156, Stop: 119614, Start Num: 19

Candidate Starts for CeilingFan\_266:  
(Start: 19 @120156 has 10 MA's), (55, 120033), (94, 119955), (123, 119853), (141, 119802), (143, 119799), (175, 119670), (200, 119625),

Gene: Clown\_83 Start: 53992, Stop: 54378, Start Num: 67

Candidate Starts for Clown\_83:  
(7, 53719), (9, 53737), (32, 53896), (37, 53917), (38, 53926), (49, 53947), (52, 53956), (Start: 67 @53992 has 1 MA's), (121, 54142), (145, 54202), (164, 54277),

Gene: ClubL\_41 Start: 17326, Stop: 17784, Start Num: 44

Candidate Starts for ClubL\_41:  
(Start: 44 @17326 has 21 MA's),

Gene: Community\_49 Start: 35475, Stop: 35966, Start Num: 44

Candidate Starts for Community\_49:  
(17, 35376), (Start: 44 @35475 has 21 MA's), (152, 35763), (191, 35910),

Gene: Crewmate\_2 Start: 546, Stop: 995, Start Num: 54

Candidate Starts for Crewmate\_2:

(Start: 54 @546 has 2 MA's), (164, 846),

Gene: Cucurbita\_43 Start: 18696, Stop: 19154, Start Num: 44

Candidate Starts for Cucurbita\_43:

(Start: 44 @18696 has 21 MA's),

Gene: Culver\_41 Start: 17135, Stop: 17593, Start Num: 44

Candidate Starts for Culver\_41:

(Start: 44 @17135 has 21 MA's),

Gene: DatBoi\_24 Start: 15695, Stop: 16030, Start Num: 101

Candidate Starts for DatBoi\_24:

(Start: 44 @15569 has 21 MA's), (Start: 101 @15695 has 1 MA's), (161, 15890), (186, 15989),

Gene: Davielle\_179 Start: 95501, Stop: 95932, Start Num: 47

Candidate Starts for Davielle\_179:

(Start: 47 @95501 has 8 MA's), (Start: 87 @95579 has 1 MA's), (133, 95705), (138, 95723), (165, 95834), (175, 95876),

Gene: DeluluLabubu\_257 Start: 121131, Stop: 121556, Start Num: 76

Candidate Starts for DeluluLabubu\_257:

(Start: 76 @121131 has 4 MA's), (118, 121248), (142, 121329), (145, 121338), (168, 121437), (173, 121455), (184, 121491), (209, 121545),

Gene: DeluluLabubu\_105 Start: 68261, Stop: 68743, Start Num: 30

Candidate Starts for DeluluLabubu\_105:

(Start: 30 @68261 has 1 MA's), (36, 68276), (122, 68492), (139, 68537), (148, 68570), (175, 68690), (185, 68714),

Gene: Dusty\_40 Start: 17135, Stop: 17593, Start Num: 44

Candidate Starts for Dusty\_40:

(Start: 44 @17135 has 21 MA's),

Gene: EGole\_223 Start: 113552, Stop: 114001, Start Num: 35

Candidate Starts for EGole\_223:

(Start: 35 @113552 has 1 MA's), (Start: 47 @113582 has 8 MA's), (133, 113783), (141, 113807), (153, 113852), (175, 113936), (196, 113981),

Gene: Engineer\_42 Start: 17352, Stop: 17810, Start Num: 44

Candidate Starts for Engineer\_42:

(Start: 44 @17352 has 21 MA's),

Gene: Erasmago\_158 Start: 90400, Stop: 90855, Start Num: 47

Candidate Starts for Erasmago\_158:

(Start: 47 @90400 has 8 MA's), (129, 90589),

Gene: Finemlucis\_71 Start: 49120, Stop: 49566, Start Num: 64

Candidate Starts for Finemlucis\_71:

(52, 49093), (Start: 56 @49108 has 1 MA's), (Start: 64 @49120 has 2 MA's), (143, 49336), (146, 49354), (174, 49468), (198, 49531), (203, 49543),

Gene: Forrest\_254 Start: 120939, Stop: 121364, Start Num: 76

Candidate Starts for Forrest\_254:

(Start: 76 @120939 has 4 MA's), (118, 121056), (142, 121137), (145, 121146), (173, 121263), (184, 121299), (209, 121353),

Gene: GMA6\_50 Start: 43670, Stop: 43215, Start Num: 45

Candidate Starts for GMA6\_50:

(45, 43670), (109, 43520), (156, 43364), (158, 43352), (162, 43346), (185, 43253), (206, 43220),

Gene: Gabriela\_68 Start: 47246, Stop: 47692, Start Num: 64

Candidate Starts for Gabriela\_68:

(52, 47219), (Start: 56 @47234 has 1 MA's), (Start: 64 @47246 has 2 MA's), (143, 47462), (146, 47480), (174, 47594), (198, 47657), (203, 47669),

Gene: Gaia\_140 Start: 75742, Stop: 76296, Start Num: 25

Candidate Starts for Gaia\_140:

(13, 75664), (14, 75679), (15, 75685), (Start: 16 @75700 has 1 MA's), (Start: 25 @75742 has 1 MA's), (Start: 79 @75880 has 1 MA's), (133, 76036), (142, 76060), (179, 76222), (198, 76261),

Gene: Gardann\_101 Start: 61924, Stop: 62331, Start Num: 78

Candidate Starts for Gardann\_101:

(Start: 78 @61924 has 6 MA's), (117, 62029), (118, 62038), (159, 62173), (179, 62266), (193, 62296),

Gene: Geeche\_40 Start: 17226, Stop: 17684, Start Num: 44

Candidate Starts for Geeche\_40:

(Start: 44 @17226 has 21 MA's),

Gene: Genamy16\_26 Start: 15136, Stop: 15546, Start Num: 88

Candidate Starts for Genamy16\_26:

(71, 15115), (Start: 88 @15136 has 4 MA's), (96, 15160), (151, 15343), (163, 15403), (179, 15460), (184, 15469), (193, 15490), (202, 15511),

Gene: Gibbi\_270 Start: 119649, Stop: 119107, Start Num: 19

Candidate Starts for Gibbi\_270:

(Start: 19 @119649 has 10 MA's), (55, 119526), (94, 119448), (123, 119346), (141, 119295), (143, 119292), (175, 119163),

Gene: Ibantik\_39 Start: 18281, Stop: 17859, Start Num: 86

Candidate Starts for Ibantik\_39:

(Start: 86 @18281 has 1 MA's), (169, 17999),

Gene: Icarian\_48 Start: 33307, Stop: 33684, Start Num: 70

Candidate Starts for Icarian\_48:

(Start: 70 @33307 has 1 MA's), (132, 33460), (136, 33472), (176, 33622), (180, 33637), (182, 33640),

Gene: Jada\_255 Start: 120179, Stop: 120604, Start Num: 76

Candidate Starts for Jada\_255:

(Start: 76 @120179 has 4 MA's), (118, 120296), (142, 120377), (145, 120386), (173, 120503), (184, 120539), (209, 120593),

Gene: Jflix2\_25 Start: 25439, Stop: 25867, Start Num: 90

Candidate Starts for Jflix2\_25:

(4, 24707), (6, 24917), (Start: 90 @25439 has 2 MA's), (130, 25574), (145, 25619), (177, 25760), (191, 25793),

Gene: JimJam\_268 Start: 121085, Stop: 120543, Start Num: 19

Candidate Starts for JimJam\_268:

(Start: 19 @121085 has 10 MA's), (55, 120962), (94, 120884), (123, 120782), (141, 120731), (143, 120728), (175, 120599), (200, 120554),

Gene: JonJames\_40 Start: 21238, Stop: 21690, Start Num: 44

Candidate Starts for JonJames\_40:

(Start: 44 @21238 has 21 MA's), (50, 21250), (91, 21325), (124, 21433),

Gene: Kahlid\_101 Start: 61842, Stop: 62249, Start Num: 78

Candidate Starts for Kahlid\_101:

(Start: 78 @61842 has 6 MA's), (117, 61947), (118, 61956), (159, 62091), (179, 62184), (193, 62214),

Gene: Karp\_197 Start: 102737, Stop: 102318, Start Num: 47

Candidate Starts for Karp\_197:

(Start: 43 @102743 has 2 MA's), (Start: 47 @102737 has 8 MA's), (106, 102620), (133, 102542), (149, 102488), (166, 102416),

Gene: Kaylissa\_41 Start: 29646, Stop: 30089, Start Num: 47

Candidate Starts for Kaylissa\_41:

(23, 29565), (Start: 47 @29646 has 8 MA's), (133, 29868),

Gene: Kenrey\_232 Start: 111193, Stop: 111606, Start Num: 65

Candidate Starts for Kenrey\_232:

(Start: 65 @111193 has 5 MA's), (92, 111241), (163, 111484), (173, 111523), (201, 111580),

Gene: KentuckyRacer\_267 Start: 121000, Stop: 120458, Start Num: 19

Candidate Starts for KentuckyRacer\_267:

(Start: 19 @121000 has 10 MA's), (55, 120877), (94, 120799), (123, 120697), (141, 120646), (143, 120643), (175, 120514), (200, 120469),

Gene: Kumotta\_5 Start: 4506, Stop: 5042, Start Num: 27

Candidate Starts for Kumotta\_5:

(Start: 27 @4506 has 1 MA's), (38, 4554), (57, 4599), (142, 4821), (170, 4944), (193, 5010),

Gene: LazerLemon\_75 Start: 51475, Stop: 51948, Start Num: 46

Candidate Starts for LazerLemon\_75:

(Start: 46 @51475 has 2 MA's), (53, 51496), (Start: 90 @51565 has 2 MA's), (113, 51634), (142, 51721), (152, 51760), (162, 51793), (170, 51844), (187, 51901),

Gene: LeoJr\_143 Start: 97416, Stop: 97838, Start Num: 47

Candidate Starts for LeoJr\_143:

(Start: 47 @97416 has 8 MA's), (143, 97650), (196, 97824),

Gene: Limpid\_229 Start: 115072, Stop: 115446, Start Num: 65

Candidate Starts for Limpid\_229:

(63, 115066), (Start: 65 @115072 has 5 MA's), (69, 115081), (159, 115318), (166, 115360), (173, 115387), (175, 115393),

Gene: Lozinak\_41 Start: 17407, Stop: 17865, Start Num: 44

Candidate Starts for Lozinak\_41:

(Start: 44 @17407 has 21 MA's),

Gene: Madraxi\_29 Start: 27630, Stop: 28058, Start Num: 90  
Candidate Starts for Madraxi\_29:  
(Start: 90 @27630 has 2 MA's), (130, 27765), (142, 27801), (145, 27810), (146, 27822), (177, 27951),  
(191, 27984),

Gene: Manuel\_3 Start: 3413, Stop: 3811, Start Num: 74  
Candidate Starts for Manuel\_3:  
(58, 3383), (Start: 74 @3413 has 1 MA's), (142, 3590),

Gene: MargaretKali\_1 Start: 50, Stop: 577, Start Num: 29  
Candidate Starts for MargaretKali\_1:  
(Start: 29 @50 has 1 MA's), (66, 152), (Start: 93 @206 has 1 MA's), (98, 221), (135, 341), (141, 359),  
(199, 542), (210, 569),

Gene: MaryV\_93 Start: 56140, Stop: 56508, Start Num: 95  
Candidate Starts for MaryV\_93:  
(Start: 95 @56140 has 2 MA's), (142, 56281), (170, 56398), (179, 56434), (189, 56458), (193, 56464),  
(202, 56485),

Gene: Milomuff\_3 Start: 670, Stop: 1044, Start Num: 72  
Candidate Starts for Milomuff\_3:  
(Start: 72 @670 has 1 MA's), (Start: 90 @694 has 2 MA's), (133, 826), (157, 910), (172, 979),

Gene: Miskis\_39 Start: 17170, Stop: 17628, Start Num: 44  
Candidate Starts for Miskis\_39:  
(Start: 44 @17170 has 21 MA's),

Gene: Mollymur\_24 Start: 15771, Stop: 16076, Start Num: 112  
Candidate Starts for Mollymur\_24:  
(Start: 44 @15615 has 21 MA's), (Start: 112 @15771 has 1 MA's), (141, 15873), (153, 15915),

Gene: NiceHouse\_61 Start: 34862, Stop: 35269, Start Num: 65  
Candidate Starts for NiceHouse\_61:  
(Start: 65 @34862 has 5 MA's), (103, 34934), (106, 34937), (131, 35027), (147, 35078), (186, 35207),  
(194, 35219),

Gene: Nicholasp3\_102 Start: 61924, Stop: 62331, Start Num: 78  
Candidate Starts for Nicholasp3\_102:  
(Start: 78 @61924 has 6 MA's), (117, 62029), (118, 62038), (159, 62173), (179, 62266), (193, 62296),

Gene: Nitro\_45 Start: 34067, Stop: 34558, Start Num: 44  
Candidate Starts for Nitro\_45:  
(17, 33968), (Start: 44 @34067 has 21 MA's), (152, 34355), (191, 34502),

Gene: Norvs\_42 Start: 17409, Stop: 17867, Start Num: 44  
Candidate Starts for Norvs\_42:  
(Start: 44 @17409 has 21 MA's),

Gene: Nova53\_72 Start: 59567, Stop: 59971, Start Num: 61  
Candidate Starts for Nova53\_72:  
(10, 59375), (12, 59384), (22, 59447), (28, 59474), (33, 59489), (34, 59492), (Start: 61 @59567 has 1  
MA's), (81, 59603), (103, 59657), (131, 59753), (182, 59936), (186, 59942),

Gene: Nova53\_188 Start: 99250, Stop: 99705, Start Num: 47  
Candidate Starts for Nova53\_188:  
(36, 99220), (Start: 47 @99250 has 8 MA's), (141, 99475), (196, 99667),

Gene: Omega\_199 Start: 97671, Stop: 98360, Start Num: 16  
Candidate Starts for Omega\_199:  
(Start: 16 @97671 has 1 MA's), (107, 97917), (145, 98058), (179, 98217), (184, 98226),

Gene: OneUp\_35 Start: 15247, Stop: 15564, Start Num: 102  
Candidate Starts for OneUp\_35:  
(Start: 44 @15118 has 21 MA's), (Start: 102 @15247 has 1 MA's), (178, 15517),

Gene: Park1214\_79 Start: 27965, Stop: 28336, Start Num: 82  
Candidate Starts for Park1214\_79:  
(Start: 82 @27965 has 3 MA's), (99, 28007), (120, 28079), (141, 28142), (164, 28226), (202, 28316),

Gene: PastaFagioli\_42 Start: 29819, Stop: 30232, Start Num: 48  
Candidate Starts for PastaFagioli\_42:  
(Start: 48 @29819 has 2 MA's), (104, 29933), (119, 29984), (133, 30026), (146, 30068), (160, 30098),  
(175, 30170),

Gene: PastaFagioli\_61 Start: 39171, Stop: 39551, Start Num: 77  
Candidate Starts for PastaFagioli\_61:  
(Start: 77 @39171 has 2 MA's),

Gene: Persimmon\_179 Start: 94749, Stop: 95180, Start Num: 47  
Candidate Starts for Persimmon\_179:  
(Start: 47 @94749 has 8 MA's), (Start: 87 @94827 has 1 MA's), (133, 94953), (138, 94971), (165,  
95082), (175, 95124),

Gene: Phabba\_53 Start: 19044, Stop: 18553, Start Num: 39  
Candidate Starts for Phabba\_53:  
(Start: 39 @19044 has 1 MA's), (Start: 44 @19035 has 21 MA's), (Start: 72 @18975 has 1 MA's), (94,  
18933), (143, 18795), (145, 18789), (157, 18732), (176, 18651), (199, 18606),

Gene: PhinkBoden\_41 Start: 17790, Stop: 18248, Start Num: 44  
Candidate Starts for PhinkBoden\_41:  
(Start: 44 @17790 has 21 MA's),

Gene: Predator\_10 Start: 6815, Stop: 7189, Start Num: 87  
Candidate Starts for Predator\_10:  
(Start: 87 @6815 has 1 MA's), (125, 6929), (137, 6965), (143, 6980), (155, 7025), (162, 7046), (171,  
7103), (188, 7145), (195, 7157), (204, 7169), (207, 7175),

Gene: PumpkinSpice\_263 Start: 119441, Stop: 118899, Start Num: 19  
Candidate Starts for PumpkinSpice\_263:  
(Start: 19 @119441 has 10 MA's), (55, 119318), (97, 119231), (123, 119138), (141, 119087), (143,  
119084), (175, 118955),

Gene: Quby\_89 Start: 56408, Stop: 56815, Start Num: 75  
Candidate Starts for Quby\_89:  
(75, 56408), (108, 56486), (139, 56591), (141, 56594), (146, 56615), (157, 56660), (161, 56666), (176,  
56741), (208, 56807),

Gene: Quenya\_41 Start: 29700, Stop: 30113, Start Num: 48

Candidate Starts for Quenya\_41:

(Start: 48 @29700 has 2 MA's), (119, 29865), (133, 29907), (140, 29928), (175, 30051),

Gene: RazorC\_24 Start: 15136, Stop: 15528, Start Num: 88

Candidate Starts for RazorC\_24:

(71, 15115), (Start: 88 @15136 has 4 MA's), (96, 15160), (110, 15202), (116, 15220), (181, 15463), (193, 15487),

Gene: ReginaGlobina\_142 Start: 97638, Stop: 98060, Start Num: 47

Candidate Starts for ReginaGlobina\_142:

(Start: 47 @97638 has 8 MA's), (143, 97872), (196, 98046),

Gene: Rikishi\_261 Start: 119623, Stop: 119081, Start Num: 19

Candidate Starts for Rikishi\_261:

(Start: 19 @119623 has 10 MA's), (55, 119500), (94, 119422), (123, 119320), (141, 119269), (143, 119266), (175, 119137),

Gene: Rumpelstiltskin\_98 Start: 61717, Stop: 62124, Start Num: 78

Candidate Starts for Rumpelstiltskin\_98:

(Start: 78 @61717 has 6 MA's), (117, 61822), (118, 61831), (159, 61966), (179, 62059), (193, 62089),

Gene: RunningOnE\_42 Start: 18641, Stop: 18213, Start Num: 82

Candidate Starts for RunningOnE\_42:

(Start: 82 @18641 has 3 MA's), (133, 18488), (143, 18461), (167, 18362), (200, 18284),

Gene: SFuller\_27 Start: 26032, Stop: 26460, Start Num: 90

Candidate Starts for SFuller\_27:

(Start: 90 @26032 has 2 MA's), (130, 26167), (142, 26203), (145, 26212), (146, 26224), (177, 26353), (191, 26386),

Gene: SFuller\_99 Start: 58114, Stop: 58551, Start Num: 40

Candidate Starts for SFuller\_99:

(40, 58114), (85, 58195), (123, 58291), (141, 58342), (162, 58414), (164, 58441), (175, 58483),

Gene: SJReid\_133 Start: 86260, Stop: 86706, Start Num: 43

Candidate Starts for SJReid\_133:

(Start: 43 @86260 has 2 MA's), (143, 86530), (146, 86548),

Gene: SansAfet\_62 Start: 38774, Stop: 39154, Start Num: 77

Candidate Starts for SansAfet\_62:

(Start: 77 @38774 has 2 MA's), (162, 39017), (164, 39044),

Gene: SeresaTree\_235 Start: 114238, Stop: 114606, Start Num: 83

Candidate Starts for SeresaTree\_235:

(83, 114238), (111, 114316), (125, 114370), (127, 114376), (139, 114415), (141, 114418), (175, 114550), (190, 114583),

Gene: Shawty\_32 Start: 26307, Stop: 26723, Start Num: 80

Candidate Starts for Shawty\_32:

(Start: 80 @26307 has 1 MA's), (114, 26400), (121, 26439), (181, 26661), (195, 26688),

Gene: Smoothie\_42 Start: 17407, Stop: 17865, Start Num: 44

Candidate Starts for Smoothie\_42:

(Start: 44 @17407 has 21 MA's),

Gene: Solea\_3 Start: 670, Stop: 1044, Start Num: 72

Candidate Starts for Solea\_3:

(Start: 72 @670 has 1 MA's), (Start: 90 @694 has 2 MA's), (133, 826), (157, 910), (172, 979),

Gene: SpeedDemon\_240 Start: 15094, Stop: 15555, Start Num: 44

Candidate Starts for SpeedDemon\_240:

(Start: 44 @15094 has 21 MA's), (162, 15418), (166, 15454), (186, 15514),

Gene: Spelly\_265 Start: 118353, Stop: 117811, Start Num: 19

Candidate Starts for Spelly\_265:

(Start: 19 @118353 has 10 MA's), (55, 118230), (94, 118152), (123, 118050), (141, 117999), (143, 117996), (175, 117867), (200, 117822),

Gene: Spilled\_268 Start: 120017, Stop: 119475, Start Num: 19

Candidate Starts for Spilled\_268:

(Start: 19 @120017 has 10 MA's), (55, 119894), (94, 119816), (123, 119714), (141, 119663), (143, 119660), (175, 119531), (200, 119486),

Gene: Spooks\_32 Start: 20834, Stop: 20397, Start Num: 82

Candidate Starts for Spooks\_32:

(Start: 82 @20834 has 3 MA's), (133, 20675), (143, 20648), (159, 20594), (162, 20588), (185, 20489),

Gene: StarPlatinum\_46 Start: 22656, Stop: 23042, Start Num: 65

Candidate Starts for StarPlatinum\_46:

(Start: 65 @22656 has 5 MA's), (124, 22809), (159, 22911), (166, 22953), (175, 22986), (182, 23007), (196, 23031),

Gene: Starbow\_257 Start: 118397, Stop: 117855, Start Num: 19

Candidate Starts for Starbow\_257:

(Start: 19 @118397 has 10 MA's), (55, 118274), (94, 118196), (123, 118094), (141, 118043), (143, 118040), (175, 117911), (200, 117866),

Gene: SteveFrench\_16 Start: 15937, Stop: 16392, Start Num: 59

Candidate Starts for SteveFrench\_16:

(24, 15832), (42, 15898), (Start: 59 @15937 has 1 MA's), (Start: 67 @15955 has 1 MA's), (106, 16036), (135, 16144), (141, 16162), (182, 16327), (204, 16369),

Gene: Success\_33 Start: 20053, Stop: 19616, Start Num: 82

Candidate Starts for Success\_33:

(Start: 82 @20053 has 3 MA's), (133, 19894), (159, 19813), (162, 19807), (185, 19708),

Gene: Talos\_188 Start: 95931, Stop: 95515, Start Num: 60

Candidate Starts for Talos\_188:

(Start: 60 @95931 has 2 MA's), (100, 95850), (123, 95760), (133, 95736), (167, 95601),

Gene: TomSawyer\_265 Start: 121328, Stop: 120786, Start Num: 19

Candidate Starts for TomSawyer\_265:

(Start: 19 @121328 has 10 MA's), (94, 121127), (123, 121025), (141, 120974), (143, 120971), (175, 120842), (200, 120797),

Gene: Toniann\_41 Start: 17352, Stop: 17810, Start Num: 44

Candidate Starts for Toniann\_41:

(Start: 44 @17352 has 21 MA's),

Gene: TunaTartare\_254 Start: 124119, Stop: 124544, Start Num: 76

Candidate Starts for TunaTartare\_254:

(Start: 76 @124119 has 4 MA's), (118, 124236), (142, 124317), (145, 124326), (173, 124443), (177, 124464), (184, 124479), (209, 124533),

Gene: Underpass\_94 Start: 56960, Stop: 57367, Start Num: 78

Candidate Starts for Underpass\_94:

(Start: 78 @56960 has 6 MA's), (117, 57065), (118, 57074), (159, 57209), (179, 57302), (193, 57332),

Gene: Vetrix\_100 Start: 61960, Stop: 62376, Start Num: 79

Candidate Starts for Vetrix\_100:

(Start: 78 @61957 has 6 MA's), (Start: 79 @61960 has 1 MA's), (Start: 90 @61978 has 2 MA's), (179, 62299),

Gene: Westy\_204 Start: 103797, Stop: 103372, Start Num: 43

Candidate Starts for Westy\_204:

(Start: 43 @103797 has 2 MA's), (Start: 47 @103791 has 8 MA's), (106, 103674), (133, 103596), (149, 103542), (166, 103470),

Gene: WhereRU\_178 Start: 95501, Stop: 95932, Start Num: 47

Candidate Starts for WhereRU\_178:

(Start: 47 @95501 has 8 MA's), (Start: 87 @95579 has 1 MA's), (133, 95705), (138, 95723), (165, 95834), (175, 95876),

Gene: Wildcat\_93 Start: 56150, Stop: 56518, Start Num: 95

Candidate Starts for Wildcat\_93:

(Start: 95 @56150 has 2 MA's), (142, 56291), (170, 56408), (179, 56444), (189, 56468), (193, 56474), (202, 56495),

Gene: WilliamBoone\_41 Start: 16716, Stop: 17174, Start Num: 44

Candidate Starts for WilliamBoone\_41:

(Start: 44 @16716 has 21 MA's),

Gene: Wipeout\_252 Start: 120280, Stop: 119738, Start Num: 19

Candidate Starts for Wipeout\_252:

(Start: 19 @120280 has 10 MA's), (55, 120157), (97, 120070), (123, 119977), (141, 119926), (143, 119923), (175, 119794),

Gene: Wolfstar\_46 Start: 22950, Stop: 22588, Start Num: 93

Candidate Starts for Wolfstar\_46:

(1, 25128), (2, 24834), (3, 24786), (5, 23553), (11, 23208), (13, 23199), (18, 23154), (21, 23139), (31, 23100), (62, 23016), (73, 22992), (Start: 88 @22968 has 4 MA's), (Start: 93 @22950 has 1 MA's), (153, 22752), (176, 22653),

Gene: Yang\_45 Start: 32671, Stop: 33198, Start Num: 26

Candidate Starts for Yang\_45:

(Start: 26 @32671 has 1 MA's), (128, 32941), (144, 32983), (174, 33112), (197, 33175),

Gene: Yvonnetastic\_38 Start: 18787, Stop: 19239, Start Num: 44

Candidate Starts for Yvonnetastic\_38:

(Start: 44 @18787 has 21 MA's), (50, 18799), (91, 18874), (124, 18982),

Gene: Zany\_25 Start: 17287, Stop: 17679, Start Num: 88

Candidate Starts for Zany\_25:

(71, 17266), (Start: 88 @17287 has 4 MA's), (96, 17311), (110, 17353), (116, 17371), (181, 17614),  
(193, 17638),

Gene: Zooman\_139 Start: 88579, Stop: 89034, Start Num: 47

Candidate Starts for Zooman\_139:

(Start: 47 @88579 has 8 MA's), (129, 88768), (133, 88783), (154, 88858),